AGENDA

Regular Meeting

Planning and Zoning Commission

Tuesday, August 1, 2023

6:00 PM, City Hall

4000 Galleria Parkway

Bee Cave, Texas 78738-3104

A quorum of the Bee Cave City Council may be present.

THE CITY OF BEE CAVE COUNCIL MEETINGS ARE AVAILABLE TO ALL PERSONS REGARDLESS OF DISABILITY. IF YOU REQUIRE SPECIAL ASSISTANCE, PLEASE CONTACT KAYLYNN HOLLOWAY AT (512) 767-6641 AT LEAST 48 HOURS IN ADVANCE OF THE MEETING. THANK YOU.

1. Call meeting to order
2. Roll Call
3. Pledge of Allegiance
4. Consider approval of minutes of the regular meeting conducted on July 18, 2023.
5. Discuss and consider action to authorize current Chairman to sign previously authorized meeting minutes that were not signed upon their approval.
6. Discuss and consider action on Site and NPS plans for the Pearl Multifamily development located at 13400 Bee Cave Parkway, Bee Cave, TX including the following plans:

   a. The Pearl at Bee Cave
   b. Lot 3 Hill County Galleria – Cross Access Driveway Improvements
   c. Bee Cave Parkway Improvements
   d. Crescent Tract Improvements
7. Adjournment

The Commission may go into closed session at any time when permitted by Chapters 418 or 551, Texas Government Code, or Section 321.3022 of the Texas Tax Code. Before going into closed session a

quorum of the Commission must be present, the meeting must be convened as an open meeting pursuant to proper notice, and the presiding officer must announce that a closed session will be held and must identify the sections of Chapter 551 or 418, Texas Government Code, or Section 321.3022 of the Texas Tax Code authorizing the closed session.

I certify that the above notice of meeting was posted at Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas, on the 28th day of July 2023 at 4:30 PM.

Planning and Zoning Commission Meeting
8/1/2023
Agenda Item Transmittal

Agenda Item:	**3.**
Agenda Title:	**Consider approval of minutes of the regular meeting conducted on July 18, 2023.**
Commission Action:	**Approve**
Department:	**Admin Assistant**
Staff Contact:	**Thomas Hatfield-Admin Coordinator**

1. INTRODUCTION/PURPOSE

2. DESCRIPTION/JUSTIFICATION

a) Background

b) Issues and Analysis

3. FINANCIAL/BUDGET

Amount Requested	Fund/Account No.
Cert. Obligation	GO Funds
Other source	Grant title
Addtl tracking info	

4. TIMELINE CONSIDERATIONS

5. RECOMMENDATION

ATTACHMENTS:

Description	Type

Minutes of July 18th, 2023 Cover Memo

MINUTES OF THE MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
4000 Galleria Parkway
Bee Cave, Texas 78738
July 18, 2023

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Kit Crumbley, Chair
Lori Wakefield, Vice Chair
Petra Reynolds, Commissioner
Steven Schmidt, Commissioner

Absent:
Eric McKee, Commissioner
Kirk Wright, Commissioner
Julie DaSilva, Commissioner

City Staff:
Lindsey Oskoui, Assistant City Manager
Megan Will, Director of Planning and Development
Logan Maurer, Staff Engineer
Amanda Padilla, Senior City Planner
Thomas Hatfield, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Crumbley at 6:00 p.m. on Tuesday July 18, 2023, in the Council Chambers of Bee Cave City Hall.

The Pledge of Allegiance.

Minutes of June 20, 2023

MOTION: A motion was made by Chair Crumbley, seconded by Commissioner Schmidt, to recommend approval on the minutes of June 20, 2023.

The vote was taken on the motion with the following result:

Voting Aye: Chair Crumbley, Vice Chair Wakefield, Commissioners Schmidt, & Reynolds
Voting Nay: None

Abstained: None
Absent: Commissioners McKee, DaSilva, & Wright

The motion carried.

Discuss and consider action on a Site & NPS Plan for the Family Dental Center located at 15955 SH-71, Bee Cave, TX 78738.

MOTION: A motion was made by Chair Crumbley, seconded by Vice Chair Wakefield to recommend approval of a Site & NPS Plan for the Family Dental Center located at 15955 SH-71, Bee Cave, TX 78738 with conditions recommended by city staff.

Voting Aye: Chair Crumbley, Vice Chair Wakefield, Commissioners Schmidt, & Reynolds
Voting Nay: None
Abstained: None
Absent: Commissioners McKee, DaSilva, & Wright

The motion carried.

Agenda Planning

There are items that are expected to be ready for the next meeting Agenda on Tuesday August 1, 2023. The regular meeting will be held as planned.

The Planning and Zoning Commission adjourned the meeting at 6:10 p.m.

PASSED AND APPROVED THIS _____ DAY OF _____, 2023.

_____
Kit Crumbley, Chair

ATTEST

_____
Thomas Hatfield, Administrative Coordinator

Planning and Zoning Commission Meeting
8/1/2023
Agenda Item Transmittal

Agenda Item:	**4.**
Agenda Title:	**Discuss and consider action to authorize current Chairman to sign previously authorized meeting minutes that were not signed upon their approval.**
Commission Action:	**Approve**
Department:	**Admin Assistant**
Staff Contact:	**Thomas Hatfield, Administrative Coordinator**

1. INTRODUCTION/PURPOSE

The approved minutes for the Permit and Zoning Commission meeting from the following dates lack signed copies.

8/1/2017
2/19/2019
2/18/2020
6/2/2020
7/6/2021

All have been approved by previous commissioners (see attachments), the board need only approve the signing of them by the current chairman.

2. DESCRIPTION/JUSTIFICATION

a) Background

b) Issues and Analysis

3. FINANCIAL/BUDGET

Amount Requested	Fund/Account No.
Cert. Obligation	GO Funds
Other source	Grant title

Addtl tracking info

4. TIMELINE CONSIDERATIONS

5. RECOMMENDATION

Staff recommends approval

ATTACHMENTS:

Description	Type
Minutes of 8/1/2017	Backup Material
Minutes of 9/5/2017 (Approving Minutes of 8/1/2017)	Backup Material
Minutes of 2/19/2019	Backup Material
Minutes of 3/19/2019 (Approving Minutes of 2/19/2019)	Backup Material
Minutes of 2/18/2020	Backup Material
Minutes of 4/7/2020 (Approving Minutes of 2/18/2020)	Backup Material
Minutes of 6/2/2020	Backup Material
Minutes of 8/18/2020 (Approving Minutes of 6/2/2020)	Backup Material
Minutes of 7/6/2021	Backup Material
Minutes of 8/2/2021 (Approving Minutes of 7/6/2021)	Backup Material

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
August 1, 2017

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Jim Miles, Commissioner
Kevin Sawtelle, Commissioner
Kevin Hight, Commissioner

Absent:
Jaime Beaman Jr., Vice Chair
Andrew Clark, Commissioner
Juliet Tapia, Commissioner

City Staff:
MD Hossain, City Engineer
Leslie Perez, City Planner
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:00 p.m. on Tuesday, July 18, 2017 in the Council Chambers of the City of Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas.

Pledge of Allegiance

Minutes for July 18, 2017.

MOTION: A motion was made by Commissioner Miles, seconded by Commissioner Hight, to recommend approval of the minutes of the regular meeting conducted on July 18, 2017.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Miles, Hight, and Sawtelle
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Beaman, Commissioners Tapia, Clark

The motion carried.

Discuss and consider action on the site plan amendment for the fence and gate at Skaggs property located at the end of Skaggs Drive, Bee Cave, Texas 78738.

MOTION: A motion was made by Commissioner Miles, seconded by Commissioner Hight, to recommend approval of the site plan amendment for the fence and gate at Skaggs property located at the end of Skaggs Drive, Bee Cave, Texas 78738.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Miles, Hight, and Sawtelle
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Beaman, Commissioners Tapia, Clark

The motion carried.

Discuss and consider action on the site plan amendment for LTYA Field of Dreams – Phase 2, to allow new shade structure, fence and gates improvements only (no lighting). The property is located at 13909 State Highway 71 West.

MOTION: A motion was made by Chair Norman, seconded by Commissioner Sawtelle, to recommend approval of the site plan amendment for LTYA Field of Dreams – Phase 2, to allow new shade structure, fence and gates improvements only (no lighting). The property is located at 13909 State Highway 71 West.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Miles, Hight, and Sawtelle
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Beaman, Commissioners Tapia, Clark

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 6:17 PM.

PASSED AND APPROVED THIS _____ DAY OF _____, 2017.

_____
Jim Norman, Chair

ATTEST

_____
Reggie Brooks

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
September 5, 2017

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Jaime Beaman Jr., Vice Chair
Jim Miles, Commissioner
Kevin Sawtelle, Commissioner
Kevin Hight, Commissioner

Absent:
Andrew Clark, Commissioner
Juliet Tapia, Commissioner

City Staff:
Lindsey Oskoui, Director of Planning and Development
MD Hossain, City Engineer
Leslie Perez, City Planner

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:02 p.m. on Tuesday, September 5, 2017 in the Council Chambers of the City of Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas.

Pledge of Allegiance

Minutes for August 1, 2017.

MOTION: A motion was made by Commissioner Miles, seconded by Commissioner Hight, to recommend approval of the minutes of the regular meeting conducted on August 1, 2017.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Beaman, Commissioners Miles, Hight, and Sawtelle
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Tapia, Clark

The motion carried.

Discuss and consider action on the site plan amendment for the 'Lakes Edge' residential subdivision, located at 2500 Ashley Worth Blvd, Bee Cave, Texas 78738.

This item was withdrawn from consideration.

Discuss and consider action on the site plan amendment for the 'Hill Country Indoor'. The property is located at 4317 Skaggs Drive, Bee Cave, Texas 78738.

MOTION: A motion was made by Chair Norman, seconded by Vice Chair Beaman, to recommend approval on the site plan amendment for the 'Hill Country Indoor'. The property is located at 4317 Skaggs Drive, Bee Cave, Texas 78738.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Beaman, Commissioners Miles, Hight, and Sawtelle
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Tapia, Clark

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 6:26 PM.

PASSED AND APPROVED THIS 19 DAY OF September, 2017.

Jim Norman, Chair

ATTEST RB Mu

Reggie Brooks

9/5/2017

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
February 19, 2019

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Kevin Hight, Vice Chair (arrived at 6:06 p.m.)
Andrea Willott, Commissioner
Steven Schmidt, Commissioner
Larry Ohls, Commissioner
Juliet Tapia, Commissioner

Absent:
Kirk Wright, Commissioner

City Staff:
Clint Garza, City Manager
Lindsey Oskoui, Director of Planning and Development
Megan Will, City Planner
Alex Flores, Graduate Engineer
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:02 p.m. on Tuesday February 19, 2019 in the Council Chambers of the City of Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas.

Pledge of Allegiance

Minutes for February 19, 2019.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Tapia, to recommend approval of the minutes of the regular meeting conducted on February 19, 2019.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Willott, Schmidt, Ohls, Tapia
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Hight, Commissioner Wright

The motion carried.

Public Hearing, discussion, and possible action on Ordinance No. 400 amending Ordinance No. 345 to remove the requirement that a "splash pad" be constructed within two years of receipt of a temporary certificate of occupancy for Hill County Indoor, located at 4317 Skaggs Drive.
Public Hearing opened at 6:06 p.m.
Public Hearing closed at 6:06 p.m.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Tapia, to recommend approval on Ordinance No. 400 amending Ordinance No. 345 to remove the requirement that a "splash pad" be constructed within two years of receipt of a temporary certificate of occupancy for Hill County Indoor, located at 4317 Skaggs Drive.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Willott, Schmidt, Ohls, Tapia
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Wright

The motion carried.

Public hearing, discussion, and possible action to approve Ordinance No. 401 approving a conditional use permit for an "Assisted Living" use in the Town Center zoning district for a property located in the 3900 block of S RR 620, TCAD property ID 119019.
Public Hearing opened at 6:13 p.m.
Public Hearing closed at 6:14 p.m.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Tapia, to recommend approval on Ordinance No. 401 approving a conditional use permit for an "Assisted Living" use in the Town Center zoning district for a property located in the 3900 block of S RR 620, TCAD property ID 119019 with the following conditions:

- Owner of the subject Property shall record a 20 ft. blanket easement for trails and pedestrian access within the 75 ft. S RR 620 setback prior to issuance of a Site Development Permit for the Assisted Living facility authorized by this Conditional Use Permit.
- A Development Plat conforming to the standards of Section 30.02.009 of the Code of Ordinances shall be recorded prior to the issuance of a Site Development Permit for the Assisted Living facility authorized by this Conditional Use Permit.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Willott, Schmidt, Ohls, Tapia
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Wright

The motion carried.

Discuss and consider action on the preliminary plat for Spillman Towns, a 20.001 ac. tract located north of SH 71 approximately 700 feet west of Hamilton Pool Road.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Tapia, to recommend approval on the preliminary plat for Spillman Towns, a 20.001 ac. tract located north of SH 71 approximately 700 feet west of Hamilton Pool Road with the following conditions:

- Variance from Code Sec. 20.04.045(a)(4) to allow construction of secondary (infiltration trench), tertiary (natural vegetative filter strips) water quality elements, and detention pond embankments within the Water Quality Buffer Zone as depicted in the Preliminary Plat signed 02/19/2019.
- Variance from Code Sec. 20.04.045(a)(9) to allow construction of a portion of the western access driveway for the subdivision and associated retaining walls, grading, and required water quality controls within the Water Quality Buffer Zone as depicted in the Preliminary Plat signed 02/19/2019.
- Applicant will update the findings stated in the Traffic Impact Analysis to reflect the calculations submitted by applicant on 12/21/2018 in the document titled "Summary of Intersection Improvements and Pro-Rata Share" and add a note to the Preliminary Plat indicating that at the time of Site Plan or Final Plat, whichever occurs first, the proportional share of the pro-rata share is the responsibility of the owner of each lot.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Willott, Schmidt, Ohls, Tapia
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Wright

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 6:31 p.m.

PASSED AND APPROVED THIS _____ DAY OF _____, 2019.

_____
Jim Norman, Chair

ATTEST

_____
Reggie Brooks

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
March 19, 2019

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Andrea Willott, Commissioner
Steven Schmidt, Commissioner
Larry Ohls, Commissioner
Juliet Tapia, Commissioner

Absent:
Kevin Hight, Vice Chair
Kirk Wright, Commissioner

City Staff:
Clint Garza, City Manager
Lindsey Oskoui, Director of Planning and Development
Patty Akers, City Attorney
Alex Flores, Graduate Engineer
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:02 p.m. on Tuesday March 19, 2019 in the Council Chambers of the City of Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas.

Pledge of Allegiance

Minutes for February 19, 2019.

MOTION: A motion was made by Commissioner Ohls, seconded by Commissioner Schmidt, to recommend approval of the minutes of the regular meeting conducted on February 19, 2019.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Willott, Schmidt, Ohls, Tapia
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Hight, Commissioner Wright

The motion carried.

Public Hearing, discussion, and possible action to approve Ordinance No. 403, which amends Ordinance 353, the zoning, and development standards related to a project known as Signal Hill subdivision, located north of Hamilton Pool Road approximately 900 feet west Cueva Drive and adjacent to the Bella Colinas and Terra Colinas subdivisions.

Public Hearing opened at 6:12 p.m.
Public Hearing closed at 6:25 p.m.

MOTION: A motion was made by Commissioner Ohls seconded by Chair Norman, to recommend approval on Ordinance No. 403, which amends Ordinance 353, the zoning, and development standards related to a project known as Signal Hill subdivision, located north of Hamilton Pool Road approximately 900 feet west Cueva Drive and adjacent to the Bella Colinas and Terra Colinas subdivisions with the following condition:

1. We do not accept staff's recommendation to count pools as impervious; we should count them as pervious. We accept all other recommendations.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioner Ohls,
Voting Nay:	Commissioners Tapia, Schmidt, Willott
Abstained:	None
Absent:	Vice chair Hight, Commissioner Wright

The motion failed.

MOTION: A motion was made by Commissioner Tapia, seconded by Chair Schmidt, to recommend approval on Ordinance No. 403, which amends Ordinance 353, the zoning, and development standards related to a project known as Signal Hill subdivision, located north of Hamilton Pool Road approximately 900 feet west Cueva Drive and adjacent to the Bella Colinas and Terra Colinas subdivisions with the following condition:

1. We accept all of staff's recommendations including the recommendation to count pools as impervious

The vote was taken on the motion with the following result:

Voting Aye:	Commissioners Tapia, Schmidt, Willott
Voting Nay:	Chair Norman, Commissioner Ohls
Abstained:	None
Absent:	Vice Chair Hight, Commissioner Wright

The motion carried.

Public hearing, discussion, and possible action to approve Ordinance No. 404, which repeals and replaces Ordinance 323, the zoning, and the development standards related to a project known as The Backyard, located approximately 1000 feet west of the intersection of Bee Cave Parkway and Ranch Road 620, adjacent to Bee Cave Central Park.

Public Hearing opened at 7:06 p.m.
Public Hearing closed at 7:10 p.m.

MOTION: A motion was made by Chair Norman, seconded by Commissioner Tapia, to recommend approval on Ordinance No. 404, which repeals and replaces Ordinance 323, the zoning, and the development standards related to a project known as The Backyard, located approximately 1000 feet west of the intersection of Bee Cave Parkway and Ranch Road 620, adjacent to Bee Cave Central Park.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Willott, Ohls, Tapia
Voting Nay:	Commissioner Schmidt
Abstained:	None
Absent:	Vice Chair Hight, Commissioner Wright

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 7:31 p.m.

PASSED AND APPROVED THIS 16 DAY OF April, 2019.

Jim Norman, Chair

ATTEST RBA

Reggie Brooks

3/19/2019

Public Hearing Comments:

Public Hearing, discussion, and possible action to approve Ordinance No. 403, which amends Ordinance 353, the zoning, and development standards related to a project known as Signal Hill subdivision, located north of Hamilton Pool Road approximately 900 feet west Cueva Drive and adjacent to the Bella Colinas and Terra Colinas subdivisions.

Terry Irion, representing applicant, Saturn 5, LLC – The applicant is in agreement with most of the changes recommended by staff. Most of the changes made to the ordinance are cleaning up Exhibit C to get it up to speed. We would like to add a provision that 34.04.d that the water surface area built on any lot shall not be considered impervious cover on the lot. That is the only changes between what the staff is recommending that we would like to recommend.

Ben Braughton, engineer for Signal Hill – We will require black iron fencing for the fence requirements. We are sympathetic with the City in realizing you need to have limitations on monitoring pool compliance. The neighborhood comes with the expectation of certain amenities, including swimming pools. We need to be able to meet the market demand and the market demand also includes swimming pools. I believe that the key to a high quality development, is having regulation that keeps high quality developers active and keeps riskier developers out.

Public hearing, discussion, and possible action to approve Ordinance No. 404, which repeals and replaces Ordinance 323, the zoning, and the development standards related to a project known as The Backyard, located approximately 1000 feet west of the intersection of Bee Cave Parkway and Ranch Road 620, adjacent to Bee Cave Central Park.

Steve Albert, 5401 Great Divide – This venue will be great for Bee Cave and we are excited about it. I am concerned with the venue being undersized compared to what's available for large bands to play in the Austin area. I am also concerned for the safety of the venue. I would suggest the developer hire a concert safety planner to submit a safety plan for the venue.

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
February 18, 2020

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Kevin Hight, Vice Chair
Kirk Wright, Commissioner
Steven Schmidt, Commissioner
Steve Braasch, Commissioner
Juliet Tapia, Commissioner
Larry Ohls, Commissioner

Absent:
None

City Staff:
Lindsey Oskoui, Director of Planning and Development
Megan Will, City Planner
Jennifer Scola, City Planner
Will Taylor, Graduate Engineer
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:01 p.m. on Tuesday February 18, 2020 in the Council Chambers of the City of Bee Cave City Hall, 4000 Galleria Parkway, Bee Cave, Texas.

Pledge of Allegiance

Minutes for December 3, 2019.

MOTION: A motion was made by Chair Norman, seconded by Vice Chair Hight, to recommend approval on the minutes for December 3, 2019

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Minutes for January 7, 2020.

MOTION: A motion was made by Chair Norman, seconded by Vice Chair Hight, to recommend approval on the minutes for January 7, 2020

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Public hearing, discussion and possible action on Ordinance No. 425 amending the zoning for the development knows as Uplands Drive from Neighborhood Services (NS) to Neighborhood Services Planned Development District (NS-PDD). The approximately 10.5 acres described as Lot 1, Block C of the Final Plat of Uplands Phase One, City of Bee Cave, Travis County, Texas, as recorded in Vol. 96 Pages 197-201 of the Plat Records of Travis County, Texas.

Public Hearing opened at 6:24 p.m.
Public Hearing closed at 7:00 p.m.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Ohls, to recommend approval on Ordinance No. 425 amending the zoning for the development knows as Uplands Drive from Neighborhood Services (NS) to Neighborhood Services Planned Development District (NS-PDD). The approximately 10.5 acres described as Lot 1, Block C of the Final Plat of Uplands Phase One, City of Bee Cave, Travis County, Texas, as recorded in Vol. 96 Pages 197-201 of the Plat Records of Travis County, Texas with the following condition:

1. Produce and include a signed and sealed copy of the traffic impact analysis for this project.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Schmidt, Braasch, Wright, Ohls
Voting Nay:	Vice Chair Hight, Commissioner Tapia
Abstained:	None
Absent:	None

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 7:35 p.m.

PASSED AND APPROVED THIS _____ DAY OF _____, 2020.

_____
Jim Norman, Chair

ATTEST

_____
Reggie Brooks

Public Hearing Notes

The following residents spoke during the public hearing regarding The Uplands PDD.

Danny Miller, applicant, LJA Engineering- Mr. Miller highlighted the uses of the project and stated that the project meets and exceeds most of the current code.

Michael Wong, owner's representative- Mr. Wong highlighted that there are no set uses or tenants, assigned to the property yet. The first phase of the project to begin construction is also not set in stone.

Alex Tradd, 12405 SH 71 W- Mr. Tradd was thrilled with the project, but concerned about water runoff, specifically that more impervious cover will create more bad drainage issues in the neighborhood. Traffic was another concern because people speed in the area and the development will create additional problems on his side of SH 71.

Steve Platt, The Uplands resident- Mr. Platt expressed that the development would be a great addition but is concerned about the intersection of Uplands Ridge Drive and SH 71. He wants to request a TIA to show a need for traffic control.

Paul Smith, 12005 Colleyville Drive- In addition to traffic concerns, Mr. Smith is concerned about Height of restaurant. A tall building would allow customers views of his backyard. Mr. Smith was also concerned about light pollution and suggested that a wall along the back of the neighborhood will provide more privacy and sound reduction.

David English- 4010 Lochwood Bend- Mr. English expressed that removing trees along the lot lines will lower the resident's property value. He suggestions that restrictions on restaurant noise, parking lot light intensity, and tailgating through The Upland's entrance gate be added to the project.

Paul Chantz, The Uplands resident- Mr. Chantz stressed that there is no guarantee of a traffic light and proceeded to outline the nine warrants required to install a light. He also questioned if the applicant had legitimate vesting rights due to definition of the term "commercial" as noted on the plat. Mr. Chantz expressed concern that using city ordinances from the early 1990s on the project would be problematic because those ordinances are too permissive with water runoff, height restrictions, size of buildings, impervious cover, and could endanger water sources. Mr. Chantz advocated for a privacy wall and height restrictions on the building and urged the Commission to deny approval of the project.

Patrick Polster, 4004 Kaywood Court- Mr. Polster expressed disappointment that the developers did nit talk to the neighbors before deciding upon the uses and cutting the trees. Mr. Polster highlighted his concern for safety behind his house due to the road that may be built near his backyard. At the end of his remarks, he requested that the item be tabled until the neighbors have a chance to speak with the developers.

Valerie Loomer, 12006 Colleyville Drive- Ms. Loomer highlighted her concern about how wildlife and water may be affected by this project. She stated that the current Neighborhood Service (NS) zoning designation provides for greater wildlife safety and water quality than the new project would allow and that the increased impervious cover will increase runoff. She also asserted that runoff may spill into private swimming pools, the elevation of the project will cause overwhelm the current septic infrastructure, biohazards (waste) from the development may attract more animals, pedestrians and cyclist will be less safe, and that light pollution will increase. Ms. Loomer stated that Bee Cave does not need more senior homes or more retail space.

Claudia Hausman, 12007 Colleyville Drive- Ms. Hausman stressed that the current Neighborhood Service (NS) designation could provide a profitable use, so why do a special PDD? Ms. Hausman also expressed concern about the building height, nighttime use, increased traffic, and the need for a traffic light at SH 71 and the entrance.

Janelle Howell, 3500 Vanshire Drive- Ms. Howell stated concern about traffic on SH 71 and stressed the need for a traffic light on SH 71. The project should be halted until a traffic light is installed.
Courtney Jones, 12003 Colleyville Drive- Ms. Jones questioned the extent to which the uses would be changed. Could space designated for assisted living change to become apartments?

Robert Gleason, 3703 Kenora Court- Mr. Gleason emphasized that The Uplands has no eastbound egress and that the neighborhood needs a guarantee for a stoplight. Tax revenue could go down due to unsafe driving conditions.

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
April 7, 2020

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Kevin Hight, Vice Chair
Kirk Wright, Commissioner
Steven Schmidt, Commissioner
Steve Braasch, Commissioner
Juliet Tapia, Commissioner
Larry Ohls, Commissioner

Absent:
None

City Staff:
Clint Garza, City Manager
Lindsey Oskoui, Director of Planning and Development
Megan Will, City Planner
Jennifer Scola, City Planner
Will Taylor, Graduate Engineer
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:07 p.m. on Tuesday April 7, 2020 on the Zoom Video Conferencing software.

Minutes for February 18, 2020.

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Ohls, to recommend approval on the minutes February 18, 2020

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Discuss and consider action on the Site & NPS Plan for the Baldwin Sports Park, located at 2500 Ashley Worth Blvd, Bee Cave, Texas 78738.

MOTION: A motion was made by Commissioner Tapia, seconded by Commissioner Ohls, to recommend approval on the Site & NPS Plan for the Baldwin Sports Park, located at 2500 Ashley Worth Blvd, Bee Cave, Texas 78738.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Public hearing, discussion, and possible action on Ordinance No. 428, which repeals and replaces Ordinance 404, the zoning, and the development standards related to a project known as The Backyard, located approximately 1000 feet west of the intersection of Bee Cave Parkway and Ranch Road 620, adjacent to Bee Cave Central Park.

Public Hearing opened at 6:58 pm
Public Hearing closed at 7:07 pm

MOTION: A motion was made by Commissioner Schmidt, seconded by Commissioner Ohls, to recommend approval as proposed on Ordinance No. 428, which repeals and replaces Ordinance 404, the zoning, and the development standards related to a project known as The Backyard, located approximately 1000 feet west of the intersection of Bee Cave Parkway and Ranch Road 620, adjacent to Bee Cave Central Park.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Public hearing, discussion and possible action on Ordinance No. 432 amending the previously adopted Ordinance 389 for the subject site. The approximately 80.37 acre site located at approximately 13545 State Highway 71 West and comprised of Travis County Appraisal District Parcels No. 894664, 851630, 817340, 563796, and 563797.

Public Hearing opened at 8:14 pm
Public Hearing closed at 8:14 pm

MOTION: A motion was made by Commissioner Braasch, seconded by Commissioner Schmidt, to recommend approval Ordinance No. 432 amending the previously adopted Ordinance 389 for the subject site. The approximately 80.37 acre site located at approximately 13545 State Highway 71 West and comprised of Travis County Appraisal District Parcels No. 894664, 851630, 817340, 563796, and 563797.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Public hearing, discussion and possible action on Ordinance No. 433 authorizing a Conditional Use Permit for "Car Wash (Self-Service)" for Lot 3, Block AA, Bella Colinas Commercial Subdivision, as recorded in Document No. 201600051 OPRTC, located at the Southwest corner of Del Dios Way and W SH-71, Bee Cave, Texas.

Public Hearing opened at 8:26 pm
Public Hearing closed at 8:28 pm

MOTION: A motion was made by Commissioner Schmidt, seconded by Tapia, to recommend approval on Ordinance No. 433 authorizing a Conditional Use Permit for "Car Wash (Self-Service)" for Lot 3, Block AA, Bella Colinas Commercial Subdivision, as recorded in Document No. 201600051 OPRTC, located at the Southwest corner of Del Dios Way and W SH-71, Bee Cave, Texas.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Vice Chair Hight, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 8:30 p.m.

PASSED AND APPROVED THIS 21 DAY OF April, 2020.

Jim Norman, Chair

ATTEST RBrooks

Reggie Brooks

4/7/2020

Ordinance 428 The Backyard Public Hearing Notes

Catherine Thomas, resident- Ms. Thomas expressed concern about the project's egress and ingress safety. Ms. Thomas was also concerned that the project's frequent use as a general use venue will cause more traffic and that the city is not in a position to monitor the project's contract.

Paula Boyd, Ladera HOA president- Ms. Boyd expressed concern that the project will cause parking conflict with residents who want to visit the trails and people using the venue and visiting the restaurants. Ms. Boyd also expressed concern about light mitigation and stated that the developers should have done a better job communicating their plans with the residents of Ladera.

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
Bee Cave City Hall
4000 Galleria Parkway Bee Cave, Texas
June 2, 2020

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Jim Norman, Chair
Steve Braasch, Commissioner
Kirk Wright, Commissioner
Steven Schmidt, Commissioner
Juliet Tapia, Commissioner
Larry Ohls, Commissioner
Courtney Hohl, Commissioner

Absent:
None

City Staff:
Lindsey Oskoui, Director of Planning and Development
Jennifer Scola, City Planner
Will Taylor, Graduate Engineer
Reggie Brooks, Administrative Coordinator

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Norman at 6:01 p.m. on Tuesday June 2, 2020 in the Council Chambers at Bee Cave City Hall.

Minutes for April 21, 2020

MOTION: A motion was made by Commissioner Tapia, seconded by Commissioner Schmidt, to recommend approval on the minutes of April 21, 2020

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Schmidt, Wright, Tapia, Ohls, Hohl
Voting Nay:	None
Abstained:	Commissioner Braasch
Absent:	None

The motion carried.

Discuss and consider action on the Subdivision Construction Plan for the Village of Spanish Oaks Stormwater Improvements and an exception from section 30.03.003(e) of the City of Bee Code of Ordinances requiring easement dedication via final plat. This project allows for the construction of associated storm drain and water quality infrastructure and is located on an approximately 80.37-acre tract located south of SH-71 W between the Shops at the Galleria and Great Divide Drive, bounded on the south by Little Barton Creek.

MOTION: A motion was made by Chair Norman, seconded by Commissioner Braasch, to recommend approval on the Subdivision Construction Plan for the Village of Spanish Oaks Stormwater Improvements and an exception from section 30.03.003(e) of the City of Bee Code of Ordinances requiring easement dedication via final plat. This project allows for the construction of associated storm drain and water quality infrastructure and is located on an approximately 80.37-acre tract located south of SH-71 W between the Shops at the Galleria and Great Divide Drive, bounded on the south by Little Barton Creek.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Schmidt, Braasch, Wright, Tapia, Ohls, Hohl
Voting Nay:	None
Abstained:	None
Absent:	None

The motion carried.

Discuss and consider action on a site plan revision for the Lake Travis ISD Middle School, related to the stormwater monitoring plan. The project is located at 16101W State Highway 71.

MOTION: A motion was made by Commissioner Braasch, seconded by Commissioner Schmidt, to recommend approval on the site plan revision for the Lake Travis ISD Middle School, related to the stormwater monitoring plan. The project is located at 16101W State Highway 71.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Norman, Commissioners Schmidt, Wright, Tapia, Ohls, Hohl
Voting Nay:	None
Abstained:	Commissioner Braasch
Absent:	None

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 6:27 p.m.

PASSED AND APPROVED THIS _____ DAY OF _____, 2020.

_____
Jim Norman, Chair

ATTEST

_____
Reggie Brooks

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
Remote Access Only
August 18, 2020

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Steve Braasch, Chair (joined at 6:38 pm)
Kirk Wright, Commissioner
Steven Schmidt, Commissioner
William Davis, Commissioner
Courtney Hohl, Commissioner

Absent:
Juliet Tapia, Vice Chair
Jerry Dike, Commissioner

City Staff:
Lindsey Oskoui, Assistant City Manager
Megan Will, Director of Planning and Development
Jennifer Scola, City Planner
Kevin Sawtelle, City Engineer
Will Taylor, Graduate Engineer

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Commissioner Schmidt at 6:32 p.m. on Tuesday August 18, 2020 on Zoom.

Minutes for June 2, 2020

MOTION: A motion was made by Commissioner Wright, seconded by Commissioner Hohl, to recommend approval on the minutes of June 2, 2020

The vote was taken on the motion with the following result:

Voting Aye:	Commissioners Schmidt, Wright, Davis, Hohl
Voting Nay:	None
Abstained:	None
Absent:	Chair Braasch, Commissioners Tapia, Dike

The motion carried.

Discuss and consider action on the Site & NPS Plan for the Kwik Chek - Bella Colinas, located at 15701 West SH 71, Bee Cave, Texas 78738.

**Chair Braasch joins meeting at 6:38 pm after experiencing technical difficulties.*

MOTION: A motion was made by Commissioner Schmidt, seconded by Chair Braasch, to recommend approval on the Site & NPS Plan for the Kwik Chek - Bella Colinas, located at 15701 West SH 71, Bee Cave, Texas 78738.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Commissioners Schmidt, Wright, Davis, Hohl
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Tapia, Dike

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 7:12 p.m.

PASSED AND APPROVED THIS 15 DAY OF Sept., 2020.

Steve Braasch, Chair

ATTEST

Reggie Brooks

8/18/2020

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
4000 Galleria Parkway
Bee Cave, Texas 78738
July 6, 2021

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Steve Braasch, Chair
Juliet Tapia, Vice Chair
Jerry Dike, Commissioner
Andy Rebber, Alternate Commissioner

Absent:
Steven Schmidt, Commissioner
William Davis, Commissioner
Kirk Wright, Commissioner
Kit Crumbley, Commissioner

City Staff:
Lindsey Oskoui, Assistant City Manager
Megan Will, Director of Planning and Development
Kevin Sawtelle, City Engineer
Amanda Padilla, City Planner
Jenny Hoff, Public Information Officer
Reggie Brooks, Deputy City Secretary

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Braasch, in the Council Chambers at 6:01 p.m. on Tuesday, July 6, 2021.

Minutes for June 1, 2021

MOTION: A motion was made by Commissioner Dike, seconded by Vice Chair Tapia to recommend approval on the minutes of the June 1, 2021 meeting.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Rebber
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Schmidt, Davis, Wright, Crumbley

The motion carried.

Discuss and consider action a Preliminary Plat for The Backyard, approximately 35 acres, located at 13801 Bee Cave Parkway.

MOTION: A motion was made by Commissioner Dike, seconded by Vice Chair Tapia to recommend approval on the Preliminary Plat for The Backyard, approximately 35 acres, located at 13801 Bee Cave Parkway.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Rebber
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Schmidt, Davis, Wright, Crumbley

The motion carried.

Discuss and consider action on the site development plan for the "Juniper Trace Office", located at 3805 Juniper Trace, Bee Cave, TX 78738.

MOTION: A motion was made by Vice Chair Tapia, seconded by Commissioner Dike to recommend approval on the site development plan for the "Juniper Trace Office", located at 3805 Juniper Trace, Bee Cave, TX 78738.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Rebber
Voting Nay:	None
Abstained:	None
Absent:	Commissioners Schmidt, Davis, Wright, Crumbley

The motion carried.

Discuss and consider action on a site plan amendment for the Action Behavior Center located at 3526 South FM 620 Bee Cave, Texas 78738.

MOTION: A motion was made by Commissioner Dike, seconded by Chair Braasch to recommend approval on the site plan amendment for the Action Behavior Center located at 3526 South FM 620 Bee Cave, Texas 78738 with the following condition:

1. The fence must be removed upon change of certificate of occupancy.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Commissioners Dike, Rebber
Voting Nay:	Vice Chair Tapia
Abstained:	None
Absent:	Commissioners Schmidt, Davis, Wright, Crumbley

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 6:51 p.m.

PASSED AND APPROVED THIS _____ DAY OF _____, 2021.

_____
Steve Braasch, Chair

ATTEST

_____
Reggie Brooks

MINUTES OF THE REGULAR MEETING OF THE
PLANNING AND ZONING COMMISSION
CITY OF BEE CAVE
4000 Galleria Parkway
Bee Cave, Texas 78738
August 3, 2021

STATE OF TEXAS §

COUNTY OF TRAVIS §

Present:
Steve Braasch, Chair
Juliet Tapia, Vice Chair (arrived at 6:03 pm)
Jerry Dike, Commissioner
Kit Crumbley, Commissioner
Steven Schmidt, Commissioner
Kirk Wright, Commissioner

Absent:
William Davis, Commissioner

City Staff:
Megan Will, Director of Planning and Development
Kevin Sawtelle, City Engineer
Amanda Padilla, City Planner
Will Taylor, Graduate Engineer
Lanie Marcotte, Parks and Facilities Manager
Reggie Brooks, Deputy City Secretary

Call to Order and Announce a Quorum is Present

With a quorum present, the regular meeting of the Bee Cave Planning and Zoning Commission was called to order by Chair Braasch, in the Council Chambers at 6:00 p.m. on Tuesday, August 3, 2021.

Minutes for July 6, 2021

MOTION: A motion was made by Commissioner Dike, seconded by Commissioner Crumbley to recommend approval on the minutes of the July 6, 2021 meeting.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Commissioners Dike, Wright, Crumbley, Schmidt
Voting Nay:	None
Abstained:	None
Absent:	Vice Chair Tapia, Commissioner Davis

The motion carried.

Discuss and consider action on Architectural Pre-Approval for Parking Garages P1 and P2 of the Backyard project located at 13801 Bee Cave Parkway, Bee Cave, TX 78738.

MOTION: A motion was made by Vice Chair Tapia, seconded by Commissioner Wright to recommend approval on Architectural Pre-Approval for Parking Garages P1 and P2 of the Backyard project located at 13801 Bee Cave Parkway, Bee Cave, TX 78738 with the following condition:

1. Recommend architectural approval for Garage P1, acknowledging that there's a slight excess of metal, but not approval for Garage P2, until the applicant approves additional screening on the side of the garage facing Willie Way, in keeping with the design of Garage P1.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Wright, Crumbley, Schmidt
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Davis

The motion carried.

Discuss and consider action on a variance to Section 20.04.045(a), in relation to the Preliminary Plat application for Spring Creek Preserve, a 54.057 acre tract located on the south side of Hamilton Pool Road approximately ½ mile west of SH-71 and comprised of Travis County Appraisal District Parcel No. 345519 and 337227.

MOTION: A motion was made by Vice Chair Tapia, seconded by Chair Braasch, to recommend approval on a variance to Section 20.04.045(a), in relation to the Preliminary Plat application for Spring Creek Preserve, a 54.057 acre tract located on the south side of Hamilton Pool Road approximately ½ mile west of SH-71 and comprised of Travis County Appraisal District Parcel No. 345519 and 337227.

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Wright, Crumbley, Schmidt
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Davis

The motion carried.

Discuss and consider action on the Preliminary Plat of Spring Creek Preserve, a 54.057 acre tract located on the south side of Hamilton Pool Road approximately ½ mile west of SH-71 and comprised of Travis County Appraisal District Parcel No. 345519 and 337227.

MOTION: A motion was made by Commissioner Dike, seconded by Commissioner Schmidt, to recommend approval on the Preliminary Plat of Spring Creek Preserve, a 54.057-acre tract located on the south side of Hamilton Pool Road approximately ½ mile west of SH-71 and comprised of Travis County Appraisal District Parcel No. 345519 and 337227 with the following exceptions, as noted by staff:

- Section 30.03.005(a)
- Section 30.03.004(b)
- Section 30.03.001(u)
- Section 30.03.001(o)
- Section 30.03.004(r)

The vote was taken on the motion with the following result:

Voting Aye:	Chair Braasch, Vice Chair Tapia, Commissioners Dike, Wright, Crumbley, Schmidt
Voting Nay:	None
Abstained:	None
Absent:	Commissioner Davis

The motion carried.

The Planning and Zoning Commission adjourned the meeting at 7:20 p.m.

PASSED AND APPROVED THIS 19 DAY OF August, 2021.

Steve Braasch, Chair

ATTEST RBr

Reggie Brooks

8/3/2021

Planning and Zoning Commission Meeting
8/1/2023
Agenda Item Transmittal

Agenda Item:	**5.**
Agenda Title:	**Discuss and consider action on Site and NPS plans for the Pearl Multifamily development located at 13400 Bee Cave Parkway, Bee Cave, TX including the following plans:**
Commission Action:	**Recommend to approve or deny**
Department:	**Planning and Development**
Staff Contact:	**Kevin Sawtelle, City Engineer**

1. INTRODUCTION/PURPOSE

See attached Transmittal Memo

2. DESCRIPTION/JUSTIFICATION

a) Background

See attached Transmittal Memo

b) Issues and Analysis

See attached Transmittal Memo

3. FINANCIAL/BUDGET

Amount Requested	Fund/Account No.
Cert. Obligation	GO Funds
Other source	Grant title
Addtl tracking info	

4. TIMELINE CONSIDERATIONS

5. RECOMMENDATION

See attached Transmittal Memo

ATTACHMENTS:

Description	Type
Crescent Tract Plans	Backup Material
Pearl TIA Report	Backup Material
TIA Technical Addendum	Backup Material
The Pearl Amenity Building	Backup Material
The Pearl Leasing Office Building	Backup Material
The Pearl Landscaping Plans	Backup Material
The Pearl Exterior Building Elevations	Backup Material
The Pearl Site Plan	Site Plan
Lot 3 Site Plan (Access Drive)	Site Plan
Bee Cave Parkway Striping Plan	Site Plan
Colorized Overall Development Map	Site Plan
Sidewalk and Trail Esmt	Backup Material
Water Quality Control Easement	Backup Material
Median Maintenance Agreement	Backup Material
Affordable Housing Restrictive Covenant	Backup Material
Crescent Tract Maintenance Agreement	Backup Material
Pedestrian Bridge Easement	Backup Material
WQ Restrictive Covenant Termination	Backup Material
TRANSMITTAL LETTER	Cover Memo

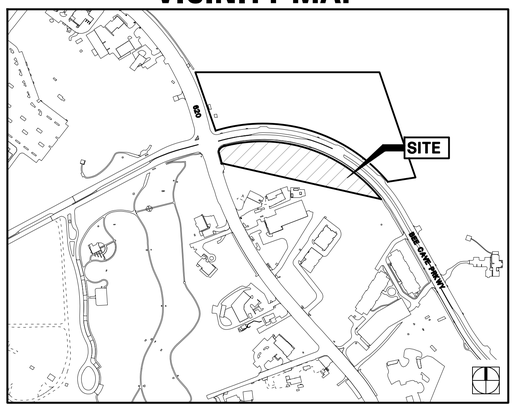
SITE DEVELOPMENT PERMIT DRAWINGS FOR:

CRESCENT TRACT IMPROVEMENT PLANS

Bee Cave, Texas

Landscape / Irrigation

VICINITY MAP



Address:

SE Corner of Bee Cave Pkwy & RR 620
Bee Cave, Texas 78738

Watershed Status:

This project is located within the Little Barton Creek Watershed and lies within the Edwards Aquifer contributing zone as defied by the Texas Commission on Environmental Quality.

Floodplain Information:

The tract shown hereon lies within Zone "X" (areas determined to be outside 500-year floodplain), as identified by the Federal Emergency Management Agency, Federal Insurance Administration, as shown on map no. 48453C0405H, revised January 22, 2020, for Travis County, Texas and incorporated areas. If this site is not within an identified special flood hazard area, this flood statement does not imply that the property and.or the structures thereon will be free from flooding of flood damage. This flood statement shall not create liability on the part of the surveyor.

Legal Description:

Lot 6, Block "A" Amended Final Plat Hill Country Galleria of Lots 1-8 and 10-26, Block a, Lots 1-3 and 5-8, Block B and Lot 1, Block A document no.200700378.

Bearing Basis Note:

The basis of bearing of the survey shown hereon is texas State Plane Coordinate System, Central Zone, NAD 83 (96), utilizing western data systems Continually Operating Referance Station (CORS) Network

Notes:

1..The construction plan meets all requirements stated in City of Bee Cave Code of Ordinance Sec. 16.03 for construction in public rights-of-way. Contractor must comply with all the requirements of approval bodies.

2.Within fourteen (14) days of completion of excavation, construction, installation, expansion of facilities or other work in the public rights-of-way, applicant/contractor shall temporarily restore and repair the public rights-of-way. Within thirty (30) calendar days after completion of work in the public rights-of-way, responsible party shall permanently restore the surface and all other infrastructure located on, in or under any public rights-of-way. Responsible party shall restore any disturbed/destroyed right-of-way markers or monuments within thirty (30) days after construction has ceased.

3. If a subsurface void is encourted during any phase of the project, construction should be halted until the TCEQ (or appropriate agency) is contacted and a licensed geologist can investigate the feature to develop closure plan.

4. Construction hours are 7:00 AM -7:00 PM.

WTCPUA Notes:

1. No public water or wastewater will be installed with the Crescent Tract imporvement plans. All irrigation will be supplied by the water quality pond at NE corner of RR 620 and Bee Cave Parkway.

A PROJECT BY

DEVELOPER:
MORGAN GROUP

CONTACT: JASON HAUCK
3815 S. CAPITAL OF TEXAS HIGHWAY
SUITE 300
AUSTIN, TX 78704
O: (512) 384-1126
F: (214) 504-8784

LANDSCAPE ARCHITECT:
TBG PARTNERS

CONTACT: CHRIS JACKSON
3232 E CESAR CHAVEZ STREET
BLDG 1, SUITE 100
AUSTIN, TX 78702
O: (512) 321-1011

IRRIGATION DESIGNER:
JAMES POLE IRRIGATION

CONTACT: JAMES POLE
100 NORTH LOCUST STREET
SUITE 3
DENTON, TX 76201
O: (940) 243-2364
F: (972) 998-7013

CIVIL ENGINEER:
KIMLEY-HORN

CONTACT: LANCE ORITI
10814 JOLLYVILLE ROAD
BLDG IV, SUILTE 200
AUSTIN, TX 78746
O: (512) 910-8305
F: (512) 418-1771

INDEX OF SHEETS

INC.	DATE	ISSUE	SHEET TITLE	PAGE #
Reference				
	MAY 03, 2023	SDP	Cover Sheet	1
	MAY 03, 2023	SDP	Reference Plan	2
Landscape				
	MAY 03, 2023	SDP	Erosion Control and Tree Protection Plan	3
	MAY 03, 2023	SDP	Erosion Control and Tree Protection Details	4
	MAY 03, 2023	SDP	Tree Preservation Plan	5
	MAY 03, 2023	SDP	Tree Preservation Tables	6
	MAY 03, 2023	SDP	Landscape Plan	7
	MAY 03, 2023	SDP	Landscape Plan	8
	MAY 03, 2023	SDP	Landscape Notes, Materials, and Details	9
	MAY 03, 2023	SDP	Landscape Notes, Materials, and Details	10

No.	Description	Revise (R) Add (A) Void (V) Sheet No.'s	Total # Sheets in Plan Set	Net Change Imp. Cover (sq. ft.)	Total Site Imp. Cover (sq. ft.)[%]	City of Bee Cave Approval/Date	Date Imaged

APPROVED FOR ACCEPTANCE

Date

City of Bee Cave City Council Approval Date — COBC Development Permit #23-765-SNPS

City of Bee Cave — Date

Permit No. : 23-765-SNPS

1st Submittal Date: January 04, 2023

Submitted By : — 05/03/2023 Date

Christopher Jackson , P.L.A.
TBG Partners,
3232 E Cesar Chavez Street, Bldg. 1 ,Suite 100
Austin, Texas 78702
(512)327-1011

TBG

landscape architects, planners & designers

3232 e cesar chavez st
bldg 1, suite 100
austin, tx 78702

[512] 327-1011
tbgpartners.com

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER JACKSON
2785
STATE OF TEXAS

07/25/2023

project
pearl bee cave - crescent tract improvements

Morgan Group
Austin, TX

project number
A22310

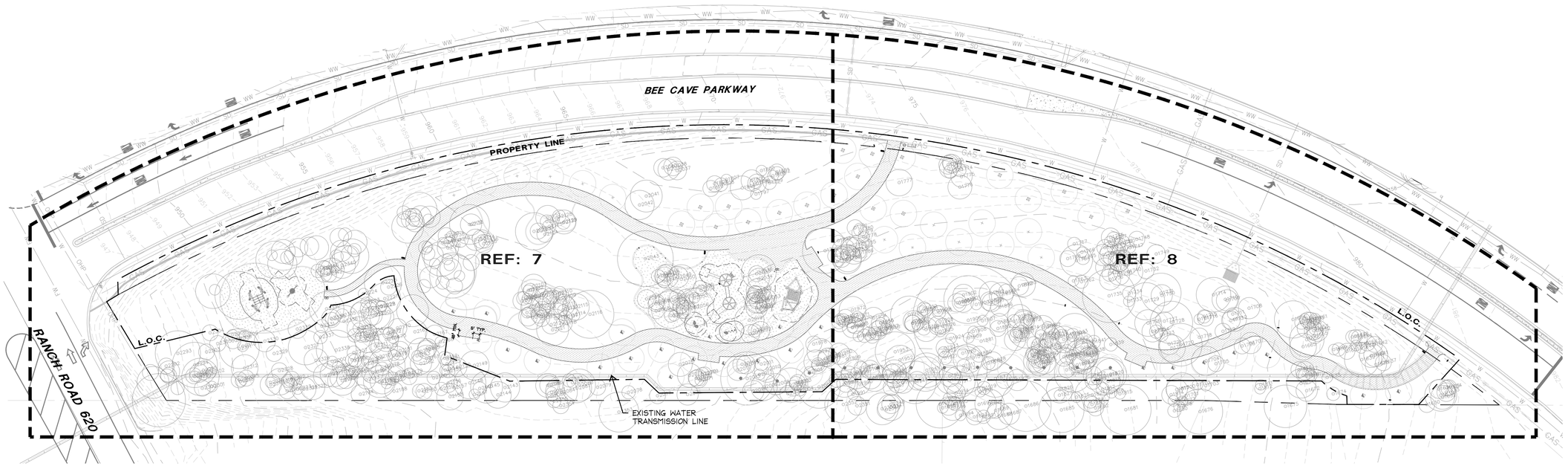
issue date
May 03, 2023

designed:#
drawn: #
reviewed:#

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sheet title
cover sheet

sheet
1



1 REFERENCE PLAN

0' 20' 40' 80'
SCALE: 1"=40' NORTH

LANDSCAPE NOTES:

1. AN TEMPORARY IRRIGATION SYSTEM WILL BE USED TO IRRIGATE ALL NEW LANDSCAPE MATERIAL WITH TURF ZONES SEPARATED FROM TREE BUBBLERS. TEMPORARY IRRIGATION SYSTEMS SHALL COMPLY WITH THE WATER CONSERVATION IRRIGATION SYSTEM REQUIREMENTS, AS REQUIRED IN THE **ENVIRONMENTAL CRITERIA MANUAL.** *
2. THE IRRIGATION SYSTEM SHALL BE IN PLACE AND FUNCTIONAL AT THE TIME OF THE LANDSCAPE INSPECTION.
3. REFERENCE TREE STAKING DETAIL FOR ALL NEW TREES.
4. A MINIMUM OF 6" OF PERMEABLE SOIL IS REQUIRED FOR TURF AND LANDSCAPE AREAS.
5. IRRIGATION LINES SHOULD BE TRENCHED SO THAT THERE IS NO DISTURBANCE TO THE CRITICAL ROOT ZONE OF EXIST. TREES.
6. ALL SIDEWALKS SHALL CONFORM TO FEDERAL AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS AND BARRIER-FREE RAMPS TO BE PROVIDED WHEREVER A SIDEWALK INTERSECTS A PUBLIC OR PRIVATE STREET OR COMMERCIAL DRIVEWAY.
7. REFERENCE MULTI FAMILY SITE PLAN (PERMIT #22-757-SNPS) FOR REIRRIGATION PLANS, DETAILS, AND NOTES
8. INTENT FOR CRESCENT PARK TO HAVE ABOVE GROUND TEMPORARY IRRIGATION FOR VIABILITY AND ESTABLISHMENT OF PLANT MATERIAL AFTER ESTABLISHMENT.

TEMPORARY IRRIGATION NOTES:

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED AS PART OF THE LANDSCAPE INSPECTION:
   A.THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;
   B.THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);
   C.CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;
   D.SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;
   E.A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER
   .F. ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES;
   G.AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER MORE THAN A ONE-HALF INCH (½") RAINFALL; AND
   H.NEWLY PLANTED TREES SHALL HAVE IRRIGATION CONSISTING OF DRIP OR BUBBLERS.

2.THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;
   A.UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.

3.THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:
   A.A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE; AND AN AS BUILT PLAN.

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REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER JACKSON
2795
STATE OF TEXAS

07/25/2023

project
pearl bee cave - crescent tract improvements

Morgan Group
Austin, TX

project number
A22310

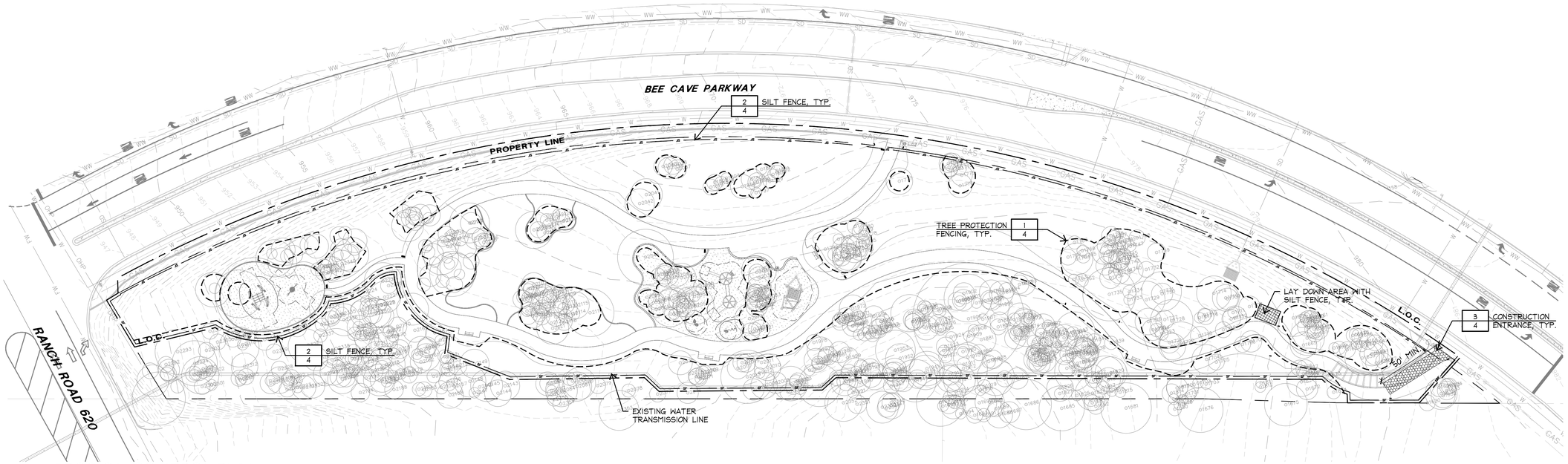
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1 EROSION CONTROL PLAN

0' 20' 40' 80'
SCALE: 1"=40' N O R T H

NOTE: FINAL LOCATION OF CONSTRUCTION ENTRANCE TO BE LOCATED IN THE FIELD WITH CONTRACTOR

TREE PROTECTION LEGEND:	
	SILT FENCE
	TREE PROTECTION FENCING
	CONSTRUCTION ENTRANCE
	LAY DOWN AREA

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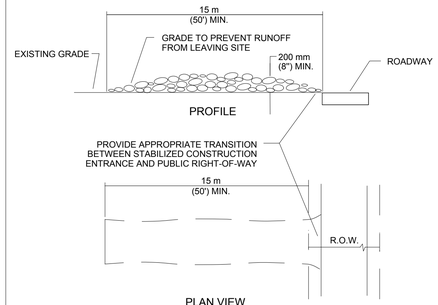
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erosion control & tree protection plan

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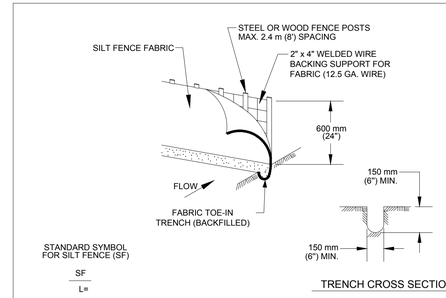
NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY	*5/23/00* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1

3 CONSTRUCTION ENTRANCE

DETAIL — NOT TO SCALE



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.

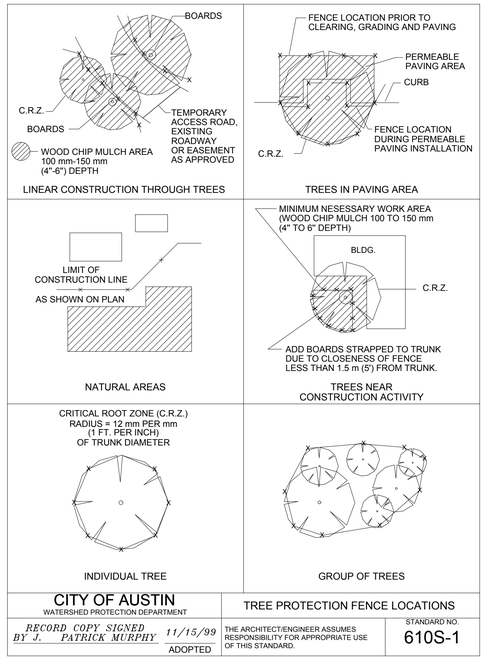
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

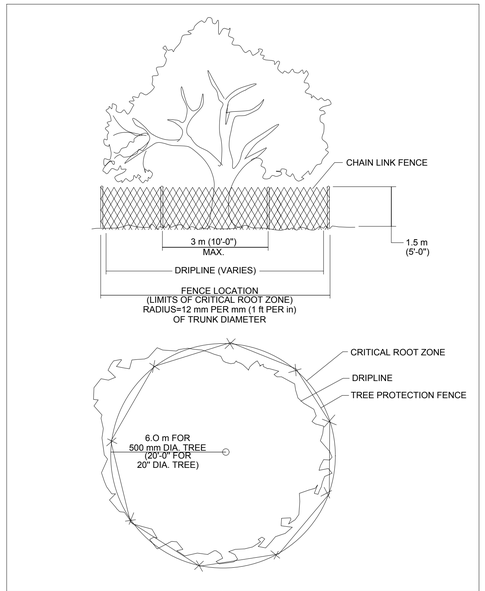
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS	*09/01/2011* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1

2 SILT FENCE

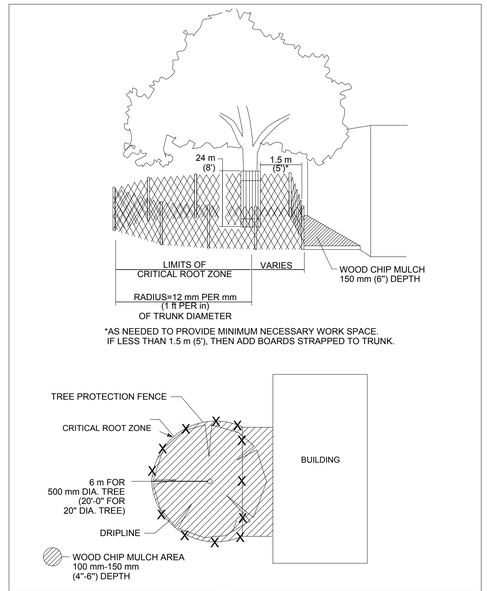
DETAIL — NOT TO SCALE



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY *11/15/99*	ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROPTECTION FENCE TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY *11/15/99*	ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY *11/15/99*	ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4

1 TREE PROTECTION DETAILS

DETAIL — NOT TO SCALE

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REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER JACKSON
2785
STATE OF TEXAS

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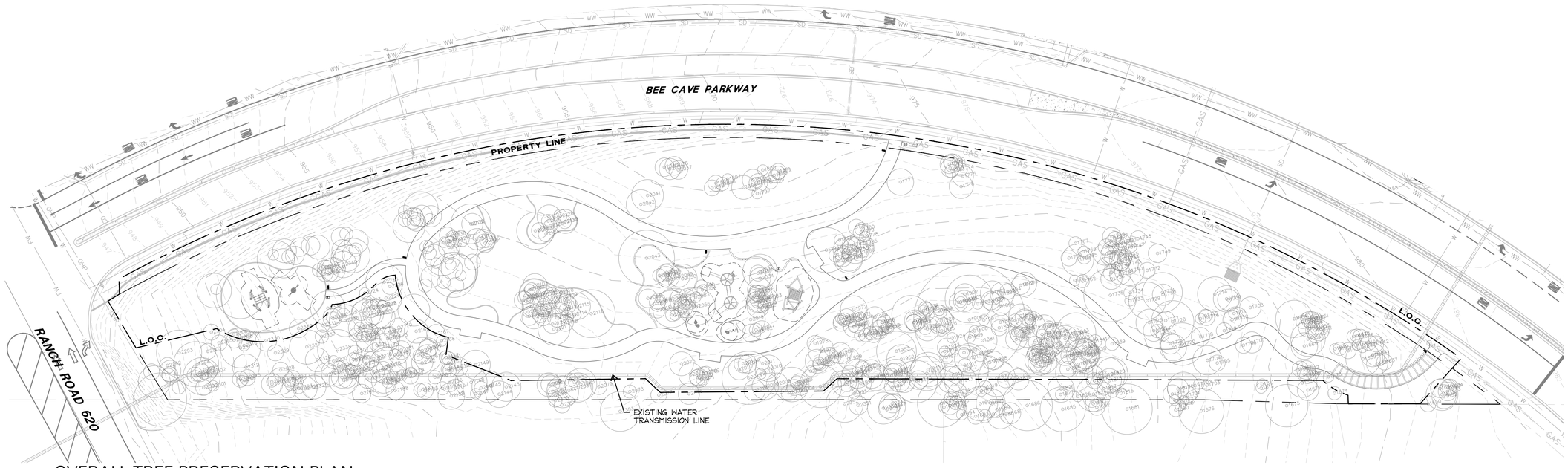
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erosion control & tree protection details

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1 OVERALL TREE PRESERVATION PLAN

0' 20' 40' 80'
SCALE: 1"=40' N O R T H

NOTE:
1. ALL EXISTING TREES TO REMAIN, ALL GRADING TO OCCUR OUTSIDE OF 1/4 CRITICAL ROOT ZONE.

2. DEVELOPER WILL BE RESPONSIBLE TO OBTAIN COMPLIANCE CERTIFICATION FROM TDLR.

3. ALL EXISTING TREES TO BE PRESERVED

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Austin, TX

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tree preservation plan

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Preserve	Tree #	Trunk	Cal (in.)	Species
x	1630	(M)	6	CEDAR (4, 3)
x	1631		12	LIVE OAK
x	1632		9	LIVE OAK
x	1633		7	CEDAR
x	1634		6	CEDAR
x	1635	(M)	6	CEDAR (4, 3)
x	1636		7	CEDAR
x	1637		6	CEDAR
x	1638	(M)	8	LIVE OAK (6, 3)
x	1639	(M)	13	LIVE OAK (9, 7)
x	1640		9	LIVE OAK
x	1641		9	LIVE OAK
x	1642		6	CEDAR
x	1643		6	CEDAR
x	1644		4	CEDAR
x	1645		4	CEDAR
x	1646		6	CEDAR
x	1647		5	CEDAR
x	1648		5	CEDAR
x	1649		4	CEDAR
x	1650		5	CEDAR
x	1651		6	CEDAR
x	1652	(M)	8	CEDAR (5, 5)
x	1653		5	CEDAR
x	1654		7	LIVE OAK
x	1655		6	LIVE OAK
x	1656	(M)	13	CEDAR (8, 7, 3)
x	1657		7	LIVE OAK
x	1658		4	CEDAR
x	1659		6	CEDAR
x	1660		6	LIVE OAK
x	1661		4	CEDAR
x	1662		4	CEDAR
x	1663		5	CEDAR
x	1664	(M)	14	CEDAR (5, 5, 4, 4, 4, 3)
x	1665		10	LIVE OAK
x	1666	(M)	6	CEDAR (4, 3)
x	1667		7	LIVE OAK
x	1668		5	CEDAR
x	1669		6	LIVE OAK
x	1670		4	CEDAR
x	1671	(M)	11	CEDAR (5, 4, 4, 3)
x	1672	(M)	8	CEDAR (5, 3, 2)
x	1673		4	CEDAR
x	1674		5	CEDAR
x	1675		16	CEDAR
x	1676		17	CEDAR
x	1677		4	LIVE OAK
x	1678		4	LIVE OAK
x	1679		4	LIVE OAK
x	1680		5	LIVE OAK
x	1681		19	CEDAR
x	1682		6	LIVE OAK
x	1683		6	LIVE OAK
x	1684		5	LIVE OAK
x	1685		17	CEDAR
x	1686		19	CEDAR
x	1687		8	CEDAR
x	1688		10	CEDAR
x	1689		6	CEDAR
x	1690		11	LIVE OAK
x	1691		5	CEDAR
x	1692	(M)	13	LIVE OAK (10, 6)
x	1693		6	CEDAR
x	1694		4	CEDAR
x	1695		5	LIVE OAK
x	1696		9	LIVE OAK
x	1697		7	LIVE OAK
x	1698		4	LIVE OAK
x	1699		18	CEDAR
x	1700	(M)	12	CEDAR (5, 5, 3, 3, 3)
x	1701		7	LIVE OAK
x	1702		4	CEDAR
x	1703		4	CEDAR
x	1704	(M)	11	CEDAR (4, 4, 4, 3, 3)
x	1705	(M)	6	CEDAR (2, 2, 2, 2, 2)
x	1706	(M)	6	CEDAR (3, 2, 2, 2)
x	1707	(M)	8	CEDAR (4, 3, 3, 2)
x	1708	(M)	8	CEDAR (3, 3, 3, 2, 2)
x	1709		8	LIVE OAK
x	1710	(M)	10	CEDAR (7, 6)
x	1711		4	CEDAR
x	1712	(M)	9	CEDAR (3, 3, 3, 3, 2, 2)
x	1713	(M)	7	CEDAR (3, 2, 2, 2, 2, 2)
x	1714	(M)	13	CEDAR (5, 4, 4, 4, 3, 3)
x	1715		5	CEDAR
x	1716		6	CEDAR
x	1717		4	CEDAR
x	1718	(M)	7	CEDAR (3, 2, 2, 2, 2)
x	1719	(M)	6	CEDAR (3, 2, 2, 2)
x	1720	(M)	16	CEDAR (7, 5, 4, 4, 4)
x	1721		8	LIVE OAK
x	1722		10	CEDAR
x	1723		5	CEDAR
x	1724		5	LIVE OAK
x	1725		8	CEDAR
x	1726	(M)	10	CEDAR (5, 5, 5)
x	1727		7	LIVE OAK
x	1728	(M)	16	CEDAR (7, 6, 4, 4, 3)
x	1729	(M)	14	CEDAR (5, 5, 5, 4, 4, 3)

Preserve	Tree #	Trunk	Cal (in.)	Species
x	1731	(M)	15	CEDAR (8, 4, 4, 3, 3, 3)
x	1732	(M)	6	CEDAR (4, 3)
x	1733		4	LIVE OAK
x	1734		5	CEDAR
x	1735	(M)	20	CEDAR (7, 7, 6, 6, 6, 5)
x	1736	(M)	8	CEDAR (6, 4)
x	1737		6	CEDAR
x	1738		8	LIVE OAK
x	1739		4	CEDAR
x	1740		11	LIVE OAK
x	1741		7	LIVE OAK
x	1742		8	LIVE OAK
x	1743		8	LIVE OAK
x	1744		4	CEDAR
x	1745		5	CEDAR
x	1746		4	CEDAR
x	1747		4	CEDAR
x	1748		6	CEDAR
x	1749	(M)	7	CEDAR (3, 3, 2, 2)
x	1750	(M)	6	CEDAR (4, 2, 2)
x	1751		4	CEDAR
x	1752		9	LIVE OAK
x	1753		4	CEDAR
x	1754		6	CEDAR
x	1755	(M)	7	CEDAR (5, 4)
x	1756		4	CEDAR
x	1757		5	CEDAR
x	1758		7	LIVE OAK
x	1759		5	CEDAR
x	1760		7	LIVE OAK
x	1761	(M)	8	CEDAR (6, 3)
x	1762		5	CEDAR
x	1763		4	CEDAR
x	1764		12	LIVE OAK
x	1765		5	CEDAR
x	1766		4	CEDAR
x	1767	(M)	5	CEDAR (4, 2)
x	1768		6	CEDAR
x	1769		7	CEDAR
x	1770		6	LIVE OAK
x	1771		7	LIVE OAK
x	1772		7	LIVE OAK
x	1773		5	CEDAR
x	1774		5	LIVE OAK
x	1775		8	LIVE OAK
x	1776		9	LIVE OAK
x	1777		10	LIVE OAK
x	1778		4	CEDAR
x	1779	(M)	6	CEDAR (4, 3)
x	1780		5	CEDAR
x	1781		6	CEDAR
x	1782		7	LIVE OAK
x	1783		10	LIVE OAK
x	1784	(M)	10	LIVE OAK (7, 6)
x	1785		5	CEDAR
x	1786		4	CEDAR
x	1787		5	CEDAR
x	1788	(M)	10	LIVE OAK (7, 6)
x	1789	(M)	11	LIVE OAK (6, 5, 4)
x	1790		7	LIVE OAK
x	1791		4	CEDAR
x	1792		5	CEDAR
x	1793		5	CEDAR
x	1794	(M)	9	LIVE OAK (6, 6)
x	1795		4	CEDAR
x	1796	(M)	17	CEDAR (9, 5, 4, 4, 3, 3)
x	1797		4	CEDAR
x	1798	(M)	7	LIVE OAK (5, 3)
x	1799		5	LIVE OAK
x	1800		4	CEDAR
x	1801		6	CEDAR
x	1802		5	CEDAR
x	1803		4	CEDAR
x	1804		4	CEDAR
x	1805	(M)	8	CEDAR (4, 4, 2, 2)
x	1806	(M)	9	CEDAR (4, 3, 2, 2, 2)
x	1807		4	LIVE OAK
x	1808		5	LIVE OAK
x	1809		6	LIVE OAK
x	1810		6	LIVE OAK
x	1811		4	CEDAR
x	1812		4	CEDAR
x	1813	(M)	8	CEDAR (4, 4, 3)
x	1814	(M)	7	CEDAR (5, 3)
x	1815		4	CEDAR
x	1816		4	CEDAR
x	1817		5	CEDAR
x	1818	(M)	9	CEDAR (5, 4, 3)
x	1819	(M)	14	CEDAR (10, 7)
x	1820	(M)	12	CEDAR (6, 6, 5)
x	1821		4	CEDAR
x	1822	(M)	7	CEDAR (5, 4)
x	1823	(M)	6	CEDAR (4, 3)
x	1824	(M)	13	LIVE OAK (9, 8)
x	1825		4	CEDAR
x	1826	(M)	10	CEDAR (7, 5)
x	1827		4	CEDAR
x	1828	(M)	14	CEDAR (10, 8)
x	1829	(M)	6	CEDAR (4, 3)
x	1830		8	CEDAR

Preserve	Tree #	Trunk	Cal (in.)	Species
x	1831		10	LIVE OAK
x	1832		12	LIVE OAK
x	1833		11	LIVE OAK
x	1834		4	CEDAR
x	1835		5	CEDAR
x	1836	(M)	8	CEDAR (5, 3, 3)
x	1837		6	CEDAR
x	1838		4	CEDAR
x	1839		5	CEDAR
x	1840	(M)	7	CEDAR (5, 3)
x	1841		5	CEDAR
x	1842	(M)	6	CEDAR (4, 3)
x	1843	(M)	15	CEDAR (10, 5, 4)
x	1844	(M)	5	CEDAR (3, 2, 2)
x	1845		5	CEDAR
x	1846	(M)	10	LIVE OAK (7, 6)
x	1847		9	LIVE OAK
x	1848		4	CEDAR
x	1849		9	LIVE OAK
x	1850		5	CEDAR
x	1851		8	LIVE OAK
x	1852		4	CEDAR
x	1853	(M)	6	CEDAR (5, 2)
x	1854		6	CEDAR
x	1855		9	CEDAR
x	1856		8	LIVE OAK
x	1857		9	CEDAR
x	1858	(M)	8	CEDAR (5, 4, 2)
x	1859		6	CEDAR
x	1860		5	CEDAR
x	1861		5	CEDAR
x	1862		5	CEDAR
x	1863		5	CEDAR
x	1864		7	LIVE OAK
x	1865	(M)	6	CEDAR (4, 3)
x	1866		6	CEDAR
x	1867		4	CEDAR
x	1868	(M)	9	CEDAR (5, 4, 3)
x	1869		4	CEDAR
x	1870		6	LIVE OAK
x	1871		5	CEDAR
x	1872		5	CEDAR
x	1873		4	CEDAR
x	1874	(M)	14	LIVE OAK (11, 6)
x	1875		8	CEDAR
x	1876		6	CEDAR
x	1877	(M)	14	CEDAR (9, 5, 5)
x	1878		7	CEDAR
x	1879		5	CEDAR
x	1880		6	LIVE OAK
x	1881		11	CEDAR
x	1882		6	CEDAR
x	1883		7	CEDAR
x	1884		8	CEDAR
x	1885		5	CEDAR
x	1886		4	CEDAR
x	1887	(M)	6	CEDAR (4, 4)
x	1888		6	CEDAR
x	1889		7	CEDAR
x	1890	(M)	9	CEDAR (7, 4)
x	1891		5	CEDAR
x	1892		7	LIVE OAK
x	1893		9	CEDAR
x	1894		6	CEDAR
x	1895		9	CEDAR
x	1896		7	LIVE OAK
x	1897		7	CEDAR
x	1898		7	CEDAR
x	1899		9	CEDAR
x	1900		4	CEDAR
x	1901	(M)	18	CEDAR (9, 5, 5, 4, 3, 3)
x	1902	(M)	8	CEDAR (6, 4)
x	1903	(M)	8	CEDAR (6, 3)
x	1904		4	CEDAR
x	1905	(M)	7	CEDAR (4, 3, 2)
x	1906	(M)	42	LIVE OAK (18, 14, 12, 12, 9)
x	1907		4	CEDAR
x	1908		4	CEDAR
x	1909		4	CEDAR
x	1910		11	CEDAR
x	1911		5	CEDAR
x	1912	(M)	18	CEDAR (9, 7, 4, 3, 3)
x	1913		12	CEDAR
x	1914		7	LIVE OAK
x	1915		5	LIVE OAK
x	1916		10	LIVE OAK
x	1917		8	CEDAR
x	1918		4	CEDAR
x	1919		5	LIVE OAK
x	1920		4	CEDAR
x	1921		5	CEDAR
x	1922		4	CEDAR
x	1923		7	CEDAR
x	1924		4	CEDAR
x	1925		4	CEDAR
x	1926		6	CEDAR
x	1927		7	LIVE OAK
x	1928		9	LIVE OAK
x	1929		4	CEDAR
x	1930		5	CEDAR

Preserve	Tree #	Trunk	Cal (in.)	Species
x	1931		5	CEDAR
x	1932		5	LIVE OAK
x	1933		4	LIVE OAK
x	1934	(M)	14	CEDAR (6, 6, 6, 4)
x	1935		8	CEDAR
x	1936		6	LIVE OAK
x	1937		6	CEDAR
x	1938		4	CEDAR
x	1939		5	CEDAR
x	1940		9	CEDAR
x	1941	(M)	13	CEDAR (7, 5, 3, 3)
x	1942		13	CEDAR
x	1943		7	CEDAR
x	1944		16	CEDAR
x	1945		8	CEDAR
x	1946		8	LIVE OAK
x	1947		6	LIVE OAK
x	1948		7	CEDAR
x	1949	(M)	9	CEDAR (7, 3)
x	1950		5	CEDAR
x	1951		9	CEDAR
x	1952	(M)	11	CEDAR (9, 3)
x	1953	(M)	15	CEDAR (6, 5, 5, 4, 3)
x	1954	(M)	8	CEDAR (7, 2)
x	1955		4	CEDAR
x	1956		7	LIVE OAK
x	1957		4	CEDAR
x	1958		4	CEDAR
x	1959		6	CEDAR
x	1960		7	LIVE OAK
x	1961		5	CEDAR
x	1962		5	CEDAR
x	1963		5	CEDAR
x	1964		5	CEDAR
x	1965		4	LIVE OAK
x	1966		4	CEDAR
x	1967		8	LIVE OAK
x	1968		6	CEDAR
x	1969		4	CEDAR
x	1970		5	CEDAR
x	1971		4	CEDAR
x	1972	(M)	10	CEDAR (8, 4)
x	1973		6	CEDAR
x	1974		5	CEDAR
x	1975		4	CEDAR
x	1976		5	CEDAR
x	1977		6	CEDAR
x	1978		6	CEDAR
x	1979		10	CEDAR
x	1980		8	CEDAR
x	1981		4	CEDAR
x	1982		7	CEDAR
x	1983		6	CEDAR
x	1984	(M)	9	CEDAR (6, 5)
x	1985		5	CEDAR
x	1986		4	CEDAR
x	1987	(M)	7	CEDAR (5, 4)
x	1988	(M)	10	CEDAR (8, 4)
x	1989		8	CEDAR
x	1990	(M)	8	CEDAR (4, 3, 2, 1, 1)
x	1991		4	CEDAR
x	1992		7	CEDAR
x	1993		10	LIVE OAK
x	1994		6	CEDAR
x	1995		11	LIVE OAK
x	1996		4	CEDAR
x	1997		5	CEDAR
x	1998	(M)	6	CEDAR (4, 3)
x	1999		8	CEDAR
x	2000	(M)	16	CEDAR (7, 6, 4, 4, 4, 3)
x	2001		4	CEDAR
x	2002	(M)	5	CEDAR (3, 3)
x	2003		6	CEDAR
x	2004		4	CEDAR
x	2005	(M)	6	CEDAR (3, 3, 3)
x	2006		13	LIVE OAK
x	2007		6	CEDAR
x	2008	(M)	8	CEDAR (4, 4, 2, 2)
x	2009	(M)	10	CEDAR (6, 6, 2)
x	2010	(M)	10	CEDAR (6, 6, 2)
x	2011		5	CEDAR
x	2012		4	CEDAR
x	2013	(M)	20	LIVE OAK (14, 11)
x	2014	(M)	8	CEDAR (6, 4)
x	2015		7	CEDAR
x	2016	(M)	7	CEDAR (6, 2)
x	2017	(M)	8	CEDAR (6, 3)
x	2018		7	CEDAR
x	2019	(M)	11	CEDAR (7, 4, 4)
x	2020		5	CEDAR
x	2021	(M)	7	CEDAR (4, 3, 3)
x	2022		4	CEDAR
x	2023		8	CEDAR
x	2024		4	CEDAR
x	2025		8	LIVE OAK
x	2026		5	CEDAR
x	2027		10	LIVE OAK
x	2028		4	LIVE OAK
x	2029		5	CEDAR
x	2030		6	LIVE OAK

Preserve	Tree #	Trunk	Cal (in.)	Species
x	2031		5	CEDAR
x	2032	(M)	9	CEDAR (5, 5, 3)
x	2033		7	CEDAR
x	2034		8	LIVE OAK
x	2035		6	LIVE OAK
x	2036	(M)	13	CEDAR (8, 3, 3, 3)
x	2037		7	LIVE OAK
x	2038		7	LIVE OAK
x	2039		8	LIVE OAK
x	2040		7	LIVE OAK
x	2041	(M)	12	CEDAR (5, 4, 3, 3, 3, 3)
x	2042	(M)	11	LIVE OAK (5, 4, 4, 4)
x	2043	(M)	21	CEDAR (11, 6, 5, 5, 4, 4)
x	2044		5	LIVE OAK
x	2045		7	LIVE OAK
x	2046		6	CEDAR
x	2047		9	CEDAR
x	2048		5	CEDAR
x	2049		8	LIVE OAK
x	2050	(M)	11	CEDAR (5, 4, 4, 3)
x	2051		6	CEDAR
x	2052	(M)	6	LIVE OAK (4, 3)
x	2053		4	LIVE OAK
x	2054		4	CEDAR
x	2055	(M)	5	CEDAR (3, 3)
x	2056	(M)	14	CEDAR (7, 4, 4, 3, 3)
x	2057	(M)	7	CEDAR (5, 3)
x	2058		6	CEDAR
x	2059		7	LIVE OAK
x	2060		4	CEDAR
x	2061		5	CEDAR
x	2062	(M)	14	LIVE OAK (8, 4, 4, 3)
x	2063		6	CEDAR
x	2064	(M)	8	CEDAR (6, 4)
x	2065	(M)	7	CEDAR (6, 2)
x	2066		6	CEDAR
x	2067		6	LIVE OAK
x	2068	(M)	6	LIVE OAK (4, 3)
x	2069	(M)	5	CEDAR (3, 3)
x	2070	(M)	5	CEDAR (3, 3)
x	2071		4	CEDAR
x	2072	(M)	7	CEDAR (4, 3, 3)
x	2073	(M)	6	CEDAR (3, 3, 2)
x	2074	(M)	9	CEDAR (4, 3, 3, 2, 2)
x	2075	(M)	9	CEDAR (4, 3, 2, 2, 2)
x	2076	(M)	8	CEDAR (3, 3, 2, 2, 2, 2)
x	2077	(M)	6	CEDAR (2, 2, 2, 2, 2, 2)
x	2078	(M)	5	CEDAR (3, 2, 2)
x	2079	(M)	6	CEDAR (4, 3)
x	2080		12	CEDAR
x	2081		11	LIVE OAK
x	2082		4	CEDAR
x	2083		5	LIVE OAK
x	2084	(M)	12	CEDAR (8, 4, 4)
x	2085		7	CEDAR
x	2086	(M)	9	CEDAR (5, 4, 3)
x	2087		4	LIVE OAK
x	2088		4	LIVE OAK
x	2089		4	CEDAR
x	2090		7	CEDAR
x	2091	(M)	9	CEDAR (5, 5, 3)
x	2092		6	LIVE OAK
x	2093		6	CEDAR
x	2094		6	LIVE OAK
x	2095		7	LIVE OAK
x	2096		7	LIVE OAK
x	2097		7	CEDAR
x	2098		5	LIVE OAK
x	2099		4	LIVE OAK
x	2100		6	CEDAR
x	2101		4	CEDAR
x	2102		5	CEDAR
x	2103	(M)	9	CEDAR (7, 4)
x	2104		4	CEDAR
x	2105	(M)	7	CEDAR (4, 3, 2)
x	2106		7	CEDAR
x	2107	(M)	6	CEDAR (4, 3)
x	2108		9	LIVE OAK
x	2109		5	CEDAR
x	2110	(M)	5	CEDAR (3, 3)
x	2111	(M)	8	CEDAR (4, 4, 2, 2)
x	2112		4	CEDAR
x	2113		9	LIVE OAK
x	2114		5	CEDAR
x	2115	(M)	10	CEDAR (8, 3)
x	2116	(M)	18	CEDAR (8, 7, 5, 4, 4, 4)
x	2117		5	CEDAR
x	2118	(M)	6	CEDAR (4, 3)
x	2119		7	LIVE OAK
x	2120		7	LIVE OAK
x	2121	(M)	12	CEDAR (8, 4, 4)
x	2122	(M)	14	CEDAR (7, 4, 4, 3, 3)
x	2123		6	LIVE OAK
x	2124		6	CEDAR
x	2125		5	LIVE OAK
x	2126		5	LIVE OAK
x	2127	(M)	9	CEDAR (4, 4, 3, 2)
x	2128		5	CEDAR
x	2129		9	CEDAR
x	2130		5	LIVE OAK

Preserve	Tree #	Trunk	Cal (in.)	Species
x	2131		8	LIVE OAK
x	2132	(M)	15	CEDAR (7, 5, 4, 4, 3)
x	2133		8	CEDAR
x	2134	(M)	7	CEDAR (5, 3)
x	2135		7	LIVE OAK
x	2136		5	CEDAR
x	2137		6	CEDAR
x	2138		4	CEDAR
x	2139	(M)	6	CEDAR (4, 3)
x	2140		4	CEDAR
x	2141		4	CEDAR
x	2142		8	LIVE OAK
x	2143	(M)	11	CEDAR (4, 4, 4, 3, 3, 3)
x	2144	(M)	10	CEDAR (4, 3, 3, 3, 3, 3)
x	2145	(M)	12	CEDAR (8, 4, 4)
x	2146		5	CEDAR
x	2147		4	CEDAR
x	2148	(M)	12	CEDAR (6, 3, 3, 3, 3, 3)
x	2149	(M)	11	CEDAR (6, 3, 3, 3)
x	2150	(M)	7	CEDAR (5, 3)
x	2151		5	CEDAR
x	2152	(M)	5	LIVE OAK (4, 2)
x	2153		5	CEDAR
x	2154	(M)	4	CEDAR (3, 2)
x	2155		5	CEDAR
x	2156	(M)	7	CEDAR (5, 3)
x	2157	(M)	6	CEDAR (4, 3)
x	2158	(M)	10	CEDAR (5, 3, 3, 3)
x	2159	(M)	5	CEDAR (4, 2)
x	2160		5	CEDAR
x	2161	(M)	10	CEDAR (4, 4, 4, 3)
x	2162	(M)	8	CEDAR (6, 4)
x	2163		4	CEDAR
x	2164		10	LIVE OAK
x	2165		7	CEDAR
x	2166	(M)	7	CEDAR (5, 3)
x	2167		7	CEDAR
x	2168		4	CEDAR
x	2169	(M)	9	CEDAR (7, 3)
x	2170		7	CEDAR
x	2171		4	CEDAR
x	2172		4	CEDAR
x	2173		4	CEDAR
x	2174		9	LIVE OAK
x	2175		10	LIVE OAK
x	2176		4	CEDAR
x	2177		7	CEDAR
x	2178		14	LIVE OAK
x	2179		4	LIVE OAK
x	2180		6	CEDAR
x	2181	(M)	7	CEDAR (5, 4)
x	2182		5	CEDAR
x	2183	(M)	6	CEDAR (4, 3)
x	2184		4	CEDAR
x	2185		6	CEDAR
x	2186		5	CEDAR
x	2187		4	CEDAR
x	2188		7	CEDAR
x	2189		9	LIVE OAK
x	2190	(M)	12	LIVE OAK (8, 8)
x	2191	(M)	5	CEDAR (4, 2)
x	2192	(M)	8	CEDAR (5, 5)
x	2193		7	CEDAR
x	2194		7	CEDAR
x	2195	(M)	11	CEDAR (6, 5, 4)
x	2196	(M)	7	CEDAR (6, 2)
x	2197	(M)	8	CEDAR (5, 3, 3)
x	2198	(M)	10	CEDAR (7, 2, 2, 2)
x	2199		9	CEDAR
x	2200		4	CEDAR
x	2201		4	CEDAR
x	2202		4	CEDAR
x	2203		4	CEDAR
x	2204		4	CEDAR
x	2205	(M)	5	CEDAR (3, 3)
x	2206		5	CEDAR
x	2207	(M)	5	CEDAR (3, 3)
x	2208	(M)	6	CEDAR (5, 2)
x	2209		6	CEDAR
x	2210		11	LIVE OAK
x	2211		5	CEDAR
x	2212		9	LIVE OAK
x	2213		4	CEDAR
x	2214		5	CEDAR
x	2215		4	CEDAR
x	2216		4	CEDAR
x	2217		4	CEDAR
x	2218		9	LIVE OAK
x	2219		5	CEDAR
x	2220	(M)	11	CEDAR (9, 4)
x	2221		7	CEDAR
x	2222		7	CEDAR
x	2223		4	LIVE OAK
x	2224		4	LIVE OAK
x	2225	(M)	14	CEDAR (12, 4)
x	2226	(M)	6	CEDAR (4, 2, 2)
x	2227	(M)	12	CEDAR (8, 7)
x	2228		4	CEDAR
x	2229		4	CEDAR
x	2230		11	LIVE OAK

Preserve	Tree #	Trunk	Cal (in.)	Species
x	2231	(M)	7	CEDAR (4, 3, 3)
x	2232	(M)	9	CEDAR (7, 3)
x	2233	(M)	12	CEDAR (5, 4, 3, 3, 3, 2)
x	2234		5	CEDAR
x	2235	(M)	8	CEDAR (4, 4, 4)
x	2236	(M)	4	CEDAR (3, 2)
x	2237		5	CEDAR
x	2238	(M)	6	CEDAR (5, 2)
x	2239		4	CEDAR
x	2240	(M)	17	LIVE OAK (12, 9)
x	2241		14	LIVE OAK
x	2242		8	LIVE OAK
x	2243		4	CEDAR
x	2244	(M)	13	LIVE OAK (9, 8)
x	2245	(M)	6	CEDAR (4, 4)
x	2246	(M)	8	CEDAR (4, 4, 3)
x	2247		4	CEDAR
x	2248	(M)	8	CEDAR (5, 5)
x	2249	(M)	5	CEDAR (4, 2)
x	2250	(M)	5	CEDAR (4, 2)
x	2251		4	CEDAR
x	2252		4	LIVE OAK
x	2253		8	CEDAR
x	2254	(M)	13	CEDAR (8, 4, 4, 2)
x	2255		8	LIVE OAK
x	2256		8	LIVE OAK
x	2257	(M)	12	CEDAR (6, 5, 4, 2)
x	2258		7	CEDAR
x	2259		4	CEDAR
x	2260		5	CEDAR
x	2261		4	CEDAR
x	2262		5	CEDAR
x	2263		5	CEDAR
x	2264	(M)	9	CEDAR (6, 3, 3)
x	2265		5	CEDAR
x	2266	(M)	7	CEDAR (4, 3, 2)
x	2267	(M)	13	CEDAR (6, 5, 3, 3, 3)
x	2268		10	LIVE OAK
x	2269		5	LIVE OAK
x	2270	(M)	8	CEDAR (6, 4)
x	2271		5	CEDAR
x	2272		7	CEDAR
x	2273	(M)	9	CEDAR (7, 4)
x	2274	(M)	7	CEDAR (5, 4)
x	2275		7	CEDAR
x	2276		7	CEDAR
x	2277		5	CEDAR
x	2278	(M)	11	CEDAR (5, 4, 3, 2, 2)
x	2279		9	LIVE OAK
x	2280		4	CEDAR
x	2281	(M)	14	CEDAR (7, 4, 4, 3, 3)
x	2282	(M)	18	CEDAR (6, 6, 6, 6, 5, 4)
x	2283		4	CEDAR
x	2284	(M)	13	CEDAR (5, 5, 4, 4, 3, 3
x	2285		6	CEDAR
x	2286	(M)	12	LIVE OAK (9, 6)
x	2287		20	CEDAR
x	2288		5	CEDAR
x	2289		5	CEDAR
x	2290		6	LIVE OAK
x	2291		8	LIVE OAK
x	2292	(M)	6	CEDAR (3, 3, 3)
x	2293	(M)	17	CEDAR (7, 5, 5, 5, 4, 4
x	2294	(M)	17	CEDAR (7, 5, 5, 5, 4, 4
x	2295		7	CEDAR
x	2296		7	LIVE OAK
x	2297	(M)	14	LIVE OAK (9, 9)
x	2298		4	LIVE OAK
x	2299		6	LIVE OAK
x	2300		6	CEDAR
x	2301		4	CEDAR
x	2302		4	CEDAR
x	2303	(M)	6	CEDAR (3, 2, 2, 2)
x	2304	(M)	6	CEDAR (4, 2, 2)
x	2305	(M)	6	CEDAR (3, 2, 2, 2)
x	2306	(M)	4	CEDAR (3, 2)
x	2307	(M)	6	CEDAR (4, 3)
x	2308		0	CEDAR
x	2309		4	CEDAR
x	2310		4	CEDAR
x	2311	(M)	15	LIVE OAK (10, 9)
x	2312	(M)	10	CEDAR (4, 3, 3, 3, 2, 2)
x	2313		4	LIVE OAK
x	2314		6	LIVE OAK
x	2315		6	CEDAR
x	2316	(M)	4	LIVE OAK (3, 2)
x	2317	(M)	8	LIVE OAK (5, 5)
x	2318	(M)	10	CEDAR (7, 3, 2)
x	2319		6	LIVE OAK
x	2320		5	LIVE OAK
x	2321		5	LIVE OAK
x	2322		6	LIVE OAK
x	2323		4	CEDAR
x	2324		9	CEDAR
x	2325	(M)	9	CEDAR (7, 3)
x	2326	(M)	9	CEDAR (4, 3, 2, 2, 2, 2)
x	2327	(M)	13	CEDAR (7, 4, 4, 3)
x	2328		6	CEDAR (4, 3)
x	2329		6	CEDAR
x	2330	(M)	8	CEDAR (4, 3, 2, 2)

Preserve	Tree #	Trunk	Cal (in.)	Species
x	2331		5	LIVE OAK
x	2332	(M)	13	CEDAR (5, 5, 4, 4, 3, 3)
x	2333		5	CEDAR
x	2334		7	LIVE OAK
x	2335		5	LIVE OAK
x	2336	(M)	12	CEDAR (8, 8)
x	2337	(M)	5	CEDAR (4, 2)
x	2338	(M)	15	CEDAR (6, 6, 4, 4, 3)
x	2339	(M)	7	CEDAR (4, 2, 2, 2)
x	2340	(M)	10	CEDAR (7, 6)
x	2341	(M)	9	CEDAR (5, 5, 2)
x	2342		6	LIVE OAK
x	2343		6	LIVE OAK
x	2344		6	LIVE OAK
x	2345		5	LIVE OAK
x	2346		5	LIVE OAK
x	2347		10	CEDAR
x	2348		7	CEDAR
x	2349		7	CEDAR
x	2350	(M)	12	CEDAR (7, 6, 4)
x	2351		7	CEDAR
x	2352		14	CEDAR
x	2353		15	CEDAR
x	2354		6	LIVE OAK
x	2355		5	LIVE OAK

CRESCENT TRACT TREE TOTALS	INCHES	QUANTITY
TREES TO REMAIN	5252	726
TREES TO BE REMOVED	0	0
TOTAL TREES	5252	726

TREE SURVEY

NOTE: TREES WERE REMOVED AS A RESULT PF THE CITY WATER TRANSMISSION LINE - REF. 22-717-SCP

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REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER JACKSON
2785
STATE OF TEXAS

07/25/2023

project
pearl bee cave - crescent tract improvements

Morgan Group
Austin, TX

project number
A22310

issue date
May 03, 2023

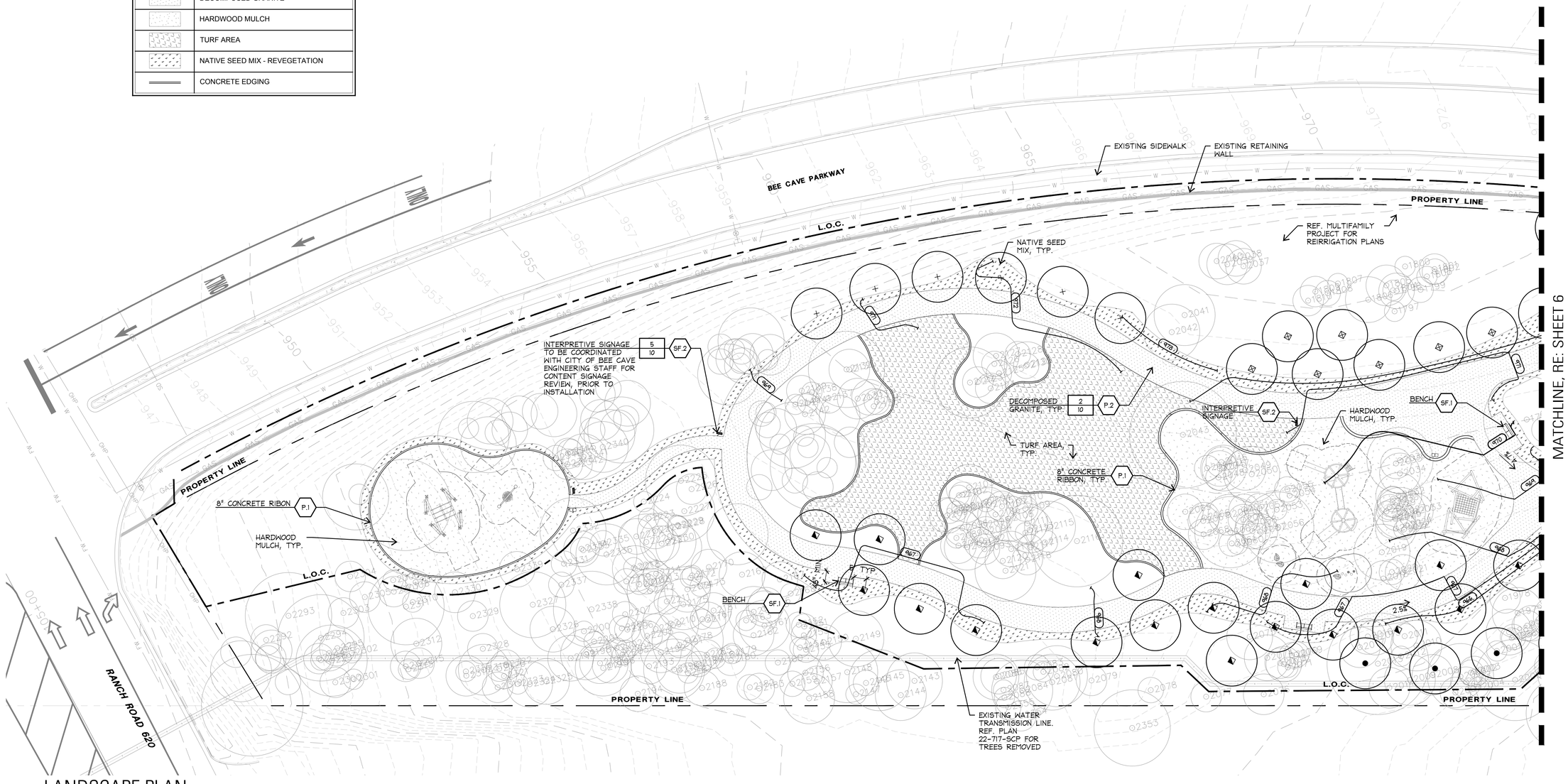
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MATERIAL LEGEND:	
	DECOMPOSED GRANITE
	HARDWOOD MULCH
	TURF AREA
	NATIVE SEED MIX - REVEGETATION
	CONCRETE EDGING



1 LANDSCAPE PLAN

SCALE: 1"=20' NORTH

NOTE:
1. DEVELOPER WILL BE RESPONSIBLE TO OBTAIN COMPLIANCE CERTIFICATION FROM TDLR.

2. WILDFLOWER/NATIVE GRASS SEED MIX SHALL BE APPLIED OVER THE AREA FOR NATIVE GRASS BUFFER, WATER QUALITY IRRIGATION FIELD AND ALL DISTURBED AREAS ASSOCIATED UNTIL CONSTRUCTION. SEE PLANT LIST FOR SEED MIX.

3. THE CONTRACTOR SHALL COORDINATE WITH THE PLANTING PLAN AND PROVIDE TEMPORARY IRRIGATION FOR THE ESTABLISHMENT OF ALL PROPOSED PLANT MATERIALS LOCATED OUTSIDE THE LIMITS OF COVERAGE PROVIDED BY THE PERMANENT SYSTEM.

TBG

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REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER JACKSON
2785
STATE OF TEXAS

07/25/2023

project
pearl bee cave - crescent tract improvements

Morgan Group
Austin, TX

project number
A22310

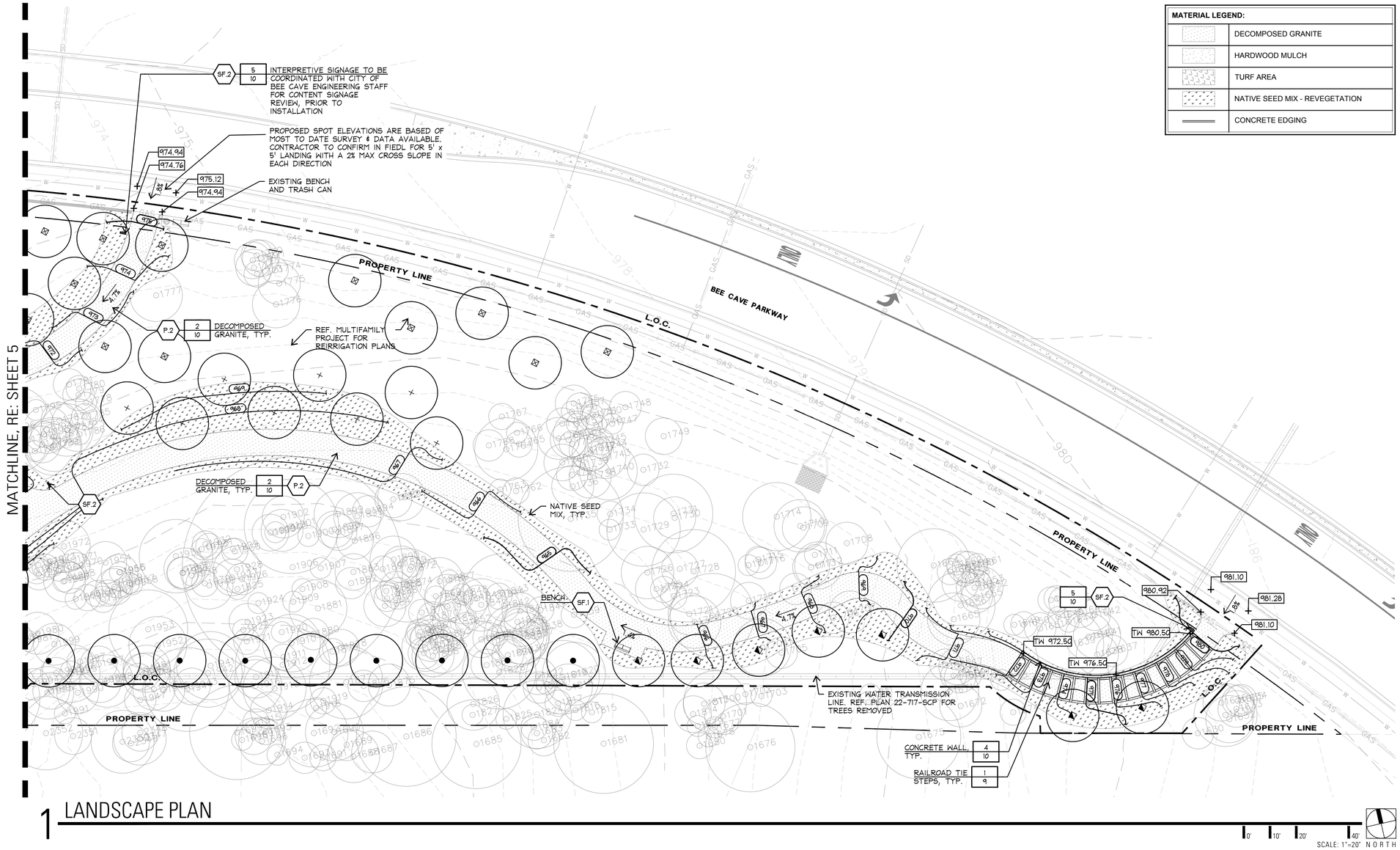
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1 LANDSCAPE PLAN

MATERIAL LEGEND:	
	DECOMPOSED GRANITE
	HARDWOOD MULCH
	TURF AREA
	NATIVE SEED MIX - REVEGETATION
	CONCRETE EDGING

NOTE:
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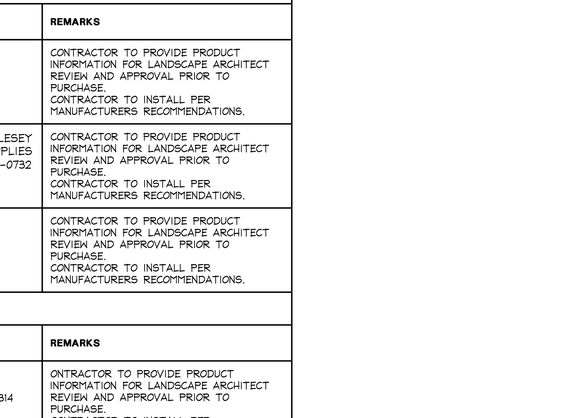
MATERIALS SCHEDULE

PAVING

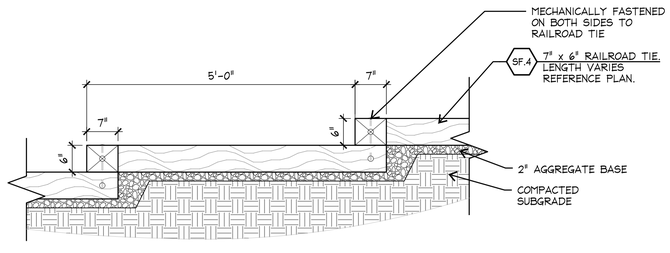
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P.1	8" CONCRETE RIBBON	GRAY	MEDIUM BROOM	LOCAL SOURCE	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
P.2	STABILIZED DECOMPOSED GRANITE 1/2" MINUS	NATURAL	N/A	COMPANY: WHITTLESEY LANDSCSAPE SUPPLIES PHONE: (512) 385-0732	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
P.3	CONCRETE RETAINING WALL -STANDARD CONCRETE	N/A	C.I.P CONCRETE	LOCAL SOURCE	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.

FURNISHING

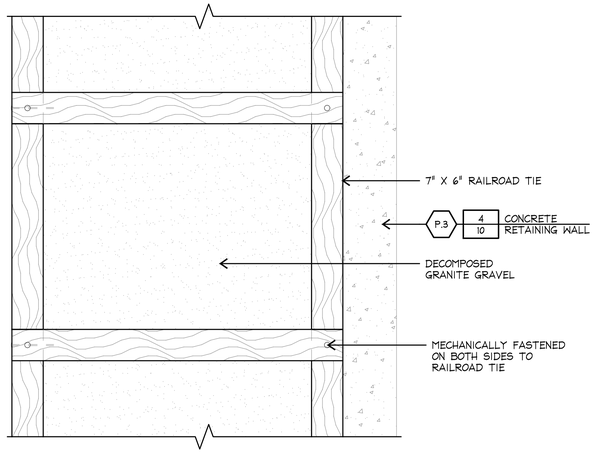
KEY	DESCRIPTION /MODEL NUMBER	COLOR	FINISH	CONTACT	REMARKS
SF.1	BENCH - ANOVA AIRI STIX - 6' CONTOUR BENCH	FRAME: TEXTURED SANDSTONE SEAT: TEXTURED BRONZE	FRAME: POWDERCOATED METAL	COMPANY: ANOVA FURNISHINGS PHONE: (713) 201-8314	ONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
SF.2	INTERPRETIVE SIGNAGE	TBD	TBD	N/A	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
SF.3	STEEL EDGING PRODUCT: DURAEDGE, STANDARD TOP EDGE SIZE: 3/16" THICK, 6" HEIGHT	TBD	WEATHERED	COMPANY: JD RUSSELL WEBSITE: www.jdrussellco.com	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
SF.4	RAILROAD TIES -6"H x 7" W x 5' PIECES	TBD	TBD	CALHOUN & COMPANY (512)847-3400	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.
SF.5	CEDAR POST -4" X 4" SQUARE CEDAR POST -PRESSURE TREATED	TBD	TBD	CALHOUN & COMPANY (512)847-3400	CONTRACTOR TO PROVIDE PRODUCT INFORMATION FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO PURCHASE. CONTRACTOR TO INSTALL PER MANUFACTURERS RECOMMENDATIONS.



B. SECTION - CONNECTION TO WALL



A. SECTION



C. PLAN

1 RAILROAD TIE STEPS

SECTION — SCALE: 3/4"=1'-0"

ANOVA

211 North Lindbergh Blvd.
St. Louis, MO 63141
800.231.1327 tel.| 314.754.0835 fax
specify@anovafurnishings.com
anovafurnishings.com

AE2680STX— Airi Stix 6' Contour Bench

6' perforated steel contour bench with stix pattern seat and cast aluminum legs.



Material
The 6' contour bench is composed of a 10-gauge perforated steel seat with cast aluminum legs. The seat features a unique architectural perforated stix pattern inspired by trees. The bench seat is 72" long and will support 200 lbs. per linear foot.
The bench legs have pre-drilled .33" diameter holes for surface mounting to prevent movement; mounting hardware is not included.

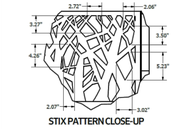
Finish
Rust-proof aluminum and rust-resistant primed steel feature a fade-resistant powder coating. Treated components exceed the industry standard by 34% in testing by independent sources.

Color
See website or sales representative for color choices.

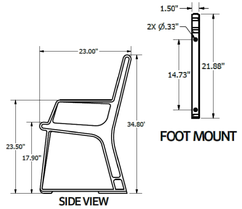
Assembly
The bench requires some assembly. Stainless steel assembly hardware is included.

Maintenance
The product is virtually maintenance-free and requires only periodic cleaning with a sponge and a solution of mild detergent and water to remove surface dirt. Do not clean with solvent or petroleum base products.

Warranty
20-year limited structural warranty with 7-year finish warranty against fading; 3-year finish warranty on powder coated steel and aluminum components against rusting, peeling, chipping, cracking, mold, mildew, and defects in materials and/or workmanship. See full details on multi-year warranties for components at
https://www.anovafurnishings.com/warranty

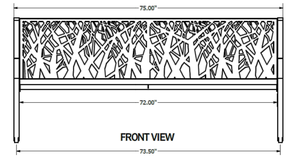


STIX PATTERN CLOSE-UP



SIDE VIEW

FOOT MOUNT



FRONT VIEW

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2 BENCH

SECTION — NOT TO SCALE

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PLANT LIST

SHADE TREES

GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
+	AG4	BIGTOOTH MAPLE	*ACER GRANDIDENTATUM*	4" CAL; MIN.14" HT.;MIN. 8; SPRD.	SINGLE TRUNK; STRAIGHT CENTRAL LEADER; FULL, UNIFORM CANOPY; CONTAINER GROWN
⊠	PM4	MEXICAN SYCAMORE	*PLATANUS MEXICANA*	4" CAL; MIN. 14' HT.; MIN. 8' SPRD.	SINGLE TRUNK; STRAIGHT CENTRAL LEADER; FULL, UNIFORM CANOPY; CONTAINER GROWN
◪	QP4	MONTEREY OAK (MEXICAN WHITE OAK)	*QUERCUS POLYMORPHA*	4" CAL; MIN. 14' HT.; MIN. 8' SPRD.	SINGLE TRUNK; STRAIGHT CENTRAL LEADER; FULL, UNIFORM CANOPY; CONTAINER GROWN
●	QV4	LIVE OAK	*QUERCUS VIRGINIANA*	4" CAL; MIN. 14' HT.; MIN. 8' SPRD.	SINGLE TRUNK; STRAIGHT CENTRAL LEADER; FULL, UNIFORM CANOPY; CONTAINER GROWN

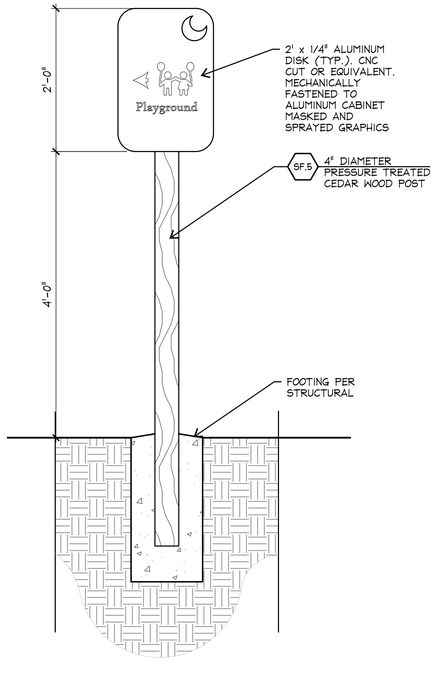
PERENNIALS, GROUNDCOVERS, AND ANNUALS

GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	SODB	COMMON BURMUDA	*CYNODON DACTYLON*	SOLID SOD	CONTRACTOR TO FIELD VERIFY QUANTITY OF LAWN REQUIRED. REF. TECHNICAL SPECIFICATIONS FOR TOPSOIL AND PLANTING REQUIREMENTS.

TURF GRASS AND SEED MIXES

GRAPHIC	KEY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	SNATV	NATIVE SEED MIX	*REF. TECHNICAL SPECIFICATIONS*	REF. TECHNICAL SPECIFICATIONS	SEED 2 LBS/1,000 S.F.; CONTRACTOR TO FIELD VERIFY QUANTITY OF LAWN REQUIRED. REF. TECHNICAL SPECIFICATIONS FOR TOPSOIL AND PLANTING REQUIREMENTS.

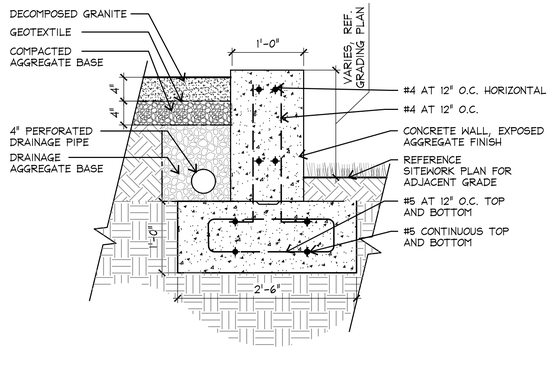
INTERPRETIVE SIGNAGE TO BE COORDINATED WITH CITY OF BEE CAVE ENGINEERING STAFF FOR CONTENT SIGNAGE REVIEW, PRIOR TO INSTALLATION



5 INTERPRETIVE SIGNAGE

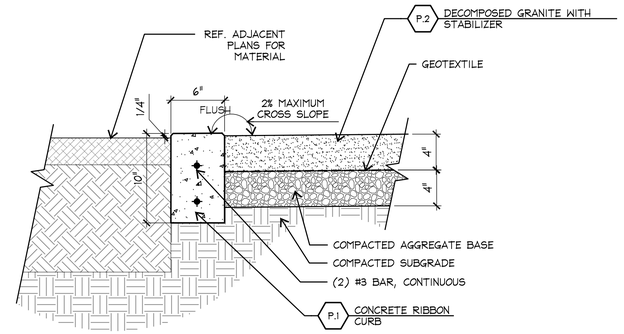
SECTION — SCALE: 1"=1'-0"

FOR ALL RETAINING WALLS NOT INCLUDED IN CIVIL ENGINEERS DRAWINGS: CONTRACTOR TO PROVIDE SHOP DRAWINGS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS.



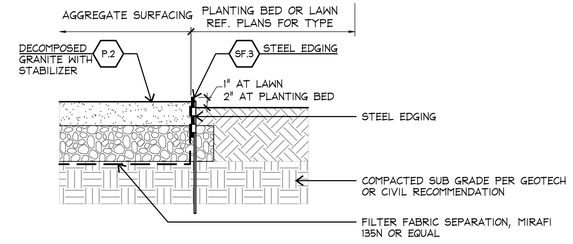
4 CONCRETE RETAINING WALL

SECTION — SCALE: 1"=1'-0"



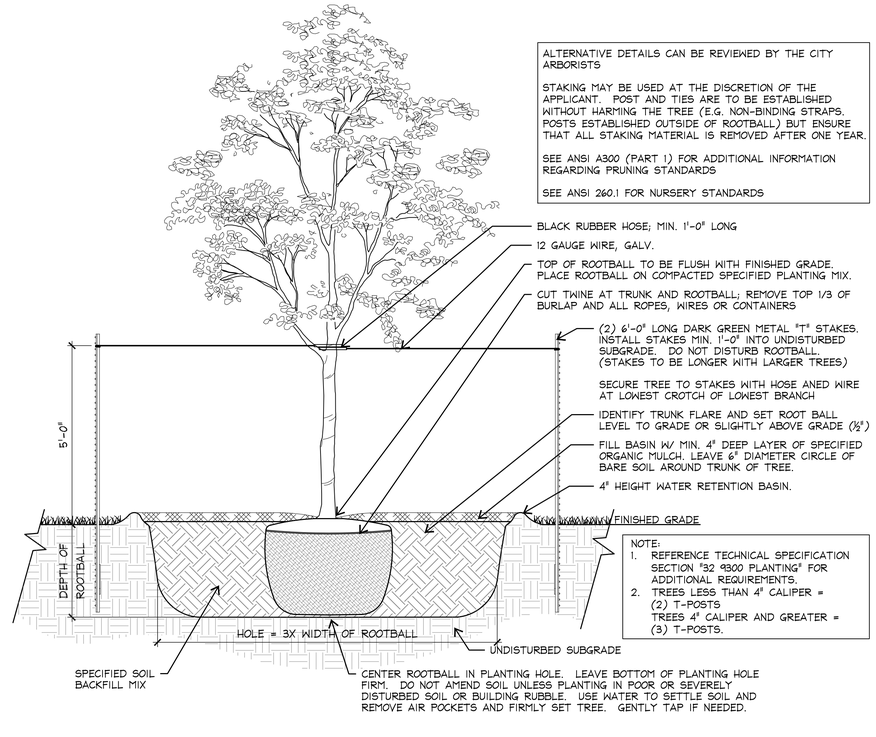
3 CONCRETE CURB AT PLANTING

SECTION — SCALE: 1"=1'-0"



2 DECOMPOSED GRANITE

SECTION — SCALE: 1"=1'-0"



1 TREE PLANTING

NOT TO SCALE

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Traffic Impact Analysis

The Terrace

Bee Cave, Texas
First Submission: September 29, 2022
Second Submission: March 10, 2023
Third Submission: June 19, 2023
Fourth Submission: July 14, 2023
Fifth Submission: July 25, 2023

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Traffic Impact Analysis

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07.25.23



Prepared for

Morgan Group

Prepared by

HDR Engineering, Inc.
Texas P.E. Firm Registration No. F-754
504 Lavaca Street, Suite 900
Austin, Texas 78701 USA
Telephone 512 904-3700
Website: hdrinc.com

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Introduction

HDR Engineering, Inc. has been retained by Morgan Group to perform a Traffic Impact Analysis (TIA) for the proposed Terrace development located northeast of the intersection of RM 620 and Bee Cave Parkway in Bee Cave, Texas, as shown in Figure 1. The development is anticipated to consist of two sites, South Site and North Site, with the following proposed land uses:

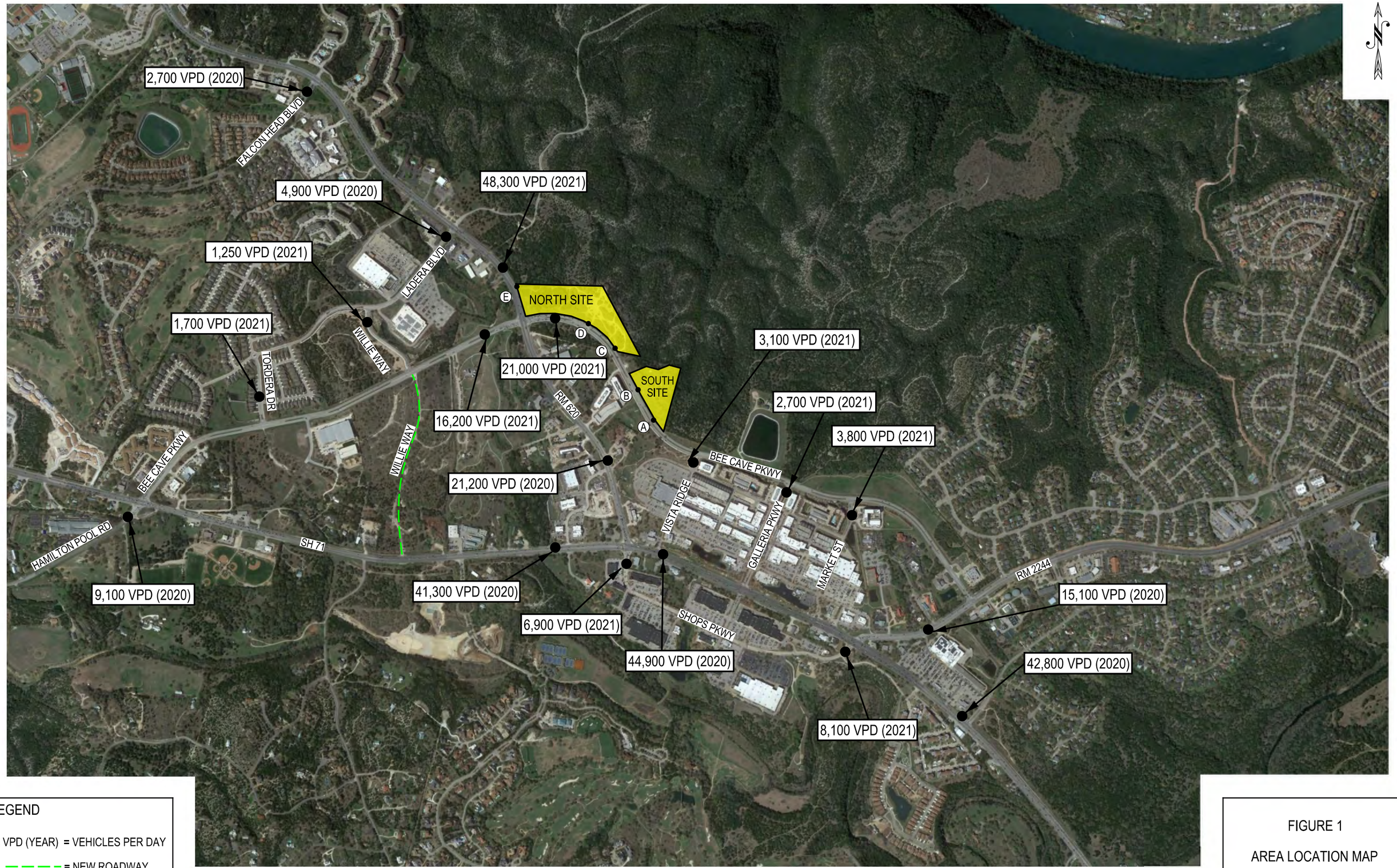
- 59 dwelling units of low-rise, multi-family housing (South Site)
- 322 dwelling units of mid-rise, multi-family housing (North Site)

The project site is currently vacant and the development is expected to be complete by 2024.

Site and Access Characteristics

As shown in Figure 2, access to the South Site will be provided via one full-purpose driveway (Driveway B) on Bee Cave Parkway. Access to the North Site is proposed via one full-purpose driveway (Driveway C), one right-in, right-out driveway (Driveway D) on Bee Cave Parkway and one right-in, right-out driveway (Driveway E) on RM 620. This analysis assumes cross access between the two sites to be in place in 2024 in anticipation of a proposed signal at Driveway B.

An additional access point to the South Site, Driveway A, was proposed in the second submission of the TIA. Based on the updated development plans and confirmation from the City, Driveway A has been removed from this analysis.



LEGEND

X VPD (YEAR) = VEHICLES PER DAY

= NEW ROADWAY

Background Map Copyrighted by Google, 2022

FIGURE 1

AREA LOCATION MAP



FIGURE 2

CONCEPTUAL SITE PLAN

Existing Thoroughfare System

As indicated on the area location map and the conceptual site plan (Figures 1 and 2), the project is northeast of the intersection of RM 620 and Bee Cave Parkway, in Bee Cave, Texas. The interrelationship of these roadways and others in the area is shown on Figure 1. The City of Bee Cave Comprehensive Plan (CBCCP) (Ref. 1) catalogs the classifications of these major roadways and documents proposed improvements. The Capital Area Metropolitan Planning Organization (CAMPO) also documents proposed improvements in the network in its 2045 Regional Transportation Plan (RTP) (Ref. 2). Average daily traffic estimates for these roadways were obtained from Texas Department of Transportation (TxDOT) Traffic Counts Database System (TCDS) (Ref. 3) and counts conducted by HDR. To adequately describe these roadways, a further characterization is provided for each.

SH 71

The CBCCP classifies SH 71 as a Type AA major regional arterial. According to the TxDOT TCDS, the 2020 daily traffic volume on SH 71 is 41,300 vehicles per day (vpd) and 44,900 vpd, west and east of RM 620, respectively. According to the TxDOT TCDS, the 2020 daily traffic volume on SH 71, east of RM 2244 is 42,800 vpd. The posted speed limit is 55 miles per hour and 50 miles per hour, west and east of RM 620, respectively.

RM 620

The CBCCP classifies RM 620 as a Type A major arterial. According to the TxDOT TCDS, the 2020 daily traffic volume on RM 620, north of SH 71, is 21,200 vpd. 24-Hour traffic volume information is not available for RM 620, north of Bee Cave Parkway; however, 2021 tube counts recorded a traffic volume of 48,300 vpd on RM 620, north of Bee Cave Parkway. The posted speed limit is 55 miles per hour, south of Bee Cave Parkway.

TxDOT is proposing improvements to RM 620 South between SH 71 and Hudson Bend Road to address safety and mobility concerns. These improvements include widening the existing 4-lane divided rural roadway to a 6-lane divided urban roadway, adding raised medians, and intersection improvements. Construction is estimated to begin in 5 to 10 years and was not assumed to be completed within the timeframe of this TIA. The proposed improvements in the RM 620 schematic were taken into consideration for alignment of the Terrace's recommended Build improvements.

RM 2244

The CBCCP classifies RM 2244 as a Type A major arterial. According to the TxDOT TCDS, the 2020 daily traffic volume on RM 2244, north of SH 71, is 15,100 vpd. The posted speed limit is 55 miles per hour, south of Bee Cave Parkway.

Bee Cave Parkway

The CBCCP classifies Bee Cave Parkway as a Type B minor arterial. 2021 tube counts recorded a traffic volume of 16,200 vpd and 21,000 vpd on Bee Cave Parkway, west and

east of RM 620, respectively. The posted speed limit is 45 miles per hour, west of RM 620.

Hamilton Pool Road

The CBCCP classifies Hamilton Pool Road as a Type A major arterial. According to the TxDOT TCDS, the 2020 daily traffic volume on Hamilton Pool Road, south of SH 71, is 9,100 vpd. According to CAMPO's 2045 RTP, TxDOT is proposing improvements to RM 3238 (Hamilton Pool Road) between RM 12 and SH 71 to rehabilitate the existing roadway. The project was let in 2021 with construction to begin in 2022. These improvements include construction of six-foot shoulders and a continuous center turn lane. These improvements will not impact the intersection operations at SH 71. The posted speed limit is 55 miles per hour, south of SH 71.

Ladera Boulevard

The CBCCP classifies Ladera Boulevard as a Type C major collector. According to the TxDOT TCDS, the 2020 daily traffic volume on Ladera Boulevard, west of RM 620, is 4,900 vpd. The posted speed limit is 25 miles per hour, west of RM 620.

Falcon Head Boulevard

The CBCCP classifies Falcon Head Boulevard as a Type C major collector. According to the TxDOT TCDS, the 2020 daily traffic volume on Falcon Head Boulevard, west of RM 620, is 2,700 vpd. The posted speed limit is 30 miles per hour, west of RM 620.

Tordera Drive

The CBCCP classifies Tordera Drive as a Type C major collector. According to the TxDOT TCDS, the 2020 daily traffic volume on Tordera Drive, north of Bee Cave Parkway, is 1,700 vpd. The posted speed limit is 25 miles per hour, south of Ladera Boulevard.

Galleria Parkway

The CBCCP classifies Galleria Parkway as a Type C major collector. 24-Hour traffic volume information is not available; however, based on a review of 2021 peak hour traffic counts conducted by HDR, 2,700 vpd are estimated on Galleria Parkway, south of Bee Cave Parkway.

Shops Parkway

The CBCCP classifies Shops Parkway as a Type C major collector. 24-Hour traffic volume information is not available; however, based on a review of 2021 peak period counts 6,900 vpd and 8,100 vpd are estimated on Shops Parkway at its western and eastern termini with SH 71, respectively. The posted speed limit is 25 miles per hour, south of SH 71.

Market Street

The CBCCP classifies Market Street as a Type C major collector. 24-Hour traffic volume information is not available; however, based on a review of 2021 peak hour traffic counts conducted by HDR, 3,800 vpd are estimated on Market Street, south of Bee Cave Parkway. The posted speed limit is 20 miles per hour, south of Bee Cave Parkway.

Vista Ridge

The CBCCP classifies Vista Ridge as a Type C major collector. 24-Hour traffic volume information is not available; however, based on a review of 2021 peak hour traffic counts conducted by HDR, 3,100 vpd are estimated on Vista Ridge, south of Bee Cave Parkway. The posted speed limit is 20 miles per hour, south of Bee Cave Parkway.

Willie Way

The CBCCP classifies Willie Way, between Ladera Boulevard and Bee Cave Parkway, as a Type C main collector and between Bee Cave Parkway and SH 71, as a proposed Type B minor arterial. 24-Hour traffic volume information is not available; however, based on 2021 peak period counts 1,250 vpd are estimated on Willie Way, north of Bee Cave Parkway. The posted speed limit is 30 miles per hour, south of Ladera Boulevard.

Willie Way is proposed to be constructed south of Bee Cave Parkway as a four-lane divided minor arterial by the Backyard Development. Extension of Willie Way to SH 71 is still under discussion with adjacent property owners. The roadway is included in 2024 forecasted and site plus forecasted analysis.

Traffic Analysis

In order to assess the traffic impacts of the proposed development, two (2) time periods and four (4) travel conditions were evaluated:

- 2021 Existing Conditions
- 2024 Forecasted (without site traffic) Conditions
- 2024 Site Plus Forecasted Traffic Conditions (without improvements)
- 2024 Site Plus Forecasted Traffic Conditions (with improvements)

Intersections in the vicinity of the site are considered the locations of principal concern because they are the locations of highest traffic conflict and delay. The standard used to evaluate traffic conditions at intersections is level of service (LOS), which is a qualitative measure of the effect of a number of factors such as speed, volume of traffic, geometric features, traffic interruptions, freedom to maneuver, safety, driving comfort, convenience, and operating cost.

Two types of intersections to be evaluated are signalized and unsignalized, which use different criteria for assessment of operating levels. The analysis procedures are described in the following sections.

Signalized Intersection Level of Service

Signalized intersection LOS is defined in terms of delay, which is a direct and/or indirect measure of driver discomfort, frustration, fuel consumption, and lost travel time. The levels of service have been established based on driver acceptability of various delays. The delay for each approach lane group is calculated based on a number of factors including lane geometrics, percentage of trucks, peak hour factor, number of lanes, signal progression, volume, signal green time to total cycle time ratio, roadway grades, parking conditions, and pedestrian flows.

Because delay is a complex measure, its relationship to capacity is also complex. The City of Bee Cave considers overall intersection levels of service A to C to be acceptable, while overall LOS of D to F is unacceptable.

Table 1 summarizes the levels of service that are appropriate for different levels of average control delay, and provides a qualitative description for each. The Highway Capacity Manual, 6th Edition, uses the criteria of average control delay. Average control delay includes initial deceleration, delay, queue move-up time, stopped delay, and final acceleration delay (Ref. 4).

Table 1. Signalized Intersection: Level of Service Measurement and Qualitative Descriptions

Level of Service	Control Delay Per Vehicle (sec)	Qualitative Description
A	< 10	Good progression and short cycle lengths
B	> 10 and < 20	Good progression or short cycle lengths, more vehicle stops
C	> 20 and < 35	Fair progression and/or longer cycle lengths, some cycle failures
D	> 35 and < 55	Congestion becomes noticeable, high volume to capacity ratio
E	> 55 and < 80	Limit of acceptable delay, poor progression, long cycles, and/or high volume
F	> 80	Unacceptable to drivers, volume greater than capacity

Unsignalized Intersection Level of Service

Unsignalized intersection LOS is defined in terms of average control delay and, in some cases, volume to capacity (v/c) ratio. Control delay is that portion of total delay attributed to traffic control measures, either traffic signals or stop signs. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

For two-way stop-controlled intersections, the analysis method assumes that major street through traffic is not affected by minor street flows. Major street left-turning traffic and the traffic on the minor approaches will be affected by opposing movements. Stop or yield signs are used to assign the right-of-way to the major street. This designation

forces drivers on the controlled street to judgmentally select gaps in the major street flow through which to execute crossing or turning maneuvers. Thus, the capacity of the controlled legs is based upon two factors:

- The distribution of gaps in the major street traffic stream.
- Driver judgment in selecting gaps through which to execute their desired maneuvers.

The LOS procedure computes a capacity for each movement based upon the critical time gap required to complete the maneuver and the volume of traffic that is opposing the movement. The average control delay for any particular movement is calculated as a function of the capacity of the approach and the degree of saturation (v/c ratio). The degree of saturation is defined as the volume for a movement, expressed as an hourly flow rate, divided by the capacity of the movement, expressed as an hourly flow rate. With the HCM 6 methodology, overall intersection LOS is best quantified based on minor street movement average control delay. The HCM 6 methodology adjusts individual movement delay to account for a degree of saturation (v/c ratio) that is greater than 1.0. Those movements are assigned an LOS of F, regardless of the average control delay. Engineering judgment must be used to determine which minor street movement controls for overall intersection LOS, and whether unacceptable LOS on minor street movements appropriately reflects unacceptable LOS for the overall intersection.

Table 2 shows the relationship between the average control delay and the LOS. The LOS range for unsignalized intersections is different than that for signalized intersections. This difference is due to the fact that drivers expect different levels of performance from different kinds of transportation facilities. Unsignalized intersections carry less traffic volume than signalized intersections and delays at unsignalized intersections are variable. For these reasons, control delay would be less for an unsignalized intersection than for a signalized intersection. The overall approach LOS is computed as a weighted average of the vehicle delay for each movement; therefore, an approach may have an overall LOS C or D and have individual movements, which are LOS E or F.

Analysis was performed using the microcomputer program "Synchro 11.1" by Trafficware (Ref. 5), which is based on the procedures contained in the Highway Capacity Manual.

Table 2. Unsignalized Intersection: Level of Service Measurement

Level of Service	Control Delay Per Vehicle (sec)
A	< 10
B	> 10 and < 15
C	> 15 and < 25
D	> 25 and < 35
E	> 35 and < 50
F	> 50

2021 Existing Conditions

The analysis of existing traffic required the collection of data on the major roadways and intersections. Traffic counts for the following study area intersections were collected on Tuesday, November 16, 2021 while schools were in session, unless otherwise noted:

- SH 71 and RM 2244/Shops Parkway
- SH 71 and RM 620/Shops Parkway
- SH 71 and Hamilton Pool Road/Bee Cave Parkway
- RM 2244 and Bee Cave Parkway
- RM 620 and Bee Cave Parkway
- RM 620 and Ladera Boulevard
- RM 620 and Falcon Head Boulevard
- Bee Cave Parkway and Galleria Parkway
- Bee Cave Parkway and Tordera Drive
- Bee Cave Parkway and Willie Way (collected on Wednesday, December 9, 2021)
- Bee Cave Parkway and Galleria Oaks (collected on Wednesday, February 9, 2022)
- Bee Cave Parkway and Market Street
- Bee Cave Parkway and Vista Ridge
- Ladera Boulevard and Willie Way (collected on Wednesday, December 9, 2021)

The intersection of Bee Cave Parkway and Galleria Oaks was included to account for future conditions with the Terrace development. Turning moving counts for vehicles entering and exiting Galleria Oaks were collected on Wednesday, February 9, 2022, then utilized with the 2021 counts of Bee Cave Parkway and RM 620 to develop the intersection counts.

To account for the impact of the COVID-19 pandemic on traffic volumes, the turning movement volumes collected in 2021 were compared with volume data collected in 2019. A three (3) percent annual growth rate was applied to the 2019 data and a COVID-19 adjustment factor was formulated by dividing the adjusted 2019 traffic counts by the existing 2021 traffic counts for each intersection.

Using an average adjustment factor for all intersections, COVID-adjustment factors of 1.06 and 1.13 were calculated for the AM and PM peak hours, respectively. The adjustment factors were applied to the existing traffic counts to obtain 2021 existing “adjusted” traffic conditions.

The “adjusted” 2021 existing turning movement counts are provided in Figure 3. Descriptions of existing study intersections follow.

Signalized Intersections

The following intersections within the study area are signalized:

- SH 71 and RM 2244/Shops Parkway
- SH 71 and RM 620/Shops Parkway
- SH 71 and Hamilton Pool Road/Bee Cave Parkway
- RM 2244 and Bee Cave Parkway
- RM 620 and Bee Cave Parkway
- RM 620 and Ladera Boulevard
- RM 620 and Falcon Head Boulevard
- Bee Cave Parkway and Galleria Parkway

SH 71 and RM 2244/Shops Parkway

The northbound approach of Shops Parkway provides one left-turn/through shared lane, one through lane, and one channelized right-turn lane. The southbound approach of RM 2244 provides one left-turn lane, one left-turn/through shared lane, and two right-turn lanes. The eastbound approach of SH 71 provides two left-turn lanes, two through lanes, and one through/right-turn shared lane with a channelized right turn, while the westbound approach provides one left-turn lane, two through lanes, and one through/right-turn shared lane with a channelized right turn. The intersection currently operates at LOS F under 2021 existing traffic conditions during both the AM and PM peak periods. Assuming the same intersection geometry, the intersection will operate at LOS F under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods.

SH 71 and RM 620/Shops Parkway

The northbound approach of Shops Parkway provides one left turn, one left-turn/through shared lane, and one through/right-turn shared lane. The southbound approach of RM 620 provides two left-turn lanes, one through lane, and one channelized right-turn lane. The eastbound approach of SH 71 provides two left-turn lanes, two through lanes, and one through/right-turn shared lane with a channelized right-turn, while the westbound approach provides one left-turn lane, three through lanes, and one channelized right-turn lane. The intersection currently operates at LOS C and D under 2021 existing traffic conditions during the AM and PM peak periods, respectively. Assuming the same intersection geometry, the intersection will operate at LOS C and E under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

SH 71 and Hamilton Pool Road/Bee Cave Parkway

The northbound approach of Hamilton Pool Road provides one left-turn lane, two through lanes, and one channelized right-turn lane. The southbound approach of Bee Cave Parkway provides one left-turn lane, one through lane, and one channelized right-turn lane. The eastbound approach of SH 71 provides one left-turn lane, two through lanes, and one channelized right-turn lane, while the westbound approach provides one left-turn lane, one through lane, and one through/right-turn shared lane with a channelized right-

turn lane. The current overall level of service is E and F during the AM and PM peak periods, respectively. Assuming the same intersection geometry, the intersection will operate at LOS F under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods.

RM 2244 and Bee Cave Parkway

The northbound approach of RM 2244 provides one left-turn lane, one through lane, and one through/right-turn shared lane, while the southbound approach provides one left-turn lane, two through lanes, and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one left-turn lane, one left-turn/through shared lane, and one right-turn lane. The westbound driveway approach provides one left-turn/through/right-turn shared lane. The intersection currently operates at LOS C under 2021 existing traffic conditions during both the AM and PM peak periods. Assuming the same intersection geometry, the intersection will operate at LOS C and E under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

RM 620 and Bee Cave Parkway

The northbound approach of RM 620 provides one left-turn lane, two through lanes, one right-turn lane, while the southbound approach provides two left-turn lanes, two through lanes, and one channelized right-turn lane. The eastbound approach of Bee Cave Parkway provides one left-turn lane, one left-turn/through shared lane, and one through/right-turn shared lane, while the westbound approach provides one left-turn lane, one through/right-turn shared lane, and one right-turn lane. The intersection currently operates at LOS E and F under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

Assuming the same intersection geometry, the intersection will operate at LOS F under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods.

RM 620 and Ladera Boulevard

The northbound and southbound approaches of RM 620 provide one left-turn lane, one through lane, and one through/right-turn shared lane. The eastbound approach of Ladera Boulevard provides one left-turn lane, one left-turn/through shared lane, and one right-turn lane, while the westbound approach provides one left-turn/through shared lane and one right-turn lane. The intersection currently operates at LOS B and D under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

Assuming the same intersection geometry, the intersection will operate at LOS C and F under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

RM 620 and Falcon Head Boulevard

The northbound and southbound approaches of RM 620 provide one left-turn lane, one through lane, and one through/right-turn shared lane. The eastbound and westbound approaches of Falcon Head Boulevard provide one left-turn lane, one left-turn/through shared lane, and one right-turn lane. The intersection currently operates at LOS D under 2021 existing traffic conditions during both the AM and PM peak periods. Assuming the same intersection geometry, the intersection will operate at LOS E and F under 2024

forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

Bee Cave Parkway and Galleria Parkway

The northbound approach of Galleria Parkway provides one left-turn lane and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one through lane and one through/right-turn shared lane, while the westbound approach provides one left-turn lane and two through lanes. The intersection currently operates at LOS A under 2021 existing traffic conditions during both the AM and PM peak periods.

Assuming the same intersection geometry, the intersection will operate at LOS A and B under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

Unsignalized Intersections

The following intersections within the study area are unsignalized:

- Bee Cave Parkway and Market Street
- Bee Cave Parkway and Vista Ridge
- Bee Cave Parkway and Galleria Oaks
- Bee Cave Parkway and Tordera Drive
- Bee Cave Parkway and Willie Way
- Ladera Boulevard and Willie Way

Bee Cave Parkway and Market Street

The northbound approach of Market Street provides one left-turn lane and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one through lane and one through/right-turn shared lane, while the westbound approach provides one left-turn lane and two through lanes. The westbound left-turn movement currently operates at LOS B during both AM and PM peak periods. The highest delay minor street (NB) left-turn movement operates at LOS E and F and the right-turn movement operates at LOS B and C under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

Assuming the same intersection geometry the westbound left-turn movement will continue to operate at LOS B under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods. The highest delay minor street (NB) left-turn operates at LOS F during both the AM and PM peak periods while the right-turn movement operates at LOS B and C under 2024 forecasted traffic conditions during the AM and PM peak periods, respectively.

Bee Cave Parkway and Vista Ridge

The northbound approach of Vista Ridge provides one left-turn lane and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one through lane and one through/right-turn shared lane, while the westbound approach provides one left-turn lane and two through lanes. The westbound left-turn movement currently operates at LOS B during both AM and PM peak periods. The highest delay minor street (NB) left-

turn currently operates at LOS F during both the AM and PM peak periods while the right-turn currently operates at LOS B under 2021 existing traffic conditions during both the AM and PM peak periods.

Assuming the same intersection geometry, the westbound left-turn movement will operate at LOS B under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods. The highest delay minor street (NB) left-turn operates at LOS F during both the AM and PM peak periods while the right-turn operates at LOS B and C under 2024 forecasted traffic conditions during the AM and PM peak periods, respectively.

Bee Cave Parkway and Galleria Oaks

The northbound approach of Galleria Oaks provides one left-turn lane and one right-turn lane, while the southbound driveway approach provides one left-turn/through/right-turn shared lane. The eastbound and westbound approaches of Bee Cave Parkway provide one left-turn lane, one through lane and one through/right-turn shared lane. The northbound minor street left-turn movement currently operates at LOS F and the right-turn movement operates at LOS B under 2021 existing traffic conditions during both the AM and PM peak periods. The southbound approach currently operates at LOS E and F during the AM and PM peak period, respectively. The westbound left-turn movement currently operates at LOS B during both the AM and PM peak periods, while the eastbound left-turn movement operates at LOS A and B under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

Assuming the same intersection geometry, the northbound minor street left-turn movement continues to operate at LOS F and the right-turn movement operates at LOS B, while the southbound approach operates at LOS F during both the AM and PM peak periods, under 2024 forecasted (without site) traffic conditions. The eastbound and westbound left-turn movement will operate at LOS B under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods.

Bee Cave Parkway and Tordera Drive

The southbound approach of Tordera Drive provides one left-turn lane and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one left-turn lane and two through lanes, while the westbound approach of Bee Cave Parkway provides one left-turn/u-turn lane, one through lane, and one through/right-turn shared lane. The eastbound left-turn movement currently operates at LOS A and B under 2021 existing traffic conditions during the AM and PM peak periods, respectively. The highest delay minor street left-turn (SB) currently operates at LOS E and F under 2021 existing traffic conditions during the AM and PM peak periods, respectively. The highest delay minor street right-turn (SB) currently operates at LOS B and LOS C under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

Assuming the same intersection geometry, the eastbound left-turn movement will continue to operate at LOS B and C under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively. The highest delay minor street left-turn (SB) operates at LOS F under 2024 forecasted traffic conditions during both the AM and PM peak periods. The highest delay minor street right-turn (SB) operates at LOS B and C under 2024 forecasted traffic conditions during the AM and PM peak periods, respectively.

Bee Cave Parkway and Willie Way

The southbound approach of Willie Way provides one left-turn lane and one right-turn lane. The eastbound approach of Bee Cave Parkway provides one left-turn lane and two through lanes, while the westbound approach of Bee Cave Parkway provides one left-turn/u-turn lane, one through lane, and one through/right-turn shared lane. The eastbound left-turn movement currently operated at LOS A and B under 2021 existing traffic conditions during the AM and PM peak periods, respectively.

The southbound minor street left-turn movement currently operates at LOS D and E while the right-turn movement currently operates at LOS B during both the AM and PM peak periods under 2021 existing traffic conditions.

For 2024 forecasted traffic conditions, it was assumed that Willie Way between SH 71 and Bee Cave Parkway would be constructed and open to traffic. Willie Way will create the northbound approach for the intersection and will align with the southbound Willie Way approach. The eastbound approach will provide a left-turn lane, two through lanes and a channelized, free right-turn lane, while the westbound approach will provide a left-turn lane, a through lane and a shared through/right-turn lane. The northbound and southbound approaches will provide a shared left-turn/through lane and a right-turn lane. It is also assumed that by 2024, the forecasted traffic volumes will meet the warrant for the installation of a traffic signal. This intersection is modeled as a signalized intersection in 2024 forecasted traffic conditions. The intersection will operate at LOS B and C under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively.

SH 71 and Willie Way

For 2024 forecasted traffic conditions, it was assumed the proposed Village Oaks Drive and Willie Way would be complete and open for the intersection. The northbound approach of Village Oaks Drive will provide two left-turn lanes and one shared through/right-turn lane. The southbound approach of Willie Way will provide two left-turn lanes and one shared through/right-turn lane. The eastbound and westbound approaches of SH 71 will provide one left-turn lane, two through lanes, and one right-turn lane. The intersection will operate at LOS B and C under 2024 forecasted (without site) traffic conditions during the AM and PM peak periods, respectively, assuming the installation of a traffic signal. This intersection is modeled as a signalized intersection in 2024 forecasted traffic conditions.

Ladera Boulevard and Willie Way

The eastbound approach of Ladera Boulevard provides one shared through/right-turn lane, while the westbound approach of Ladera Boulevard provides one left-turn lane and one through lane. The northbound approach of Willie Way provides one left-turn lane and one right-turn lane

The highest delay minor street left-turn (NB) currently operates at LOS A and B under 2021 existing traffic conditions during the AM and PM peak periods, respectively. The highest delay minor street right-turn (NB) currently operates at LOS A under 2021 existing traffic conditions during both the AM and PM peak periods. The westbound left-turn movement currently operates at LOS A during both the AM and PM periods.

The westbound left-turn movement will operate at LOS A under 2024 forecasted (without site) traffic conditions during both the AM and PM peak periods. The highest delay minor street left-turn and right-turn movements (NB) operates at LOS B and A under 2024 forecasted traffic conditions during both the AM and PM peak periods, respectively.

2024 Forecasted Conditions with Site Generated Traffic

The proposed Terrace development is anticipated to be completed in 2024. This time frame was used to assess the major roadway effects and to facilitate the evaluation of potential improvements. The forecasted traffic was projected using available information. This process was facilitated by using trends established by prior data for the major roadways and intersections in the immediate vicinity of the project site.

Site Generated Traffic

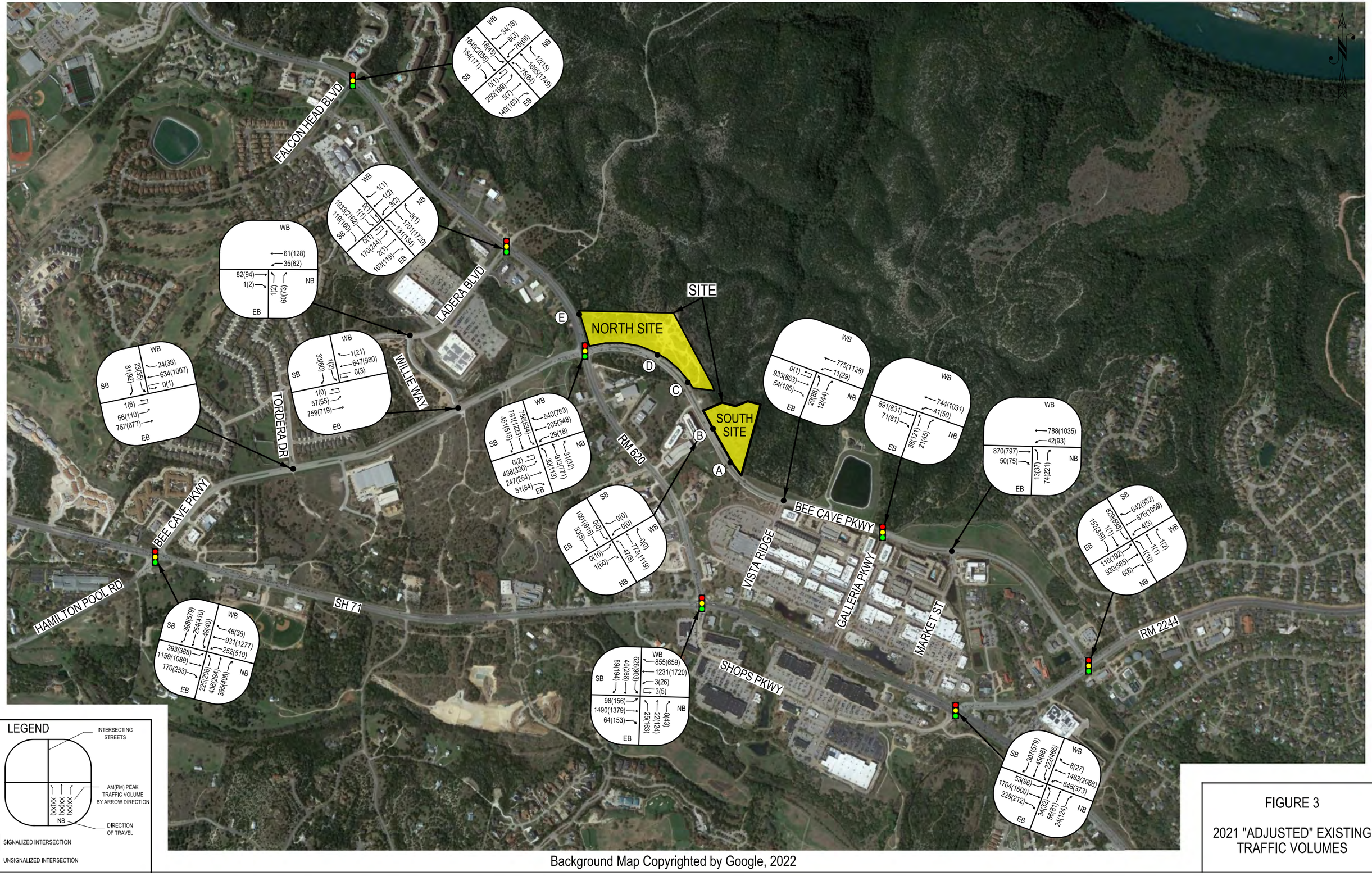
Determining the site generated traffic, or the traffic that will be generated due to the development of the proposed project, was a major element of this analysis. Unadjusted total trips per day, as well as the peak hour traffic associated with the project, were estimated using recommendations and data contained in the Institute of Transportation Engineers Trip Generation, 10th Edition (Ref. 6).

The proposed project will generate approximately 2,157 unadjusted daily trips upon build-out. Table 3 provides a detailed summary of traffic production, which is directly related to the assumed land use plan.

Table 3. Summary of Unadjusted Daily and Peak Hour Trip Generation

Site	Land Use	Land Use Code	Size	Trip Generation Method[1]	24-Hour Two-Way Volume	AM Peak Hour		PM Peak Hour	
						Enter	Exit	Enter	Exit
South Site	Multifamily Housing (Low-Rise)	220	59 DU	Fitted Curve	405	7	22	23	14
North Site	Multifamily Housing (Mid-Rise)	221	322 DU	Rate	1,752	30	86	86	55
				Total	**2,157**	**37**	**108**	**109**	**69**

[1]Trip Generation is based on the higher of the ITE's average rate and fitted curve method for all land uses.



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FIGURE 3

2021 "ADJUSTED" EXISTING TRAFFIC VOLUMES

Analysis Assumptions

The traffic impact analysis process involves both the use of primary data and engineering judgment on transferable parameters. Specifically, engineering judgment is required for estimation of background traffic growth, pass-by capture, internal capture, and transit trip reductions, all of which are further described in the following paragraphs.

Background Traffic

In order to estimate 2024 forecasted (without site) traffic volumes, it is necessary to perform two steps. The first is to apply a growth rate to the 2021 existing counts. Based on discussion with the City, a three (3) percent annual growth rate was assumed for the study. The resulting turning movement volumes are shown in Figure 4. The second step is to add traffic resulting from other projects in the area that are anticipated to be completed prior to buildout of this site. The following "other" projects were included, as shown in Figure 5.

- The Backyard
- The Village at Spanish Oaks (20% project trips and 100% road infrastructure improvements assumed to be completed by 2024)

Figure 6 depicts the total turning movement volumes for all "other" developments included in the analysis, and spreadsheets included in the Technical Addendum provide detail for each background project separately. The resulting 2024 forecasted traffic volumes, which are obtained by adding Figure 4 and Figure 6 volumes, are shown in Figure 7.

Pass-by Capture

No pass-by reduction was assumed for this project.

Internal Capture

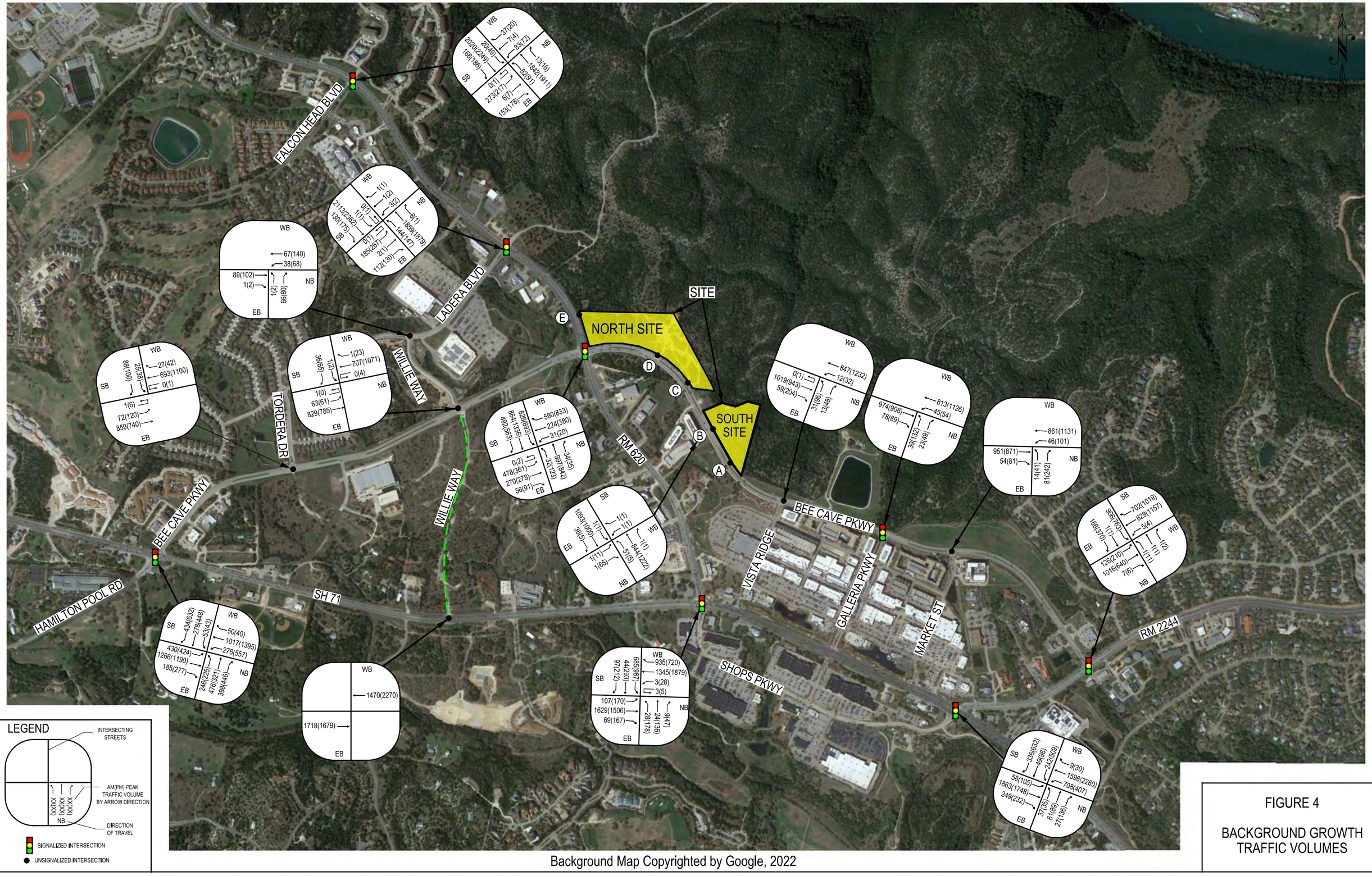
No internal capture was assumed for this project.

Transit Reduction

No transit reduction was assumed for this project.

Pedestrian and Bicycle Reduction

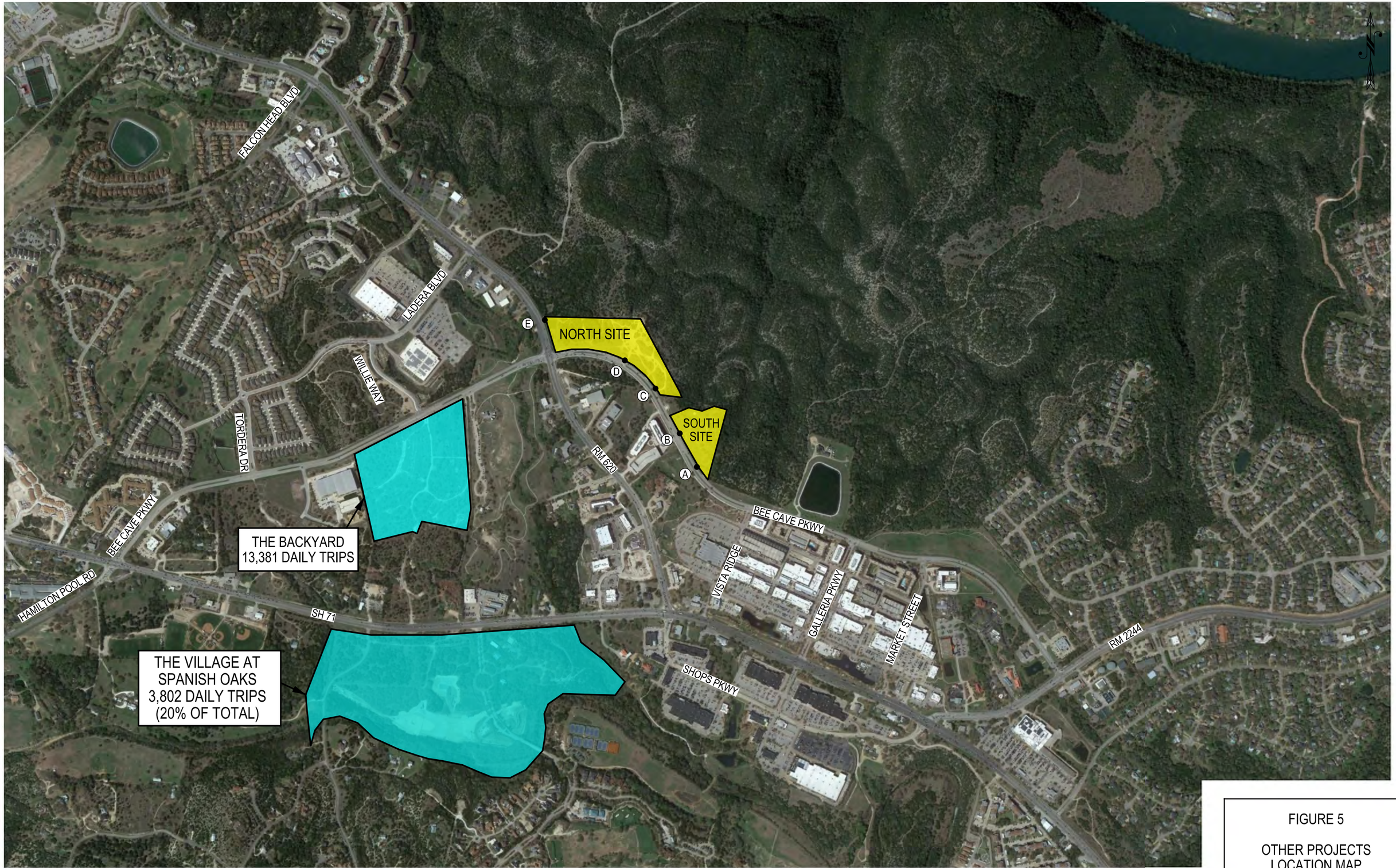
No pedestrian or bicycle reductions were assumed for this project.



Background Map Copyrighted by Google, 2022

FIGURE 4

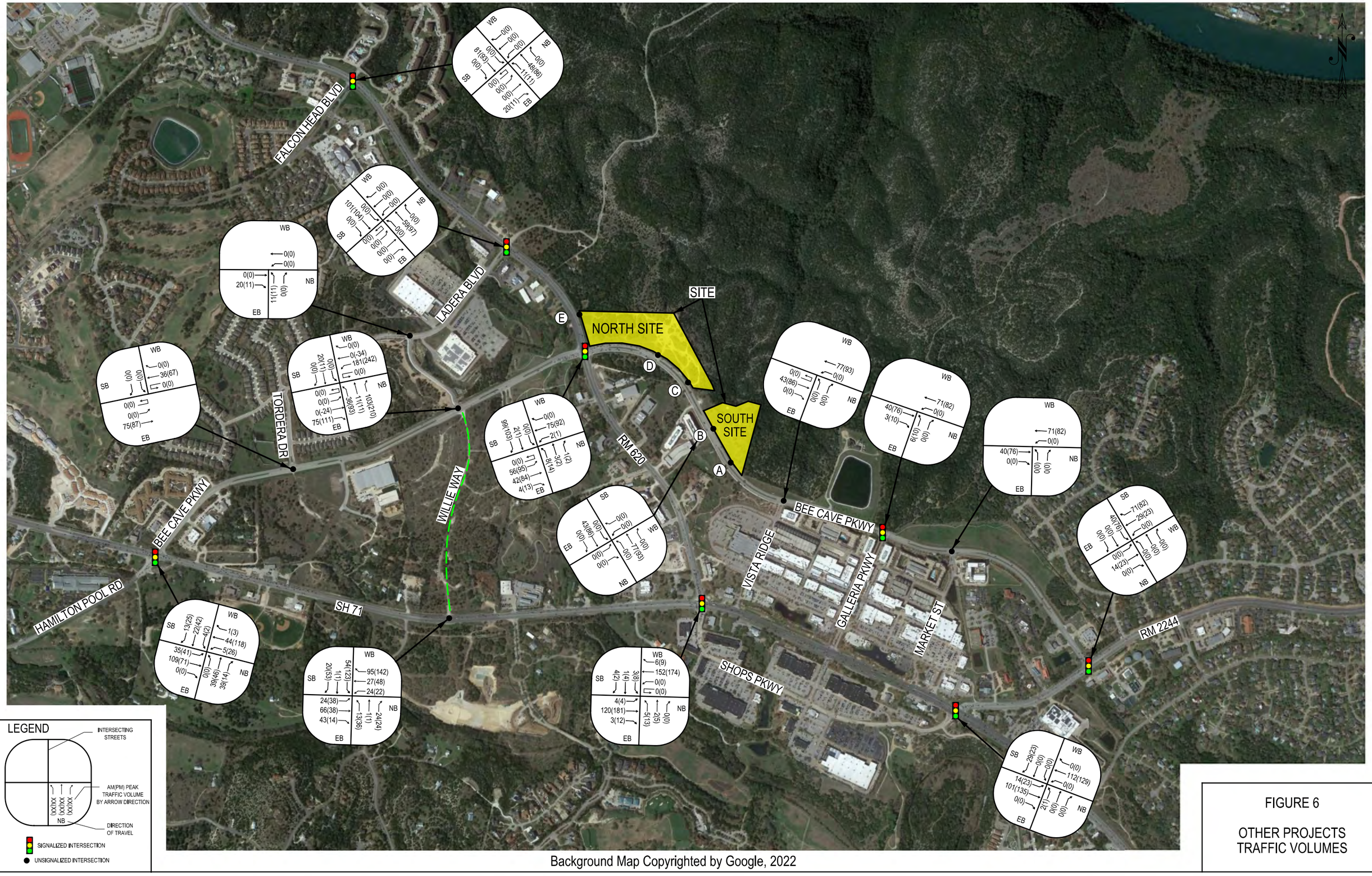
BACKGROUND GROWTH TRAFFIC VOLUMES



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FIGURE 5

OTHER PROJECTS
LOCATION MAP



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FIGURE 6

OTHER PROJECTS
TRAFFIC VOLUMES



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FIGURE 7

2024 FORECASTED TRAFFIC VOLUMES

Directional Distribution

The next step involved distribution of the site generated trips to appropriate geographic directions and logical connecting roadways. The major thoroughfares that have a direct bearing on the accessibility of the project have been previously identified. Traffic counts conducted during previous studies as well as discussions with City Staff provided the basis for the overall directional distribution of traffic approaching and departing both the North Site and South Site, as summarized in Table 4.

Table 4. Forecasted Overall Directional Distribution of Site-Oriented Traffic

Direction/Roadway	Percent of Site Traffic			
	AM Peak		PM Peak	
	Enter	Exit	Enter	Exit
East SH 71	25.0%	30.0%	30.0%	19.0%
West SH 71	15.0%	12.0%	10.0%	10.0%
RM 620	20.0%	18.0%	18.0%	20.0%
RM 2244	25.0%	25.0%	25.0%	20.0%
Hamilton Pool Rd.	10.0%	10.0%	10.0%	5.0%
West Ladera Blvd.	1.0%	1.0%	1.0%	3.0%
West Falcon Head Blvd.	1.0%	1.0%	2.0%	3.0%
Galleria Pkwy.	2.0%	2.0%	2.0%	10.0%
Shops Pkwy.	1.0%	1.0%	2.0%	10.0%
Total	**100%**	**100%**	**100%**	**100%**

Given the total site generated traffic and the directional distribution by approach, the next step in the process is to assign the traffic destined to and from the project to the most likely travel paths. This step was performed by investigating a number of alternative travel patterns, as well as ingress/egress points along the project boundaries. Primary consideration was given to the traffic flow and safety of the major roadways.

Intersection Analysis

The total 2024 traffic demand will be the sum of traffic generated by the proposed project and changes in existing traffic. 2024 site traffic and 2024 site plus forecasted traffic routing and volumes are shown in Figures 8 through 10. Improvements proposed to mitigate the impact of Terrace site traffic are discussed in the following section. Site volumes at study intersections are relatively low compared to the total traffic on the roadway network. Recommended improvements mitigate the impact of site traffic on intersection delays. The traffic movements most impacted by site traffic are noted.

SH 71 and RM 2244/Shops Parkway

This intersection will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The westbound left-turn and southbound left-turn movements experience large delays at this intersection. The Terrace site contributes to increased delays on the southbound movement that are mitigated with the

improvement below. This intersection will operate at LOS F and E under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, assuming the following improvements:

- Construct a southbound left-turn lane to provide two left-turn lanes, one through lane, and two right-turn lanes. This improvement will require widening to the west side of RM 2244, removal of the median island on the southwest corner, and elimination of the channelized eastbound right-turn lane.
- Optimize signal timing.

Site traffic comprises approximately 0.8 and 0.7 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

SH 71 and RM 620/Shops Parkway

This intersection will operate at LOS C and E under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. This intersection will operate at LOS C and E under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, with **signal timing optimization**.

Site traffic comprises approximately 0.2% and 0.4% percent of total traffic at the intersection during the AM and PM peak periods, respectively.

SH 71 and Hamilton Pool Road/Bee Cave Parkway

This intersection will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The intersection will operate at LOS E and F under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, assuming the following improvements:

- **Construct an additional eastbound left-turn lane to provide dual left-turn lanes.**
- **Construct an additional westbound left-turn lane to provide dual left-turn lanes.**
- **Widen Hamilton Pool Road to provide two southbound receiving lanes.**
- **Optimize signal timing.**

Site traffic comprises approximately 0.6% and 0.5% percent of total traffic at the intersection during the AM and PM peak periods, respectively.

RM 2244 and Bee Cave Parkway

This intersection will operate at LOS C and E under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. This intersection will operate at LOS C and D under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, assuming the following improvements:

- **Install a southbound right-turn overlap phase.**
- **Optimize signal timing.**

Site traffic comprises approximately 1.7 and 1.8% percent of total traffic at the intersection during the AM and PM peak periods, respectively.

RM 620 and Bee Cave Parkway

This intersection will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The Terrace site contributes to high delays on the westbound shared through/right-turn, eastbound through, and the southbound left-turn movements. Recommended improvements below mitigate the impact of site traffic with notable reductions in delays. This intersection will operate at LOS E under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods, assuming the following improvements:

- **Construct an additional eastbound left-turn lane to provide dual left-turn lanes, one through lane, and one through/right-turn lane. (Proposed in the RM 620 project.)**
- **Construct an additional westbound right-turn lane to provide one left-turn lane, one through lane, one through/right-turn shared lane, and one right-turn only lane on the approach. In the RM 620 project, a 400' right-turn lane and 75' taper was recommended. This right-turn lane is proposed to extend east through the intersections of Bee Cave Parkway with Driveways B, C and D as a through/right-turn shared travel lane (approximately 2,200'). This additional length will allow for vehicles turning right onto RM 620 to queue at the signal without blocking westbound through traffic.**
- **Optimize signal timing.**

Site traffic comprises approximately 1.0 and 1.4 percent of total traffic at the intersection during the AM and PM peak periods.

RM 620 and Ladera Boulevard

This intersection will operate at LOS C and F under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The intersection will operate at LOS B and D under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, assuming the following improvements:

- **Construct a southbound right-turn lane along RM 620.**
- **Optimize signal timing.**

Site traffic comprises approximately 0.6 and 0.8 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

RM 620 and Falcon Head Boulevard

This intersection will operate at LOS E and F under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The intersection will operate at LOS C and D under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively, assuming the following improvements:

- **Construct a southbound right-turn lane along RM 620.**
- **Construct an additional eastbound left-turn lane to provide dual left-turn lanes (Proposed in the RM 620 project.) and restripe shared left-through lane to through only.**
- **Optimize signal timing.**

Site traffic comprises approximately 0.6 and 0.7 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Bee Cave Parkway and Galleria Parkway

The intersection will operate at LOS A and B under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. There are no improvements recommended at this intersection as part of this TIA. Site traffic comprises approximately 3.4 and 2.9 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Bee Cave Parkway and Tordera Drive

The eastbound left-turn movement at this operation currently operates at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The highest delay minor street movement left-turn (SB) currently operates at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The highest delay minor street right-turn (SB) currently operates at LOS B and LOS C under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The intersection will operate at LOS A under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods, **assuming the installation of a traffic signal. The traffic signal will be installed when warrants are met in the field.**

Site traffic comprises approximately 1.7 and 1.4 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Bee Cave Parkway and Willie Way

This intersection will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The intersection will operate at LOS B during the AM and PM peak periods, respectively under 2024 site plus forecasted conditions, assuming the following improvements:

- **Optimize signal timing**
- **Installation of a R10-11T on the northbound approach (no right turn on red)**

Site traffic comprises approximately 1.6 and 1.3 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

SH 71 and Willie Way

This intersection will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. The intersection will operate at LOS B and C during the AM and PM peak periods, respectively under 2024 site plus forecasted conditions assuming installation of traffic signal. There are no improvements recommended at this intersection as part of this TIA. Site traffic comprises approximately 0.0 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Bee Cave Parkway and Market Street

The highest delay minor street left-turn (NB) at this intersection will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods, while the highest delay minor street right-turn (NB) will operate at LOS C under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods. The addition of site traffic as through movements on Bee Cave Parkway increase delays for minor street turning movements.

A continuous green-tee intersection design was considered to mitigate the impact of site traffic. The westbound through movement will be free-flowing while the eastbound and northbound movements will be signalized. A conceptual exhibit is presented in the Technical Addendum. The intersection is anticipated to meet peak-hour traffic volume warrants for a traffic signal when the northbound right-turn volumes are included in the calculation. The intersection is located approximately 800 feet from the nearest signalized intersection (Bee Cave Parkway and Galleria Parkway). This spacing does not allow for sufficient merge distance and therefore an unsignalized continuous green-tee is not recommended. The resultant traffic signal spacing and interaction between these intersections should be considered prior to installation. The intersection will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively. Site traffic comprises approximately 3.2 and 2.6 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Bee Cave Parkway and Vista Ridge

The westbound left-turn will operate at LOS B under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The highest delay minor street left-turn (NB) will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods, while the highest delay minor street right-turn (NB) will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM Peak periods, respectively. The addition of site traffic as through movements on Bee Cave Parkway increase delays for minor street turning movements.

A continuous green-tee intersection design was considered to mitigate the impact of site traffic. The westbound through movement will be free-flowing, while the eastbound and northbound movements will be signalized. The intersection is anticipated to meet peak-hour traffic volume warrants for a traffic signal. The intersection will operate at LOS C and B under 2024 site plus forecasted traffic conditions during the AM and PM peak periods, respectively with this improvement. Site traffic comprises approximately 3.3 and 2.7 percent of total traffic at the intersection during the AM and PM peak periods, respectively.

Ladera Boulevard and Willie Way

The westbound left-turn will operate at LOS A under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods. The highest delay minor street left-turn (NB) will operate at LOS B under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods, while the highest delay minor street right-turn (NB) will operate at LOS A under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods. There are no improvements recommended at this intersection as part of this TIA.

Bee Cave Parkway and Driveway B/Galleria Oaks

Driveway B will be constructed as a full purpose driveway, with a minimum 36' width to provide two outbound lanes and one inbound lane. Driveway B will create the southbound approach for this intersection and will align with Galleria Oaks on the south side of Bee Cave Parkway. Assuming the same intersection geometry, the northbound minor street left-turn movement continues to operate at LOS F and the right-turn movement operates at LOS B, while the southbound approach operates at LOS F during both the AM and PM peak periods, under 2024 site plus forecasted traffic conditions. The eastbound and westbound left-turn movement will operate at LOS B under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods.

The following improvements are recommended as part of this TIA:

- **Install a traffic signal at Driveway B/Galleria Oaks when warrants are met in the field. This traffic signal should provide communication with the existing traffic signal at RM 620 and Bee Cave Parkway to allow for coordination.**
- **Extend the existing eastbound left-turn lane (115 feet of storage and 110 feet of taper) on Bee Cave Parkway to maximize the storage lane, as shown in Table 5.**

The intersection will operate at LOS C under 2024 site plus forecasted traffic conditions during both the AM and PM peak periods assuming installation of a traffic signal.

Bee Cave Parkway and Driveway C

Driveway C will be constructed as a full purpose driveway, with a minimum 36' width to provide two outbound lanes and one inbound lane. Median relocation and construction of the eastbound left-turn lane (345 feet of deceleration, 100 feet of storage and 100 of taper) will be completed at Driveway C as part of the site development, as shown in Table 5. The eastbound left-turn movement will operate at LOS B during both the AM and PM periods, under 2024 site plus forecasted traffic conditions without improvements. The highest delay minor street left-turn (SB) will operate at LOS F under 2024 site plus forecasted traffic conditions during both the AM and PM Peak periods, while the highest delay minor street right-turn (SB) will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM Peak periods, respectively.

The eastbound left-turn movement will operate at LOS B and C during the AM and PM periods, respectively under 2024 site plus forecasted traffic conditions with improvements. The highest delay minor street left-turn (SB) will operate at LOS E and F under 2024 site plus forecasted traffic conditions during the AM and PM Peak periods, respectively, while the highest delay minor street right-turn (SB) will operate at LOS B and C under 2024 site plus forecasted traffic conditions during the AM and PM Peak periods, respectively.

Installation of a pedestrian hybrid beacon is under consideration at this intersection. A warrant study should be completed prior to installation.

Bee Cave Parkway and Driveway D

Driveway D will be constructed as a right-in, right-out driveway, with a minimum 30' pavement width. The southbound approach of Driveway D will form the stop-controlled

approach at this intersection and will operate at LOS B and C during the AM and PM peak periods, respectively, under 2024 site plus forecasted traffic conditions.

RM 620 and Driveway E

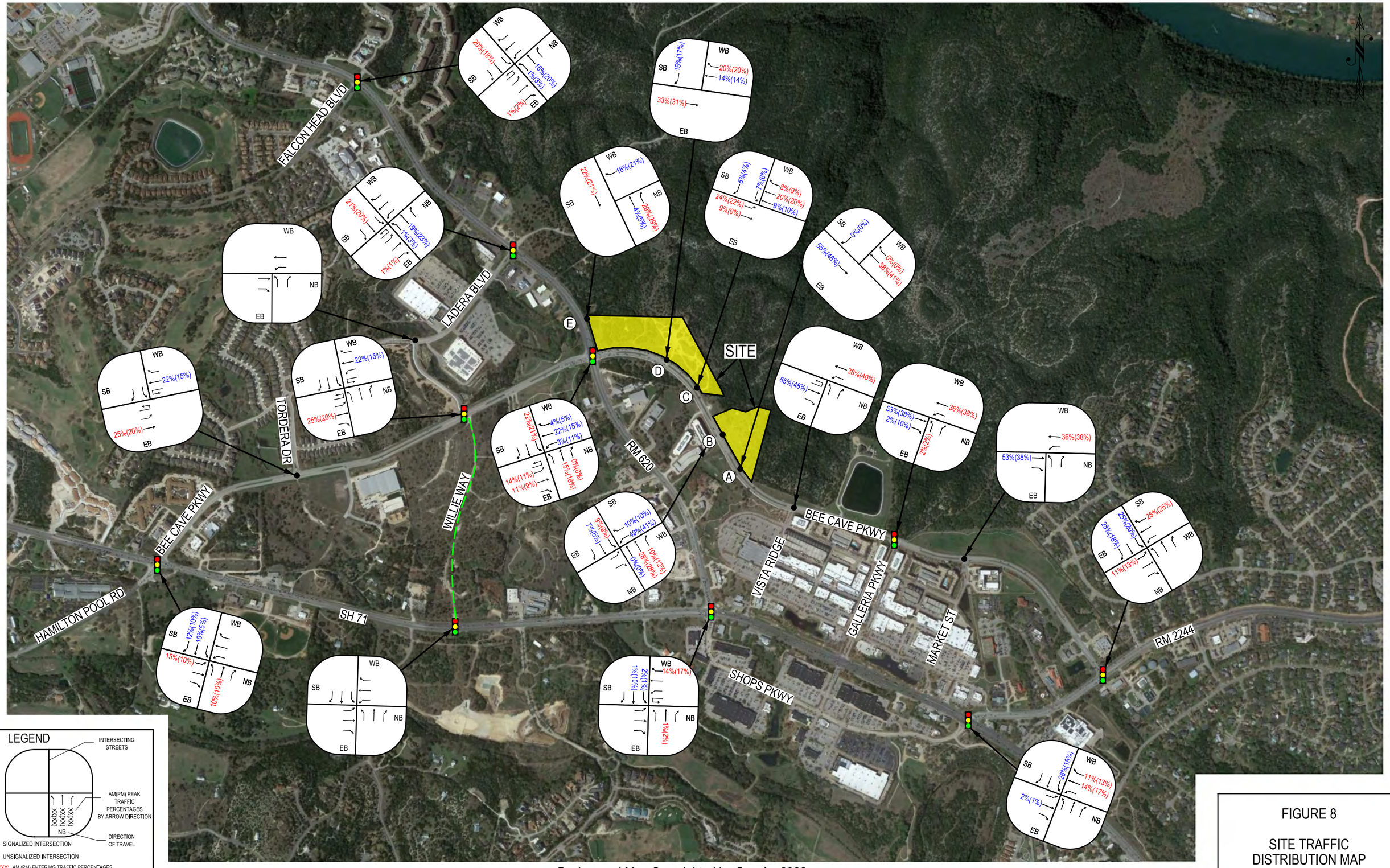
Driveway E will be constructed as a right-in, right-out driveway, with a minimum 30' pavement width. A northbound right-turn deceleration lane (345 feet of deceleration, 30 feet of storage, and 100 feet of taper) on RM 620 will be built as a part of Driveway E, per discussion with TxDOT, as shown in Table 5.

The westbound approach of Driveway E will form the stop-controlled approach at this intersection and will operate at LOS B and C during the AM and PM peak periods, respectively, under 2024 site plus forecasted traffic conditions.

Table 5. Deceleration and Storage Length Requirements

Intersection	Movement	Deceleration (ft)	Storage (ft)	Taper (ft)	Total Length (ft)
Driveway B and Bee Cave Parkway	Eastbound Left-Turn	345'	100'	100'	445'
Driveway C and Bee Cave Parkway	Eastbound Left-Turn	345'	100'	100'	445'
Driveway E and RM 620	Northbound Right-Turn	345'	30'	100'	375'

The Developer had committed to construct transportation improvements that exceed the development's calculated pro-rata share of recommended intersection improvements, summarized below. Detailed cost estimates are included in the Technical Addendum.



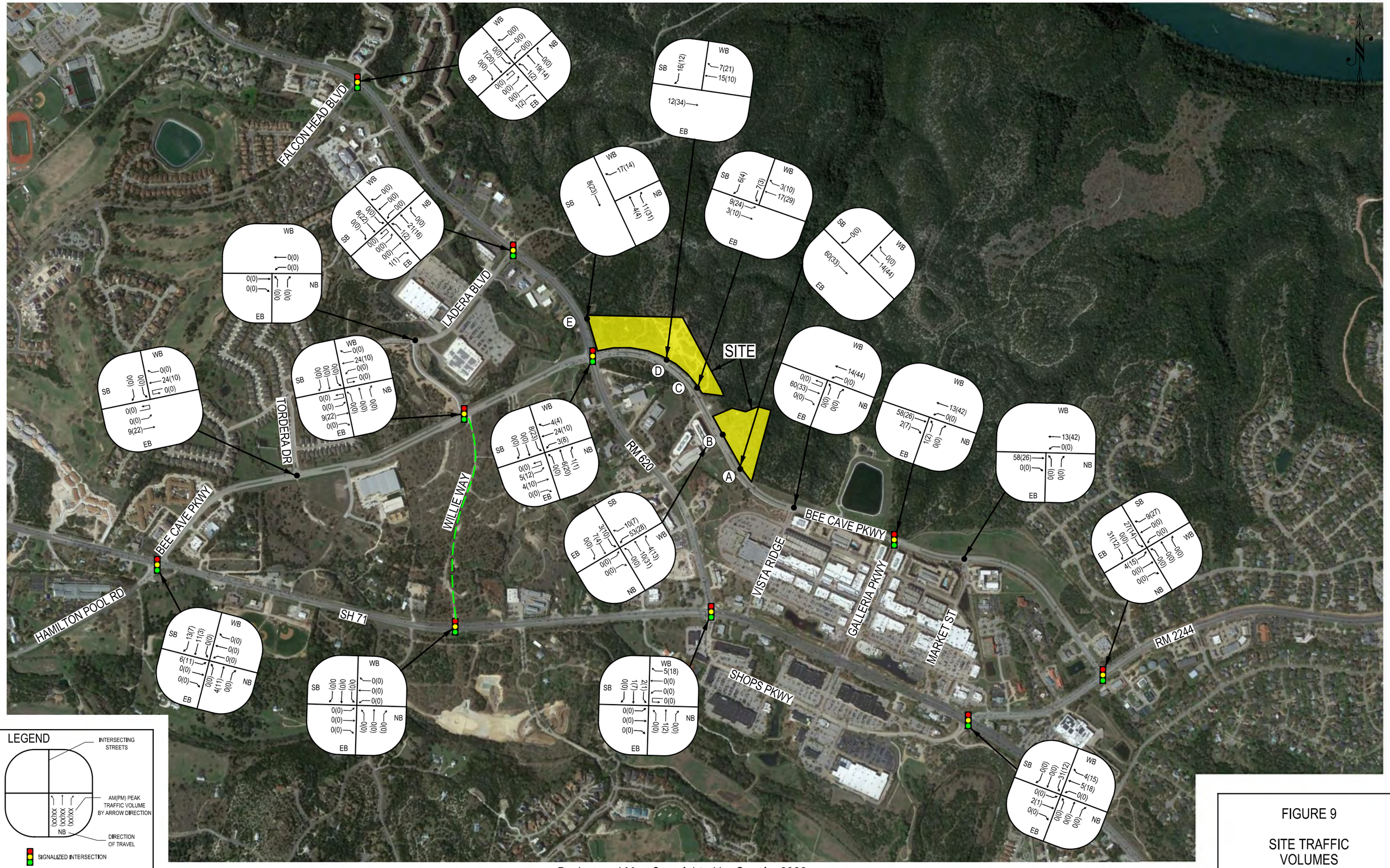
LEGEND

- INTERSECTING STREETS
- AM(PM) PEAK TRAFFIC PERCENTAGES BY ARROW DIRECTION
- DIRECTION OF TRAVEL
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- XX(XX) AM (PM) ENTERING TRAFFIC PERCENTAGES
- XX(XX) AM (PM) EXITING TRAFFIC PERCENTAGES

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FIGURE 8

SITE TRAFFIC DISTRIBUTION MAP



Background Map Copyrighted by Google, 2022

FIGURE 9

SITE TRAFFIC VOLUMES



Background Map Copyrighted by Google, 2022

FIGURE 10

2024 SITE PLUS FORECASTED TRAFFIC VOLUMES

Summary and Recommendations

Intersection LOS and delay results for 2021 existing, 2024 forecasted, and 2024 site plus forecasted volume conditions are presented in Tables 6 and 7. 2024 site plus forecasted with improvements level of service assume all improvements recommended and identified as part of this TIA have been implemented. Table 8 provides a summary of all recommended improvements discussed in this report along with the developer's estimated pro-rata share. The pro-rata share for each recommended improvement is calculated based on the percent of site traffic for the applicable movement, approach, or overall intersection.

Table 6. Signalized Intersection Level of Service and Delay (sec/veh)

Intersection	2021 Existing		2024 Forecasted (Without Site)		2024 Site+Forecasted (No Improvements)		2024 Site+Forecasted (With Improvements)	
	AM	PM	AM	PM	AM	PM	AM	PM
SH 71 and RM 2244/Shops Parkway	F (245.9)	F (83.6)	F (263.0)	F (105.4)	F (264.2)	F (109.9)	F (202.6)	E (73.3)
SH 71 and RM 620/Shops Parkway	C (20.5)	D (45.1)	C (23.6)	E (68.7)	C (23.7)	E (70.5)	C (21.9)	E (66.4)
SH 71 and Hamilton Pool Road/Bee Cave Parkway	E (71.4)	F (134.2)	F (98.1)	F (200.7)	F (100.8)	F (206.4)	E (72.1)	F (125.9)
RM 2244 and Bee Cave Parkway	C (22.6)	C (34.8)	C (25.1)	E (57.1)	C (25.7)	E (61.3)	C (25.4)	D (41.4)
RM 620 and Bee Cave Parkway	E (57.7)	F (88.0)	F (93.8)	F (161.4)	F (101.9)	F (170.3)	E (58.3)	E (65.3)
RM 620 and Ladera Boulevard	B (18.6)	D (39.6)	C (21.2)	F (80.7)	C (21.7)	F (83.2)	B (19.6)	D (50.8)
RM 620 and Falcon Head Boulevard	D (37.2)	D (48.6)	E (59.1)	F (85.3)	E (59.7)	F (87.7)	C (31.9)	D (47.8)
Bee Cave Parkway and Galleria Parkway	A (7.4)	A (9.2)	A (7.6)	B (10.2)	A (7.7)	B (10.3)	**	**
Bee Cave Parkway and Tordera Drive	*	*	*	*	*	*	A (6.9)	A (8.0)
Bee Cave Parkway and Willie Way	*	*	B (14.1)	C (25.3)	B (14.0)	C (25.2)	B (19.0)	B (19.8)
SH 71 and Willie Way	-	-	B (13.6)	C (32.9)	B (13.6)	C (28.3)	B (19.6)	C (26.4)
Bee Cave Parkway and Galleria Oaks/Driveway B	*	*	*	*	*	*	C (28.8)	C (29.6)
Bee Cave Parkway and Market Street	*	*	*	*	*	*	B (16.2)	C (25.1)
Bee Cave Parkway and Vista Ridge	*	*	*	*	*	*	C (20.0)	B (14.8)

+ Value is excessive or exceeds Synchro limits
* See Table 7 for unsignalized intersection LOS and delay information.

Table 7. Unsignalized Intersection Level of Service and Delay (sec/veh)

Intersection	Movement	2021 Existing		2024 Forecasted (Without Site)		2024 Site Forecasted (No Improvements)		2024 Site+Forecasted (With Improvements)	
		AM	PM	AM	PM	AM	PM	AM	PM
Bee Cave Parkway and Tordera Drive	*Eastbound Left-Turn*	A (9.6)	B (13.6)	B (10.2)	C (16.4)	B (10.3)	C (16.6)	*	*
	Southbound Left-Turn	E (36.6)	F (151.6)	F (53.5)	F (430.1)	F (56.9)	F (452.1)	*	*
	Southbound Right-Turn	B (11.7)	C (15.1)	B (12.4)	C (17.5)	B (12.6)	C (17.6)	*	*
Bee Cave Parkway and Willie Way	*Eastbound Left-Turn*	A (9.3)	B (11.1)	*	*	*	*	*	*
	Southbound Left-Turn	D (26.3)	E (44.6)	*	*	*	*	*	*
	Southbound Right-Turn	B (10.7)	B (13.4)	*	*	*	*	*	*
Bee Cave Parkway and Galleria Oaks/Driveway B	*Eastbound Left-Turn*	A (9.6)	B (11.3)	B (10.2)	B (12.7)	B (10.3)	B (13.1)	*	*
	Westbound Left-Turn	B (11.4)	B (10.3)	B (12.4)	B (11.2)	B (12.5)	B (11.2)	*	*
	Northbound Left-Turn	F (64.1)	F (68.9)	F (97.5)	F (133.8)	F (118.0)	F (172.7)	*	*
	Northbound Right-Turn	B (12.7)	B (13.0)	B (13.6)	B (14.5)	B (13.7)	B (14.6)	*	*
	Southbound Approach	E (48.5)	F (63.3)	F (75.9)	F (114.7)	F (299.3)	F (431.1)	*	*
Bee Cave Parkway and Market Street	*Westbound Left-Turn*	B (10.8)	B (11.0)	B (11.7)	B (12.4)	B (12.1)	B (12.6)	*	*
	Northbound Left-Turn	E (47.6)	F (122.7)	F (74.5)	F (333.1)	F (85.1)	F (379.8)	*	*
	Northbound Right-Turn	B (13.6)	C (17.9)	B (14.9)	C (23.6)	C (15.6)	C (24.6)	*	*
Bee Cave Parkway and Vista Ridge	*Westbound Left-Turn*	B (11.2)	B (11.8)	B (12.1)	B (13.5)	B (12.6)	B (13.8)	*	*
	Northbound Left-Turn	F (64.6)	F (498.9)	F (121.9)	F (1289.9)	F (148.9)	F (1,515.3)	*	*
	Northbound Right-Turn	B (13.1)	B (14.4)	B (14.2)	C (16.6)	B (14.7)	C (17.0)	*	*
Ladera Boulevard and Willie Way	*Westbound Left-Turn*	A (7.4)	A (7.5)	A (7.5)	A (7.6)	A (7.5)	A (7.6)	**	**
	Northbound Left-Turn	A (9.9)	B (11.1)	B (10.2)	B (11.6)	B (10.2)	B (11.6)	**	**
	Northbound Right-Turn	A (9.0)	A (9.1)	A (9.1)	A (9.2)	A (9.1)	A (9.2)	**	**
Bee Cave Parkway and Driveway C	*Eastbound Left-Turn*	-	-	-	-	B (10.4)	B (13.5)	B (14.7)	C (22.9)
	Southbound Left-Turn	-	-	-	-	F (52.1)	F (103.0)	E (41.6)	F (82.1)
	Southbound Right-Turn	-	-	-	-	B (12.2)	C (15.1)	B (13.4)	C (16.9)

Table 7. Unsignalized Intersection Level of Service and Delay (sec/veh)

Intersection	Movement	2021 Existing		2024 Forecasted (Without Site)		2024 Site Forecasted (No Improvements)		2024 Site+Forecasted (With Improvements)	
Bee Cave Parkway and Driveway D	*Southbound Approach*	-	-	-	-	B (12.4)	C (15.4)	**	**
Bee Cave Parkway and Driveway E	*Westbound Approach*	-	-	-	-	D (26.0)	C (16.3)	**	**

+ Value is excessive or exceeds Synchro limits
* See Table 6 for signalized intersection LOS and delay information.
** No improvements are recommended in this condition

Table 8. Summary of Recommended Improvements and Pro-Rata Share

Intersection	Recommended Improvements	Pro-Rata Applicable Movement	Site Volume		Forecasted (No Site) Volume		Pro-Rata Share		Estimated Improvement Cost	Pro-Rata Improvement Cost	Agreed Fiscal Share
			AM	PM	AM	PM	By Percentage	Agreed to post			
SH 71 and RM 2244/Shops Parkway	Construct a southbound left-turn lane to provide two left-turn lanes, one through lane, and two right-turn lanes.	Southbound Left Movement	31	12	242	509	12.8%	0%	$1,491,601	$190,925	$ 0
	Optimize signal timing.	Total Intersection	42	46	5,496	6,591	0.8%	0%	$ 5,000	$ 5,000	$ 0
SH 71 and RM 620/Shops Parkway	Optimize signal timing.	Total Intersection	9	28	5,278	6,741	0.4%	0%	$ 5,000	$ 5,000	$ 0
SH 71 and Hamilton Pool Road	Construct an additional eastbound and westbound left-turn lane to provide dual left turns	Eastbound Left Movement	6	11	465	465	2.4%	0%	$ 3,399,060	$ 81,577	$ 0
	Widen Hamilton Pool Road to provide two southbound receiving lanes.	Exiting Southbound	11	3	766	1350	1.4%	0%	$ 618,786	$ 8,663	$ 0
	Optimize signal timing.	Total Intersection	34	32	5,419	6,385	0.6%	0%	$ 5,000	$ 5,000	$ 0
RM 2244 and Bee Cave Parkway	Install a southbound right-turn overlap phase.	Southbound Right Movement	9	27	773	1101	2.4%	0%	$ 82,251	$ 1,974	$ 0
	Optimize signal timing.	Total Intersection	71	68	3,714	4,389	1.9%	0%	$ 5,000	$ 5,000	$ 0
RM 620 and Bee Cave Parkway	Construct an additional eastbound left-turn lane to provide dual left-turn lanes, one through lane, and one through/right-turn shared lane.	Eastbound Left Movement	5	12	534	458	2.6%	0%	$ 248,295	$ 6,456	$ 0
	Construct a westbound right-turn lane to provide one left-turn lane, one through lane, one through/right-turn shared lane and one right-turn only lane. Extend the turn lane through the Terrace Driveways, approximately 2,200 feet.	Westbound Right Movement	46	67	334	460	14.6%	100.0%	$ 914,902**	$ 133,576	$ 914,902
	Optimize signal timing.	Total Intersection	55	88	5,185	5,963	1.5%	0%	$ 5,000	$ 5,000	$ 0
RM 620 and Ladera Boulevard	Construct a southbound right-turn lane.	Southbound Approach	8	22	2,343	2,643	0.8%	0%	$ 383,223	$ 3,066	$ 0
	Optimize signal timing.	Total Intersection	31	41	4,714	5,171	0.8%	0%	$ 5,000	$ 5,000	$ 0
RM 620 and Falcon Head Boulevard	Construct a southbound right-turn lane	Southbound Approach	7	20	2,289	2,578	0.8%	0%	$ 487,253	$ 3,898	$ 0
	Construct an additional eastbound left-turn lane to provide dual left-turn lanes	Eastbound Approach	0	2	452	414	0.5%	0%	$ 158,517	$ 793	$ 0
	Optimize signal timing.	Total Intersection	28	38	4,864	5203	0.7%	0%	$ 5,000	$ 5,000	$ 0
Bee Cave Parkway and Tordera Drive	Install a traffic signal.	Total Intersection	33	32	1,876	2,301	1.8%	0%	$ 500,000	$ 9,000	$ 0
	Conduct a traffic signal warrant study.	Total Intersection	33	32	1,876	2,301	1.8%	0%	$15,000	$ 270	$ 0
Bee Cave Parkway and Willie Way	Optimize signal timing.	Total Intersection	33	32	2,064	2,631	1.6%	0%	$ 5,000	$ 5,000	$ 0
	Install R10-11T sign.	Northbound Right Movement	0	0	103	210	0.0%	0%%	$500	$0	$ 0
SH 71 and Willie Way	Install a traffic signal	Total Intersection	0	0	3,576	4,487	0.0%	0%	$500,000	$0	$ 0
	Conduct a traffic signal warrant study.	Total Intersection	0	0	3,576	4,487	0.0%	0%	$15,000	$0	$ 0
Bee Cave Parkway and Market Street	Installation of a signalized continuous green-tee intersection	Total Intersection	71	68	1,923	2,160	3.7%	0%	$1,023,801	$ 37,881	$ 0
	Conduct a traffic signal warrant study.	Total Intersection	71	68	1,923	2,160	3.7%	0%	$ 15,000	$ 555	$ 0
Bee Cave Parkway and Vista Ridge	Installation of a signalized continuous green-tee intersection	Total Intersection	74	77	1,996	2,355	3.7%	0%	$1,117,670	$41,354	$ 0
	Conduct a traffic signal warrant study.	Total Intersection	74	77	1,996	2,355	3.7%	0%	$15,000	$ 555	$ 0

Intersection	Recommended Improvements	Pro-Rata Applicable Movement	Site Volume		Forecasted (No Site) Volume		Pro-Rata Share		Estimated Improvement Cost	Pro-Rata Improvement Cost	Agreed Fiscal Share
			AM	PM	AM	PM	By Percentage	Agreed to post			
Bee Cave Parkway and Driveway C	Conduct a pedestrian hybrid beacon warrant study.	Total Intersection					100.0%*	100.0%*	$ 5,000	$ 5,000	$ 5,000
									Terrace Fiscal Share	**$ 565,542**	**$ 919,902**

*To be constructed by the developer as part of the site development.
** Estimated improvement costs obtained from the General Contractor based on final bidding.

Sight Distance Analysis

Intersection sight distance and stopping sight distance were evaluated for the proposed site driveways and proposed signalized intersections. Intersection and stopping sight distance were evaluated based on the guidance set in AASHTO's A Policy on Geometric Design of Highways and Streets, 7th Edition (Ref. 10).

Sight distance exhibits are included in the Technical Addendum and a brief description of whether intersection sight distance is met for exiting left-turning and right-turning vehicles from the Terrace and entering left-turning vehicles into Terrace at all driveways is provided below. A summary of sight distance analysis for each driveway follows and is summarized in Table 9.

Bee Cave Parkway and Driveway B

Driveway B is assumed to be signalized. The intersection sight distance and stopping sight distance required for exiting left-turning vehicles at this driveway is approximately 500' and 360', respectively, as defined in AASHTO. The intersection sight distance and stopping sight distance required for exiting right-turning vehicles at this driveway is approximately 430' and 360', respectively, as defined in AASHTO.



Proposed Driveway B, looking east on Bee Cave Parkway



Proposed Driveway B, looking west on Bee Cave Parkway

Based on a field review of existing geometric conditions, shown above, the intersection sight distance for Driveway B is less than desired for exiting left-turning and right-turning vehicles looking east due to shrubbery, but is present for exiting left-turning vehicles looking west. Based on a review of the horizontal and vertical curvature, the recommended sight distance can be achieved with clearing of existing vegetation within the sight triangle.

The intersection sight distance and stopping sight distance required for entering left-turning vehicles on eastbound Bee Cave Parkway into Driveway B is 530’ and 360’, respectively, as defined by AASHTO. This sight distance is available.

Bee Cave Parkway and Driveway C

The intersection sight distance required for exiting left-turning vehicles and right-turning vehicles from Driveway C are 500’ and 430’ respectively, as defined in AASHTO. The stopping sight distance required is 360’ as defined in AASHTO. The intersection sight distance required for eastbound vehicles turning left into Driveway C is 530’.



Proposed Driveway C, looking east on Bee Cave Parkway



Proposed Driveway C, looking west on Bee Cave Parkway



Proposed Driveway C, from median on Bee Cave Parkway

Based on a field review of existing geometric conditions, as seen in the pictures above, the intersection sight distance for Driveway C is 890 feet to the east (greater than the required value of 430 feet) and 715 feet to the west (greater than the required value of 500 feet). The desirable intersection sight distance for exiting vehicles is present at proposed location for Driveway C. There is also sufficient sight distance available for entering eastbound vehicles, turning left from Bee Cave Parkway. It is recommended that the shrubbery along the north side of Bee Cave Parkway and the median be removed.

Bee Cave Parkway and Driveway D

The intersection sight distance and stopping sight distance required for this driveway is approximately 430’ and 360’, respectively, as defined in AASTHO.



Proposed Driveway D, looking east on Bee Cave Parkway

Based on a field review of existing geometric conditions, as shown above, the intersection sight distance for Driveway D is approximately 870 feet to the east. The

desirable intersection sight distance for exiting vehicles is present at proposed location for Driveway D. There is also sufficient stopping sight distance available.

RM 620 and Driveway E

RM 620 has a posted speed limit of 55 mph in the vicinity of proposed Driveway E. The intersection sight distance and stopping sign distance required for Driveway E is approximately 530’ and 495’, respectively, as defined in AASHTO.



Proposed Driveway E, looking south on RM 620

Based on a field review of existing geometric conditions, the intersection sight distance for Driveway E is approximately 480’, just south of the RM 620 and Bee Cave Parkway signal, as shown above. The desirable intersection sight distance is not present at proposed location for Driveway E.

The design intersection sight distance requirements and the measured sight distances for all the driveways is presented in Table 9 below. Based on a field review, Driveway B and E do not meet the required sight distance. Once the recommended traffic signal at Driveway B is installed, traffic along Bee Cave Parkway will be metered and create safer driving conditions.

Table 9. Intersection Sight Distance

Driveway	Access	Major Road Design Speed	Case	Direction	Design ISD (AASHTO)	Met?	Measured Sight Distance (feet)	Notes
Driveway B	Full Access	45	Right turn from stop	Looking East	430’	N	540’	Limited by vegetation, sight distance will be met with clearing
			Left turn from stop	Looking West	500’	Y	775’	
			Left turn yield controlled enter	Looking East	530’	Y	>530’	Not measured in field
			Eastbound stop at back of signal queue	Looking East	360’	Y	>360’	Not measured in field
			Westbound stop at back of signal queue	Looking West	360’	Y	>360’	Not measured in field
Driveway C	Full Access	45	Right turn from stop	Looking East	430’	Y	890’	
			Left turn from stop	Looking West	500’	Y	715’	
			Left turn yield controlled enter	Looking East	530’	Y	>530’	Not measured in field; Limited by vegetation, sight distance will be met with clearing
Driveway D	RIRO	45	Right turn from stop	Looking East	430’	Y	870’	
Driveway E	RIRO	55	Right turn from stop	Looking South	530’	Y	530’	

References

1. City of Bee Cave

2016 City of Bee Cave Comprehensive Plan, Bee Cave, Texas

2. 2045 Regional Transportation Plan

2020 2045 Regional Transportation Plan (Draft), Austin, Texas.

3. Texas Department of Transportation

2020 Traffic Count Database System, Austin, Texas

4. Transportation Research Board

2016 Highway Capacity Manual, Washington, D.C.

5. Trafficware Ltd

2021 Synchro 11, Sugar Land, Texas

6. Institute of Transportation Engineers

2017 Trip Generation Manual, An Informational Report, 10th Edition, Washington D.C.

9. Institute of Transportation Engineers

2017 Trip Generation Handbook, An ITE Proposed Recommended Practice, Washington D.C.

10. American Association of State Highway and Transportation Officials

2018 A Policy on Geometric Design of Highways and Streets, 7th Ed., Washington, D.C.

Technical Addendum

The Terrace

Bee Cave, Texas

First Submission: September 29, 2022
Second Submission: March 10, 2023
Third Submission: June 19, 2023
Fourth Submission: July 14, 2023
Fifth Submission: July 25, 2023

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Technical Addendum

The Terrace

Bee Cave, Texas
First Submission: September 29, 2022
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Fifth Submission: July 25, 2023

Prepared for

Morgan Group

Prepared by

HDR Engineering, Inc.
Texas P.E. Firm Registration No. F-754
504 Lavaca Street, Suite 900
Austin, Texas 78701 USA
Telephone 512 904-3700
Website: hdrinc.com

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General Information

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TRAFFIC IMPACT ANALYSIS SCOPE AND STUDY AREA

Project Name: The Terrace TIA Update Date: June 13, 2023

Location: Bee Cave Parkway, east of RM 620 Bee Caves, TX

Owner's Agent: Leslie Pollack, P.E., PTOE Phone: 512-904-3715

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1. **Intersections.** Level of Service calculations for AM and PM Peak shall be performed for the following intersections, showing (a) existing traffic conditions, (b) projected build-out traffic conditions, identifying site, non-site, and total traffic:

    1. RM 2244 and SH 71
    2. RM 620 and SH 71
    3. RM 2244 and Bee Cave Parkway
    4. RM 620 and Bee Cave Parkway
    5. Hill Country Galleria Driveway and Bee Cave Parkway
    6. RM 620 and Falcon Head Boulevard
    7. RM 620 and Ladera Boulevard
    8. Bee Cave Parkway and Tordera Drive
    9. Bee Cave Parkway and Willie Street/Willie Way
    10. Bee Cave Parkway and Market Street
    11. Bee Cave Parkway and Vista Ridge
    12. Ladera Boulevard and Willie Street
    13. SH 71 and Willie Way (projected build-out traffic conditions only)
    14. SH 71 and Hamilton Pool Road
    15. Bee Cave Parkway and Site Driveways (four assumed)

2. **Sight Distance Analysis.**

    a. When a proposed signals mitigation recommends a new traffic signal be installed, an analysis of the intersection sight distance and stopping sight distance to vehicles stopped in queue (back of queue) should be included.

    b. Intersections or new driveways must provide an analysis of the intersection sight distance for exiting right and left-turn movements and for entering left-turn movements per AASHTO guidelines. Whenever sight distance is obstructed, the object creating the obstruction should be identified as well as the extent the sight line is obstructed.

3. **Data Assumptions.** The following assumptions must be included in the analysis. Any change in these assumptions should be approved by the transportation planner prior to submittal of the TIA.

    a. <u>Background traffic</u>
    A 3% average annual growth rate will be applied based on research of TxDOT's ADT maps.
    The horizon year for the project is 2024 and the project will not be phased.

    b. <u>Other projects to be included</u>
    It should be noted that the following background projects will be evaluated in addition to the 3% annual growth rate, resulting in a higher overall growth:
        1. The Backyard (100% Complete)
        2. Village at Spanish Oaks (20% for project trips and 100% for road infrastructure complete)

    HDR will identify what percent complete each project will be for the build year based on information from the City of Bee Cave and include the corresponding trips.

    The Central Park Master Plan road improvements will be included in the No Build and Build modeling.

c. Traffic distribution

Traffic distribution will be developed based on existing and historical distribution data:

Direction / Roadway	**Overall Distribution (%)**			
	AM Peak Hr		PM Peak Hr	
	Enter	Exit	Enter	Exit
East SH 71	25	30	30	19
West SH 71	15	12	10	10
RM 620	20	18	18	20
RM 2244	25	25	25	20
Hamilton Pool Rd.	10	10	10	5
West Ladera Blvd.	1	1	1	3
West Falcon Head Blvd.	1	1	2	3
Hill Country Galleria	2	2	2	10
Shops at the Galleria	1	1	2	10
Total	**100**	**100**	**100**	**100**

d. Internal trips

No internal capture reduction will be assumed for the project.

e. Pass-by trips

No pass-by reductions will be assumed for the project.

.

f. Transit trips

No pedestrian or transit reductions will be assumed for the project.

g. Proposed Site Access

Terrace Site Access			
North Site	**Allowed Movements**	**Fire Access Only?**	**Gated?**
BCP North Driveway	Rt-in/Rt-out	-	X
BCP South Driveway	Full Access	-	X
Possible RM 620 Driveway	Rt-in/Rt-out	-	X
South Site	**Allowed Movements**	**Fire Access Only?**	**Gated?**
BCP North Driveway	Full Access	-	-

*Cross access between the North site and South site is assumed to be in place by 2024

4. Other considerations:

a. 2021 Existing conditions will be established using counts collected in 2021 and an adjustment factor for COVID-19 reduced traffic conditions. Separate adjustment factors will be used for each peak hour and an adjustment factor of 1.0 will be used if the calculated adjustment factor is less than 1.0.

Prepared by: _____ **Telephone:** _____

Terrace TIA

Proposed Land Uses

SUMMARY OF WEEKDAY SITE-GENERATED TRAFFIC

Per Equations and Rates Provided in ITE's Trip Generation, 10th Edition

ITE Code	Land Use	Size	Trip Generation Method[1]	24-Hour Two-Way Volume	AM Peak Hour		PM Peak Hour	
					Enter	Exit	Enter	Exit
220	Multifamily Housing (Low-Rise)	59 DU	Fitted Curve	405	7	22	23	14
221	Multifamily Housing (Mid-Rise)	322 DU	Rate	1,752	30	86	86	55
		Total		**2,157**	**37**	**108**	**109**	**69**

[1] Trip Generation is based on the higher of the ITE's average rate and fitted curve method for all land uses.

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Background Projects

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Backyard TIA
Proposed Land Uses (Does not include Live Oak Amphitheater Venue)
SUMMARY OF WEEKDAY SITE-GENERATED TRAFFIC
Per Equations and Rates Provided in ITE's Trip Generation, 10th Edition

ITE Code	Land Use	Variable	Size	24-Hour Two-Way		AM Peak Hour			PM Peak Hour		
				Rate/Eqn	Volume	Rate/Eqn	Enter	Exit	Rate/Eqn	Enter	Exit
310	Hotel	Rooms	125	Rate	1,045	Rate	35	24	Rate	38	37
-	Dance Hall [2]	Occupancy	350	-	334	-			-	42	0
931	Event Space [3]	Seats	208	Rate	541	Rate			Rate	39	0
710	Office	1000 SF Gross Floor Area	181.48	Rate	1,768	Rate	181	30	Rate	33	176
820	Shopping Center	1000 SF Gross Leasable Area	3.10	Eqn	566	Rate	2	1	Eqn	20	22
925	Drinking Place	1000 SF Gross Floor Area	4.92	Rate	560	Rate			Rate	37	19
930	Fast Casual Restaurant	1000 SF Gross Floor Area	5.39	Rate	1,699	Rate			Rate	42	34
932	High-Turnover (Sit-Down Restaurant) [4]	Seats	897	Rate	3,920	Rate	35	32	Rate	215	162
932	High-Turnover (Sit-Down Restaurant) - Ice Cream Shop (G4-14) [5]	1000 SF Gross Floor Area	0.82	Rate	92	Rate			Rate	5	3
933	Fast-Food Restaurant without Drive-Through Window	Seats	61	Rate	2,569	Rate			Rate	83	47
933	Fast-Food Restaurant without Drive-Through Window (G6-28)	1000 SF Gross Floor Area	1.65	Rate	571	Rate			Rate	23	24
936	Coffee Shop (No Drive-Thru)	1000 SF Gross Floor Area	2.74	Rate	2,067	Rate	141	136	Rate	49	50
			Total		**15732**		**394**	**223**		**626**	**574**

[1] Trip Generation is based on the higher of the ITE's average rate and fitted curve method for all land uses except Shopping Center. Shopping Center uses a hybrid approach of average rate in the AM peak and fitted curve in the PM peak.

[2] Dance Hall is based on the occupancy of the space (350 person) assuming a 2.1 person per vehicle occupancy rate from 2017 NTHS survey and ULI time-of-day factor for nightclubs.

[3] Quality Restaurant land use is assumed for the private event spaces.

[4] Only one restaurant open in the AM Peak (139 seats).

Table 3: Adjusted Vehicle Trips Generated by the Proposed Development																	
Phase	Land Use	ITE Code	Square Footage	Number of Units	Daily Trips (vpd)			AM Peak Trips (vph)			PM Peak Trips (vph)			Saturday Peak Trips (vph)		
					In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Phase 1	Senior Adult Housing - Attached			124	121	121	242	8	12	21	13	9	23	22	17	39
	Apartment			283	647	647	1293	28	92	120	105	48	153	74	74	148
	Residential Condominium/Townhouse			62	151	151	301	7	28	34	26	11	36	15	13	28
	Hotel			80	171	171	342	24	1	25	11	14	25	32	26	58
	General Office Building		265,317		1168	1168	2335	333	5	338	69	361	430	62	53	115
	Shopping Center		53,701		3098	3098	6196	111	69	180	146	158	305	135	124	259
	High-Turnover (Sit Down) Restaurant		30,513		1940	1940	3880	95	97	192	57	25	81	227	202	429
	Medical-Dental Office Building		27,673		458	458	916	52	14	66	26	66	92	57	43	100
	Specialty Retail Center		17,936		398	398	796	49	54	103	16	18	34	76	76	152
	Total (Phase 1)		395,140	549	**8,151**	**8,151**	**16,302**	**707**	**372**	**1,079**	**469**	**710**	**1,179**	**700**	**628**	**1,328**
Phase 2	General Office Building	710	138,554		622	622	1245	212	27	239	38	190	228	32	28	60
	Apartment	220		160	339	339	678	16	63	79	65	34	99	42	42	84
	High-Turnover (Sit Down) Restaurant	932	2,480		158	158	316	9	8	17	13	8	21	19	16	35
	Specialty Retail Center		5,000		111	111	222	16	18	34	6	8	14	21	21	42
	Residential Condominium/Townhouse	230		54	125	125	249	6	29	35	27	13	40	13	12	25
	Total (Phase 2)		146,034	214	**1,355**	**1,355**	**2,710**	**259**	**145**	**404**	**149**	**253**	**402**	**127**	**119**	**246**
Overall Total (Phases 1 & 2)					**9,506**	**9,506**	**19,012**	**966**	**516**	**1,483**	**618**	**963**	**1,581**	**827**	**747**	**1,574**

Signal Timing Information

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Signal Timing Files were given in Text Files.

These files are included within the CD.

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Traffic Volume Counts

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** PDF file created with demo version of the ComponentOne VSPDF8 control. **

GRAM Traffic Counting, Inc.
3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

Site Code: 1
Station ID:
RM 620
North of Bee Cave Pkwy
Latitude: 0' 0.0000 Undefined

Start	11/16/202	Southbound		Hour Totals		Northbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		18	418			17	432				
12:15		12	430			17	455				
12:30		11	441			20	422				
12:45		3	471	44	1760	19	452	73	1761	117	3521
01:00		6	448			17	419				
01:15		7	474			9	443				
01:30		9	427			7	441				
01:45		3	428	25	1777	11	463	44	1766	69	3543
02:00		7	486			6	422				
02:15		6	447			8	438				
02:30		2	447			4	428				
02:45		8	481	23	1861	8	399	26	1687	49	3548
03:00		6	445			4	420				
03:15		6	414			7	461				
03:30		10	433			8	485				
03:45		9	472	31	1764	15	537	34	1903	65	3667
04:00		13	431			8	495				
04:15		23	480			10	447				
04:30		15	549			15	252				
04:45		28	515	79	1975	22	387	55	1581	134	3556
05:00		47	508			28	427				
05:15		62	538			23	430				
05:30		79	527			52	319				
05:45		88	526	276	2099	73	473	176	1649	452	3748
06:00		114	437			91	454				
06:15		133	435			123	481				
06:30		175	320			156	385				
06:45		238	326	660	1518	214	368	584	1688	1244	3206
07:00		324	261			253	324				
07:15		432	263			243	302				
07:30		381	215			371	287				
07:45		480	168	1617	907	419	262	1286	1175	2903	2082
08:00		441	149			493	275				
08:15		467	169			480	199				
08:30		496	134			391	227				
08:45		477	130	1881	582	392	186	1756	887	3637	1469
09:00		522	104			359	156				
09:15		405	108			368	130				
09:30		389	90			376	126				
09:45		422	80	1738	382	401	106	1504	518	3242	900
10:00		451	79			342	96				
10:15		392	86			333	64				
10:30		407	37			377	53				
10:45		419	37	1669	239	359	51	1411	264	3080	503
11:00		411	25			376	35				
11:15		415	21			375	41				
11:30		468	18			397	24				
11:45		465	24	1759	88	425	22	1573	122	3332	210
Total		9802	14952			8522	15001			18324	29953
Percent		39.6%	60.4%			36.2%	63.8%			38.0%	62.0%
Grand Total		9802	14952			8522	15001			18324	29953
Percent		39.6%	60.4%			36.2%	63.8%			38.0%	62.0%
ADT		ADT 48,277		AADT 48,277							

** PDF file created with demo version of the ComponentOne VSPDF8 control. **

GRAM Traffic Counting, Inc.
3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

Site Code: 2
Station ID:
Bee Cave Pkwy
East of RM 620
Latitude: 0' 0.0000 Undefined

Start	11/16/202	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	189			5	208				
12:15		3	219			1	205				
12:30		0	214			2	194				
12:45		2	202	8	824	7	158	15	765	23	1589
01:00		3	200			3	171				
01:15		1	208			0	195				
01:30		0	186			0	176				
01:45		1	177	5	771	0	148	3	690	8	1461
02:00		1	191			2	188				
02:15		1	210			1	190				
02:30		0	214			0	195				
02:45		0	223	2	838	1	187	4	760	6	1598
03:00		1	180			0	212				
03:15		2	168			0	240				
03:30		1	154			1	259				
03:45		1	194	5	696	1	243	2	954	7	1650
04:00		2	165			2	238				
04:15		6	193			2	271				
04:30		3	216			3	181				
04:45		10	206	21	780	2	279	9	969	30	1749
05:00		15	171			3	242				
05:15		14	211			5	278				
05:30		22	209			9	231				
05:45		33	223	84	814	14	248	31	999	115	1813
06:00		47	189			16	216				
06:15		62	186			28	203				
06:30		69	123			40	159				
06:45		127	128	305	626	49	167	133	745	438	1371
07:00		189	102			62	108				
07:15		249	87			87	145				
07:30		233	91			152	144				
07:45		242	78	913	358	154	129	455	526	1368	884
08:00		251	57			221	106				
08:15		227	52			198	77				
08:30		255	54			156	76				
08:45		234	36	967	199	134	57	709	316	1676	515
09:00		222	39			155	66				
09:15		205	41			158	51				
09:30		168	26			162	46				
09:45		188	24	783	130	157	38	632	201	1415	331
10:00		180	19			129	41				
10:15		169	22			122	24				
10:30		200	13			147	22				
10:45		180	9	729	63	146	17	544	104	1273	167
11:00		173	7			152	11				
11:15		191	5			158	15				
11:30		234	3			162	2				
11:45		217	8	815	23	181	3	653	31	1468	54
Total		4637	6122			3190	7060			7827	13182
Percent		43.1%	56.9%			31.1%	68.9%			37.3%	62.7%
Grand Total		4637	6122			3190	7060			7827	13182
Percent		43.1%	56.9%			31.1%	68.9%			37.3%	62.7%

ADT ADT 21,009 AADT 21,009

** PDF file created with demo version of the ComponentOne VSPDF8 control. **

GRAM Traffic Counting, Inc.
3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

Site Code: 3
Station ID:
Bee Cave Pkwy
West of RM 620
Latitude: 0' 0.0000 Undefined

Start	11/16/202	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	132			2	130				
12:15		4	150			4	121				
12:30		4	156			2	126				
12:45		5	141	15	579	2	130	10	507	25	1086
01:00		3	114			0	94				
01:15		3	134			2	132				
01:30		0	150			1	130				
01:45		1	141	7	539	0	110	3	466	10	1005
02:00		0	106			1	145				
02:15		2	121			1	136				
02:30		1	123			2	168				
02:45		0	127	3	477	1	150	5	599	8	1076
03:00		0	106			0	137				
03:15		1	127			2	175				
03:30		3	117			3	162				
03:45		2	160	6	510	1	183	6	657	12	1167
04:00		2	145			0	208				
04:15		5	136			5	231				
04:30		3	128			2	215				
04:45		5	169	15	578	5	252	12	906	27	1484
05:00		11	142			11	232				
05:15		12	138			13	217				
05:30		18	169			21	221				
05:45		23	144	64	593	40	196	85	866	149	1459
06:00		37	182			26	181				
06:15		53	143			37	169				
06:30		53	129			42	143				
06:45		104	99	247	553	69	140	174	633	421	1186
07:00		139	88			84	91				
07:15		133	60			104	102				
07:30		190	81			118	101				
07:45		164	64	626	293	141	91	447	385	1073	678
08:00		207	74			159	57				
08:15		162	39			161	61				
08:30		161	57			185	47				
08:45		174	40	704	210	182	57	687	222	1391	432
09:00		145	34			163	39				
09:15		166	28			139	28				
09:30		131	19			127	29				
09:45		134	21	576	102	136	25	565	121	1141	223
10:00		138	19			123	31				
10:15		122	10			125	17				
10:30		137	7			102	12				
10:45		96	11	493	47	111	13	461	73	954	120
11:00		118	4			126	7				
11:15		139	5			103	4				
11:30		135	6			116	3				
11:45		153	4	545	19	135	5	480	19	1025	38
Total		3301	4500			2935	5454			6236	9954
Percent		42.3%	57.7%			35.0%	65.0%			38.5%	61.5%
Grand Total		3301	4500			2935	5454			6236	9954
Percent		42.3%	57.7%			35.0%	65.0%			38.5%	61.5%

ADT ADT 16,190 AADT 16,190

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - AM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	5	74	0	2	81	0	0	15	0	15	0	174	11	0	185	281
07:15	0	0	0	0	0	9	104	0	0	113	2	0	20	0	22	0	213	6	0	219	354
07:30	0	0	0	0	0	6	161	0	0	167	1	0	10	0	11	0	212	10	0	222	400
07:45	0	0	0	0	0	9	166	0	0	175	3	0	22	0	25	0	203	14	0	217	417
Total	0	0	0	0	0	29	505	0	2	536	6	0	67	0	73	0	802	41	0	843	1452
08:00	0	0	0	0	0	14	238	0	0	252	5	0	17	0	22	0	206	9	0	215	489
08:15	0	0	0	0	0	11	178	0	0	189	3	0	21	0	24	0	200	14	0	214	427
08:30	0	0	0	0	0	15	142	0	0	157	4	0	15	0	19	0	177	12	0	189	365
08:45	0	0	0	0	0	15	150	0	1	166	1	0	16	0	17	0	209	20	0	229	412
Total	0	0	0	0	0	55	708	0	1	764	13	0	69	0	82	0	792	55	0	847	1693
Grand Total	0	0	0	0	0	84	1213	0	3	1300	19	0	136	0	155	0	1594	96	0	1690	3145
Apprch %	0	0	0	0		6.5	93.3	0	0.2		12.3	0	87.7	0		0	94.3	5.7	0		
Total %	0	0	0	0	0	2.7	38.6	0	0.1	41.3	0.6	0	4.3	0	4.9	0	50.7	3.1	0	53.7	
Vehicles	0	0	0	0	0	83	1191										1567				
% Vehicles	0	0	0	0	0	98.8	98.2	0	33.3	98.1	94.7	0	96.3	0	96.1	0	98.3	96.9	0	98.2	98.1
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	1.2	1.8	0	66.7	1.9	5.3	0	3.7	0	3.9	0	1.7	3.1	0	1.8	1.9

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	6	161	0	0	167	1	0	10	0	11	0	**212**	10	0	**222**	400
07:45	0	0	0	0	0	9	166	0	0	175	3	0	**22**	0	**25**	0	203	**14**	0	217	417
08:00	0	0	0	0	0	**14**	**238**	0	0	**252**	**5**	0	17	0	22	0	206	9	0	215	**489**
08:15	0	0	0	0	0	11	178	0	0	189	3	0	21	0	24	0	200	14	0	214	427
Total Volume	0	0	0	0	0	40	743	0	0	783	12	0	70	0	82	0	821	47	0	868	1733
% App. Total	0	0	0	0		5.1	94.9	0	0		14.6	0	85.4	0		0	94.6	5.4	0		
PHF	.000	.000	.000	.000	.000	.714	.780	.000	.000	.777	.600	.000	.795	.000	.820	.000	.968	.839	.000	.977	.886
Vehicles	0	0	0	0	0	39	732	0	0	771	11	0	67	0	78	0	804	45	0	849	1698
% Vehicles						97.5	98.5	0	0	98.5	91.7	0	95.7	0	95.1	0	97.9	95.7	0	97.8	98.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	2.5	1.5	0	0	1.5	8.3	0	4.3	0	4.9	0	2.1	4.3	0	2.2	2.0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - AM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 2

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00					07:30					07:45					07:15					
+0 mins.	0	0	0	0	0	6	161	0	0	167	3	0	**22**	0	**25**	0	**213**	6	0	219	
+15 mins.	0	0	0	0	0	9	166	0	0	175	**5**	0	17	0	22	0	212	10	0	**222**	
+30 mins.	0	0	0	0	0	**14**	**238**	0	0	**252**	3	0	21	0	24	0	203	**14**	0	217	
+45 mins.	0	0	0	0	0	11	178	0	0	189	4	0	15	0	19	0	206	9	0	215	
Total Volume	0	0	0	0	0	40	743	0	0	783	15	0	75	0	90	0	834	39	0	873	
% App. Total	0	0	0	0		5.1	94.9	0	0		16.7	0	83.3	0		0	95.5	4.5	0		
PHF	.000	.000	.000	.000	.000	.714	.780	.000	.000	.777	.750	.000	.852	.000	.900	.000	.979	.696	.000	.983	
Vehicles	0	0	0	0	0	39	732	0	0	771	14	0	72	0	86	0	816	38	0	854	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	1	11	0	0	12	1	0	3	0	4	0	18	1	0	19	
% Heavy Vehicles	0	0	0	0	0	2.5	1.5	0	0	1.5	6.7	0	4	0	4.4	0	2.2	2.6	0	2.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - AM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	5	73	0	0	78	0	0	15	0	15	0	173	10	0	183	276
07:15	0	0	0	0	0	9	98	0	0	107	2	0	18	0	20	0	210	6	0	216	343
07:30	0	0	0	0	0	6	159	0	0	165	1	0	10	0	11	0	212	10	0	222	398
07:45	0	0	0	0	0	9	165	0	0	174	2	0	21	0	23	0	196	14	0	210	407
Total	0	0	0	0	0	29	495	0	0	524	5	0	64	0	69	0	791	40	0	831	1424
08:00	0	0	0	0	0	13	232	0	0	245	5	0	16	0	21	0	198	8	0	206	472
08:15	0	0	0	0	0	11	176	0	0	187	3	0	20	0	23	0	198	13	0	211	421
08:30	0	0	0	0	0	15	140	0	0	155	4	0	15	0	19	0	177	12	0	189	363
08:45	0	0	0	0	0	15	148	0	1	164	1	0	16	0	17	0	203	20	0	223	404
Total	0	0	0	0	0	54	696	0	1	751	13	0	67	0	80	0	776	53	0	829	1660
Grand Total	0	0	0	0	0	83	1191	0	1	1275	18	0	131	0	149	0	1567	93	0	1660	3084
Apprch %	0	0	0	0		6.5	93.4	0	0.1		12.1	0	87.9	0		0	94.4	5.6	0		
Total %	0	0	0	0	0	2.7	38.6	0	0	41.3	0.6	0	4.2	0	4.8	0	50.8	3	0	53.8	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	6	159	0	0	165	1	0	10	0	11	0	**212**	10	0	**222**	398
07:45	0	0	0	0	0	9	165	0	0	174	2	0	**21**	0	**23**	0	196	**14**	0	210	407
08:00	0	0	0	0	0	**13**	**232**	0	0	**245**	**5**	0	16	0	21	0	198	8	0	206	**472**
08:15	0	0	0	0	0	11	176	0	0	187	3	0	20	0	23	0	198	13	0	211	421
Total Volume	0	0	0	0	0	39	732	0	0	771	11	0	67	0	78	0	804	45	0	849	1698
% App. Total	0	0	0	0		5.1	94.9	0	0		14.1	0	85.9	0		0	94.7	5.3	0		
PHF	.000	.000	.000	.000	.000	.750	.789	.000	.000	.787	.550	.000	.798	.000	.848	.000	.948	.804	.000	.956	.899

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:30					07:45					07:15				
+0 mins.	0	0	0	0	0	6	159	0	0	165	2	0	**21**		**23**					
+15 mins.	0	0	0	0	0	9	165	0	0	174	**5**	0	16	0	21	0	**212**	10	0	**222**
+30 mins.	0	0	0	0	0	**13**	**232**	0	0	**245**	3	0	20	0	23	0	196	**14**	0	210
+45 mins.	0	0	0	0	0	11	176	0	0	187	4	0	15	0	19	0	198	8	0	206
Total Volume	0	0	0	0	0	39	732	0	0	771	14	0	72	0	86	0	816	38	0	854
% App. Total	0	0	0	0		5.1	94.9	0	0		16.3	0	83.7	0		0	95.6	4.4	0	
PHF	.000	.000	.000	.000	.000	.750	.789	.000	.000	.787	.700	.000	.857	.000	.935	.000	.962	.679	.000	.962

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - AM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	2	3	0	0	0	0	0	0	1	1	0	2	5
07:15	0	0	0	0	0	0	6	0	0	6	0	0	2	0	2	0	3	0	0	3	11
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	7	0	0	7	10
Total	0	0	0	0	0	0	10	0	2	12	1	0	3	0	4	0	11	1	0	12	28
08:00	0	0	0	0	0	1	6	0	0	7	0	0	1	0	1	0	8	1	0	9	17
08:15	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	6
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
Total	0	0	0	0	0	1	12	0	0	13	0	0	2	0	2	0	16	2	0	18	33
Grand Total	0	0	0	0	0	1	22	0	2	25	1	0	5	0	6	0	27	3	0	30	61
Apprch %	0	0	0	0		4	88	0	8		16.7	0	83.3	0		0	90	10	0		
Total %	0	0	0	0	0	1.6	36.1	0	3.3	41	1.6	0	8.2	0	9.8	0	44.3	4.9	0	49.2	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**6**	0	0	6	0	0	**2**	0	**2**	0	3	0	0	3	11
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	1	0	0	1	**1**	0	1	0	2	0	7	0	0	7	10
08:00	0	0	0	0	0	**1**	6	0	0	**7**	0	0	1	0	1	0	**8**	**1**	0	**9**	**17**
Total Volume	0	0	0	0	0	1	15	0	0	16	1	0	4	0	5	0	18	1	0	19	40
% App. Total	0	0	0	0		6.2	93.8	0	0		20	0	80	0		0	94.7	5.3	0		
PHF	.000	.000	.000	.000	.000	.250	.625	.000	.000	.571	.250	.000	.500	.000	.625	.000	.563	.250	.000	.528	.588

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:15**					**07:15**					**07:15**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**6**						**2**		**2**					
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	1	**1**	0	1	0	2	0	7	0	0	7
+45 mins.	0	0	0	0	0	**1**	6	0	0	**7**	0	0	1	0	1	0	**8**	**1**	0	**9**
Total Volume	0	0	0	0	0	1	15	0	0	16	1	0	4	0	5	0	18	1	0	19
% App. Total	0	0	0	0		6.2	93.8	0	0		20	0	80	0		0	94.7	5.3	0	
PHF	.000	.000	.000	.000	.000	.250	.625	.000	.000	.571	.250	.000	.500	.000	.625	.000	.563	.250	.000	.528

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - AM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	80	0	0	80	0	20	0	0	20	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	**1**	0	0	**1**	**2**
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.250	.000	.000	.250	.375

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	**1**			**1**		**1**			**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0	
PHF	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.50 0	.00 0	.00 0	.500	.00 0	.25 0	.00 0	.00 0	.250

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - PM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	17	217	0	2	236	13	0	38	0	51	0	151	9	0	160	447
16:15	0	0	0	0	0	18	234	0	0	252	7	0	35	0	42	0	163	14	0	177	471
16:30	0	0	0	0	0	24	211	0	0	235	7	0	38	0	45	0	179	13	0	192	472
16:45	0	0	0	0	0	21	257	0	0	278	10	0	47	0	57	0	174	16	0	190	525
Total	0	0	0	0	0	80	919	0	2	1001	37	0	158	0	195	0	667	52	0	719	1915
17:00	0	0	0	0	0	18	232	0	0	250	12	0	57	0	69	0	187	20	0	207	526
17:15	0	0	0	0	0	19	216	0	0	235	4	0	54	0	58	0	165	17	0	182	475
17:30	0	0	0	0	0	15	150	0	1	166	9	0	45	0	54	0	161	9	0	170	390
17:45	0	0	0	0	0	16	149	0	1	166	6	0	46	0	52	0	162	29	0	191	409
Total	0	0	0	0	0	68	747	0	2	817	31	0	202	0	233	0	675	75	0	750	1800
Grand Total	0	0	0	0	0	148	1666	0	4	1818	68	0	360	0	428	0	1342	127	0	1469	3715
Apprch %	0	0	0	0		8.1	91.6	0	0.2		15.9	0	84.1	0		0	91.4	8.6	0		
Total %	0	0	0	0	0	4	44.8	0	0.1	48.9	1.8	0	9.7	0	11.5	0	36.1	3.4	0	39.5	
Vehicles	0	0	0	0	0	142	1645										1326				
% Vehicles	0	0	0	0	0	95.9	98.7	0	100	98.5	100	0	98.9	0	99.1	0	98.8	100	0	98.9	98.7
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	4.1	1.3	0	0	1.5	0	0	1.1	0	0.9	0	1.2	0	0	1.1	1.3

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	**24**	211	0	0	235	7	0	38	0	45	0	179	13	0	192	472
16:45	0	0	0	0	0	21	**257**	0	0	**278**	10	0	47	0	57	0	174	16	0	190	525
17:00	0	0	0	0	0	18	232	0	0	250	**12**	0	**57**	0	**69**	0	**187**	**20**	0	**207**	**526**
17:15	0	0	0	0	0	19	216	0	0	235	4	0	54	0	58	0	165	17	0	182	475
Total Volume	0	0	0	0	0	82	916	0	0	998	33	0	196	0	229	0	705	66	0	771	1998
% App. Total	0	0	0	0		8.2	91.8	0	0		14.4	0	85.6	0		0	91.4	8.6	0		
PHF	.000	.000	.000	.000	.000	.854	.891	.000	.000	.897	.688	.000	.860	.000	.830	.000	.943	.825	.000	.931	.950
Vehicles	0	0	0	0	0	77	903	0	0	980	33	0	194	0	227	0	697	66	0	763	1970
% Vehicles						93.9	98.6	0	0	98.2	100	0	99.0	0	99.1	0	98.9	100	0	99.0	98.6
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	6.1	1.4	0	0	1.8	0	0	1.0	0	0.9	0	1.1	0	0	1.0	1.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - PM
Site Code : 1_____
Start Date : 11/16/2021

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:00					16:15					16:45					16:30					
+0 mins.	0	0	0	0	0	18	234	0	0	252	10	0	47	0	57	0	179	13	0	192	
+15 mins.	0	0	0	0	0	**24**	211	0	0	235	**12**	0	**57**	0	**69**	0	174	16	0	190	
+30 mins.	0	0	0	0	0	21	**257**	0	0	**278**	4	0	54	0	58	0	**187**	**20**	0	**207**	
+45 mins.	0	0	0	0	0	18	232	0	0	250	9	0	45	0	54	0	165	17	0	182	
Total Volume	0	0	0	0	0	81	934	0	0	1015	35	0	203	0	238	0	705	66	0	771	
% App. Total	0	0	0	0		8	92	0	0		14.7	0	85.3	0		0	91.4	8.6	0		
PHF	.000	.000	.000	.000	.000	.844	.909	.000	.000	.913	.729	.000	.890	.000	.862	.000	.943	.825	.000	.931	
Vehicles	0	0	0	0	0	76	921	0	0	997	35	0	202	0	237	0	697	66	0	763	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	5	13	0	0	18	0	0	1	0	1	0	8	0	0	8	
% Heavy Vehicles	0	0	0	0	0	6.2	1.4	0	0	1.8	0	0	0.5	0	0.4	0	1.1	0	0	1	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - PM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	16	213	0	2	231	13	0	36	0	49	0	147	9	0	156	436
16:15	0	0	0	0	0	18	232	0	0	250	7	0	35	0	42	0	161	14	0	175	467
16:30	0	0	0	0	0	24	209	0	0	233	7	0	37	0	44	0	178	13	0	191	468
16:45	0	0	0	0	0	19	253	0	0	272	10	0	47	0	57	0	170	16	0	186	515
Total	0	0	0	0	0	77	907	0	2	986	37	0	155	0	192	0	656	52	0	708	1886
17:00	0	0	0	0	0	15	227	0	0	242	12	0	57	0	69	0	184	20	0	204	515
17:15	0	0	0	0	0	19	214	0	0	233	4	0	53	0	57	0	165	17	0	182	472
17:30	0	0	0	0	0	15	149	0	1	165	9	0	45	0	54	0	160	9	0	169	388
17:45	0	0	0	0	0	16	148	0	1	165	6	0	46	0	52	0	161	29	0	190	407
Total	0	0	0	0	0	65	738	0	2	805	31	0	201	0	232	0	670	75	0	745	1782
Grand Total	0	0	0	0	0	142	1645	0	4	1791	68	0	356	0	424	0	1326	127	0	1453	3668
Apprch %	0	0	0	0		7.9	91.8	0	0.2		16	0	84	0		0	91.3	8.7	0		
Total %	0	0	0	0	0	3.9	44.8	0	0.1	48.8	1.9	0	9.7	0	11.6	0	36.2	3.5	0	39.6	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	**24**	209	0	0	233	7	0	37	0	44	0	178	13	0	191	468
16:45	0	0	0	0	0	19	**253**	0	0	**272**	10	0	47	0	57	0	170	16	0	186	**515**
17:00	0	0	0	0	0	15	227	0	0	242	**12**	0	**57**	0	**69**	0	**184**	**20**	0	**204**	515
17:15	0	0	0	0	0	19	214	0	0	233	4	0	53	0	57	0	165	17	0	182	472
Total Volume	0	0	0	0	0	77	903	0	0	980	33	0	194	0	227	0	697	66	0	763	1970
% App. Total	0	0	0	0		7.9	92.1	0	0		14.5	0	85.5	0		0	91.3	8.7	0		
PHF	.000	.000	.000	.000	.000	.802	.892	.000	.000	.901	.688	.000	.851	.000	.822	.000	.947	.825	.000	.935	.956

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:15					16:45					16:30				
+0 mins.	0	0	0	0	0	18	232	0	0	250	10	0	47	0	57	0	178	13	0	191
+15 mins.	0	0	0	0	0	**24**					**12**		**57**		**69**					
+30 mins.	0	0	0	0	0	19	**253**	0	0	**272**	4	0	53	0	57	0	**184**	**20**	0	**204**
+45 mins.	0	0	0	0	0	15	227	0	0	242	9	0	45	0	54	0	165	17	0	182
Total Volume	0	0	0	0	0	76	921	0	0	997	35	0	202	0	237	0	697	66	0	763
% App. Total	0	0	0	0		7.6	92.4	0	0		14.8	0	85.2	0		0	91.3	8.7	0	
PHF	.000	.000	.000	.000	.000	.792	.910	.000	.000	.916	.729	.000	.886	.000	.859	.000	.947	.825	.000	.935

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - PM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	1	4	0	0	5	0	0	2	0	2	0	4	0	0	4	11
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	1	0	0	1	4
16:45	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	0	0	0	3	12	0	0	15	0	0	3	0	3	0	11	0	0	11	29
17:00	0	0	0	0	0	3	5	0	0	8	0	0	0	0	0	0	3	0	0	3	11
17:15	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	3
17:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
17:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	3	9	0	0	12	0	0	1	0	1	0	5	0	0	5	18
Grand Total	0	0	0	0	0	6	21	0	0	27	0	0	4	0	4	0	16	0	0	16	47
Apprch %	0	0	0	0		22.2	77.8	0	0		0	0	100	0		0	100	0	0		
Total %	0	0	0	0	0	12.8	44.7	0	0	57.4	0	0	8.5	0	8.5	0	34	0	0	34	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	1	**4**	0	0	5	0	0	**2**	0	**2**	0	**4**	0	0	**4**	**11**
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	1	0	0	1	4
16:45	0	0	0	0	0	**2**	4	0	0	**6**	0	0	0	0	0	0	4	0	0	4	10
Total Volume	0	0	0	0	0	3	12	0	0	15	0	0	3	0	3	0	11	0	0	11	29
% App. Total	0	0	0	0		20	80	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.375	.750	.000	.000	.625	.000	.000	.375	.000	.375	.000	.688	.000	.000	.688	.659

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**2**		**2**		**4**			**4**
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	0	0	0	2	4	0	0	6	0	0	1	0	1	0	1	0	0	1
+45 mins.	0	0	0	0	0	**3**	**5**	0	0	**8**	0	0	0	0	0	0	4	0	0	4
Total Volume	0	0	0	0	0	5	13	0	0	18	0	0	3	0	3	0	11	0	0	11
% App. Total	0	0	0	0		27.8	72.2	0	0		0	0	100	0		0	100	0	0	
PHF	.00 0	.00 0	.00 0	.00 0	.000	.41 7	.65 0	.00 0	.00 0	.563	.00 0	.00 0	.37 5	.00 0	.375	.00 0	.68 8	.00 0	.00 0	.688

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 1 - Bee Cave Pkwy & Market St - PM
Site Code : 1_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Market St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	**1**
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	**1**			**1**					
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.25	.00	.00	.250	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	2	0	0	5	0	0	2	0	2	0	9	0	0	9	16
07:15	0	0	0	0	0	3	5	0	0	8	1	0	3	0	4	0	15	0	0	15	27
07:30	0	0	0	0	0	4	12	0	0	16	0	0	7	0	7	0	13	0	0	13	36
07:45	0	0	0	0	0	5	12	0	0	17	0	0	9	0	9	0	17	0	0	17	43
Total	0	0	0	0	0	15	31	0	0	46	1	0	21	0	22	0	54	0	0	54	122
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	26	0	0	26	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	16	0	0	16	54
08:45	0	0	0	0	0	11	28	0	0	39	0	0	11	0	11	0	12	0	0	12	62
Total	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
Grand Total	0	0	0	0	0	48	89	0	0	137	1	0	78	0	79	0	131	0	0	131	347
Apprch %	0	0	0	0		35	65	0	0		1.3	0	98.7	0		0	100	0	0		
Total %	0	0	0	0	0	13.8	25.6	0	0	39.5	0.3	0	22.5	0	22.8	0	37.8	0	0	37.8	
Vehicles	0	0	0	0	0	48	89	0	0	137	1	0	77	0	78	0	130	0	0	130	345
% Vehicles	0	0	0	0	0	100	100	0	0	100	100	0	98.7	0	98.7	0	99.2	0	0	99.2	99.4
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	1.3	0	0.8	0	0	0.8	0.6

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	**26**	0	0	**26**	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	16	0	0	16	54
08:45	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	12	0	0	12	**62**
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.740	.000	.000	.740	.907
Vehicles	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					08:00					08:00					07:45					
+0 mins.	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	17	0	0	17	
+15 mins.	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	**26**	0	0	**26**	
+30 mins.	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	23	0	0	23	
+45 mins.	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	16	0	0	16	
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	82	0	0	82	
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.788	.000	.000	.788	
Vehicles	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	81	0	0	81	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	2	0	0	5	0	0	2	0	2	0	9	0	0	9	16
07:15	0	0	0	0	0	3	5	0	0	8	1	0	3	0	4	0	15	0	0	15	27
07:30	0	0	0	0	0	4	12	0	0	16	0	0	7	0	7	0	13	0	0	13	36
07:45	0	0	0	0	0	5	12	0	0	17	0	0	8	0	8	0	16	0	0	16	41
Total	0	0	0	0	0	15	31	0	0	46	1	0	20	0	21	0	53	0	0	53	120
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	26	0	0	26	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	16	0	0	16	54
08:45	0	0	0	0	0	11	28	0	0	39	0	0	11	0	11	0	12	0	0	12	62
Total	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
Grand Total	0	0	0	0	0	48	89	0	0	137	1	0	77	0	78	0	130	0	0	130	345
Apprch %	0	0	0	0		35	65	0	0		1.3	0	98.7	0		0	100	0	0		
Total %	0	0	0	0	0	13.9	25.8	0	0	39.7	0.3	0	22.3	0	22.6	0	37.7	0	0	37.7	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	**26**	0	0	**26**	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	16	0	0	16	54
08:45	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	12	0	0	12	**62**
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.740	.000	.000	.740	.907

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**08:00**					**08:00**					**07:45**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**8**	**10**	**0**	**0**	**18**	**0**	**0**	**15**	**0**	**15**	**0**	**16**	**0**	**0**	**16**
+15 mins.	**0**	**0**	**0**	**0**	**0**	**6**	**8**	**0**	**0**	**14**	**0**	**0**	**13**	**0**	**13**	**0**	26	0	0	26
+30 mins.	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	23	0	0	23
+45 mins.	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	16	0	0	16
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	81	0	0	81
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.779	.000	.000	.779

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
Apprch %	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	50	0	0	50	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	**1**	0	0	**1**	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250	.250

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:00**					**07:00**					**07:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+15 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+30 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+45 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	**1**	0	**1**	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound				
	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	2			2					
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	15	21	0	0	36	0	0	17	0	17	0	15	0	0	15	68
16:15	0	0	0	0	0	14	23	0	0	37	0	0	14	0	14	0	19	0	0	19	70
16:30	0	0	0	0	0	13	24	0	0	37	1	0	19	0	20	0	24	0	0	24	81
16:45	0	0	0	0	0	18	30	0	0	48	0	0	17	0	17	0	23	0	0	23	88
Total	0	0	0	0	0	60	98	0	0	158	1	0	67	0	68	0	81	0	0	81	307
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	2	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
17:30	0	0	0	0	0	12	25	0	0	37	0	0	16	0	16	0	21	0	0	21	74
17:45	0	0	0	0	0	10	21	0	1	32	1	0	24	0	25	0	16	0	0	16	73
Total	0	0	0	0	0	46	105	0	1	152	2	0	69	0	71	0	73	2	0	75	298
Grand Total	0	0	0	0	0	106	203	0	1	310	3	0	136	0	139	0	154	2	0	156	605
Apprch %	0	0	0	0		34.2	65.5	0	0.3		2.2	0	97.8	0		0	98.7	1.3	0		
Total %	0	0	0	0	0	17.5	33.6	0	0.2	51.2	0.5	0	22.5	0	23	0	25.5	0.3	0	25.8	
Vehicles	0	0	0	0	0	105	201	0	1	307	3	0	135	0	138	0	153	2	0	155	600
% Vehicles	0	0	0	0	0	99.1	99	0	100	99	100	0	99.3	0	99.3	0	99.4	100	0	99.4	99.2
Heavy Vehicles	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
% Heavy Vehicles	0	0	0	0	0	0.9	1	0	0	1	0	0	0.7	0	0.7	0	0.6	0	0	0.6	0.8

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	13	24	0	0	37	**1**	0	**19**	0	**20**	0	**24**	0	0	**24**	81
16:45	0	0	0	0	0	**18**	**30**	0	0	**48**	0	0	17	0	17	0	23	0	0	23	**88**
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	**2**	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
Total Volume	0	0	0	0	0	55	113	0	0	168	2	0	65	0	67	0	83	2	0	85	320
% App. Total	0	0	0	0		32.7	67.3	0	0		3	0	97	0		0	97.6	2.4	0		
PHF	.000	.000	.000	.000	.000	.764	.942	.000	.000	.875	.500	.000	.855	.000	.838	.000	.865	.250	.000	.885	.909
Vehicles	0	0	0	0	0	55	112	0	0	167	2	0	65	0	67	0	82	2	0	84	318
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.6	0	0	0	0	0	0	1.2	0	0	1.2	0.6

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					17:00					16:15				
+0 mins.	0	0	0	0	0	13	24	0	0	37	0	0	12	0	12	0	19	0	0	19
+15 mins.	0	0	0	0	0	**18**	**30**	0	0	**48**	**1**	0	17	0	18	0	**24**	0	0	**24**
+30 mins.	0	0	0	0	0	9	29	0	0	38	0	0	16	0	16	0	23	0	0	23
+45 mins.	0	0	0	0	0	15	30	0	0	45	1	0	**24**	0	**25**	0	19	**2**	0	21
Total Volume	0	0	0	0	0	55	113	0	0	168	2	0	69	0	71	0	85	2	0	87
% App. Total	0	0	0	0		32.7	67.3	0	0		2.8	0	97.2	0		0	97.7	2.3	0	
PHF	.000	.000	.000	.000	.000	.764	.942	.000	.000	.875	.500	.000	.719	.000	.710	.000	.885	.250	.000	.906
Vehicles	0	0	0	0	0	55	112	0	0	167	2	0	69	0	71	0	84	2	0	86
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.6	0	0	0	0	0	0	1.2	0	0	1.1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	15	20	0	0	35	0	0	16	0	16	0	15	0	0	15	66
16:15	0	0	0	0	0	13	23	0	0	36	0	0	14	0	14	0	19	0	0	19	69
16:30	0	0	0	0	0	13	24	0	0	37	1	0	19	0	20	0	23	0	0	23	80
16:45	0	0	0	0	0	18	29	0	0	47	0	0	17	0	17	0	23	0	0	23	87
Total	0	0	0	0	0	59	96	0	0	155	1	0	66	0	67	0	80	0	0	80	302
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	2	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
17:30	0	0	0	0	0	12	25	0	0	37	0	0	16	0	16	0	21	0	0	21	74
17:45	0	0	0	0	0	10	21	0	1	32	1	0	24	0	25	0	16	0	0	16	73
Total	0	0	0	0	0	46	105	0	1	152	2	0	69	0	71	0	73	2	0	75	298
Grand Total	0	0	0	0	0	105	201	0	1	307	3	0	135	0	138	0	153	2	0	155	600
Apprch %	0	0	0	0		34.2	65.5	0	0.3		2.2	0	97.8	0		0	98.7	1.3	0		
Total %	0	0	0	0	0	17.5	33.5	0	0.2	51.2	0.5	0	22.5	0	23	0	25.5	0.3	0	25.8	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	13	24	0	0	37	**1**	0	**19**	0	**20**	0	**23**	0	0	**23**	80
16:45	0	0	0	0	0	**18**	29	0	0	**47**	0	0	17	0	17	0	23	0	0	23	**87**
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	**2**	0	21	71
17:15	0	0	0	0	0	15	**30**	0	0	45	1	0	17	0	18	0	17	0	0	17	80
Total Volume	0	0	0	0	0	55	112	0	0	167	2	0	65	0	67	0	82	2	0	84	318
% App. Total	0	0	0	0		32.9	67.1	0	0		3	0	97	0		0	97.6	2.4	0		
PHF	.000	.000	.000	.000	.000	.764	.933	.000	.000	.888	.500	.000	.855	.000	.838	.000	.891	.250	.000	.913	.914

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:30**					**17:00**					**16:15**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**13**	**24**	**0**	**0**	**37**	**0**	**0**	**12**	**0**	**12**	**0**	**19**	**0**	**0**	**19**
+15 mins.	**0**	**0**	**0**	**0**	**0**	18	29	0	0	47	1	0	17	0	18	0	23	0	0	**23**
+30 mins.	0	0	0	0	0	9	29	0	0	38	0	0	16	0	16	0	23	0	0	23
+45 mins.	0	0	0	0	0	15	**30**	0	0	45	1	0	**24**	0	**25**	0	19	**2**	0	21
Total Volume	0	0	0	0	0	55	112	0	0	167	2	0	69	0	71	0	84	2	0	86
% App. Total	0	0	0	0		32.9	67.1	0	0		2.8	0	97.2	0		0	97.7	2.3	0	
PHF	.000	.000	.000	.000	.000	.764	.933	.000	.000	.888	.500	.000	.719	.000	.710	.000	.913	.250	.000	.935

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	2
16:15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
16:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
Apprch %	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0		
Total %	0	0	0	0	0	20	40	0	0	60	0	0	20	0	20	0	20	0	0	20	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	**1**	0	0	**1**	0	0	**1**	0	**1**	0	0	0	0	0	**2**
16:15	0	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
16:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
% App. Total	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.000	.000	.750	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250	.625

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:00**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	0	**1**	0	0	**1**	0	**1**	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+45 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1
% App. Total	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.250	.500	.000	.000	.750	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
17:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	11
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	0	0	0	0	**3**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.000	.000	.000	.000	.000	.667

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound				
	16:00					**16:00**					**16:45**					**16:00**				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	3			3					
Total Volume	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - AM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	71	0	0	71	1	0	2	0	3	0	180	5	0	185	259
07:15	0	0	0	0	0	0	105	0	0	105	3	0	3	0	6	0	237	10	0	247	358
07:30	0	0	0	0	0	0	149	0	0	149	6	0	5	0	11	0	221	11	0	232	392
07:45	0	0	0	0	0	4	170	0	0	174	7	0	2	0	9	0	210	14	0	224	407
Total	0	0	0	0	0	4	495	0	0	499	17	0	12	0	29	0	848	40	0	888	1416
08:00	0	0	0	0	0	3	239	0	0	242	8	0	3	0	11	0	235	13	0	248	501
08:15	0	0	0	0	0	3	173	0	0	176	6	0	1	0	7	0	214	13	0	227	410
08:30	0	0	0	0	0	2	142	0	0	144	3	0	1	0	4	0	223	21	0	244	392
08:45	0	0	0	0	0	10	151	0	0	161	8	0	2	0	10	0	211	19	0	230	401
Total	0	0	0	0	0	18	705	0	0	723	25	0	7	0	32	0	883	66	0	949	1704
Grand Total	0	0	0	0	0	22	1200	0	0	1222	42	0	19	0	61	0	1731	106	0	1837	3120
Apprch %	0	0	0	0		1.8	98.2	0	0		68.9	0	31.1	0		0	94.2	5.8	0		
Total %	0	0	0	0	0	0.7	38.5	0	0	39.2	1.3	0	0.6	0	2	0	55.5	3.4	0	58.9	
Vehicles	0	0	0	0	0	21	1175										1702				
% Vehicles	0	0	0	0	0	95.5	97.9	0	0	97.9	97.6	0	89.5	0	95.1	0	98.3	96.2	0	98.2	98
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	4.5	2.1	0	0	2.1	2.4	0	10.5	0	4.9	0	1.7	3.8	0	1.8	2

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	0	149	0	0	149	6	0	**5**	0	**11**	0	221	11	0	232	392
07:45	0	0	0	0	0	**4**	170	0	0	174	7	0	2	0	9	0	210	**14**	0	224	407
08:00	0	0	0	0	0	3	**239**	0	0	**242**	**8**	0	3	0	11	0	**235**	13	0	**248**	**501**
08:15	0	0	0	0	0	3	173	0	0	176	6	0	1	0	7	0	214	13	0	227	410
Total Volume	0	0	0	0	0	10	731	0	0	741	27	0	11	0	38	0	880	51	0	931	1710
% App. Total	0	0	0	0		1.3	98.7	0	0		71.1	0	28.9	0		0	94.5	5.5	0		
PHF	.000	.000	.000	.000	.000	.625	.765	.000	.000	.765	.844	.000	.550	.000	.864	.000	.936	.911	.000	.939	.853
Vehicles	0	0	0	0	0	9	718	0	0	727	27	0	10	0	37	0	861	48	0	909	1673
% Vehicles						90.0	98.2	0	0	98.1	100	0	90.9	0	97.4	0	97.8	94.1	0	97.6	97.8
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	10.0	1.8	0	0	1.9	0	0	9.1	0	2.6	0	2.2	5.9	0	2.4	2.2

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - AM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 2

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00					07:30					07:30					07:15					
+0 mins.	0	0	0	0	0	0	149	0	0	149	6	0	**5**	0	**11**	0	**237**	10	0	247	
+15 mins.	0	0	0	0	0	**4**	170	0	0	174	7	0	2	0	9	0	221	11	0	232	
+30 mins.	0	0	0	0	0	3	**239**	0	0	**242**	**8**	0	3	0	11	0	210	**14**	0	224	
+45 mins.	0	0	0	0	0	3	173	0	0	176	6	0	1	0	7	0	235	13	0	**248**	
Total Volume	0	0	0	0	0	10	731	0	0	741	27	0	11	0	38	0	903	48	0	951	
% App. Total	0	0	0	0		1.3	98.7	0	0		71.1	0	28.9	0		0	95	5	0		
PHF	.000	.000	.000	.000	.000	.625	.765	.000	.000	.765	.844	.000	.550	.000	.864	.000	.953	.857	.000	.959	
Vehicles	0	0	0	0	0	9	718	0	0	727	27	0	10	0	37	0	884	46	0	930	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	1	13	0	0	14	0	0	1	0	1	0	19	2	0	21	
% Heavy Vehicles	0	0	0	0	0	10	1.8	0	0	1.9	0	0	9.1	0	2.6	0	2.1	4.2	0	2.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - AM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	70	0	0	70	0	0	1	0	1	0	179	5	0	184	255
07:15	0	0	0	0	0	0	98	0	0	98	3	0	3	0	6	0	234	10	0	244	348
07:30	0	0	0	0	0	0	148	0	0	148	6	0	5	0	11	0	221	10	0	231	390
07:45	0	0	0	0	0	3	167	0	0	170	7	0	1	0	8	0	204	13	0	217	395
Total	0	0	0	0	0	3	483	0	0	486	16	0	10	0	26	0	838	38	0	876	1388
08:00	0	0	0	0	0	3	234	0	0	237	8	0	3	0	11	0	225	13	0	238	486
08:15	0	0	0	0	0	3	169	0	0	172	6	0	1	0	7	0	211	12	0	223	402
08:30	0	0	0	0	0	2	140	0	0	142	3	0	1	0	4	0	223	20	0	243	389
08:45	0	0	0	0	0	10	149	0	0	159	8	0	2	0	10	0	205	19	0	224	393
Total	0	0	0	0	0	18	692	0	0	710	25	0	7	0	32	0	864	64	0	928	1670
Grand Total	0	0	0	0	0	21	1175	0	0	1196	41	0	17	0	58	0	1702	102	0	1804	3058
Apprch %	0	0	0	0		1.8	98.2	0	0		70.7	0	29.3	0		0	94.3	5.7	0		
Total %	0	0	0	0	0	0.7	38.4	0	0	39.1	1.3	0	0.6	0	1.9	0	55.7	3.3	0	59	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	0	148	0	0	148	6	0	**5**	0	**11**	0	221	10	0	231	390
07:45	0	0	0	0	0	**3**	167	0	0	170	7	0	1	0	8	0	204	**13**	0	217	395
08:00	0	0	0	0	0	3	**234**	0	0	**237**	**8**	0	3	0	11	0	**225**	13	0	**238**	**486**
08:15	0	0	0	0	0	3	169	0	0	172	6	0	1	0	7	0	211	12	0	223	402
Total Volume	0	0	0	0	0	9	718	0	0	727	27	0	10	0	37	0	861	48	0	909	1673
% App. Total	0	0	0	0		1.2	98.8	0	0		73	0	27	0		0	94.7	5.3	0		
PHF	.000	.000	.000	.000	.000	.750	.767	.000	.000	.767	.844	.000	.500	.000	.841	.000	.957	.923	.000	.955	.861

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:30					07:30					07:15					
+0 mins.	0	0	0	0	0	0	148	0	0	148	6	0	**5**		**11**		**234**			**244**
+15 mins.	0	0	0	0	0	**3**	167	0	0	170	7	0	1	0	8	0	221	10	0	231
+30 mins.	0	0	0	0	0	3	**234**	0	0	**237**	**8**	0	3	0	11	0	204	**13**	0	217
+45 mins.	0	0	0	0	0	3	169	0	0	172	6	0	1	0	7	0	225	13	0	238
Total Volume	0	0	0	0	0	9	718	0	0	727	27	0	10	0	37	0	884	46	0	930
% App. Total	0	0	0	0		1.2	98.8	0	0		73	0	27	0		0	95.1	4.9	0	
PHF	.00 0	.00 0	.00 0	.00 0	.000	.75 0	.76 7	.00 0	.00 0	.767	.84 4	.00 0	.50 0	.00 0	.841	.00 0	.94 4	.88 5	.00 0	.953

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - AM
Site Code : 2_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	1	0	0	1	4
07:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	3	0	0	3	10
07:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
07:45	0	0	0	0	0	1	3	0	0	4	0	0	1	0	1	0	6	1	0	7	12
Total	0	0	0	0	0	1	12	0	0	13	1	0	2	0	3	0	10	2	0	12	28
08:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	15
08:15	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	8
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
08:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	19	2	0	21	34
Grand Total	0	0	0	0	0	1	25	0	0	26	1	0	2	0	3	0	29	4	0	33	62
Apprch %	0	0	0	0		3.8	96.2	0	0		33.3	0	66.7	0		0	87.9	12.1	0		
Total %	0	0	0	0	0	1.6	40.3	0	0	41.9	1.6	0	3.2	0	4.8	0	46.8	6.5	0	53.2	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**7**	0	0	**7**	0	0	0	0	0	0	3	0	0	3	10
07:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	**1**	0	1	2
07:45	0	0	0	0	0	**1**	3	0	0	4	0	0	**1**	0	**1**	0	6	1	0	7	12
08:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	**10**	0	0	**10**	**15**
Total Volume	0	0	0	0	0	1	16	0	0	17	0	0	1	0	1	0	19	2	0	21	39
% App. Total	0	0	0	0		5.9	94.1	0	0		0	0	100	0		0	90.5	9.5	0		
PHF	.000	.000	.000	.000	.000	.250	.571	.000	.000	.607	.000	.000	.250	.000	.250	.000	.475	.500	.000	.525	.650

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:15**					**07:00**					**07:30**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**7**			**7**	**1**		**1**		**2**			**1**		
+15 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	1	0	7
+30 mins.	0	0	0	0	0	**1**	3	0	0	4	0	0	0	0	0	0	**10**	0	0	**10**
+45 mins.	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	0	3	1	0	4
Total Volume	0	0	0	0	0	1	16	0	0	17	1	0	2	0	3	0	19	3	0	22
% App. Total	0	0	0	0		5.9	94.1	0	0		33.3	0	66.7	0		0	86.4	13.6	0	
PHF	.000	.000	.000	.000	.000	.250	.571	.000	.000	.607	.250	.000	.500	.000	.375	.000	.475	.750	.000	.550

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - AM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
08:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	**2**
07:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.625

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	**2**			**2**					
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.62	.00	.00	.625	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	5	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - PM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	3	232	0	0	235	19	0	7	0	26	0	149	25	0	174	435
16:15	0	0	0	0	0	4	249	0	0	253	18	0	6	1	25	0	170	30	0	200	478
16:30	0	0	0	0	0	8	229	0	0	237	15	0	12	0	27	0	183	34	0	217	481
16:45	0	0	0	0	0	5	274	0	0	279	24	0	6	0	30	0	207	34	0	241	550
Total	0	0	0	0	0	20	984	0	0	1004	76	0	31	1	108	0	709	123	0	832	1944
17:00	0	0	0	0	0	10	257	0	0	267	20	0	10	0	30	0	180	48	1	229	526
17:15	0	0	0	0	0	3	238	0	0	241	19	0	11	1	31	0	194	49	0	243	515
17:30	0	0	0	0	0	4	156	0	0	160	19	0	10	0	29	0	178	46	0	224	413
17:45	0	0	0	0	0	3	187	0	1	191	28	0	8	0	36	0	190	38	1	229	456
Total	0	0	0	0	0	20	838	0	1	859	86	0	39	1	126	0	742	181	2	925	1910
Grand Total	0	0	0	0	0	40	1822	0	1	1863	162	0	70	2	234	0	1451	304	2	1757	3854
Apprch %	0	0	0	0		2.1	97.8	0	0.1		69.2	0	29.9	0.9		0	82.6	17.3	0.1		
Total %	0	0	0	0	0	1	47.3	0	0	48.3	4.2	0	1.8	0.1	6.1	0	37.6	7.9	0.1	45.6	
Vehicles	0	0	0	0	0	40	1798										1435				
% Vehicles	0	0	0	0	0	100	98.7	0	100	98.7	100	0	98.6	100	99.6	0	98.9	99.3	100	99	98.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	1.4	0	0.4	0	1.1	0.7	0	1	1.1

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	8	229	0	0	237	15	0	**12**	0	27	0	183	34	0	217	481
16:45	0	0	0	0	0	5	**274**	0	0	**279**	**24**	0	6	0	30	0	**207**	34	0	241	**550**
17:00	0	0	0	0	0	**10**	257	0	0	267	20	0	10	0	30	0	180	48	**1**	229	526
17:15	0	0	0	0	0	3	238	0	0	241	19	0	11	**1**	**31**	0	194	**49**	0	**243**	515
Total Volume	0	0	0	0	0	26	998	0	0	1024	78	0	39	1	118	0	764	165	1	930	2072
% App. Total	0	0	0	0		2.5	97.5	0	0		66.1	0	33.1	0.8		0	82.2	17.7	0.1		
PHF	.000	.000	.000	.000	.000	.650	.911	.000	.000	.918	.813	.000	.813	.250	.952	.000	.923	.842	.250	.957	.942
Vehicles	0	0	0	0	0	26	985	0	0	1011	78	0	38	1	117	0	756	164	1	921	2049
% Vehicles							98.7	0	0	98.7	100	0	97.4	100	99.2	0	99.0	99.4	100	99.0	98.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	2.6	0	0.8	0	1.0	0.6	0	1.0	1.1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - PM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 2

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:00					16:15					17:00					16:45					
+0 mins.	0	0	0	0	0	4	249	0	0	253	20	0	10	0	30	0	**207**	34	0	241	
+15 mins.	0	0	0	0	0	8	229	0	0	237	19	0	**11**	**1**	31	0	180	48	**1**	229	
+30 mins.	0	0	0	0	0	5	**274**	0	0	**279**	19	0	10	0	29	0	194	**49**	0	**243**	
+45 mins.	0	0	0	0	0	**10**	257	0	0	267	**28**	0	8	0	**36**	0	178	46	0	224	
Total Volume	0	0	0	0	0	27	1009	0	0	1036	86	0	39	1	126	0	759	177	1	937	
% App. Total	0	0	0	0		2.6	97.4	0	0		68.3	0	31	0.8		0	81	18.9	0.1		
PHF	.000	.000	.000	.000	.000	.675	.921	.000	.000	.928	.768	.000	.886	.250	.875	.000	.917	.903	.250	.964	
Vehicles	0	0	0	0	0	27	993	0	0	1020	86	0	39	1	126	0	751	177	1	929	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	8	0	0	8	
% Heavy Vehicles	0	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0	1.1	0	0	0.9	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - PM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	3	229	0	0	232	19	0	7	0	26	0	144	24	0	168	426
16:15	0	0	0	0	0	4	244	0	0	248	18	0	6	1	25	0	169	30	0	199	472
16:30	0	0	0	0	0	8	227	0	0	235	15	0	12	0	27	0	182	33	0	215	477
16:45	0	0	0	0	0	5	270	0	0	275	24	0	5	0	29	0	203	34	0	237	541
Total	0	0	0	0	0	20	970	0	0	990	76	0	30	1	107	0	698	121	0	819	1916
17:00	0	0	0	0	0	10	252	0	0	262	20	0	10	0	30	0	177	48	1	226	518
17:15	0	0	0	0	0	3	236	0	0	239	19	0	11	1	31	0	194	49	0	243	513
17:30	0	0	0	0	0	4	155	0	0	159	19	0	10	0	29	0	177	46	0	223	411
17:45	0	0	0	0	0	3	185	0	1	189	28	0	8	0	36	0	189	38	1	228	453
Total	0	0	0	0	0	20	828	0	1	849	86	0	39	1	126	0	737	181	2	920	1895
Grand Total	0	0	0	0	0	40	1798	0	1	1839	162	0	69	2	233	0	1435	302	2	1739	3811
Apprch %	0	0	0	0		2.2	97.8	0	0.1		69.5	0	29.6	0.9		0	82.5	17.4	0.1		
Total %	0	0	0	0	0	1	47.2	0	0	48.3	4.3	0	1.8	0.1	6.1	0	37.7	7.9	0.1	45.6	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	8	227	0	0	235	15	0	**12**	0	27	0	182	33	0	215	477
16:45	0	0	0	0	0	5	**270**	0	0	**275**	**24**	0	5	0	29	0	**203**	34	0	237	**541**
17:00	0	0	0	0	0	**10**	252	0	0	262	20	0	10	0	30	0	177	48	**1**	226	518
17:15	0	0	0	0	0	3	236	0	0	239	19	0	11	**1**	**31**	0	194	**49**	0	**243**	513
Total Volume	0	0	0	0	0	26	985	0	0	1011	78	0	38	1	117	0	756	164	1	921	2049
% App. Total	0	0	0	0		2.6	97.4	0	0		66.7	0	32.5	0.9		0	82.1	17.8	0.1		
PHF	.000	.000	.000	.000	.000	.650	.912	.000	.000	.919	.813	.000	.792	.250	.944	.000	.931	.837	.250	.948	.947

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:15					17:00					16:45				
+0 mins.	0	0	0	0	0	4	244	0	0	248	20	0	10	0	30	0	**203**			
+15 mins.	0	0	0	0	0	8	227	0	0	235	19	0	**11**	**1**	31	0	177	48	**1**	226
+30 mins.	0	0	0	0	0	5	**270**	0	0	**275**	19	0	10	0	29	0	194	**49**	0	**243**
+45 mins.	0	0	0	0	0	**10**	252	0	0	262	**28**	0	8	0	**36**	0	177	46	0	223
Total Volume	0	0	0	0	0	27	993	0	0	1020	86	0	39	1	126	0	751	177	1	929
% App. Total	0	0	0	0		2.6	97.4	0	0		68.3	0	31	0.8		0	80.8	19.1	0.1	
PHF	.000	.000	.000	.000	.000	.675	.919	.000	.000	.927	.768	.000	.886	.250	.875	.000	.925	.903	.250	.956

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - PM
Site Code : 2_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	1	0	6	9
16:15	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	4	0	0	4	9
Total	0	0	0	0	0	0	14	0	0	14	0	0	1	0	1	0	11	2	0	13	28
17:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
17:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
17:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	5	0	0	5	15
Grand Total	0	0	0	0	0	0	24	0	0	24	0	0	1	0	1	0	16	2	0	18	43
Apprch %	0	0	0	0		0	100	0	0		0	0	100	0		0	88.9	11.1	0		
Total %	0	0	0	0	0	0	55.8	0	0	55.8	0	0	2.3	0	2.3	0	37.2	4.7	0	41.9	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	**5**	**1**	0	**6**	**9**
16:15	0	0	0	0	0	0	**5**	0	0	**5**	0	0	0	0	0	0	1	0	0	1	6
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	**1**	0	**1**	0	4	0	0	4	9
Total Volume	0	0	0	0	0	0	14	0	0	14	0	0	1	0	1	0	11	2	0	13	28
% App. Total	0	0	0	0		0	100	0	0		0	0	100	0		0	84.6	15.4	0		
PHF	.000	.000	.000	.000	.000	.000	.700	.000	.000	.700	.000	.000	.250	.000	.250	.000	.550	.500	.000	.542	.778

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**5**			**5**							**5**	**1**		**6**
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	1	0	2
+45 mins.	0	0	0	0	0	0	5	0	0	5	0	0	**1**	0	**1**	0	4	0	0	4
Total Volume	0	0	0	0	0	0	16	0	0	16	0	0	1	0	1	0	11	2	0	13
% App. Total	0	0	0	0		0	100	0	0		0	0	100	0		0	84.6	15.4	0	
PHF	.00	.00	.00	.00	.000	.00	.80	.00	.00	.800	.00	.00	.25	.00	.250	.00	.55	.50	.00	.542
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 2 - Bee Cave Pkwy & Vista Ridge - PM
Site Code : 2_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Vista Ridge Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	**1**
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	**1**			**1**					
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.50	.00	.00	.500	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	3	0	3	0	85	1	0	86	0	0	0	0	0	3	99	1	0	103	192
07:15	0	0	3	0	3	0	106	1	0	107	0	0	0	0	0	4	150	0	0	154	264
07:30	0	0	4	0	4	0	122	0	0	122	0	0	0	0	0	7	161	0	0	168	294
07:45	0	0	5	0	5	0	126	3	1	130	0	0	0	0	0	8	174	0	0	182	317
Total	0	0	15	0	15	0	439	5	1	445	0	0	0	0	0	22	584	1	0	607	1067
08:00	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	14	196	0	0	210	348
08:15	0	0	6	0	6	0	158	1	0	159	0	0	0	0	0	14	192	0	0	206	371
08:30	0	0	7	0	7	0	165	0	0	165	0	0	0	0	0	16	188	0	1	205	377
08:45	1	0	10	0	11	0	157	0	0	157	0	0	0	0	0	10	140	0	0	150	318
Total	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	54	716	0	1	771	1414
Grand Total	1	0	46	0	47	0	1049	6	1	1056	0	0	0	0	0	76	1300	1	1	1378	2481
Apprch %	2.1	0	97.9	0		0	99.3	0.6	0.1		0	0	0	0		5.5	94.3	0.1	0.1		
Total %	0	0	1.9	0	1.9	0	42.3	0.2	0	42.6	0	0	0	0	0	3.1	52.4	0	0	55.5	
Vehicles	1	0	46	0	47	0	992	5	1	998	0	0	0	0	0	76	1276	1	1	1354	2399
% Vehicles	100	0	100	0	100	0	94.6	83.3	100	94.5	0	0	0	0	0	100	98.2	100	100	98.3	96.7
Heavy Vehicles	0	0	0	0	0	0	57	1	0	58	0	0	0	0	0	0	24	0	0	24	82
% Heavy Vehicles	0	0	0	0	0	0	5.4	16.7	0	5.5	0	0	0	0	0	0	1.8	0	0	1.7	3.3

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	14	**196**	0	0	**210**	348
08:15	0	0	6	0	6	0	158	**1**	0	159	0	0	0	0	0	14	192	0	0	206	371
08:30	0	0	7	0	7	0	**165**	0	0	**165**	0	0	0	0	0	**16**	188	0	**1**	205	**377**
08:45	**1**	0	**10**	0	**11**	0	157	0	0	157	0	0	0	0	0	10	140	0	0	150	318
Total Volume	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	54	716	0	1	771	1414
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		7	92.9	0	0.1		
PHF	.250	.000	.775	.000	.727	.000	.924	.250	.000	.926	.000	.000	.000	.000	.000	.844	.913	.000	.250	.918	.938
Vehicles	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	54	706	0	1	761	1367
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
% Heavy Vehicles	0	0	0	0	0	0	6.1	0	0	6.1	0	0	0	0	0	0	1.4	0	0	1.3	3.3

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					08:00					07:00					07:45					
+0 mins.	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	8	174	0	0	182	
+15 mins.	0	0	6	0	6	0	158	**1**	0	159	0	0	0	0	0	14	**196**	0	0	**210**	
+30 mins.	0	0	7	0	7	0	**165**	0	0	**165**	0	0	0	0	0	14	192	0	0	206	
+45 mins.	**1**	0	**10**	0	**11**	0	157	0	0	157	0	0	0	0	0	**16**	188	0	**1**	205	
Total Volume	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	52	750	0	1	803	
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		6.5	93.4	0	0.1		
PHF	.250	.000	.775	.000	.727	.000	.924	.250	.000	.926	.000	.000	.000	.000	.000	.813	.957	.000	.250	.956	
Vehicles	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	52	739	0	1	792	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	11	0	0	11	
% Heavy Vehicles	0	0	0	0	0	0	6.1	0	0	6.1	0	0	0	0	0	0	1.5	0	0	1.4	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	3	0	3	0	81	1	0	82	0	0	0	0	0	3	95	1	0	99	184
07:15	0	0	3	0	3	0	99	1	0	100	0	0	0	0	0	4	146	0	0	150	253
07:30	0	0	4	0	4	0	118	0	0	118	0	0	0	0	0	7	159	0	0	166	288
07:45	0	0	5	0	5	0	121	2	1	124	0	0	0	0	0	8	170	0	0	178	307
Total	0	0	15	0	15	0	419	4	1	424	0	0	0	0	0	22	570	1	0	593	1032
08:00	0	0	8	0	8	0	127	0	0	127	0	0	0	0	0	14	195	0	0	209	344
08:15	0	0	6	0	6	0	151	1	0	152	0	0	0	0	0	14	188	0	0	202	360
08:30	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	16	186	0	1	203	361
08:45	1	0	10	0	11	0	144	0	0	144	0	0	0	0	0	10	137	0	0	147	302
Total	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	54	706	0	1	761	1367
Grand Total	1	0	46	0	47	0	992	5	1	998	0	0	0	0	0	76	1276	1	1	1354	2399
Apprch %	2.1	0	97.9	0		0	99.4	0.5	0.1		0	0	0	0		5.6	94.2	0.1	0.1		
Total %	0	0	1.9	0	2	0	41.4	0.2	0	41.6	0	0	0	0	0	3.2	53.2	0	0	56.4	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	5	0	5	0	121	**2**	**1**	124	0	0	0	0	0	8	170	0	0	178	307
08:00	0	0	**8**	0	**8**	0	127	0	0	127	0	0	0	0	0	14	**195**	0	0	**209**	344
08:15	0	0	6	0	6	0	**151**	1	0	**152**	0	0	0	0	0	14	188	0	0	202	360
08:30	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	**16**	186	0	**1**	203	**361**
Total Volume	0	0	26	0	26	0	550	3	1	554	0	0	0	0	0	52	739	0	1	792	1372
% App. Total	0	0	100	0		0	99.3	0.5	0.2		0	0	0	0		6.6	93.3	0	0.1		
PHF	.000	.000	.813	.000	.813	.000	.911	.375	.250	.911	.000	.000	.000	.000	.000	.813	.947	.000	.250	.947	.950

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					**08:00**					**07:00**					**07:45**				
+0 mins.	**0**	**0**	**8**	**0**	**8**	**0**	**127**	**0**	**0**	**127**	**0**	**0**	**0**	**0**	**0**	**8**	**170**	**0**	**0**	**178**
+15 mins.	**0**	**0**	**6**	**0**	**6**	**0**	151	1	0	152	0	0	0	0	0	14	195	0	0	**209**
+30 mins.	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	14	188	0	0	202
+45 mins.	**1**	0	**10**	0	**11**	0	144	0	0	144	0	0	0	0	0	**16**	186	0	**1**	203
Total Volume	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	52	739	0	1	792
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		6.6	93.3	0	0.1	
PHF	.250	.000	.775	.000	.727	.000	.949	.250	.000	.944	.000	.000	.000	.000	.000	.813	.947	.000	.250	.947

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
07:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
07:30	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
07:45	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	0	0	0	0	20	1	0	21	0	0	0	0	0	0	14	0	0	14	35
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
08:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
08:30	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	2	0	0	2	16
08:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	3	0	0	3	16
Total	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
Grand Total	0	0	0	0	0	0	57	1	0	58	0	0	0	0	0	0	24	0	0	24	82
Apprch %	0	0	0	0		0	98.3	1.7	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	69.5	1.2	0	70.7	0	0	0	0	0	0	29.3	0	0	29.3	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
08:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	**4**	0	0	**4**	11
08:30	0	0	0	0	0	0	**14**	0	0	**14**	0	0	0	0	0	0	2	0	0	2	**16**
08:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	3	0	0	3	16
Total Volume	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.661	.000	.000	.661	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.734

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**08:00**					**07:00**					**07:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	0	0	**4**
+15 mins.	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4
+30 mins.	0	0	0	0	0	0	**14**	0	0	**14**	0	0	0	0	0	0	2	0	0	2
+45 mins.	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	4	0	0	4
Total Volume	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	14	0	0	14
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.661	.000	.000	.661	.000	.000	.000	.000	.000	.000	.875	.000	.000	.875

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Apprch %	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1			1															
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	15	0	15	0	188	2	0	190	0	0	0	0	0	13	135	0	0	148	353
16:15	0	0	13	0	13	0	223	2	0	225	0	0	0	0	0	12	144	0	0	156	394
16:30	0	0	14	0	14	0	240	8	0	248	0	0	0	0	0	11	129	0	2	142	404
16:45	2	0	16	0	18	0	214	7	1	222	0	0	0	0	0	10	136	0	0	146	386
Total	2	0	58	0	60	0	865	19	1	885	0	0	0	0	0	46	544	0	2	592	1537
17:00	0	0	11	0	11	0	215	6	0	221	0	0	0	0	0	7	155	0	0	162	394
17:15	0	0	15	0	15	0	237	3	1	241	0	0	0	0	0	13	165	0	0	178	434
17:30	0	0	11	0	11	0	201	3	1	205	0	0	0	0	0	19	180	0	0	199	415
17:45	0	0	9	0	9	0	194	5	0	199	0	0	0	0	0	15	129	0	0	144	352
Total	0	0	46	0	46	0	847	17	2	866	0	0	0	0	0	54	629	0	0	683	1595
Grand Total	2	0	104	0	106	0	1712	36	3	1751	0	0	0	0	0	100	1173	0	2	1275	3132
Apprch %	1.9	0	98.1	0		0	97.8	2.1	0.2		0	0	0	0		7.8	92	0	0.2		
Total %	0.1	0	3.3	0	3.4	0	54.7	1.1	0.1	55.9	0	0	0	0	0	3.2	37.5	0	0.1	40.7	
Vehicles	2	0	103	0	105	0	1684	36	3	1723	0	0	0	0	0	99	1152	0	2	1253	3081
% Vehicles	100	0	99	0	99.1	0	98.4	100	100	98.4	0	0	0	0	0	99	98.2	0	100	98.3	98.4
Heavy Vehicles	0	0	1	0	1	0	28	0	0	28	0	0	0	0	0	1	21	0	0	22	51
% Heavy Vehicles	0	0	1	0	0.9	0	1.6	0	0	1.6	0	0	0	0	0	1	1.8	0	0	1.7	1.6

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**2**	0	**16**	0	**18**	0	214	**7**	**1**	222	0	0	0	0	0	10	136	0	0	146	386
17:00	0	0	11	0	11	0	215	6	0	221	0	0	0	0	0	7	155	0	0	162	394
17:15	0	0	15	0	15	0	**237**	3	1	**241**	0	0	0	0	0	13	165	0	0	178	**434**
17:30	0	0	11	0	11	0	201	3	1	205	0	0	0	0	0	**19**	**180**	0	0	**199**	415
Total Volume	2	0	53	0	55	0	867	19	3	889	0	0	0	0	0	49	636	0	0	685	1629
% App. Total	3.6	0	96.4	0		0	97.5	2.1	0.3		0	0	0	0		7.2	92.8	0	0		
PHF	.250	.000	.828	.000	.764	.000	.915	.679	.750	.922	.000	.000	.000	.000	.000	.645	.883	.000	.000	.861	.938
Vehicles	2	0	53	0	55	0	855	19	3	877	0	0	0	0	0	49	626	0	0	675	1607
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	22
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.3	0	0	0	0	0	0	1.6	0	0	1.5	1.4

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					16:45				
+0 mins.	0	0	15	0	15	0	**240**	**8**	0	**248**	0	0	0	0	0	10	136	0	0	146
+15 mins.	0	0	13	0	13	0	214	7	**1**	222	0	0	0	0	0	7	155	0	0	162
+30 mins.	0	0	14	0	14	0	215	6	0	221	0	0	0	0	0	13	165	0	0	178
+45 mins.	**2**	0	**16**	0	**18**	0	237	3	1	241	0	0	0	0	0	**19**	**180**	0	0	**199**
Total Volume	2	0	58	0	60	0	906	24	2	932	0	0	0	0	0	49	636	0	0	685
% App. Total	3.3	0	96.7	0		0	97.2	2.6	0.2		0	0	0	0		7.2	92.8	0	0	
PHF	.250	.000	.906	.000	.833	.000	.944	.750	.500	.940	.000	.000	.000	.000	.000	.645	.883	.000	.000	.861
Vehicles	2	0	57	0	59	0	896	24	2	922	0	0	0	0	0	49	626	0	0	675
% Vehicles																				
Heavy Vehicles	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	0	10	0	0	10
% Heavy Vehicles	0	0	1.7	0	1.7	0	1.1	0	0	1.1	0	0	0	0	0	0	1.6	0	0	1.5

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	15	0	15	0	186	2	0	188	0	0	0	0	0	12	133	0	0	145	348
16:15	0	0	13	0	13	0	211	2	0	213	0	0	0	0	0	12	142	0	0	154	380
16:30	0	0	13	0	13	0	240	8	0	248	0	0	0	0	0	11	126	0	2	139	400
16:45	2	0	16	0	18	0	210	7	1	218	0	0	0	0	0	10	133	0	0	143	379
Total	2	0	57	0	59	0	847	19	1	867	0	0	0	0	0	45	534	0	2	581	1507
17:00	0	0	11	0	11	0	211	6	0	217	0	0	0	0	0	7	152	0	0	159	387
17:15	0	0	15	0	15	0	235	3	1	239	0	0	0	0	0	13	163	0	0	176	430
17:30	0	0	11	0	11	0	199	3	1	203	0	0	0	0	0	19	178	0	0	197	411
17:45	0	0	9	0	9	0	192	5	0	197	0	0	0	0	0	15	125	0	0	140	346
Total	0	0	46	0	46	0	837	17	2	856	0	0	0	0	0	54	618	0	0	672	1574
Grand Total	2	0	103	0	105	0	1684	36	3	1723	0	0	0	0	0	99	1152	0	2	1253	3081
Apprch %	1.9	0	98.1	0		0	97.7	2.1	0.2		0	0	0	0		7.9	91.9	0	0.2		
Total %	0.1	0	3.3	0	3.4	0	54.7	1.2	0.1	55.9	0	0	0	0	0	3.2	37.4	0	0.1	40.7	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**2**	0	**16**	0	**18**	0	210	**7**	**1**	218	0	0	0	0	0	10	133	0	0	143	379
17:00	0	0	11	0	11	0	211	6	0	217	0	0	0	0	0	7	152	0	0	159	387
17:15	0	0	15	0	15	0	**235**	3	1	**239**	0	0	0	0	0	13	163	0	0	176	**430**
17:30	0	0	11	0	11	0	199	3	1	203	0	0	0	0	0	**19**	**178**	0	0	**197**	411
Total Volume	2	0	53	0	55	0	855	19	3	877	0	0	0	0	0	49	626	0	0	675	1607
% App. Total	3.6	0	96.4	0		0	97.5	2.2	0.3		0	0	0	0		7.3	92.7	0	0		
PHF	.250	.000	.828	.000	.764	.000	.910	.679	.750	.917	.000	.000	.000	.000	.000	.645	.879	.000	.000	.857	.934

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:30**					**16:00**					**16:45**				
+0 mins.	**0**	**0**	**15**	**0**	**15**	**0**	240	8	0	248	0	0	0	0	0	10	133	0	0	143
+15 mins.	0	0	13	0	13	0	210	7	1	218	0	0	0	0	0	7	152	0	0	159
+30 mins.	0	0	13	0	13	0	211	6	0	217	0	0	0	0	0	13	163	0	0	176
+45 mins.	**2**	0	**16**	0	**18**	0	235	3	1	239	0	0	0	0	0	**19**	**178**	0	0	**197**
Total Volume	2	0	57	0	59	0	896	24	2	922	0	0	0	0	0	49	626	0	0	675
% App. Total	3.4	0	96.6	0		0	97.2	2.6	0.2		0	0	0	0		7.3	92.7	0	0	
PHF	.250	.000	.891	.000	.819	.000	.933	.750	.500	.929	.000	.000	.000	.000	.000	.645	.879	.000	.000	.857

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
16:15	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	2	0	0	2	14
16:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	1	10	0	0	11	30
17:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
17:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
17:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
17:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	11	0	0	11	21
Grand Total	0	0	1	0	1	0	28	0	0	28	0	0	0	0	0	1	21	0	0	22	51
Apprch %	0	0	100	0		0	100	0	0		0	0	0	0		4.5	95.5	0	0		
Total %	0	0	2	0	2	0	54.9	0	0	54.9	0	0	0	0	0	2	41.2	0	0	43.1	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	**12**	0	0	**12**	0	0	0	0	0	0	2	0	0	2	**14**
16:30	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
17:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total Volume	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	0	11	0	0	11	32
% App. Total	0	0	100	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.250	.000	.250	.000	.417	.000	.000	.417	.000	.000	.000	.000	.000	.000	.917	.000	.000	.917	.571

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**12**	0	0	**12**	0	0	0	0	0	**1**	2	0	0	**3**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	**1**	0	**1**	0	4	0	0	4	0	0	0	0	0	0	**3**	0	0	3
+45 mins.	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3
Total Volume	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	1	10	0	0	11
% App. Total	0	0	100	0		0	100	0	0		0	0	0	0		9.1	90.9	0	0	
PHF	.000	.000	.250	.000	.250	.000	.417	.000	.000	.417	.000	.000	.000	.000	.000	.250	.833	.000	.000	.917

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - AM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	91	6	16	0	113	4	261	128	1	394	1	1	0	0	2	9	322	4	0	335	844
07:15	156	5	11	0	172	1	256	144	0	401	3	3	1	0	7	7	330	8	0	345	925
07:30	156	4	17	0	177	3	323	190	1	517	3	5	4	0	12	5	414	15	0	434	1140
07:45	164	12	19	0	195	0	269	207	0	476	3	5	0	0	8	25	357	18	0	400	1079
Total	567	27	63	0	657	8	1109	669	2	1788	10	14	5	0	29	46	1423	45	0	1514	3988
08:00	144	11	19	0	174	0	289	199	2	490	5	3	1	0	9	31	285	11	0	327	1000
08:15	127	11	29	0	167	0	280	211	0	491	13	8	3	0	24	31	350	16	0	397	1079
08:30	160	14	36	0	210	1	263	189	2	455	12	5	2	0	19	31	288	20	0	339	1023
08:45	119	18	28	0	165	3	297	208	5	513	12	3	3	0	18	20	367	22	0	409	1105
Total	550	54	112	0	716	4	1129	807	9	1949	42	19	9	0	70	113	1290	69	0	1472	4207
Grand Total	1117	81	175	0	1373	12	2238	1476	11	3737	52	33	14	0	99	159	2713	114	0	2986	8195
Apprch %	81.4	5.9	12.7	0		0.3	59.9	39.5	0.3		52.5	33.3	14.1	0		5.3	90.9	3.8	0		
Total %	13.6	1	2.1	0	16.8	0.1	27.3	18	0.1	45.6	0.6	0.4	0.2	0	1.2	1.9	33.1	1.4	0	36.4	
Vehicles	1078						2047	1433									2600				
% Vehicles	96.5	98.8	93.7	0	96.3	100	91.5	97.1	100	93.7	94.2	90.9	92.9	0	92.9	95.6	95.8	98.2	0	95.9	94.9
Heavy Vehicles																					
% Heavy Vehicles	3.5	1.2	6.3	0	3.7	0	8.5	2.9	0	6.3	5.8	9.1	7.1	0	7.1	4.4	4.2	1.8	0	4.1	5.1

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	156	4	17	0	177	**3**	**323**	190	1	**517**	3	5	**4**	0	12	5	**414**	15	0	**434**	**1140**
07:45	**164**	**12**	19	0	**195**	0	269	207	0	476	3	5	0	0	8	25	357	**18**	0	400	1079
08:00	144	11	19	0	174	0	289	199	**2**	490	5	3	1	0	9	**31**	285	11	0	327	1000
08:15	127	11	**29**	0	167	0	280	**211**	0	491	**13**	**8**	3	0	**24**	31	350	16	0	397	1079
Total Volume	591	38	84	0	713	3	1161	807	3	1974	24	21	8	0	53	92	1406	60	0	1558	4298
% App. Total	82.9	5.3	11.8	0		0.2	58.8	40.9	0.2		45.3	39.6	15.1	0		5.9	90.2	3.9	0		
PHF	.901	.792	.724	.000	.914	.250	.899	.956	.375	.955	.462	.656	.500	.000	.552	.742	.849	.833	.000	.897	.943
Vehicles	565	38	76	0	679	3	1062										1340				
% Vehicles	95.6	100	90.5	0	95.2	100	91.5	97.3	100	93.9	95.8	85.7	100	0	92.5	95.7	95.3	96.7	0	95.4	94.6
Heavy Vehicles																					
% Heavy Vehicles	4.4	0	9.5	0	4.8	0	8.5	2.7	0	6.1	4.2	14.3	0	0	7.5	4.3	4.7	3.3	0	4.6	5.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - AM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45					07:30					08:00					07:30					
+0 mins.	**164**	12	19	0	195	**3**	**323**	190	1	**517**	5	3	1	0	9	5	**414**	15	0	**434**	
+15 mins.	144	11	19	0	174	0	269	207	0	476	**13**	**8**	**3**	0	**24**	25	357	**18**	0	400	
+30 mins.	127	11	29	0	167	0	289	199	**2**	490	12	5	2	0	19	**31**	285	11	0	327	
+45 mins.	160	**14**	**36**	0	**210**	0	280	**211**	0	491	12	3	3	0	18	31	350	16	0	397	
Total Volume	595	48	103	0	746	3	1161	807	3	1974	42	19	9	0	70	92	1406	60	0	1558	
% App. Total	79.8	6.4	13.8	0		0.2	58.8	40.9	0.2		60	27.1	12.9	0		5.9	90.2	3.9	0		
PHF	.907	.857	.715	.000	.888	.250	.899	.956	.375	.955	.808	.594	.750	.000	.729	.742	.849	.833	.000	.897	
Vehicles	570	47	98	0	715	3	1062	785	3	1853	39	18	8	0	65	88	1340	58	0	1486	
% Vehicles																					
Heavy Vehicles	25	1	5	0	31	0	99	22	0	121	3	1	1	0	5	4	66	2	0	72	
% Heavy Vehicles	4.2	2.1	4.9	0	4.2	0	8.5	2.7	0	6.1	7.1	5.3	11.1	0	7.1	4.3	4.7	3.3	0	4.6	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - AM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	89	6	16	0	111	4	245	127	1	377	1	1	0	0	2	9	311	4	0	324	814
07:15	152	5	10	0	167	1	235	141	0	377	3	3	1	0	7	7	322	8	0	337	888
07:30	151	4	14	0	169	3	295	185	1	484	3	5	4	0	12	5	399	15	0	419	1084
07:45	155	12	17	0	184	0	250	203	0	453	3	3	0	0	6	22	335	17	0	374	1017
Total	547	27	57	0	631	8	1025	656	2	1691	10	12	5	0	27	43	1367	44	0	1454	3803
08:00	138	11	17	0	166	0	263	195	2	460	4	3	1	0	8	31	270	11	0	312	946
08:15	121	11	28	0	160	0	254	202	0	456	13	7	3	0	23	30	336	15	0	381	1020
08:30	156	13	36	0	205	1	242	182	2	427	12	5	2	0	19	30	272	20	0	322	973
08:45	116	18	26	0	160	3	263	198	5	469	10	3	2	0	15	18	355	22	0	395	1039
Total	531	53	107	0	691	4	1022	777	9	1812	39	18	8	0	65	109	1233	68	0	1410	3978
Grand Total	1078	80	164	0	1322	12	2047	1433	11	3503	49	30	13	0	92	152	2600	112	0	2864	7781
Apprch %	81.5	6.1	12.4	0		0.3	58.4	40.9	0.3		53.3	32.6	14.1	0		5.3	90.8	3.9	0		
Total %	13.9	1	2.1	0	17	0.2	26.3	18.4	0.1	45	0.6	0.4	0.2	0	1.2	2	33.4	1.4	0	36.8	

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	151	4	14	0	169	**3**	**295**	185	1	**484**	3	5	**4**	0	12	5	**399**	15	0	**419**	**1084**
07:45	**155**	**12**	17	0	**184**	0	250	**203**	0	453	3	3	0	0	6	22	335	**17**	0	374	1017
08:00	138	11	17	0	166	0	263	195	**2**	460	4	3	1	0	8	**31**	270	11	0	312	946
08:15	121	11	**28**	0	160	0	254	202	0	456	**13**	**7**	3	0	**23**	30	336	15	0	381	1020
Total Volume	565	38	76	0	679	3	1062	785	3	1853	23	18	8	0	49	88	1340	58	0	1486	4067
% App. Total	83.2	5.6	11.2	0		0.2	57.3	42.4	0.2		46.9	36.7	16.3	0		5.9	90.2	3.9	0		
PHF	.911	.792	.679	.000	.923	.250	.900	.967	.375	.957	.442	.643	.500	.000	.533	.710	.840	.853	.000	.887	.938

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:30					08:00					07:30				
+0 mins.	155	12	17	0	184	**3**	**295**			**484**							**399**			**419**
+15 mins.	138	11	17	0	166	0	250	**203**	0	453	**13**	**7**	**3**	0	**23**	22	335	**17**	0	374
+30 mins.	121	11	28	0	160	0	263	195	**2**	460	12	5	2	0	19	**31**	270	11	0	312
+45 mins.	**156**	**13**	**36**	0	**205**	0	254	202	0	456	10	3	2	0	15	30	336	15	0	381
Total Volume	570	47	98	0	715	3	1062	785	3	1853	39	18	8	0	65	88	1340	58	0	1486
% App. Total	79.7	6.6	13.7	0		0.2	57.3	42.4	0.2		60	27.7	12.3	0		5.9	90.2	3.9	0	
PHF	.913	.904	.681	.000	.872	.250	.900	.967	.375	.957	.750	.643	.667	.000	.707	.710	.840	.853	.000	.887

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - AM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	2	0	0	0	2	0	16	1	0	17	0	0	0	0	0	0	11	0	0	11	30
07:15	4	0	1	0	5	0	21	3	0	24	0	0	0	0	0	0	8	0	0	8	37
07:30	5	0	3	0	8	0	28	5	0	33	0	0	0	0	0	0	15	0	0	15	56
07:45	9	0	2	0	11	0	19	4	0	23	0	2	0	0	2	3	22	1	0	26	62
Total	20	0	6	0	26	0	84	13	0	97	0	2	0	0	2	3	56	1	0	60	185
08:00	6	0	2	0	8	0	26	4	0	30	1	0	0	0	1	0	15	0	0	15	54
08:15	6	0	1	0	7	0	26	9	0	35	0	1	0	0	1	1	14	1	0	16	59
08:30	4	1	0	0	5	0	21	7	0	28	0	0	0	0	0	1	16	0	0	17	50
08:45	3	0	2	0	5	0	34	10	0	44	2	0	1	0	3	2	12	0	0	14	66
Total	19	1	5	0	25	0	107	30	0	137	3	1	1	0	5	4	57	1	0	62	229
Grand Total	39	1	11	0	51	0	191	43	0	234	3	3	1	0	7	7	113	2	0	122	414
Apprch %	76.5	2	21.6	0		0	81.6	18.4	0		42.9	42.9	14.3	0		5.7	92.6	1.6	0		
Total %	9.4	0.2	2.7	0	12.3	0	46.1	10.4	0	56.5	0.7	0.7	0.2	0	1.7	1.7	27.3	0.5	0	29.5	

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	5	0	**3**	0	8	0	**28**	5	0	33	0	0	0	0	0	0	15	0	0	15	56
07:45	**9**	0	2	0	**11**	0	19	4	0	23	0	**2**	0	0	**2**	**3**	**22**	**1**	0	**26**	**62**
08:00	6	0	2	0	8	0	26	4	0	30	**1**	0	0	0	1	0	15	0	0	15	54
08:15	6	0	1	0	7	0	26	**9**	0	**35**	0	1	0	0	1	1	14	1	0	16	59
Total Volume	26	0	8	0	34	0	99	22	0	121	1	3	0	0	4	4	66	2	0	72	231
% App. Total	76.5	0	23.5	0		0	81.8	18.2	0		25	75	0	0		5.6	91.7	2.8	0		
PHF	.722	.000	.667	.000	.773	.000	.884	.611	.000	.864	.250	.375	.000	.000	.500	.333	.750	.500	.000	.692	.931

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30					**08:00**					**08:00**					**07:45**				
+0 mins.	**5**	**0**	**3**													**3**	**22**	**1**		**26**
+15 mins.	**9**	0	2	0	**11**	0	26	9	0	35	0	**1**	0	0	1	0	15	0	0	15
+30 mins.	6	0	2	0	8	0	21	7	0	28	0	0	0	0	0	1	14	1	0	16
+45 mins.	6	0	1	0	7	0	**34**	**10**	0	**44**	**2**	0	**1**	0	**3**	1	16	0	0	17
Total Volume	26	0	8	0	34	0	107	30	0	137	3	1	1	0	5	5	67	2	0	74
% App. Total	76.5	0	23.5	0		0	78.1	21.9	0		60	20	20	0		6.8	90.5	2.7	0	
PHF	.722	.000	.667	.000	.773	.000	.781	.750	.000	.778	.375	.250	.250	.000	.417	.417	.761	.500	.000	.712

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - AM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - PM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	143	37	21	0	201	10	324	184	1	519	45	41	11	0	97	27	279	47	0	353	1170
16:15	174	33	34	0	241	6	341	171	1	519	34	32	5	0	71	25	307	20	0	352	1183
16:30	159	48	44	0	251	7	367	132	1	507	37	25	4	0	66	11	277	30	0	318	1142
16:45	212	59	44	0	315	5	395	135	0	535	39	24	5	0	68	37	274	30	0	341	1259
Total	688	177	143	0	1008	28	1427	622	3	2080	155	122	25	0	302	100	1137	127	0	1364	4754
17:00	192	42	49	0	283	6	434	163	2	605	27	25	13	0	65	40	304	30	0	374	1327
17:15	193	57	43	0	293	7	373	170	1	551	37	32	10	0	79	32	315	40	0	387	1310
17:30	202	79	36	0	317	5	320	115	1	441	41	29	10	0	80	29	327	35	0	391	1229
17:45	217	66	26	0	309	5	272	160	4	441	27	26	11	0	64	10	284	33	0	327	1141
Total	804	244	154	0	1202	23	1399	608	8	2038	132	112	44	0	288	111	1230	138	0	1479	5007
Grand Total	1492	421	297	0	2210	51	2826	1230	11	4118	287	234	69	0	590	211	2367	265	0	2843	9761
Apprch %	67.5	19	13.4	0		1.2	68.6	29.9	0.3		48.6	39.7	11.7	0		7.4	83.3	9.3	0		
Total %	15.3	4.3	3	0	22.6	0.5	29	12.6	0.1	42.2	2.9	2.4	0.7	0	6	2.2	24.2	2.7	0	29.1	
Vehicles	1455						2767	1210									2224				
% Vehicles	97.5	99.8	98.7	0	98.1	98	97.9	98.4	81.8	98	99.7	99.6	100	0	99.7	98.6	94	98.5	0	94.7	97.2
Heavy Vehicles																					
% Heavy Vehicles	2.5	0.2	1.3	0	1.9	2	2.1	1.6	18.2	2	0.3	0.4	0	0	0.3	1.4	6	1.5	0	5.3	2.8

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**212**	59	44	0	315	5	395	135	0	535	39	24	5	0	68	37	274	30	0	341	1259
17:00	192	42	**49**	0	283	6	**434**	163	**2**	**605**	27	25	**13**	0	65	**40**	304	30	0	374	**1327**
17:15	193	57	43	0	293	**7**	373	**170**	1	551	37	**32**	10	0	79	32	315	**40**	0	387	1310
17:30	202	**79**	36	0	**317**	5	320	115	1	441	**41**	29	10	0	**80**	29	**327**	35	0	**391**	1229
Total Volume	799	237	172	0	1208	23	1522	583	4	2132	144	110	38	0	292	138	1220	135	0	1493	5125
% App. Total	66.1	19.6	14.2	0		1.1	71.4	27.3	0.2		49.3	37.7	13	0		9.2	81.7	9	0		
PHF	.942	.750	.878	.000	.953	.821	.877	.857	.500	.881	.878	.859	.731	.000	.913	.863	.933	.844	.000	.955	.966
Vehicles	780	237	171	0	1188	23	1490										1155				
% Vehicles	97.6	100	99.4	0	98.3	100	97.9	99.3	100	98.3	100	100	100	0	100	98.6	94.7	100	0	95.5	97.6
Heavy Vehicles																					
% Heavy Vehicles	2.4	0	0.6	0	1.7	0	2.1	0.7	0	1.7	0	0	0	0	0	1.4	5.3	0	0	4.5	2.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - PM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:45					16:30					16:00					16:45					
+0 mins.	**212**	59	44	0	315	**7**	367	132	1	507	**45**	**41**	**11**	0	**97**	37	274	30	0	341	
+15 mins.	192	42	**49**	0	283	5	395	135	0	535	34	32	5	0	71	**40**	304	30	0	374	
+30 mins.	193	57	43	0	293	6	**434**	163	**2**	**605**	37	25	4	0	66	32	315	**40**	0	387	
+45 mins.	202	**79**	36	0	**317**	7	373	**170**	1	551	39	24	5	0	68	29	**327**	35	0	**391**	
Total Volume	799	237	172	0	1208	25	1569	600	4	2198	155	122	25	0	302	138	1220	135	0	1493	
% App. Total	66.1	19.6	14.2	0		1.1	71.4	27.3	0.2		51.3	40.4	8.3	0		9.2	81.7	9	0		
PHF	.942	.750	.878	.000	.953	.893	.904	.882	.500	.908	.861	.744	.568	.000	.778	.863	.933	.844	.000	.955	
Vehicles	780	237	171	0	1188	25	1535	591	4	2155	154	121	25	0	300	136	1155	135	0	1426	
% Vehicles																					
Heavy Vehicles	19	0	1	0	20	0	34	9	0	43	1	1	0	0	2	2	65	0	0	67	
% Heavy Vehicles	2.4	0	0.6	0	1.7	0	2.2	1.5	0	2	0.6	0.8	0	0	0.7	1.4	5.3	0	0	4.5	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - PM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	137	36	19	0	192	10	317	178	0	505	44	40	11	0	95	27	252	45	0	324	1116
16:15	171	33	34	0	238	6	335	169	1	511	34	32	5	0	71	24	288	19	0	331	1151
16:30	155	48	43	0	246	7	360	127	1	495	37	25	4	0	66	11	259	30	0	300	1107
16:45	206	59	43	0	308	5	384	134	0	523	39	24	5	0	68	36	260	30	0	326	1225
Total	669	176	139	0	984	28	1396	608	2	2034	154	121	25	0	300	98	1059	124	0	1281	4599
17:00	184	42	49	0	275	6	422	160	2	590	27	25	13	0	65	40	285	30	0	355	1285
17:15	191	57	43	0	291	7	369	170	1	547	37	32	10	0	79	32	298	40	0	370	1287
17:30	199	79	36	0	314	5	315	115	1	436	41	29	10	0	80	28	312	35	0	375	1205
17:45	212	66	26	0	304	4	265	157	3	429	27	26	11	0	64	10	270	32	0	312	1109
Total	786	244	154	0	1184	22	1371	602	7	2002	132	112	44	0	288	110	1165	137	0	1412	4886
Grand Total	1455	420	293	0	2168	50	2767	1210	9	4036	286	233	69	0	588	208	2224	261	0	2693	9485
Apprch %	67.1	19.4	13.5	0		1.2	68.6	30	0.2		48.6	39.6	11.7	0		7.7	82.6	9.7	0		
Total %	15.3	4.4	3.1	0	22.9	0.5	29.2	12.8	0.1	42.6	3	2.5	0.7	0	6.2	2.2	23.4	2.8	0	28.4	

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**206**	59	43	0	308	5	384	134	0	523	39	24	5	0	68	36	260	30	0	326	1225
17:00	184	42	**49**	0	275	6	**422**	160	**2**	**590**	27	25	**13**	0	65	**40**	285	30	0	355	1285
17:15	191	57	43	0	291	**7**	369	**170**	1	547	37	**32**	10	0	79	32	298	**40**	0	370	**1287**
17:30	199	**79**	36	0	**314**	5	315	115	1	436	**41**	29	10	0	**80**	28	**312**	35	0	**375**	1205
Total Volume	780	237	171	0	1188	23	1490	579	4	2096	144	110	38	0	292	136	1155	135	0	1426	5002
% App. Total	65.7	19.9	14.4	0		1.1	71.1	27.6	0.2		49.3	37.7	13	0		9.5	81	9.5	0		
PHF	.947	.750	.872	.000	.946	.821	.883	.851	.500	.888	.878	.859	.731	.000	.913	.850	.925	.844	.000	.951	.972

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:45					16:30					16:00					16:45				
+0 mins.	**206**					**7**					**44**	**40**	**11**		**95**					
+15 mins.	184	42	**49**	0	275	5	384	134	0	523	34	32	5	0	71	**40**	285	30	0	355
+30 mins.	191	57	43	0	291	6	**422**	160	**2**	**590**	37	25	4	0	66	32	298	**40**	0	370
+45 mins.	199	**79**	36	0	**314**	7	369	**170**	1	547	39	24	5	0	68	28	**312**	35	0	**375**
Total Volume	780	237	171	0	1188	25	1535	591	4	2155	154	121	25	0	300	136	1155	135	0	1426
% App. Total	65.7	19.9	14.4	0		1.2	71.2	27.4	0.2		51.3	40.3	8.3	0		9.5	81	9.5	0	
PHF	.947	.750	.872	.000	.946	.893	.909	.869	.500	.913	.875	.756	.568	.000	.789	.850	.925	.844	.000	.951

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - PM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	6	1	2	0	9	0	7	6	1	14	1	1	0	0	2	0	27	2	0	29	54
16:15	3	0	0	0	3	0	6	2	0	8	0	0	0	0	0	1	19	1	0	21	32
16:30	4	0	1	0	5	0	7	5	0	12	0	0	0	0	0	0	18	0	0	18	35
16:45	6	0	1	0	7	0	11	1	0	12	0	0	0	0	0	1	14	0	0	15	34
Total	19	1	4	0	24	0	31	14	1	46	1	1	0	0	2	2	78	3	0	83	155
17:00	8	0	0	0	8	0	12	3	0	15	0	0	0	0	0	0	19	0	0	19	42
17:15	2	0	0	0	2	0	4	0	0	4	0	0	0	0	0	0	17	0	0	17	23
17:30	3	0	0	0	3	0	5	0	0	5	0	0	0	0	0	1	15	0	0	16	24
17:45	5	0	0	0	5	1	7	3	1	12	0	0	0	0	0	0	14	1	0	15	32
Total	18	0	0	0	18	1	28	6	1	36	0	0	0	0	0	1	65	1	0	67	121
Grand Total	37	1	4	0	42	1	59	20	2	82	1	1	0	0	2	3	143	4	0	150	276
Apprch %	88.1	2.4	9.5	0		1.2	72	24.4	2.4		50	50	0	0		2	95.3	2.7	0		
Total %	13.4	0.4	1.4	0	15.2	0.4	21.4	7.2	0.7	29.7	0.4	0.4	0	0	0.7	1.1	51.8	1.4	0	54.3	

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	**6**	**1**	**2**	0	**9**	0	7	**6**	**1**	**14**	**1**	**1**	0	0	**2**	0	**27**	**2**	0	**29**	**54**
16:15	3	0	0	0	3	0	6	2	0	8	0	0	0	0	0	**1**	19	1	0	21	32
16:30	4	0	1	0	5	0	7	5	0	12	0	0	0	0	0	0	18	0	0	18	35
16:45	6	0	1	0	7	0	**11**	1	0	12	0	0	0	0	0	1	14	0	0	15	34
Total Volume	19	1	4	0	24	0	31	14	1	46	1	1	0	0	2	2	78	3	0	83	155
% App. Total	79.2	4.2	16.7	0		0	67.4	30.4	2.2		50	50	0	0		2.4	94	3.6	0		
PHF	.792	.250	.500	.000	.667	.000	.705	.583	.250	.821	.250	.250	.000	.000	.250	.500	.722	.375	.000	.716	.718

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**16:00**					**16:00**				
+0 mins.	**6**	**1**	**2**		**9**						**1**	**1**			**2**		**27**	**2**		**29**
+15 mins.	3	0	0	0	3	0	7	**5**	0	12	0	0	0	0	0	**1**	19	1	0	21
+30 mins.	4	0	1	0	5	0	11	1	0	12	0	0	0	0	0	0	18	0	0	18
+45 mins.	6	0	1	0	7	0	**12**	3	0	**15**	0	0	0	0	0	1	14	0	0	15
Total Volume	19	1	4	0	24	0	36	11	0	47	1	1	0	0	2	2	78	3	0	83
% App. Total	79.2	4.2	16.7	0		0	76.6	23.4	0		50	50	0	0		2.4	94	3.6	0	
PHF	.792	.250	.500	.000	.667	.000	.750	.550	.000	.783	.250	.250	.000	.000	.250	.500	.722	.375	.000	.716

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 3 - SH 71 & RM 620 - PM
Site Code : 3_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	RM 620 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - AM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	20	5	71	0	96	132	269	3	0	404	6	9	3	0	18	12	286	44	0	342	860
07:15	33	8	68	0	109	143	351	2	0	496	6	14	0	0	20	8	367	71	0	446	1071
07:30	70	14	81	0	165	149	380	2	0	531	5	12	4	0	21	8	412	44	0	464	1181
07:45	54	8	85	0	147	174	346	3	0	523	3	16	6	0	25	15	420	51	0	486	1181
Total	177	35	305	0	517	598	1346	10	0	1954	20	51	13	0	84	43	1485	210	0	1738	4293
08:00	49	11	60	0	120	137	314	0	0	451	12	16	6	0	34	18	399	58	0	475	1080
08:15	36	9	64	0	109	151	340	3	0	494	12	9	7	0	28	9	377	62	0	448	1079
08:30	47	15	71	0	133	123	318	2	0	443	5	16	7	0	28	14	429	55	0	498	1102
08:45	50	15	79	0	144	158	294	3	1	456	10	20	10	0	40	20	379	50	0	449	1089
Total	182	50	274	0	506	569	1266	8	1	1844	39	61	30	0	130	61	1584	225	0	1870	4350
Grand Total	359	85	579	0	1023	1167	2612	18	1	3798	59	112	43	0	214	104	3069	435	0	3608	8643
Apprch %	35.1	8.3	56.6	0		30.7	68.8	0.5	0		27.6	52.3	20.1	0		2.9	85.1	12.1	0		
Total %	4.2	1	6.7	0	11.8	13.5	30.2	0.2	0	43.9	0.7	1.3	0.5	0	2.5	1.2	35.5	5	0	41.7	
Vehicles	347	83	556	0	986	1150	2483										2875				
% Vehicles	96.7	97.6	96	0	96.4	98.5	95.1	100	100	96.2	98.3	96.4	97.7	0	97.2	94.2	93.7	97.9	0	94.2	95.4
Heavy Vehicles																					
% Heavy Vehicles	3.3	2.4	4	0	3.6	1.5	4.9	0	0	3.8	1.7	3.6	2.3	0	2.8	5.8	6.3	2.1	0	5.8	4.6

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	**70**	**14**	81	0	**165**	149	**380**	2	0	**531**	5	12	4	0	21	8	412	44	0	464	**1181**
07:45	54	8	**85**	0	147	**174**	346	**3**	0	523	3	**16**	6	0	25	15	**420**	51	0	**486**	1181
08:00	49	11	60	0	120	137	314	0	0	451	**12**	16	6	0	**34**	**18**	399	58	0	475	1080
08:15	36	9	64	0	109	151	340	3	0	494	12	9	**7**	0	28	9	377	**62**	0	448	1079
Total Volume	209	42	290	0	541	611	1380	8	0	1999	32	53	23	0	108	50	1608	215	0	1873	4521
% App. Total	38.6	7.8	53.6	0		30.6	69	0.4	0		29.6	49.1	21.3	0		2.7	85.9	11.5	0		
PHF	.746	.750	.853	.000	.820	.878	.908	.667	.000	.941	.667	.828	.821	.000	.794	.694	.957	.867	.000	.963	.957
Vehicles	202	41	280	0	523	600	1307										1510				
% Vehicles	96.7	97.6	96.6	0	96.7	98.2	94.7	100	0	95.8	96.9	96.2	95.7	0	96.3	92.0	93.9	99.1	0	94.4	95.4
Heavy Vehicles																					
% Heavy Vehicles	3.3	2.4	3.4	0	3.3	1.8	5.3	0	0	4.2	3.1	3.8	4.3	0	3.7	8.0	6.1	0.9	0	5.6	4.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - AM
Site Code : 4_____
Start Date : 11/16/2021

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15					07:15					08:00					07:45					
+0 mins.	33	8	68	0	109	143	351	2	0	496	**12**	16	6	0	34	15	420	51	0	486	
+15 mins.	**70**	**14**	81	0	**165**	149	**380**	2	0	**531**	12	9	7	0	28	**18**	399	58	0	475	
+30 mins.	54	8	**85**	0	147	**174**	346	**3**	0	523	5	16	7	0	28	9	377	**62**	0	448	
+45 mins.	49	11	60	0	120	137	314	0	0	451	10	**20**	**10**	0	**40**	14	**429**	55	0	**498**	
Total Volume	206	41	294	0	541	603	1391	7	0	2001	39	61	30	0	130	56	1625	226	0	1907	
% App. Total	38.1	7.6	54.3	0		30.1	69.5	0.3	0		30	46.9	23.1	0		2.9	85.2	11.9	0		
PHF	.736	.732	.865	.000	.820	.866	.915	.583	.000	.942	.813	.763	.750	.000	.813	.778	.947	.911	.000	.957	
Vehicles	198	39	281	0	518	594	1325	7	0	1926	38	59	29	0	126	52	1520	223	0	1795	
% Vehicles																					
Heavy Vehicles	8	2	13	0	23	9	66	0	0	75	1	2	1	0	4	4	105	3	0	112	
% Heavy Vehicles	3.9	4.9	4.4	0	4.3	1.5	4.7	0	0	3.7	2.6	3.3	3.3	0	3.1	7.1	6.5	1.3	0	5.9	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - AM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	19	5	69	0	93	130	258	3	0	391	6	9	3	0	18	10	268	42	0	320	822
07:15	32	7	63	0	102	142	339	2	0	483	6	13	0	0	19	8	344	69	0	421	1025
07:30	67	13	78	0	158	148	367	2	0	517	5	12	4	0	21	8	390	44	0	442	1138
07:45	51	8	83	0	142	168	323	3	0	494	3	15	6	0	24	12	398	51	0	461	1121
Total	169	33	293	0	495	588	1287	10	0	1885	20	49	13	0	82	38	1400	206	0	1644	4106
08:00	48	11	57	0	116	136	296	0	0	432	11	15	6	0	32	18	372	56	0	446	1026
08:15	36	9	62	0	107	148	321	3	0	472	12	9	6	0	27	8	350	62	0	420	1026
08:30	46	15	70	0	131	123	300	2	0	425	5	15	7	0	27	14	400	54	0	468	1051
08:45	48	15	74	0	137	155	279	3	1	438	10	20	10	0	40	20	353	48	0	421	1036
Total	178	50	263	0	491	562	1196	8	1	1767	38	59	29	0	126	60	1475	220	0	1755	4139
Grand Total	347	83	556	0	986	1150	2483	18	1	3652	58	108	42	0	208	98	2875	426	0	3399	8245
Apprch %	35.2	8.4	56.4	0		31.5	68	0.5	0		27.9	51.9	20.2	0		2.9	84.6	12.5	0		
Total %	4.2	1	6.7	0	12	13.9	30.1	0.2	0	44.3	0.7	1.3	0.5	0	2.5	1.2	34.9	5.2	0	41.2	

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	**67**	**13**	78	0	**158**	148	**367**	2	0	**517**	5	12	4	0	21	8	390	44	0	442	**1138**
07:45	51	8	**83**	0	142	**168**	323	**3**	0	494	3	**15**	**6**	0	24	12	**398**	51	0	**461**	1121
08:00	48	11	57	0	116	136	296	0	0	432	11	15	6	0	**32**	**18**	372	56	0	446	1026
08:15	36	9	62	0	107	148	321	3	0	472	**12**	9	6	0	27	8	350	**62**	0	420	1026
Total Volume	202	41	280	0	523	600	1307	8	0	1915	31	51	22	0	104	46	1510	213	0	1769	4311
% App. Total	38.6	7.8	53.5	0		31.3	68.3	0.4	0		29.8	49	21.2	0		2.6	85.4	12	0		
PHF	.754	.788	.843	.000	.828	.893	.890	.667	.000	.926	.646	.850	.917	.000	.813	.639	.948	.859	.000	.959	.947

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30					07:15					08:00					07:45				
+0 mins.	**67**	**13**			**158**															
+15 mins.	51	8	**83**	0	142	148	**367**	2	0	**517**	**12**	9	6	0	27	**18**	372	56	0	446
+30 mins.	48	11	57	0	116	**168**	323	**3**	0	494	5	15	7	0	27	8	350	**62**	0	420
+45 mins.	36	9	62	0	107	136	296	0	0	432	10	**20**	**10**	0	**40**	14	**400**	54	0	**468**
Total Volume	202	41	280	0	523	594	1325	7	0	1926	38	59	29	0	126	52	1520	223	0	1795
% App. Total	38.6	7.8	53.5	0		30.8	68.8	0.4	0		30.2	46.8	23	0		2.9	84.7	12.4	0	
PHF	.754	.788	.843	.000	.828	.884	.903	.583	.000	.931	.792	.738	.725	.000	.788	.722	.950	.899	.000	.959

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - AM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	1	0	2	0	3	2	11	0	0	13	0	0	0	0	0	2	18	2	0	22	38
07:15	1	1	5	0	7	1	12	0	0	13	0	1	0	0	1	0	23	2	0	25	46
07:30	3	1	3	0	7	1	13	0	0	14	0	0	0	0	0	0	22	0	0	22	43
07:45	3	0	2	0	5	6	23	0	0	29	0	1	0	0	1	3	22	0	0	25	60
Total	8	2	12	0	22	10	59	0	0	69	0	2	0	0	2	5	85	4	0	94	187
08:00	1	0	3	0	4	1	18	0	0	19	1	1	0	0	2	0	27	2	0	29	54
08:15	0	0	2	0	2	3	19	0	0	22	0	0	1	0	1	1	27	0	0	28	53
08:30	1	0	1	0	2	0	18	0	0	18	0	1	0	0	1	0	29	1	0	30	51
08:45	2	0	5	0	7	3	15	0	0	18	0	0	0	0	0	0	26	2	0	28	53
Total	4	0	11	0	15	7	70	0	0	77	1	2	1	0	4	1	109	5	0	115	211
Grand Total	12	2	23	0	37	17	129	0	0	146	1	4	1	0	6	6	194	9	0	209	398
Apprch %	32.4	5.4	62.2	0		11.6	88.4	0	0		16.7	66.7	16.7	0		2.9	92.8	4.3	0		
Total %	3	0.5	5.8	0	9.3	4.3	32.4	0	0	36.7	0.3	1	0.3	0	1.5	1.5	48.7	2.3	0	52.5	

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	**3**	0	2	0	**5**	**6**	**23**	0	0	**29**	0	**1**	0	0	1	**3**	22	0	0	25	**60**
08:00	1	0	**3**	0	4	1	18	0	0	19	**1**	1	0	0	**2**	0	27	**2**	0	29	54
08:15	0	0	2	0	2	3	19	0	0	22	0	0	**1**	0	1	1	27	0	0	28	53
08:30	1	0	1	0	2	0	18	0	0	18	0	1	0	0	1	0	**29**	1	0	**30**	51
Total Volume	5	0	8	0	13	10	78	0	0	88	1	3	1	0	5	4	105	3	0	112	218
% App. Total	38.5	0	61.5	0		11.4	88.6	0	0		20	60	20	0		3.6	93.8	2.7	0		
PHF	.417	.000	.667	.000	.650	.417	.848	.000	.000	.759	.250	.750	.250	.000	.625	.333	.905	.375	.000	.933	.908

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15					**07:45**					**07:45**					**08:00**				
+0 mins.	**1**	**1**	**5**		**7**	**6**	**23**			**29**		**1**						**2**		
+15 mins.	**3**	1	3	0	7	1	18	0	0	19	**1**	1	0	0	**2**	**1**	27	0	0	28
+30 mins.	3	0	2	0	5	3	19	0	0	22	0	0	**1**	0	1	0	**29**	1	0	**30**
+45 mins.	1	0	3	0	4	0	18	0	0	18	0	1	0	0	1	0	26	2	0	28
Total Volume	8	2	13	0	23	10	78	0	0	88	1	3	1	0	5	1	109	5	0	115
% App. Total	34.8	8.7	56.5	0		11.4	88.6	0	0		20	60	20	0		0.9	94.8	4.3	0	
PHF	.667	.500	.650	.000	.821	.417	.848	.000	.000	.759	.250	.750	.250	.000	.625	.250	.940	.625	.000	.958

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - AM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - PM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	71	14	118	0	203	92	344	5	0	441	10	15	34	0	59	23	343	50	0	416	1119
16:15	81	21	117	0	219	78	447	9	0	534	3	17	21	0	41	17	351	52	0	420	1214
16:30	90	17	148	0	255	93	383	5	0	481	10	19	23	0	52	20	307	45	0	372	1160
16:45	71	23	142	0	236	68	444	6	0	518	6	21	23	0	50	20	368	51	0	439	1243
Total	313	75	525	0	913	331	1618	25	0	1974	29	72	101	0	202	80	1369	198	0	1647	4736
17:00	110	24	160	0	294	77	463	7	0	547	8	18	29	0	55	21	329	39	0	389	1285
17:15	107	14	146	0	267	90	452	6	0	548	7	17	31	0	55	22	353	52	0	427	1297
17:30	124	17	64	0	205	95	471	5	0	571	7	16	27	0	50	22	366	46	0	434	1260
17:45	135	3	71	0	209	69	392	8	0	469	9	26	42	0	77	23	302	49	0	374	1129
Total	476	58	441	0	975	331	1778	26	0	2135	31	77	129	0	237	88	1350	186	0	1624	4971
Grand Total	789	133	966	0	1888	662	3396	51	0	4109	60	149	230	0	439	168	2719	384	0	3271	9707
Apprch %	41.8	7	51.2	0		16.1	82.6	1.2	0		13.7	33.9	52.4	0		5.1	83.1	11.7	0		
Total %	8.1	1.4	10	0	19.4	6.8	35	0.5	0	42.3	0.6	1.5	2.4	0	4.5	1.7	28	4	0	33.7	
Vehicles	784	132	954	0	1870	644	3261										2662				
% Vehicles	99.4	99.2	98.8	0	99	97.3	96	100	0	96.3	95	97.3	98.7	0	97.7	100	97.9	97.9	0	98	97.5
Heavy Vehicles																					
% Heavy Vehicles	0.6	0.8	1.2	0	1	2.7	4	0	0	3.7	5	2.7	1.3	0	2.3	0	2.1	2.1	0	2	2.5

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	71	23	142	0	236	68	444	6	0	518	6	**21**	23	0	50	20	**368**	51	0	**439**	1243
17:00	110	**24**	**160**	0	**294**	77	463	**7**	0	547	**8**	18	29	0	**55**	21	329	39	0	389	1285
17:15	107	14	146	0	267	90	452	6	0	548	7	17	**31**	0	55	**22**	353	**52**	0	427	**1297**
17:30	**124**	17	64	0	205	**95**	**471**	5	0	**571**	7	16	27	0	50	22	366	46	0	434	1260
Total Volume	412	78	512	0	1002	330	1830	24	0	2184	28	72	110	0	210	85	1416	188	0	1689	5085
% App. Total	41.1	7.8	51.1	0		15.1	83.8	1.1	0		13.3	34.3	52.4	0		5	83.8	11.1	0		
PHF	.831	.813	.800	.000	.852	.868	.971	.857	.000	.956	.875	.857	.887	.000	.955	.966	.962	.904	.000	.962	.980
Vehicles	409	78	506	0	993	323	1767										1395				
% Vehicles	99.3	100	98.8	0	99.1	97.9	96.6	100	0	96.8	96.4	98.6	97.3	0	97.6	100	98.5	98.4	0	98.6	97.9
Heavy Vehicles																					
% Heavy Vehicles	0.7	0	1.2	0	0.9	2.1	3.4	0	0	3.2	3.6	1.4	2.7	0	2.4	0	1.5	1.6	0	1.4	2.1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - PM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 2

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:30					16:45					17:00					16:45					
+0 mins.	90	17	148	0	255	68	444	6	0	518	8	18	29	0	55	20	**368**	51	0	**439**	
+15 mins.	71	23	142	0	236	77	463	**7**	0	547	7	17	31	0	55	21	329	39	0	389	
+30 mins.	**110**	**24**	**160**	0	**294**	90	452	6	0	548	7	16	27	0	50	**22**	353	**52**	0	427	
+45 mins.	107	14	146	0	267	**95**	**471**	5	0	**571**	**9**	**26**	**42**	0	**77**	22	366	46	0	434	
Total Volume	378	78	596	0	1052	330	1830	24	0	2184	31	77	129	0	237	85	1416	188	0	1689	
% App. Total	35.9	7.4	56.7	0		15.1	83.8	1.1	0		13.1	32.5	54.4	0		5	83.8	11.1	0		
PHF	.859	.813	.931	.000	.895	.868	.971	.857	.000	.956	.861	.740	.768	.000	.769	.966	.962	.904	.000	.962	
Vehicles	376	77	590	0	1043	323	1767	24	0	2114	30	76	127	0	233	85	1395	185	0	1665	
% Vehicles																					
Heavy Vehicles	2	1	6	0	9	7	63	0	0	70	1	1	2	0	4	0	21	3	0	24	
% Heavy Vehicles	0.5	1.3	1	0	0.9	2.1	3.4	0	0	3.2	3.2	1.3	1.6	0	1.7	0	1.5	1.6	0	1.4	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - PM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	71	14	117	0	202	89	325	5	0	419	9	14	34	0	57	23	333	49	0	405	1083
16:15	81	21	116	0	218	74	426	9	0	509	3	16	21	0	40	17	340	51	0	408	1175
16:30	90	16	147	0	253	90	369	5	0	464	10	18	23	0	51	20	298	44	0	362	1130
16:45	71	23	140	0	234	65	427	6	0	498	5	21	22	0	48	20	360	49	0	429	1209
Total	313	74	520	0	907	318	1547	25	0	1890	27	69	100	0	196	80	1331	193	0	1604	4597
17:00	110	24	157	0	291	76	449	7	0	532	8	17	29	0	54	21	325	38	0	384	1261
17:15	105	14	146	0	265	89	433	6	0	528	7	17	29	0	53	22	349	52	0	423	1269
17:30	123	17	63	0	203	93	458	5	0	556	7	16	27	0	50	22	361	46	0	429	1238
17:45	133	3	68	0	204	68	374	8	0	450	8	26	42	0	76	23	296	47	0	366	1096
Total	471	58	434	0	963	326	1714	26	0	2066	30	76	127	0	233	88	1331	183	0	1602	4864
Grand Total	784	132	954	0	1870	644	3261	51	0	3956	57	145	227	0	429	168	2662	376	0	3206	9461
Apprch %	41.9	7.1	51	0		16.3	82.4	1.3	0		13.3	33.8	52.9	0		5.2	83	11.7	0		
Total %	8.3	1.4	10.1	0	19.8	6.8	34.5	0.5	0	41.8	0.6	1.5	2.4	0	4.5	1.8	28.1	4	0	33.9	

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	71	23	140	0	234	65	427	6	0	498	5	**21**	22	0	48	20	360	49	0	**429**	1209
17:00	110	**24**	**157**	0	**291**	76	449	**7**	0	532	**8**	17	**29**	0	**54**	21	325	38	0	384	1261
17:15	105	14	146	0	265	89	433	6	0	528	7	17	29	0	53	**22**	349	**52**	0	423	**1269**
17:30	**123**	17	63	0	203	**93**	**458**	5	0	**556**	7	16	27	0	50	22	**361**	46	0	429	1238
Total Volume	409	78	506	0	993	323	1767	24	0	2114	27	71	107	0	205	85	1395	185	0	1665	4977
% App. Total	41.2	7.9	51	0		15.3	83.6	1.1	0		13.2	34.6	52.2	0		5.1	83.8	11.1	0		
PHF	.831	.813	.806	.000	.853	.868	.965	.857	.000	.951	.844	.845	.922	.000	.949	.966	.966	.889	.000	.970	.980

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:30					16:45					17:00					16:45				
+0 mins.	90	16	147	0	253	65	427	6	0	498	**8**									**429**
+15 mins.	71	23	140	0	234	76	449	**7**	0	532	7	17	29	0	53	21	325	38	0	384
+30 mins.	**110**	**24**	**157**	0	**291**	89	433	6	0	528	7	16	27	0	50	**22**	349	**52**	0	423
+45 mins.	105	14	146	0	265	**93**	**458**	5	0	**556**	8	**26**	**42**	0	**76**	22	**361**	46	0	429
Total Volume	376	77	590	0	1043	323	1767	24	0	2114	30	76	127	0	233	85	1395	185	0	1665
% App. Total	36	7.4	56.6	0		15.3	83.6	1.1	0		12.9	32.6	54.5	0		5.1	83.8	11.1	0	
PHF	.855	.802	.939	.000	.896	.868	.965	.857	.000	.951	.938	.731	.756	.000	.766	.966	.966	.889	.000	.970

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - PM
Site Code : 4_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	1	0	1	3	19	0	0	22	1	1	0	0	2	0	10	1	0	11	36
16:15	0	0	1	0	1	4	21	0	0	25	0	1	0	0	1	0	11	1	0	12	39
16:30	0	1	1	0	2	3	14	0	0	17	0	1	0	0	1	0	9	1	0	10	30
16:45	0	0	2	0	2	3	17	0	0	20	1	0	1	0	2	0	8	2	0	10	34
Total	0	1	5	0	6	13	71	0	0	84	2	3	1	0	6	0	38	5	0	43	139
17:00	0	0	3	0	3	1	14	0	0	15	0	1	0	0	1	0	4	1	0	5	24
17:15	2	0	0	0	2	1	19	0	0	20	0	0	2	0	2	0	4	0	0	4	28
17:30	1	0	1	0	2	2	13	0	0	15	0	0	0	0	0	0	5	0	0	5	22
17:45	2	0	3	0	5	1	18	0	0	19	1	0	0	0	1	0	6	2	0	8	33
Total	5	0	7	0	12	5	64	0	0	69	1	1	2	0	4	0	19	3	0	22	107
Grand Total	5	1	12	0	18	18	135	0	0	153	3	4	3	0	10	0	57	8	0	65	246
Apprch %	27.8	5.6	66.7	0		11.8	88.2	0	0		30	40	30	0		0	87.7	12.3	0		
Total %	2	0.4	4.9	0	7.3	7.3	54.9	0	0	62.2	1.2	1.6	1.2	0	4.1	0	23.2	3.3	0	26.4	

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	1	0	1	3	19	0	0	22	**1**	**1**	0	0	**2**	0	10	1	0	11	36
16:15	0	0	1	0	1	**4**	**21**	0	0	**25**	0	1	0	0	1	0	**11**	1	0	**12**	**39**
16:30	0	**1**	1	0	**2**	3	14	0	0	17	0	1	0	0	1	0	9	1	0	10	30
16:45	0	0	**2**	0	2	3	17	0	0	20	1	0	**1**	0	2	0	8	**2**	0	10	34
Total Volume	0	1	5	0	6	13	71	0	0	84	2	3	1	0	6	0	38	5	0	43	139
% App. Total	0	16.7	83.3	0		15.5	84.5	0	0		33.3	50	16.7	0		0	88.4	11.6	0		
PHF	.000	.250	.625	.000	.750	.813	.845	.000	.000	.840	.500	.750	.250	.000	.750	.000	.864	.625	.000	.896	.891

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	17:00					**16:00**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**3**								**1**	**1**			**2**					
+15 mins.	**2**	0	0	0	2	**4**	**21**	0	0	**25**	0	1	0	0	1	0	**11**	1	0	**12**
+30 mins.	1	0	1	0	2	3	14	0	0	17	0	1	0	0	1	0	9	1	0	10
+45 mins.	2	0	3	0	**5**	3	17	0	0	20	1	0	**1**	0	2	0	8	**2**	0	10
Total Volume	5	0	7	0	12	13	71	0	0	84	2	3	1	0	6	0	38	5	0	43
% App. Total	41.7	0	58.3	0		15.5	84.5	0	0		33.3	50	16.7	0		0	88.4	11.6	0	
PHF	.625	.000	.583	.000	.600	.813	.845	.000	.000	.840	.500	.750	.250	.000	.750	.000	.864	.625	.000	.896

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 4 - SH 71 & RM 2244 - PM
Site Code : 4_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Rd/ RM 2244 Southbound					SH 71 Westbound					Shops Pkwy Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - AM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	90	64	0	154	0	0	0	0	0	14	163	0	0	177	134	1	34	0	169	500
07:15	0	129	96	0	225	0	0	0	0	0	17	242	1	0	260	210	0	27	0	237	722
07:30	0	160	142	0	302	0	0	0	0	0	25	189	1	0	215	206	0	32	0	238	755
07:45	2	138	155	0	295	0	0	0	0	0	31	223	1	0	255	190	0	41	0	231	781
Total	2	517	457	0	976	0	0	0	0	0	87	817	3	0	907	740	1	134	0	875	2758
08:00	2	116	213	0	331	1	0	1	0	2	36	223	3	0	262	176	1	43	0	220	815
08:15	0	120	160	0	280	1	0	1	0	2	25	186	1	0	212	181	2	45	0	228	722
08:30	2	138	121	0	261	0	2	0	0	2	38	184	0	0	222	163	1	38	0	202	687
08:45	0	134	139	0	273	0	0	1	0	1	34	198	0	0	232	176	0	41	0	217	723
Total	4	508	633	0	1145	2	2	3	0	7	133	791	4	0	928	696	4	167	0	867	2947
Grand Total	6	1025	1090	0	2121	2	2	3	0	7	220	1608	7	0	1835	1436	5	301	0	1742	5705
Apprch %	0.3	48.3	51.4	0		28.6	28.6	42.9	0		12	87.6	0.4	0		82.4	0.3	17.3	0		
Total %	0.1	18	19.1	0	37.2	0	0	0.1	0	0.1	3.9	28.2	0.1	0	32.2	25.2	0.1	5.3	0	30.5	
Vehicles	6	992	1069									1578				1417					
% Vehicles	100	96.8	98.1	0	97.5	100	100	100	0	100	97.7	98.1	100	0	98.1	98.7	100	97.3	0	98.5	98
Heavy Vehicles																					
% Heavy Vehicles	0	3.2	1.9	0	2.5	0	0	0	0	0	2.3	1.9	0	0	1.9	1.3	0	2.7	0	1.5	2

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	129	96	0	225	0	0	0	0	0	17	**242**	1	0	260	**210**	0	27	0	237	722
07:30	0	**160**	142	0	302	0	0	0	0	0	25	189	1	0	215	206	0	32	0	**238**	755
07:45	**2**	138	155	0	295	0	0	0	0	0	31	223	1	0	255	190	0	41	0	231	781
08:00	2	116	**213**	0	**331**	**1**	0	**1**	0	**2**	**36**	223	**3**	0	**262**	176	**1**	**43**	0	220	**815**
Total Volume	4	543	606	0	1153	1	0	1	0	2	109	877	6	0	992	782	1	143	0	926	3073
% App. Total	0.3	47.1	52.6	0		50	0	50	0		11	88.4	0.6	0		84.4	0.1	15.4	0		
PHF	.500	.848	.711	.000	.871	.250	.000	.250	.000	.250	.757	.906	.500	.000	.947	.931	.250	.831	.000	.973	.943
Vehicles	4	522	591	0	1117	1	0	1	0	2	107	860	6	0	973	768	1	138	0	907	2999
% Vehicles		96.1	97.5	0	96.9	100	0	100	0	100	98.2	98.1	100	0	98.1	98.2	100	96.5	0	97.9	97.6
Heavy Vehicles																					
% Heavy Vehicles	0	3.9	2.5	0	3.1	0	0	0	0	0	1.8	1.9	0	0	1.9	1.8	0	3.5	0	2.1	2.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - AM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 2

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:30					08:00					07:15					07:15					
+0 mins.	0	**160**	142	0	302	**1**	0	**1**	0	**2**	17	**242**	1	0	260	**210**	0	27	0	237	
+15 mins.	**2**	138	155	0	295	1	0	1	0	2	25	189	1	0	215	206	0	32	0	**238**	
+30 mins.	2	116	**213**	0	**331**	0	**2**	0	0	2	31	223	1	0	255	190	0	41	0	231	
+45 mins.	0	120	160	0	280	0	0	1	0	1	**36**	223	**3**	0	**262**	176	**1**	**43**	0	220	
Total Volume	4	534	670	0	1208	2	2	3	0	7	109	877	6	0	992	782	1	143	0	926	
% App. Total	0.3	44.2	55.5	0		28.6	28.6	42.9	0		11	88.4	0.6	0		84.4	0.1	15.4	0		
PHF	.500	.834	.786	.000	.912	.500	.250	.750	.000	.875	.757	.906	.500	.000	.947	.931	.250	.831	.000	.973	
Vehicles	4	518	657	0	1179	2	2	3	0	7	107	860	6	0	973	768	1	138	0	907	
% Vehicles																					
Heavy Vehicles	0	16	13	0	29	0	0	0	0	0	2	17	0	0	19	14	0	5	0	19	
% Heavy Vehicles	0	3	1.9	0	2.4	0	0	0	0	0	1.8	1.9	0	0	1.9	1.8	0	3.5	0	2.1	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - AM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	89	61	0	150	0	0	0	0	0	14	160	0	0	174	134	1	33	0	168	492
07:15	0	122	92	0	214	0	0	0	0	0	15	238	1	0	254	206	0	26	0	232	700
07:30	0	152	140	0	292	0	0	0	0	0	25	187	1	0	213	206	0	32	0	238	743
07:45	2	135	153	0	290	0	0	0	0	0	31	216	1	0	248	186	0	39	0	225	763
Total	2	498	446	0	946	0	0	0	0	0	85	801	3	0	889	732	1	130	0	863	2698
08:00	2	113	206	0	321	1	0	1	0	2	36	219	3	0	258	170	1	41	0	212	793
08:15	0	118	158	0	276	1	0	1	0	2	25	181	1	0	207	179	2	44	0	225	710
08:30	2	135	121	0	258	0	2	0	0	2	36	183	0	0	219	163	1	38	0	202	681
08:45	0	128	138	0	266	0	0	1	0	1	33	194	0	0	227	173	0	40	0	213	707
Total	4	494	623	0	1121	2	2	3	0	7	130	777	4	0	911	685	4	163	0	852	2891
Grand Total	6	992	1069	0	2067	2	2	3	0	7	215	1578	7	0	1800	1417	5	293	0	1715	5589
Apprch %	0.3	48	51.7	0		28.6	28.6	42.9	0		11.9	87.7	0.4	0		82.6	0.3	17.1	0		
Total %	0.1	17.7	19.1	0	37	0	0	0.1	0	0.1	3.8	28.2	0.1	0	32.2	25.4	0.1	5.2	0	30.7	

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	**152**	140	0	292	0	0	0	0	0	25	187	1	0	213	**206**	0	32	0	**238**	743
07:45	**2**	135	153	0	290	0	0	0	0	0	31	216	1	0	248	186	0	39	0	225	763
08:00	2	113	**206**	0	**321**	**1**	0	**1**	0	**2**	**36**	**219**	**3**	0	**258**	170	1	41	0	212	**793**
08:15	0	118	158	0	276	1	0	1	0	2	25	181	1	0	207	179	**2**	**44**	0	225	710
Total Volume	4	518	657	0	1179	2	0	2	0	4	117	803	6	0	926	741	3	156	0	900	3009
% App. Total	0.3	43.9	55.7	0		50	0	50	0		12.6	86.7	0.6	0		82.3	0.3	17.3	0		
PHF	.500	.852	.797	.000	.918	.500	.000	.500	.000	.500	.813	.917	.500	.000	.897	.899	.375	.886	.000	.945	.949

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30					08:00					07:15					07:15					
+0 mins.	0	**152**				**1**		**1**		**2**		**238**				**206**					
+15 mins.	**2**	135	153	0	290	1	0	1	0	2	25	187	1	0	213	206	0	32	0	**238**	
+30 mins.	2	113	**206**	0	**321**	0	**2**	0	0	2	31	216	1	0	248	186	0	39	0	225	
+45 mins.	0	118	158	0	276	0	0	1	0	1	**36**	219	**3**	0	**258**	170	**1**	**41**	0	212	
Total Volume	4	518	657	0	1179	2	2	3	0	7	107	860	6	0	973	768	1	138	0	907	
% App. Total	0.3	43.9	55.7	0		28.6	28.6	42.9	0		11	88.4	0.6	0		84.7	0.1	15.2	0		
PHF	.500	.852	.797	.000	.918	.500	.250	.750	.000	.875	.743	.903	.500	.000	.943	.932	.250	.840	.000	.953	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - AM
Site Code : 5_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	1	3	0	4	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	8
07:15	0	7	4	0	11	0	0	0	0	0	2	4	0	0	6	4	0	1	0	5	22
07:30	0	8	2	0	10	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	12
07:45	0	3	2	0	5	0	0	0	0	0	0	7	0	0	7	4	0	2	0	6	18
Total	0	19	11	0	30	0	0	0	0	0	2	16	0	0	18	8	0	4	0	12	60
08:00	0	3	7	0	10	0	0	0	0	0	0	4	0	0	4	6	0	2	0	8	22
08:15	0	2	2	0	4	0	0	0	0	0	0	5	0	0	5	2	0	1	0	3	12
08:30	0	3	0	0	3	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	6
08:45	0	6	1	0	7	0	0	0	0	0	1	4	0	0	5	3	0	1	0	4	16
Total	0	14	10	0	24	0	0	0	0	0	3	14	0	0	17	11	0	4	0	15	56
Grand Total	0	33	21	0	54	0	0	0	0	0	5	30	0	0	35	19	0	8	0	27	116
Apprch %	0	61.1	38.9	0		0	0	0	0		14.3	85.7	0	0		70.4	0	29.6	0		
Total %	0	28.4	18.1	0	46.6	0	0	0	0	0	4.3	25.9	0	0	30.2	16.4	0	6.9	0	23.3	

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	7	4	0	**11**	0	0	0	0	0	**2**	4	0	0	6	4	0	1	0	5	**22**
07:30	0	**8**	2	0	10	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	12
07:45	0	3	2	0	5	0	0	0	0	0	0	**7**	0	0	**7**	4	0	**2**	0	6	18
08:00	0	3	**7**	0	10	0	0	0	0	0	0	4	0	0	4	**6**	0	2	0	**8**	22
Total Volume	0	21	15	0	36	0	0	0	0	0	2	17	0	0	19	14	0	5	0	19	74
% App. Total	0	58.3	41.7	0		0	0	0	0		10.5	89.5	0	0		73.7	0	26.3	0		
PHF	.000	.656	.536	.000	.818	.000	.000	.000	.000	.000	.250	.607	.000	.000	.679	.583	.000	.625	.000	.594	.841

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15					**07:00**					**07:15**					**07:15**					
+0 mins.	**0**	**7**	**4**	**0**	**11**						**2**										
+15 mins.	0	**8**	2	0	10	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	
+30 mins.	0	3	2	0	5	0	0	0	0	0	0	**7**	0	0	**7**	4	0	**2**	0	6	
+45 mins.	0	3	**7**	0	10	0	0	0	0	0	0	4	0	0	4	**6**	0	2	0	**8**	
Total Volume	0	21	15	0	36	0	0	0	0	0	2	17	0	0	19	14	0	5	0	19	
% App. Total	0	58.3	41.7	0		0	0	0	0		10.5	89.5	0	0		73.7	0	26.3	0		
PHF	.000	.656	.536	.000	.818	.000	.000	.000	.000	.000	.250	.607	.000	.000	.679	.583	.000	.625	.000	.594	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - AM
Site Code : 5_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - PM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	1	195	196	0	392	1	0	1	0	2	46	145	0	0	191	146	1	47	0	194	779
16:15	0	246	215	0	461	0	2	0	0	2	34	125	0	0	159	147	0	50	0	197	819
16:30	1	210	187	0	398	1	0	0	0	1	49	142	0	0	191	158	0	64	0	222	812
16:45	0	240	236	0	476	1	1	1	0	3	44	137	2	0	183	157	1	65	0	223	885
Total	2	891	834	0	1727	3	3	2	0	8	173	549	2	0	724	608	2	226	0	836	3295
17:00	2	261	206	0	469	4	0	1	0	5	40	97	1	0	138	144	0	91	0	235	847
17:15	0	226	196	0	422	3	0	0	0	3	37	142	2	0	181	159	0	80	0	239	845
17:30	1	184	125	0	310	2	1	0	0	3	38	160	0	1	199	138	0	52	0	190	702
17:45	1	186	121	1	309	5	2	2	0	9	44	123	5	0	172	158	0	69	0	227	717
Total	4	857	648	1	1510	14	3	3	0	20	159	522	8	1	690	599	0	292	0	891	3111
Grand Total	6	1748	1482	1	3237	17	6	5	0	28	332	1071	10	1	1414	1207	2	518	0	1727	6406
Apprch %	0.2	54	45.8	0		60.7	21.4	17.9	0		23.5	75.7	0.7	0.1		69.9	0.1	30	0		
Total %	0.1	27.3	23.1	0	50.5	0.3	0.1	0.1	0	0.4	5.2	16.7	0.2	0	22.1	18.8	0	8.1	0	27	
Vehicles	6	1727	1434									1043				1189					
% Vehicles	100	98.8	96.8	100	97.9	100	100	100	0	100	98.8	97.4	100	100	97.7	98.5	100	99.8	0	98.9	98.1
Heavy Vehicles																					
% Heavy Vehicles	0	1.2	3.2	0	2.1	0	0	0	0	0	1.2	2.6	0	0	2.3	1.5	0	0.2	0	1.1	1.9

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	1	210	187	0	398	1	0	0	0	1	**49**	**142**	0	0	**191**	158	0	64	0	222	812
16:45	0	240	**236**	0	**476**	1	**1**	**1**	0	3	44	137	**2**	0	183	157	**1**	65	0	223	**885**
17:00	**2**	**261**	206	0	469	**4**	0	1	0	**5**	40	97	1	0	138	144	0	**91**	0	235	847
17:15	0	226	196	0	422	3	0	0	0	3	37	142	2	0	181	**159**	0	80	0	**239**	845
Total Volume	3	937	825	0	1765	9	1	2	0	12	170	518	5	0	693	618	1	300	0	919	3389
% App. Total	0.2	53.1	46.7	0		75	8.3	16.7	0		24.5	74.7	0.7	0		67.2	0.1	32.6	0		
PHF	.375	.898	.874	.000	.927	.563	.250	.500	.000	.600	.867	.912	.625	.000	.907	.972	.250	.824	.000	.961	.957
Vehicles	3	926	799	0	1728	9	1	2	0	12	168	503	5	0	676	608	1	299	0	908	3324
% Vehicles		98.8	96.8	0	97.9	100	100	100	0	100	98.8	97.1	100	0	97.5	98.4	100	99.7	0	98.8	98.1
Heavy Vehicles																					
% Heavy Vehicles	0	1.2	3.2	0	2.1	0	0	0	0	0	1.2	2.9	0	0	2.5	1.6	0	0.3	0	1.2	1.9

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - PM
Site Code : 5_____
Start Date : 11/16/2021

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:15					17:00					16:00					16:30					
+0 mins.	0	246	215	0	461	4	0	1	0	5	46	**145**	0	0	**191**	158	0	64	0	222	
+15 mins.	1	210	187	0	398	3	0	0	0	3	34	125	0	0	159	157	**1**	65	0	223	
+30 mins.	0	240	**236**	0	**476**	2	1	0	0	3	**49**	142	0	0	191	144	0	**91**	0	235	
+45 mins.	**2**	**261**	206	0	469	**5**	**2**	**2**	0	**9**	44	137	**2**	0	183	**159**	0	80	0	**239**	
Total Volume	3	957	844	0	1804	14	3	3	0	20	173	549	2	0	724	618	1	300	0	919	
% App. Total	0.2	53	46.8	0		70	15	15	0		23.9	75.8	0.3	0		67.2	0.1	32.6	0		
PHF	.375	.917	.894	.000	.947	.700	.375	.375	.000	.556	.883	.947	.250	.000	.948	.972	.250	.824	.000	.961	
Vehicles	3	946	809	0	1758	14	3	3	0	20	171	530	2	0	703	608	1	299	0	908	
% Vehicles																					
Heavy Vehicles	0	11	35	0	46	0	0	0	0	0	2	19	0	0	21	10	0	1	0	11	
% Heavy Vehicles	0	1.1	4.1	0	2.5	0	0	0	0	0	1.2	3.5	0	0	2.9	1.6	0	0.3	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - PM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	1	193	185	0	379	1	0	1	0	2	45	140	0	0	185	141	1	47	0	189	755
16:15	0	245	205	0	450	0	2	0	0	2	34	122	0	0	156	145	0	50	0	195	803
16:30	1	207	178	0	386	1	0	0	0	1	49	135	0	0	184	156	0	64	0	220	791
16:45	0	236	229	0	465	1	1	1	0	3	43	133	2	0	178	155	1	65	0	221	867
Total	2	881	797	0	1680	3	3	2	0	8	171	530	2	0	703	597	2	226	0	825	3216
17:00	2	258	197	0	457	4	0	1	0	5	39	95	1	0	135	138	0	91	0	229	826
17:15	0	225	195	0	420	3	0	0	0	3	37	140	2	0	179	159	0	79	0	238	840
17:30	1	181	124	0	306	2	1	0	0	3	38	157	0	1	196	137	0	52	0	189	694
17:45	1	182	121	1	305	5	2	2	0	9	43	121	5	0	169	158	0	69	0	227	710
Total	4	846	637	1	1488	14	3	3	0	20	157	513	8	1	679	592	0	291	0	883	3070
Grand Total	6	1727	1434	1	3168	17	6	5	0	28	328	1043	10	1	1382	1189	2	517	0	1708	6286
Apprch %	0.2	54.5	45.3	0		60.7	21.4	17.9	0		23.7	75.5	0.7	0.1		69.6	0.1	30.3	0		
Total %	0.1	27.5	22.8	0	50.4	0.3	0.1	0.1	0	0.4	5.2	16.6	0.2	0	22	18.9	0	8.2	0	27.2	

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	1	207	178	0	386	1	0	0	0	1	**49**	135	0	0	**184**	156	0	64	0	220	791
16:45	0	236	**229**	0	**465**	1	**1**	**1**	0	3	43	133	**2**	0	178	155	**1**	65	0	221	**867**
17:00	**2**	**258**	197	0	457	**4**	0	1	0	**5**	39	95	1	0	135	138	0	**91**	0	229	826
17:15	0	225	195	0	420	3	0	0	0	3	37	**140**	2	0	179	**159**	0	79	0	**238**	840
Total Volume	3	926	799	0	1728	9	1	2	0	12	168	503	5	0	676	608	1	299	0	908	3324
% App. Total	0.2	53.6	46.2	0		75	8.3	16.7	0		24.9	74.4	0.7	0		67	0.1	32.9	0		
PHF	.375	.897	.872	.000	.929	.563	.250	.500	.000	.600	.857	.898	.625	.000	.918	.956	.250	.821	.000	.954	.958

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:15					17:00					16:00					16:30				
+0 mins.	0	245	205	0	450	4	0	1	0	5	45	**140**			**185**					
+15 mins.	1	207	178	0	386	3	0	0	0	3	34	122	0	0	156	155	**1**	65	0	221
+30 mins.	0	236	**229**	0	**465**	2	1	0	0	3	**49**	135	0	0	184	138	0	**91**	0	229
+45 mins.	**2**	**258**	197	0	457	**5**	**2**	**2**	0	**9**	43	133	**2**	0	178	**159**	0	79	0	**238**
Total Volume	3	946	809	0	1758	14	3	3	0	20	171	530	2	0	703	608	1	299	0	908
% App. Total	0.2	53.8	46	0		70	15	15	0		24.3	75.4	0.3	0		67	0.1	32.9	0	
PHF	.375	.917	.883	.000	.945	.700	.375	.375	.000	.556	.872	.946	.250	.000	.950	.956	.250	.821	.000	.954

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - PM
Site Code : 5_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	2	11	0	13	0	0	0	0	0	1	5	0	0	6	5	0	0	0	5	24
16:15	0	1	10	0	11	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2	16
16:30	0	3	9	0	12	0	0	0	0	0	0	7	0	0	7	2	0	0	0	2	21
16:45	0	4	7	0	11	0	0	0	0	0	1	4	0	0	5	2	0	0	0	2	18
Total	0	10	37	0	47	0	0	0	0	0	2	19	0	0	21	11	0	0	0	11	79
17:00	0	3	9	0	12	0	0	0	0	0	1	2	0	0	3	6	0	0	0	6	21
17:15	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	5
17:30	0	3	1	0	4	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	8
17:45	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	7
Total	0	11	11	0	22	0	0	0	0	0	2	9	0	0	11	7	0	1	0	8	41
Grand Total	0	21	48	0	69	0	0	0	0	0	4	28	0	0	32	18	0	1	0	19	120
Apprch %	0	30.4	69.6	0		0	0	0	0		12.5	87.5	0	0		94.7	0	5.3	0		
Total %	0	17.5	40	0	57.5	0	0	0	0	0	3.3	23.3	0	0	26.7	15	0	0.8	0	15.8	

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	2	**11**	0	**13**	0	0	0	0	0	**1**	5	0	0	6	**5**	0	0	0	**5**	**24**
16:15	0	1	10	0	11	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2	16
16:30	0	3	9	0	12	0	0	0	0	0	0	**7**	0	0	**7**	2	0	0	0	2	21
16:45	0	**4**	7	0	11	0	0	0	0	0	1	4	0	0	5	2	0	0	0	2	18
Total Volume	0	10	37	0	47	0	0	0	0	0	2	19	0	0	21	11	0	0	0	11	79
% App. Total	0	21.3	78.7	0		0	0	0	0		9.5	90.5	0	0		100	0	0	0		
PHF	.000	.625	.841	.000	.904	.000	.000	.000	.000	.000	.500	.679	.000	.000	.750	.550	.000	.000	.000	.550	.823

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					**16:00**					**16:00**					**16:15**				
+0 mins.	**0**	**2**	**11**		**13**						**1**									
+15 mins.	0	1	10	0	11	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2
+30 mins.	0	3	9	0	12	0	0	0	0	0	0	**7**	0	0	**7**	2	0	0	0	2
+45 mins.	0	**4**	7	0	11	0	0	0	0	0	1	4	0	0	5	**6**	0	0	0	**6**
Total Volume	0	10	37	0	47	0	0	0	0	0	2	19	0	0	21	12	0	0	0	12
% App. Total	0	21.3	78.7	0		0	0	0	0		9.5	90.5	0	0		100	0	0	0	
PHF	.000	.625	.841	.000	.904	.000	.000	.000	.000	.000	.500	.679	.000	.000	.750	.500	.000	.000	.000	.500

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 5 - RM 2244 & Bee Cave Pkwy - PM
Site Code : 5_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Rd/RM 2244 Southbound					Driveway Westbound					Bee Cave Rd/RM 2244 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	4	70	0	0	74	1	0	4	0	5	0	177	5	0	182	261
07:15	0	0	0	0	0	4	101	0	0	105	5	0	2	0	7	0	217	4	0	221	333
07:30	0	0	0	0	0	8	143	0	0	151	5	0	4	0	9	0	219	13	0	232	392
07:45	0	0	0	0	0	8	159	0	0	167	8	0	6	0	14	0	204	11	0	215	396
Total	0	0	0	0	0	24	473	0	0	497	19	0	16	0	35	0	817	33	0	850	1382
08:00	0	0	0	0	0	11	231	0	0	242	13	0	8	0	21	0	220	18	0	238	501
08:15	0	0	0	0	0	12	169	0	0	181	8	0	2	0	10	0	198	25	0	223	414
08:30	0	0	0	0	0	5	139	0	0	144	8	0	4	0	12	0	184	13	0	197	353
08:45	0	0	0	0	0	11	146	0	0	157	4	0	2	0	6	0	229	12	0	241	404
Total	0	0	0	0	0	39	685	0	0	724	33	0	16	0	49	0	831	68	0	899	1672
Grand Total	0	0	0	0	0	63	1158	0	0	1221	52	0	32	0	84	0	1648	101	0	1749	3054
Apprch %	0	0	0	0		5.2	94.8	0	0		61.9	0	38.1	0		0	94.2	5.8	0		
Total %	0	0	0	0	0	2.1	37.9	0	0	40	1.7	0	1	0	2.8	0	54	3.3	0	57.3	
Vehicles	0	0	0	0	0	62	1135										1622				
% Vehicles	0	0	0	0	0	98.4	98	0	0	98	98.1	0	100	0	98.8	0	98.4	99	0	98.5	98.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	1.6	2	0	0	2	1.9	0	0	0	1.2	0	1.6	1	0	1.5	1.7

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	8	143	0	0	151	5	0	4	0	9	0	219	13	0	232	392
07:45	0	0	0	0	0	8	159	0	0	167	8	0	6	0	14	0	204	11	0	215	396
08:00	0	0	0	0	0	11	**231**	0	0	**242**	**13**	0	**8**	0	**21**	0	**220**	18	0	**238**	**501**
08:15	0	0	0	0	0	**12**	169	0	0	181	8	0	2	0	10	0	198	**25**	0	223	414
Total Volume	0	0	0	0	0	39	702	0	0	741	34	0	20	0	54	0	841	67	0	908	1703
% App. Total	0	0	0	0		5.3	94.7	0	0		63	0	37	0		0	92.6	7.4	0		
PHF	.000	.000	.000	.000	.000	.813	.760	.000	.000	.765	.654	.000	.625	.000	.643	.000	.956	.670	.000	.954	.850
Vehicles	0	0	0	0	0	39	690	0	0	729	33	0	20	0	53	0	825	67	0	892	1674
% Vehicles							98.3	0	0	98.4	97.1	0	100	0	98.1	0	98.1	100	0	98.2	98.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	2.9	0	0	0	1.9	0	1.9	0	0	1.8	1.7

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00					07:30					07:45					07:30					
+0 mins.	0	0	0	0	0	8	143	0	0	151	8	0	6	0	14	0	219	13	0	232	
+15 mins.	0	0	0	0	0	8	159	0	0	167	**13**	0	**8**	0	**21**	0	204	11	0	215	
+30 mins.	0	0	0	0	0	11	**231**	0	0	**242**	8	0	2	0	10	0	**220**	18	0	**238**	
+45 mins.	0	0	0	0	0	**12**	169	0	0	181	8	0	4	0	12	0	198	**25**	0	223	
Total Volume	0	0	0	0	0	39	702	0	0	741	37	0	20	0	57	0	841	67	0	908	
% App. Total	0	0	0	0		5.3	94.7	0	0		64.9	0	35.1	0		0	92.6	7.4	0		
PHF	.000	.000	.000	.000	.000	.813	.760	.000	.000	.765	.712	.000	.625	.000	.679	.000	.956	.670	.000	.954	
Vehicles	0	0	0	0	0	39	690	0	0	729	36	0	20	0	56	0	825	67	0	892	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	16	0	0	16	
% Heavy Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	2.7	0	0	0	1.8	0	1.9	0	0	1.8	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	70	0	0	73	1	0	4	0	5	0	175	5	0	180	258
07:15	0	0	0	0	0	4	95	0	0	99	5	0	2	0	7	0	214	4	0	218	324
07:30	0	0	0	0	0	8	141	0	0	149	5	0	4	0	9	0	219	13	0	232	390
07:45	0	0	0	0	0	8	157	0	0	165	8	0	6	0	14	0	198	11	0	209	388
Total	0	0	0	0	0	23	463	0	0	486	19	0	16	0	35	0	806	33	0	839	1360
08:00	0	0	0	0	0	11	225	0	0	236	12	0	8	0	20	0	213	18	0	231	487
08:15	0	0	0	0	0	12	167	0	0	179	8	0	2	0	10	0	195	25	0	220	409
08:30	0	0	0	0	0	5	137	0	0	142	8	0	4	0	12	0	184	13	0	197	351
08:45	0	0	0	0	0	11	143	0	0	154	4	0	2	0	6	0	224	11	0	235	395
Total	0	0	0	0	0	39	672	0	0	711	32	0	16	0	48	0	816	67	0	883	1642
Grand Total	0	0	0	0	0	62	1135	0	0	1197	51	0	32	0	83	0	1622	100	0	1722	3002
Apprch %	0	0	0	0		5.2	94.8	0	0		61.4	0	38.6	0		0	94.2	5.8	0		
Total %	0	0	0	0	0	2.1	37.8	0	0	39.9	1.7	0	1.1	0	2.8	0	54	3.3	0	57.4	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	8	141	0	0	149	5	0	4	0	9	0	**219**	13	0	**232**	390
07:45	0	0	0	0	0	8	157	0	0	165	8	0	6	0	14	0	198	11	0	209	388
08:00	0	0	0	0	0	11	**225**	0	0	**236**	**12**	0	**8**	0	**20**	0	213	18	0	231	**487**
08:15	0	0	0	0	0	**12**	167	0	0	179	8	0	2	0	10	0	195	**25**	0	220	409
Total Volume	0	0	0	0	0	39	690	0	0	729	33	0	20	0	53	0	825	67	0	892	1674
% App. Total	0	0	0	0		5.3	94.7	0	0		62.3	0	37.7	0		0	92.5	7.5	0		
PHF	.000	.000	.000	.000	.000	.813	.767	.000	.000	.772	.688	.000	.625	.000	.663	.000	.942	.670	.000	.961	.859

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:30					07:45					07:30				
+0 mins.	0	0	0	0	0	8	141	0	0	149	8	0	6	0	14	0	**219**			**232**
+15 mins.	0	0	0	0	0	8	157	0	0	165	**12**	0	**8**	0	**20**	0	198	11	0	209
+30 mins.	0	0	0	0	0	11	**225**	0	0	**236**	8	0	2	0	10	0	213	18	0	231
+45 mins.	0	0	0	0	0	**12**	167	0	0	179	8	0	4	0	12	0	195	**25**	0	220
Total Volume	0	0	0	0	0	39	690	0	0	729	36	0	20	0	56	0	825	67	0	892
% App. Total	0	0	0	0		5.3	94.7	0	0		64.3	0	35.7	0		0	92.5	7.5	0	
PHF	.000	.000	.000	.000	.000	.813	.767	.000	.000	.772	.750	.000	.625	.000	.700	.000	.942	.670	.000	.961

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
07:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
Total	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	0	11	0	0	11	22
08:00	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	0	7	0	0	7	14
08:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	1	0	6	9
Total	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	15	1	0	16	30
Grand Total	0	0	0	0	0	1	23	0	0	24	1	0	0	0	1	0	26	1	0	27	52
Apprch %	0	0	0	0		4.2	95.8	0	0		100	0	0	0		0	96.3	3.7	0		
Total %	0	0	0	0	0	1.9	44.2	0	0	46.2	1.9	0	0	0	1.9	0	50	1.9	0	51.9	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	0	3	0	0	3	9
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
08:00	0	0	0	0	0	0	6	0	0	6	**1**	0	0	0	**1**	0	**7**	0	0	**7**	**14**
Total Volume	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	16	0	0	16	33
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.250	.000	.000	.000	.250	.000	.571	.000	.000	.571	.589

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:15**					**07:15**					**07:15**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**6**			**6**										
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6
+45 mins.	0	0	0	0	0	0	6	0	0	6	**1**	0	0	0	**1**	0	**7**	0	0	**7**
Total Volume	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	16	0	0	16
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.00	.66	.00	.00	.667	.25	.00	.00	.00	.250	.00	.57	.00	.00	.571
	0	0	0	0		0	7	0	0		0	0	0	0		0	1	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	4
08:00	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	10
Apprch %	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	50	0	0	50	0	50	0	0	50	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:00	0	0	0	0	0	0	1	0	0	1	0	**2**	0	0	**2**	0	0	0	0	0	**3**
Total Volume	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	6
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:45					07:15					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**2**			**2**		**2**			**2**					
Total Volume	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0	
PHF	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.37 5	.00 0	.00 0	.375	.00 0	.50 0	.00 0	.00 0	.500	.00 0	.00 0	.00 0	.00 0	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	18	214	0	0	232	22	0	9	0	31	0	148	8	0	156	419
16:15	0	0	0	0	0	3	235	0	1	239	22	0	11	0	33	0	157	11	0	168	440
16:30	0	0	0	0	0	7	215	0	0	222	18	0	8	0	26	0	185	19	0	204	452
16:45	0	0	0	0	0	16	247	0	0	263	33	0	8	0	41	0	189	19	0	208	512
Total	0	0	0	0	0	44	911	0	1	956	95	0	36	0	131	0	679	57	0	736	1823
17:00	0	0	0	0	0	10	241	0	0	251	29	0	17	0	46	0	182	15	0	197	494
17:15	0	0	0	0	0	11	209	0	0	220	27	0	7	0	34	0	179	19	0	198	452
17:30	0	0	0	0	0	6	150	0	0	156	22	0	11	0	33	0	155	22	0	177	366
17:45	0	0	0	0	0	6	152	0	0	158	34	0	15	0	49	0	177	25	0	202	409
Total	0	0	0	0	0	33	752	0	0	785	112	0	50	0	162	0	693	81	0	774	1721
Grand Total	0	0	0	0	0	77	1663	0	1	1741	207	0	86	0	293	0	1372	138	0	1510	3544
Apprch %	0	0	0	0		4.4	95.5	0	0.1		70.6	0	29.4	0		0	90.9	9.1	0		
Total %	0	0	0	0	0	2.2	46.9	0	0	49.1	5.8	0	2.4	0	8.3	0	38.7	3.9	0	42.6	
Vehicles	0	0	0	0	0	77	1642										1352				
% Vehicles	0	0	0	0	0	100	98.7	0	100	98.8	99.5	0	100	0	99.7	0	98.5	100	0	98.7	98.8
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.2	0.5	0	0	0	0.3	0	1.5	0	0	1.3	1.2

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	7	215	0	0	222	18	0	8	0	26	0	185	**19**	0	204	452
16:45	0	0	0	0	0	**16**	**247**	0	0	**263**	**33**	0	8	0	41	0	**189**	19	0	**208**	**512**
17:00	0	0	0	0	0	10	241	0	0	251	29	0	**17**	0	**46**	0	182	15	0	197	494
17:15	0	0	0	0	0	11	209	0	0	220	27	0	7	0	34	0	179	19	0	198	452
Total Volume	0	0	0	0	0	44	912	0	0	956	107	0	40	0	147	0	735	72	0	807	1910
% App. Total	0	0	0	0		4.6	95.4	0	0		72.8	0	27.2	0		0	91.1	8.9	0		
PHF	.000	.000	.000	.000	.000	.688	.923	.000	.000	.909	.811	.000	.588	.000	.799	.000	.972	.947	.000	.970	.933
Vehicles	0	0	0	0	0	44	898	0	0	942	107	0	40	0	147	0	725	72	0	797	1886
% Vehicles							98.5	0	0	98.5	100	0	100	0	100	0	98.6	100	0	98.8	98.7
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.5	0	0	0	0	0	0	1.4	0	0	1.2	1.3

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:00					16:15					17:00					16:30					
+0 mins.	0	0	0	0	0	3	235	0	**1**	239	29	0	**17**	0	46	0	185	**19**	0	204	
+15 mins.	0	0	0	0	0	7	215	0	0	222	27	0	7	0	34	0	**189**	19	0	**208**	
+30 mins.	0	0	0	0	0	**16**	**247**	0	0	**263**	22	0	11	0	33	0	182	15	0	197	
+45 mins.	0	0	0	0	0	10	241	0	0	251	**34**	0	15	0	**49**	0	179	19	0	198	
Total Volume	0	0	0	0	0	36	938	0	1	975	112	0	50	0	162	0	735	72	0	807	
% App. Total	0	0	0	0		3.7	96.2	0	0.1		69.1	0	30.9	0		0	91.1	8.9	0		
PHF	.000	.000	.000	.000	.000	.563	.949	.000	.250	.927	.824	.000	.735	.000	.827	.000	.972	.947	.000	.970	
Vehicles	0	0	0	0	0	36	924	0	1	961	111	0	50	0	161	0	725	72	0	797	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	10	0	0	10	
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.4	0.9	0	0	0	0.6	0	1.4	0	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	18	212	0	0	230	22	0	9	0	31	0	142	8	0	150	411
16:15	0	0	0	0	0	3	233	0	1	237	22	0	11	0	33	0	155	11	0	166	436
16:30	0	0	0	0	0	7	213	0	0	220	18	0	8	0	26	0	184	19	0	203	449
16:45	0	0	0	0	0	16	243	0	0	259	33	0	8	0	41	0	185	19	0	204	504
Total	0	0	0	0	0	44	901	0	1	946	95	0	36	0	131	0	666	57	0	723	1800
17:00	0	0	0	0	0	10	235	0	0	245	29	0	17	0	46	0	177	15	0	192	483
17:15	0	0	0	0	0	11	207	0	0	218	27	0	7	0	34	0	179	19	0	198	450
17:30	0	0	0	0	0	6	149	0	0	155	22	0	11	0	33	0	154	22	0	176	364
17:45	0	0	0	0	0	6	150	0	0	156	33	0	15	0	48	0	176	25	0	201	405
Total	0	0	0	0	0	33	741	0	0	774	111	0	50	0	161	0	686	81	0	767	1702
Grand Total	0	0	0	0	0	77	1642	0	1	1720	206	0	86	0	292	0	1352	138	0	1490	3502
Apprch %	0	0	0	0		4.5	95.5	0	0.1		70.5	0	29.5	0		0	90.7	9.3	0		
Total %	0	0	0	0	0	2.2	46.9	0	0	49.1	5.9	0	2.5	0	8.3	0	38.6	3.9	0	42.5	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	7	213	0	0	220	18	0	8	0	26	0	184	**19**	0	203	449
16:45	0	0	0	0	0	**16**	**243**	0	0	**259**	**33**	0	8	0	41	0	**185**	19	0	**204**	**504**
17:00	0	0	0	0	0	10	235	0	0	245	29	0	**17**	0	**46**	0	177	15	0	192	483
17:15	0	0	0	0	0	11	207	0	0	218	27	0	7	0	34	0	179	19	0	198	450
Total Volume	0	0	0	0	0	44	898	0	0	942	107	0	40	0	147	0	725	72	0	797	1886
% App. Total	0	0	0	0		4.7	95.3	0	0		72.8	0	27.2	0		0	91	9	0		
PHF	.000	.000	.000	.000	.000	.688	.924	.000	.000	.909	.811	.000	.588	.000	.799	.000	.980	.947	.000	.977	.936

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:15					17:00					16:30				
+0 mins.	0	0	0	0	0	3	233	0	**1**				**17**					**19**		
+15 mins.	0	0	0	0	0	7	213	0	0	220	27	0	7	0	34	0	**185**	19	0	**204**
+30 mins.	0	0	0	0	0	**16**	**243**	0	0	**259**	22	0	11	0	33	0	177	15	0	192
+45 mins.	0	0	0	0	0	10	235	0	0	245	**33**	0	15	0	**48**	0	179	19	0	198
Total Volume	0	0	0	0	0	36	924	0	1	961	111	0	50	0	161	0	725	72	0	797
% App. Total	0	0	0	0		3.7	96.1	0	0.1		68.9	0	31.1	0		0	91	9	0	
PHF	.000	.000	.000	.000	.000	.563	.951	.000	.250	.928	.841	.000	.735	.000	.839	.000	.980	.947	.000	.977

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	13	0	0	13	23
17:00	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
17:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
17:45	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	4
Total	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	0	7	0	0	7	19
Grand Total	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	0	20	0	0	20	42
Apprch %	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	50	0	0	50	2.4	0	0	0	2.4	0	47.6	0	0	47.6	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
17:00	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	0	**5**	0	0	**5**	**11**
Total Volume	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	12	0	0	12	26
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.583	.000	.000	.583	.000	.000	.000	.000	.000	.000	.600	.000	.000	.600	.591

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**17:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**			**6**
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	**6**	0	0	**6**	**1**	0	0	0	**1**	0	4	0	0	4
Total Volume	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	13	0	0	13
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.00	.58	.00	.00	.583	.25	.00	.00	.00	.250	.00	.54	.00	.00	.542
	0	0	0	0		0	3	0	0		0	0	0	0		0	2	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	5
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0	10
17:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	9	0	0	9	0	5	0	0	5	0	0	0	0	0	14
Apprch %	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	64.3	0	0	64.3	0	35.7	0	0	35.7	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	**4**	0	0	**4**	0	**1**	0	0	**1**	0	0	0	0	0	**5**
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0	10
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.438	.000	.000	.438	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	**4**			**4**		**1**			**1**					
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.43	.00	.00	.438	.00	.75	.00	.00	.750	.00	.00	.00	.00	.000
	0	0	0	0		0	8	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	132	124	68	0	324	2	13	47	0	62	3	128	1	0	132	78	56	5	0	139	657
07:15	170	181	81	0	432	4	19	64	0	87	4	128	1	0	133	51	78	4	0	133	785
07:30	146	167	68	0	381	5	45	102	0	152	5	175	4	0	184	94	83	13	0	190	907
07:45	170	216	94	0	480	13	39	102	0	154	8	226	5	0	239	91	67	6	0	164	1037
Total	618	688	311	0	1617	24	116	315	0	455	20	657	11	0	688	314	284	28	0	626	3386
08:00	178	166	97	0	441	3	54	164	0	221	8	202	9	0	219	127	64	16	0	207	1088
08:15	176	185	106	0	467	5	50	143	0	198	5	231	9	0	245	106	42	14	0	162	1072
08:30	189	179	128	0	496	6	50	100	0	156	7	202	6	0	215	89	60	12	0	161	1028
08:45	165	185	127	0	477	5	44	85	0	134	11	208	4	0	223	99	65	10	0	174	1008
Total	708	715	458	0	1881	19	198	492	0	709	31	843	28	0	902	421	231	52	0	704	4196
Grand Total	1326	1403	769	0	3498	43	314	807	0	1164	51	1500	39	0	1590	735	515	80	0	1330	7582
Apprch %	37.9	40.1	22	0		3.7	27	69.3	0		3.2	94.3	2.5	0		55.3	38.7	6	0		
Total %	17.5	18.5	10.1	0	46.1	0.6	4.1	10.6	0	15.4	0.7	19.8	0.5	0	21	9.7	6.8	1.1	0	17.5	
Vehicles	1310	1354	714	0	3378	43	310	787	0	1140	50	1450	38	0	1538	707	506	79	0	1292	7348
% Vehicles	98.8	96.5	92.8	0	96.6	100	98.7	97.5	0	97.9	98	96.7	97.4	0	96.7	96.2	98.3	98.8	0	97.1	96.9
Heavy Vehicles	16	49	55	0	120	0	4	20	0	24	1	50	1	0	52	28	9	1	0	38	234
% Heavy Vehicles	1.2	3.5	7.2	0	3.4	0	1.3	2.5	0	2.1	2	3.3	2.6	0	3.3	3.8	1.7	1.2	0	2.9	3.1

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	170	**216**	94	0	480	**13**	39	102	0	154	**8**	226	5	0	239	91	**67**	6	0	164	1037
08:00	178	166	97	0	441	3	**54**	**164**	0	**221**	8	202	**9**	0	219	**127**	64	**16**	0	**207**	**1088**
08:15	176	185	106	0	467	5	50	143	0	198	5	**231**	9	0	**245**	106	42	14	0	162	1072
08:30	**189**	179	**128**	0	**496**	6	50	100	0	156	7	202	6	0	215	89	60	12	0	161	1028
Total Volume	713	746	425	0	1884	27	193	509	0	729	28	861	29	0	918	413	233	48	0	694	4225
% App. Total	37.8	39.6	22.6	0		3.7	26.5	69.8	0		3.1	93.8	3.2	0		59.5	33.6	6.9	0		
PHF	.943	.863	.830	.000	.950	.519	.894	.776	.000	.825	.875	.932	.806	.000	.937	.813	.869	.750	.000	.838	.971
Vehicles	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	396	228	47	0	671	4085
% Vehicles	98.5	96.0	92.2	0	96.1	100	98.4	97.6	0	97.9	100	96.9	96.6	0	96.9	95.9	97.9	97.9	0	96.7	96.7
Heavy Vehicles	11	30	33	0	74	0	3	12	0	15	0	27	1	0	28	17	5	1	0	23	140
% Heavy Vehicles	1.5	4.0	7.8	0	3.9	0	1.6	2.4	0	2.1	0	3.1	3.4	0	3.1	4.1	2.1	2.1	0	3.3	3.3

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45					07:45					07:45					07:30					
+0 mins.	170	**216**	94	0	480	**13**	39	102	0	154	**8**	226	5	0	239	94	**83**	13	0	190	
+15 mins.	178	166	97	0	441	3	**54**	**164**	0	**221**	8	202	**9**	0	219	91	67	6	0	164	
+30 mins.	176	185	106	0	467	5	50	143	0	198	5	**231**	9	0	**245**	**127**	64	**16**	0	**207**	
+45 mins.	**189**	179	**128**	0	**496**	6	50	100	0	156	7	202	6	0	215	106	42	14	0	162	
Total Volume	713	746	425	0	1884	27	193	509	0	729	28	861	29	0	918	418	256	49	0	723	
% App. Total	37.8	39.6	22.6	0		3.7	26.5	69.8	0		3.1	93.8	3.2	0		57.8	35.4	6.8	0		
PHF	.943	.863	.830	.000	.950	.519	.894	.776	.000	.825	.875	.932	.806	.000	.937	.823	.771	.766	.000	.873	
Vehicles	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	401	252	48	0	701	
% Vehicles	98.5	96	92.2	0	96.1	100	98.4	97.6	0	97.9	100	96.9	96.6	0	96.9	95.9	98.4	98	0	97	
Heavy Vehicles	11	30	33	0	74	0	3	12	0	15	0	27	1	0	28	17	4	1	0	22	
% Heavy Vehicles	1.5	4	7.8	0	3.9	0	1.6	2.4	0	2.1	0	3.1	3.4	0	3.1	4.1	1.6	2	0	3	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	132	123	64	0	319	2	12	46	0	60	3	126	1	0	130	74	55	5	0	134	643
07:15	168	176	78	0	422	4	19	59	0	82	4	127	1	0	132	50	76	4	0	130	766
07:30	146	159	65	0	370	5	45	101	0	151	5	168	4	0	177	91	83	13	0	187	885
07:45	166	206	87	0	459	13	37	100	0	150	8	219	5	0	232	87	65	6	0	158	999
Total	612	664	294	0	1570	24	113	306	0	443	20	640	11	0	671	302	279	28	0	609	3293
08:00	173	158	95	0	426	3	53	161	0	217	8	199	9	0	216	124	63	15	0	202	1061
08:15	174	177	100	0	451	5	50	138	0	193	5	221	8	0	234	99	41	14	0	154	1032
08:30	189	175	110	0	474	6	50	98	0	154	7	195	6	0	208	86	59	12	0	157	993
08:45	162	180	115	0	457	5	44	84	0	133	10	195	4	0	209	96	64	10	0	170	969
Total	698	690	420	0	1808	19	197	481	0	697	30	810	27	0	867	405	227	51	0	683	4055
Grand Total	1310	1354	714	0	3378	43	310	787	0	1140	50	1450	38	0	1538	707	506	79	0	1292	7348
Apprch %	38.8	40.1	21.1	0		3.8	27.2	69	0		3.3	94.3	2.5	0		54.7	39.2	6.1	0		
Total %	17.8	18.4	9.7	0	46	0.6	4.2	10.7	0	15.5	0.7	19.7	0.5	0	20.9	9.6	6.9	1.1	0	17.6	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	166	**206**	87	0	459	**13**	37	100	0	150	**8**	219	5	0	232	87	**65**	6	0	158	999
08:00	173	158	95	0	426	3	**53**	**161**	0	**217**	8	199	**9**	0	216	**124**	63	**15**	0	**202**	**1061**
08:15	174	177	100	0	451	5	50	138	0	193	5	**221**	8	0	**234**	99	41	14	0	154	1032
08:30	**189**	175	**110**	0	**474**	6	50	98	0	154	7	195	6	0	208	86	59	12	0	157	993
Total Volume	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	396	228	47	0	671	4085
% App. Total	38.8	39.6	21.7	0		3.8	26.6	69.6	0		3.1	93.7	3.1	0		59	34	7	0		
PHF	.929	.869	.891	.000	.955	.519	.896	.772	.000	.823	.875	.943	.778	.000	.951	.798	.877	.783	.000	.830	.963

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:45					07:45					07:30				
+0 mins.	166	**206**	87	0	459	**13**	37	100	0	150	**8**	219	5	0	232	91	**83**	13	0	187
+15 mins.	173	158	95	0	426	3	**53**	**161**	0	**217**	8	199	**9**	0	216	87	65	6	0	158
+30 mins.	174	177	100	0	451	5	50	138	0	193	5	**221**	8	0	**234**	**124**	63	**15**	0	**202**
+45 mins.	**189**	175	**110**	0	**474**	6	50	98	0	154	7	195	6	0	208	99	41	14	0	154
Total Volume	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	401	252	48	0	701
% App. Total	38.8	39.6	21.7	0		3.8	26.6	69.6	0		3.1	93.7	3.1	0		57.2	35.9	6.8	0	
PHF	.929	.869	.891	.000	.955	.519	.896	.772	.000	.823	.875	.943	.778	.000	.951	.808	.759	.800	.000	.868

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	1	4	0	5	0	1	1	0	2	0	2	0	0	2	4	1	0	0	5	14
07:15	2	5	3	0	10	0	0	5	0	5	0	1	0	0	1	1	2	0	0	3	19
07:30	0	8	3	0	11	0	0	1	0	1	0	7	0	0	7	3	0	0	0	3	22
07:45	4	10	7	0	21	0	2	2	0	4	0	7	0	0	7	4	2	0	0	6	38
Total	6	24	17	0	47	0	3	9	0	12	0	17	0	0	17	12	5	0	0	17	93
08:00	5	8	2	0	15	0	1	3	0	4	0	3	0	0	3	3	1	1	0	5	27
08:15	2	8	6	0	16	0	0	5	0	5	0	10	1	0	11	7	1	0	0	8	40
08:30	0	4	18	0	22	0	0	2	0	2	0	7	0	0	7	3	1	0	0	4	35
08:45	3	5	12	0	20	0	0	1	0	1	1	13	0	0	14	3	1	0	0	4	39
Total	10	25	38	0	73	0	1	11	0	12	1	33	1	0	35	16	4	1	0	21	141
Grand Total	16	49	55	0	120	0	4	20	0	24	1	50	1	0	52	28	9	1	0	38	234
Apprch %	13.3	40.8	45.8	0		0	16.7	83.3	0		1.9	96.2	1.9	0		73.7	23.7	2.6	0		
Total %	6.8	20.9	23.5	0	51.3	0	1.7	8.5	0	10.3	0.4	21.4	0.4	0	22.2	12	3.8	0.4	0	16.2	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	**5**	**8**	2	0	15	0	**1**	3	0	4	0	3	0	0	3	3	**1**	**1**	0	5	27
08:15	2	8	6	0	16	0	0	**5**	0	**5**	0	10	**1**	0	11	**7**	1	0	0	**8**	**40**
08:30	0	4	**18**	0	**22**	0	0	2	0	2	0	7	0	0	7	3	1	0	0	4	35
08:45	3	5	12	0	20	0	0	1	0	1	**1**	**13**	0	0	**14**	3	1	0	0	4	39
Total Volume	10	25	38	0	73	0	1	11	0	12	1	33	1	0	35	16	4	1	0	21	141
% App. Total	13.7	34.2	52.1	0		0	8.3	91.7	0		2.9	94.3	2.9	0		76.2	19	4.8	0		
PHF	.500	.781	.528	.000	.830	.000	.250	.550	.000	.600	.250	.635	.250	.000	.625	.571	1.000	.250	.000	.656	.881

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:45					08:00					07:45					
+0 mins.	4	**10**	7	0	21	0	**2**	2	0	4	0	3	0	0	3	4	**2**	0	0	6	
+15 mins.	**5**	8	2	0	15	0	1	3	0	4	0	10	**1**	0	11	3	1	**1**	0	5	
+30 mins.	2	8	6	0	16	0	0	**5**	0	**5**	0	7	0	0	7	**7**	1	0	0	**8**	
+45 mins.	0	4	**18**	0	**22**	0	0	2	0	2	**1**	**13**	0	0	**14**	3	1	0	0	4	
Total Volume	11	30	33	0	74	0	3	12	0	15	1	33	1	0	35	17	5	1	0	23	
% App. Total	14.9	40.5	44.6	0		0	20	80	0		2.9	94.3	2.9	0		73.9	21.7	4.3	0		
PHF	.550	.750	.458	.000	.841	.000	.375	.600	.000	.750	.250	.635	.250	.000	.625	.607	.625	.250	.000	.719	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	114	196	121	0	431	5	75	158	0	238	12	237	14	0	263	100	37	8	0	145	1077
16:15	146	201	133	0	480	2	83	186	0	271	15	177	7	0	199	84	40	12	0	136	1086
16:30	141	281	127	0	549	3	67	111	0	181	20	87	13	0	120	54	62	11	1	128	978
16:45	135	253	127	0	515	2	96	181	0	279	29	125	6	0	160	81	65	23	0	169	1123
Total	536	931	508	0	1975	12	321	636	0	969	76	626	40	0	742	319	204	54	1	578	4264
17:00	113	274	121	0	508	4	83	155	0	242	28	203	6	0	237	69	52	21	0	142	1129
17:15	160	285	93	0	538	4	98	176	0	278	26	176	7	0	209	78	44	16	0	138	1163
17:30	134	272	121	0	527	4	73	154	0	231	26	83	8	0	117	82	67	19	1	169	1044
17:45	154	251	121	0	526	4	54	190	0	248	20	220	7	0	247	63	62	18	1	144	1165
Total	561	1082	456	0	2099	16	308	675	0	999	100	682	28	0	810	292	225	74	2	593	4501
Grand Total	1097	2013	964	0	4074	28	629	1311	0	1968	176	1308	68	0	1552	611	429	128	3	1171	8765
Apprch %	26.9	49.4	23.7	0		1.4	32	66.6	0		11.3	84.3	4.4	0		52.2	36.6	10.9	0.3		
Total %	12.5	23	11	0	46.5	0.3	7.2	15	0	22.5	2	14.9	0.8	0	17.7	7	4.9	1.5	0	13.4	
Vehicles	1087	1975	935	0	3997	28	619	1299	0	1946	174	1287	67	0	1528	590	422	127	3	1142	8613
% Vehicles	99.1	98.1	97	0	98.1	100	98.4	99.1	0	98.9	98.9	98.4	98.5	0	98.5	96.6	98.4	99.2	100	97.5	98.3
Heavy Vehicles	10	38	29	0	77	0	10	12	0	22	2	21	1	0	24	21	7	1	0	29	152
% Heavy Vehicles	0.9	1.9	3	0	1.9	0	1.6	0.9	0	1.1	1.1	1.6	1.5	0	1.5	3.4	1.6	0.8	0	2.5	1.7

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	113	274	**121**	0	508	**4**	83	155	0	242	**28**	203	6	0	237	69	52	**21**	0	142	1129
17:15	**160**	**285**	93	0	**538**	4	**98**	176	0	**278**	26	176	7	0	209	78	44	16	0	138	1163
17:30	134	272	121	0	527	4	73	154	0	231	26	83	**8**	0	117	**82**	**67**	19	**1**	**169**	1044
17:45	154	251	121	0	526	4	54	**190**	0	248	20	**220**	7	0	**247**	63	62	18	1	144	**1165**
Total Volume	561	1082	456	0	2099	16	308	675	0	999	100	682	28	0	810	292	225	74	2	593	4501
% App. Total	26.7	51.5	21.7	0		1.6	30.8	67.6	0		12.3	84.2	3.5	0		49.2	37.9	12.5	0.3		
PHF	.877	.949	.942	.000	.975	1.00	.786	.888	.000	.898	.893	.775	.875	.000	.820	.890	.840	.881	.500	.877	.966
Vehicles	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
% Vehicles	99.6	98.7	97.6	0	98.7	100	98.7	99.1	0	99.0	100	99.0	100	0	99.1	96.9	98.7	100	100	98.0	98.8
Heavy Vehicles	2	14	11	0	27	0	4	6	0	10	0	7	0	0	7	9	3	0	0	12	56
% Heavy Vehicles	0.4	1.3	2.4	0	1.3	0	1.3	0.9	0	1.0	0	1.0	0	0	0.9	3.1	1.3	0	0	2.0	1.2

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:30					16:45					17:00					16:45					
+0 mins.	141	281	**127**	0	**549**	2	96	**181**	0	**279**	**28**	203	6	0	237	81	65	**23**	0	**169**	
+15 mins.	135	253	127	0	515	**4**	83	155	0	242	26	176	7	0	209	69	52	21	0	142	
+30 mins.	113	274	121	0	508	4	**98**	176	0	278	26	83	**8**	0	117	78	44	16	0	138	
+45 mins.	**160**	**285**	93	0	538	4	73	154	0	231	20	**220**	7	0	**247**	**82**	**67**	19	**1**	169	
Total Volume	549	1093	468	0	2110	14	350	666	0	1030	100	682	28	0	810	310	228	79	1	618	
% App. Total	26	51.8	22.2	0		1.4	34	64.7	0		12.3	84.2	3.5	0		50.2	36.9	12.8	0.2		
PHF	.858	.959	.921	.000	.961	.875	.893	.920	.000	.923	.893	.775	.875	.000	.820	.945	.851	.859	.250	.914	
Vehicles	544	1073	457	0	2074	14	342	662	0	1018	100	675	28	0	803	300	223	79	1	603	
% Vehicles	99.1	98.2	97.6	0	98.3	100	97.7	99.4	0	98.8	100	99	100	0	99.1	96.8	97.8	100	100	97.6	
Heavy Vehicles	5	20	11	0	36	0	8	4	0	12	0	7	0	0	7	10	5	0	0	15	
% Heavy Vehicles	0.9	1.8	2.4	0	1.7	0	2.3	0.6	0	1.2	0	1	0	0	0.9	3.2	2.2	0	0	2.4	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	111	188	119	0	418	5	74	157	0	236	11	232	13	0	256	96	37	7	0	140	1050
16:15	145	198	122	0	465	2	83	183	0	268	15	173	7	0	195	81	39	12	0	132	1060
16:30	140	275	123	0	538	3	66	110	0	179	20	85	13	0	118	53	61	11	1	126	961
16:45	132	246	126	0	504	2	92	180	0	274	28	122	6	0	156	77	63	23	0	163	1097
Total	528	907	490	0	1925	12	315	630	0	957	74	612	39	0	725	307	200	53	1	561	4168
17:00	112	269	119	0	500	4	82	155	0	241	28	199	6	0	233	67	50	21	0	138	1112
17:15	160	283	89	0	532	4	95	173	0	272	26	174	7	0	207	77	44	16	0	137	1148
17:30	134	268	120	0	522	4	73	154	0	231	26	83	8	0	117	79	66	19	1	165	1035
17:45	153	248	117	0	518	4	54	187	0	245	20	219	7	0	246	60	62	18	1	141	1150
Total	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
Grand Total	1087	1975	935	0	3997	28	619	1299	0	1946	174	1287	67	0	1528	590	422	127	3	1142	8613
Apprch %	27.2	49.4	23.4	0		1.4	31.8	66.8	0		11.4	84.2	4.4	0		51.7	37	11.1	0.3		
Total %	12.6	22.9	10.9	0	46.4	0.3	7.2	15.1	0	22.6	2	14.9	0.8	0	17.7	6.9	4.9	1.5	0	13.3	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	112	269	119	0	500	**4**	82	155	0	241	**28**	199	6	0	233	67	50	**21**	0	138	1112
17:15	**160**	**283**	89	0	**532**	4	**95**	173	0	**272**	26	174	7	0	207	77	44	16	0	137	1148
17:30	134	268	**120**	0	522	4	73	154	0	231	26	83	**8**	0	117	**79**	**66**	19	**1**	**165**	1035
17:45	153	248	117	0	518	4	54	**187**	0	245	20	**219**	7	0	**246**	60	62	18	1	141	**1150**
Total Volume	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
% App. Total	27	51.5	21.5	0		1.6	30.7	67.6	0		12.5	84.1	3.5	0		48.7	38.2	12.7	0.3		
PHF	.873	.943	.927	.000	.974	1.00	.800	.894	.000	.909	.893	.771	.875	.000	.816	.896	.841	.881	.500	.880	.966

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:30					16:45					17:00					16:45				
+0 mins.	140	275	123	0	**538**	2	92	**180**	0	**274**	**28**	199	6	0	233	77	63	**23**	0	163
+15 mins.	132	246	**126**	0	504	**4**	82	155	0	241	26	174	7	0	207	67	50	21	0	138
+30 mins.	112	269	119	0	500	4	**95**	173	0	272	26	83	**8**	0	117	77	44	16	0	137
+45 mins.	**160**	**283**	89	0	532	4	73	154	0	231	20	**219**	7	0	**246**	**79**	**66**	19	**1**	**165**
Total Volume	544	1073	457	0	2074	14	342	662	0	1018	100	675	28	0	803	300	223	79	1	603
% App. Total	26.2	51.7	22	0		1.4	33.6	65	0		12.5	84.1	3.5	0		49.8	37	13.1	0.2	
PHF	.850	.948	.907	.000	.964	.875	.900	.919	.000	.929	.893	.771	.875	.000	.816	.949	.845	.859	.250	.914

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	3	8	2	0	13	0	1	1	0	2	1	5	1	0	7	4	0	1	0	5	27
16:15	1	3	11	0	15	0	0	3	0	3	0	4	0	0	4	3	1	0	0	4	26
16:30	1	6	4	0	11	0	1	1	0	2	0	2	0	0	2	1	1	0	0	2	17
16:45	3	7	1	0	11	0	4	1	0	5	1	3	0	0	4	4	2	0	0	6	26
Total	8	24	18	0	50	0	6	6	0	12	2	14	1	0	17	12	4	1	0	17	96
17:00	1	5	2	0	8	0	1	0	0	1	0	4	0	0	4	2	2	0	0	4	17
17:15	0	2	4	0	6	0	3	3	0	6	0	2	0	0	2	1	0	0	0	1	15
17:30	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	9
17:45	1	3	4	0	8	0	0	3	0	3	0	1	0	0	1	3	0	0	0	3	15
Total	2	14	11	0	27	0	4	6	0	10	0	7	0	0	7	9	3	0	0	12	56
Grand Total	10	38	29	0	77	0	10	12	0	22	2	21	1	0	24	21	7	1	0	29	152
Apprch %	13	49.4	37.7	0		0	45.5	54.5	0		8.3	87.5	4.2	0		72.4	24.1	3.4	0		
Total %	6.6	25	19.1	0	50.7	0	6.6	7.9	0	14.5	1.3	13.8	0.7	0	15.8	13.8	4.6	0.7	0	19.1	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	**3**	**8**	2	0	13	0	1	1	0	2	**1**	**5**	**1**	0	**7**	**4**	0	**1**	0	5	**27**
16:15	1	3	**11**	0	**15**	0	0	**3**	0	3	0	4	0	0	4	3	1	0	0	4	26
16:30	1	6	4	0	11	0	1	1	0	2	0	2	0	0	2	1	1	0	0	2	17
16:45	3	7	1	0	11	0	**4**	1	0	**5**	1	3	0	0	4	4	**2**	0	0	**6**	26
Total Volume	8	24	18	0	50	0	6	6	0	12	2	14	1	0	17	12	4	1	0	17	96
% App. Total	16	48	36	0		0	50	50	0		11.8	82.4	5.9	0		70.6	23.5	5.9	0		
PHF	.667	.750	.409	.000	.833	.000	.375	.500	.000	.600	.500	.700	.250	.000	.607	.750	.500	.250	.000	.708	.889

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					16:00				
+0 mins.	**3**	**8**	2	0	13	0	1	1	0	2	**1**	**5**	**1**	0	**7**	**4**	0	**1**	0	5
+15 mins.	1	3	**11**	0	**15**	0	**4**	1	0	5	0	4	0	0	4	3	1	0	0	4
+30 mins.	1	6	4	0	11	0	1	0	0	1	0	2	0	0	2	1	1	0	0	2
+45 mins.	3	7	1	0	11	0	3	**3**	0	**6**	1	3	0	0	4	4	**2**	0	0	**6**
Total Volume	8	24	18	0	50	0	9	5	0	14	2	14	1	0	17	12	4	1	0	17
% App. Total	16	48	36	0		0	64.3	35.7	0		11.8	82.4	5.9	0		70.6	23.5	5.9	0	
PHF	.667	.750	.409	.000	.833	.000	.563	.417	.000	.583	.500	.700	.250	.000	.607	.750	.500	.250	.000	.708

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
16:15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	50	0	0	50	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
16:15	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	**3**	0	0	**3**	**6**
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.417	.000	.000	.417	.000	.417	.000	.000	.417	.417

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	**3**	0	0	**3**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.417	.000	.000	.417	.000	.417	.000	.000	.417

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - AM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	313	8	0	321	1	0	1	0	2	5	241	0	0	246	9	0	16	0	25	594
07:15	0	404	8	0	412	0	0	0	0	0	15	225	0	0	240	16	0	8	0	24	676
07:30	0	409	10	0	419	0	0	0	0	0	24	355	1	0	380	15	0	15	0	30	829
07:45	0	428	12	0	440	0	0	0	0	0	25	384	1	0	410	20	0	18	0	38	888
Total	0	1554	38	0	1592	1	0	1	0	2	69	1205	2	0	1276	60	0	57	0	117	2987
08:00	0	456	19	0	475	0	0	0	0	0	25	463	0	0	488	24	1	18	0	43	1006
08:15	0	423	25	0	448	0	0	0	0	0	46	431	1	0	478	52	0	29	0	81	1007
08:30	0	442	27	0	469	2	0	0	0	2	23	356	2	0	381	46	1	21	0	68	920
08:45	0	503	41	0	544	1	0	0	0	1	30	355	2	0	387	38	0	29	0	67	999
Total	0	1824	112	0	1936	3	0	0	0	3	124	1605	5	0	1734	160	2	97	0	259	3932
Grand Total	0	3378	150	0	3528	4	0	1	0	5	193	2810	7	0	3010	220	2	154	0	376	6919
Apprch %	0	95.7	4.3	0		80	0	20	0		6.4	93.4	0.2	0		58.5	0.5	41	0		
Total %	0	48.8	2.2	0	51	0.1	0	0	0	0.1	2.8	40.6	0.1	0	43.5	3.2	0	2.2	0	5.4	
Vehicles	0	3252										2720									
% Vehicles	0	96.3	98.7	0	96.4	100	0	100	0	100	97.4	96.8	100	0	96.8	97.7	100	98.1	0	97.9	96.7
Heavy Vehicles																					
% Heavy Vehicles	0	3.7	1.3	0	3.6	0	0	0	0	0	2.6	3.2	0	0	3.2	2.3	0	1.9	0	2.1	3.3

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	456	19	0	475	0	0	0	0	0	25	**463**	0	0	**488**	24	**1**	18	0	43	1006
08:15	0	423	25	0	448	0	0	0	0	0	**46**	431	1	0	478	**52**	0	**29**	0	**81**	**1007**
08:30	0	442	27	0	469	**2**	0	0	0	**2**	23	356	**2**	0	381	46	1	21	0	68	920
08:45	0	**503**	**41**	0	**544**	1	0	0	0	1	30	355	2	0	387	38	0	29	0	67	999
Total Volume	0	1824	112	0	1936	3	0	0	0	3	124	1605	5	0	1734	160	2	97	0	259	3932
% App. Total	0	94.2	5.8	0		100	0	0	0		7.2	92.6	0.3	0		61.8	0.8	37.5	0		
PHF	.000	.907	.683	.000	.890	.375	.000	.000	.000	.375	.674	.867	.625	.000	.888	.769	.500	.836	.000	.799	.976
Vehicles	0	1747										1549									
% Vehicles	0	95.8	99.1	0	96.0	100	0	0	0	100	97.6	96.5	100	0	96.6	98.1	100	96.9	0	97.7	96.4
Heavy Vehicles																					
% Heavy Vehicles	0	4.2	0.9	0	4.0	0	0	0	0	0	2.4	3.5	0	0	3.4	1.9	0	3.1	0	2.3	3.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - AM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00					08:00					07:45					08:00					
+0 mins.	0	456	19	0	475	0	0	0	0	0	25	384	1	0	410	24	**1**	18	0	43	
+15 mins.	0	423	25	0	448	0	0	0	0	0	25	**463**	0	0	**488**	**52**	0	**29**	0	**81**	
+30 mins.	0	442	27	0	469	**2**	0	0	0	**2**	**46**	431	1	0	478	46	1	21	0	68	
+45 mins.	0	**503**	**41**	0	**544**	1	0	0	0	1	23	356	**2**	0	381	38	0	29	0	67	
Total Volume	0	1824	112	0	1936	3	0	0	0	3	119	1634	4	0	1757	160	2	97	0	259	
% App. Total	0	94.2	5.8	0		100	0	0	0		6.8	93	0.2	0		61.8	0.8	37.5	0		
PHF	.000	.907	.683	.000	.890	.375	.000	.000	.000	.375	.647	.882	.500	.000	.900	.769	.500	.836	.000	.799	
Vehicles	0	1747	111	0	1858	3	0	0	0	3	116	1581	4	0	1701	157	2	94	0	253	
% Vehicles																					
Heavy Vehicles	0	77	1	0	78	0	0	0	0	0	3	53	0	0	56	3	0	3	0	6	
% Heavy Vehicles	0	4.2	0.9	0	4	0	0	0	0	0	2.5	3.2	0	0	3.2	1.9	0	3.1	0	2.3	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - AM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	307	8	0	315	1	0	1	0	2	5	236	0	0	241	9	0	16	0	25	583
07:15	0	395	8	0	403	0	0	0	0	0	15	218	0	0	233	16	0	8	0	24	660
07:30	0	397	9	0	406	0	0	0	0	0	23	344	1	0	368	14	0	15	0	29	803
07:45	0	406	12	0	418	0	0	0	0	0	24	373	1	0	398	19	0	18	0	37	853
Total	0	1505	37	0	1542	1	0	1	0	2	67	1171	2	0	1240	58	0	57	0	115	2899
08:00	0	436	19	0	455	0	0	0	0	0	25	454	0	0	479	24	1	17	0	42	976
08:15	0	413	24	0	437	0	0	0	0	0	45	410	1	0	456	51	0	27	0	78	971
08:30	0	419	27	0	446	2	0	0	0	2	22	344	2	0	368	46	1	21	0	68	884
08:45	0	479	41	0	520	1	0	0	0	1	29	341	2	0	372	36	0	29	0	65	958
Total	0	1747	111	0	1858	3	0	0	0	3	121	1549	5	0	1675	157	2	94	0	253	3789
Grand Total	0	3252	148	0	3400	4	0	1	0	5	188	2720	7	0	2915	215	2	151	0	368	6688
Apprch %	0	95.6	4.4	0		80	0	20	0		6.4	93.3	0.2	0		58.4	0.5	41	0		
Total %	0	48.6	2.2	0	50.8	0.1	0	0	0	0.1	2.8	40.7	0.1	0	43.6	3.2	0	2.3	0	5.5	

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	436	19	0	455	0	0	0	0	0	25	**454**	0	0	**479**	24	**1**	17	0	42	**976**
08:15	0	413	24	0	437	0	0	0	0	0	**45**	410	1	0	456	**51**	0	27	0	**78**	971
08:30	0	419	27	0	446	**2**	0	0	0	**2**	22	344	**2**	0	368	46	1	21	0	68	884
08:45	0	**479**	**41**	0	**520**	1	0	0	0	1	29	341	2	0	372	36	0	**29**	0	65	958
Total Volume	0	1747	111	0	1858	3	0	0	0	3	121	1549	5	0	1675	157	2	94	0	253	3789
% App. Total	0	94	6	0		100	0	0	0		7.2	92.5	0.3	0		62.1	0.8	37.2	0		
PHF	.000	.912	.677	.000	.893	.375	.000	.000	.000	.375	.672	.853	.625	.000	.874	.770	.500	.810	.000	.811	.971

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					08:00					07:30					08:00				
+0 mins.	0	436	19	0	455	0	0	0	0	0	23	344	**1**				**1**			
+15 mins.	0	413	24	0	437	0	0	0	0	0	24	373	1	0	398	**51**	0	27	0	**78**
+30 mins.	0	419	27	0	446	**2**	0	0	0	**2**	25	**454**	0	0	**479**	46	1	21	0	68
+45 mins.	0	**479**	**41**	0	**520**	1	0	0	0	1	**45**	410	1	0	456	36	0	**29**	0	65
Total Volume	0	1747	111	0	1858	3	0	0	0	3	117	1581	3	0	1701	157	2	94	0	253
% App. Total	0	94	6	0		100	0	0	0		6.9	92.9	0.2	0		62.1	0.8	37.2	0	
PHF	.000	.912	.677	.000	.893	.375	.000	.000	.000	.375	.650	.871	.750	.000	.888	.770	.500	.810	.000	.811

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - AM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	11
07:15	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	16
07:30	0	12	1	0	13	0	0	0	0	0	1	11	0	0	12	1	0	0	0	1	26
07:45	0	22	0	0	22	0	0	0	0	0	1	11	0	0	12	1	0	0	0	1	35
Total	0	49	1	0	50	0	0	0	0	0	2	34	0	0	36	2	0	0	0	2	88
08:00	0	20	0	0	20	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	30
08:15	0	10	1	0	11	0	0	0	0	0	1	21	0	0	22	1	0	2	0	3	36
08:30	0	23	0	0	23	0	0	0	0	0	1	12	0	0	13	0	0	0	0	0	36
08:45	0	24	0	0	24	0	0	0	0	0	1	14	0	0	15	2	0	0	0	2	41
Total	0	77	1	0	78	0	0	0	0	0	3	56	0	0	59	3	0	3	0	6	143
Grand Total	0	126	2	0	128	0	0	0	0	0	5	90	0	0	95	5	0	3	0	8	231
Apprch %	0	98.4	1.6	0		0	0	0	0		5.3	94.7	0	0		62.5	0	37.5	0		
Total %	0	54.5	0.9	0	55.4	0	0	0	0	0	2.2	39	0	0	41.1	2.2	0	1.3	0	3.5	

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	20	0	0	20	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	30
08:15	0	10	**1**	0	11	0	0	0	0	0	**1**	**21**	0	0	**22**	1	0	**2**	0	**3**	36
08:30	0	23	0	0	23	0	0	0	0	0	1	12	0	0	13	0	0	0	0	0	36
08:45	0	**24**	0	0	**24**	0	0	0	0	0	1	14	0	0	15	**2**	0	0	0	2	**41**
Total Volume	0	77	1	0	78	0	0	0	0	0	3	56	0	0	59	3	0	3	0	6	143
% App. Total	0	98.7	1.3	0		0	0	0	0		5.1	94.9	0	0		50	0	50	0		
PHF	.000	.802	.250	.000	.813	.000	.000	.000	.000	.000	.750	.667	.000	.000	.670	.375	.000	.375	.000	.500	.872

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					**07:00**					**08:00**					**07:30**				
+0 mins.	**0**	**20**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**9**	**1**				
+15 mins.	0	10	**1**	0	11	0	0	0	0	0	**1**	**21**	0	0	**22**	1	0	0	0	1
+30 mins.	0	23	0	0	23	0	0	0	0	0	1	12	0	0	13	0	0	1	0	1
+45 mins.	0	**24**	0	0	**24**	0	0	0	0	0	1	14	0	0	15	1	0	**2**	0	**3**
Total Volume	0	77	1	0	78	0	0	0	0	0	3	56	0	0	59	3	0	3	0	6
% App. Total	0	98.7	1.3	0		0	0	0	0		5.1	94.9	0	0		50	0	50	0	
PHF	.000	.802	.250	.000	.813	.000	.000	.000	.000	.000	.750	.667	.000	.000	.670	.750	.000	.375	.000	.500

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - AM
Site Code : 8_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:15					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**			**1**										
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.25	.00	.00	.250	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - PM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	386	34	0	420	1	0	0	0	1	33	445	0	0	478	59	0	40	1	100	999
16:15	1	467	38	0	506	2	1	0	0	3	38	362	2	0	402	29	0	33	0	62	973
16:30	1	488	44	0	533	0	0	1	0	1	26	205	0	0	231	48	0	41	0	89	854
16:45	0	473	26	0	499	1	0	0	0	1	27	379	0	0	406	60	0	28	0	88	994
Total	2	1814	142	0	1958	4	1	1	0	6	124	1391	2	0	1517	196	0	142	1	339	3820
17:00	0	469	33	1	503	2	1	0	0	3	32	424	0	0	456	42	0	25	0	67	1029
17:15	0	490	35	0	525	0	0	0	0	0	35	350	0	0	385	60	0	33	1	94	1004
17:30	0	497	38	0	535	0	1	0	0	1	22	336	0	0	358	48	0	28	0	76	970
17:45	0	457	36	0	493	0	0	0	0	0	30	412	0	0	442	66	0	19	0	85	1020
Total	0	1913	142	1	2056	2	2	0	0	4	119	1522	0	0	1641	216	0	105	1	322	4023
Grand Total	2	3727	284	1	4014	6	3	1	0	10	243	2913	2	0	3158	412	0	247	2	661	7843
Apprch %	0	92.9	7.1	0		60	30	10	0		7.7	92.2	0.1	0		62.3	0	37.4	0.3		
Total %	0	47.5	3.6	0	51.2	0.1	0	0	0	0.1	3.1	37.1	0	0	40.3	5.3	0	3.1	0	8.4	
Vehicles	2	3646										2860									
% Vehicles	100	97.8	99.6	100	98	100	100	100	0	100	99.6	98.2	100	0	98.3	98.8	0	100	100	99.2	98.2
Heavy Vehicles																					
% Heavy Vehicles	0	2.2	0.4	0	2	0	0	0	0	0	0.4	1.8	0	0	1.7	1.2	0	0	0	0.8	1.8

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	469	33	**1**	503	**2**	**1**	0	0	**3**	32	**424**	0	0	**456**	42	0	25	0	67	**1029**
17:15	0	490	35	0	525	0	0	0	0	0	**35**	350	0	0	385	60	0	**33**	**1**	**94**	1004
17:30	0	**497**	**38**	0	**535**	0	1	0	0	1	22	336	0	0	358	48	0	28	0	76	970
17:45	0	457	36	0	493	0	0	0	0	0	30	412	0	0	442	**66**	0	19	0	85	1020
Total Volume	0	1913	142	1	2056	2	2	0	0	4	119	1522	0	0	1641	216	0	105	1	322	4023
% App. Total	0	93	6.9	0		50	50	0	0		7.3	92.7	0	0		67.1	0	32.6	0.3		
PHF	.000	.962	.934	.250	.961	.250	.500	.000	.000	.333	.850	.897	.000	.000	.900	.818	.000	.795	.250	.856	.977
Vehicles	0	1881										1501									
% Vehicles	0	98.3	100	100	98.4	100	100	0	0	100	99.2	98.6	0	0	98.7	99.5	0	100	100	99.7	98.6
Heavy Vehicles																					
% Heavy Vehicles	0	1.7	0	0	1.6	0	0	0	0	0	0.8	1.4	0	0	1.3	0.5	0	0	0	0.3	1.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - PM
Site Code : 8_____
Start Date : 11/16/2021

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:45					16:15					17:00					16:00					
+0 mins.	0	473	26	0	499	**2**	**1**	0	0	**3**	32	**424**	0	0	**456**	59	0	40	**1**	**100**	
+15 mins.	0	469	33	**1**	503	0	0	**1**	0	1	**35**	350	0	0	385	29	0	33	0	62	
+30 mins.	0	490	35	0	525	1	0	0	0	1	22	336	0	0	358	48	0	**41**	0	89	
+45 mins.	0	**497**	**38**	0	**535**	2	1	0	0	3	30	412	0	0	442	**60**	0	28	0	88	
Total Volume	0	1929	132	1	2062	5	2	1	0	8	119	1522	0	0	1641	196	0	142	1	339	
% App. Total	0	93.5	6.4	0		62.5	25	12.5	0		7.3	92.7	0	0		57.8	0	41.9	0.3		
PHF	.000	.970	.868	.250	.964	.625	.500	.250	.000	.667	.850	.897	.000	.000	.900	.817	.000	.866	.250	.848	
Vehicles	0	1899	132	1	2032	5	2	1	0	8	118	1501	0	0	1619	192	0	142	1	335	
% Vehicles																					
Heavy Vehicles	0	30	0	0	30	0	0	0	0	0	1	21	0	0	22	4	0	0	0	4	
% Heavy Vehicles	0	1.6	0	0	1.5	0	0	0	0	0	0.8	1.4	0	0	1.3	2	0	0	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - PM
Site Code : 8_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	374	34	0	408	1	0	0	0	1	33	435	0	0	468	58	0	40	1	99	976
16:15	1	451	37	0	489	2	1	0	0	3	38	352	2	0	392	29	0	33	0	62	946
16:30	1	476	44	0	521	0	0	1	0	1	26	201	0	0	227	46	0	41	0	87	836
16:45	0	464	26	0	490	1	0	0	0	1	27	371	0	0	398	59	0	28	0	87	976
Total	2	1765	141	0	1908	4	1	1	0	6	124	1359	2	0	1485	192	0	142	1	335	3734
17:00	0	460	33	1	494	2	1	0	0	3	32	418	0	0	450	42	0	25	0	67	1014
17:15	0	483	35	0	518	0	0	0	0	0	34	345	0	0	379	60	0	33	1	94	991
17:30	0	492	38	0	530	0	1	0	0	1	22	333	0	0	355	48	0	28	0	76	962
17:45	0	446	36	0	482	0	0	0	0	0	30	405	0	0	435	65	0	19	0	84	1001
Total	0	1881	142	1	2024	2	2	0	0	4	118	1501	0	0	1619	215	0	105	1	321	3968
Grand Total	2	3646	283	1	3932	6	3	1	0	10	242	2860	2	0	3104	407	0	247	2	656	7702
Apprch %	0.1	92.7	7.2	0		60	30	10	0		7.8	92.1	0.1	0		62	0	37.7	0.3		
Total %	0	47.3	3.7	0	51.1	0.1	0	0	0	0.1	3.1	37.1	0	0	40.3	5.3	0	3.2	0	8.5	

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	460	33	**1**	494	**2**	**1**	0	0	**3**	32	**418**	0	0	**450**	42	0	25	0	67	**1014**
17:15	0	483	35	0	518	0	0	0	0	0	**34**	345	0	0	379	60	0	**33**	**1**	**94**	991
17:30	0	**492**	**38**	0	**530**	0	1	0	0	1	22	333	0	0	355	48	0	28	0	76	962
17:45	0	446	36	0	482	0	0	0	0	0	30	405	0	0	435	**65**	0	19	0	84	1001
Total Volume	0	1881	142	1	2024	2	2	0	0	4	118	1501	0	0	1619	215	0	105	1	321	3968
% App. Total	0	92.9	7	0		50	50	0	0		7.3	92.7	0	0		67	0	32.7	0.3		
PHF	.000	.956	.934	.250	.955	.250	.500	.000	.000	.333	.868	.898	.000	.000	.899	.827	.000	.795	.250	.854	.978

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:45					16:15					17:00					16:00				
+0 mins.	0	464	26	0	490	**2**	**1**			**3**		**418**			**450**				**1**	**99**
+15 mins.	0	460	33	**1**	494	0	0	**1**	0	1	**34**	345	0	0	379	29	0	33	0	62
+30 mins.	0	483	35	0	518	1	0	0	0	1	22	333	0	0	355	46	0	**41**	0	87
+45 mins.	0	**492**	**38**	0	**530**	2	1	0	0	3	30	405	0	0	435	**59**	0	28	0	87
Total Volume	0	1899	132	1	2032	5	2	1	0	8	118	1501	0	0	1619	192	0	142	1	335
% App. Total	0	93.5	6.5	0		62.5	25	12.5	0		7.3	92.7	0	0		57.3	0	42.4	0.3	
PHF	.000	.965	.868	.250	.958	.625	.500	.250	.000	.667	.868	.898	.000	.000	.899	.814	.000	.866	.250	.846

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - PM
Site Code : 8_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	1	0	0	0	1	23
16:15	0	16	1	0	17	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	27
16:30	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	18
16:45	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	18
Total	0	49	1	0	50	0	0	0	0	0	0	32	0	0	32	4	0	0	0	4	86
17:00	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	15
17:15	0	7	0	0	7	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	13
17:30	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	8
17:45	0	11	0	0	11	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	19
Total	0	32	0	0	32	0	0	0	0	0	1	21	0	0	22	1	0	0	0	1	55
Grand Total	0	81	1	0	82	0	0	0	0	0	1	53	0	0	54	5	0	0	0	5	141
Apprch %	0	98.8	1.2	0		0	0	0	0		1.9	98.1	0	0		100	0	0	0		
Total %	0	57.4	0.7	0	58.2	0	0	0	0	0	0.7	37.6	0	0	38.3	3.5	0	0	0	3.5	

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	12	0	0	12	0	0	0	0	0	0	**10**	0	0	**10**	1	0	0	0	1	23
16:15	0	**16**	**1**	0	**17**	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	**27**
16:30	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	**2**	0	0	0	**2**	18
16:45	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	18
Total Volume	0	49	1	0	50	0	0	0	0	0	0	32	0	0	32	4	0	0	0	4	86
% App. Total	0	98	2	0		0	0	0	0		0	100	0	0		100	0	0	0		
PHF	.000	.766	.250	.000	.735	.000	.000	.000	.000	.000	.000	.800	.000	.000	.800	.500	.000	.000	.000	.500	.796

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					**16:00**					**16:00**					**16:00**				
+0 mins.	**0**	**12**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**10**			**10**					
+15 mins.	0	**16**	**1**	0	**17**	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0
+30 mins.	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	**2**	0	0	0	**2**
+45 mins.	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1
Total Volume	0	49	1	0	50	0	0	0	0	0	0	32	0	0	32	4	0	0	0	4
% App. Total	0	98	2	0		0	0	0	0		0	100	0	0		100	0	0	0	
PHF	.00 0	.76 6	.25 0	.00 0	.735	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.80 0	.00 0	.00 0	.800	.50 0	.00 0	.00 0	.00 0	.500

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 8 - RM 620 & Ladera Blvd - PM
Site Code : 8_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	RM 620 Southbound					Ladera Blvd Westbound					RM 620 Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - AM
Site Code : 9_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	4	262	13	0	279	16	0	3	0	19	10	230	1	0	241	26	2	33	0	61	600
07:15	1	365	12	0	378	17	0	5	0	22	12	241	1	0	254	19	0	44	0	63	717
07:30	4	359	12	0	375	13	1	6	0	20	17	301	3	0	321	21	0	23	0	44	760
07:45	4	414	14	0	432	28	3	6	0	37	14	402	3	0	419	38	1	31	0	70	958
Total	13	1400	51	0	1464	74	4	20	0	98	53	1174	8	0	1235	104	3	131	0	238	3035
08:00	0	406	31	0	437	15	2	12	0	29	17	414	2	0	433	54	2	41	0	97	996
08:15	5	386	33	0	424	25	1	8	0	34	14	463	5	0	482	84	1	35	0	120	1060
08:30	3	478	47	0	528	14	3	5	0	22	20	374	0	0	394	56	2	24	0	82	1026
08:45	9	474	34	0	517	18	0	7	0	25	20	339	4	0	363	42	0	32	0	74	979
Total	17	1744	145	0	1906	72	6	32	0	110	71	1590	11	0	1672	236	5	132	0	373	4061
Grand Total	30	3144	196	0	3370	146	10	52	0	208	124	2764	19	0	2907	340	8	263	0	611	7096
Apprch %	0.9	93.3	5.8	0		70.2	4.8	25	0		4.3	95.1	0.7	0		55.6	1.3	43	0		
Total %	0.4	44.3	2.8	0	47.5	2.1	0.1	0.7	0	2.9	1.7	39	0.3	0	41	4.8	0.1	3.7	0	8.6	
Vehicles	29	3021										2667									
% Vehicles	96.7	96.1	99	0	96.3	100	100	98.1	0	99.5	96.8	96.5	94.7	0	96.5	99.1	87.5	98.5	0	98.7	96.7
Heavy Vehicles																					
% Heavy Vehicles	3.3	3.9	1	0	3.7	0	0	1.9	0	0.5	3.2	3.5	5.3	0	3.5	0.9	12.5	1.5	0	1.3	3.3

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	406	31	0	437	15	2	**12**	0	29	17	414	2	0	433	54	**2**	**41**	0	97	996
08:15	5	386	33	0	424	**25**	1	8	0	**34**	14	**463**	**5**	0	**482**	**84**	1	35	0	**120**	**1060**
08:30	3	**478**	**47**	0	**528**	14	**3**	5	0	22	**20**	374	0	0	394	56	2	24	0	82	1026
08:45	**9**	474	34	0	517	18	0	7	0	25	20	339	4	0	363	42	0	32	0	74	979
Total Volume	17	1744	145	0	1906	72	6	32	0	110	71	1590	11	0	1672	236	5	132	0	373	4061
% App. Total	0.9	91.5	7.6	0		65.5	5.5	29.1	0		4.2	95.1	0.7	0		63.3	1.3	35.4	0		
PHF	.472	.912	.771	.000	.902	.720	.500	.667	.000	.809	.888	.859	.550	.000	.867	.702	.625	.805	.000	.777	.958
Vehicles	17	1672										1534									
% Vehicles	100	95.9	98.6	0	96.1	100	100	96.9	0	99.1	94.4	96.5	100	0	96.4	100	100	99.2	0	99.7	96.7
Heavy Vehicles																					
% Heavy Vehicles	0	4.1	1.4	0	3.9	0	0	3.1	0	0.9	5.6	3.5	0	0	3.6	0	0	0.8	0	0.3	3.3

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - AM
Site Code : 9_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00					07:45					07:45					08:00					
+0 mins.	0	406	31	0	437	**28**	**3**	6	0	**37**	14	402	3	0	419	54	**2**	**41**	0	97	
+15 mins.	5	386	33	0	424	15	2	**12**	0	29	17	414	2	0	433	**84**	1	35	0	**120**	
+30 mins.	3	**478**	**47**	0	**528**	25	1	8	0	34	14	**463**	**5**	0	**482**	56	2	24	0	82	
+45 mins.	**9**	474	34	0	517	14	3	5	0	22	**20**	374	0	0	394	42	0	32	0	74	
Total Volume	17	1744	145	0	1906	82	9	31	0	122	65	1653	10	0	1728	236	5	132	0	373	
% App. Total	0.9	91.5	7.6	0		67.2	7.4	25.4	0		3.8	95.7	0.6	0		63.3	1.3	35.4	0		
PHF	.472	.912	.771	.000	.902	.732	.750	.646	.000	.824	.813	.893	.500	.000	.896	.702	.625	.805	.000	.777	
Vehicles	17	1672	143	0	1832	82	9	30	0	121	64	1598	10	0	1672	236	5	131	0	372	
% Vehicles																					
Heavy Vehicles	0	72	2	0	74	0	0	1	0	1	1	55	0	0	56	0	0	1	0	1	
% Heavy Vehicles	0	4.1	1.4	0	3.9	0	0	3.2	0	0.8	1.5	3.3	0	0	3.2	0	0	0.8	0	0.3	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - AM
Site Code : 9_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	3	256	13	0	272	16	0	3	0	19	10	223	0	0	233	26	1	31	0	58	582
07:15	1	355	12	0	368	17	0	5	0	22	12	233	1	0	246	18	0	43	0	61	697
07:30	4	348	12	0	364	13	1	6	0	20	17	290	3	0	310	20	0	23	0	43	737
07:45	4	390	14	0	408	28	3	6	0	37	14	387	3	0	404	37	1	31	0	69	918
Total	12	1349	51	0	1412	74	4	20	0	98	53	1133	7	0	1193	101	2	128	0	231	2934
08:00	0	391	31	0	422	15	2	11	0	28	16	407	2	0	425	54	2	41	0	97	972
08:15	5	376	32	0	413	25	1	8	0	34	14	441	5	0	460	84	1	34	0	119	1026
08:30	3	453	47	0	503	14	3	5	0	22	20	363	0	0	383	56	2	24	0	82	990
08:45	9	452	33	0	494	18	0	7	0	25	17	323	4	0	344	42	0	32	0	74	937
Total	17	1672	143	0	1832	72	6	31	0	109	67	1534	11	0	1612	236	5	131	0	372	3925
Grand Total	29	3021	194	0	3244	146	10	51	0	207	120	2667	18	0	2805	337	7	259	0	603	6859
Apprch %	0.9	93.1	6	0		70.5	4.8	24.6	0		4.3	95.1	0.6	0		55.9	1.2	43	0		
Total %	0.4	44	2.8	0	47.3	2.1	0.1	0.7	0	3	1.7	38.9	0.3	0	40.9	4.9	0.1	3.8	0	8.8	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	391	31	0	422	15	2	**11**	0	28	16	407	2	0	425	54	**2**	**41**	0	97	972
08:15	5	376	32	0	413	**25**	1	8	0	**34**	14	**441**	**5**	0	**460**	**84**	1	34	0	**119**	**1026**
08:30	3	**453**	**47**	0	**503**	14	**3**	5	0	22	**20**	363	0	0	383	56	2	24	0	82	990
08:45	**9**	452	33	0	494	18	0	7	0	25	17	323	4	0	344	42	0	32	0	74	937
Total Volume	17	1672	143	0	1832	72	6	31	0	109	67	1534	11	0	1612	236	5	131	0	372	3925
% App. Total	0.9	91.3	7.8	0		66.1	5.5	28.4	0		4.2	95.2	0.7	0		63.4	1.3	35.2	0		
PHF	.472	.923	.761	.000	.911	.720	.500	.705	.000	.801	.838	.870	.550	.000	.876	.702	.625	.799	.000	.782	.956

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					07:45					07:45					08:00				
+0 mins.	0	391	31	0	422	**28**	**3**			**37**							**2**	**41**		
+15 mins.	5	376	32	0	413	15	2	**11**	0	28	16	407	2	0	425	**84**	1	34	0	**119**
+30 mins.	3	**453**	**47**	0	**503**	25	1	8	0	34	14	**441**	**5**	0	**460**	56	2	24	0	82
+45 mins.	**9**	452	33	0	494	14	3	5	0	22	**20**	363	0	0	383	42	0	32	0	74
Total Volume	17	1672	143	0	1832	82	9	30	0	121	64	1598	10	0	1672	236	5	131	0	372
% App. Total	0.9	91.3	7.8	0		67.8	7.4	24.8	0		3.8	95.6	0.6	0		63.4	1.3	35.2	0	
PHF	.472	.923	.761	.000	.911	.732	.750	.682	.000	.818	.800	.906	.500	.000	.909	.702	.625	.799	.000	.782

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - AM
Site Code : 9_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	1	6	0	0	7	0	0	0	0	0	0	7	1	0	8	0	1	2	0	3	18
07:15	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
07:30	0	11	0	0	11	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	23
07:45	0	24	0	0	24	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	40
Total	1	51	0	0	52	0	0	0	0	0	0	41	1	0	42	3	1	3	0	7	101
08:00	0	15	0	0	15	0	0	1	0	1	1	7	0	0	8	0	0	0	0	0	24
08:15	0	10	1	0	11	0	0	0	0	0	0	22	0	0	22	0	0	1	0	1	34
08:30	0	25	0	0	25	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	36
08:45	0	22	1	0	23	0	0	0	0	0	3	16	0	0	19	0	0	0	0	0	42
Total	0	72	2	0	74	0	0	1	0	1	4	56	0	0	60	0	0	1	0	1	136
Grand Total	1	123	2	0	126	0	0	1	0	1	4	97	1	0	102	3	1	4	0	8	237
Apprch %	0.8	97.6	1.6	0		0	0	100	0		3.9	95.1	1	0		37.5	12.5	50	0		
Total %	0.4	51.9	0.8	0	53.2	0	0	0.4	0	0.4	1.7	40.9	0.4	0	43	1.3	0.4	1.7	0	3.4	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	15	0	0	15	0	0	**1**	0	**1**	1	7	0	0	8	0	0	0	0	0	24
08:15	0	10	**1**	0	11	0	0	0	0	0	0	**22**	0	0	**22**	0	0	**1**	0	**1**	34
08:30	0	**25**	0	0	**25**	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	36
08:45	0	22	1	0	23	0	0	0	0	0	**3**	16	0	0	19	0	0	0	0	0	**42**
Total Volume	0	72	2	0	74	0	0	1	0	1	4	56	0	0	60	0	0	1	0	1	136
% App. Total	0	97.3	2.7	0		0	0	100	0		6.7	93.3	0	0		0	0	100	0		
PHF	.000	.720	.500	.000	.740	.000	.000	.250	.000	.250	.333	.636	.000	.000	.682	.000	.000	.250	.000	.250	.810

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45					**07:15**					**08:00**					**07:00**				
+0 mins.	**0**	**24**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**8**	**0**	**1**	**2**		**3**
+15 mins.	0	15	0	0	15	0	0	0	0	0	0	**22**	0	0	**22**	**1**	0	1	0	2
+30 mins.	0	10	**1**	0	11	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1
+45 mins.	0	**25**	0	0	**25**	0	0	**1**	0	**1**	**3**	16	0	0	19	1	0	0	0	1
Total Volume	0	74	1	0	75	0	0	1	0	1	4	56	0	0	60	3	1	3	0	7
% App. Total	0	98.7	1.3	0		0	0	100	0		6.7	93.3	0	0		42.9	14.3	42.9	0	
PHF	.000	.740	.250	.000	.750	.000	.000	.250	.000	.250	.333	.636	.000	.000	.682	.750	.250	.375	.000	.583

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - AM
Site Code : 9_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Grand Total	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Apprch %	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
08:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					07:00					07:00					07:00				
+0 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**2**			**2**															
+30 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00 0	.62 5	.00 0	.00 0	.625	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.00 0	.00 0	.00 0	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - PM
Site Code : 9_____
Start Date : 11/16/2021

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	8	370	24	0	402	9	1	6	0	16	23	409	4	0	436	46	1	32	0	79	933
16:15	7	483	49	0	539	4	0	4	0	8	15	319	3	0	337	31	1	23	0	55	939
16:30	4	443	42	0	489	10	3	5	0	18	16	207	5	0	228	44	3	47	0	94	829
16:45	8	462	27	0	497	11	1	5	0	17	17	419	6	0	442	41	3	32	0	76	1032
Total	27	1758	142	0	1927	34	5	20	0	59	71	1354	18	0	1443	162	8	134	0	304	3733
17:00	7	432	40	0	479	15	2	4	0	21	19	355	3	0	377	39	0	28	0	67	944
17:15	14	463	50	0	527	14	0	4	0	18	29	384	2	0	415	45	3	48	0	96	1056
17:30	12	492	34	0	538	15	1	5	0	21	13	358	6	0	377	41	2	29	1	73	1009
17:45	7	434	27	0	468	14	0	3	0	17	13	451	2	0	466	51	1	39	0	91	1042
Total	40	1821	151	0	2012	58	3	16	0	77	74	1548	13	0	1635	176	6	144	1	327	4051
Grand Total	67	3579	293	0	3939	92	8	36	0	136	145	2902	31	0	3078	338	14	278	1	631	7784
Apprch %	1.7	90.9	7.4	0		67.6	5.9	26.5	0		4.7	94.3	1	0		53.6	2.2	44.1	0.2		
Total %	0.9	46	3.8	0	50.6	1.2	0.1	0.5	0	1.7	1.9	37.3	0.4	0	39.5	4.3	0.2	3.6	0	8.1	
Vehicles	67	3510										2834									
% Vehicles	100	98.1	99	0	98.2	98.9	100	100	0	99.3	98.6	97.7	96.8	0	97.7	98.5	100	97.5	100	98.1	98
Heavy Vehicles																					
% Heavy Vehicles	0	1.9	1	0	1.8	1.1	0	0	0	0.7	1.4	2.3	3.2	0	2.3	1.5	0	2.5	0	1.9	2

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	7	432	40	0	479	**15**	**2**	4	0	**21**	19	355	3	0	377	39	0	28	0	67	944
17:15	**14**	463	**50**	0	527	14	0	4	0	18	**29**	384	2	0	415	45	**3**	**48**	0	**96**	**1056**
17:30	12	**492**	34	0	**538**	15	1	**5**	0	21	13	358	**6**	0	377	41	2	29	**1**	73	1009
17:45	7	434	27	0	468	14	0	3	0	17	13	**451**	2	0	**466**	**51**	1	39	0	91	1042
Total Volume	40	1821	151	0	2012	58	3	16	0	77	74	1548	13	0	1635	176	6	144	1	327	4051
% App. Total	2	90.5	7.5	0		75.3	3.9	20.8	0		4.5	94.7	0.8	0		53.8	1.8	44	0.3		
PHF	.714	.925	.755	.000	.935	.967	.375	.800	.000	.917	.638	.858	.542	.000	.877	.863	.500	.750	.250	.852	.959
Vehicles	40	1794										1526									
% Vehicles	100	98.5	98.7	0	98.6	98.3	100	100	0	98.7	100	98.6	100	0	98.7	99.4	100	96.5	100	98.2	98.6
Heavy Vehicles																					
% Heavy Vehicles	0	1.5	1.3	0	1.4	1.7	0	0	0	1.3	0	1.4	0	0	1.3	0.6	0	3.5	0	1.8	1.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - PM
Site Code : 9_____
Start Date : 11/16/2021

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:45					16:45					17:00					16:30					
+0 mins.	8	462	27	0	497	11	1	**5**	0	17	19	355	3	0	377	44	**3**	47	0	94	
+15 mins.	7	432	40	0	479	**15**	**2**	4	0	**21**	**29**	384	2	0	415	41	3	32	0	76	
+30 mins.	**14**	463	**50**	0	527	14	0	4	0	18	13	358	**6**	0	377	39	0	28	0	67	
+45 mins.	12	**492**	34	0	**538**	15	1	5	0	21	13	**451**	2	0	**466**	**45**	3	**48**	0	**96**	
Total Volume	41	1849	151	0	2041	55	4	18	0	77	74	1548	13	0	1635	169	9	155	0	333	
% App. Total	2	90.6	7.4	0		71.4	5.2	23.4	0		4.5	94.7	0.8	0		50.8	2.7	46.5	0		
PHF	.732	.940	.755	.000	.948	.917	.500	.900	.000	.917	.638	.858	.542	.000	.877	.939	.750	.807	.000	.867	
Vehicles	41	1825	150	0	2016	54	4	18	0	76	74	1526	13	0	1613	165	9	152	0	326	
% Vehicles																					
Heavy Vehicles	0	24	1	0	25	1	0	0	0	1	0	22	0	0	22	4	0	3	0	7	
% Heavy Vehicles	0	1.3	0.7	0	1.2	1.8	0	0	0	1.3	0	1.4	0	0	1.3	2.4	0	1.9	0	2.1	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - PM
Site Code : 9_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	8	361	24	0	393	9	1	6	0	16	23	396	4	0	423	46	1	32	0	79	911
16:15	7	467	48	0	522	4	0	4	0	8	15	308	2	0	325	30	1	23	0	54	909
16:30	4	433	42	0	479	10	3	5	0	18	14	199	5	0	218	44	3	46	0	93	808
16:45	8	455	27	0	490	11	1	5	0	17	17	405	6	0	428	38	3	31	0	72	1007
Total	27	1716	141	0	1884	34	5	20	0	59	69	1308	17	0	1394	158	8	132	0	298	3635
17:00	7	422	40	0	469	14	2	4	0	20	19	349	3	0	371	38	0	28	0	66	926
17:15	14	459	49	0	522	14	0	4	0	18	29	378	2	0	409	45	3	47	0	95	1044
17:30	12	489	34	0	535	15	1	5	0	21	13	354	6	0	373	41	2	29	1	73	1002
17:45	7	424	26	0	457	14	0	3	0	17	13	445	2	0	460	51	1	35	0	87	1021
Total	40	1794	149	0	1983	57	3	16	0	76	74	1526	13	0	1613	175	6	139	1	321	3993
Grand Total	67	3510	290	0	3867	91	8	36	0	135	143	2834	30	0	3007	333	14	271	1	619	7628
Apprch %	1.7	90.8	7.5	0		67.4	5.9	26.7	0		4.8	94.2	1	0		53.8	2.3	43.8	0.2		
Total %	0.9	46	3.8	0	50.7	1.2	0.1	0.5	0	1.8	1.9	37.2	0.4	0	39.4	4.4	0.2	3.6	0	8.1	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	7	422	40	0	469	14	**2**	4	0	20	19	349	3	0	371	38	0	28	0	66	926
17:15	**14**	459	**49**	0	522	14	0	4	0	18	**29**	378	2	0	409	45	**3**	**47**	0	**95**	**1044**
17:30	12	**489**	34	0	**535**	**15**	1	**5**	0	**21**	13	354	**6**	0	373	41	2	29	**1**	73	1002
17:45	7	424	26	0	457	14	0	3	0	17	13	**445**	2	0	**460**	**51**	1	35	0	87	1021
Total Volume	40	1794	149	0	1983	57	3	16	0	76	74	1526	13	0	1613	175	6	139	1	321	3993
% App. Total	2	90.5	7.5	0		75	3.9	21.1	0		4.6	94.6	0.8	0		54.5	1.9	43.3	0.3		
PHF	.714	.917	.760	.000	.927	.950	.375	.800	.000	.905	.638	.857	.542	.000	.877	.858	.500	.739	.250	.845	.956

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:45					16:45					17:00					16:30				
+0 mins.	8	455	27	0	490	11	1	**5**									**3**			
+15 mins.	7	422	40	0	469	14	**2**	4	0	20	**29**	378	2	0	409	38	3	31	0	72
+30 mins.	**14**	459	**49**	0	522	14	0	4	0	18	13	354	**6**	0	373	38	0	28	0	66
+45 mins.	12	**489**	34	0	**535**	**15**	1	5	0	**21**	13	**445**	2	0	**460**	**45**	3	**47**	0	**95**
Total Volume	41	1825	150	0	2016	54	4	18	0	76	74	1526	13	0	1613	165	9	152	0	326
% App. Total	2	90.5	7.4	0		71.1	5.3	23.7	0		4.6	94.6	0.8	0		50.6	2.8	46.6	0	
PHF	.732	.933	.765	.000	.942	.900	.500	.900	.000	.905	.638	.857	.542	.000	.877	.917	.750	.809	.000	.858

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - PM
Site Code : 9_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	22
16:15	0	16	1	0	17	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	30
16:30	0	10	0	0	10	0	0	0	0	0	2	8	0	0	10	0	0	1	0	1	21
16:45	0	7	0	0	7	0	0	0	0	0	0	14	0	0	14	3	0	1	0	4	25
Total	0	42	1	0	43	0	0	0	0	0	2	46	1	0	49	4	0	2	0	6	98
17:00	0	10	0	0	10	1	0	0	0	1	0	6	0	0	6	1	0	0	0	1	18
17:15	0	4	1	0	5	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	12
17:30	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
17:45	0	10	1	0	11	0	0	0	0	0	0	6	0	0	6	0	0	4	0	4	21
Total	0	27	2	0	29	1	0	0	0	1	0	22	0	0	22	1	0	5	0	6	58
Grand Total	0	69	3	0	72	1	0	0	0	1	2	68	1	0	71	5	0	7	0	12	156
Apprch %	0	95.8	4.2	0		100	0	0	0		2.8	95.8	1.4	0		41.7	0	58.3	0		
Total %	0	44.2	1.9	0	46.2	0.6	0	0	0	0.6	1.3	43.6	0.6	0	45.5	3.2	0	4.5	0	7.7	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	22
16:15	0	**16**	**1**	0	**17**	0	0	0	0	0	0	11	**1**	0	12	1	0	0	0	1	**30**
16:30	0	10	0	0	10	0	0	0	0	0	**2**	8	0	0	10	0	0	**1**	0	1	21
16:45	0	7	0	0	7	0	0	0	0	0	0	**14**	0	0	**14**	**3**	0	1	0	**4**	25
Total Volume	0	42	1	0	43	0	0	0	0	0	2	46	1	0	49	4	0	2	0	6	98
% App. Total	0	97.7	2.3	0		0	0	0	0		4.1	93.9	2	0		66.7	0	33.3	0		
PHF	.000	.656	.250	.000	.632	.000	.000	.000	.000	.000	.250	.821	.250	.000	.875	.333	.000	.500	.000	.375	.817

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15					**16:15**					**16:00**					**16:15**				
+0 mins.	**0**	**16**	**1**		**17**															
+15 mins.	0	10	0	0	10	0	0	0	0	0	0	11	**1**	0	12	0	0	**1**	0	1
+30 mins.	0	7	0	0	7	0	0	0	0	0	**2**	8	0	0	10	**3**	0	1	0	**4**
+45 mins.	0	10	0	0	10	**1**	0	0	0	**1**	0	**14**	0	0	**14**	1	0	0	0	1
Total Volume	0	43	1	0	44	1	0	0	0	1	2	46	1	0	49	5	0	2	0	7
% App. Total	0	97.7	2.3	0		100	0	0	0		4.1	93.9	2	0		71.4	0	28.6	0	
PHF	.000	.672	.250	.000	.647	.250	.000	.000	.000	.250	.250	.821	.250	.000	.875	.417	.000	.500	.000	.438

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 9 - RM 620 & Falcon Head Blvd - PM
Site Code : 9_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
16:30	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	7	0	0	7	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	9
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
17:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	5
Grand Total	0	11	0	0	11	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	14
Apprch %	0	100	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	78.6	0	0	78.6	0	21.4	0	0	21.4	0	0	0	0	0	0	0	0	0	0	

	RM 620 Southbound					Falcon Head Blvd Westbound					RM 620 Northbound					Falcon Head Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	**3**	0	0	**3**	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	**4**
16:30	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	7	0	0	7	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	9
% App. Total	0	100	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.583	.000	.000	.583	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.563

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**3**			**3**		**1**			**1**										
+30 mins.	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	0	0	7	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		0	100	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.58	.00	.00	.583	.00	.50	.00	.00	.500	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	3	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - AM
Site Code : 10_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	12	0	2	0	14	0	82	1	0	83	0	0	0	0	0	5	105	0	0	110	207
07:15	31	0	9	0	40	0	93	2	0	95	0	0	0	0	0	4	144	0	0	148	283
07:30	11	0	7	0	18	0	100	14	0	114	0	0	0	0	0	13	166	0	0	179	311
07:45	12	0	10	0	22	0	116	12	0	128	0	0	0	0	0	19	177	0	1	197	347
Total	66	0	28	0	94	0	391	29	0	420	0	0	0	0	0	41	592	0	1	634	1148
08:00	10	0	19	0	29	0	128	7	0	135	0	0	0	0	0	15	219	0	0	234	398
08:15	2	0	15	0	17	0	145	8	0	153	0	0	0	0	0	15	168	0	0	183	353
08:30	5	0	24	0	29	0	173	2	0	175	0	0	0	0	0	16	201	0	0	217	421
08:45	5	0	18	0	23	0	152	6	0	158	0	0	0	0	0	16	154	0	1	171	352
Total	22	0	76	0	98	0	598	23	0	621	0	0	0	0	0	62	742	0	1	805	1524
Grand Total	88	0	104	0	192	0	989	52	0	1041	0	0	0	0	0	103	1334	0	2	1439	2672
Apprch %	45.8	0	54.2	0		0	95	5	0		0	0	0	0		7.2	92.7	0	0.1		
Total %	3.3	0	3.9	0	7.2	0	37	1.9	0	39	0	0	0	0	0	3.9	49.9	0	0.1	53.9	
Vehicles	86	0	104	0	190	0	935	50	0	985	0	0	0	0	0	101	1297				
% Vehicles	97.7	0	100	0	99	0	94.5	96.2	0	94.6	0	0	0	0	0	98.1	97.2	0	100	97.3	96.4
Heavy Vehicles																					
% Heavy Vehicles	2.3	0	0	0	1	0	5.5	3.8	0	5.4	0	0	0	0	0	1.9	2.8	0	0	2.7	3.6

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	**10**	0	19	0	**29**	0	128	7	0	135	0	0	0	0	0	15	**219**	0	0	**234**	398
08:15	2	0	15	0	17	0	145	**8**	0	153	0	0	0	0	0	15	168	0	0	183	353
08:30	5	0	**24**	0	29	0	**173**	2	0	**175**	0	0	0	0	0	**16**	201	0	0	217	**421**
08:45	5	0	18	0	23	0	152	6	0	158	0	0	0	0	0	16	154	0	**1**	171	352
Total Volume	22	0	76	0	98	0	598	23	0	621	0	0	0	0	0	62	742	0	1	805	1524
% App. Total	22.4	0	77.6	0		0	96.3	3.7	0		0	0	0	0		7.7	92.2	0	0.1		
PHF	.550	.000	.792	.000	.845	.000	.864	.719	.000	.887	.000	.000	.000	.000	.000	.969	.847	.000	.250	.860	.905
Vehicles	22	0	76	0	98	0	561	22	0	583	0	0	0	0	0	62	719	0	1	782	1463
% Vehicles							93.8	95.7	0	93.9	0	0	0	0	0	100	96.9	0	100	97.1	96.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	6.2	4.3	0	6.1	0	0	0	0	0	0	3.1	0	0	2.9	4.0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - AM
Site Code : 10_____
Start Date : 11/16/2021

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15					08:00					07:00					07:45					
+0 mins.	**31**	0	9	0	**40**	0	128	7	0	135	0	0	0	0	0	**19**	177	0	**1**	197	
+15 mins.	11	0	7	0	18	0	145	**8**	0	153	0	0	0	0	0	15	**219**	0	0	**234**	
+30 mins.	12	0	10	0	22	0	**173**	2	0	**175**	0	0	0	0	0	15	168	0	0	183	
+45 mins.	10	0	**19**	0	29	0	152	6	0	158	0	0	0	0	0	16	201	0	0	217	
Total Volume	64	0	45	0	109	0	598	23	0	621	0	0	0	0	0	65	765	0	1	831	
% App. Total	58.7	0	41.3	0		0	96.3	3.7	0		0	0	0	0		7.8	92.1	0	0.1		
PHF	.516	.000	.592	.000	.681	.000	.864	.719	.000	.887	.000	.000	.000	.000	.000	.855	.873	.000	.250	.888	
Vehicles	63	0	45	0	108	0	561	22	0	583	0	0	0	0	0	64	741	0	1	806	
% Vehicles																					
Heavy Vehicles	1	0	0	0	1	0	37	1	0	38	0	0	0	0	0	1	24	0	0	25	
% Heavy Vehicles	1.6	0	0	0	0.9	0	6.2	4.3	0	6.1	0	0	0	0	0	1.5	3.1	0	0	3	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - AM
Site Code : 10_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	11	0	2	0	13	0	78	1	0	79	0	0	0	0	0	5	102	0	0	107	199
07:15	31	0	9	0	40	0	91	2	0	93	0	0	0	0	0	4	141	0	0	145	278
07:30	11	0	7	0	18	0	97	14	0	111	0	0	0	0	0	12	163	0	0	175	304
07:45	11	0	10	0	21	0	108	11	0	119	0	0	0	0	0	18	172	0	1	191	331
Total	64	0	28	0	92	0	374	28	0	402	0	0	0	0	0	39	578	0	1	618	1112
08:00	10	0	19	0	29	0	125	7	0	132	0	0	0	0	0	15	211	0	0	226	387
08:15	2	0	15	0	17	0	140	8	0	148	0	0	0	0	0	15	163	0	0	178	343
08:30	5	0	24	0	29	0	155	2	0	157	0	0	0	0	0	16	195	0	0	211	397
08:45	5	0	18	0	23	0	141	5	0	146	0	0	0	0	0	16	150	0	1	167	336
Total	22	0	76	0	98	0	561	22	0	583	0	0	0	0	0	62	719	0	1	782	1463
Grand Total	86	0	104	0	190	0	935	50	0	985	0	0	0	0	0	101	1297	0	2	1400	2575
Apprch %	45.3	0	54.7	0		0	94.9	5.1	0		0	0	0	0		7.2	92.6	0	0.1		
Total %	3.3	0	4	0	7.4	0	36.3	1.9	0	38.3	0	0	0	0	0	3.9	50.4	0	0.1	54.4	

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	**10**	0	19	0	**29**	0	125	7	0	132	0	0	0	0	0	15	**211**	0	0	**226**	387
08:15	2	0	15	0	17	0	140	**8**	0	148	0	0	0	0	0	15	163	0	0	178	343
08:30	5	0	**24**	0	29	0	**155**	2	0	**157**	0	0	0	0	0	**16**	195	0	0	211	**397**
08:45	5	0	18	0	23	0	141	5	0	146	0	0	0	0	0	16	150	0	**1**	167	336
Total Volume	22	0	76	0	98	0	561	22	0	583	0	0	0	0	0	62	719	0	1	782	1463
% App. Total	22.4	0	77.6	0		0	96.2	3.8	0		0	0	0	0		7.9	91.9	0	0.1		
PHF	.550	.000	.792	.000	.845	.000	.905	.688	.000	.928	.000	.000	.000	.000	.000	.969	.852	.000	.250	.865	.921

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15					08:00					07:00					07:45					
+0 mins.	**31**				**40**											**18**			**1**		
+15 mins.	11	0	7	0	18	0	140	**8**	0	148	0	0	0	0	0	15	**211**	0	0	**226**	
+30 mins.	11	0	10	0	21	0	**155**	2	0	**157**	0	0	0	0	0	15	163	0	0	178	
+45 mins.	10	0	**19**	0	29	0	141	5	0	146	0	0	0	0	0	16	195	0	0	211	
Total Volume	63	0	45	0	108	0	561	22	0	583	0	0	0	0	0	64	741	0	1	806	
% App. Total	58.3	0	41.7	0		0	96.2	3.8	0		0	0	0	0		7.9	91.9	0	0.1		
PHF	.508	.000	.592	.000	.675	.000	.905	.688	.000	.928	.000	.000	.000	.000	.000	.889	.878	.000	.250	.892	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - AM
Site Code : 10_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	8
07:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
07:30	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	7
07:45	1	0	0	0	1	0	8	1	0	9	0	0	0	0	0	1	5	0	0	6	16
Total	2	0	0	0	2	0	17	1	0	18	0	0	0	0	0	2	14	0	0	16	36
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	11
08:15	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
08:30	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	6	0	0	6	24
08:45	0	0	0	0	0	0	11	1	0	12	0	0	0	0	0	0	4	0	0	4	16
Total	0	0	0	0	0	0	37	1	0	38	0	0	0	0	0	0	23	0	0	23	61
Grand Total	2	0	0	0	2	0	54	2	0	56	0	0	0	0	0	2	37	0	0	39	97
Apprch %	100	0	0	0		0	96.4	3.6	0		0	0	0	0		5.1	94.9	0	0		
Total %	2.1	0	0	0	2.1	0	55.7	2.1	0	57.7	0	0	0	0	0	2.1	38.1	0	0	40.2	

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	**1**	0	0	0	**1**	0	8	**1**	0	9	0	0	0	0	0	**1**	5	0	0	6	16
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	**8**	0	0	**8**	11
08:15	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
08:30	0	0	0	0	0	0	**18**	0	0	**18**	0	0	0	0	0	0	6	0	0	6	**24**
Total Volume	1	0	0	0	1	0	34	1	0	35	0	0	0	0	0	1	24	0	0	25	61
% App. Total	100	0	0	0		0	97.1	2.9	0		0	0	0	0		4	96	0	0		
PHF	.250	.000	.000	.000	.250	.000	.472	.250	.000	.486	.000	.000	.000	.000	.000	.250	.750	.000	.000	.781	.635

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**08:00**					**07:00**					**07:45**				
+0 mins.	**1**				**1**											**1**				
+15 mins.	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	**8**	0	0	**8**
+30 mins.	0	0	0	0	0	0	**18**	0	0	**18**	0	0	0	0	0	0	5	0	0	5
+45 mins.	1	0	0	0	1	0	11	**1**	0	12	0	0	0	0	0	0	6	0	0	6
Total Volume	2	0	0	0	2	0	37	1	0	38	0	0	0	0	0	1	24	0	0	25
% App. Total	100	0	0	0		0	97.4	2.6	0		0	0	0	0		4	96	0	0	
PHF	.500	.00	.00	.00	.500	.00	.51	.25	.00	.528	.00	.00	.00	.00	.000	.25	.75	.00	.00	.781
	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - AM
Site Code : 10_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - PM
Site Code : 10_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	5	0	17	0	22	0	196	5	0	201	0	0	0	0	0	14	149	0	2	165	388
16:15	4	0	21	0	25	0	214	12	1	227	0	0	0	0	0	25	137	0	1	163	415
16:30	10	0	21	0	31	0	206	4	0	210	0	0	0	0	0	27	153	0	0	180	421
16:45	10	0	20	0	30	0	277	9	0	286	0	0	0	0	0	25	137	0	1	163	479
Total	29	0	79	0	108	0	893	30	1	924	0	0	0	0	0	91	576	0	4	671	1703
17:00	7	0	19	0	26	0	194	9	0	203	0	0	0	0	0	20	172	0	3	195	424
17:15	6	0	17	0	23	0	184	12	0	196	0	0	0	0	0	23	155	0	1	179	398
17:30	8	0	19	0	27	0	191	17	0	208	0	0	0	0	0	12	152	0	0	164	399
17:45	5	0	16	0	21	0	168	7	0	175	0	0	0	0	0	17	139	0	1	157	353
Total	26	0	71	0	97	0	737	45	0	782	0	0	0	0	0	72	618	0	5	695	1574
Grand Total	55	0	150	0	205	0	1630	75	1	1706	0	0	0	0	0	163	1194	0	9	1366	3277
Apprch %	26.8	0	73.2	0		0	95.5	4.4	0.1		0	0	0	0		11.9	87.4	0	0.7		
Total %	1.7	0	4.6	0	6.3	0	49.7	2.3	0	52.1	0	0	0	0	0	5	36.4	0	0.3	41.7	
Vehicles	54	0	150	0	204	0	1593										1163				
% Vehicles	98.2	0	100	0	99.5	0	97.7	100	100	97.8	0	0	0	0	0	99.4	97.4	0	100	97.7	97.9
Heavy Vehicles																					
% Heavy Vehicles	1.8	0	0	0	0.5	0	2.3	0	0	2.2	0	0	0	0	0	0.6	2.6	0	0	2.3	2.1

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	4	0	**21**	0	25	0	214	**12**	**1**	227	0	0	0	0	0	25	137	0	1	163	415
16:30	**10**	0	21	0	**31**	0	206	4	0	210	0	0	0	0	0	**27**	153	0	0	180	421
16:45	10	0	20	0	30	0	**277**	9	0	**286**	0	0	0	0	0	25	137	0	1	163	**479**
17:00	7	0	19	0	26	0	194	9	0	203	0	0	0	0	0	20	**172**	0	**3**	**195**	424
Total Volume	31	0	81	0	112	0	891	34	1	926	0	0	0	0	0	97	599	0	5	701	1739
% App. Total	27.7	0	72.3	0		0	96.2	3.7	0.1		0	0	0	0		13.8	85.4	0	0.7		
PHF	.775	.000	.964	.000	.903	.000	.804	.708	.250	.809	.000	.000	.000	.000	.000	.898	.871	.000	.417	.899	.908
Vehicles	30	0	81	0	111	0	866	34	1	901	0	0	0	0	0	96	584	0	5	685	1697
% Vehicles	96.8	0	100	0	99.1	0	97.2	100	100	97.3	0	0	0	0	0	99.0	97.5	0	100	97.7	97.6
Heavy Vehicles																					
% Heavy Vehicles	3.2	0	0	0	0.9	0	2.8	0	0	2.7	0	0	0	0	0	1.0	2.5	0	0	2.3	2.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - PM
Site Code : 10_____
Start Date : 11/16/2021

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:15					16:15					16:00					16:30					
+0 mins.	4	0	**21**	0	25	0	214	**12**	**1**	227	0	0	0	0	0	**27**	153	0	0	180	
+15 mins.	**10**	0	21	0	**31**	0	206	4	0	210	0	0	0	0	0	25	137	0	1	163	
+30 mins.	10	0	20	0	30	0	**277**	9	0	**286**	0	0	0	0	0	20	**172**	0	**3**	**195**	
+45 mins.	7	0	19	0	26	0	194	9	0	203	0	0	0	0	0	23	155	0	1	179	
Total Volume	31	0	81	0	112	0	891	34	1	926	0	0	0	0	0	95	617	0	5	717	
% App. Total	27.7	0	72.3	0		0	96.2	3.7	0.1		0	0	0	0		13.2	86.1	0	0.7		
PHF	.775	.000	.964	.000	.903	.000	.804	.708	.250	.809	.000	.000	.000	.000	.000	.880	.897	.000	.417	.919	
Vehicles	30	0	81	0	111	0	866	34	1	901	0	0	0	0	0	95	602	0	5	702	
% Vehicles																					
Heavy Vehicles	1	0	0	0	1	0	25	0	0	25	0	0	0	0	0	0	15	0	0	15	
% Heavy Vehicles	3.2	0	0	0	0.9	0	2.8	0	0	2.7	0	0	0	0	0	0	2.4	0	0	2.1	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - PM
Site Code : 10_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	5	0	17	0	22	0	192	5	0	197	0	0	0	0	0	14	140	0	2	156	375
16:15	4	0	21	0	25	0	203	12	1	216	0	0	0	0	0	24	134	0	1	159	400
16:30	9	0	21	0	30	0	201	4	0	205	0	0	0	0	0	27	151	0	0	178	413
16:45	10	0	20	0	30	0	271	9	0	280	0	0	0	0	0	25	133	0	1	159	469
Total	28	0	79	0	107	0	867	30	1	898	0	0	0	0	0	90	558	0	4	652	1657
17:00	7	0	19	0	26	0	191	9	0	200	0	0	0	0	0	20	166	0	3	189	415
17:15	6	0	17	0	23	0	178	12	0	190	0	0	0	0	0	23	152	0	1	176	389
17:30	8	0	19	0	27	0	191	17	0	208	0	0	0	0	0	12	148	0	0	160	395
17:45	5	0	16	0	21	0	166	7	0	173	0	0	0	0	0	17	139	0	1	157	351
Total	26	0	71	0	97	0	726	45	0	771	0	0	0	0	0	72	605	0	5	682	1550
Grand Total	54	0	150	0	204	0	1593	75	1	1669	0	0	0	0	0	162	1163	0	9	1334	3207
Apprch %	26.5	0	73.5	0		0	95.4	4.5	0.1		0	0	0	0		12.1	87.2	0	0.7		
Total %	1.7	0	4.7	0	6.4	0	49.7	2.3	0	52	0	0	0	0	0	5.1	36.3	0	0.3	41.6	

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	4	0	**21**	0	25	0	203	**12**	**1**	216	0	0	0	0	0	24	134	0	1	159	400
16:30	9	0	21	0	**30**	0	201	4	0	205	0	0	0	0	0	**27**	151	0	0	178	413
16:45	**10**	0	20	0	30	0	**271**	9	0	**280**	0	0	0	0	0	25	133	0	1	159	**469**
17:00	7	0	19	0	26	0	191	9	0	200	0	0	0	0	0	20	**166**	0	**3**	**189**	415
Total Volume	30	0	81	0	111	0	866	34	1	901	0	0	0	0	0	96	584	0	5	685	1697
% App. Total	27	0	73	0		0	96.1	3.8	0.1		0	0	0	0		14	85.3	0	0.7		
PHF	.750	.000	.964	.000	.925	.000	.799	.708	.250	.804	.000	.000	.000	.000	.000	.889	.880	.000	.417	.906	.905

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:15					16:15					16:00					16:30				
+0 mins.	4	0	**21**					**12**	**1**							**27**				
+15 mins.	9	0	21	0	**30**	0	201	4	0	205	0	0	0	0	0	25	133	0	1	159
+30 mins.	**10**	0	20	0	30	0	**271**	9	0	**280**	0	0	0	0	0	20	**166**	0	**3**	**189**
+45 mins.	7	0	19	0	26	0	191	9	0	200	0	0	0	0	0	23	152	0	1	176
Total Volume	30	0	81	0	111	0	866	34	1	901	0	0	0	0	0	95	602	0	5	702
% App. Total	27	0	73	0		0	96.1	3.8	0.1		0	0	0	0		13.5	85.8	0	0.7	
PHF	.750	.000	.964	.000	.925	.000	.799	.708	.250	.804	.000	.000	.000	.000	.000	.880	.907	.000	.417	.929

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - PM
Site Code : 10_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	13
16:15	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	1	3	0	0	4	15
16:30	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	8
16:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	1	0	0	0	1	0	26	0	0	26	0	0	0	0	0	1	18	0	0	19	46
17:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	9
17:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
17:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	13	0	0	13	24
Grand Total	1	0	0	0	1	0	37	0	0	37	0	0	0	0	0	1	31	0	0	32	70
Apprch %	100	0	0	0		0	100	0	0		0	0	0	0		3.1	96.9	0	0		
Total %	1.4	0	0	0	1.4	0	52.9	0	0	52.9	0	0	0	0	0	1.4	44.3	0	0	45.7	

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	**9**	0	0	**9**	13
16:15	0	0	0	0	0	0	**11**	0	0	**11**	0	0	0	0	0	**1**	3	0	0	4	**15**
16:30	**1**	0	0	0	**1**	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	8
16:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total Volume	1	0	0	0	1	0	26	0	0	26	0	0	0	0	0	1	18	0	0	19	46
% App. Total	100	0	0	0		0	100	0	0		0	0	0	0		5.3	94.7	0	0		
PHF	.250	.000	.000	.000	.250	.000	.591	.000	.000	.591	.000	.000	.000	.000	.000	.250	.500	.000	.000	.528	.767

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:00**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**9**			**9**
+15 mins.	0	0	0	0	0	0	**11**	0	0	**11**	0	0	0	0	0	**1**	3	0	0	4
+30 mins.	**1**	0	0	0	**1**	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2
+45 mins.	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4
Total Volume	1	0	0	0	1	0	26	0	0	26	0	0	0	0	0	1	18	0	0	19
% App. Total	100	0	0	0		0	100	0	0		0	0	0	0		5.3	94.7	0	0	
PHF	.25	.00	.00	.00	.250	.00	.59	.00	.00	.591	.00	.00	.00	.00	.000	.25	.50	.00	.00	.528
	0	0	0	0		0	1	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 10 - Bee Cave Pkwy & Tordera Dr - PM
Site Code : 10_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Tordera Dr Southbound					Bee Cave Pkwy Westbound					Tordera Dr Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - AM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	4	51	30	0	85	36	197	4	0	237	20	60	75	0	155	52	231	43	0	326	803
07:15	6	48	48	0	102	40	200	2	0	242	62	90	114	0	266	65	266	67	0	398	1008
07:30	6	28	60	0	94	43	252	5	0	300	69	103	124	0	296	91	276	47	0	414	1104
07:45	7	48	68	0	123	42	218	10	0	270	35	100	113	0	248	89	306	33	0	428	1069
Total	23	175	206	0	404	161	867	21	0	1049	186	353	426	0	965	297	1079	190	0	1566	3984
08:00	9	51	86	0	146	52	205	12	0	269	64	129	86	0	279	94	237	24	0	355	1049
08:15	11	48	102	0	161	62	248	10	0	320	58	96	83	0	237	85	287	54	0	426	1144
08:30	14	63	108	0	185	64	227	10	0	301	55	108	81	0	244	98	269	46	0	413	1143
08:45	12	78	79	0	169	60	198	11	0	269	35	78	94	0	207	94	300	36	0	430	1075
Total	46	240	375	0	661	238	878	43	0	1159	212	411	344	0	967	371	1093	160	0	1624	4411
Grand Total	69	415	581	0	1065	399	1745	64	0	2208	398	764	770	0	1932	668	2172	350	0	3190	8395
Apprch %	6.5	39	54.6	0		18.1	79	2.9	0		20.6	39.5	39.9	0		20.9	68.1	11	0		
Total %	0.8	4.9	6.9	0	12.7	4.8	20.8	0.8	0	26.3	4.7	9.1	9.2	0	23	8	25.9	4.2	0	38	
Vehicles	69	409	538	0	1016	375	1579										2064				
% Vehicles	100	98.6	92.6	0	95.4	94	90.5	100	0	91.4	91.7	98.2	97.7	0	96.6	98.1	95	89.4	0	95	94.5
Heavy Vehicles																					
% Heavy Vehicles	0	1.4	7.4	0	4.6	6	9.5	0	0	8.6	8.3	1.8	2.3	0	3.4	1.9	5	10.6	0	5	5.5

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	9	51	86	0	146	52	205	**12**	0	269	**64**	**129**	86	0	**279**	94	237	24	0	355	1049
08:15	11	48	102	0	161	62	**248**	10	0	**320**	58	96	83	0	237	85	287	**54**	0	426	**1144**
08:30	**14**	63	**108**	0	**185**	**64**	227	10	0	301	55	108	81	0	244	**98**	269	46	0	413	1143
08:45	12	**78**	79	0	169	60	198	11	0	269	35	78	**94**	0	207	94	**300**	36	0	**430**	1075
Total Volume	46	240	375	0	661	238	878	43	0	1159	212	411	344	0	967	371	1093	160	0	1624	4411
% App. Total	7	36.3	56.7	0		20.5	75.8	3.7	0		21.9	42.5	35.6	0		22.8	67.3	9.9	0		
PHF	.821	.769	.868	.000	.893	.930	.885	.896	.000	.905	.828	.797	.915	.000	.866	.946	.911	.741	.000	.944	.964
Vehicles	46	236	345	0	627	225	785	43	0	1053	192	403	338	0	933	364	1038				
% Vehicles	100	98.3	92.0	0	94.9	94.5	89.4	100	0	90.9	90.6	98.1	98.3	0	96.5	98.1	95.0	91.9	0	95.4	94.4
Heavy Vehicles																					
% Heavy Vehicles	0	1.7	8.0	0	5.1	5.5	10.6	0	0	9.1	9.4	1.9	1.7	0	3.5	1.9	5.0	8.1	0	4.6	5.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - AM
Site Code : 11_____
Start Date : 11/16/2021
Page No : 2

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00					07:45					07:15					08:00					
+0 mins.	9	51	86	0	146	42	218	10	0	270	62	90	114	0	266	94	237	24	0	355	
+15 mins.	11	48	102	0	161	52	205	**12**	0	269	**69**	103	**124**	0	**296**	85	287	**54**	0	426	
+30 mins.	**14**	63	**108**	0	**185**	62	**248**	10	0	**320**	35	100	113	0	248	**98**	269	46	0	413	
+45 mins.	12	**78**	79	0	169	**64**	227	10	0	301	64	**129**	86	0	279	94	**300**	36	0	**430**	
Total Volume	46	240	375	0	661	220	898	42	0	1160	230	422	437	0	1089	371	1093	160	0	1624	
% App. Total	7	36.3	56.7	0		19	77.4	3.6	0		21.1	38.8	40.1	0		22.8	67.3	9.9	0		
PHF	.821	.769	.868	.000	.893	.859	.905	.875	.000	.906	.833	.818	.881	.000	.920	.946	.911	.741	.000	.944	
Vehicles	46	236	345	0	627	207	812	42	0	1061	212	413	425	0	1050	364	1038	147	0	1549	
% Vehicles																					
Heavy Vehicles	0	4	30	0	34	13	86	0	0	99	18	9	12	0	39	7	55	13	0	75	
% Heavy Vehicles	0	1.7	8	0	5.1	5.9	9.6	0	0	8.5	7.8	2.1	2.7	0	3.6	1.9	5	8.1	0	4.6	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - AM
Site Code : 11_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	4	49	28	0	81	34	186	4	0	224	18	59	73	0	150	50	222	40	0	312	767
07:15	6	48	46	0	100	38	178	2	0	218	57	89	112	0	258	63	257	59	0	379	955
07:30	6	28	57	0	91	41	231	5	0	277	65	101	122	0	288	91	262	40	0	393	1049
07:45	7	48	62	0	117	37	199	10	0	246	33	98	107	0	238	87	285	27	0	399	1000
Total	23	173	193	0	389	150	794	21	0	965	173	347	414	0	934	291	1026	166	0	1483	3771
08:00	9	51	82	0	142	49	184	12	0	245	57	125	84	0	266	92	223	24	0	339	992
08:15	11	48	101	0	160	59	222	10	0	291	55	96	82	0	233	82	275	48	0	405	1089
08:30	14	60	94	0	168	62	207	10	0	279	49	105	80	0	234	97	252	44	0	393	1074
08:45	12	77	68	0	157	55	172	11	0	238	31	77	92	0	200	93	288	31	0	412	1007
Total	46	236	345	0	627	225	785	43	0	1053	192	403	338	0	933	364	1038	147	0	1549	4162
Grand Total	69	409	538	0	1016	375	1579	64	0	2018	365	750	752	0	1867	655	2064	313	0	3032	7933
Apprch %	6.8	40.3	53	0		18.6	78.2	3.2	0		19.6	40.2	40.3	0		21.6	68.1	10.3	0		
Total %	0.9	5.2	6.8	0	12.8	4.7	19.9	0.8	0	25.4	4.6	9.5	9.5	0	23.5	8.3	26	3.9	0	38.2	

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	9	51	82	0	142	49	184	**12**	0	245	**57**	**125**	84	0	**266**	92	223	24	0	339	992
08:15	11	48	**101**	0	160	59	**222**	10	0	**291**	55	96	82	0	233	82	275	**48**	0	405	**1089**
08:30	**14**	60	94	0	**168**	**62**	207	10	0	279	49	105	80	0	234	**97**	252	44	0	393	1074
08:45	12	**77**	68	0	157	55	172	11	0	238	31	77	**92**	0	200	93	**288**	31	0	**412**	1007
Total Volume	46	236	345	0	627	225	785	43	0	1053	192	403	338	0	933	364	1038	147	0	1549	4162
% App. Total	7.3	37.6	55	0		21.4	74.5	4.1	0		20.6	43.2	36.2	0		23.5	67	9.5	0		
PHF	.821	.766	.854	.000	.933	.907	.884	.896	.000	.905	.842	.806	.918	.000	.877	.938	.901	.766	.000	.940	.955

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					07:45					07:15					08:00				
+0 mins.	9	51	82	0	142	37	199	10	0	246	57	89	112	0	258	92	223	24	0	339
+15 mins.	11	48	**101**					**12**			**65**		**122**		**288**			**48**		
+30 mins.	**14**	60	94	0	**168**	59	**222**	10	0	**291**	33	98	107	0	238	**97**	252	44	0	393
+45 mins.	12	**77**	68	0	157	**62**	207	10	0	279	57	**125**	84	0	266	93	**288**	31	0	**412**
Total Volume	46	236	345	0	627	207	812	42	0	1061	212	413	425	0	1050	364	1038	147	0	1549
% App. Total	7.3	37.6	55	0		19.5	76.5	4	0		20.2	39.3	40.5	0		23.5	67	9.5	0	
PHF	.821	.766	.854	.000	.933	.835	.914	.875	.000	.912	.815	.826	.871	.000	.911	.938	.901	.766	.000	.940

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - AM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	2	2	0	4	2	11	0	0	13	2	1	2	0	5	2	9	3	0	14	36
07:15	0	0	2	0	2	2	22	0	0	24	5	1	2	0	8	2	9	8	0	19	53
07:30	0	0	3	0	3	2	21	0	0	23	4	2	2	0	8	0	14	7	0	21	55
07:45	0	0	6	0	6	5	19	0	0	24	2	2	6	0	10	2	21	6	0	29	69
Total	0	2	13	0	15	11	73	0	0	84	13	6	12	0	31	6	53	24	0	83	213
08:00	0	0	4	0	4	3	21	0	0	24	7	4	2	0	13	2	14	0	0	16	57
08:15	0	0	1	0	1	3	26	0	0	29	3	0	1	0	4	3	12	6	0	21	55
08:30	0	3	14	0	17	2	20	0	0	22	6	3	1	0	10	1	17	2	0	20	69
08:45	0	1	11	0	12	5	26	0	0	31	4	1	2	0	7	1	12	5	0	18	68
Total	0	4	30	0	34	13	93	0	0	106	20	8	6	0	34	7	55	13	0	75	249
Grand Total	0	6	43	0	49	24	166	0	0	190	33	14	18	0	65	13	108	37	0	158	462
Apprch %	0	12.2	87.8	0		12.6	87.4	0	0		50.8	21.5	27.7	0		8.2	68.4	23.4	0		
Total %	0	1.3	9.3	0	10.6	5.2	35.9	0	0	41.1	7.1	3	3.9	0	14.1	2.8	23.4	8	0	34.2	

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	6	0	6	**5**	19	0	0	24	2	2	**6**	0	10	2	**21**	**6**	0	**29**	**69**
08:00	0	0	4	0	4	3	21	0	0	24	**7**	**4**	2	0	**13**	2	14	0	0	16	57
08:15	0	0	1	0	1	3	**26**	0	0	**29**	3	0	1	0	4	**3**	12	6	0	21	55
08:30	0	**3**	**14**	0	**17**	2	20	0	0	22	6	3	1	0	10	1	17	2	0	20	69
Total Volume	0	3	25	0	28	13	86	0	0	99	18	9	10	0	37	8	64	14	0	86	250
% App. Total	0	10.7	89.3	0		13.1	86.9	0	0		48.6	24.3	27	0		9.3	74.4	16.3	0		
PHF	.000	.250	.446	.000	.412	.650	.827	.000	.000	.853	.643	.563	.417	.000	.712	.667	.762	.583	.000	.741	.906

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					**08:00**					**07:15**					**07:30**				
+0 mins.	**0**	**0**	**4**	**0**	**4**	**3**	**21**	**0**	**0**	**24**	**5**	**1**	**2**	**0**	**8**	**0**	**14**	**7**		
+15 mins.	0	0	1	0	1	3	**26**	0	0	29	4	2	2	0	8	2	**21**	6	0	**29**
+30 mins.	0	**3**	**14**	0	**17**	2	20	0	0	22	2	2	**6**	0	10	2	14	0	0	16
+45 mins.	0	1	11	0	12	**5**	26	0	0	**31**	**7**	**4**	2	0	**13**	**3**	12	6	0	21
Total Volume	0	4	30	0	34	13	93	0	0	106	18	9	12	0	39	7	61	19	0	87
% App. Total	0	11.8	88.2	0		12.3	87.7	0	0		46.2	23.1	30.8	0		8	70.1	21.8	0	
PHF	.000	.333	.536	.000	.500	.650	.894	.000	.000	.855	.643	.563	.500	.000	.750	.583	.726	.679	.000	.750

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - AM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - PM
Site Code : 11_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	5	77	137	0	219	98	303	10	0	411	40	77	73	0	190	67	251	32	0	350	1170
16:15	11	94	145	1	251	105	221	3	0	329	43	68	83	0	194	97	215	63	0	375	1149
16:30	6	88	114	0	208	99	271	14	0	384	31	58	52	0	141	92	302	58	0	452	1185
16:45	9	87	126	0	222	112	316	13	0	441	47	59	81	0	187	77	244	56	0	377	1227
Total	31	346	522	1	900	414	1111	40	0	1565	161	262	289	0	712	333	1012	209	0	1554	4731
17:00	8	82	134	0	224	108	276	9	0	393	47	77	82	0	206	86	251	69	0	406	1229
17:15	11	115	133	0	259	117	226	7	0	350	43	61	108	0	212	98	206	60	0	364	1185
17:30	7	79	119	0	205	114	312	3	0	429	45	63	90	0	198	82	263	39	0	384	1216
17:45	5	81	109	0	195	99	340	30	0	469	31	43	78	0	152	66	293	39	0	398	1214
Total	31	357	495	0	883	438	1154	49	0	1641	166	244	358	0	768	332	1013	207	0	1552	4844
Grand Total	62	703	1017	1	1783	852	2265	89	0	3206	327	506	647	0	1480	665	2025	416	0	3106	9575
Apprch %	3.5	39.4	57	0.1		26.6	70.6	2.8	0		22.1	34.2	43.7	0		21.4	65.2	13.4	0		
Total %	0.6	7.3	10.6	0	18.6	8.9	23.7	0.9	0	33.5	3.4	5.3	6.8	0	15.5	6.9	21.1	4.3	0	32.4	
Vehicles	59	693	991	1	1744	836	2215										1887				
% Vehicles	95.2	98.6	97.4	100	97.8	98.1	97.8	98.9	0	97.9	95.4	97.8	95.7	0	96.4	97.9	93.2	96.6	0	94.7	96.6
Heavy Vehicles																					
% Heavy Vehicles	4.8	1.4	2.6	0	2.2	1.9	2.2	1.1	0	2.1	4.6	2.2	4.3	0	3.6	2.1	6.8	3.4	0	5.3	3.4

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	9	87	126	0	222	112	**316**	**13**	0	**441**	**47**	59	81	0	187	77	244	56	0	377	1227
17:00	8	82	**134**	0	224	108	276	9	0	393	47	**77**	82	0	206	86	251	**69**	0	**406**	**1229**
17:15	**11**	**115**	133	0	**259**	**117**	226	7	0	350	43	61	**108**	0	**212**	**98**	206	60	0	364	1185
17:30	7	79	119	0	205	114	312	3	0	429	45	63	90	0	198	82	**263**	39	0	384	1216
Total Volume	35	363	512	0	910	451	1130	32	0	1613	182	260	361	0	803	343	964	224	0	1531	4857
% App. Total	3.8	39.9	56.3	0		28	70.1	2	0		22.7	32.4	45	0		22.4	63	14.6	0		
PHF	.795	.789	.955	.000	.878	.964	.894	.615	.000	.914	.968	.844	.836	.000	.947	.875	.916	.812	.000	.943	.988
Vehicles	34	361	500	0	895	443	1106														
% Vehicles	97.1	99.4	97.7	0	98.4	98.2	97.9	100	0	98.0	96.7	96.9	96.1	0	96.5	98.5	93.5	95.5	0	94.9	96.8
Heavy Vehicles																					
% Heavy Vehicles	2.9	0.6	2.3	0	1.6	1.8	2.1	0	0	2.0	3.3	3.1	3.9	0	3.5	1.5	6.5	4.5	0	5.1	3.2

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - PM
Site Code : 11_____
Start Date : 11/16/2021
Page No : 2

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:30					17:00					16:45					16:15					
+0 mins.	6	88	114	0	208	108	276	9	0	393	**47**	59	81	0	187	**97**	215	63	0	375	
+15 mins.	9	87	126	0	222	**117**	226	7	0	350	47	**77**	82	0	206	92	**302**	58	0	**452**	
+30 mins.	8	82	**134**	0	224	114	312	3	0	429	43	61	**108**	0	**212**	77	244	56	0	377	
+45 mins.	**11**	**115**	133	0	**259**	99	**340**	**30**	0	**469**	45	63	90	0	198	86	251	**69**	0	406	
Total Volume	34	372	507	0	913	438	1154	49	0	1641	182	260	361	0	803	352	1012	246	0	1610	
% App. Total	3.7	40.7	55.5	0		26.7	70.3	3	0		22.7	32.4	45	0		21.9	62.9	15.3	0		
PHF	.773	.809	.946	.000	.881	.936	.849	.408	.000	.875	.968	.844	.836	.000	.947	.907	.838	.891	.000	.890	
Vehicles	32	367	492	0	891	431	1132	49	0	1612	176	252	347	0	775	345	949	235	0	1529	
% Vehicles																					
Heavy Vehicles	2	5	15	0	22	7	22	0	0	29	6	8	14	0	28	7	63	11	0	81	
% Heavy Vehicles	5.9	1.3	3	0	2.4	1.6	1.9	0	0	1.8	3.3	3.1	3.9	0	3.5	2	6.2	4.5	0	5	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - PM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	4	77	135	0	216	92	295	10	0	397	37	75	67	0	179	62	233	31	0	326	1118
16:15	11	92	139	1	243	105	215	3	0	323	41	68	79	0	188	95	197	60	0	352	1106
16:30	5	84	110	0	199	99	265	13	0	377	29	58	50	0	137	91	284	58	0	433	1146
16:45	8	86	124	0	218	109	308	13	0	430	46	57	79	0	182	75	225	52	0	352	1182
Total	28	339	508	1	876	405	1083	39	0	1527	153	258	275	0	686	323	939	201	0	1463	4552
17:00	8	82	128	0	218	105	266	9	0	380	44	75	75	0	194	84	243	65	0	392	1184
17:15	11	115	130	0	256	115	225	7	0	347	42	58	107	0	207	98	192	58	0	348	1158
17:30	7	78	118	0	203	114	307	3	0	424	44	62	86	0	192	81	241	39	0	361	1180
17:45	5	79	107	0	191	97	334	30	0	461	29	42	76	0	147	65	272	39	0	376	1175
Total	31	354	483	0	868	431	1132	49	0	1612	159	237	344	0	740	328	948	201	0	1477	4697
Grand Total	59	693	991	1	1744	836	2215	88	0	3139	312	495	619	0	1426	651	1887	402	0	2940	9249
Apprch %	3.4	39.7	56.8	0.1		26.6	70.6	2.8	0		21.9	34.7	43.4	0		22.1	64.2	13.7	0		
Total %	0.6	7.5	10.7	0	18.9	9	23.9	1	0	33.9	3.4	5.4	6.7	0	15.4	7	20.4	4.3	0	31.8	

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	8	86	124	0	218	109	**308**	**13**	0	**430**	**46**	57	79	0	182	75	225	52	0	352	1182
17:00	8	82	128	0	218	105	266	9	0	380	44	**75**	75	0	194	84	**243**	**65**	0	**392**	**1184**
17:15	**11**	**115**	**130**	0	**256**	**115**	225	7	0	347	42	58	**107**	0	**207**	**98**	192	58	0	348	1158
17:30	7	78	118	0	203	114	307	3	0	424	44	62	86	0	192	81	241	39	0	361	1180
Total Volume	34	361	500	0	895	443	1106	32	0	1581	176	252	347	0	775	338	901	214	0	1453	4704
% App. Total	3.8	40.3	55.9	0		28	70	2	0		22.7	32.5	44.8	0		23.3	62	14.7	0		
PHF	.773	.785	.962	.000	.874	.963	.898	.615	.000	.919	.957	.840	.811	.000	.936	.862	.927	.823	.000	.927	.993

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:45					17:00					16:45					16:15				
+0 mins.	8	86	124	0	218	105	266	9	0	380	**46**					**95**				
+15 mins.	8	82	128	0	218	**115**	225	7	0	347	44	**75**	75	0	194	91	**284**	58	0	**433**
+30 mins.	**11**	**115**	**130**	0	**256**	114	307	3	0	424	42	58	**107**	0	**207**	75	225	52	0	352
+45 mins.	7	78	118	0	203	97	**334**	**30**	0	**461**	44	62	86	0	192	84	243	**65**	0	392
Total Volume	34	361	500	0	895	431	1132	49	0	1612	176	252	347	0	775	345	949	235	0	1529
% App. Total	3.8	40.3	55.9	0		26.7	70.2	3	0		22.7	32.5	44.8	0		22.6	62.1	15.4	0	
PHF	.773	.785	.962	.000	.874	.937	.847	.408	.000	.874	.957	.840	.811	.000	.936	.908	.835	.904	.000	.883

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - PM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	1	0	2	0	3	6	8	0	0	14	3	2	6	0	11	5	18	1	0	24	52
16:15	0	2	6	0	8	0	6	0	0	6	2	0	4	0	6	2	18	3	0	23	43
16:30	1	4	4	0	9	0	6	1	0	7	2	0	2	0	4	1	18	0	0	19	39
16:45	1	1	2	0	4	3	8	0	0	11	1	2	2	0	5	2	19	4	0	25	45
Total	3	7	14	0	24	9	28	1	0	38	8	4	14	0	26	10	73	8	0	91	179
17:00	0	0	6	0	6	3	10	0	0	13	3	2	7	0	12	2	8	4	0	14	45
17:15	0	0	3	0	3	2	1	0	0	3	1	3	1	0	5	0	14	2	0	16	27
17:30	0	1	1	0	2	0	5	0	0	5	1	1	4	0	6	1	22	0	0	23	36
17:45	0	2	2	0	4	2	6	0	0	8	2	1	2	0	5	1	21	0	0	22	39
Total	0	3	12	0	15	7	22	0	0	29	7	7	14	0	28	4	65	6	0	75	147
Grand Total	3	10	26	0	39	16	50	1	0	67	15	11	28	0	54	14	138	14	0	166	326
Apprch %	7.7	25.6	66.7	0		23.9	74.6	1.5	0		27.8	20.4	51.9	0		8.4	83.1	8.4	0		
Total %	0.9	3.1	8	0	12	4.9	15.3	0.3	0	20.6	4.6	3.4	8.6	0	16.6	4.3	42.3	4.3	0	50.9	

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	**1**	0	2	0	3	**6**	**8**	0	0	**14**	**3**	**2**	**6**	0	**11**	**5**	18	1	0	24	**52**
16:15	0	2	**6**	0	8	0	6	0	0	6	2	0	4	0	6	2	18	3	0	23	43
16:30	1	**4**	4	0	**9**	0	6	**1**	0	7	2	0	2	0	4	1	18	0	0	19	39
16:45	1	1	2	0	4	3	8	0	0	11	1	2	2	0	5	2	**19**	**4**	0	**25**	45
Total Volume	3	7	14	0	24	9	28	1	0	38	8	4	14	0	26	10	73	8	0	91	179
% App. Total	12.5	29.2	58.3	0		23.7	73.7	2.6	0		30.8	15.4	53.8	0		11	80.2	8.8	0		
PHF	.750	.438	.583	.000	.667	.375	.875	.250	.000	.679	.667	.500	.583	.000	.591	.500	.961	.500	.000	.910	.861

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15					**16:00**					**16:45**					**16:00**				
+0 mins.	**0**	**2**	**6**			**6**	**8**			**14**						**5**				
+15 mins.	**1**	**4**	4	0	**9**	0	6	0	0	6	**3**	2	**7**	0	**12**	2	18	3	0	23
+30 mins.	1	1	2	0	4	0	6	**1**	0	7	1	**3**	1	0	5	1	18	0	0	19
+45 mins.	0	0	6	0	6	3	8	0	0	11	1	1	4	0	6	2	**19**	**4**	0	**25**
Total Volume	2	7	18	0	27	9	28	1	0	38	6	8	14	0	28	10	73	8	0	91
% App. Total	7.4	25.9	66.7	0		23.7	73.7	2.6	0		21.4	28.6	50	0		11	80.2	8.8	0	
PHF	.500	.438	.750	.000	.750	.375	.875	.250	.000	.679	.500	.667	.500	.000	.583	.500	.961	.500	.000	.910

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 11 - Hamilton Pool Rd-Bee Cave Pkwy & SH 71 - PM
Site Code : 11_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bee Cave Pkwy Southbound					SH 71 Westbound					Hamilton Pool Rd Northbound					SH 71 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	2	0	0	5	0	0	2	0	2	0	9	0	0	9	16
07:15	0	0	0	0	0	3	5	0	0	8	1	0	3	0	4	0	15	0	0	15	27
07:30	0	0	0	0	0	4	12	0	0	16	0	0	7	0	7	0	13	0	0	13	36
07:45	0	0	0	0	0	5	12	0	0	17	0	0	9	0	9	0	17	0	0	17	43
Total	0	0	0	0	0	15	31	0	0	46	1	0	21	0	22	0	54	0	0	54	122
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	26	0	0	26	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	16	0	0	16	54
08:45	0	0	0	0	0	11	28	0	0	39	0	0	11	0	11	0	12	0	0	12	62
Total	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
Grand Total	0	0	0	0	0	48	89	0	0	137	1	0	78	0	79	0	131	0	0	131	347
Apprch %	0	0	0	0		35	65	0	0		1.3	0	98.7	0		0	100	0	0		
Total %	0	0	0	0	0	13.8	25.6	0	0	39.5	0.3	0	22.5	0	22.8	0	37.8	0	0	37.8	
Vehicles	0	0	0	0	0	48	89	0	0	137	1	0	77	0	78	0	130	0	0	130	345
% Vehicles	0	0	0	0	0	100	100	0	0	100	100	0	98.7	0	98.7	0	99.2	0	0	99.2	99.4
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1.3	0	1.3	0	0.8	0	0	0.8	0.6

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	**26**	0	0	**26**	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	16	0	0	16	54
08:45	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	12	0	0	12	**62**
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.740	.000	.000	.740	.907
Vehicles	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					08:00					08:00					07:45					
+0 mins.	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	17	0	0	17	
+15 mins.	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	**26**	0	0	**26**	
+30 mins.	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	23	0	0	23	
+45 mins.	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	16	0	0	16	
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	82	0	0	82	
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.788	.000	.000	.788	
Vehicles	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	81	0	0	81	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	2	0	0	5	0	0	2	0	2	0	9	0	0	9	16
07:15	0	0	0	0	0	3	5	0	0	8	1	0	3	0	4	0	15	0	0	15	27
07:30	0	0	0	0	0	4	12	0	0	16	0	0	7	0	7	0	13	0	0	13	36
07:45	0	0	0	0	0	5	12	0	0	17	0	0	8	0	8	0	16	0	0	16	41
Total	0	0	0	0	0	15	31	0	0	46	1	0	20	0	21	0	53	0	0	53	120
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	26	0	0	26	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	16	0	0	16	54
08:45	0	0	0	0	0	11	28	0	0	39	0	0	11	0	11	0	12	0	0	12	62
Total	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
Grand Total	0	0	0	0	0	48	89	0	0	137	1	0	77	0	78	0	130	0	0	130	345
Apprch %	0	0	0	0		35	65	0	0		1.3	0	98.7	0		0	100	0	0		
Total %	0	0	0	0	0	13.9	25.8	0	0	39.7	0.3	0	22.3	0	22.6	0	37.7	0	0	37.7	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	8	10	0	0	18	0	0	15	0	15	0	**26**	0	0	**26**	59
08:15	0	0	0	0	0	6	8	0	0	14	0	0	13	0	13	0	23	0	0	23	50
08:30	0	0	0	0	0	8	12	0	0	20	0	0	**18**	0	**18**	0	16	0	0	16	54
08:45	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	12	0	0	12	**62**
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	77	0	0	77	225
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.740	.000	.000	.740	.907

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**08:00**					**08:00**					**07:45**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**8**	**10**	**0**	**0**	**18**	**0**	**0**	**15**	**0**	**15**	**0**	**16**	**0**	**0**	**16**
+15 mins.	**0**	**0**	**0**	**0**	**0**	**6**	**8**	**0**	**0**	**14**	**0**	**0**	**13**	**0**	**13**	**0**	26	0	0	26
+30 mins.	0	0	0	0	0	8	12	0	0	20	0	0	18	0	18	0	23	0	0	23
+45 mins.	0	0	0	0	0	**11**	**28**	0	0	**39**	0	0	11	0	11	0	16	0	0	16
Total Volume	0	0	0	0	0	33	58	0	0	91	0	0	57	0	57	0	81	0	0	81
% App. Total	0	0	0	0		36.3	63.7	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.750	.518	.000	.000	.583	.000	.000	.792	.000	.792	.000	.779	.000	.000	.779

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
Apprch %	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	50	0	0	50	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	**1**	0	0	**1**	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250	.250

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:00**					**07:00**					**07:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+15 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+30 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
+45 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	**1**	0	**1**	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1
% App. Total	0	0	0	0		0	0	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - AM
Site Code : 1
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound				
	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	2			2					
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	15	21	0	0	36	0	0	17	0	17	0	15	0	0	15	68
16:15	0	0	0	0	0	14	23	0	0	37	0	0	14	0	14	0	19	0	0	19	70
16:30	0	0	0	0	0	13	24	0	0	37	1	0	19	0	20	0	24	0	0	24	81
16:45	0	0	0	0	0	18	30	0	0	48	0	0	17	0	17	0	23	0	0	23	88
Total	0	0	0	0	0	60	98	0	0	158	1	0	67	0	68	0	81	0	0	81	307
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	2	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
17:30	0	0	0	0	0	12	25	0	0	37	0	0	16	0	16	0	21	0	0	21	74
17:45	0	0	0	0	0	10	21	0	1	32	1	0	24	0	25	0	16	0	0	16	73
Total	0	0	0	0	0	46	105	0	1	152	2	0	69	0	71	0	73	2	0	75	298
Grand Total	0	0	0	0	0	106	203	0	1	310	3	0	136	0	139	0	154	2	0	156	605
Apprch %	0	0	0	0		34.2	65.5	0	0.3		2.2	0	97.8	0		0	98.7	1.3	0		
Total %	0	0	0	0	0	17.5	33.6	0	0.2	51.2	0.5	0	22.5	0	23	0	25.5	0.3	0	25.8	
Vehicles	0	0	0	0	0	105	201	0	1	307	3	0	135	0	138	0	153	2	0	155	600
% Vehicles	0	0	0	0	0	99.1	99	0	100	99	100	0	99.3	0	99.3	0	99.4	100	0	99.4	99.2
Heavy Vehicles	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
% Heavy Vehicles	0	0	0	0	0	0.9	1	0	0	1	0	0	0.7	0	0.7	0	0.6	0	0	0.6	0.8

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	13	24	0	0	37	**1**	0	**19**	0	**20**	0	**24**	0	0	**24**	81
16:45	0	0	0	0	0	**18**	**30**	0	0	**48**	0	0	17	0	17	0	23	0	0	23	**88**
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	**2**	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
Total Volume	0	0	0	0	0	55	113	0	0	168	2	0	65	0	67	0	83	2	0	85	320
% App. Total	0	0	0	0		32.7	67.3	0	0		3	0	97	0		0	97.6	2.4	0		
PHF	.000	.000	.000	.000	.000	.764	.942	.000	.000	.875	.500	.000	.855	.000	.838	.000	.865	.250	.000	.885	.909
Vehicles	0	0	0	0	0	55	112	0	0	167	2	0	65	0	67	0	82	2	0	84	318
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.6	0	0	0	0	0	0	1.2	0	0	1.2	0.6

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					17:00					16:15				
+0 mins.	0	0	0	0	0	13	24	0	0	37	0	0	12	0	12	0	19	0	0	19
+15 mins.	0	0	0	0	0	**18**	**30**	0	0	**48**	**1**	0	17	0	18	0	**24**	0	0	**24**
+30 mins.	0	0	0	0	0	9	29	0	0	38	0	0	16	0	16	0	23	0	0	23
+45 mins.	0	0	0	0	0	15	30	0	0	45	1	0	**24**	0	**25**	0	19	**2**	0	21
Total Volume	0	0	0	0	0	55	113	0	0	168	2	0	69	0	71	0	85	2	0	87
% App. Total	0	0	0	0		32.7	67.3	0	0		2.8	0	97.2	0		0	97.7	2.3	0	
PHF	.000	.000	.000	.000	.000	.764	.942	.000	.000	.875	.500	.000	.719	.000	.710	.000	.885	.250	.000	.906
Vehicles	0	0	0	0	0	55	112	0	0	167	2	0	69	0	71	0	84	2	0	86
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.6	0	0	0	0	0	0	1.2	0	0	1.1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	15	20	0	0	35	0	0	16	0	16	0	15	0	0	15	66
16:15	0	0	0	0	0	13	23	0	0	36	0	0	14	0	14	0	19	0	0	19	69
16:30	0	0	0	0	0	13	24	0	0	37	1	0	19	0	20	0	23	0	0	23	80
16:45	0	0	0	0	0	18	29	0	0	47	0	0	17	0	17	0	23	0	0	23	87
Total	0	0	0	0	0	59	96	0	0	155	1	0	66	0	67	0	80	0	0	80	302
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	2	0	21	71
17:15	0	0	0	0	0	15	30	0	0	45	1	0	17	0	18	0	17	0	0	17	80
17:30	0	0	0	0	0	12	25	0	0	37	0	0	16	0	16	0	21	0	0	21	74
17:45	0	0	0	0	0	10	21	0	1	32	1	0	24	0	25	0	16	0	0	16	73
Total	0	0	0	0	0	46	105	0	1	152	2	0	69	0	71	0	73	2	0	75	298
Grand Total	0	0	0	0	0	105	201	0	1	307	3	0	135	0	138	0	153	2	0	155	600
Apprch %	0	0	0	0		34.2	65.5	0	0.3		2.2	0	97.8	0		0	98.7	1.3	0		
Total %	0	0	0	0	0	17.5	33.5	0	0.2	51.2	0.5	0	22.5	0	23	0	25.5	0.3	0	25.8	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	13	24	0	0	37	**1**	0	**19**	0	**20**	0	**23**	0	0	**23**	80
16:45	0	0	0	0	0	**18**	29	0	0	**47**	0	0	17	0	17	0	23	0	0	23	**87**
17:00	0	0	0	0	0	9	29	0	0	38	0	0	12	0	12	0	19	**2**	0	21	71
17:15	0	0	0	0	0	15	**30**	0	0	45	1	0	17	0	18	0	17	0	0	17	80
Total Volume	0	0	0	0	0	55	112	0	0	167	2	0	65	0	67	0	82	2	0	84	318
% App. Total	0	0	0	0		32.9	67.1	0	0		3	0	97	0		0	97.6	2.4	0		
PHF	.000	.000	.000	.000	.000	.764	.933	.000	.000	.888	.500	.000	.855	.000	.838	.000	.891	.250	.000	.913	.914

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:30**					**17:00**					**16:15**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**13**	**24**	**0**	**0**	**37**	**0**	**0**	**12**	**0**	**12**	**0**	**19**	**0**	**0**	**19**
+15 mins.	**0**	**0**	**0**	**0**	**0**	18	29	0	0	47	1	0	17	0	18	0	23	0	0	**23**
+30 mins.	0	0	0	0	0	9	29	0	0	38	0	0	16	0	16	0	23	0	0	23
+45 mins.	0	0	0	0	0	15	**30**	0	0	45	1	0	**24**	0	**25**	0	19	**2**	0	21
Total Volume	0	0	0	0	0	55	112	0	0	167	2	0	69	0	71	0	84	2	0	86
% App. Total	0	0	0	0		32.9	67.1	0	0		2.8	0	97.2	0		0	97.7	2.3	0	
PHF	.000	.000	.000	.000	.000	.764	.933	.000	.000	.888	.500	.000	.719	.000	.710	.000	.913	.250	.000	.935

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	2
16:15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
16:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
Apprch %	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0		
Total %	0	0	0	0	0	20	40	0	0	60	0	0	20	0	20	0	20	0	0	20	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	**1**	0	0	**1**	0	0	**1**	0	**1**	0	0	0	0	0	**2**
16:15	0	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
16:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1	5
% App. Total	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.000	.000	.750	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250	.625

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:00**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	0	**1**	0	0	**1**	0	**1**	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+45 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	1	0	0	1
% App. Total	0	0	0	0		33.3	66.7	0	0		0	0	100	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.250	.500	.000	.000	.750	.000	.000	.250	.000	.250	.000	.250	.000	.000	.250

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 1 - Willie St & Ladera Blvd - PM
Site Code : 1
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
17:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	11
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	0	0	0	0	**3**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.000	.000	.000	.000	.000	.667

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	Southbound					Ladera Blvd Westbound					Willie St Northbound					Ladera Blvd Eastbound				
	16:00					**16:00**					**16:45**					**16:00**				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	3			3					
Total Volume	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	3	0	3	0	85	1	0	86	0	0	0	0	0	3	99	1	0	103	192
07:15	0	0	3	0	3	0	106	1	0	107	0	0	0	0	0	4	150	0	0	154	264
07:30	0	0	4	0	4	0	122	0	0	122	0	0	0	0	0	7	161	0	0	168	294
07:45	0	0	5	0	5	0	126	3	1	130	0	0	0	0	0	8	174	0	0	182	317
Total	0	0	15	0	15	0	439	5	1	445	0	0	0	0	0	22	584	1	0	607	1067
08:00	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	14	196	0	0	210	348
08:15	0	0	6	0	6	0	158	1	0	159	0	0	0	0	0	14	192	0	0	206	371
08:30	0	0	7	0	7	0	165	0	0	165	0	0	0	0	0	16	188	0	1	205	377
08:45	1	0	10	0	11	0	157	0	0	157	0	0	0	0	0	10	140	0	0	150	318
Total	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	54	716	0	1	771	1414
Grand Total	1	0	46	0	47	0	1049	6	1	1056	0	0	0	0	0	76	1300	1	1	1378	2481
Apprch %	2.1	0	97.9	0		0	99.3	0.6	0.1		0	0	0	0		5.5	94.3	0.1	0.1		
Total %	0	0	1.9	0	1.9	0	42.3	0.2	0	42.6	0	0	0	0	0	3.1	52.4	0	0	55.5	
Vehicles	1	0	46	0	47	0	992	5	1	998	0	0	0	0	0	76	1276	1	1	1354	2399
% Vehicles	100	0	100	0	100	0	94.6	83.3	100	94.5	0	0	0	0	0	100	98.2	100	100	98.3	96.7
Heavy Vehicles	0	0	0	0	0	0	57	1	0	58	0	0	0	0	0	0	24	0	0	24	82
% Heavy Vehicles	0	0	0	0	0	0	5.4	16.7	0	5.5	0	0	0	0	0	0	1.8	0	0	1.7	3.3

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	14	**196**	0	0	**210**	348
08:15	0	0	6	0	6	0	158	**1**	0	159	0	0	0	0	0	14	192	0	0	206	371
08:30	0	0	7	0	7	0	**165**	0	0	**165**	0	0	0	0	0	**16**	188	0	**1**	205	**377**
08:45	**1**	0	**10**	0	**11**	0	157	0	0	157	0	0	0	0	0	10	140	0	0	150	318
Total Volume	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	54	716	0	1	771	1414
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		7	92.9	0	0.1		
PHF	.250	.000	.775	.000	.727	.000	.924	.250	.000	.926	.000	.000	.000	.000	.000	.844	.913	.000	.250	.918	.938
Vehicles	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	54	706	0	1	761	1367
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
% Heavy Vehicles	0	0	0	0	0	0	6.1	0	0	6.1	0	0	0	0	0	0	1.4	0	0	1.3	3.3

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00					08:00					07:00					07:45					
+0 mins.	0	0	8	0	8	0	130	0	0	130	0	0	0	0	0	8	174	0	0	182	
+15 mins.	0	0	6	0	6	0	158	**1**	0	159	0	0	0	0	0	14	**196**	0	0	**210**	
+30 mins.	0	0	7	0	7	0	**165**	0	0	**165**	0	0	0	0	0	14	192	0	0	206	
+45 mins.	**1**	0	**10**	0	**11**	0	157	0	0	157	0	0	0	0	0	**16**	188	0	**1**	205	
Total Volume	1	0	31	0	32	0	610	1	0	611	0	0	0	0	0	52	750	0	1	803	
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		6.5	93.4	0	0.1		
PHF	.250	.000	.775	.000	.727	.000	.924	.250	.000	.926	.000	.000	.000	.000	.000	.813	.957	.000	.250	.956	
Vehicles	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	52	739	0	1	792	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	11	0	0	11	
% Heavy Vehicles	0	0	0	0	0	0	6.1	0	0	6.1	0	0	0	0	0	0	1.5	0	0	1.4	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	3	0	3	0	81	1	0	82	0	0	0	0	0	3	95	1	0	99	184
07:15	0	0	3	0	3	0	99	1	0	100	0	0	0	0	0	4	146	0	0	150	253
07:30	0	0	4	0	4	0	118	0	0	118	0	0	0	0	0	7	159	0	0	166	288
07:45	0	0	5	0	5	0	121	2	1	124	0	0	0	0	0	8	170	0	0	178	307
Total	0	0	15	0	15	0	419	4	1	424	0	0	0	0	0	22	570	1	0	593	1032
08:00	0	0	8	0	8	0	127	0	0	127	0	0	0	0	0	14	195	0	0	209	344
08:15	0	0	6	0	6	0	151	1	0	152	0	0	0	0	0	14	188	0	0	202	360
08:30	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	16	186	0	1	203	361
08:45	1	0	10	0	11	0	144	0	0	144	0	0	0	0	0	10	137	0	0	147	302
Total	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	54	706	0	1	761	1367
Grand Total	1	0	46	0	47	0	992	5	1	998	0	0	0	0	0	76	1276	1	1	1354	2399
Apprch %	2.1	0	97.9	0		0	99.4	0.5	0.1		0	0	0	0		5.6	94.2	0.1	0.1		
Total %	0	0	1.9	0	2	0	41.4	0.2	0	41.6	0	0	0	0	0	3.2	53.2	0	0	56.4	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	5	0	5	0	121	**2**	**1**	124	0	0	0	0	0	8	170	0	0	178	307
08:00	0	0	**8**	0	**8**	0	127	0	0	127	0	0	0	0	0	14	**195**	0	0	**209**	344
08:15	0	0	6	0	6	0	**151**	1	0	**152**	0	0	0	0	0	14	188	0	0	202	360
08:30	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	**16**	186	0	**1**	203	**361**
Total Volume	0	0	26	0	26	0	550	3	1	554	0	0	0	0	0	52	739	0	1	792	1372
% App. Total	0	0	100	0		0	99.3	0.5	0.2		0	0	0	0		6.6	93.3	0	0.1		
PHF	.000	.000	.813	.000	.813	.000	.911	.375	.250	.911	.000	.000	.000	.000	.000	.813	.947	.000	.250	.947	.950

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					**08:00**					**07:00**					**07:45**				
+0 mins.	**0**	**0**	**8**	**0**	**8**	**0**	**127**	**0**	**0**	**127**	**0**	**0**	**0**	**0**	**0**	**8**	**170**	**0**	**0**	**178**
+15 mins.	**0**	**0**	**6**	**0**	**6**	**0**	151	1	0	152	0	0	0	0	0	14	195	0	0	**209**
+30 mins.	0	0	7	0	7	0	151	0	0	151	0	0	0	0	0	14	188	0	0	202
+45 mins.	**1**	0	**10**	0	**11**	0	144	0	0	144	0	0	0	0	0	**16**	186	0	**1**	203
Total Volume	1	0	31	0	32	0	573	1	0	574	0	0	0	0	0	52	739	0	1	792
% App. Total	3.1	0	96.9	0		0	99.8	0.2	0		0	0	0	0		6.6	93.3	0	0.1	
PHF	.250	.000	.775	.000	.727	.000	.949	.250	.000	.944	.000	.000	.000	.000	.000	.813	.947	.000	.250	.947

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
07:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
07:30	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
07:45	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	0	0	0	0	20	1	0	21	0	0	0	0	0	0	14	0	0	14	35
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
08:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
08:30	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	2	0	0	2	16
08:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	3	0	0	3	16
Total	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
Grand Total	0	0	0	0	0	0	57	1	0	58	0	0	0	0	0	0	24	0	0	24	82
Apprch %	0	0	0	0		0	98.3	1.7	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	69.5	1.2	0	70.7	0	0	0	0	0	0	29.3	0	0	29.3	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
08:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	**4**	0	0	**4**	11
08:30	0	0	0	0	0	0	**14**	0	0	**14**	0	0	0	0	0	0	2	0	0	2	**16**
08:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	3	0	0	3	16
Total Volume	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	10	0	0	10	47
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.661	.000	.000	.661	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.734

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**08:00**					**07:00**					**07:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	0	0	**4**
+15 mins.	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4
+30 mins.	0	0	0	0	0	0	**14**	0	0	**14**	0	0	0	0	0	0	2	0	0	2
+45 mins.	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	4	0	0	4
Total Volume	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	14	0	0	14
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.661	.000	.000	.661	.000	.000	.000	.000	.000	.000	.875	.000	.000	.875

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - AM
Site Code : 2
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Apprch %	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1			1															
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	15	0	15	0	188	2	0	190	0	0	0	0	0	13	135	0	0	148	353
16:15	0	0	13	0	13	0	223	2	0	225	0	0	0	0	0	12	144	0	0	156	394
16:30	0	0	14	0	14	0	240	8	0	248	0	0	0	0	0	11	129	0	2	142	404
16:45	2	0	16	0	18	0	214	7	1	222	0	0	0	0	0	10	136	0	0	146	386
Total	2	0	58	0	60	0	865	19	1	885	0	0	0	0	0	46	544	0	2	592	1537
17:00	0	0	11	0	11	0	215	6	0	221	0	0	0	0	0	7	155	0	0	162	394
17:15	0	0	15	0	15	0	237	3	1	241	0	0	0	0	0	13	165	0	0	178	434
17:30	0	0	11	0	11	0	201	3	1	205	0	0	0	0	0	19	180	0	0	199	415
17:45	0	0	9	0	9	0	194	5	0	199	0	0	0	0	0	15	129	0	0	144	352
Total	0	0	46	0	46	0	847	17	2	866	0	0	0	0	0	54	629	0	0	683	1595
Grand Total	2	0	104	0	106	0	1712	36	3	1751	0	0	0	0	0	100	1173	0	2	1275	3132
Apprch %	1.9	0	98.1	0		0	97.8	2.1	0.2		0	0	0	0		7.8	92	0	0.2		
Total %	0.1	0	3.3	0	3.4	0	54.7	1.1	0.1	55.9	0	0	0	0	0	3.2	37.5	0	0.1	40.7	
Vehicles	2	0	103	0	105	0	1684	36	3	1723	0	0	0	0	0	99	1152	0	2	1253	3081
% Vehicles	100	0	99	0	99.1	0	98.4	100	100	98.4	0	0	0	0	0	99	98.2	0	100	98.3	98.4
Heavy Vehicles	0	0	1	0	1	0	28	0	0	28	0	0	0	0	0	1	21	0	0	22	51
% Heavy Vehicles	0	0	1	0	0.9	0	1.6	0	0	1.6	0	0	0	0	0	1	1.8	0	0	1.7	1.6

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**2**	0	**16**	0	**18**	0	214	**7**	**1**	222	0	0	0	0	0	10	136	0	0	146	386
17:00	0	0	11	0	11	0	215	6	0	221	0	0	0	0	0	7	155	0	0	162	394
17:15	0	0	15	0	15	0	**237**	3	1	**241**	0	0	0	0	0	13	165	0	0	178	**434**
17:30	0	0	11	0	11	0	201	3	1	205	0	0	0	0	0	**19**	**180**	0	0	**199**	415
Total Volume	2	0	53	0	55	0	867	19	3	889	0	0	0	0	0	49	636	0	0	685	1629
% App. Total	3.6	0	96.4	0		0	97.5	2.1	0.3		0	0	0	0		7.2	92.8	0	0		
PHF	.250	.000	.828	.000	.764	.000	.915	.679	.750	.922	.000	.000	.000	.000	.000	.645	.883	.000	.000	.861	.938
Vehicles	2	0	53	0	55	0	855	19	3	877	0	0	0	0	0	49	626	0	0	675	1607
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	22
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.3	0	0	0	0	0	0	1.6	0	0	1.5	1.4

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					16:45				
+0 mins.	0	0	15	0	15	0	**240**	**8**	0	**248**	0	0	0	0	0	10	136	0	0	146
+15 mins.	0	0	13	0	13	0	214	7	**1**	222	0	0	0	0	0	7	155	0	0	162
+30 mins.	0	0	14	0	14	0	215	6	0	221	0	0	0	0	0	13	165	0	0	178
+45 mins.	**2**	0	**16**	0	**18**	0	237	3	1	241	0	0	0	0	0	**19**	**180**	0	0	**199**
Total Volume	2	0	58	0	60	0	906	24	2	932	0	0	0	0	0	49	636	0	0	685
% App. Total	3.3	0	96.7	0		0	97.2	2.6	0.2		0	0	0	0		7.2	92.8	0	0	
PHF	.250	.000	.906	.000	.833	.000	.944	.750	.500	.940	.000	.000	.000	.000	.000	.645	.883	.000	.000	.861
Vehicles	2	0	57	0	59	0	896	24	2	922	0	0	0	0	0	49	626	0	0	675
% Vehicles																				
Heavy Vehicles	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	0	10	0	0	10
% Heavy Vehicles	0	0	1.7	0	1.7	0	1.1	0	0	1.1	0	0	0	0	0	0	1.6	0	0	1.5

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 2

Groups Printed- Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	15	0	15	0	186	2	0	188	0	0	0	0	0	12	133	0	0	145	348
16:15	0	0	13	0	13	0	211	2	0	213	0	0	0	0	0	12	142	0	0	154	380
16:30	0	0	13	0	13	0	240	8	0	248	0	0	0	0	0	11	126	0	2	139	400
16:45	2	0	16	0	18	0	210	7	1	218	0	0	0	0	0	10	133	0	0	143	379
Total	2	0	57	0	59	0	847	19	1	867	0	0	0	0	0	45	534	0	2	581	1507
17:00	0	0	11	0	11	0	211	6	0	217	0	0	0	0	0	7	152	0	0	159	387
17:15	0	0	15	0	15	0	235	3	1	239	0	0	0	0	0	13	163	0	0	176	430
17:30	0	0	11	0	11	0	199	3	1	203	0	0	0	0	0	19	178	0	0	197	411
17:45	0	0	9	0	9	0	192	5	0	197	0	0	0	0	0	15	125	0	0	140	346
Total	0	0	46	0	46	0	837	17	2	856	0	0	0	0	0	54	618	0	0	672	1574
Grand Total	2	0	103	0	105	0	1684	36	3	1723	0	0	0	0	0	99	1152	0	2	1253	3081
Apprch %	1.9	0	98.1	0		0	97.7	2.1	0.2		0	0	0	0		7.9	91.9	0	0.2		
Total %	0.1	0	3.3	0	3.4	0	54.7	1.2	0.1	55.9	0	0	0	0	0	3.2	37.4	0	0.1	40.7	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**2**	0	**16**	0	**18**	0	210	**7**	**1**	218	0	0	0	0	0	10	133	0	0	143	379
17:00	0	0	11	0	11	0	211	6	0	217	0	0	0	0	0	7	152	0	0	159	387
17:15	0	0	15	0	15	0	**235**	3	1	**239**	0	0	0	0	0	13	163	0	0	176	**430**
17:30	0	0	11	0	11	0	199	3	1	203	0	0	0	0	0	**19**	**178**	0	0	**197**	411
Total Volume	2	0	53	0	55	0	855	19	3	877	0	0	0	0	0	49	626	0	0	675	1607
% App. Total	3.6	0	96.4	0		0	97.5	2.2	0.3		0	0	0	0		7.3	92.7	0	0		
PHF	.250	.000	.828	.000	.764	.000	.910	.679	.750	.917	.000	.000	.000	.000	.000	.645	.879	.000	.000	.857	.934

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:30**					**16:00**					**16:45**				
+0 mins.	**0**	**0**	**15**	**0**	**15**	**0**	240	8	0	248	0	0	0	0	0	10	133	0	0	143
+15 mins.	0	0	13	0	13	0	210	7	1	218	0	0	0	0	0	7	152	0	0	159
+30 mins.	0	0	13	0	13	0	211	6	0	217	0	0	0	0	0	13	163	0	0	176
+45 mins.	**2**	0	**16**	0	**18**	0	235	3	1	239	0	0	0	0	0	**19**	**178**	0	0	**197**
Total Volume	2	0	57	0	59	0	896	24	2	922	0	0	0	0	0	49	626	0	0	675
% App. Total	3.4	0	96.6	0		0	97.2	2.6	0.2		0	0	0	0		7.3	92.7	0	0	
PHF	.250	.000	.891	.000	.819	.000	.933	.750	.500	.929	.000	.000	.000	.000	.000	.645	.879	.000	.000	.857

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 3

Groups Printed- Heavy Vehicles

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	5
16:15	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	2	0	0	2	14
16:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	1	10	0	0	11	30
17:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
17:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
17:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
17:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	11	0	0	11	21
Grand Total	0	0	1	0	1	0	28	0	0	28	0	0	0	0	0	1	21	0	0	22	51
Apprch %	0	0	100	0		0	100	0	0		0	0	0	0		4.5	95.5	0	0		
Total %	0	0	2	0	2	0	54.9	0	0	54.9	0	0	0	0	0	2	41.2	0	0	43.1	

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	**12**	0	0	**12**	0	0	0	0	0	0	2	0	0	2	**14**
16:30	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	4
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
17:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total Volume	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	0	11	0	0	11	32
% App. Total	0	0	100	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.250	.000	.250	.000	.417	.000	.000	.417	.000	.000	.000	.000	.000	.000	.917	.000	.000	.917	.571

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**16:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**12**	0	0	**12**	0	0	0	0	0	**1**	2	0	0	**3**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	**1**	0	**1**	0	4	0	0	4	0	0	0	0	0	0	**3**	0	0	3
+45 mins.	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3
Total Volume	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	1	10	0	0	11
% App. Total	0	0	100	0		0	100	0	0		0	0	0	0		9.1	90.9	0	0	
PHF	.000	.000	.250	.000	.250	.000	.417	.000	.000	.417	.000	.000	.000	.000	.000	.250	.833	.000	.000	.917

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site 2 - Willie St & Bee Cave Pkwy - PM
Site Code : 2
Start Date : 12/8/2021
Page No : 4

Groups Printed- Pedestrians

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Willie St Southbound					Bee Cave Pkwy Westbound					Willie St Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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COVID Adjustment Factor Calculation

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Terrace TIA Update

COVID Adjustment Factor Calculation

RM 620 and SH 71			RM 620 and BCP			RM 620 and Ladera Blvd			RM 620 and Falcon Head			RM 2244 and Bee Cave Parkway			RM 2244 and SH 71			Hamilton Pool Rd and SH 71		
Year	**Total Traffic**		**Year**	**Total Traffic**		**Year**	**Total Traffic**		**Year**	**Total Traffic**		**Year**	**Total Traffic**		**Year**	**Total Traffic**		**Year**	**Total Traffic**	
	AM	**PM**		**AM**	**PM**		**AM**	**PM**		**AM**	**PM**		**AM**	**PM**		**AM**	**PM**		**AM**	**PM**
2019	4275	5462	**2019**	3853	4385	**2019**	3819	4407	**2019**	3920	4518	**2019**	3462	3703	**2019**	4768	5654	**2019**	3990	4947
2019 + 2 yrs	4535	5795	**2019 + 2 yrs**	4088	4652	**2019 + 2 yrs**	4052	4675	**2019 + 2 yrs**	4088	4652	**2019 + 2 yrs**	3673	3929	**2019 + 2 yrs**	5058	5998	**2019 + 2 yrs**	4233	5248
2021	4298	5125	**2021**	4225	4501	**2021**	3932	4023	**2021**	4061	4051	**2021**	3073	3389	**2021**	4521	5085	**2021**	4411	4857
Adjustment Factor	1.06	1.13	Adjustment Factor	0.97	1.03	Adjustment Factor	1.03	1.16	Adjustment Factor	1.01	1.15	Adjustment Factor	1.20	1.16	Adjustment Factor	1.12	1.18	Adjustment Factor	0.96	1.08
Modified Adjustment Factor	1.06	1.13	Modified Adjustment Factor	1.00	1.03	Modified Adjustment Factor	1.03	1.16	Modified Adjustment Factor	1.01	1.15	Modified Adjustment Factor	1.20	1.16	Modified Adjustment Factor	1.12	1.18	Modified Adjustment Factor	1.00	1.08

	AM AVG	PM AVG
Original	1.05	1.13
Modified	**1.06**	**1.13**

Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - Hamilton Pool/BCP and SH 71

2019 AM

			BCP			
				49	rght	
rght	thru	left		684	thru	
188	139	55		158	left	
SH 71			3990			SH 71
	left	363		215	439	453
	thru	1127		left	thru	rght
	rght	120				
			HP			

2019 PM

			BCP			
				76	rght	
rght	thru	left		1402	thru	
524	409	44		529	left	
SH 71			4947			SH 71
	left	244		146	270	278
	thru	844		left	thru	rght
	rght	181				
			HP			

2021 AM (2019 x Growth Rate)

			BCP			
				52	rght	
rght	thru	left		726	thru	
199	147	58		168	left	
SH 71			4233			SH 71
	left	385		228	466	481
	thru	1196		left	thru	rght
	rght	127				
			HP			

2021 PM (2019 x Growth Rate)

			BCP			
				81	rght	
rght	thru	left		1487	thru	
556	434	47		561	left	
SH 71			5248			SH 71
	left	259		155	286	295
	thru	895		left	thru	rght
	rght	192				
			HP			

2021 AM (Collected)

			BCP			
				43	rght	
rght	thru	left		878	thru	
375	240	46		238	left	
SH 71			4411			SH 71
	left	371		212	411	344
	thru	1093		left	thru	rght
	rght	160				
			HP			

2021 PM (Collected)

			BCP			
				32	rght	
rght	thru	left		1130	thru	
512	363	35		451	left	
SH 71			4857			SH 71
	left	343		182	260	361
	thru	964		left	thru	rght
	rght	224				
			HP			

2021 AM (COVID-Adjusted)

			BCP			
				46	rght	
rght	thru	left		931	thru	
398	254	49		252	left	
SH 71			4676			SH 71
	left	393		225	436	365
	thru	1159		left	thru	rght
	rght	170				
			HP			

2021 PM (COVID-Adjusted)

			BCP			
				36	rght	
rght	thru	left		1277	thru	
579	410	40		510	left	
SH 71			5488			SH 71
	left	388		206	294	408
	thru	1089		left	thru	rght
	rght	224				
			HP			

Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 620 and Bee Cave Parkway

2019 AM

			RM 620					
					349	rght		
rght	thru	left			86	thru		
310	819	794			16	left		
BCP			3853				BCP	
	left	337			24	762	29	
	thru	291			left	thru	rght	
	rght	36						
			RM 620					

2019 PM

			RM 620					
					791	rght		
rght	thru	left			299	thru		
350	842	439			18	left		
BCP			4385				BCP	
	left	304			61	1050	27	
	thru	175			left	thru	rght	
	rght	29						
			RM 620					

2021 AM (2019 x Growth Rate)

			RM 620					
					370	rght		
rght	thru	left			91	thru		
329	869	842			17	left		
BCP			4088				BCP	
	left	358			25	808	31	
	thru	309			left	thru	rght	
	rght	38						
			RM 620					

2021 PM (2019 x Growth Rate)

			RM 620					
					839	rght		
rght	thru	left			317	thru		
371	893	466			19	left		
BCP			4652				BCP	
	left	323			65	1114	29	
	thru	186			left	thru	rght	
	rght	31						
			RM 620					

2021 AM (Collected)

			RM 620					
					509	rght		
rght	thru	left			193	thru		
425	746	713			27	left		
BCP			4225				BCP	
	left	413			28	861	29	
	thru	233			left	thru	rght	
	rght	48						
			RM 620					

2021 PM (Collected)

			RM 620					
					675	rght		
rght	thru	left			308	thru		
456	1082	561			16	left		
BCP			4501				BCP	
	left	292			100	682	28	
2	thru	225			left	thru	rght	
U-turn	rght	74						
			RM 620					

2021 AM (COVID-Adjusted)

			RM 620					
					540	rght		
rght	thru	left			205	thru		
451	791	756			29	left		
BCP			4479				BCP	
	left	438			30	913	31	
	thru	247			left	thru	rght	
	rght	51						
			RM 620					

2021 PM (COVID-Adjusted)

			RM 620					
					763	rght		
rght	thru	left			348	thru		
515	1223	634			18	left		
BCP			5086				BCP	
	left	330			113	771	32	
2	thru	254			left	thru	rght	
U-turn	rght	84						
			RM 620					

Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 620 and Falcon Head

2019 AM

			RM 620					
					22	rght		
rght	thru	left			2	thru		
71	1831	14			78	left		
Falcon Head Blvd			3920		Falcon Head Blvd			
	left	210			51	1491	9	
	thru	1			left	thru	rght	
	rght	140						
			RM 620					

2019 PM

			RM 620					
					22	rght		
rght	thru	left			2	thru		
149	1837	55			37	left		
Falcon Head Blvd			4518		Falcon Head Blvd			
	left	135			129	2020	31	
	thru	6			left	thru	rght	
	rght	95						
			RM 620					

2021 AM (2019 x Growth Rate)

			RM 620					
					23	rght		
rght	thru	left			2	thru		
75	1943	15			83	left		
Falcon Head Blvd			4159		Falcon Head Blvd			
	left	223			54	1582	10	
	thru	1			left	thru	rght	
	rght	149						
			RM 620					

2021 PM (2019 x Growth Rate)

			RM 620					
					23	rght		
rght	thru	left			2	thru		
158	1949	58			39	left		
Falcon Head Blvd			4793		Falcon Head Blvd			
	left	143			137	2143	33	
	thru	6			left	thru	rght	
	rght	101						
			RM 620					

2021 AM (Collected)

			RM 620					
					32	rght		
rght	thru	left			6	thru		
145	1744	17			72	left		
Falcon Head Blvd			4061		Falcon Head Blvd			
	left	236			71	1590	11	
	thru	5			left	thru	rght	
	rght	132						
			RM 620					

2021 PM (Collected)

			RM 620					
					16	rght		
rght	thru	left			3	thru		
151	1821	40			58	left		
Falcon Head Blvd			4051		Falcon Head Blvd			
	left	176			74	1548	13	
1	thru	6			left	thru	rght	
Uturn	rght	144						
			RM 620					

2021 AM (COVID-Adjusted)

			RM 620					
					34	rght		
rght	thru	left			6	thru		
154	1849	18			76	left		
Falcon Head Blvd			4305		Falcon Head Blvd			
	left	250			75	1685	12	
	thru	5			left	thru	rght	
	rght	140						
			RM 620					

2021 PM (COVID-Adjusted)

			RM 620					
					18	rght		
rght	thru	left			3	thru		
171	2058	45			66	left		
Falcon Head Blvd			4578		Falcon Head Blvd			
	left	199			84	1749	15	
1	thru	7			left	thru	rght	
Uturn	rght	163						
			RM 620					

Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 620 and Ladera Blvd

2019 AM

			RM 620			
				1	rght	
rght	thru	left		0	thru	
64	2063	0		1	left	
Ladera Blvd			3819		Ladera Blvd	
	left	129		94	1415	3
	thru	0		left	thru	rght
	rght	49				
			RM 620			

2019 PM

			RM 620			
				1	rght	
rght	thru	left		2	thru	
155	1905	0		8	left	
Ladera Blvd			4407		Ladera Blvd	
	left	161		135	1894	4
	thru	2		left	thru	rght
	rght	140				
			RM 620			

2021 AM (2019 x Growth Rate)

			RM 620			
				1	rght	
rght	thru	left		0	thru	
68	2189	0		1	left	
Ladera Blvd			4052		Ladera Blvd	
	left	137		100	1501	3
	thru	0		left	thru	rght
	rght	52				
			RM 620			

2021 PM (2019 x Growth Rate)

			RM 620			
				1	rght	
rght	thru	left		2	thru	
164	2021	0		8	left	
Ladera Blvd			4675		Ladera Blvd	
	left	171		143	2009	4
	thru	2		left	thru	rght
	rght	149				
			RM 620			

2021 AM (Collected)

			RM 620			
				0	rght	
rght	thru	left		0	thru	
112	1824	0		3	left	
Ladera Blvd			3932		Ladera Blvd	
	left	160		124	1605	5
	thru	2		left	thru	rght
	rght	97				
			RM 620			

2021 PM (Collected)

			RM 620			
	U-turn			1		
				0	rght	
rght	thru	left		2	thru	
142	1913	0		2	left	
Ladera Blvd			4023		Ladera Blvd	
	left	216		119	1522	0
1	thru	0		left	thru	rght
U-turn	rght	105				
			RM 620			

2021 AM (COVID-Adjusted)

			RM 620			
				0	rght	
rght	thru	left		0	thru	
119	1933	0		3	left	
Ladera Blvd			4168		Ladera Blvd	
	left	170		131	1701	5
	thru	2		left	thru	rght
	rght	103				
			RM 620			

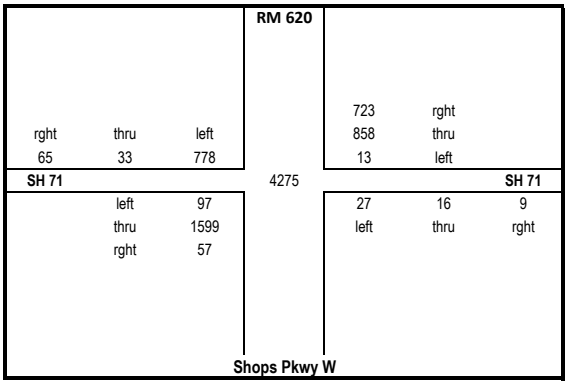
2021 PM (COVID-Adjusted)

			RM 620			
	U-turn			1		
				0	rght	
rght	thru	left		2	thru	
160	2162	0		2	left	
Ladera Blvd			4546		Ladera Blvd	
	left	244		134	1720	0
1	thru	0		left	thru	rght
U-turn	rght	119				
			RM 620			

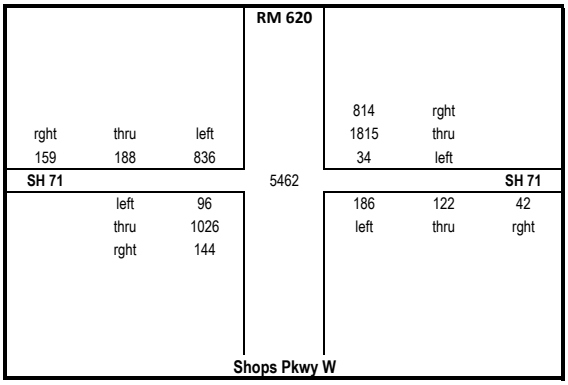
Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 620 and SH 71

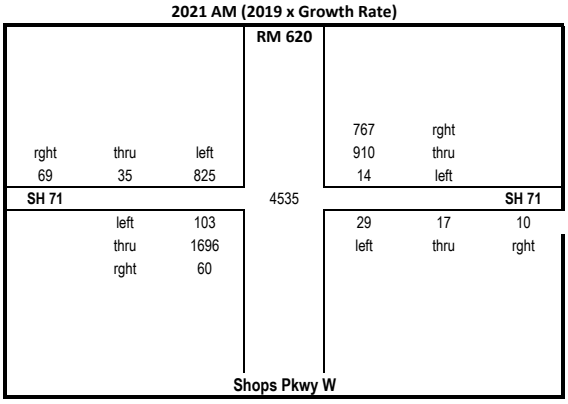
2019 AM



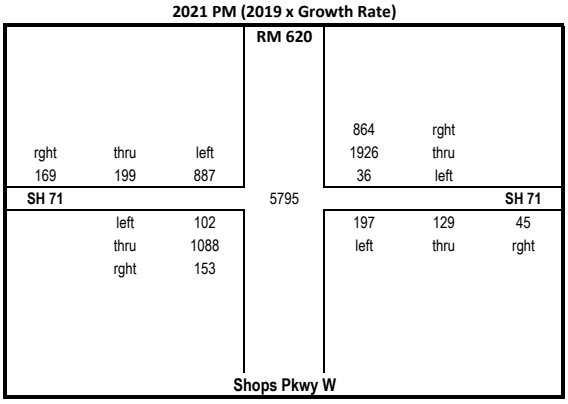
2019 PM



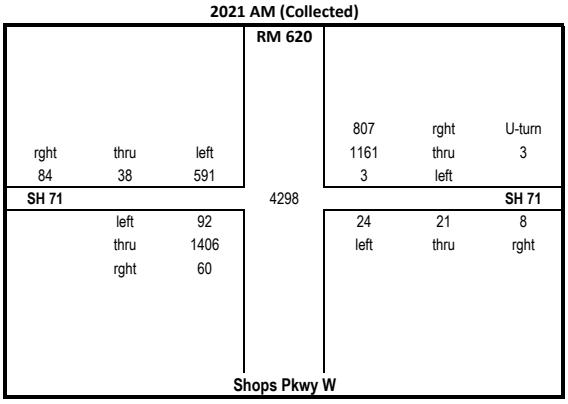
2021 AM (2019 x Growth Rate)



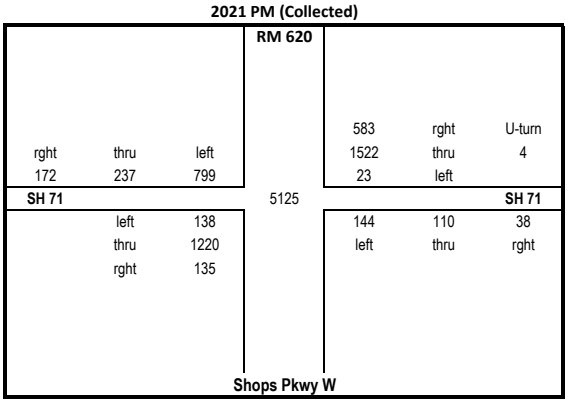
2021 PM (2019 x Growth Rate)



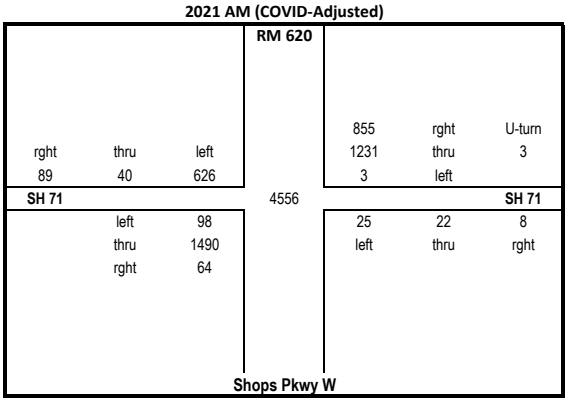
2021 AM (Collected)



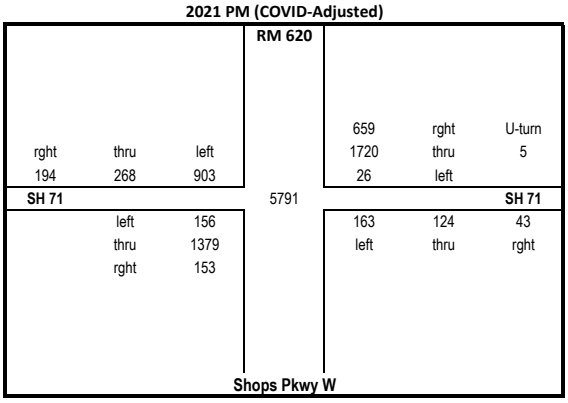
2021 PM (Collected)



2021 AM (COVID-Adjusted)



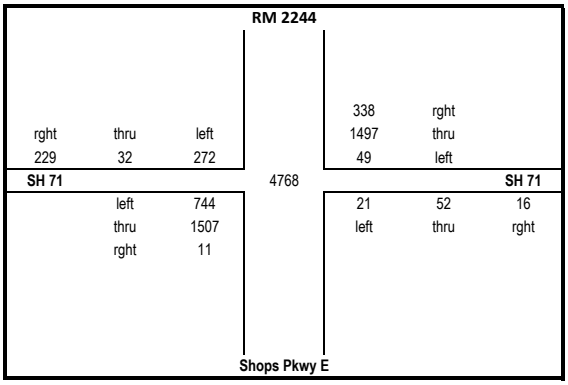
2021 PM (COVID-Adjusted)



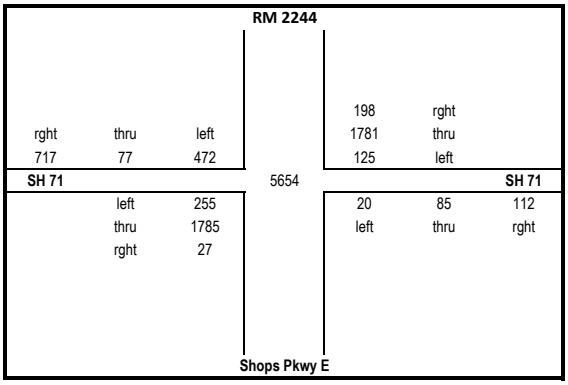
Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 2244 and SH 71

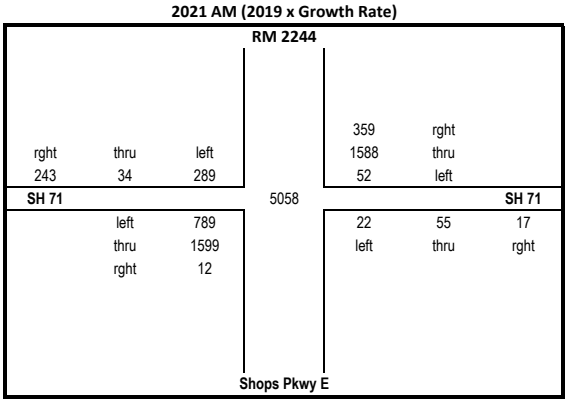
2019 AM



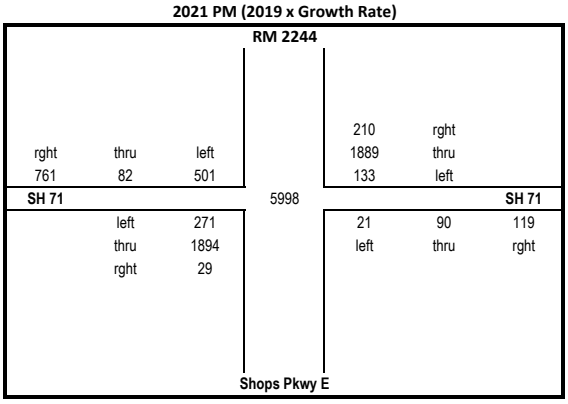
2019 PM



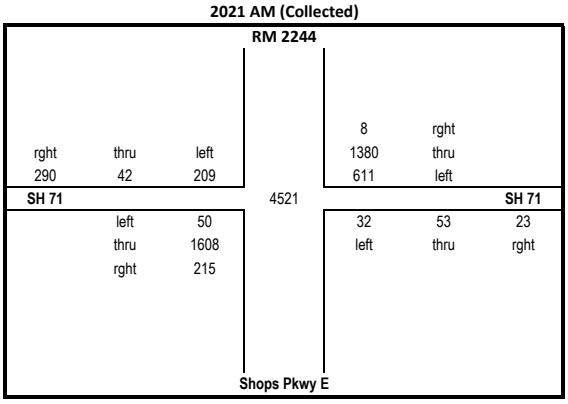
2021 AM (2019 x Growth Rate)



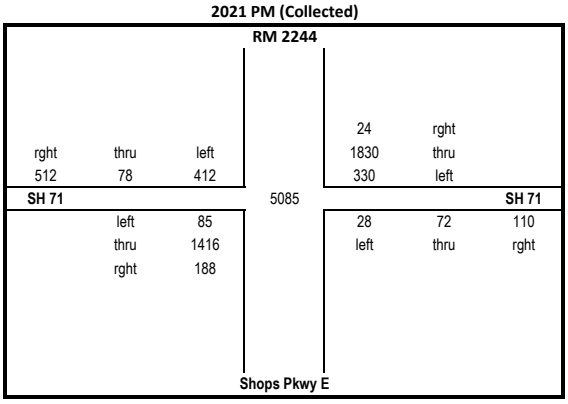
2021 PM (2019 x Growth Rate)



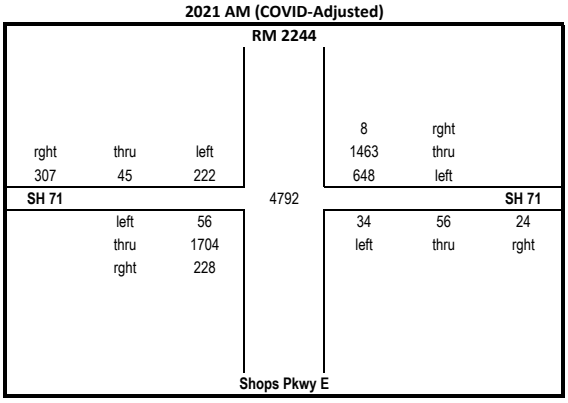
2021 AM (Collected)



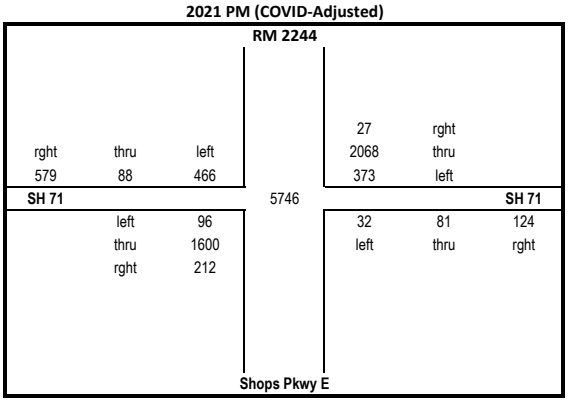
2021 PM (Collected)



2021 AM (COVID-Adjusted)



2021 PM (COVID-Adjusted)



Terrace TIA Update

COVID Adjustment Factor Calculation
2019 and 2021 TMCs - RM 2244 and Bee Cave Parkway

2019 AM

					3	rght		
rght	thru	left			1	thru		
556	537	3			2	left		
BCP			3462			Private Driveway		
	left	974		119	1111	3		
	thru	5		left	thru	rght		
	rght	148						
			RM 2244					

2019 PM

					7	rght		
rght	thru	left			2	thru		
957	1130	5			7	left		
BCP			3703			Private Driveway		
	left	563		180	545	5		
	thru	2		left	thru	rght		
	rght	300						
			RM 2244					

2021 AM (2019 x Growth Rate)

					3	rght		
rght	thru	left			1	thru		
590	570	3			2	left		
BCP			3673			Private Driveway		
	left	1033		126	1179	3		
	thru	5		left	thru	rght		
	rght	157						
			RM 2244					

2021 PM (2019 x Growth Rate)

					7	rght		
rght	thru	left			2	thru		
1015	1199	5			7	left		
BCP			3929			Private Driveway		
	left	597		191	578	5		
	thru	2		left	thru	rght		
	rght	318						
			RM 2244					

2021 AM (Collected)

					1	rght		
rght	thru	left			0	thru		
606	543	4			1	left		
BCP			3073			Private Driveway		
	left	782		109	877	6		
	thru	1		left	thru	rght		
	rght	143						
			RM 2244					

2021 PM (Collected)

					2	rght		
rght	thru	left			1	thru		
825	937	3			9	left		
BCP			3389			Private Driveway		
	left	618		170	518	5		
	thru	1		left	thru	rght		
	rght	300						
			RM 2244					

2021 AM (COVID-Adjusted)

					1	rght		
rght	thru	left			0	thru		
642	576	4			1	left		
BCP			3257			Private Driveway		
	left	829		116	930	6		
	thru	1		left	thru	rght		
	rght	152						
			RM 2244					

2021 PM (COVID-Adjusted)

					2	rght		
rght	thru	left			1	thru		
932	1059	3			10	left		
BCP			3830			Private Driveway		
	left	698		192	585	6		
	thru	1		left	thru	rght		
	rght	339						
			RM 2244					

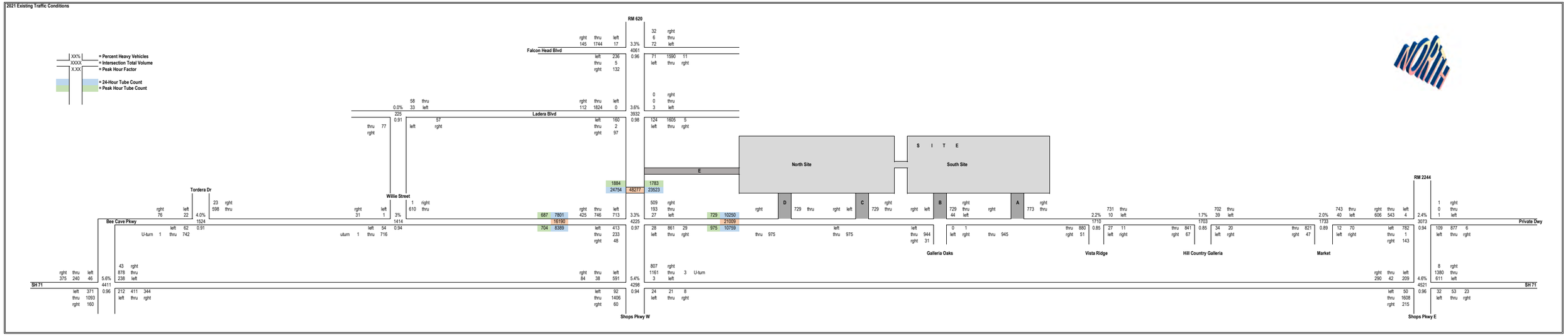
Distribution Worksheets

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Terrace TIA

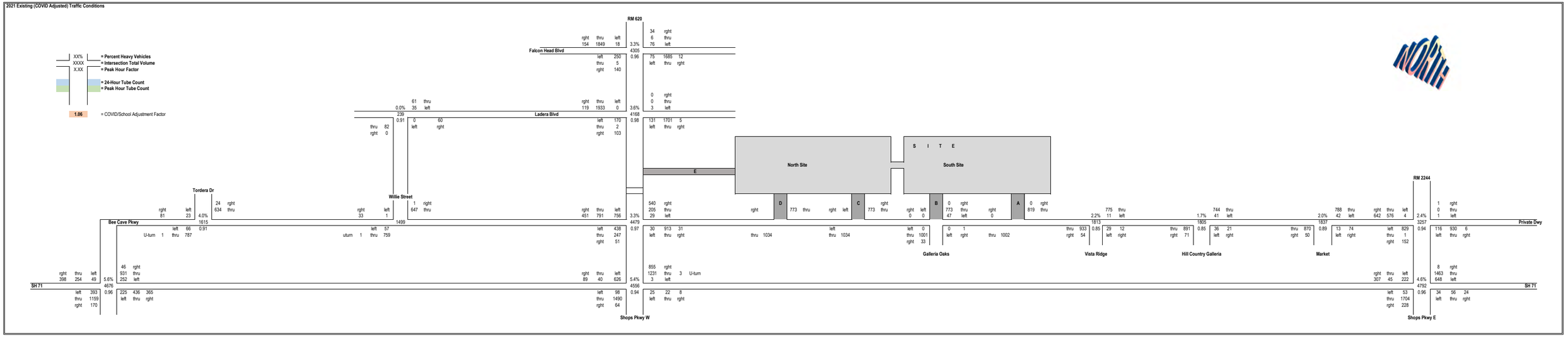
DISTRIBUTION SPREADSHEET

AM Peak



Terrace TIA
DISTRIBUTION SPREADSHEET

AM Peak



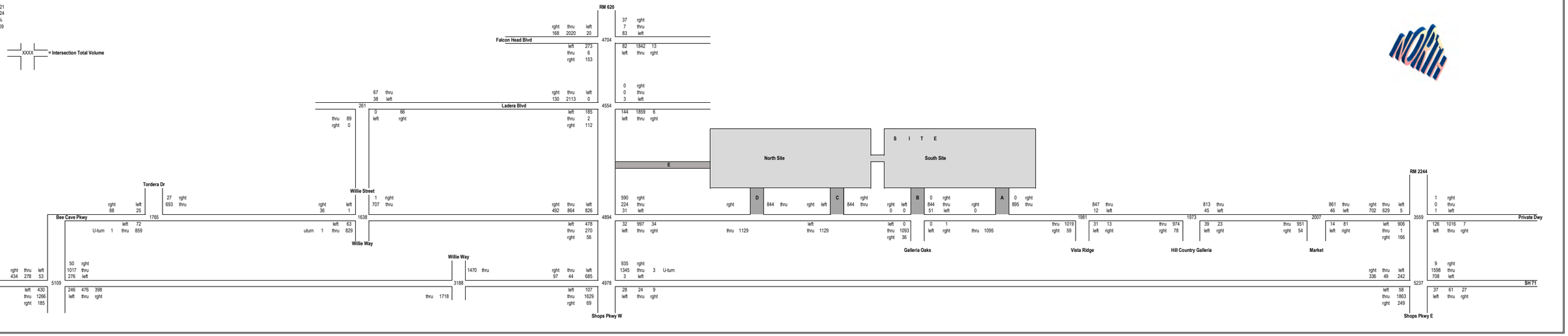
Terrace TIA

DISTRIBUTION SPREADSHEET

AM Peak

2024 Background Traffic Conditions

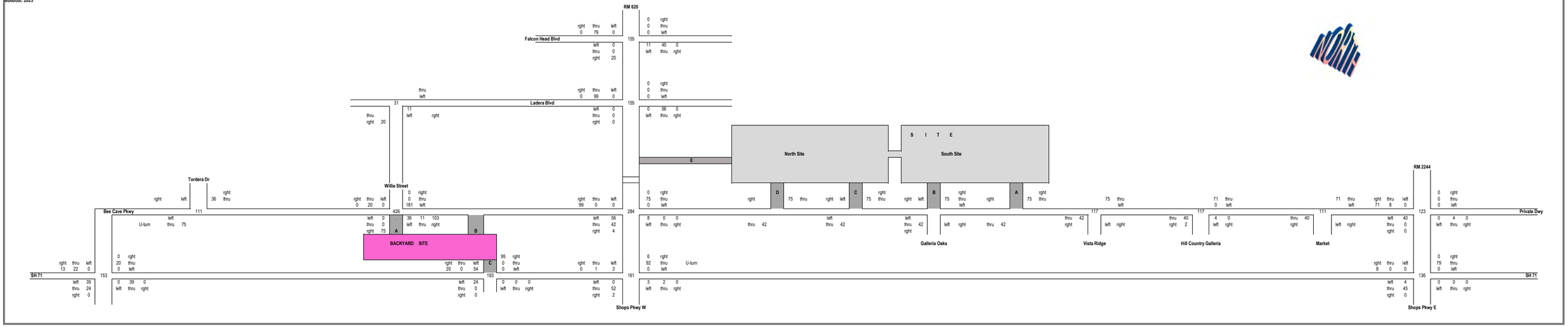
Existing Year	2021
Buildout Year	2024
Growth Rate	3%
Growth Factor	1.09



Terrace TIA
DISTRIBUTION SPREADSHEET

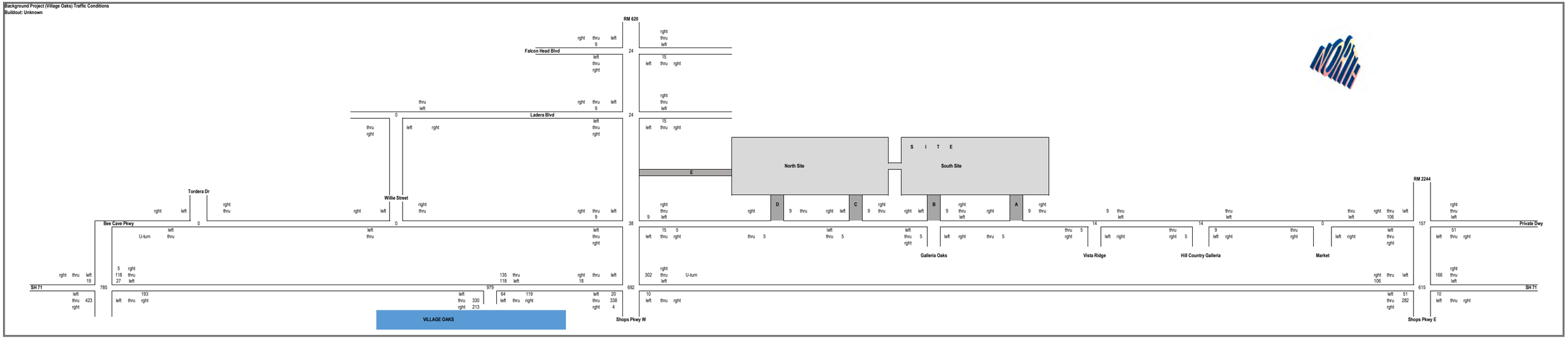
AM Peak

Background Project (Backyard) Traffic Conditions
Buildout: 2023



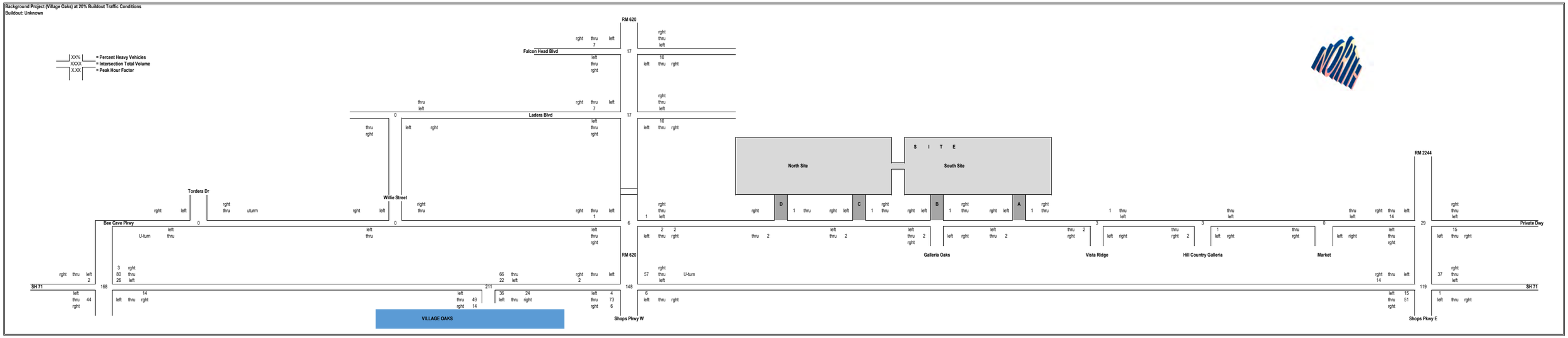
Terrace TIA
DISTRIBUTION SPREADSHEET

AM Peak



Terrace TIA
DISTRIBUTION SPREADSHEET

PM Peak

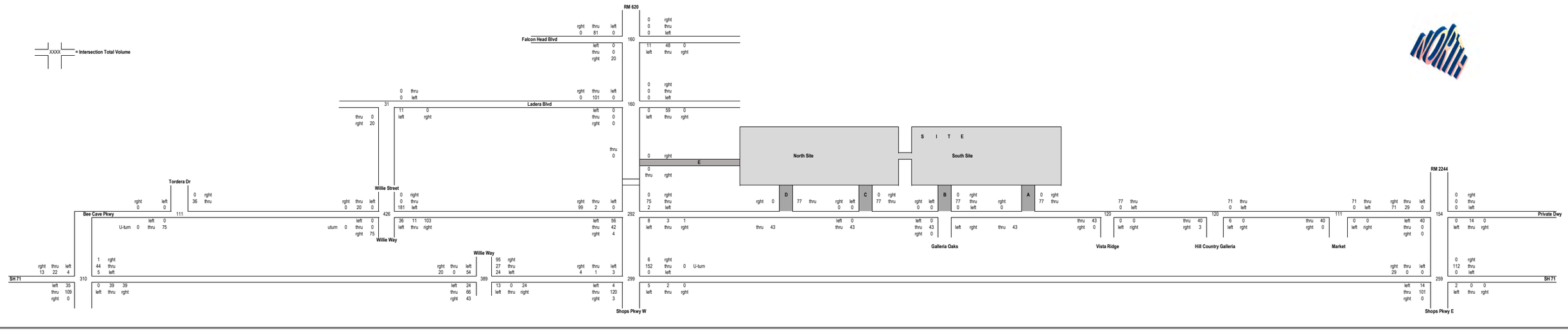


Terrace TIA

DISTRIBUTION SPREADSHEET

AM Peak

2024 Other Projects

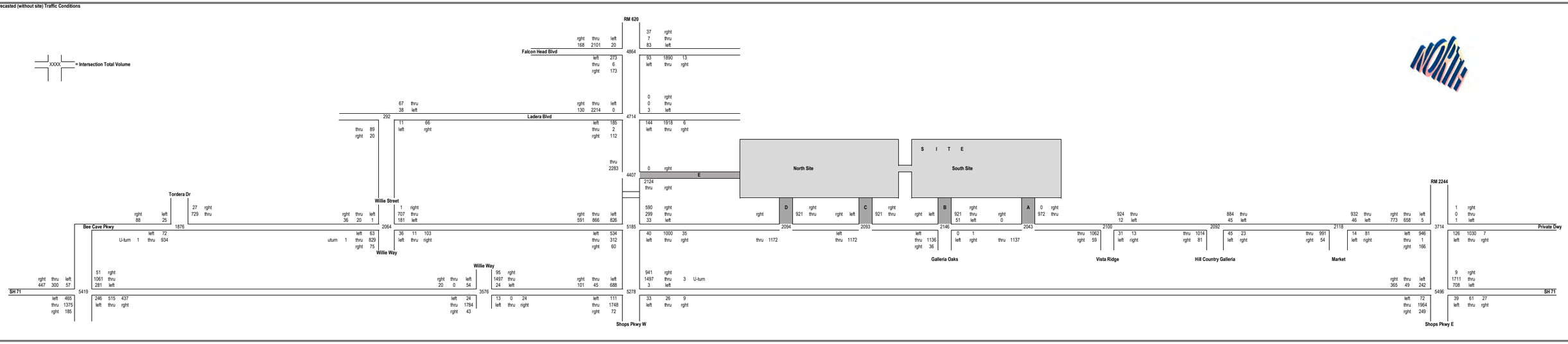


Terrace TIA

DISTRIBUTION SPREADSHEET

AM Peak

2024 Forecasted (without site) Traffic Conditions

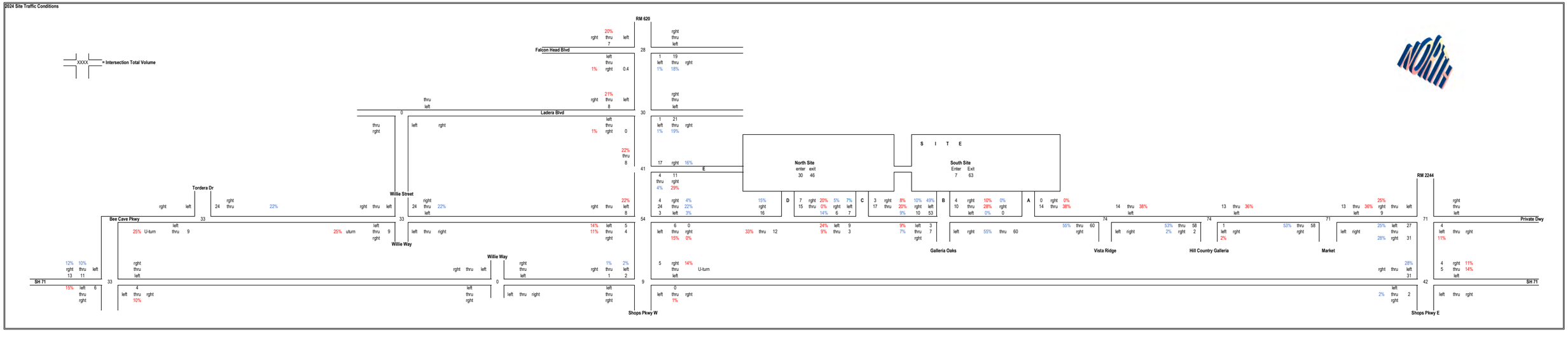


Terrace TIA

DISTRIBUTION SPREADSHEET

AM Peak

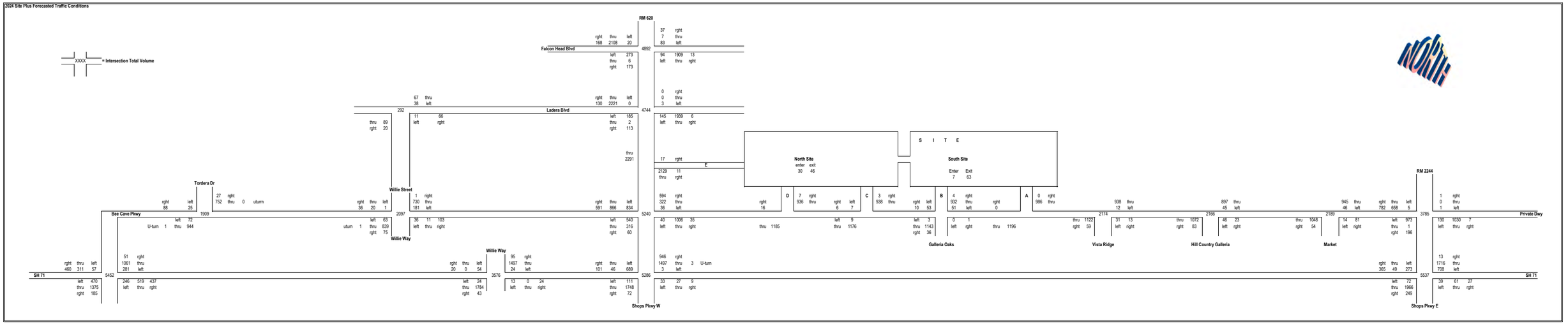
2024 Site Traffic Conditions



Terrace TIA
DISTRIBUTION SPREADSHEET

AM Peak

2024 Site Plus Forecasted Traffic Conditions

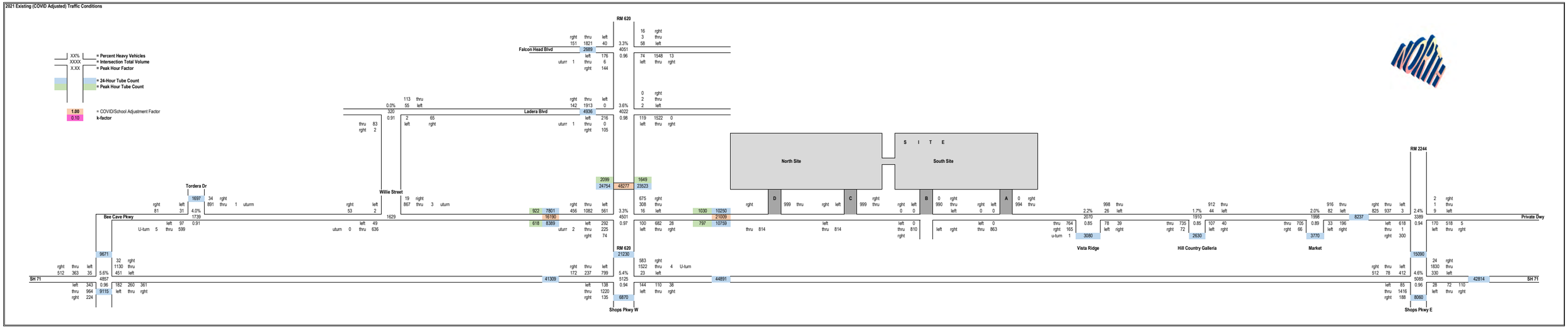


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

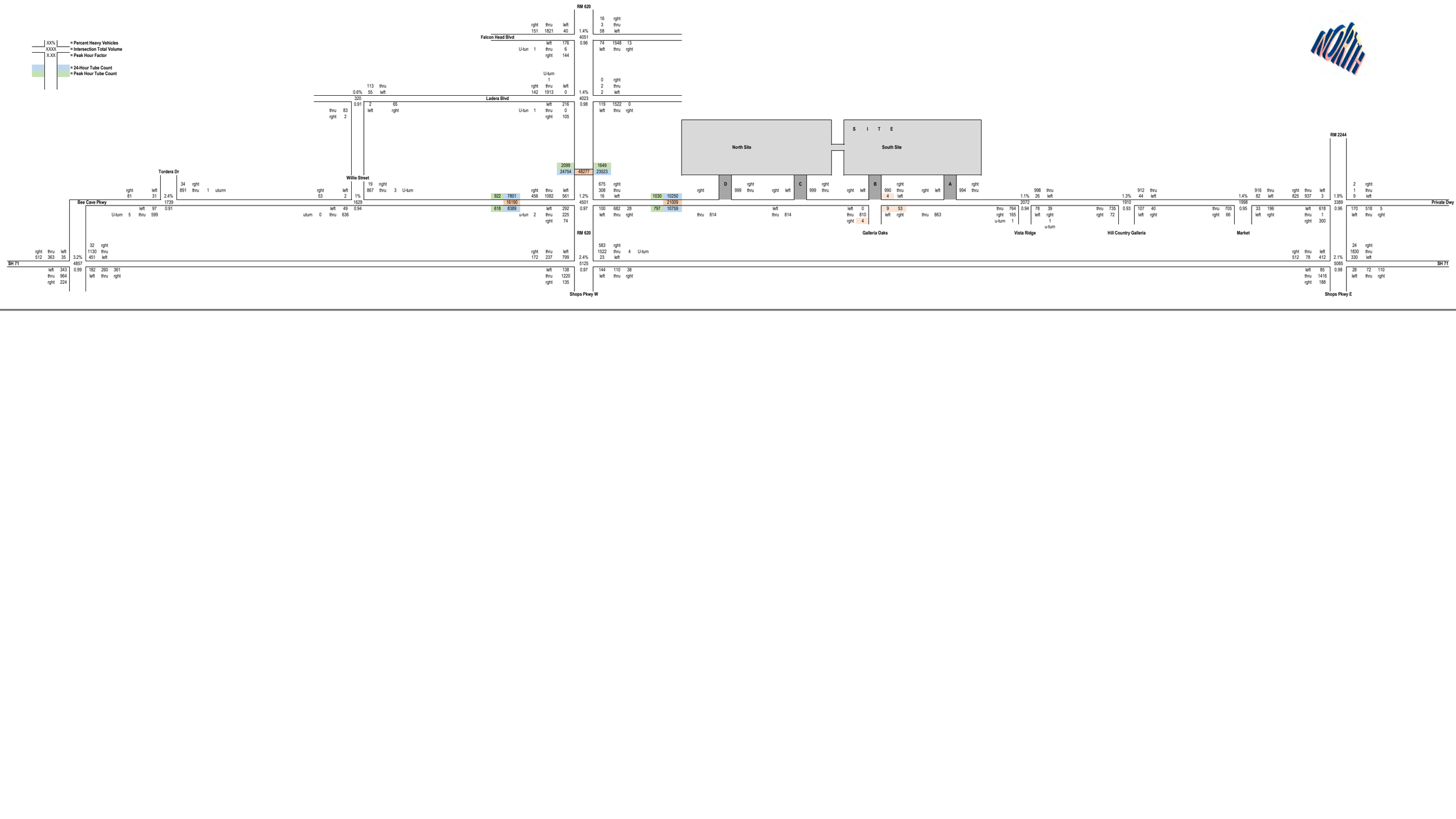
2021 Existing (COVID Adjusted) Traffic Conditions



Terrace TIA
DISTRIBUTION SPREADSHEET

PM Peak

2021 Existing Traffic Conditions

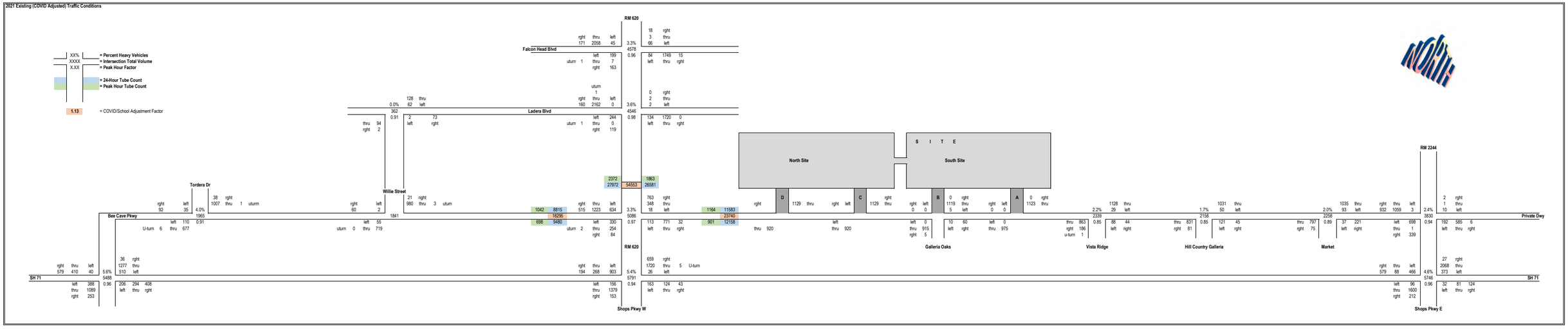


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

2021 Existing (COVID Adjusted) Traffic Conditions



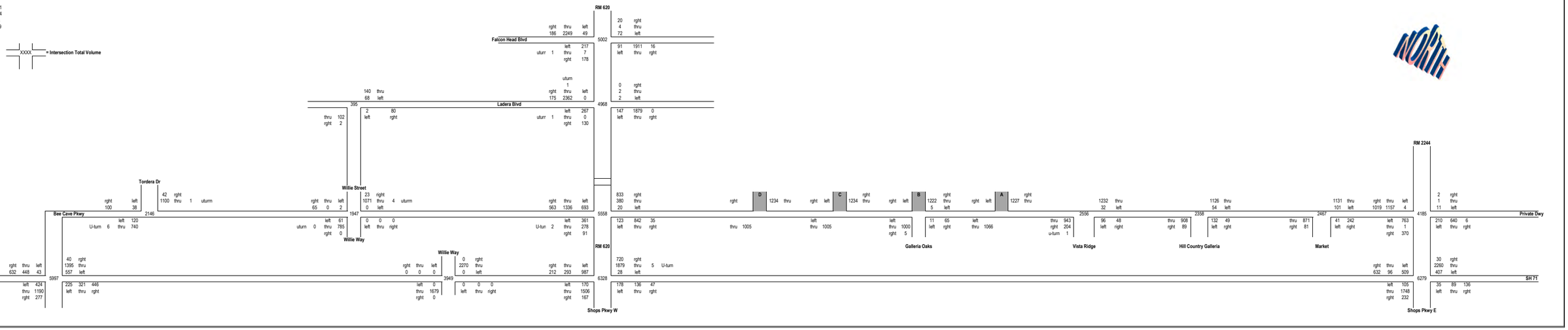
Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

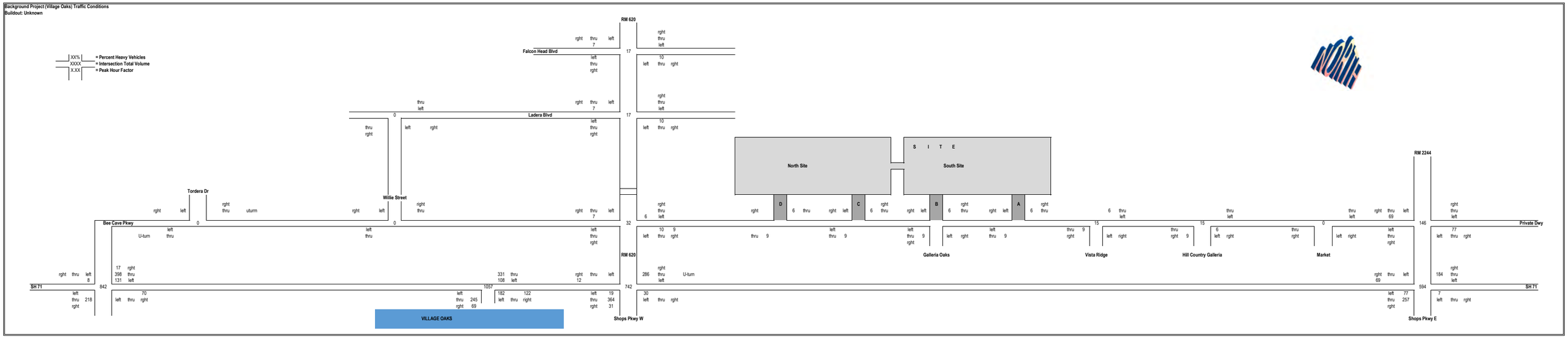
2024 Background Traffic Conditions

Existing Year	2021
Buildout Year	2024
Growth Rate	3%
Growth Factor	1.09



Terrace TIA
DISTRIBUTION SPREADSHEET

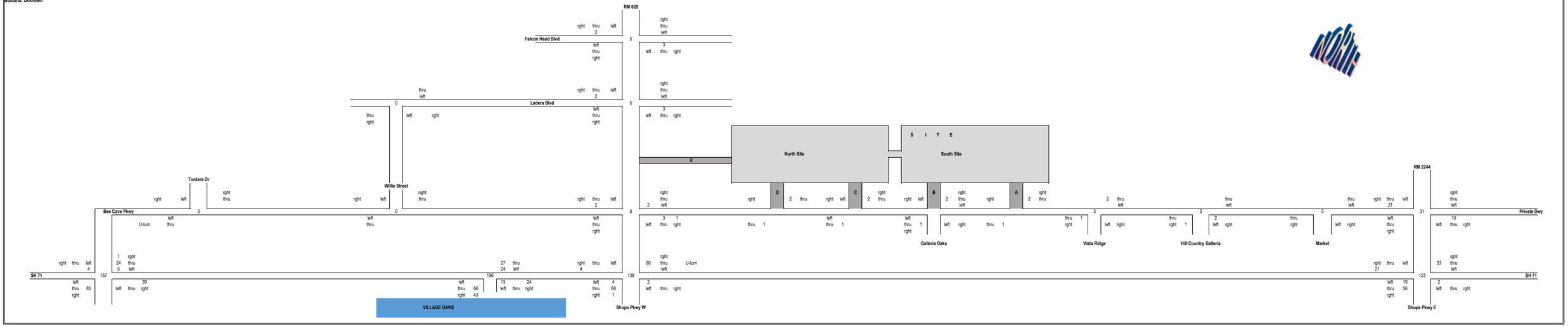
PM Peak



Terrace TIA
DISTRIBUTION SPREADSHEET

AM Peak

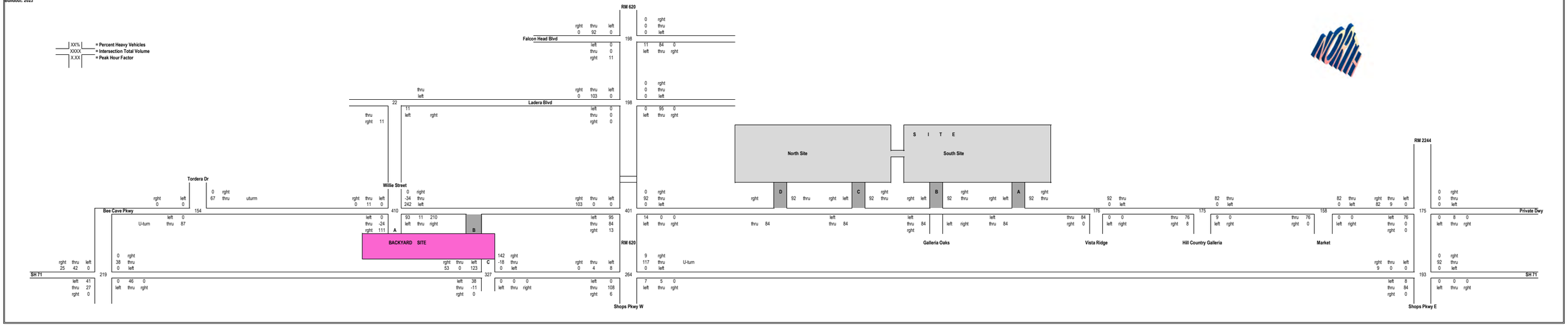
Background Project (Village Oaks) at 20% Buildout Traffic Conditions
Buildout: Unknown



Terrace TIA
DISTRIBUTION SPREADSHEET

PM Peak

Background Project (Backyard) Traffic Conditions
Buildout: 2023

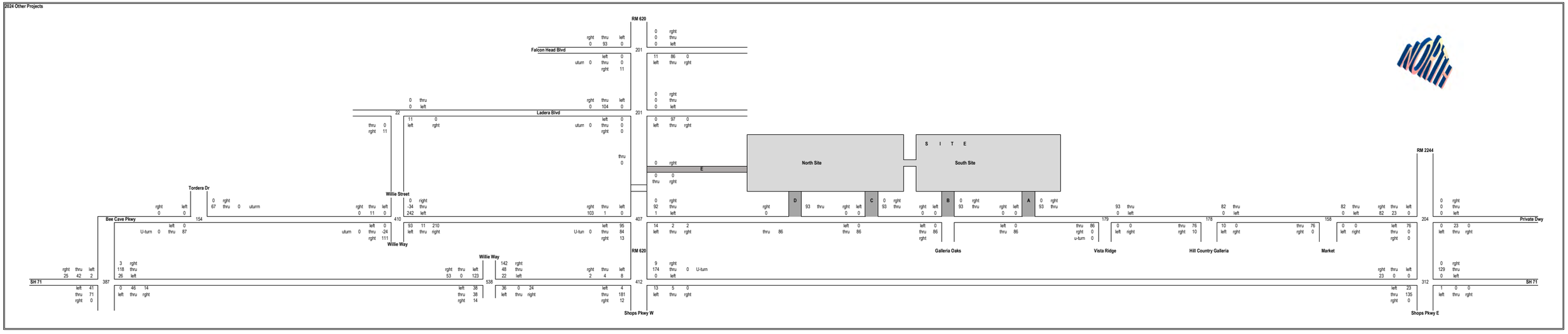


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

2024 Other Projects

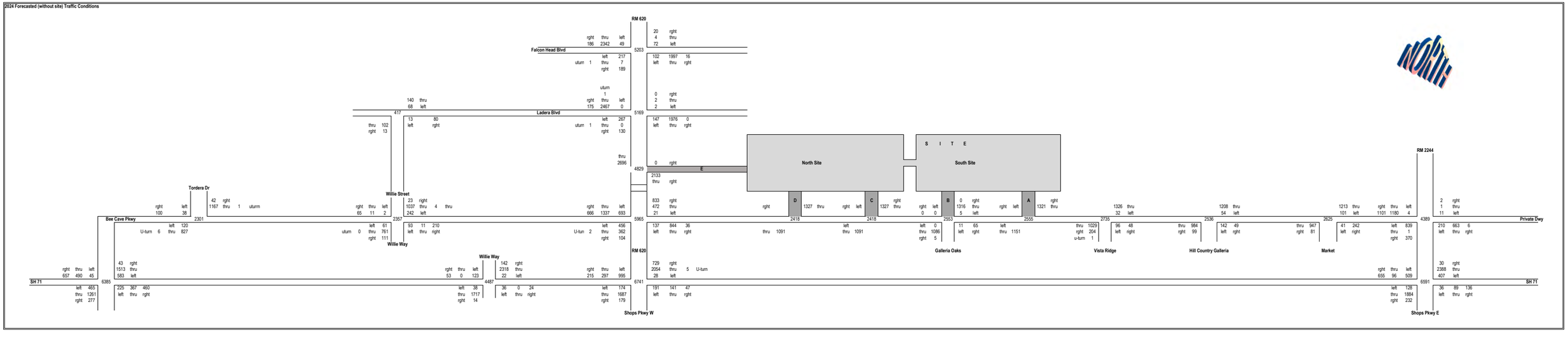


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

2024 Forecasted (without site) Traffic Conditions

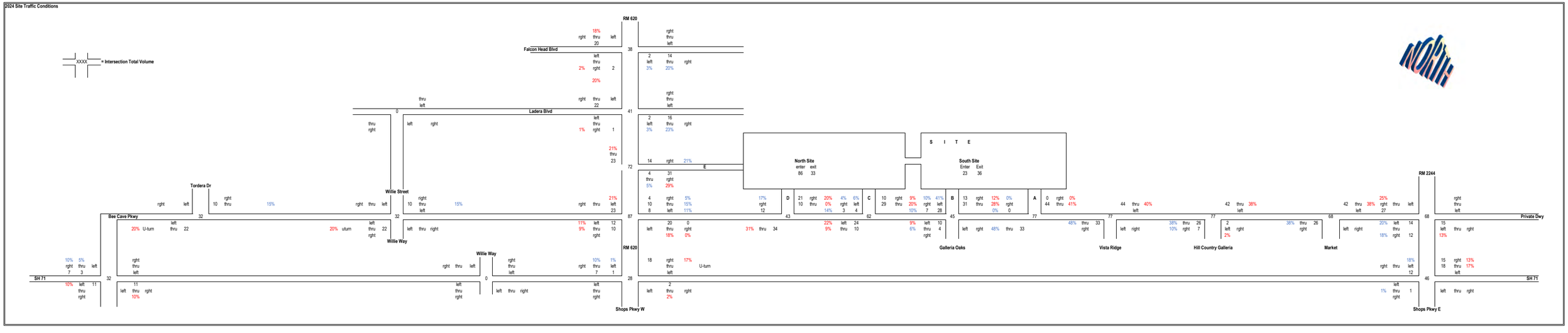


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

2024 Site Traffic Conditions

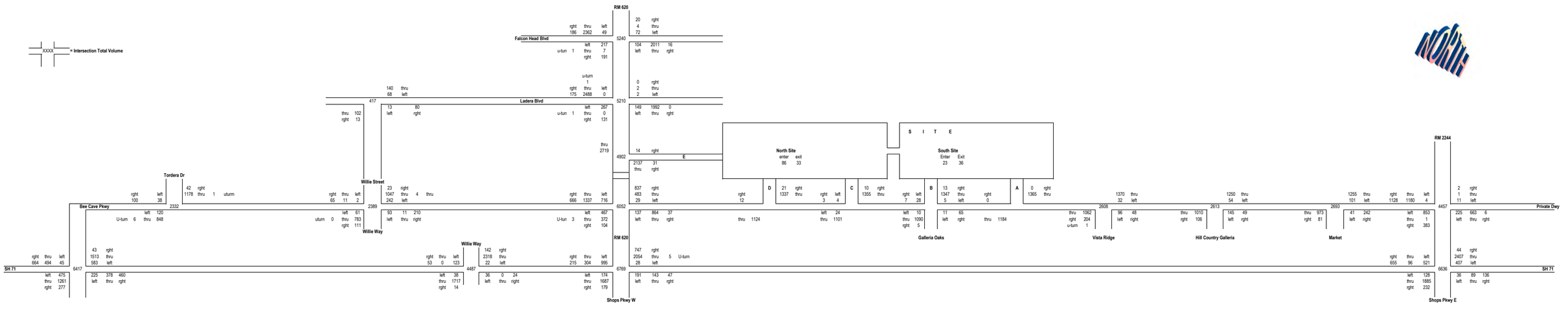


Terrace TIA

DISTRIBUTION SPREADSHEET

PM Peak

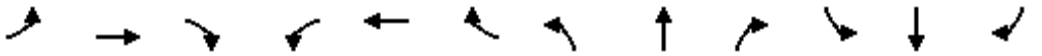
2024 Site Plus Forecasted Traffic Conditions



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Intersection Analysis

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1704	228	648	1463	8	34	56	24	222	45	307
Future Volume (vph)	53	1704	228	648	1463	8	34	56	24	222	45	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.982			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	3335	4851	0	1719	4935	0	0	3376	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.982		0.950		
Satd. Flow (perm)	3335	4851	0	1719	4935	0	0	3376	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			1				180			124
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3136			1846			605			1693	
Travel Time (s)		42.8			25.2			16.5			21.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	55	1775	238	675	1524	8	35	58	25	231	47	320
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	55	2013	0	675	1532	0	0	93	25	231	47	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.7	21.7		11.7	21.7		10.5	10.5	10.5	11.0	11.0	11.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	83.0		19.0	62.0		13.0	13.0	13.0	25.0	25.0	40.0
Total Split (%)	28.6%	59.3%		13.6%	44.3%		9.3%	9.3%	9.3%	17.9%	17.9%	28.6%
Maximum Green (s)	33.3	76.3		12.3	55.3		7.5	7.5	7.5	19.0	19.0	33.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lead	Lead		Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	Min	C-Max		None	C-Max		None	None	None	None	None	Min
Act Effct Green (s)	6.0	76.3		12.3	82.6			7.1	7.1	19.4	19.4	31.5
Actuated g/C Ratio	0.04	0.54		0.09	0.59			0.05	0.05	0.14	0.14	0.22
v/c Ratio	0.38	0.76		4.47	0.53			0.55	0.10	1.02	0.20	0.45
Control Delay	62.1	37.0		1590.4	18.0			77.1	0.8	123.9	56.2	30.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	37.0		1590.4	18.0			77.1	0.8	123.9	56.2	30.3
LOS	E	D		F	B			E	A	F	E	C
Approach Delay		37.7			498.9			60.9			68.5	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	24	390		~1133	289			44	0	~238	41	86
Queue Length 95th (ft)	m39	526		#1375	342			75	0	#420	83	137
Internal Link Dist (ft)		3056			1766			525			1613	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	793	2656		151	2910			180	252	226	238	1207
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.07	0.76		4.47	0.53			0.52	0.10	1.02	0.20	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 4.47			
Intersection Signal Delay: 245.9		Intersection LOS: F	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	98	1490	64	3	3	1231	855	25	22	8	626	40
Future Volume (vph)	98	1490	64	3	3	1231	855	25	22	8	626	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.994					0.850		0.965			
Flt Protected	0.950				0.950			0.950	0.991		0.950	
Satd. Flow (prot)	3335	4910	0	0	1719	4940	1692	1564	3149	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.991		0.950	
Satd. Flow (perm)	3335	4910	0	0	1719	4940	1692	1564	3149	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		6					910		9			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		840				3136			676			1209
Travel Time (s)		10.4				42.8			18.4			15.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	104	1585	68	3	3	1310	910	27	23	9	666	43
Shared Lane Traffic (%)								27%				
Lane Group Flow (vph)	104	1653	0	0	6	1310	910	20	39	0	666	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA

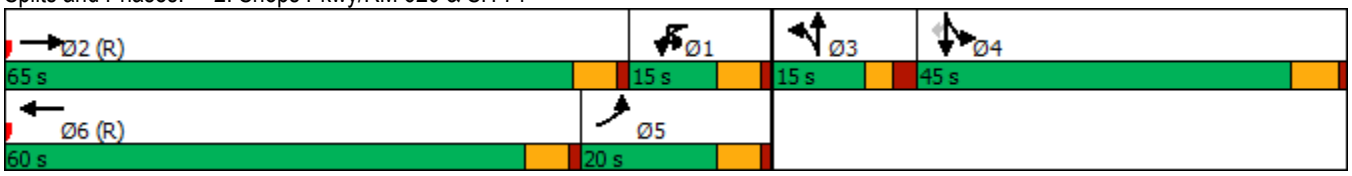


Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	89
Future Volume (vph)	89
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1743
Flt Permitted	
Satd. Flow (perm)	1743
Right Turn on Red	Yes
Satd. Flow (RTOR)	111
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	5%
Adj. Flow (vph)	95
Shared Lane Traffic (%)	
Lane Group Flow (vph)	95
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	10.9	20.9		10.9	10.9	20.9		10.5	10.5		11.0	11.0
Total Split (s)	20.0	65.0		15.0	15.0	60.0		15.0	15.0		45.0	45.0
Total Split (%)	14.3%	46.4%		10.7%	10.7%	42.9%		10.7%	10.7%		32.1%	32.1%
Maximum Green (s)	14.1	59.1		9.1	9.1	54.1		9.5	9.5		39.0	39.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lag	Lead		Lag	Lag	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	7.8	83.1			5.1	71.7	140.0	6.5	6.5		32.8	32.8
Actuated g/C Ratio	0.06	0.59			0.04	0.51	1.00	0.05	0.05		0.23	0.23
v/c Ratio	0.56	0.57			0.10	0.52	0.54	0.28	0.25		0.85	0.10
Control Delay	75.7	20.5			74.5	17.9	3.6	73.3	55.9		37.9	19.8
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	75.7	20.5			74.5	17.9	3.6	73.3	55.9		37.9	19.8
LOS	E	C			E	B	A	E	E		D	B
Approach Delay		23.7				12.2			61.8			33.1
Approach LOS		C				B			E			C
Queue Length 50th (ft)	48	320			5	316	110	19	14		296	24
Queue Length 95th (ft)	79	510			m14	417	277	50	35		m312	m46
Internal Link Dist (ft)		760				3056			596			1129
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	335	2918			111	2531	1692	106	222		932	505
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.31	0.57			0.05	0.52	0.54	0.19	0.18		0.71	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71

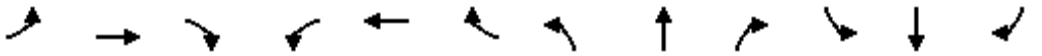




Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	45.0
Total Split (%)	32.1%
Maximum Green (s)	39.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	32.8
Actuated g/C Ratio	0.23
v/c Ratio	0.19
Control Delay	5.8
Queue Delay	0.0
Total Delay	5.8
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	30
Queue Length 95th (ft)	m40
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	566
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.17

Intersection Summary

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	1159	170	252	931	46	225	436	365	49	254	398
Future Volume (vph)	393	1159	170	252	931	46	225	436	365	49	254	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3382	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.147			0.490		
Satd. Flow (perm)	1703	3406	1524	1703	3382	0	263	3406	1524	878	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177		4				330			415
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			5573			372			1998	
Travel Time (s)		19.1			69.1			4.6			30.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	409	1207	177	263	970	48	234	454	380	51	265	415
Shared Lane Traffic (%)												
Lane Group Flow (vph)	409	1207	177	263	1018	0	234	454	380	51	265	415
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	

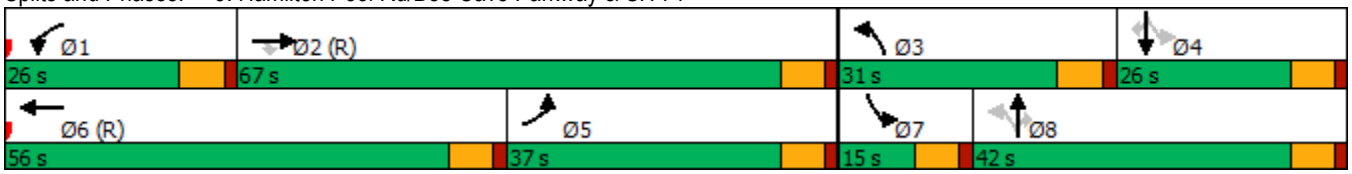
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	37.0	67.0	67.0	26.0	56.0		31.0	42.0	42.0	15.0	26.0	26.0
Total Split (%)	24.7%	44.7%	44.7%	17.3%	37.3%		20.7%	28.0%	28.0%	10.0%	17.3%	17.3%
Maximum Green (s)	30.5	60.5	60.5	19.5	49.5		24.5	35.5	35.5	8.5	19.5	19.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	30.5	64.6	64.6	19.5	53.6		46.4	35.5	35.5	26.2	19.5	19.5
Actuated g/C Ratio	0.20	0.43	0.43	0.13	0.36		0.31	0.24	0.24	0.17	0.13	0.13
v/c Ratio	1.18	0.82	0.23	1.19	0.84		0.84	0.56	0.62	0.27	1.14	0.74
Control Delay	157.9	44.0	4.5	175.1	52.0		68.6	53.8	13.0	40.9	158.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.9	44.0	4.5	175.1	52.0		68.6	53.8	13.0	40.9	158.7	14.1
LOS	F	D	A	F	D		E	D	B	D	F	B
Approach Delay		66.1			77.3			42.5			68.4	
Approach LOS		E			E			D			E	
Queue Length 50th (ft)	~478	547	0	~309	482		183	210	40	35	~301	0
Queue Length 95th (ft)	#693	673	48	#496	#627		270	267	149	67	#486	113
Internal Link Dist (ft)		1458			5493			292			1918	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	346	1466	757	221	1211		316	828	620	210	232	559
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.82	0.23	1.19	0.84		0.74	0.55	0.61	0.24	1.14	0.74

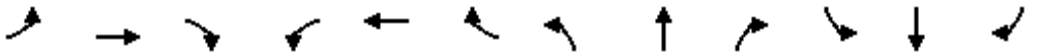
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 132 (88%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 64.2		Intersection LOS: E	
Intersection Capacity Utilization 96.5%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	1159	170	252	931	46	225	436	365	49	254	398
Future Volume (veh/h)	393	1159	170	252	931	46	225	436	365	49	254	398
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	409	1207	0	262	970	0	234	454	0	51	265	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	411	1507		224	1136		270	772		204	235	
Arrive On Green	0.24	0.44	0.00	0.13	0.33	0.00	0.13	0.22	0.00	0.03	0.13	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	409	1207	0	262	970	0	234	454	0	51	265	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	35.5	45.5	0.0	19.5	39.5	0.0	17.1	17.7	0.0	3.8	19.5	0.0
Cycle Q Clear(g_c), s	35.5	45.5	0.0	19.5	39.5	0.0	17.1	17.7	0.0	3.8	19.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	1507		224	1136		270	772		204	235	
V/C Ratio(X)	1.00	0.80		1.17	0.85		0.87	0.59		0.25	1.13	
Avail Cap(c_a), veh/h	411	1507		224	1136		330	814		242	235	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	36.5	0.0	65.3	46.9	0.0	47.5	52.0	0.0	54.0	65.3	0.0
Incr Delay (d2), s/veh	43.3	4.6	0.0	113.1	8.3	0.0	16.0	0.6	0.0	0.2	96.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	27.1	26.1	0.0	23.3	24.3	0.0	13.1	12.0	0.0	3.0	22.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.3	41.0	0.0	178.4	55.1	0.0	63.6	52.6	0.0	54.3	161.8	0.0
LnGrp LOS	F	D		F	E		E	D		D	F	
Approach Vol, veh/h		1616			1232			688			316	
Approach Delay, s/veh		56.1			81.3			56.3			144.5	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	72.2	25.8	26.0	42.2	56.0	11.6	40.2
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	19.5	60.5	24.5	19.5	30.5	49.5	8.5	35.5
Max Q Clear Time (g_c+I1), s	21.5	47.5	19.1	21.5	37.5	41.5	5.8	19.7
Green Ext Time (p_c), s	0.0	4.3	0.1	0.0	0.0	2.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	71.4
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

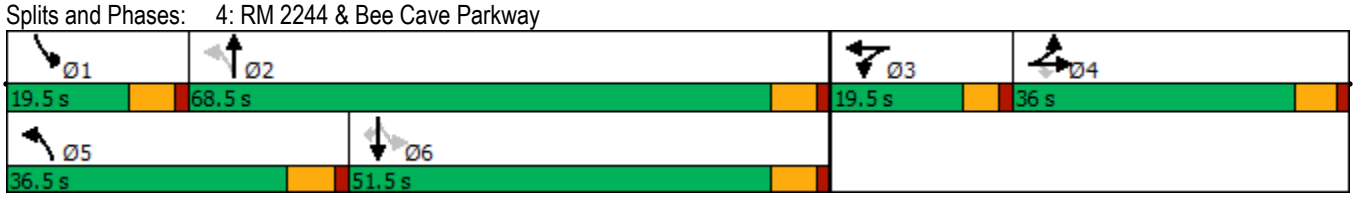
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	829	1	152	1	1	1	116	930	6	4	576	642
Future Volume (vph)	829	1	152	1	1	1	116	930	6	4	576	642
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected	0.950	0.952			0.984		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1750	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.984		0.235			0.193		
Satd. Flow (perm)	1681	1685	1583	0	1750	0	438	3536	0	360	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		1			1				683
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2187			246			1693			1175	
Travel Time (s)		33.1			5.6			21.0			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	882	1	162	1	1	1	123	989	6	4	613	683
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	441	442	162	0	3	0	123	995	0	4	613	683
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	68.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	47.7%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	62.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.6	30.6	30.6		5.2		35.7	34.0		25.1	20.0	20.0
Actuated g/C Ratio	0.38	0.38	0.38		0.06		0.44	0.42		0.31	0.25	0.25
v/c Ratio	0.69	0.69	0.23		0.03		0.36	0.67		0.02	0.70	0.75
Control Delay	31.2	31.2	4.9		38.7		16.5	22.4		13.8	32.5	8.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	31.2	31.2	4.9		38.7		16.5	22.4		13.8	32.5	8.3
LOS	C	C	A		D		B	C		B	C	A
Approach Delay		27.1			38.7			21.7			19.7	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	175	175	0		1		34	184		1	141	0
Queue Length 95th (ft)	#498	#501	46		11		77	375		7	235	95
Internal Link Dist (ft)		2107			166			1613			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	637	638	703		310		702	2770		379	2012	1194
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.69	0.69	0.23		0.01		0.18	0.36		0.01	0.30	0.57

Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 80.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 22.6		Intersection LOS: C	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	
Analysis Period (min) 15			

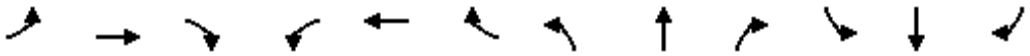
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	438	247	51	29	205	540	30	913	31	756	791	451
Future Volume (vph)	438	247	51	29	205	540	30	913	31	756	791	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	255		0	165		0	245		385	400		400
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.984			0.957	0.850			0.850			0.850
Flt Protected	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (prot)	1648	3241	0	1811	1677	1539	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (perm)	1648	3241	0	1811	1677	1539	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			12	113			108			465
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1601			1543			1100			741	
Travel Time (s)		24.3			23.4			13.6			9.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	452	255	53	30	211	557	31	941	32	779	815	465
Shared Lane Traffic (%)	45%					15%						
Lane Group Flow (vph)	249	511	0	30	295	473	31	941	32	779	815	465
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.3	10.3		10.5	10.5		11.1	21.1	21.1	11.1	21.1	21.1
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	23.3	23.3		15.5	15.5	60.5	6.0	39.3	39.3	38.9	76.7	76.7
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.55	0.55
v/c Ratio	0.91	0.94		0.15	1.51	0.65	0.43	0.96	0.06	0.83	0.42	0.41
Control Delay	93.0	82.8		58.4	291.1	28.2	94.2	62.2	0.3	40.8	7.3	2.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.0	82.8		58.4	291.1	28.2	94.2	62.2	0.3	40.8	7.3	2.3
LOS	F	F		E	F	C	F	E	A	D	A	A
Approach Delay		86.2			126.5			61.2			18.9	
Approach LOS		F			F			E			B	
Queue Length 50th (ft)	247	251		25	~383	272	27	408	0	375	206	61
Queue Length 95th (ft)	#423	#364		58	#583	406	m55	#584	m0	384	75	m18
Internal Link Dist (ft)		1521			1463			1020			661	
Turn Bay Length (ft)	255			165			245		385	400		400
Base Capacity (vph)	278	554		200	196	729	83	984	533	944	1920	1126
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.92		0.15	1.51	0.65	0.37	0.96	0.06	0.83	0.42	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 57.7		Intersection LOS: E	
Intersection Capacity Utilization 101.9%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

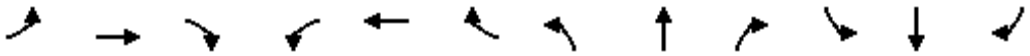
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	2	103	3	1	1	131	1701	5	1	1933	119
Future Volume (vph)	170	2	103	3	1	1	131	1701	5	1	1933	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	10	12	12	11	14	12	12	14	12	12
Storage Length (ft)	0		95	0		85	150		0	100		0
Storage Lanes	1		1	0		1	1		0	1		0
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850					0.991	
Flt Protected	0.950	0.953			0.964		0.950			0.950		
Satd. Flow (prot)	1649	1544	1449	0	1761	1501	1851	3471	0	1851	3440	0
Flt Permitted	0.950	0.953			0.964		0.040			0.101		
Satd. Flow (perm)	1649	1544	1449	0	1761	1501	78	3471	0	197	3440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			104					8	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1108			471			788			1284	
Travel Time (s)		25.2			10.7			9.8			15.9	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	173	2	105	3	1	1	134	1736	5	1	1972	121
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	88	87	105	0	4	1	134	1741	0	1	2093	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			12			16			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left			Left						Left	Thru	
Leading Detector (ft)	20	50	50	20	50	50	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	50	50	20	50	50	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	3	3	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	9.9	21.0		9.9	21.0	
Total Split (s)	20.0	20.0	20.0	15.0	15.0	15.0	18.0	90.0		15.0	87.0	
Total Split (%)	14.3%	14.3%	14.3%	10.7%	10.7%	10.7%	12.9%	64.3%		10.7%	62.1%	
Maximum Green (s)	14.5	14.5	14.5	9.5	9.5	9.5	13.1	84.0		10.1	81.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	12.2	12.2	12.2		5.2	5.2	115.1	112.0		106.8	100.7	
Actuated g/C Ratio	0.09	0.09	0.09		0.04	0.04	0.82	0.80		0.76	0.72	
v/c Ratio	0.62	0.65	0.47		0.06	0.01	0.79	0.63		0.00	0.85	
Control Delay	78.7	82.6	17.2		67.0	0.0	50.2	4.4		3.0	23.2	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.7	82.6	17.2		67.0	0.0	50.2	4.4		3.0	23.2	
LOS	E	F	B		E	A	D	A		A	C	
Approach Delay		56.9			53.6			7.6			23.2	
Approach LOS		E			D			A			C	
Queue Length 50th (ft)	83	82	0		4	0	74	134		0	1014	
Queue Length 95th (ft)	138	140	56		17	0	m99	m238		m0	m#1199	
Internal Link Dist (ft)		1028			391			708			1204	
Turn Bay Length (ft)			95			85	150			100		
Base Capacity (vph)	177	166	250		119	198	231	2777		276	2476	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.50	0.52	0.42		0.03	0.01	0.58	0.63		0.00	0.85	

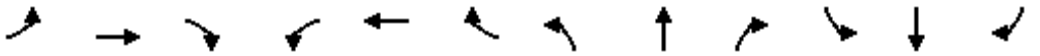
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 134 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

m Volume for 95th percentile queue is metered by upstream signal.

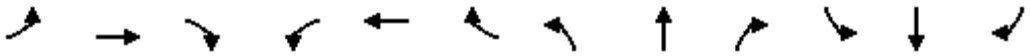
Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	5	140	76	6	34	75	1685	12	18	1849	154
Future Volume (vph)	250	5	140	76	6	34	75	1685	12	18	1849	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	12	12	12	14	12	12	12	12	12
Storage Length (ft)	80		135	90		0	130		0	150		0
Storage Lanes	0		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.999			0.988	
Flt Protected	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (prot)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3463	0
Flt Permitted	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (perm)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3463	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			153		1			10	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		643			447			1366			1282	
Travel Time (s)		14.6			10.2			16.9			15.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	260	5	146	79	6	35	78	1755	13	19	1926	160
Shared Lane Traffic (%)	49%			46%								
Lane Group Flow (vph)	133	132	146	43	42	35	78	1768	0	19	2086	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			20			14			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left			Left				Thru		Left		
Leading Detector (ft)	20	100	50	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	50	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4						
Detector Phase	3	3	3	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.7	10.7	10.7	10.6	10.6	10.6	9.9	21.0		9.9	21.0	
Total Split (s)	24.0	24.0	24.0	15.0	15.0	15.0	15.0	88.0		13.0	86.0	
Total Split (%)	17.1%	17.1%	17.1%	10.7%	10.7%	10.7%	10.7%	62.9%		9.3%	61.4%	
Maximum Green (s)	18.3	18.3	18.3	9.4	9.4	9.4	10.1	82.0		8.1	80.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.0	15.0	15.0	7.7	7.7	7.7	10.1	95.6		5.6	87.1	
Actuated g/C Ratio	0.11	0.11	0.11	0.06	0.06	0.06	0.07	0.68		0.04	0.62	
v/c Ratio	0.77	0.74	0.49	0.47	0.46	0.15	0.58	0.74		0.27	0.97	
Control Delay	88.3	83.8	13.2	80.6	79.3	1.4	87.5	25.3		74.5	39.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	88.3	83.8	13.2	80.6	79.3	1.4	87.5	25.3		74.5	39.3	
LOS	F	F	B	F	E	A	F	C		E	D	
Approach Delay		60.2			57.0			28.0			39.6	
Approach LOS		E			E			C			D	
Queue Length 50th (ft)	125	124	0	41	40	0	73	723		17	~970	
Queue Length 95th (ft)	200	197	59	84	82	0	m116	944		45	#1223	
Internal Link Dist (ft)		563			367			1286			1202	
Turn Bay Length (ft)	80		135	90			130			150		
Base Capacity (vph)	210	218	330	111	112	248	134	2390		101	2158	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.63	0.61	0.44	0.39	0.38	0.14	0.58	0.74		0.19	0.97	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 69 (49%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 37.2		Intersection LOS: D	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



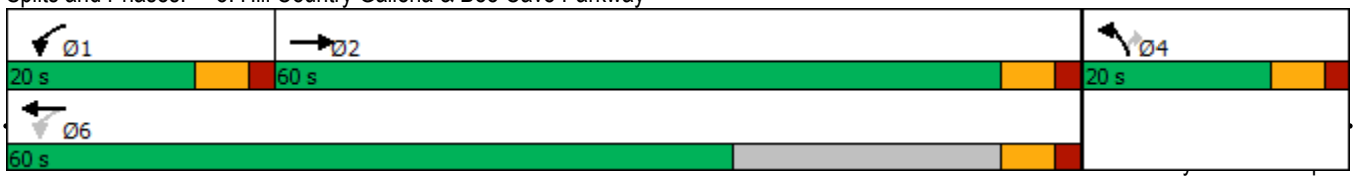
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	891	71	41	744	36	21
Future Volume (vph)	891	71	41	744	36	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3500	0	1770	3539	1770	1583
Flt Permitted			0.171		0.950	
Satd. Flow (perm)	3500	0	319	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13					25
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1048	84	48	875	42	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1132	0	48	875	42	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	11.0	11.0	11.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	36.4		38.8	42.5	7.5	7.5
Actuated g/C Ratio	0.70		0.74	0.81	0.14	0.14
v/c Ratio	0.46		0.12	0.30	0.17	0.10
Control Delay	9.6		3.7	3.4	26.9	13.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	9.6		3.7	3.4	26.9	13.1
LOS	A		A	A	C	B
Approach Delay	9.6			3.4	21.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	150		4	55	14	0
Queue Length 95th (ft)	210		13	82	40	18
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	3182		663	3539	520	483
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.36		0.07	0.25	0.08	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 52.3			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	891	71	41	744	36	21
Future Volume (veh/h)	891	71	41	744	36	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1048	84	48	875	42	25
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1587	127	371	2357	113	101
Arrive On Green	0.48	0.48	0.05	0.66	0.06	0.06
Sat Flow, veh/h	3426	267	1781	3647	1781	1585
Grp Volume(v), veh/h	559	573	48	875	42	25
Grp Sat Flow(s),veh/h/ln	1777	1822	1781	1777	1781	1585
Q Serve(g_s), s	10.6	10.6	0.5	4.8	1.0	0.7
Cycle Q Clear(g_c), s	10.6	10.6	0.5	4.8	1.0	0.7
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	846	868	371	2357	113	101
V/C Ratio(X)	0.66	0.66	0.13	0.37	0.37	0.25
Avail Cap(c_a), veh/h	2184	2239	849	4367	568	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	8.8	6.1	3.3	19.7	19.6
Incr Delay (d2), s/veh	0.9	0.9	0.2	0.1	2.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	4.6	0.2	0.6	0.8	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	9.7	6.3	3.4	21.7	20.8
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	1132			923	67	
Approach Delay, s/veh	9.7			3.6	21.4	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.2	26.9		8.8		35.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.5	12.6		3.0		6.8
Green Ext Time (p_c), s	0.1	8.4		0.1		6.6

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	66	787	0	634	24	23	81
Future Volume (vph)	1	66	787	0	634	24	23	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950					0.950	
Satd. Flow (prot)	0	1736	3471	1863	3454	0	1736	1553
Flt Permitted		0.950					0.950	
Satd. Flow (perm)	0	1736	3471	1863	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1998		2047		806	
Travel Time (s)			30.3		31.0		18.3	
Peak Hour Factor	0.92	0.91	0.91	0.89	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	4%	4%	2%	4%	4%	4%	4%
Adj. Flow (vph)	1	73	865	0	697	26	25	89
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	74	865	0	723	0	25	89
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.5

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	66	787	0	634	24	23	81
Future Vol, veh/h	1	66	787	0	634	24	23	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	92	91	91	89	91	91	91	91
Heavy Vehicles, %	2	4	4	2	4	4	4	4
Mvmt Flow	1	73	865	0	697	26	25	89

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	723	723	0	865	-	0	1291	362
Stage 1	-	-	-	-	-	-	710	-
Stage 2	-	-	-	-	-	-	581	-
Critical Hdwy	6.44	4.18	-	6.44	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.52	2.24	-	2.52	-	-	3.54	3.34
Pot Cap-1 Maneuver	499	862	-	405	-	-	152	629
Stage 1	-	-	-	-	-	-	443	-
Stage 2	-	-	-	-	-	-	517	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	850	850	-	405	-	-	139	629
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	-
Stage 1	-	-	-	-	-	-	404	-
Stage 2	-	-	-	-	-	-	517	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	850	-	405	-	-	139	629
HCM Lane V/C Ratio	0.087	-	-	-	-	0.182	0.142
HCM Control Delay (s)	9.6	-	0	-	-	36.6	11.7
HCM Lane LOS	A	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	0	-	-	0.6	0.5



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	57	759	0	647	1	1	33
Future Volume (vph)	1	57	759	0	647	1	1	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		210		150		0	0	50
Storage Lanes		1		1		0	1	1
Taper Length (ft)		110		50			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt								0.850
Flt Protected		0.950					0.950	
Satd. Flow (prot)	0	1787	3574	1863	3574	0	1787	1599
Flt Permitted		0.950					0.950	
Satd. Flow (perm)	0	1787	3574	1863	3574	0	1787	1599
Link Speed (mph)			45		45		30	
Link Distance (ft)			2047		1601		1044	
Travel Time (s)			31.0		24.3		23.7	
Peak Hour Factor	0.92	0.96	0.96	0.92	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	1%	1%	2%	1%	1%	1%	1%
Adj. Flow (vph)	1	59	791	0	674	1	1	34
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	60	791	0	675	0	1	34
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			13		13		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

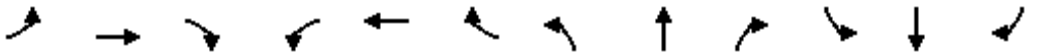
Intersection	
Int Delay, s/veh	0.6

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	57	759	0	647	1	1	33
Future Vol, veh/h	1	57	759	0	647	1	1	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	210	-	150	-	-	0	50
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	92	96	96	92	96	96	96	96
Heavy Vehicles, %	2	1	1	2	1	1	1	1
Mvmt Flow	1	59	791	0	674	1	1	34

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	675	675	0	791	-	0	1191	338
Stage 1	-	-	-	-	-	-	675	-
Stage 2	-	-	-	-	-	-	516	-
Critical Hdwy	6.44	4.12	-	6.44	-	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.82	-
Follow-up Hdwy	2.52	2.21	-	2.52	-	-	3.51	3.31
Pot Cap-1 Maneuver	536	919	-	452	-	-	182	661
Stage 1	-	-	-	-	-	-	470	-
Stage 2	-	-	-	-	-	-	567	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	906	906	-	452	-	-	170	661
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	-
Stage 1	-	-	-	-	-	-	439	-
Stage 2	-	-	-	-	-	-	567	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	906	-	452	-	-	170	661
HCM Lane V/C Ratio	0.067	-	-	-	-	0.006	0.052
HCM Control Delay (s)	9.3	-	0	-	-	26.3	10.7
HCM Lane LOS	A	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	0	-	-	0	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1001	33	47	773	1	1	1	1	1	1	1
Future Volume (vph)	1	1001	33	47	773	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		75	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995							0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3522	0	1770	3539	0	1770	0	1583	0	1750	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3522	0	1770	3539	0	1770	0	1583	0	1750	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		336			1186			204			147	
Travel Time (s)		5.1			18.0			4.6			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1088	36	51	840	1	1	1	1	1	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1124	0	51	841	0	1	1	1	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1001	33	47	773	1	1	1	1	1	1	1
Future Vol, veh/h	1	1001	33	47	773	1	1	1	1	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1088	36	51	840	1	1	1	1	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	841	0	0	1124	0	0	1631	2051	562	1490	2069	421
Stage 1	-	-	-	-	-	-	1108	1108	-	943	943	-
Stage 2	-	-	-	-	-	-	523	943	-	547	1126	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	790	-	-	617	-	-	67	55	470	86	54	581
Stage 1	-	-	-	-	-	-	224	284	-	282	339	-
Stage 2	-	-	-	-	-	-	505	339	-	489	278	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	790	-	-	617	-	-	62	50	470	79	49	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	50	-	79	49	-
Stage 1	-	-	-	-	-	-	224	284	-	282	311	-
Stage 2	-	-	-	-	-	-	461	311	-	485	278	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	38.4	48.5
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	62	470	790	-	-	617	-	-	86
HCM Lane V/C Ratio	0.018	0.002	0.001	-	-	0.083	-	-	0.038
HCM Control Delay (s)	64.1	12.7	9.6	-	-	11.4	-	-	48.5
HCM Lane LOS	F	B	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0.3	-	-	0.1



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	870	50	42	788	13	74
Future Volume (vph)	870	50	42	788	13	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3511	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2187	728	
Travel Time (s)	12.5			33.1	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	978	56	47	885	15	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1034	0	47	885	15	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	870	50	42	788	13	74
Future Vol, veh/h	870	50	42	788	13	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	978	56	47	885	15	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1034	0	1543	517
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	668	-	106	503
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	550	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	668	-	99	503
Mov Cap-2 Maneuver	-	-	-	-	99	-
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	99	503	-	-	668	-
HCM Lane V/C Ratio	0.148	0.165	-	-	0.071	-
HCM Control Delay (s)	47.6	13.6	-	-	10.8	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	0.5	0.6	-	-	0.2	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	933	54	11	775	29	12
Future Volume (vph)	933	54	11	775	29	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3511	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	1186			1258	738	
Travel Time (s)	18.0			19.1	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1098	64	13	912	34	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1162	0	13	912	34	14
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	20	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	933	54	11	775	29	12
Future Vol, veh/h	933	54	11	775	29	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1098	64	13	912	34	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1162	0	1612	581
Stage 1	-	-	-	-	1130	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	597	-	95	457
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	587	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	597	-	93	457
Mov Cap-2 Maneuver	-	-	-	-	93	-
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	49.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	457	-	-	597	-
HCM Lane V/C Ratio	0.367	0.031	-	-	0.022	-
HCM Control Delay (s)	64.6	13.1	-	-	11.2	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.1	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	82	1	35	61	1	60
Future Volume (vph)	82	1	35	61	1	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1898	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1898	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	439			436	1044	
Travel Time (s)	10.0			9.9	23.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	90	1	38	67	1	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	38	67	1	66
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	82	1	35	61	1	60
Future Vol, veh/h	82	1	35	61	1	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	90	1	38	67	1	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	91	0	234	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1517	-	759	972
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1517	-	740	972
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	867	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	9
HCM LOS			A

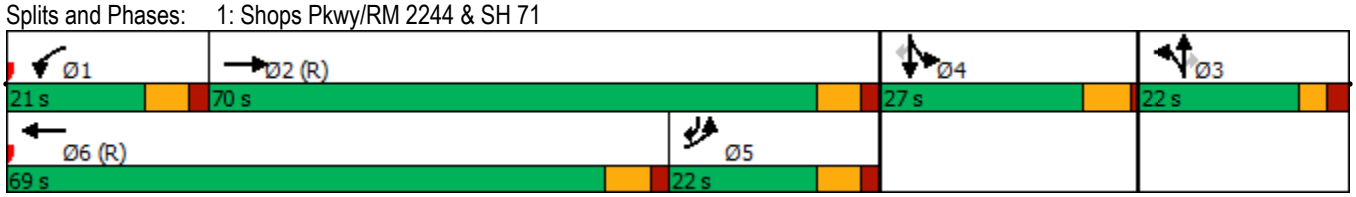
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	740	972	-	-	1517	-
HCM Lane V/C Ratio	0.001	0.068	-	-	0.025	-
HCM Control Delay (s)	9.9	9	-	-	7.4	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.2	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1600	212	373	2068	27	32	81	124	466	88	579
Future Volume (vph)	96	1600	212	373	2068	27	32	81	124	466	88	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.982			0.998				0.850			0.850
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	3335	4851	0	1719	4930	0	0	3390	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.986		0.950		
Satd. Flow (perm)	3335	4851	0	1719	4930	0	0	3390	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			2				180			309
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3209			1846			605			1646	
Travel Time (s)		43.8			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	100	1667	221	389	2154	28	33	84	129	485	92	603
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	100	1888	0	389	2182	0	0	117	129	485	92	603
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.7	21.7		11.7	21.7		10.5	10.5	10.5	11.0	11.0	11.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	70.0		21.0	69.0		22.0	22.0	22.0	27.0	27.0	22.0
Total Split (%)	15.7%	50.0%		15.0%	49.3%		15.7%	15.7%	15.7%	19.3%	19.3%	15.7%
Maximum Green (s)	15.3	63.3		14.3	62.3		16.5	16.5	16.5	21.0	21.0	15.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	15.3	63.3		21.6	69.6			9.2	9.2	21.0	21.0	42.3
Actuated g/C Ratio	0.11	0.45		0.15	0.50			0.07	0.07	0.15	0.15	0.30
v/c Ratio	0.27	0.86		1.47	0.89			0.53	0.48	1.99	0.36	0.58
Control Delay	45.2	22.8		271.8	37.7			71.5	8.1	488.9	58.0	21.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	22.8		271.8	37.7			71.5	8.1	488.9	58.0	21.8
LOS	D	C		F	D			E	A	F	E	C
Approach Delay		24.0			73.1			38.3			216.6	
Approach LOS		C			E			D			F	
Queue Length 50th (ft)	38	138		~485	641			55	0	~721	80	127
Queue Length 95th (ft)	m47	m241		#726	746			87	19	#953	141	196
Internal Link Dist (ft)		3129			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	364	2205		264	2451			399	340	244	257	1033
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.27	0.86		1.47	0.89			0.29	0.38	1.99	0.36	0.58

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 131 (94%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.99			
Intersection Signal Delay: 83.6		Intersection LOS: F	
Intersection Capacity Utilization 94.4%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	156	1379	153	5	26	1720	659	163	124	43	903	268
Future Volume (vph)	156	1379	153	5	26	1720	659	163	124	43	903	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.985					0.850		0.971			
Flt Protected	0.950				0.950			0.950	0.988		0.950	
Satd. Flow (prot)	3335	4866	0	0	1719	4940	1692	1564	3159	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.988		0.950	
Satd. Flow (perm)	3335	4866	0	0	1719	4940	1692	1564	3159	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		16					673		16			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		846				3209			676			1227
Travel Time (s)		10.5				43.8			18.4			15.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	166	1467	163	5	28	1830	701	173	132	46	961	285
Shared Lane Traffic (%)								33%				
Lane Group Flow (vph)	166	1630	0	0	33	1830	701	116	235	0	961	285
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	194
Future Volume (vph)	194
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1743
Flt Permitted	
Satd. Flow (perm)	1743
Right Turn on Red	Yes
Satd. Flow (RTOR)	167
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	5%
Adj. Flow (vph)	206
Shared Lane Traffic (%)	
Lane Group Flow (vph)	206
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	10.9	20.9		10.9	10.9	20.9		10.5	10.5		11.0	11.0
Total Split (s)	15.0	62.0		17.0	17.0	64.0		23.0	23.0		38.0	38.0
Total Split (%)	10.7%	44.3%		12.1%	12.1%	45.7%		16.4%	16.4%		27.1%	27.1%
Maximum Green (s)	9.1	56.1		11.1	11.1	58.1		17.5	17.5		32.0	32.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	8.7	62.9			8.7	58.5	140.0	14.3	14.3		35.2	35.2
Actuated g/C Ratio	0.06	0.45			0.06	0.42	1.00	0.10	0.10		0.25	0.25
v/c Ratio	0.80	0.74			0.31	0.89	0.41	0.73	0.70		1.15	0.63
Control Delay	91.6	35.4			59.3	31.1	0.4	85.7	67.5		111.0	36.6
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	91.6	35.4			59.3	31.1	0.4	85.7	67.5		111.0	36.6
LOS	F	D			E	C	A	F	E		F	D
Approach Delay		40.6				23.1			73.5			82.8
Approach LOS		D				C			E			F
Queue Length 50th (ft)	78	480			26	315	0	114	107		~547	255
Queue Length 95th (ft)	#134	546			m34	479	m0	186	153		m#696	m344
Internal Link Dist (ft)		766				3129			596			1147
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	216	2195			136	2063	1692	195	408		838	454
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.77	0.74			0.24	0.89	0.41	0.59	0.58		1.15	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 45.1		Intersection LOS: D	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

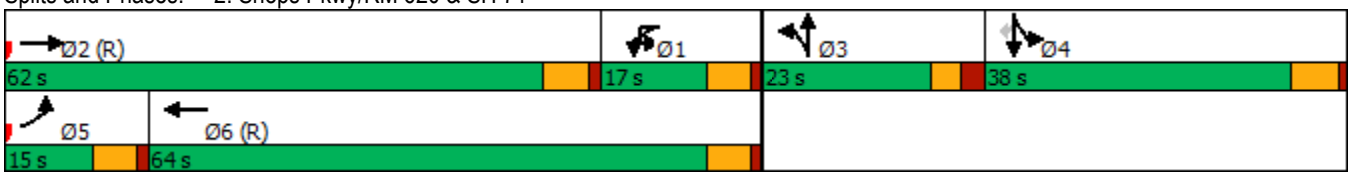


Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	38.0
Total Split (%)	27.1%
Maximum Green (s)	32.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	35.2
Actuated g/C Ratio	0.25
v/c Ratio	0.37
Control Delay	14.8
Queue Delay	0.0
Total Delay	14.8
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	92
Queue Length 95th (ft)	m141
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	563
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.37

Intersection Summary

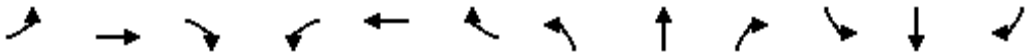
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	1089	253	510	1277	36	206	294	408	40	410	579
Future Volume (vph)	388	1089	253	510	1277	36	206	294	408	40	410	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3392	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.099			0.565		
Satd. Flow (perm)	1703	3406	1524	1703	3392	0	177	3406	1524	1013	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		2				425			344
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			5535			361			1947	
Travel Time (s)		19.1			68.6			4.5			29.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	404	1134	264	531	1330	38	215	306	425	42	427	603
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	1134	264	531	1368	0	215	306	425	42	427	603
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



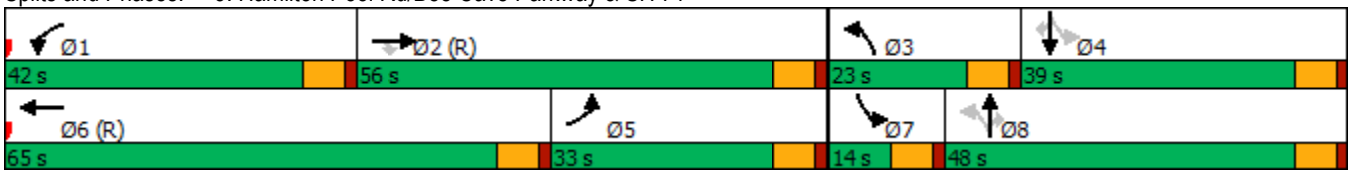
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	33.0	56.0	56.0	42.0	65.0		23.0	48.0	48.0	14.0	39.0	39.0
Total Split (%)	20.6%	35.0%	35.0%	26.3%	40.6%		14.4%	30.0%	30.0%	8.8%	24.4%	24.4%
Maximum Green (s)	26.5	49.5	49.5	35.5	58.5		16.5	41.5	41.5	7.5	32.5	32.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	26.5	49.5	49.5	35.5	58.5		55.5	45.1	45.1	38.7	32.5	32.5
Actuated g/C Ratio	0.17	0.31	0.31	0.22	0.37		0.35	0.28	0.28	0.24	0.20	0.20
v/c Ratio	1.43	1.08	0.44	1.41	1.10		0.99	0.32	0.58	0.15	1.17	1.03
Control Delay	259.1	102.1	15.4	242.7	104.9		102.3	47.4	7.3	37.4	156.6	72.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	259.1	102.1	15.4	242.7	104.9		102.3	47.4	7.3	37.4	156.6	72.1
LOS	F	F	B	F	F		F	D	A	D	F	E
Approach Delay		124.6			143.4			41.9			104.4	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~570	~692	59	~741	~853		180	136	0	29	~531	~370
Queue Length 95th (ft)	#789	#833	146	#978	#995		#359	185	95	60	#752	#618
Internal Link Dist (ft)		1458			5455			281			1867	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	282	1053	600	377	1241		218	960	735	285	364	583
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.43	1.08	0.44	1.41	1.10		0.99	0.32	0.58	0.15	1.17	1.03

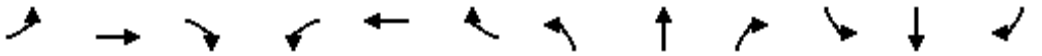
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 101 (63%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 113.4		Intersection LOS: F	
Intersection Capacity Utilization 113.0%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	1089	253	510	1277	36	206	294	408	40	410	579
Future Volume (veh/h)	388	1089	253	510	1277	36	206	294	408	40	410	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	404	1134	0	531	1330	0	215	306	0	42	427	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	286	1065		383	1258		223	962		302	368	
Arrive On Green	0.17	0.31	0.00	0.22	0.37	0.00	0.10	0.28	0.00	0.03	0.20	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	404	1134	0	531	1330	0	215	306	0	42	427	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	26.5	49.5	0.0	35.5	58.5	0.0	15.7	11.3	0.0	3.1	32.5	0.0
Cycle Q Clear(g_c), s	26.5	49.5	0.0	35.5	58.5	0.0	15.7	11.3	0.0	3.1	32.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	1065		383	1258		223	962		302	368	
V/C Ratio(X)	1.41	1.07		1.39	1.06		0.96	0.32		0.14	1.16	
Avail Cap(c_a), veh/h	286	1065		383	1258		223	962		337	368	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.8	55.3	0.0	62.3	50.7	0.0	46.9	45.6	0.0	48.6	63.8	0.0
Incr Delay (d2), s/veh	205.9	46.7	0.0	189.9	41.9	0.0	49.9	0.1	0.0	0.1	98.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	42.1	37.6	0.0	52.8	42.1	0.0	14.6	8.3	0.0	2.4	35.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.6	102.0	0.0	252.1	92.7	0.0	96.8	45.7	0.0	48.7	162.1	0.0
LnGrp LOS	F	F		F	F		F	D		D	F	
Approach Vol, veh/h		1538			1861			521			469	
Approach Delay, s/veh		146.8			138.2			66.8			151.9	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	56.0	23.0	39.0	33.0	65.0	10.8	51.2
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	35.5	49.5	16.5	32.5	26.5	58.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	37.5	51.5	17.7	34.5	28.5	60.5	5.1	13.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	134.2
HCM 6th LOS	F

Notes

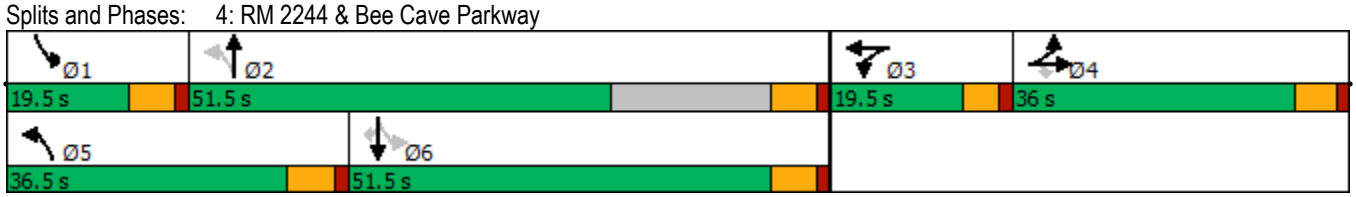
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	698	1	339	10	1	2	192	585	6	3	1059	932
Future Volume (vph)	698	1	339	10	1	2	192	585	6	3	1059	932
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.981			0.999				0.850
Flt Protected	0.950	0.953			0.962		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1758	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.953			0.962		0.092			0.414		
Satd. Flow (perm)	1681	1686	1583	0	1758	0	171	3536	0	771	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			338		2			1				672
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2201			246			1646			1175	
Travel Time (s)		33.3			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	743	1	361	11	1	2	204	622	6	3	1127	991
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	371	373	361	0	14	0	204	628	0	3	1127	991
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	51.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	35.9%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	45.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.2	30.2	30.2		5.6		69.1	67.1		50.4	45.4	45.4
Actuated g/C Ratio	0.26	0.26	0.26		0.05		0.59	0.58		0.43	0.39	0.39
v/c Ratio	0.85	0.85	0.55		0.16		0.60	0.31		0.01	0.82	0.96
Control Delay	61.4	61.7	9.0		56.0		27.9	14.3		13.7	39.1	33.3
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	61.4	61.7	9.0		56.0		27.9	14.3		13.7	39.1	33.3
LOS	E	E	A		E		C	B		B	D	C
Approach Delay		44.4			56.0			17.6			36.4	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)	260	262	12		8		72	101		1	361	280
Queue Length 95th (ft)	#542	#545	108		33		173	214		6	#622	#741
Internal Link Dist (ft)		2121			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	437	438	661		215		517	2040		500	1380	1027
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.85	0.85	0.55		0.07		0.39	0.31		0.01	0.82	0.96

Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 116.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	330	254	84	18	348	763	113	771	32	634	1223
Future Volume (vph)	2	330	254	84	18	348	763	113	771	32	634	1223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		255		0	165		0	245		385	400	
Storage Lanes		1		0	1		1	1		1	2	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95
Frt			0.974			0.963	0.850			0.850		
Flt Protected		0.950	0.985		0.950			0.950			0.950	
Satd. Flow (prot)	0	1648	3221	0	1811	1688	1539	1694	3505	1620	3400	3505
Flt Permitted		0.479	0.985		0.950			0.950			0.950	
Satd. Flow (perm)	0	831	3221	0	1811	1688	1539	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			13			10	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			1543			1100			741
Travel Time (s)			23.7			23.4			13.6			9.2
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	340	262	87	19	359	787	116	795	33	654	1261
Shared Lane Traffic (%)		45%					15%					
Lane Group Flow (vph)	0	189	502	0	19	477	669	116	795	33	654	1261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	515
Future Volume (vph)	515
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	400
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	403
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	531
Shared Lane Traffic (%)	
Lane Group Flow (vph)	531
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3	3 1	5	2		1	6
Permitted Phases	4									2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.3	10.3	10.3		10.5	10.5		11.1	21.1	21.1	11.1	21.1
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	52.0	52.0	34.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	37.1%	37.1%	24.3%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	45.9	45.9	27.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Act Effct Green (s)		16.7	16.7		26.5	26.5	60.5	8.9	45.9	45.9	27.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.43	0.06	0.33	0.33	0.20	0.46
v/c Ratio		1.91	1.27		0.06	1.46	0.92	1.08	0.69	0.05	0.97	0.78
Control Delay		476.1	187.3		47.2	261.4	49.9	158.7	44.5	0.8	55.9	21.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		476.1	187.3		47.2	261.4	49.9	158.7	44.5	0.8	55.9	21.2
LOS		F	F		D	F	D	F	D	A	E	C
Approach Delay			266.3			136.4			57.0			26.5
Approach LOS			F			F			E			C
Queue Length 50th (ft)		~289	~311		14	~618	520	~119	342	0	294	355
Queue Length 95th (ft)		#465	#435		38	#852	#796	m#241	416	m3	m282	m284
Internal Link Dist (ft)			1487			1463			1020			661
Turn Bay Length (ft)		255			165			245		385	400	
Base Capacity (vph)		99	395		342	327	729	107	1149	603	677	1624
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		1.91	1.27		0.06	1.46	0.92	1.08	0.69	0.05	0.97	0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.91			
Intersection Signal Delay: 88.0		Intersection LOS: F	
Intersection Capacity Utilization 106.0%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

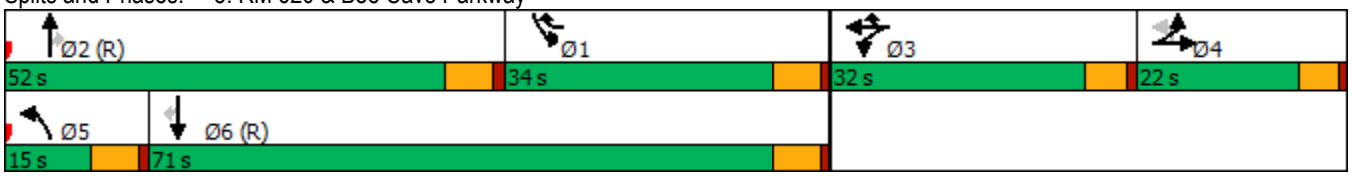


Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	21.1
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.54
Control Delay	2.8
Queue Delay	0.0
Total Delay	2.8
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	37
Queue Length 95th (ft)	m42
Internal Link Dist (ft)	
Turn Bay Length (ft)	400
Base Capacity (vph)	991
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	244	1	119	2	2	1	134	1720	1	1	2162
Future Volume (vph)	1	244	1	119	2	2	1	134	1720	1	1	2162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	12	12	11	14	12	12	14	12
Storage Length (ft)		0		95	0		85	100		0	100	
Storage Lanes		1		1	0		1	1		0	1	
Taper Length (ft)		25			25			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850					0.990
Flt Protected		0.950	0.953			0.976		0.950			0.950	
Satd. Flow (prot)	0	1649	1544	1449	0	1783	1501	1851	3471	0	1851	3436
Flt Permitted		0.755	0.953			0.976		0.043			0.084	
Satd. Flow (perm)	0	1310	1544	1449	0	1783	1501	84	3471	0	164	3436
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				143			143					10
Link Speed (mph)			30			30			55			55
Link Distance (ft)			1137			471			788			1284
Travel Time (s)			25.8			10.7			9.8			15.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	249	1	121	2	2	1	137	1755	1	1	2206
Shared Lane Traffic (%)		50%										
Lane Group Flow (vph)	0	125	126	121	0	4	1	137	1756	0	1	2369
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			10			12			16			14
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left			Left						Left	Thru
Leading Detector (ft)	20	20	50	50	20	50	50	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	50	50	20	50	50	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	160
Future Volume (vph)	160
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.98
Heavy Vehicles (%)	4%
Adj. Flow (vph)	163
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3		5	2		1	6
Permitted Phases	4			4			3	2			6	
Detector Phase	4	4	4	4	3	3	3	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.9	21.0		9.9	21.0
Total Split (s)	18.0	18.0	18.0	18.0	12.0	12.0	12.0	19.0	97.0		13.0	91.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	8.6%	8.6%	8.6%	13.6%	69.3%		9.3%	65.0%
Maximum Green (s)	12.5	12.5	12.5	12.5	6.5	6.5	6.5	14.1	91.0		8.1	85.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		20.2	20.2	20.2		5.2	5.2	107.2	104.1		98.0	91.9
Actuated g/C Ratio		0.14	0.14	0.14		0.04	0.04	0.77	0.74		0.70	0.66
v/c Ratio		0.66	0.57	0.37		0.06	0.01	0.76	0.68		0.01	1.05
Control Delay		74.1	66.7	8.6		66.8	0.0	41.7	8.7		9.0	60.7
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		74.1	66.7	8.6		66.8	0.0	41.7	8.7		9.0	60.7
LOS		E	E	A		E	A	D	A		A	E
Approach Delay			50.3			53.4			11.1			60.7
Approach LOS			D			D			B			E
Queue Length 50th (ft)		113	112	0		4	0	67	287		0	~1205
Queue Length 95th (ft)		#267	#249	43		17	0	m84	m462		m0	m#1193
Internal Link Dist (ft)			1057			391			708			1204
Turn Bay Length (ft)				95			85	100			100	
Base Capacity (vph)		188	222	331		82	206	242	2581		216	2259
Starvation Cap Reductn		0	0	0		0	0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0	0	0		0	0
Reduced v/c Ratio		0.66	0.57	0.37		0.05	0.00	0.57	0.68		0.00	1.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 127 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 39.6		Intersection LOS: D	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	199	7	163	66	3	18	84	1749	15	45	2058
Future Volume (vph)	1	199	7	163	66	3	18	84	1749	15	45	2058
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	14	12	12	12	12
Storage Length (ft)		80		135	90		0	130		0	150	
Storage Lanes		0		1	1		1	1		0	1	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850		0.999			0.989
Flt Protected		0.950	0.955		0.950	0.956		0.950			0.950	
Satd. Flow (prot)	0	1609	1674	1516	1665	1675	1568	1869	3501	0	1752	3466
Flt Permitted		0.732	0.955		0.950	0.956		0.950			0.950	
Satd. Flow (perm)	0	1240	1674	1516	1665	1675	1568	1869	3501	0	1752	3466
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				170			106		1			10
Link Speed (mph)			30			30			55			55
Link Distance (ft)			643			447			1366			1282
Travel Time (s)			14.6			10.2			16.9			15.9
Peak Hour Factor	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	207	7	170	69	3	19	88	1822	16	47	2144
Shared Lane Traffic (%)		49%			48%							
Lane Group Flow (vph)	0	107	108	170	36	36	19	88	1838	0	47	2322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			30			20			14			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2	1	1	2		1	2
Detector Template	Left	Left			Left				Thru		Left	
Leading Detector (ft)	20	20	100	50	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	6	50	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	171
Future Volume (vph)	171
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	3%
Adj. Flow (vph)	178
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		3	3		4	4		1	6		5	2
Permitted Phases	3			3			4					
Detector Phase	3	3	3	3	4	4	4	1	6		5	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	13.0	13.0	13.0	13.0	10.6	10.6	10.6	9.9	21.0		9.9	21.0
Total Split (s)	18.0	18.0	18.0	18.0	15.0	15.0	15.0	20.0	87.0		20.0	87.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	10.7%	10.7%	10.7%	14.3%	62.1%		14.3%	62.1%
Maximum Green (s)	12.3	12.3	12.3	12.3	9.4	9.4	9.4	15.1	81.0		15.1	81.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		14.2	14.2	14.2	7.3	7.3	7.3	10.0	92.9		7.5	88.4
Actuated g/C Ratio		0.10	0.10	0.10	0.05	0.05	0.05	0.07	0.66		0.05	0.63
v/c Ratio		0.86	0.64	0.56	0.41	0.41	0.10	0.66	0.79		0.51	1.06
Control Delay		109.7	78.1	15.7	77.8	77.7	1.2	86.0	23.8		82.1	63.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		109.7	78.1	15.7	77.8	77.7	1.2	86.0	23.8		82.1	63.9
LOS		F	E	B	E	E	A	F	C		F	E
Approach Delay			59.3			61.8			26.7			64.2
Approach LOS			E			E			C			E
Queue Length 50th (ft)		102	101	0	33	33	0	75	852		43	~1247
Queue Length 95th (ft)		#237	#204	74	73	73	0	m111	977		85	#1435
Internal Link Dist (ft)			563			367			1286			1202
Turn Bay Length (ft)		80		135	90			130			150	
Base Capacity (vph)		125	170	306	111	112	204	201	2322		188	2191
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.86	0.64	0.56	0.32	0.32	0.09	0.44	0.79		0.25	1.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 36 (26%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 48.6		Intersection LOS: D	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



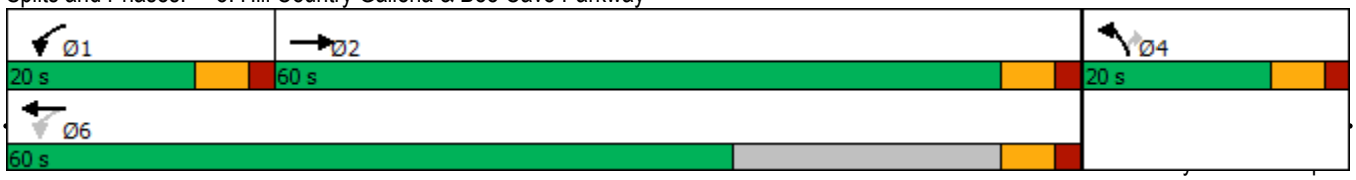
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	831	81	50	1031	121	45
Future Volume (vph)	831	81	50	1031	121	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.987					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3493	0	1770	3539	1770	1583
Flt Permitted			0.161		0.950	
Satd. Flow (perm)	3493	0	300	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	16					53
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	978	95	59	1213	142	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1073	0	59	1213	142	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	11.0	11.0	11.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	31.0		37.9	37.9	10.5	10.5
Actuated g/C Ratio	0.51		0.62	0.62	0.17	0.17
v/c Ratio	0.60		0.17	0.55	0.47	0.17
Control Delay	13.6		5.7	7.6	30.1	9.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	13.6		5.7	7.6	30.1	9.7
LOS	B		A	A	C	A
Approach Delay	13.6			7.5	24.5	
Approach LOS	B			A	C	
Queue Length 50th (ft)	160		7	111	48	0
Queue Length 95th (ft)	227		19	163	105	25
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	3069		536	3520	420	416
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.35		0.11	0.34	0.34	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.7			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	831	81	50	1031	121	45
Future Volume (veh/h)	831	81	50	1031	121	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	978	95	59	1213	142	53
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1452	141	363	2233	207	185
Arrive On Green	0.44	0.44	0.06	0.63	0.12	0.12
Sat Flow, veh/h	3366	318	1781	3647	1781	1585
Grp Volume(v), veh/h	531	542	59	1213	142	53
Grp Sat Flow(s),veh/h/ln	1777	1813	1781	1777	1781	1585
Q Serve(g_s), s	11.2	11.2	0.7	9.1	3.6	1.4
Cycle Q Clear(g_c), s	11.2	11.2	0.7	9.1	3.6	1.4
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	788	805	363	2233	207	185
V/C Ratio(X)	0.67	0.67	0.16	0.54	0.68	0.29
Avail Cap(c_a), veh/h	2040	2082	792	4080	530	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	10.4	7.1	4.9	19.9	19.0
Incr Delay (d2), s/veh	1.0	1.0	0.2	0.2	4.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	5.5	0.3	2.2	2.9	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	11.4	7.4	5.1	23.9	19.8
LnGrp LOS	B	B	A	A	C	B
Approach Vol, veh/h	1073			1272	195	
Approach Delay, s/veh	11.4			5.2	22.8	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.7	26.9		11.5		35.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.7	13.2		5.6		11.1
Green Ext Time (p_c), s	0.1	7.7		0.3		10.6

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	6	110	677	1	1007	38	35	92
Future Volume (vph)	6	110	677	1	1007	38	35	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950		0.950			0.950	
Satd. Flow (prot)	0	1737	3471	1736	3454	0	1736	1553
Flt Permitted		0.950		0.950			0.950	
Satd. Flow (perm)	0	1737	3471	1736	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1947		2085		893	
Travel Time (s)			29.5		31.6		20.3	
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	7	121	744	1	1107	42	38	101
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	128	744	1	1149	0	38	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

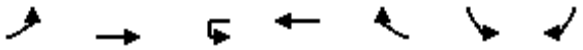
Intersection	
Int Delay, s/veh	4.2

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	6	110	677	1	1007	38	35	92
Future Vol, veh/h	6	110	677	1	1007	38	35	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	92	91	91	91	91	91	91	91
Heavy Vehicles, %	2	4	4	4	4	4	4	4
Mvmt Flow	7	121	744	1	1107	42	38	101

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	1148	1149	0	744	-	0	1758	575
Stage 1	-	-	-	-	-	-	1130	-
Stage 2	-	-	-	-	-	-	628	-
Critical Hdwy	6.44	4.18	-	6.48	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.52	2.24	-	2.54	-	-	3.54	3.34
Pot Cap-1 Maneuver	267	593	-	477	-	-	74	456
Stage 1	-	-	-	-	-	-	266	-
Stage 2	-	-	-	-	-	-	489	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	543	543	-	477	-	-	57	456
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	-
Stage 1	-	-	-	-	-	-	204	-
Stage 2	-	-	-	-	-	-	488	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	52.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	543	-	477	-	-	57	456
HCM Lane V/C Ratio	0.235	-	0.002	-	-	0.675	0.222
HCM Control Delay (s)	13.6	-	12.6	-	-	151.6	15.1
HCM Lane LOS	B	-	B	-	-	F	C
HCM 95th %tile Q(veh)	0.9	-	0	-	-	2.8	0.8



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	55	719	3	980	21	2	60
Future Volume (vph)	55	719	3	980	21	2	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		150		0	0	50
Storage Lanes	1		1		0	1	1
Taper Length (ft)	110		50			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt				0.997			0.850
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1770	3539	1770	3529	0	1770	1583
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	1770	3539	1770	3529	0	1770	1583
Link Speed (mph)		45		45		30	
Link Distance (ft)		2085		1567		1031	
Travel Time (s)		31.6		23.7		23.4	
Peak Hour Factor	0.94	0.94	0.92	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	765	3	1043	22	2	64
Shared Lane Traffic (%)							
Lane Group Flow (vph)	59	765	3	1065	0	2	64
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)		13		13		12	
Link Offset(ft)		0		0		0	
Crosswalk Width(ft)		16		16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9		9	15	9
Sign Control		Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

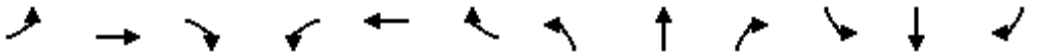
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	55	719	3	980	21	2	60
Future Vol, veh/h	55	719	3	980	21	2	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	None
Storage Length	210	-	150	-	-	0	50
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	59	765	3	1043	22	2	64

Major/Minor	Major1		Major2			Minor2	
Conflicting Flow All	1065	0	765	-	0	1561	533
Stage 1	-	-	-	-	-	1060	-
Stage 2	-	-	-	-	-	501	-
Critical Hdwy	4.14	-	6.44	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	2.52	-	-	3.52	3.32
Pot Cap-1 Maneuver	650	-	470	-	-	103	491
Stage 1	-	-	-	-	-	294	-
Stage 2	-	-	-	-	-	574	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	650	-	470	-	-	93	491
Mov Cap-2 Maneuver	-	-	-	-	-	93	-
Stage 1	-	-	-	-	-	267	-
Stage 2	-	-	-	-	-	571	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	650	-	470	-	-	93	491
HCM Lane V/C Ratio	0.09	-	0.007	-	-	0.023	0.13
HCM Control Delay (s)	11.1	-	12.7	-	-	44.6	13.4
HCM Lane LOS	B	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	0	-	-	0.1	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	915	5	5	1119	1	10	1	60	1	1	1
Future Volume (vph)	1	915	5	5	1119	1	10	1	60	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999							0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3536	0	1770	3539	0	1770	0	1583	0	1750	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3536	0	1770	3539	0	1770	0	1583	0	1750	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		343			1189			157			127	
Travel Time (s)		5.2			18.0			3.6			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	995	5	5	1216	1	11	1	65	1	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1000	0	5	1217	0	11	1	65	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	915	5	5	1119	1	10	1	60	1	1	1
Future Vol, veh/h	1	915	5	5	1119	1	10	1	60	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	995	5	5	1216	1	11	1	65	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1217	0	0	1000	0	0	1619	2227	500	1727	2229	609
Stage 1	-	-	-	-	-	-	1000	1000	-	1227	1227	-
Stage 2	-	-	-	-	-	-	619	1227	-	500	1002	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	569	-	-	688	-	-	69	43	516	57	42	438
Stage 1	-	-	-	-	-	-	261	319	-	189	249	-
Stage 2	-	-	-	-	-	-	443	249	-	521	318	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	569	-	-	688	-	-	67	43	516	49	42	438
Mov Cap-2 Maneuver	-	-	-	-	-	-	67	43	-	49	42	-
Stage 1	-	-	-	-	-	-	260	318	-	189	247	-
Stage 2	-	-	-	-	-	-	437	247	-	453	317	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	21	63.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	67	516	569	-	-	688	-	-	65
HCM Lane V/C Ratio	0.162	0.126	0.002	-	-	0.008	-	-	0.05
HCM Control Delay (s)	68.9	13	11.3	-	-	10.3	-	-	63.3
HCM Lane LOS	F	B	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.5	0.4	0	-	-	0	-	-	0.2



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	797	75	93	1035	37	221
Future Volume (vph)	797	75	93	1035	37	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.987					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3493	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3493	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2201	728	
Travel Time (s)	12.5			33.3	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	896	84	104	1163	42	248
Shared Lane Traffic (%)						
Lane Group Flow (vph)	980	0	104	1163	42	248
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	797	75	93	1035	37	221
Future Vol, veh/h	797	75	93	1035	37	221
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	896	84	104	1163	42	248

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	980	0	1728	490
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	790	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	700	-	79	524
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	408	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	700	-	67	524
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	347	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	32.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	67	524	-	-	700	-
HCM Lane V/C Ratio	0.62	0.474	-	-	0.149	-
HCM Control Delay (s)	122.7	17.9	-	-	11	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	2.7	2.5	-	-	0.5	-



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	863	186	29	1128	88	44
Future Volume (vph)	1	863	186	29	1128	88	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0
Storage Lanes	0		0	1		1	1
Taper Length (ft)	25			25		25	
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	1.00	1.00
Frt		0.973					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	0	3444	0	1770	3539	1770	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	0	3444	0	1770	3539	1770	1583
Link Speed (mph)		45			45	30	
Link Distance (ft)		1189			1258	738	
Travel Time (s)		18.0			19.1	16.8	
Peak Hour Factor	0.92	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1	1015	219	34	1327	104	52
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1235	0	34	1327	104	52
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Right	Left	Left	Left	Right
Median Width(ft)		12			12	20	
Link Offset(ft)		0			0	0	
Crosswalk Width(ft)		16			16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		9	15		15	9
Sign Control		Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	19.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	1	863	186	29	1128	88	44
Future Vol, veh/h	1	863	186	29	1128	88	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	1015	219	34	1327	104	52

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	1327	0	0	1234	0	1859	617
Stage 1	-	-	-	-	-	1127	-
Stage 2	-	-	-	-	-	732	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	204	-	-	560	-	~ 65	433
Stage 1	-	-	-	-	-	271	-
Stage 2	-	-	-	-	-	437	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	204	-	-	560	-	~ 60	433
Mov Cap-2 Maneuver	-	-	-	-	-	~ 60	-
Stage 1	-	-	-	-	-	266	-
Stage 2	-	-	-	-	-	410	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	$ 337.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	60	433	-	-	560	-
HCM Lane V/C Ratio	1.725	0.12	-	-	0.061	-
HCM Control Delay (s)	$ 498.9	14.4	-	-	11.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	9.5	0.4	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	94	2	62	128	2	73
Future Volume (vph)	94	2	62	128	2	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1894	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1894	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	362			433	1031	
Travel Time (s)	8.2			9.8	23.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	103	2	68	141	2	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	0	68	141	2	80
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.1%		ICU Level of Service A	
Analysis Period (min) 15			

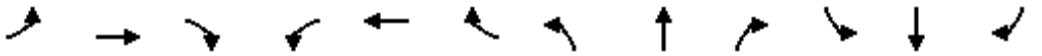
Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	2	62	128	2	73
Future Vol, veh/h	94	2	62	128	2	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	103	2	68	141	2	80

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	381	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	277	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1499	-	625	956
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	597	956
Mov Cap-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	739	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	597	956	-	-	1499	-
HCM Lane V/C Ratio	0.004	0.084	-	-	0.045	-
HCM Control Delay (s)	11.1	9.1	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.3	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1964	249	708	1711	9	39	61	27	242	49	365
Future Volume (vph)	72	1964	249	708	1711	9	39	61	27	242	49	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.983			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.981		0.950		
Satd. Flow (prot)	3335	4856	0	1719	4935	0	0	3373	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.981		0.950		
Satd. Flow (perm)	3335	4856	0	1719	4935	0	0	3373	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			1				180			124
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3177			1846			605			1646	
Travel Time (s)		43.3			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	75	2046	259	738	1782	9	41	64	28	252	51	380
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	75	2305	0	738	1791	0	0	105	28	252	51	380
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.7	21.7		11.7	21.7		10.5	10.5	10.5	11.0	11.0	11.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	83.0		19.0	62.0		13.0	13.0	13.0	25.0	25.0	40.0
Total Split (%)	28.6%	59.3%		13.6%	44.3%		9.3%	9.3%	9.3%	17.9%	17.9%	28.6%
Maximum Green (s)	33.3	76.3		12.3	55.3		7.5	7.5	7.5	19.0	19.0	33.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lead	Lead		Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	Min	C-Max		None	C-Max		None	None	None	None	None	Min
Act Effct Green (s)	6.8	76.3		12.3	81.8			7.2	7.2	19.3	19.3	32.1
Actuated g/C Ratio	0.05	0.54		0.09	0.58			0.05	0.05	0.14	0.14	0.23
v/c Ratio	0.47	0.87		4.89	0.62			0.61	0.11	1.12	0.22	0.53
Control Delay	66.9	39.5		1776.6	20.3			80.1	0.9	150.0	56.6	34.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	39.5		1776.6	20.3			80.1	0.9	150.0	56.6	34.1
LOS	E	D		F	C			F	A	F	E	C
Approach Delay		40.3			532.8			63.4			78.6	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	32	605		~1252	371			50	0	~281	44	117
Queue Length 95th (ft)	m46	783		#1499	438			83	0	#467	89	172
Internal Link Dist (ft)		3097			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	793	2657		151	2885			180	252	225	237	1205
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.09	0.87		4.89	0.62			0.58	0.11	1.12	0.22	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 4.89			
Intersection Signal Delay: 263.0		Intersection LOS: F	
Intersection Capacity Utilization 113.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	111	1748	72	3	3	1497	941	33	26	9	688	45
Future Volume (vph)	111	1748	72	3	3	1497	941	33	26	9	688	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.994					0.850		0.969			
Flt Protected	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (prot)	3335	4910	0	0	1719	4940	1692	1564	3156	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (perm)	3335	4910	0	0	1719	4940	1692	1564	3156	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		5					983		10			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		876				3177			676			1227
Travel Time (s)		10.9				43.3			18.4			15.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	118	1860	77	3	3	1593	1001	35	28	10	732	48
Shared Lane Traffic (%)								31%				
Lane Group Flow (vph)	118	1937	0	0	6	1593	1001	24	49	0	732	48
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



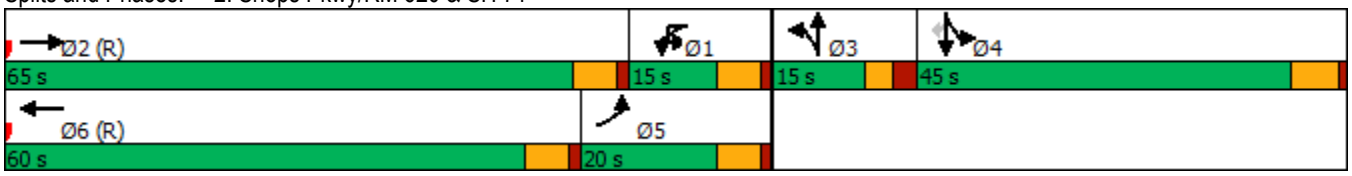
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	101
Future Volume (vph)	101
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1743
Flt Permitted	
Satd. Flow (perm)	1743
Right Turn on Red	Yes
Satd. Flow (RTOR)	111
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	5%
Adj. Flow (vph)	107
Shared Lane Traffic (%)	
Lane Group Flow (vph)	107
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	10.9	20.9		10.9	10.9	20.9		10.5	10.5		11.0	11.0
Total Split (s)	20.0	65.0		15.0	15.0	60.0		15.0	15.0		45.0	45.0
Total Split (%)	14.3%	46.4%		10.7%	10.7%	42.9%		10.7%	10.7%		32.1%	32.1%
Maximum Green (s)	14.1	59.1		9.1	9.1	54.1		9.5	9.5		39.0	39.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lag	Lead		Lag	Lag	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	8.4	80.2			5.3	68.3	140.0	6.8	6.8		35.3	35.3
Actuated g/C Ratio	0.06	0.57			0.04	0.49	1.00	0.05	0.05		0.25	0.25
v/c Ratio	0.59	0.69			0.09	0.66	0.59	0.32	0.30		0.87	0.11
Control Delay	76.0	25.1			72.0	22.2	4.2	74.5	57.0		39.3	20.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	76.0	25.1			72.0	22.2	4.2	74.5	57.0		39.3	20.0
LOS	E	C			E	C	A	E	E		D	C
Approach Delay		28.0				15.4			62.8			34.1
Approach LOS		C				B			E			C
Queue Length 50th (ft)	55	436			5	432	211	24	19		316	29
Queue Length 95th (ft)	87	682			m14	556	432	58	41		m334	m47
Internal Link Dist (ft)		796				3097			596			1147
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	335	2813			111	2410	1692	106	223		943	511
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.35	0.69			0.05	0.66	0.59	0.23	0.22		0.78	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 23.6		Intersection LOS: C	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71

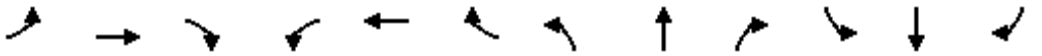




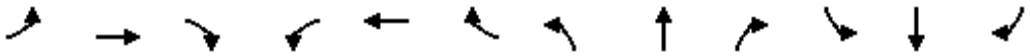
Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	45.0
Total Split (%)	32.1%
Maximum Green (s)	39.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	35.3
Actuated g/C Ratio	0.25
v/c Ratio	0.20
Control Delay	5.4
Queue Delay	0.0
Total Delay	5.4
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	31
Queue Length 95th (ft)	m46
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	572
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.19

Intersection Summary

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	465	1375	185	281	1061	51	246	515	437	57	300	447
Future Volume (vph)	465	1375	185	281	1061	51	246	515	437	57	300	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3382	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.147			0.453		
Satd. Flow (perm)	1703	3406	1524	1703	3382	0	263	3406	1524	812	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		3				323			405
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3463			372			1965	
Travel Time (s)		19.1			42.9			4.6			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	484	1432	193	293	1105	53	256	536	455	62	313	466
Shared Lane Traffic (%)												
Lane Group Flow (vph)	484	1432	193	293	1158	0	256	536	455	62	313	466
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



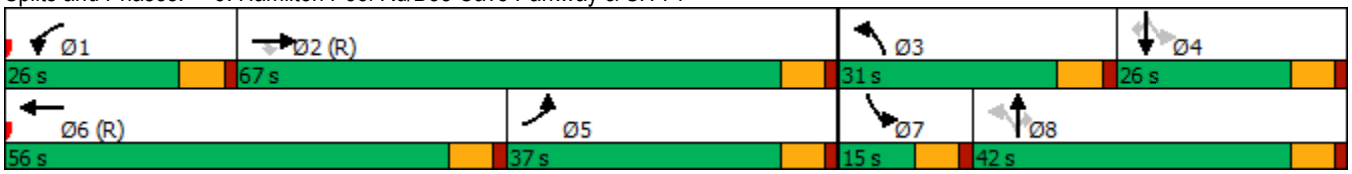
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	37.0	67.0	67.0	26.0	56.0		31.0	42.0	42.0	15.0	26.0	26.0
Total Split (%)	24.7%	44.7%	44.7%	17.3%	37.3%		20.7%	28.0%	28.0%	10.0%	17.3%	17.3%
Maximum Green (s)	30.5	60.5	60.5	19.5	49.5		24.5	35.5	35.5	8.5	19.5	19.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	30.5	63.3	63.3	19.5	52.3		47.7	36.4	36.4	26.6	19.5	19.5
Actuated g/C Ratio	0.20	0.42	0.42	0.13	0.35		0.32	0.24	0.24	0.18	0.13	0.13
v/c Ratio	1.40	1.00	0.26	1.33	0.98		0.88	0.65	0.74	0.33	1.35	0.85
Control Delay	238.9	65.9	6.0	222.4	69.9		71.9	55.7	23.1	42.1	230.0	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	238.9	65.9	6.0	222.4	69.9		71.9	55.7	23.1	42.1	230.0	25.2
LOS	F	E	A	F	E		E	E	C	D	F	C
Approach Delay		100.1			100.7			47.1			102.7	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~631	~778	10	~370	~604		199	252	123	42	~399	55
Queue Length 95th (ft)	#856	#935	62	#563	#780		#329	318	267	79	#595	#244
Internal Link Dist (ft)		1458			3383			292			1885	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	346	1436	744	221	1180		318	836	618	202	232	550
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.40	1.00	0.26	1.33	0.98		0.81	0.64	0.74	0.31	1.35	0.85

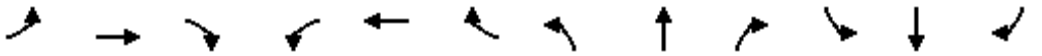
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 132 (88%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 89.0		Intersection LOS: F	
Intersection Capacity Utilization 107.8%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71





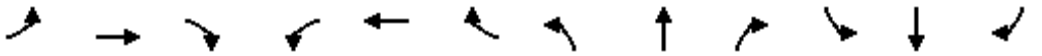
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	465	1375	185	281	1061	51	246	515	437	57	300	447
Future Volume (veh/h)	465	1375	185	281	1061	51	246	515	437	57	300	447
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	484	1432	0	293	1105	0	256	536	0	62	312	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	392	1471		224	1136		288	786		191	235	
Arrive On Green	0.23	0.43	0.00	0.13	0.33	0.00	0.14	0.23	0.00	0.04	0.13	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	484	1432	0	293	1105	0	256	536	0	62	312	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	34.1	61.2	0.0	19.5	47.5	0.0	18.8	21.4	0.0	4.6	19.5	0.0
Cycle Q Clear(g_c), s	34.1	61.2	0.0	19.5	47.5	0.0	18.8	21.4	0.0	4.6	19.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1471		224	1136		288	786		191	235	
V/C Ratio(X)	1.23	0.97		1.31	0.97		0.89	0.68		0.32	1.33	
Avail Cap(c_a), veh/h	392	1471		224	1136		330	814		218	235	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.76	0.76	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.9	42.1	0.0	65.3	49.6	0.0	46.9	52.9	0.0	53.6	65.3	0.0
Incr Delay (d2), s/veh	125.5	18.0	0.0	160.4	17.7	0.0	20.7	1.8	0.0	0.4	172.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	41.0	36.7	0.0	27.3	29.0	0.0	14.5	14.1	0.0	3.6	30.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	183.5	60.1	0.0	225.6	67.3	0.0	67.6	54.7	0.0	54.0	238.0	0.0
LnGrp LOS	F	E		F	E		E	D		D	F	
Approach Vol, veh/h		1916			1398			792			374	
Approach Delay, s/veh		91.2			100.5			58.9			207.5	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	70.6	27.4	26.0	40.6	56.0	12.6	40.7
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	19.5	60.5	24.5	19.5	30.5	49.5	8.5	35.5
Max Q Clear Time (g_c+I1), s	21.5	63.2	20.8	21.5	36.1	49.5	6.6	23.4
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	98.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

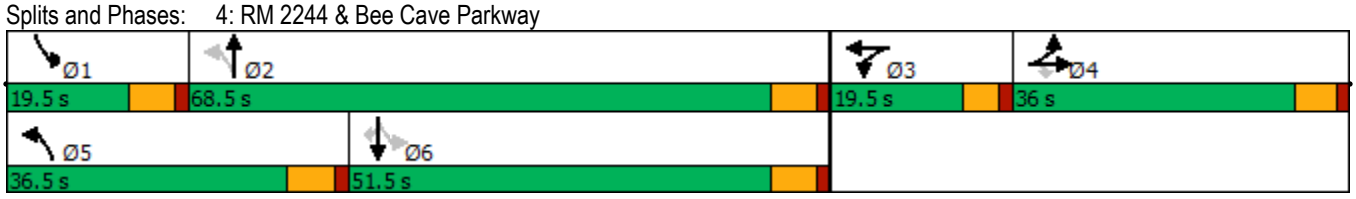


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	946	1	166	1	1	1	126	1030	7	5	658	773
Future Volume (vph)	946	1	166	1	1	1	126	1030	7	5	658	773
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected	0.950	0.952			0.984		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1750	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.984		0.201			0.153		
Satd. Flow (perm)	1681	1685	1583	0	1750	0	374	3536	0	285	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		1			1				822
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2187			246			1646			1175	
Travel Time (s)		33.1			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1006	1	177	1	1	1	134	1096	7	5	700	822
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	503	504	177	0	3	0	134	1103	0	5	700	822
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	68.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	47.7%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	62.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.7	30.7	30.7		5.2		39.4	37.6		28.2	23.1	23.1
Actuated g/C Ratio	0.36	0.36	0.36		0.06		0.47	0.44		0.33	0.27	0.27
v/c Ratio	0.82	0.82	0.26		0.03		0.40	0.70		0.03	0.72	0.80
Control Delay	40.3	40.3	6.2		40.7		16.6	22.5		13.4	32.7	8.8
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.3	40.3	6.2		40.7		16.6	22.5		13.4	32.7	8.8
LOS	D	D	A		D		B	C		B	C	A
Approach Delay		35.2			40.7			21.9			19.8	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	231	232	3		1		37	213		1	167	0
Queue Length 95th (ft)	#643	#644	58		11		82	427		8	274	108
Internal Link Dist (ft)		2107			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	610	611	681		297		682	2654		356	1927	1236
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.82	0.82	0.26		0.01		0.20	0.42		0.01	0.36	0.67

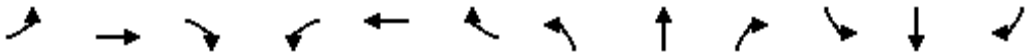
Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 84.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 81.6%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	534	312	60	33	299	590	40	1000	35	826	866	591
Future Volume (vph)	534	312	60	33	299	590	40	1000	35	826	866	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	255		0	165		0	245		385	400		400
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.985			0.966	0.850			0.850			0.850
Flt Protected	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (prot)	1648	3244	0	1811	1693	1539	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (perm)	1648	3244	0	1811	1693	1539	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9	113			108			609
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1601			1543			1100			741	
Travel Time (s)		24.3			23.4			13.6			9.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	551	322	62	34	308	608	41	1031	36	852	893	609
Shared Lane Traffic (%)	45%					15%						
Lane Group Flow (vph)	303	632	0	34	399	517	41	1031	36	852	893	609
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.3	10.3		13.0	13.0		11.1	21.5	21.5	13.5	31.5	31.5
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	23.7	23.7		15.5	15.5	60.5	6.2	38.9	38.9	38.9	73.8	73.8
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.53	0.53
v/c Ratio	1.09	1.14		0.17	2.05	0.71	0.55	1.06	0.07	0.90	0.48	0.52
Control Delay	150.5	150.2		58.8	517.3	31.2	100.3	88.9	0.4	38.5	7.3	2.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	150.5	150.2		58.8	517.3	31.2	100.3	88.9	0.4	38.5	7.3	2.0
LOS	F	F		E	F	C	F	F	A	D	A	A
Approach Delay		150.3			236.4			86.5			17.2	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)	~347	~375		29	~596	320	37	~535	1	390	188	52
Queue Length 95th (ft)	#560	#509		64	#818	470	m66	#677	m0	m359	m68	m17
Internal Link Dist (ft)		1521			1463			1020			661	
Turn Bay Length (ft)	255			165			245		385	400		400
Base Capacity (vph)	278	554		200	195	729	83	973	528	944	1848	1169
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	1.14		0.17	2.05	0.71	0.49	1.06	0.07	0.90	0.48	0.52

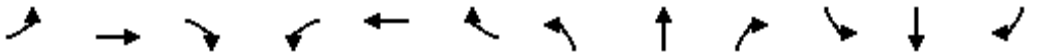
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.05			
Intersection Signal Delay: 93.8		Intersection LOS: F	
Intersection Capacity Utilization 115.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

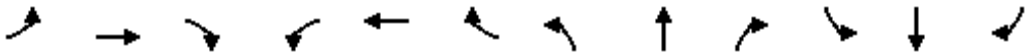
Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	2	112	3	1	1	144	1918	6	1	2214	130
Future Volume (vph)	185	2	112	3	1	1	144	1918	6	1	2214	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	10	12	12	11	14	12	12	14	12	12
Storage Length (ft)	0		95	0		85	100		0	100		0
Storage Lanes	1		1	0		1	1		0	1		0
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850					0.992	
Flt Protected	0.950	0.953			0.964		0.950			0.950		
Satd. Flow (prot)	1649	1544	1449	0	1761	1501	1851	3471	0	1851	3443	0
Flt Permitted	0.950	0.953			0.964		0.040			0.067		
Satd. Flow (perm)	1649	1544	1449	0	1761	1501	78	3471	0	131	3443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			114			104					7	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1108			471			788			1284	
Travel Time (s)		25.2			10.7			9.8			15.9	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	189	2	114	3	1	1	147	1957	6	1	2259	133
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	96	95	114	0	4	1	147	1963	0	1	2392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			12			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left			Left						Left	Thru	
Leading Detector (ft)	20	50	50	20	50	50	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	50	50	20	50	50	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	3	3	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.5	10.5	10.5	12.5	12.5	12.5	13.5	21.5		12.5	28.5	
Total Split (s)	20.0	20.0	20.0	15.0	15.0	15.0	18.0	90.0		15.0	87.0	
Total Split (%)	14.3%	14.3%	14.3%	10.7%	10.7%	10.7%	12.9%	64.3%		10.7%	62.1%	
Maximum Green (s)	14.5	14.5	14.5	9.5	9.5	9.5	13.1	84.0		10.1	81.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	12.9	12.9	12.9		5.2	5.2	114.5	111.4		105.6	99.5	
Actuated g/C Ratio	0.09	0.09	0.09		0.04	0.04	0.82	0.80		0.75	0.71	
v/c Ratio	0.64	0.67	0.48		0.06	0.01	0.84	0.71		0.01	0.98	
Control Delay	79.0	83.3	16.4		67.0	0.0	42.8	5.0		3.0	28.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	79.0	83.3	16.4		67.0	0.0	42.8	5.0		3.0	28.5	
LOS	E	F	B		E	A	D	A		A	C	
Approach Delay		56.9			53.6			7.6			28.5	
Approach LOS		E			D			A			C	
Queue Length 50th (ft)	90	89	0		4	0	85	154		0	1180	
Queue Length 95th (ft)	150	148	58		17	0	m93	m239		m0	m#1231	
Internal Link Dist (ft)		1028			391			708			1204	
Turn Bay Length (ft)			95			85	100			100		
Base Capacity (vph)	181	169	260		119	198	229	2761		227	2449	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.53	0.56	0.44		0.03	0.01	0.64	0.71		0.00	0.98	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 134 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 98.8%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

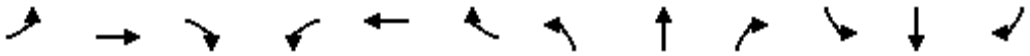
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	6	173	83	7	37	93	1890	13	20	2101	168
Future Volume (vph)	273	6	173	83	7	37	93	1890	13	20	2101	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	12	12	12	14	12	12	12	12	12
Storage Length (ft)	80		135	90		0	130		0	150		0
Storage Lanes	0		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.999			0.989	
Flt Protected	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (prot)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3466	0
Flt Permitted	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (perm)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			153		1			10	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		643			447			1366			1282	
Travel Time (s)		14.6			10.2			16.9			15.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	284	6	180	86	7	39	97	1969	14	21	2189	175
Shared Lane Traffic (%)	49%			46%								
Lane Group Flow (vph)	145	145	180	46	47	39	97	1983	0	21	2364	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			20			14			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left			Left				Thru		Left		
Leading Detector (ft)	20	100	50	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	50	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4						
Detector Phase	3	3	3	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.7	10.7	10.7	10.6	10.6	10.6	9.9	21.0		9.9	21.0	
Total Split (s)	24.0	24.0	24.0	15.0	15.0	15.0	15.0	88.0		13.0	86.0	
Total Split (%)	17.1%	17.1%	17.1%	10.7%	10.7%	10.7%	10.7%	62.9%		9.3%	61.4%	
Maximum Green (s)	18.3	18.3	18.3	9.4	9.4	9.4	10.1	82.0		8.1	80.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.8	15.8	15.8	7.8	7.8	7.8	10.1	94.6		5.7	86.3	
Actuated g/C Ratio	0.11	0.11	0.11	0.06	0.06	0.06	0.07	0.68		0.04	0.62	
v/c Ratio	0.80	0.77	0.59	0.50	0.51	0.17	0.72	0.84		0.30	1.11	
Control Delay	90.5	86.0	21.2	82.2	82.4	1.6	93.4	29.0		75.3	82.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	90.5	86.0	21.2	82.2	82.4	1.6	93.4	29.0		75.3	82.2	
LOS	F	F	C	F	F	A	F	C		E	F	
Approach Delay		62.6			58.4			32.0			82.1	
Approach LOS		E			E			C			F	
Queue Length 50th (ft)	135	135	23	43	44	0	91	815		19	~1339	
Queue Length 95th (ft)	#230	#217	100	89	90	0	m#133	#1086		48	#1497	
Internal Link Dist (ft)		563			367			1286			1202	
Turn Bay Length (ft)	80		135	90			130			150		
Base Capacity (vph)	210	218	330	111	112	248	134	2366		101	2139	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.67	0.55	0.41	0.42	0.16	0.72	0.84		0.21	1.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 69 (49%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 59.1		Intersection LOS: E	
Intersection Capacity Utilization 96.8%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



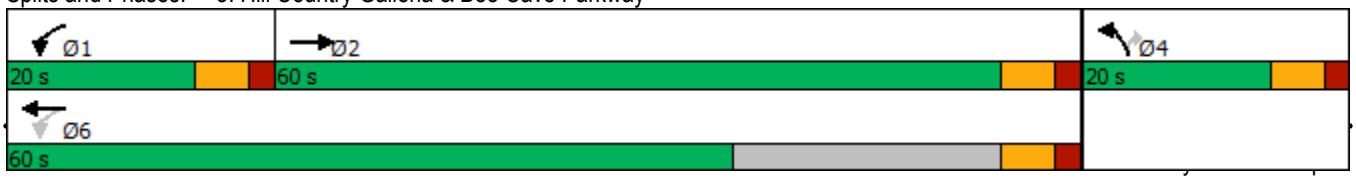
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1014	81	45	884	45	23
Future Volume (vph)	1014	81	45	884	45	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3500	0	1770	3539	1770	1583
Flt Permitted			0.134		0.950	
Satd. Flow (perm)	3500	0	250	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13					27
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1193	95	53	1040	53	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1288	0	53	1040	53	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	20.0	20.0	20.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	40.0		44.3	46.6	8.0	8.0
Actuated g/C Ratio	0.65		0.72	0.76	0.13	0.13
v/c Ratio	0.56		0.15	0.39	0.23	0.12
Control Delay	10.9		4.2	4.4	31.3	13.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	10.9		4.2	4.4	31.3	13.8
LOS	B		A	A	C	B
Approach Delay	10.9			4.4	25.4	
Approach LOS	B			A	C	
Queue Length 50th (ft)	188		5	72	18	0
Queue Length 95th (ft)	260		14	109	54	20
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2948		561	3474	443	416
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.44		0.09	0.30	0.12	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 61.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway

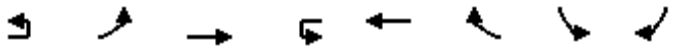




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1014	81	45	884	45	23
Future Volume (veh/h)	1014	81	45	884	45	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1193	95	53	1040	53	27
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1722	137	344	2452	120	107
Arrive On Green	0.52	0.52	0.05	0.69	0.07	0.07
Sat Flow, veh/h	3428	265	1781	3647	1781	1585
Grp Volume(v), veh/h	635	653	53	1040	53	27
Grp Sat Flow(s),veh/h/ln	1777	1823	1781	1777	1781	1585
Q Serve(g_s), s	13.3	13.4	0.6	6.3	1.4	0.8
Cycle Q Clear(g_c), s	13.3	13.4	0.6	6.3	1.4	0.8
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	917	941	344	2452	120	107
V/C Ratio(X)	0.69	0.69	0.15	0.42	0.44	0.25
Avail Cap(c_a), veh/h	1940	1990	755	3880	504	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	9.0	6.6	3.4	22.2	21.9
Incr Delay (d2), s/veh	0.9	0.9	0.2	0.1	2.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	6.1	0.2	1.0	1.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.9	9.9	6.8	3.5	24.7	23.1
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	1288			1093	80	
Approach Delay, s/veh	9.9			3.6	24.2	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.6	31.5		9.3		40.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.6	15.4		3.4		8.3
Green Ext Time (p_c), s	0.1	10.2		0.1		8.5

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	72	934	0	729	27	25	88
Future Volume (vph)	1	72	934	0	729	27	25	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950					0.950	
Satd. Flow (prot)	0	1736	3471	1863	3454	0	1736	1553
Flt Permitted		0.950					0.950	
Satd. Flow (perm)	0	1736	3471	1863	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1965		2056		877	
Travel Time (s)			29.8		31.2		19.9	
Peak Hour Factor	0.91	0.91	0.91	0.89	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	2%	4%	4%	4%	4%
Adj. Flow (vph)	1	79	1026	0	801	30	27	97
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	80	1026	0	831	0	27	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.7

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	72	934	0	729	27	25	88
Future Vol, veh/h	1	72	934	0	729	27	25	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	89	91	91	91	91
Heavy Vehicles, %	4	4	4	2	4	4	4	4
Mvmt Flow	1	79	1026	0	801	30	27	97

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	831	831	0	1026	-	0	1489	416
Stage 1	-	-	-	-	-	-	816	-
Stage 2	-	-	-	-	-	-	673	-
Critical Hdwy	6.48	4.18	-	6.44	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.54	2.24	-	2.52	-	-	3.54	3.34
Pot Cap-1 Maneuver	420	784	-	319	-	-	113	580
Stage 1	-	-	-	-	-	-	390	-
Stage 2	-	-	-	-	-	-	463	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	771	771	-	319	-	-	101	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	-
Stage 1	-	-	-	-	-	-	349	-
Stage 2	-	-	-	-	-	-	463	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	771	-	319	-	-	101	580
HCM Lane V/C Ratio	0.104	-	-	-	-	0.272	0.167
HCM Control Delay (s)	10.2	-	0	-	-	53.5	12.4
HCM Lane LOS	B	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	0	-	-	1	0.6

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	63	829	75	181	707	1	36	11	103	1	20
Future Volume (vph)	1	63	829	75	181	707	1	36	11	103	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		210		235	240		0	0		0	0	
Storage Lanes		1		1	1		0	0		1	0	
Taper Length (ft)		110			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		
Flt Protected		0.950			0.950				0.963			0.998
Satd. Flow (prot)	0	1770	3539	1583	1770	3539	0	0	1794	1583	0	1859
Flt Permitted		0.360			0.275				0.963			0.275
Satd. Flow (perm)	0	671	3539	1583	512	3539	0	0	1794	1583	0	512
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				210						164		
Link Speed (mph)			45			45			30			30
Link Distance (ft)			2056			1601			276			1044
Travel Time (s)			31.2			24.3			6.3			23.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	66	864	78	189	736	1	38	11	107	1	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	864	78	189	737	0	0	49	107	0	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			13			13			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2	1	1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	pm+pt	pm+pt	NA	Free	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases	5	5	2		1	6		8	8	8		4
Permitted Phases	2	2		Free	6						4	



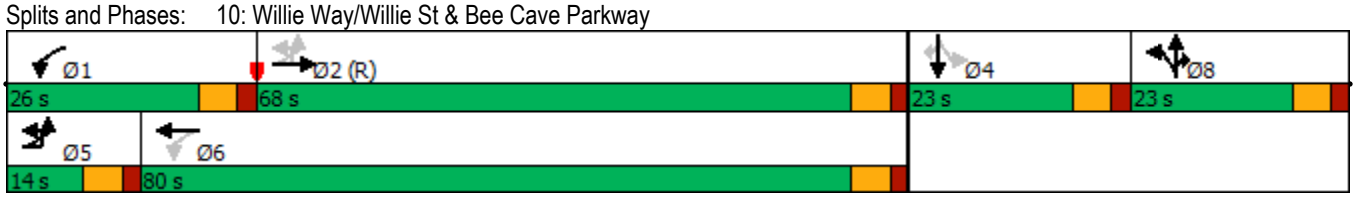
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	36
Future Volume (vph)	36
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	38
Shared Lane Traffic (%)	
Lane Group Flow (vph)	38
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	5	2		1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	22.0		10.0	22.0		22.0	22.0	22.0	22.0	22.0
Total Split (s)	14.0	14.0	68.0		26.0	80.0		23.0	23.0	23.0	23.0	23.0
Total Split (%)	10.0%	10.0%	48.6%		18.6%	57.1%		16.4%	16.4%	16.4%	16.4%	16.4%
Maximum Green (s)	8.0	8.0	62.0		20.0	74.0		17.0	17.0	17.0	17.0	17.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		None	Max		None	None	None	None	None
Act Effct Green (s)		97.6	90.6	140.0	104.3	95.8			9.2	9.2		8.7
Actuated g/C Ratio		0.70	0.65	1.00	0.74	0.68			0.07	0.07		0.06
v/c Ratio		0.13	0.38	0.05	0.40	0.30			0.42	0.42		0.71
Control Delay		6.5	13.6	0.1	6.3	11.0			72.6	6.0		139.6
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		6.5	13.6	0.1	6.3	11.0			72.6	6.0		139.6
LOS		A	B	A	A	B			E	A		F
Approach Delay			12.1			10.1			26.9			52.3
Approach LOS			B			B			C			D
Queue Length 50th (ft)		14	189	0	40	102			44	0		21
Queue Length 95th (ft)		34	288	0	m69	m242			85	9		m34
Internal Link Dist (ft)			1976			1521			196			964
Turn Bay Length (ft)		210		235	240							
Base Capacity (vph)		536	2289	1583	568	2420			217	336		62
Starvation Cap Reductn		0	0	0	0	0			0	0		0
Spillback Cap Reductn		0	0	0	0	0			0	0		0
Storage Cap Reductn		0	0	0	0	0			0	0		0
Reduced v/c Ratio		0.13	0.38	0.05	0.33	0.30			0.23	0.32		0.35

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 14 (10%), Referenced to phase 2:EBTL, Start of 1st Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 57.2% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway





Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	22.0
Total Split (s)	23.0
Total Split (%)	16.4%
Maximum Green (s)	17.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	8.7
Actuated g/C Ratio	0.06
v/c Ratio	0.15
Control Delay	1.7
Queue Delay	0.0
Total Delay	1.7
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	1
Queue Length 95th (ft)	m2
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	336
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11

Intersection Summary



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	63	829	75	181	707	1	36	11	103	1	20
Future Volume (veh/h)	1	63	829	75	181	707	1	36	11	103	1	20
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		66	864	0	189	736	1	38	11	107	1	21
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		574	2343		496	2494	3	115	33	130	3	62
Arrive On Green		0.03	0.66	0.00	0.07	0.91	0.91	0.08	0.08	0.08	0.03	0.03
Sat Flow, veh/h		1781	3554	1585	1781	3641	5	1396	404	1585	85	1781
Grp Volume(v), veh/h		66	864	0	189	359	378	49	0	107	22	0
Grp Sat Flow(s),veh/h/ln		1781	1777	1585	1781	1777	1869	1801	0	1585	1866	0
Q Serve(g_s), s		1.7	15.3	0.0	4.9	3.4	3.4	3.6	0.0	9.3	1.6	0.0
Cycle Q Clear(g_c), s		1.7	15.3	0.0	4.9	3.4	3.4	3.6	0.0	9.3	1.6	0.0
Prop In Lane		1.00		1.00	1.00		0.00	0.78		1.00	0.05	
Lane Grp Cap(c), veh/h		574	2343		496	1217	1280	148	0	130	65	0
V/C Ratio(X)		0.12	0.37		0.38	0.30	0.30	0.33	0.00	0.82	0.34	0.00
Avail Cap(c_a), veh/h		628	2343		658	1217	1280	219	0	192	227	0
HCM Platoon Ratio		1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		7.2	10.7	0.0	7.6	2.1	2.1	60.6	0.0	63.2	66.0	0.0
Incr Delay (d2), s/veh		0.1	0.4	0.0	0.0	0.1	0.1	1.3	0.0	16.0	3.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		1.1	9.6	0.0	2.2	1.4	1.5	3.1	0.0	7.8	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		7.3	11.2	0.0	7.6	2.2	2.2	61.9	0.0	79.2	69.0	0.0
LnGrp LOS		A	B		A	A	A	E	A	E	E	A
Approach Vol, veh/h			930			926			156			60
Approach Delay, s/veh			10.9			3.3			73.8			76.4
Approach LOS			B			A			E			E

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	98.3		10.9	9.7	101.9		17.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	20.0	62.0		17.0	8.0	74.0		17.0				
Max Q Clear Time (g_c+I1), s	6.9	17.3		5.3	3.7	5.4		11.3				
Green Ext Time (p_c), s	0.4	6.5		0.1	0.0	4.6		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

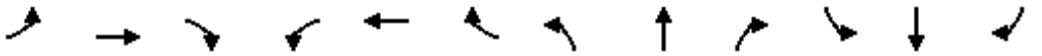
Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	38
Peak Hour Factor	0.96
Percent Heavy Veh, %	2
Cap, veh/h	55
Arrive On Green	0.03
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	38
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	3.3
Cycle Q Clear(g_c), s	3.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	55
V/C Ratio(X)	0.69
Avail Cap(c_a), veh/h	192
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	66.8
Incr Delay (d2), s/veh	13.9
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	80.7
LnGrp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



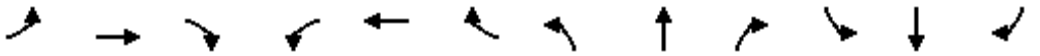
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			117		26			22	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3463			2041			591			432	
Travel Time (s)		42.9			25.3			13.4			9.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1939	47	26	1627	103	14	1	26	59	1	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1939	47	26	1627	103	14	27	0	59	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	22.0		10.0	22.0	
Total Split (s)	15.0	92.0	92.0	15.0	92.0	92.0	17.0	17.0		16.0	16.0	
Total Split (%)	10.7%	65.7%	65.7%	10.7%	65.7%	65.7%	12.1%	12.1%		11.4%	11.4%	
Maximum Green (s)	9.0	86.0	86.0	9.0	86.0	86.0	11.0	11.0		10.0	10.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	7.2	91.9	91.9	7.2	91.9	91.9	6.1	6.3		7.6	10.0	
Actuated g/C Ratio	0.06	0.75	0.75	0.06	0.75	0.75	0.05	0.05		0.06	0.08	
v/c Ratio	0.25	0.73	0.04	0.25	0.61	0.08	0.08	0.25		0.28	0.15	
Control Delay	65.3	16.1	0.1	65.3	12.8	1.4	62.1	28.0		61.6	25.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	65.3	16.1	0.1	65.3	12.8	1.4	62.1	28.0		61.6	25.2	
LOS	E	B	A	E	B	A	E	C		E	C	
Approach Delay		16.3			12.9			39.7			51.4	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	22	602	0	22	423	0	6	1		25	1	
Queue Length 95th (ft)	54	831	0	54	584	17	18	33		50	30	
Internal Link Dist (ft)		3383			1961			511			352	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	131	2656	1217	131	2656	1217	312	168		283	176	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.20	0.73	0.04	0.20	0.61	0.08	0.04	0.16		0.21	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 122.5			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 11: SH 71 & Willie Way

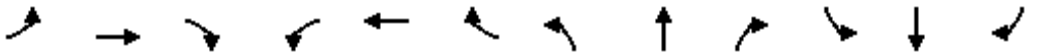




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1939	47	26	1627	103	14	1	26	59	1	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2561	1142	34	2561	1142	43	2	46	101	3	71
Arrive On Green	0.02	0.72	0.72	0.02	0.72	0.72	0.01	0.03	0.03	0.03	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	69	1526
Grp Volume(v), veh/h	26	1939	47	26	1627	103	14	0	27	59	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1596
Q Serve(g_s), s	1.7	40.0	1.0	1.7	28.2	2.3	0.5	0.0	2.0	2.0	0.0	1.7
Cycle Q Clear(g_c), s	1.7	40.0	1.0	1.7	28.2	2.3	0.5	0.0	2.0	2.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.96
Lane Grp Cap(c), veh/h	34	2561	1142	34	2561	1142	43	0	47	101	0	74
V/C Ratio(X)	0.75	0.76	0.04	0.75	0.64	0.09	0.33	0.00	0.57	0.58	0.00	0.31
Avail Cap(c_a), veh/h	134	2561	1142	134	2561	1142	319	0	147	290	0	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.2	10.3	4.8	58.2	8.6	5.0	58.4	0.0	57.1	57.2	0.0	55.0
Incr Delay (d2), s/veh	27.6	2.1	0.1	27.6	1.2	0.2	4.3	0.0	10.4	5.3	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	17.7	0.6	1.8	13.0	1.4	0.4	0.0	1.7	1.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	12.4	4.9	85.9	9.8	5.1	62.7	0.0	67.5	62.5	0.0	57.4
LnGrp LOS	F	B	A	F	A	A	E	A	E	E	A	E
Approach Vol, veh/h		2012			1756			41			82	
Approach Delay, s/veh		13.2			10.7			65.9			61.0	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	92.0	7.5	11.5	8.3	92.0	9.5	9.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	86.0	11.0	10.0	9.0	86.0	10.0	11.0
Max Q Clear Time (g_c+I1), s	3.7	42.0	2.5	3.7	3.7	30.2	4.0	4.0
Green Ext Time (p_c), s	0.0	22.0	0.0	0.0	0.0	17.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1136	36	51	921	1	1	1	1	1	1	1
Future Volume (vph)	1	1136	36	51	921	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		75	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995							0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3522	0	1770	3539	0	1770	0	1583	0	1750	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3522	0	1770	3539	0	1770	0	1583	0	1750	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		343			1183			150			90	
Travel Time (s)		5.2			17.9			3.4			2.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1235	39	55	1001	1	1	1	1	1	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1274	0	55	1002	0	1	1	1	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1136	36	51	921	1	1	1	1	1	1	1
Future Vol, veh/h	1	1136	36	51	921	1	1	1	1	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1235	39	55	1001	1	1	1	1	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1002	0	0	1274	0	0	1868	2369	637	1732	2388	501
Stage 1	-	-	-	-	-	-	1257	1257	-	1112	1112	-
Stage 2	-	-	-	-	-	-	611	1112	-	620	1276	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	687	-	-	541	-	-	45	34	420	56	34	515
Stage 1	-	-	-	-	-	-	181	241	-	223	282	-
Stage 2	-	-	-	-	-	-	448	282	-	442	236	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	687	-	-	541	-	-	40	30	420	50	30	515
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	30	-	50	30	-
Stage 1	-	-	-	-	-	-	181	241	-	223	253	-
Stage 2	-	-	-	-	-	-	400	253	-	438	236	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	55.6	75.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	40	420	687	-	-	541	-	-	54
HCM Lane V/C Ratio	0.027	0.003	0.002	-	-	0.102	-	-	0.06
HCM Control Delay (s)	97.5	13.6	10.2	-	-	12.4	-	-	75.9
HCM Lane LOS	F	B	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0.3	-	-	0.2



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	991	54	46	932	14	81
Future Volume (vph)	991	54	46	932	14	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3511	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2187	728	
Travel Time (s)	12.5			33.1	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1113	61	52	1047	16	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1174	0	52	1047	16	91
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	991	54	46	932	14	81
Future Vol, veh/h	991	54	46	932	14	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1113	61	52	1047	16	91

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1174	0	1772	587
Stage 1	-	-	-	-	1144	-
Stage 2	-	-	-	-	628	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	591	-	74	453
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	591	-	67	453
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	451	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	23.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	67	453	-	-	591	-
HCM Lane V/C Ratio	0.235	0.201	-	-	0.087	-
HCM Control Delay (s)	74.5	14.9	-	-	11.7	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	0.8	0.7	-	-	0.3	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1062	59	12	924	31	13
Future Volume (vph)	1062	59	12	924	31	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3511	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	1183			1258	738	
Travel Time (s)	17.9			19.1	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1249	69	14	1087	36	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1318	0	14	1087	36	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	20	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1062	59	12	924	31	13
Future Vol, veh/h	1062	59	12	924	31	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1249	69	14	1087	36	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1318	0	1856	659
Stage 1	-	-	-	-	1284	-
Stage 2	-	-	-	-	572	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	520	-	65	406
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	520	-	63	406
Mov Cap-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	90.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	63	406	-	-	520	-
HCM Lane V/C Ratio	0.579	0.038	-	-	0.027	-
HCM Control Delay (s)	121.9	14.2	-	-	12.1	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	2.4	0.1	-	-	0.1	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	89	20	38	67	11	66
Future Volume (vph)	89	20	38	67	11	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1852	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1852	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	439			436	1044	
Travel Time (s)	10.0			9.9	23.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	98	22	42	74	12	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	42	74	12	73
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

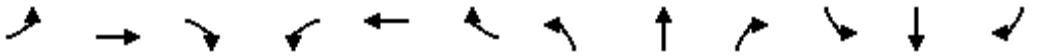
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	20	38	67	11	66
Future Vol, veh/h	89	20	38	67	11	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	22	42	74	12	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	120	0	267	109
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1480	-	727	950
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1480	-	707	950
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	950	-	-	1480	-
HCM Lane V/C Ratio	0.017	0.076	-	-	0.028	-
HCM Control Delay (s)	10.2	9.1	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-

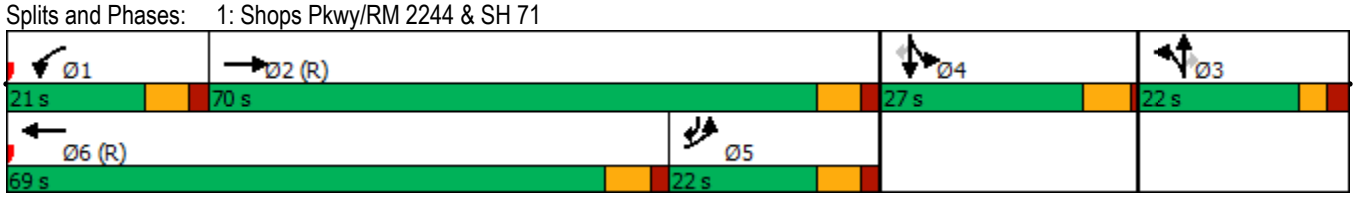


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1884	232	407	2388	30	36	89	136	509	96	655
Future Volume (vph)	128	1884	232	407	2388	30	36	89	136	509	96	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.984			0.998				0.850			0.850
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	3335	4861	0	1719	4930	0	0	3390	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.986		0.950		
Satd. Flow (perm)	3335	4861	0	1719	4930	0	0	3390	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			2				180			292
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3236			1846			605			1646	
Travel Time (s)		44.1			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	133	1963	242	424	2488	31	38	93	142	530	100	682
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	133	2205	0	424	2519	0	0	131	142	530	100	682
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	26.0		13.5	26.0		12.5	12.5	12.5	13.0	13.0	13.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	70.0		21.0	69.0		22.0	22.0	22.0	27.0	27.0	22.0
Total Split (%)	15.7%	50.0%		15.0%	49.3%		15.7%	15.7%	15.7%	19.3%	19.3%	15.7%
Maximum Green (s)	15.3	63.3		14.3	62.3		16.5	16.5	16.5	21.0	21.0	15.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	15.3	63.3		21.0	69.0			9.8	9.8	21.0	21.0	42.3
Actuated g/C Ratio	0.11	0.45		0.15	0.49			0.07	0.07	0.15	0.15	0.30
v/c Ratio	0.37	1.00		1.65	1.04			0.55	0.52	2.17	0.39	0.67
Control Delay	49.5	34.0		344.3	63.4			71.6	10.1	568.3	58.8	27.2
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	49.5	34.0		344.3	63.4			71.6	10.1	568.3	58.8	27.2
LOS	D	C		F	E			E	B	F	E	C
Approach Delay		34.9			103.9			39.6			248.2	
Approach LOS		C			F			D			F	
Queue Length 50th (ft)	54	428		~558	~902			62	0	~810	87	179
Queue Length 95th (ft)	m51	m372		#804	#1028			95	32	#1049	150	257
Internal Link Dist (ft)		3156			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	364	2208		257	2430			399	340	244	257	1021
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.37	1.00		1.65	1.04			0.33	0.42	2.17	0.39	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 131 (94%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.17			
Intersection Signal Delay: 105.4		Intersection LOS: F	
Intersection Capacity Utilization 103.6%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	164	1687	179	5	28	2054	729	191	141	47	995	297
Future Volume (vph)	164	1687	179	5	28	2054	729	191	141	47	995	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.986					0.850		0.972			
Flt Protected	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (prot)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (perm)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		15					624		15			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		813				3236			676			1221
Travel Time (s)		10.1				44.1			18.4			15.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	174	1795	190	5	30	2185	776	203	150	50	1059	316
Shared Lane Traffic (%)								34%				
Lane Group Flow (vph)	174	1985	0	0	35	2185	776	134	269	0	1059	316
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1794
Flt Permitted	
Satd. Flow (perm)	1794
Right Turn on Red	Yes
Satd. Flow (RTOR)	157
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	2%
Adj. Flow (vph)	229
Shared Lane Traffic (%)	
Lane Group Flow (vph)	229
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	13.5	21.7		13.5	13.5	21.7		11.0	11.0		14.0	14.0
Total Split (s)	15.0	62.0		17.0	17.0	64.0		23.0	23.0		38.0	38.0
Total Split (%)	10.7%	44.3%		12.1%	12.1%	45.7%		16.4%	16.4%		27.1%	27.1%
Maximum Green (s)	9.1	56.1		11.1	11.1	58.1		17.5	17.5		32.0	32.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	8.8	59.5			9.9	58.4	140.0	15.3	15.3		34.2	34.2
Actuated g/C Ratio	0.06	0.42			0.07	0.42	1.00	0.11	0.11		0.24	0.24
v/c Ratio	0.83	0.96			0.29	1.06	0.46	0.79	0.75		1.30	0.71
Control Delay	96.6	51.6			59.0	64.9	0.3	90.3	70.4		172.3	38.4
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	96.6	51.6			59.0	64.9	0.3	90.3	70.4		172.3	38.4
LOS	F	D			E	E	A	F	E		F	D
Approach Delay		55.2				48.1			77.1			123.5
Approach LOS		E				D			E			F
Queue Length 50th (ft)	82	~619			28	~790	0	130	124		~668	297
Queue Length 95th (ft)	#144	#770			m31	m#768	m0	#228	175		m#775	m347
Internal Link Dist (ft)		733				3156			596			1141
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	216	2078			136	2061	1692	195	408		815	442
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.81	0.96			0.26	1.06	0.46	0.69	0.66		1.30	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.30			
Intersection Signal Delay: 68.7		Intersection LOS: E	
Intersection Capacity Utilization 99.5%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

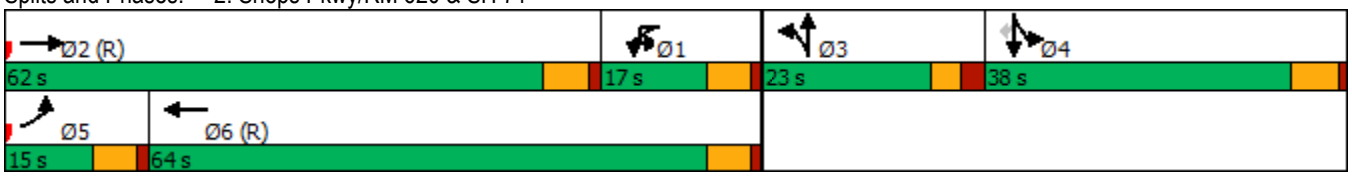


Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	14.0
Total Split (s)	38.0
Total Split (%)	27.1%
Maximum Green (s)	32.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	34.2
Actuated g/C Ratio	0.24
v/c Ratio	0.41
Control Delay	15.0
Queue Delay	0.0
Total Delay	15.0
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	113
Queue Length 95th (ft)	m129
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	557
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	465	1226	277	583	1513	43	225	367	460	45	490	657
Future Volume (vph)	465	1226	277	583	1513	43	225	367	460	45	490	657
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3392	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.099			0.525		
Satd. Flow (perm)	1703	3406	1524	1703	3392	0	177	3406	1524	941	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		2				478			339
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3446			343			1965	
Travel Time (s)		19.1			42.7			4.3			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	484	1277	289	607	1576	45	234	382	479	47	510	684
Shared Lane Traffic (%)												
Lane Group Flow (vph)	484	1277	289	607	1621	0	234	382	479	47	510	684
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	

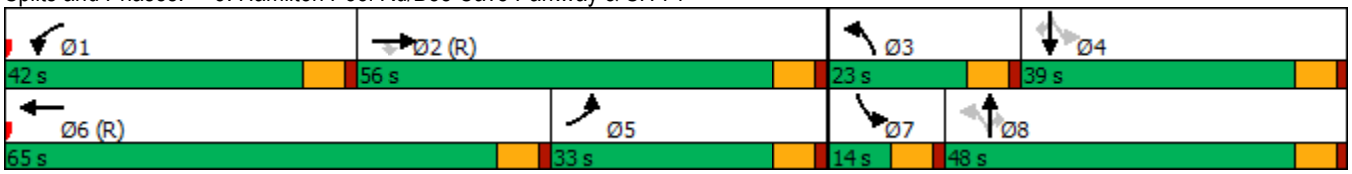
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	33.0	56.0	56.0	42.0	65.0		23.0	48.0	48.0	14.0	39.0	39.0
Total Split (%)	20.6%	35.0%	35.0%	26.3%	40.6%		14.4%	30.0%	30.0%	8.8%	24.4%	24.4%
Maximum Green (s)	26.5	49.5	49.5	35.5	58.5		16.5	41.5	41.5	7.5	32.5	32.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	26.5	49.5	49.5	35.5	58.5		55.5	45.0	45.0	38.8	32.5	32.5
Actuated g/C Ratio	0.17	0.31	0.31	0.22	0.37		0.35	0.28	0.28	0.24	0.20	0.20
v/c Ratio	1.72	1.21	0.49	1.61	1.31		1.07	0.40	0.62	0.18	1.40	1.18
Control Delay	374.2	150.9	21.3	324.7	184.2		124.8	49.0	7.7	37.9	241.1	124.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	374.2	150.9	21.3	324.7	184.2		124.8	49.0	7.7	37.9	241.1	124.9
LOS	F	F	C	F	F		F	D	A	D	F	F
Approach Delay		185.3			222.5			47.1			169.4	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~743	~855	101	~906	~1145		~223	175	1	33	~711	~557
Queue Length 95th (ft)	#973	#995	197	#1149	#1285		#407	231	104	65	#943	#809
Internal Link Dist (ft)		1458			3366			263			1885	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	282	1053	586	377	1241		218	957	771	270	364	579
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.72	1.21	0.49	1.61	1.31		1.07	0.40	0.62	0.17	1.40	1.18

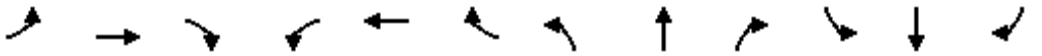
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 101 (63%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.72			
Intersection Signal Delay: 172.0		Intersection LOS: F	
Intersection Capacity Utilization 128.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	465	1226	277	583	1513	43	225	367	460	45	490	657
Future Volume (veh/h)	465	1226	277	583	1513	43	225	367	460	45	490	657
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	484	1277	0	607	1576	0	234	382	0	47	510	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	286	1065		383	1258		223	951		277	368	
Arrive On Green	0.17	0.31	0.00	0.22	0.37	0.00	0.10	0.28	0.00	0.03	0.20	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	484	1277	0	607	1576	0	234	382	0	47	510	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	26.5	49.5	0.0	35.5	58.5	0.0	16.5	14.5	0.0	3.4	32.5	0.0
Cycle Q Clear(g_c), s	26.5	49.5	0.0	35.5	58.5	0.0	16.5	14.5	0.0	3.4	32.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	1065		383	1258		223	951		277	368	
V/C Ratio(X)	1.69	1.20		1.59	1.25		1.05	0.40		0.17	1.39	
Avail Cap(c_a), veh/h	286	1065		383	1258		223	951		306	368	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.21	0.21	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.8	55.3	0.0	62.3	50.7	0.0	48.1	47.1	0.0	48.4	63.8	0.0
Incr Delay (d2), s/veh	327.1	99.0	0.0	266.4	115.2	0.0	74.0	0.1	0.0	0.1	189.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	57.7	50.3	0.0	60.6	57.5	0.0	17.1	10.1	0.0	2.7	51.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	393.8	154.3	0.0	328.6	165.9	0.0	122.1	47.2	0.0	48.5	253.7	0.0
LnGrp LOS	F	F		F	F		F	D		D	F	
Approach Vol, veh/h		1761			2183			616			557	
Approach Delay, s/veh		220.1			211.2			75.7			236.4	
Approach LOS		F			F			E			F	

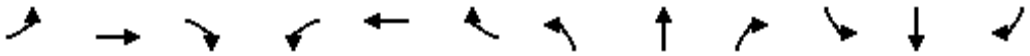
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	56.0	23.0	39.0	33.0	65.0	11.3	50.7
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	35.5	49.5	16.5	32.5	26.5	58.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	37.5	51.5	18.5	34.5	28.5	60.5	5.4	16.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	200.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	839	1	370	11	1	2	210	663	6	4	1180	1101
Future Volume (vph)	839	1	370	11	1	2	210	663	6	4	1180	1101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.982			0.999				0.850
Flt Protected	0.950	0.952			0.962		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1760	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.962		0.070			0.381		
Satd. Flow (perm)	1681	1685	1583	0	1760	0	130	3536	0	710	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			307		2			1				712
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2187			246			1646			1175	
Travel Time (s)		33.1			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	893	1	394	12	1	2	223	705	6	4	1255	1171
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	446	448	394	0	15	0	223	711	0	4	1255	1171
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6



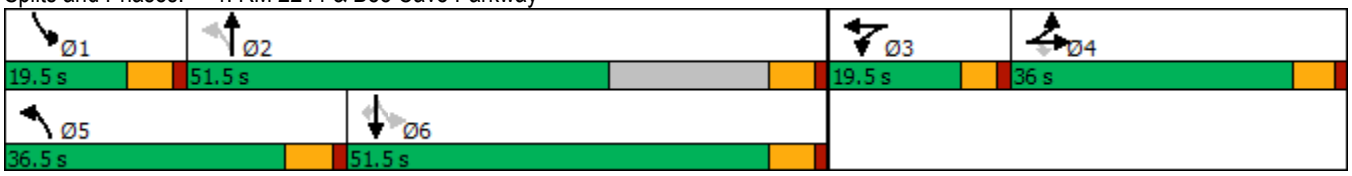
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	51.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	35.9%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	45.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.3	30.3	30.3		5.7		70.6	68.5		50.4	45.4	45.4
Actuated g/C Ratio	0.26	0.26	0.26		0.05		0.60	0.58		0.43	0.39	0.39
v/c Ratio	1.03	1.04	0.62		0.17		0.66	0.35		0.01	0.92	1.12
Control Delay	96.2	96.7	14.9		57.5		36.9	14.6		13.8	47.5	81.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	96.2	96.7	14.9		57.5		36.9	14.6		13.8	47.5	81.4
LOS	F	F	B		E		D	B		B	D	F
Approach Delay		71.5			57.5			19.9			63.8	
Approach LOS		E			E			B			E	
Queue Length 50th (ft)	337	340	49		9		103	118		1	435	~634
Queue Length 95th (ft)	#708	#713	182		35		212	246		7	#762	#1036
Internal Link Dist (ft)		2107			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	431	432	634		212		499	2057		470	1363	1047
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	1.03	1.04	0.62		0.07		0.45	0.35		0.01	0.92	1.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 117.8			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 99.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	456	362	104	21	472	833	137	844	36	693	1337
Future Volume (vph)	2	456	362	104	21	472	833	137	844	36	693	1337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		255		0	165		0	245		385	400	
Storage Lanes		1		0	1		1	1		1	2	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95
Frt			0.977			0.969	0.850			0.850		
Flt Protected		0.950	0.985		0.950			0.950			0.950	
Satd. Flow (prot)	0	1648	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Flt Permitted		0.419	0.985		0.950			0.950			0.950	
Satd. Flow (perm)	0	727	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			11			8	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			1463			1100			741
Travel Time (s)			23.7			22.2			13.6			9.2
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	470	373	107	22	487	859	141	870	37	714	1378
Shared Lane Traffic (%)		45%					15%					
Lane Group Flow (vph)	0	260	692	0	22	616	730	141	870	37	714	1378
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	666
Future Volume (vph)	666
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	400
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	369
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	687
Shared Lane Traffic (%)	
Lane Group Flow (vph)	687
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3	3 1	5	2		1	6
Permitted Phases	4									2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.3	10.3	10.3		13.0	13.0		13.5	21.5	21.5	13.5	31.5
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	52.0	52.0	34.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	37.1%	37.1%	24.3%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	45.9	45.9	27.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)												7.0
Flash Dont Walk (s)												18.0
Pedestrian Calls (#/hr)												0
Act Effct Green (s)		16.7	16.7		26.5	26.5	60.5	8.9	45.9	45.9	27.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.43	0.06	0.33	0.33	0.20	0.46
v/c Ratio		3.02	1.75		0.06	1.88	1.00	1.32	0.76	0.06	1.05	0.85
Control Delay		960.3	387.1		47.3	439.6	67.3	231.1	44.8	0.9	69.6	21.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		960.3	387.1		47.3	439.6	67.3	231.1	44.8	0.9	69.6	21.0
LOS		F	F		D	F	E	F	D	A	E	C
Approach Delay			543.7			234.6			68.4			29.4
Approach LOS			F			F			E			C
Queue Length 50th (ft)		~462	~521		17	~901	~623	~167	381	0	~360	407
Queue Length 95th (ft)		#665	#658		42	#1152	#923	m#299	449	m4	m260	m253
Internal Link Dist (ft)			1487			1383			1020			661
Turn Bay Length (ft)		255			165			245		385	400	
Base Capacity (vph)		86	395		342	327	729	107	1149	603	677	1624
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		3.02	1.75		0.06	1.88	1.00	1.32	0.76	0.06	1.05	0.85

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 3.02			
Intersection Signal Delay: 161.4		Intersection LOS: F	
Intersection Capacity Utilization 127.5%		ICU Level of Service H	



Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	31.5
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	18.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.71
Control Delay	4.5
Queue Delay	0.0
Total Delay	4.5
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	80
Queue Length 95th (ft)	m62
Internal Link Dist (ft)	
Turn Bay Length (ft)	400
Base Capacity (vph)	973
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.71

Intersection Summary

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	267	1	130	2	2	1	147	1976	1	1	2467
Future Volume (vph)	1	267	1	130	2	2	1	147	1976	1	1	2467
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	12	12	11	14	12	12	14	12
Storage Length (ft)		0		95	0		85	100		0	100	
Storage Lanes		1		1	0		1	1		0	1	
Taper Length (ft)		25			25			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850					0.990
Flt Protected		0.950	0.953			0.976		0.950			0.950	
Satd. Flow (prot)	0	1649	1544	1449	0	1783	1501	1851	3471	0	1851	3436
Flt Permitted		0.755	0.953			0.976		0.045			0.047	
Satd. Flow (perm)	0	1310	1544	1449	0	1783	1501	88	3471	0	92	3436
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				143			143					9
Link Speed (mph)			30			30			55			55
Link Distance (ft)			1137			471			788			1284
Travel Time (s)			25.8			10.7			9.8			15.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	272	1	133	2	2	1	150	2016	1	1	2517
Shared Lane Traffic (%)		50%										
Lane Group Flow (vph)	0	137	137	133	0	4	1	150	2017	0	1	2696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			10			12			14			14
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left			Left						Left	Thru
Leading Detector (ft)	20	20	50	50	20	50	50	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	50	50	20	50	50	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	175
Future Volume (vph)	175
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.98
Heavy Vehicles (%)	4%
Adj. Flow (vph)	179
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3		5	2		1	6
Permitted Phases	4			4			3	2			6	
Detector Phase	4	4	4	4	3	3	3	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	21.5		12.5	28.5
Total Split (s)	18.0	18.0	18.0	18.0	12.0	12.0	12.0	19.0	97.0		13.0	91.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	8.6%	8.6%	8.6%	13.6%	69.3%		9.3%	65.0%
Maximum Green (s)	12.5	12.5	12.5	12.5	6.5	6.5	6.5	14.1	91.0		8.1	85.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		22.2	22.2	22.2		5.2	5.2	105.2	102.1		95.3	89.2
Actuated g/C Ratio		0.16	0.16	0.16		0.04	0.04	0.75	0.73		0.68	0.64
v/c Ratio		0.66	0.56	0.38		0.06	0.01	0.79	0.80		0.01	1.23
Control Delay		71.2	64.3	10.6		66.8	0.0	40.1	10.8		10.0	140.0
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		71.2	64.3	10.6		66.8	0.0	40.1	10.8		10.0	140.0
LOS		E	E	B		E	A	D	B		A	F
Approach Delay			49.1			53.4			12.9			140.0
Approach LOS			D			D			B			F
Queue Length 50th (ft)		123	121	0		4	0	77	338		0	~1577
Queue Length 95th (ft)		#298	#276	55		17	0	m74	m498		m0	m#1181
Internal Link Dist (ft)			1057			391			708			1204
Turn Bay Length (ft)				95			85	100			100	
Base Capacity (vph)		207	244	349		82	206	243	2530		166	2192
Starvation Cap Reductn		0	0	0		0	0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0	0	0		0	0
Reduced v/c Ratio		0.66	0.56	0.38		0.05	0.00	0.62	0.80		0.01	1.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 127 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 80.7		Intersection LOS: F	
Intersection Capacity Utilization 109.7%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	217	7	189	72	4	20	102	1997	16	49	2342
Future Volume (vph)	1	217	7	189	72	4	20	102	1997	16	49	2342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	14	12	12	12	12
Storage Length (ft)		80		135	90		0	130		0	150	
Storage Lanes		0		1	1		1	1		0	1	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850		0.999			0.989
Flt Protected		0.950	0.955		0.950	0.957		0.950			0.950	
Satd. Flow (prot)	0	1609	1674	1516	1665	1677	1568	1869	3501	0	1752	3466
Flt Permitted		0.730	0.955		0.950	0.957		0.950			0.950	
Satd. Flow (perm)	0	1237	1674	1516	1665	1677	1568	1869	3501	0	1752	3466
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				181			106		1			10
Link Speed (mph)			30			30			55			55
Link Distance (ft)			643			447			1366			1282
Travel Time (s)			14.6			10.2			16.9			15.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	226	7	197	75	4	21	106	2080	17	51	2440
Shared Lane Traffic (%)		49%			47%							
Lane Group Flow (vph)	0	116	118	197	40	39	21	106	2097	0	51	2634
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			30			20			14			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2	1	1	2		1	2
Detector Template	Left	Left			Left				Thru		Left	
Leading Detector (ft)	20	20	100	50	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	6	50	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	186
Future Volume (vph)	186
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	3%
Adj. Flow (vph)	194
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		3	3		4	4		1	6		5	2
Permitted Phases	3			3			4					
Detector Phase	3	3	3	3	4	4	4	1	6		5	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.7	10.7	10.7	10.7	10.6	10.6	10.6	9.9	21.0		9.9	21.0
Total Split (s)	18.0	18.0	18.0	18.0	15.0	15.0	15.0	20.0	87.0		20.0	87.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	10.7%	10.7%	10.7%	14.3%	62.1%		14.3%	62.1%
Maximum Green (s)	12.3	12.3	12.3	12.3	9.4	9.4	9.4	15.1	81.0		15.1	81.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		15.0	15.0	15.0	7.6	7.6	7.6	11.1	91.6		7.7	86.2
Actuated g/C Ratio		0.11	0.11	0.11	0.05	0.05	0.05	0.08	0.65		0.06	0.62
v/c Ratio		0.88	0.66	0.61	0.45	0.43	0.11	0.72	0.92		0.53	1.23
Control Delay		112.1	78.6	19.3	79.2	78.3	1.2	88.0	28.6		83.0	135.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		112.1	78.6	19.3	79.2	78.3	1.2	88.0	28.6		83.0	135.4
LOS		F	E	B	E	E	A	F	C		F	F
Approach Delay			60.5			62.5			31.4			134.4
Approach LOS			E			E			C			F
Queue Length 50th (ft)		112	111	14	37	36	0	91	1038		46	~1580
Queue Length 95th (ft)		#260	#227	97	81	78	0	m118	#1198		90	#1750
Internal Link Dist (ft)			563			367			1286			1202
Turn Bay Length (ft)		80		135	90			130			150	
Base Capacity (vph)		132	179	324	111	112	204	201	2290		188	2138
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.88	0.66	0.61	0.36	0.35	0.10	0.53	0.92		0.27	1.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 36 (26%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 85.3		Intersection LOS: F	
Intersection Capacity Utilization 103.0%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



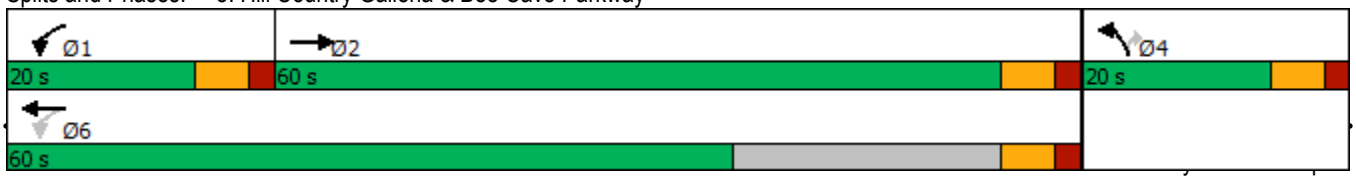
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	984	99	54	1208	142	49
Future Volume (vph)	984	99	54	1208	142	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3490	0	1770	3539	1770	1583
Flt Permitted			0.113		0.950	
Satd. Flow (perm)	3490	0	210	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	16					58
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1158	116	64	1421	167	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1274	0	64	1421	167	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	20.0	20.0	20.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	36.8		46.5	46.5	11.7	11.7
Actuated g/C Ratio	0.52		0.66	0.66	0.17	0.17
v/c Ratio	0.70		0.23	0.61	0.57	0.19
Control Delay	16.0		6.2	8.1	37.4	10.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	16.0		6.2	8.1	37.4	10.5
LOS	B		A	A	D	B
Approach Delay	16.0			8.1	30.4	
Approach LOS	B			A	C	
Queue Length 50th (ft)	223		9	160	67	0
Queue Length 95th (ft)	283		19	201	139	29
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2739		455	3412	359	367
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.47		0.14	0.42	0.47	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 70.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	984	99	54	1208	142	49
Future Volume (veh/h)	984	99	54	1208	142	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1158	116	64	1421	167	58
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1608	161	322	2334	229	204
Arrive On Green	0.49	0.49	0.06	0.66	0.13	0.13
Sat Flow, veh/h	3356	326	1781	3647	1781	1585
Grp Volume(v), veh/h	630	644	64	1421	167	58
Grp Sat Flow(s),veh/h/ln	1777	1812	1781	1777	1781	1585
Q Serve(g_s), s	15.6	15.6	0.9	12.8	5.0	1.8
Cycle Q Clear(g_c), s	15.6	15.6	0.9	12.8	5.0	1.8
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	876	893	322	2334	229	204
V/C Ratio(X)	0.72	0.72	0.20	0.61	0.73	0.28
Avail Cap(c_a), veh/h	1718	1751	668	3435	446	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	11.1	8.3	5.5	23.4	22.0
Incr Delay (d2), s/veh	1.1	1.1	0.3	0.3	4.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.9	8.1	0.4	3.9	4.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.3	12.3	8.5	5.7	27.8	22.8
LnGrp LOS	B	B	A	A	C	C
Approach Vol, veh/h	1274			1485	225	
Approach Delay, s/veh	12.3			5.9	26.5	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	33.5		13.2		42.7
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.9	17.6		7.0		14.8
Green Ext Time (p_c), s	0.1	9.9		0.4		13.3

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	6	120	827	1	1167	42	38	100
Future Volume (vph)	6	120	827	1	1167	42	38	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950		0.950			0.950	
Satd. Flow (prot)	0	1736	3471	1736	3454	0	1736	1553
Flt Permitted		0.950		0.950			0.950	
Satd. Flow (perm)	0	1736	3471	1736	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1965		2085		899	
Travel Time (s)			29.8		31.6		20.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	7	132	909	1	1282	46	42	110
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	139	909	1	1328	0	42	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	8.8

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	6	120	827	1	1167	42	38	100
Future Vol, veh/h	6	120	827	1	1167	42	38	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	4	4	4	4	4	4	4
Mvmt Flow	7	132	909	1	1282	46	42	110

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	1329	1328	0	909	-	0	2040	664
Stage 1	-	-	-	-	-	-	1307	-
Stage 2	-	-	-	-	-	-	733	-
Critical Hdwy	6.48	4.18	-	6.48	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.54	2.24	-	2.54	-	-	3.54	3.34
Pot Cap-1 Maneuver	200	505	-	374	-	-	48	398
Stage 1	-	-	-	-	-	-	214	-
Stage 2	-	-	-	-	-	-	431	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	454	454	-	374	-	-	~ 33	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 33	-
Stage 1	-	-	-	-	-	-	149	-
Stage 2	-	-	-	-	-	-	430	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	131.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	454	-	374	-	-	33	398
HCM Lane V/C Ratio	0.305	-	0.003	-	-	1.265	0.276
HCM Control Delay (s)	16.4	-	14.7	-	-	$ 430.1	17.5
HCM Lane LOS	C	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.3	-	0	-	-	4.5	1.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	761	111	4	242	1037	23	93	11	210	2	11
Future Volume (vph)	61	761	111	4	242	1037	23	93	11	210	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		235		240		0	0		0	0	
Storage Lanes	1		1		1		0	0		1	0	
Taper Length (ft)	110				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.997				0.850		
Flt Protected	0.950				0.950				0.957			0.993
Satd. Flow (prot)	1770	3539	1583	0	1770	3529	0	0	1783	1583	0	1850
Flt Permitted	0.223				0.283				0.957			0.352
Satd. Flow (perm)	415	3539	1583	0	527	3529	0	0	1783	1583	0	656
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			164			2				228		
Link Speed (mph)		45				45			30			30
Link Distance (ft)		2085				1567			322			1031
Travel Time (s)		31.6				23.7			7.3			23.4
Peak Hour Factor	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	64	793	121	4	263	1080	24	101	12	228	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	793	121	0	267	1104	0	0	113	228	0	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		13				13			0			0
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2		1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Free	Perm	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases	5	2			1	6		8	8	8		4
Permitted Phases	2		Free	6	6						4	

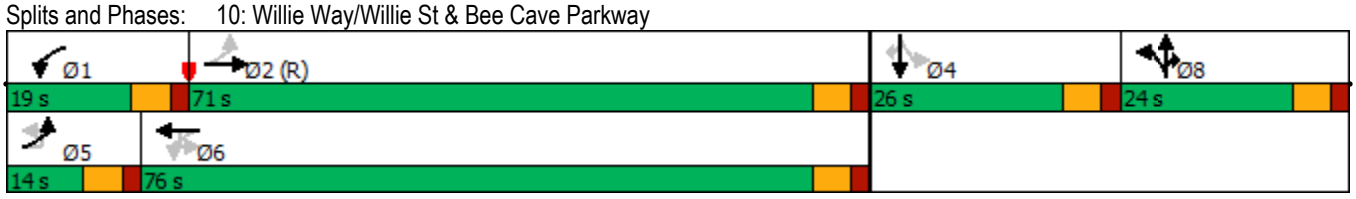


Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	65
Future Volume (vph)	65
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	117
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	68
Shared Lane Traffic (%)	
Lane Group Flow (vph)	68
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	2		6	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		22.0	10.0	22.0		22.0	22.0	22.0	22.0	22.0
Total Split (s)	14.0	71.0		76.0	19.0	76.0		24.0	24.0	24.0	26.0	26.0
Total Split (%)	10.0%	50.7%		54.3%	13.6%	54.3%		17.1%	17.1%	17.1%	18.6%	18.6%
Maximum Green (s)	8.0	65.0		70.0	13.0	70.0		18.0	18.0	18.0	20.0	20.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lag		Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		Max	None	Max		None	None	None	None	None
Act Effct Green (s)	90.7	83.6	140.0		101.9	91.6			14.3	14.3		7.6
Actuated g/C Ratio	0.65	0.60	1.00		0.73	0.65			0.10	0.10		0.05
v/c Ratio	0.19	0.38	0.08		0.54	0.48			0.62	0.62		0.40
Control Delay	9.1	17.4	0.1		6.7	14.9			74.3	14.5		81.5
Queue Delay	0.0	0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Delay	9.1	17.4	0.1		6.7	14.9			74.3	14.5		81.5
LOS	A	B	A		A	B			E	B		F
Approach Delay		14.7				13.3			34.3			19.9
Approach LOS		B				B			C			B
Queue Length 50th (ft)	16	194	0		57	368			100	0		12
Queue Length 95th (ft)	38	308	0		m83	m328			160	78		m18
Internal Link Dist (ft)		2005				1487			242			951
Turn Bay Length (ft)	210		235		240							
Base Capacity (vph)	351	2113	1583		513	2309			235	406		93
Starvation Cap Reductn	0	0	0		0	0			0	0		0
Spillback Cap Reductn	0	0	0		0	0			0	0		0
Storage Cap Reductn	0	0	0		0	0			0	0		0
Reduced v/c Ratio	0.18	0.38	0.08		0.52	0.48			0.48	0.56		0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway





Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	22.0
Total Split (s)	26.0
Total Split (%)	18.6%
Maximum Green (s)	20.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	7.6
Actuated g/C Ratio	0.05
v/c Ratio	0.35
Control Delay	7.2
Queue Delay	0.0
Total Delay	7.2
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	1
Queue Length 95th (ft)	m9
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	326
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	61	761	111	4	242	1037	23	93	11	210	2	11
Future Volume (veh/h)	61	761	111	4	242	1037	23	93	11	210	2	11
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No				No			No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870		1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	793	0		263	1080	24	101	12	228	2	12
Peak Hour Factor	0.96	0.96	0.92		0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92
Percent Heavy Veh, %	2	2	2		2	2	2	2	2	2	2	2
Cap, veh/h	388	2005			495	2194	49	206	24	204	15	88
Arrive On Green	0.03	0.56	0.00		0.16	1.00	1.00	0.13	0.13	0.13	0.06	0.06
Sat Flow, veh/h	1781	3554	1585		1781	3554	79	1600	190	1585	265	1592
Grp Volume(v), veh/h	64	793	0		263	540	564	113	0	228	14	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585		1781	1777	1856	1790	0	1585	1857	0
Q Serve(g_s), s	2.1	17.5	0.0		9.1	0.0	0.0	8.2	0.0	18.0	1.0	0.0
Cycle Q Clear(g_c), s	2.1	17.5	0.0		9.1	0.0	0.0	8.2	0.0	18.0	1.0	0.0
Prop In Lane	1.00		1.00		1.00		0.04	0.89		1.00	0.14	
Lane Grp Cap(c), veh/h	388	2005			495	1097	1146	230	0	204	103	0
V/C Ratio(X)	0.16	0.40			0.53	0.49	0.49	0.49	0.00	1.12	0.14	0.00
Avail Cap(c_a), veh/h	441	2005			517	1097	1146	230	0	204	265	0
HCM Platoon Ratio	1.00	1.00	1.00		2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00		0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.1	17.1	0.0		10.8	0.0	0.0	56.7	0.0	61.0	62.9	0.0
Incr Delay (d2), s/veh	0.2	0.6	0.0		0.1	0.1	0.1	1.6	0.0	98.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	11.3	0.0		3.5	0.1	0.1	6.9	0.0	19.6	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	17.7	0.0		10.8	0.1	0.1	58.4	0.0	159.6	63.5	0.0
LnGrp LOS	B	B			B	A	A	E	A	F	E	A
Approach Vol, veh/h		857				1367			341			82
Approach Delay, s/veh		17.3				2.2			126.0			76.1
Approach LOS		B				A			F			E

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.3	85.0		13.7	9.8	92.4		24.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	13.0	65.0		20.0	8.0	70.0		18.0				
Max Q Clear Time (g_c+I1), s	11.1	19.5		7.9	4.1	2.0		20.0				
Green Ext Time (p_c), s	0.1	5.8		0.2	0.0	8.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			25.3
HCM 6th LOS			C

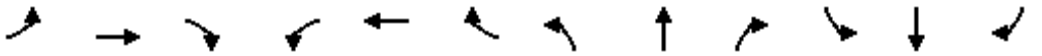
Notes

User approved ignoring U-Turning movement.

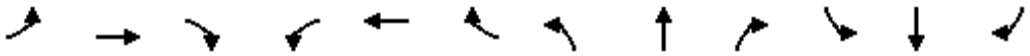
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	65
Future Volume (veh/h)	65
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	68
Peak Hour Factor	0.96
Percent Heavy Veh, %	2
Cap, veh/h	88
Arrive On Green	0.06
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	68
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	5.9
Cycle Q Clear(g_c), s	5.9
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	88
V/C Ratio(X)	0.78
Avail Cap(c_a), veh/h	226
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	65.3
Incr Delay (d2), s/veh	13.5
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	4.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	78.7
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	717	14	22	2318	142	36	1	24	123	1	53
Future Volume (vph)	38	717	14	22	2318	142	36	1	24	123	1	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			143		26			58	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3446			2053			551			306	
Travel Time (s)		42.7			25.5			12.5			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	779	15	24	2520	154	39	1	26	134	1	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	779	15	24	2520	154	39	27	0	134	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						



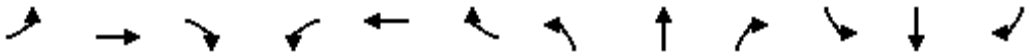
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	10.0		10.0	10.0	
Total Split (s)	10.0	100.0	100.0	18.0	108.0	108.0	10.0	12.0		10.0	12.0	
Total Split (%)	7.1%	71.4%	71.4%	12.9%	77.1%	77.1%	7.1%	8.6%		7.1%	8.6%	
Maximum Green (s)	4.0	94.0	94.0	12.0	102.0	102.0	4.0	6.0		4.0	6.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	4.0	103.4	103.4	7.4	104.1	104.1	4.0	5.7		8.8	7.9	
Actuated g/C Ratio	0.03	0.74	0.74	0.05	0.74	0.74	0.03	0.04		0.06	0.06	
v/c Ratio	0.82	0.30	0.01	0.26	0.96	0.13	0.40	0.30		0.62	0.41	
Control Delay	147.8	7.1	0.0	60.0	32.8	1.0	78.8	32.0		75.5	24.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	147.8	7.1	0.0	60.0	32.8	1.0	78.8	32.0		75.5	24.8	
LOS	F	A	A	E	C	A	E	C		E	C	
Approach Delay		13.9			31.2			59.7			60.0	
Approach LOS		B			C			E			E	
Queue Length 50th (ft)	38	128	0	22	1162	2	18	1		~76	1	
Queue Length 95th (ft)	#113	169	0	m26	m1101	m1	39	34		#154	49	
Internal Link Dist (ft)		3366			1973			471			226	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	50	2614	1200	151	2631	1214	98	93		216	145	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.82	0.30	0.01	0.16	0.96	0.13	0.40	0.29		0.62	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 29.4		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: SH 71 & Willie Way

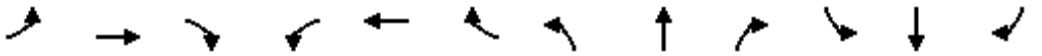




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	717	14	22	2318	142	36	1	24	123	1	53
Future Volume (veh/h)	38	717	14	22	2318	142	36	1	24	123	1	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	779	15	24	2520	154	39	1	26	134	1	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	2651	1183	31	2589	1155	77	2	47	119	1	67
Arrive On Green	0.03	0.75	0.75	0.02	0.73	0.73	0.02	0.03	0.03	0.03	0.04	0.04
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	27	1562
Grp Volume(v), veh/h	41	779	15	24	2520	154	39	0	27	134	0	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1589
Q Serve(g_s), s	3.2	10.0	0.3	1.9	92.6	4.1	1.6	0.0	2.3	4.8	0.0	5.2
Cycle Q Clear(g_c), s	3.2	10.0	0.3	1.9	92.6	4.1	1.6	0.0	2.3	4.8	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Lane Grp Cap(c), veh/h	62	2651	1183	31	2589	1155	77	0	49	119	0	68
V/C Ratio(X)	0.66	0.29	0.01	0.78	0.97	0.13	0.51	0.00	0.55	1.13	0.00	0.87
Avail Cap(c_a), veh/h	62	2651	1183	153	2589	1155	99	0	68	119	0	68
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.7	5.8	4.6	68.5	17.7	5.7	67.7	0.0	66.9	67.6	0.0	66.6
Incr Delay (d2), s/veh	2.3	0.0	0.0	33.0	12.4	0.2	5.1	0.0	9.3	121.3	0.0	65.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	3.8	0.2	2.0	42.2	2.5	1.3	0.0	1.9	7.4	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.1	5.8	4.6	101.6	30.2	6.0	72.7	0.0	76.1	188.9	0.0	131.6
LnGrp LOS	E	A	A	F	C	A	E	A	E	F	A	F
Approach Vol, veh/h		835			2698			66			193	
Approach Delay, s/veh		8.9			29.4			74.1			171.4	
Approach LOS		A			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	110.5	9.1	12.0	10.9	108.0	10.8	10.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	94.0	4.0	6.0	4.0	102.0	4.0	6.0
Max Q Clear Time (g_c+I1), s	3.9	12.0	3.6	7.2	5.2	94.6	6.8	4.3
Green Ext Time (p_c), s	0.0	5.4	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1086	5	5	1316	1	11	1	65	1	1	1
Future Volume (vph)	1	1086	5	5	1316	1	11	1	65	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		75	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999							0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3536	0	1770	3539	0	1770	0	1583	0	1750	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3536	0	1770	3539	0	1770	0	1583	0	1750	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		464			1173			210			138	
Travel Time (s)		7.0			17.8			4.8			3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1180	5	5	1430	1	12	1	71	1	1	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1185	0	5	1431	0	12	1	71	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1086	5	5	1316	1	11	1	65	1	1	1
Future Vol, veh/h	1	1086	5	5	1316	1	11	1	65	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1180	5	5	1430	1	12	1	71	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1431	0	0	1185	0	0	1911	2626	593	2034	2628	716
Stage 1	-	-	-	-	-	-	1185	1185	-	1441	1441	-
Stage 2	-	-	-	-	-	-	726	1441	-	593	1187	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	471	-	-	585	-	-	41	24	449	33	23	373
Stage 1	-	-	-	-	-	-	201	261	-	139	196	-
Stage 2	-	-	-	-	-	-	382	196	-	459	260	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	471	-	-	585	-	-	39	24	449	27	23	373
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	24	-	27	23	-
Stage 1	-	-	-	-	-	-	201	260	-	139	194	-
Stage 2	-	-	-	-	-	-	376	194	-	384	259	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	31.8	114.7
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	39	449	471	-	-	585	-	-	36
HCM Lane V/C Ratio	0.307	0.157	0.002	-	-	0.009	-	-	0.091
HCM Control Delay (s)	133.8	14.5	12.7	-	-	11.2	-	-	114.7
HCM Lane LOS	F	B	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1	0.6	0	-	-	0	-	-	0.3



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	947	81	101	1213	41	242
Future Volume (vph)	947	81	101	1213	41	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3497	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3497	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2187	728	
Travel Time (s)	12.5			33.1	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1064	91	113	1363	46	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1155	0	113	1363	46	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	947	81	101	1213	41	242
Future Vol, veh/h	947	81	101	1213	41	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1064	91	113	1363	46	272

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1155	0	2018	578
Stage 1	-	-	-	-	1110	-
Stage 2	-	-	-	-	908	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	601	-	51	459
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	354	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	601	-	~ 41	459
Mov Cap-2 Maneuver	-	-	-	-	~ 41	-
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	287	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	68.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	41	459	-	-	601	-
HCM Lane V/C Ratio	1.124	0.592	-	-	0.189	-
HCM Control Delay (s)	$ 333.1	23.6	-	-	12.4	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4.5	3.8	-	-	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	1029	204	32	1326	96	48
Future Volume (vph)	1	1029	204	32	1326	96	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0
Storage Lanes	0		0	1		1	1
Taper Length (ft)	25			25		25	
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	1.00	1.00
Frt		0.975					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	0	3451	0	1770	3539	1770	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	0	3451	0	1770	3539	1770	1583
Link Speed (mph)		45			45	30	
Link Distance (ft)		1173			1258	738	
Travel Time (s)		17.8			19.1	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1	1211	240	38	1560	113	56
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1452	0	38	1560	113	56
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Right	Left	Left	Left	Right
Median Width(ft)		12			12	20	
Link Offset(ft)		0			0	0	
Crosswalk Width(ft)		16			16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		9	15		15	9
Sign Control		Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	45.7

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	1	1029	204	32	1326	96	48
Future Vol, veh/h	1	1029	204	32	1326	96	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	1211	240	38	1560	113	56

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	1560	0	0	1451	0	2189	726
Stage 1	-	-	-	-	-	1333	-
Stage 2	-	-	-	-	-	856	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	144	-	-	463	-	~ 39	367
Stage 1	-	-	-	-	-	211	-
Stage 2	-	-	-	-	-	377	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	144	-	-	463	-	~ 34	367
Mov Cap-2 Maneuver	-	-	-	-	-	~ 34	-
Stage 1	-	-	-	-	-	202	-
Stage 2	-	-	-	-	-	346	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	$ 865.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	34	367	-	-	463	-
HCM Lane V/C Ratio	3.322	0.154	-	-	0.081	-
HCM Control Delay (s)	$ 1289.9	16.6	-	-	13.5	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	13.1	0.5	-	-	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	102	13	68	140	13	80
Future Volume (vph)	102	13	68	140	13	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1872	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1872	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	362			433	1031	
Travel Time (s)	8.2			9.8	23.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	112	14	75	154	14	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	75	154	14	88
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

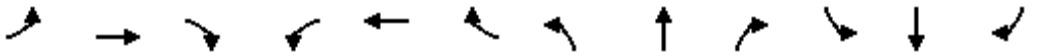
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	13	68	140	13	80
Future Vol, veh/h	102	13	68	140	13	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	112	14	75	154	14	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	423	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1473	-	591	938
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	561	938
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	938	-	-	1473	-
HCM Lane V/C Ratio	0.025	0.094	-	-	0.051	-
HCM Control Delay (s)	11.6	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1966	249	708	1716	13	39	61	27	273	49	365
Future Volume (vph)	72	1966	249	708	1716	13	39	61	27	273	49	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.983			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.981		0.950		
Satd. Flow (prot)	3335	4856	0	1719	4935	0	0	3373	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.981		0.950		
Satd. Flow (perm)	3335	4856	0	1719	4935	0	0	3373	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			1				180			124
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3197			1846			605			1646	
Travel Time (s)		43.6			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	75	2048	259	738	1788	14	41	64	28	284	51	380
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	75	2307	0	738	1802	0	0	105	28	284	51	380
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.7	21.7		11.7	21.7		10.5	10.5	10.5	11.0	11.0	11.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	83.0		19.0	62.0		13.0	13.0	13.0	25.0	25.0	40.0
Total Split (%)	28.6%	59.3%		13.6%	44.3%		9.3%	9.3%	9.3%	17.9%	17.9%	28.6%
Maximum Green (s)	33.3	76.3		12.3	55.3		7.5	7.5	7.5	19.0	19.0	33.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lead	Lead		Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	Min	C-Max		None	C-Max		None	None	None	None	None	Min
Act Effct Green (s)	6.8	76.3		12.3	81.8			7.2	7.2	19.3	19.3	32.1
Actuated g/C Ratio	0.05	0.54		0.09	0.58			0.05	0.05	0.14	0.14	0.23
v/c Ratio	0.47	0.87		4.89	0.62			0.61	0.11	1.26	0.22	0.53
Control Delay	67.1	39.5		1776.6	20.4			80.1	0.9	196.9	56.6	34.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	39.5		1776.6	20.4			80.1	0.9	196.9	56.6	34.1
LOS	E	D		F	C			F	A	F	E	C
Approach Delay		40.4			530.7			63.4			100.4	
Approach LOS		D			F			E			F	
Queue Length 50th (ft)	32	626		~1252	375			50	0	~344	44	117
Queue Length 95th (ft)	m46	783		#1499	442			83	0	#541	89	172
Internal Link Dist (ft)		3117			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	793	2657		151	2885			180	252	225	237	1205
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.09	0.87		4.89	0.62			0.58	0.11	1.26	0.22	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 4.89			
Intersection Signal Delay: 264.2		Intersection LOS: F	
Intersection Capacity Utilization 114.4%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	111	1748	72	3	3	1497	946	33	27	9	689	46
Future Volume (vph)	111	1748	72	3	3	1497	946	33	27	9	689	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.994					0.850		0.970			
Flt Protected	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (prot)	3335	4910	0	0	1719	4940	1692	1564	3159	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (perm)	3335	4910	0	0	1719	4940	1692	1564	3159	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		5					982		10			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		851				3197			676			1239
Travel Time (s)		10.5				43.6			18.4			15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	118	1860	77	3	3	1593	1006	35	29	10	733	49
Shared Lane Traffic (%)								30%				
Lane Group Flow (vph)	118	1937	0	0	6	1593	1006	24	50	0	733	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA

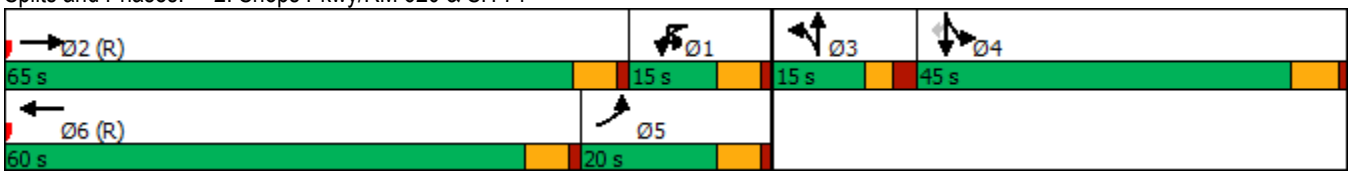


Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	101
Future Volume (vph)	101
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1743
Flt Permitted	
Satd. Flow (perm)	1743
Right Turn on Red	Yes
Satd. Flow (RTOR)	111
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	5%
Adj. Flow (vph)	107
Shared Lane Traffic (%)	
Lane Group Flow (vph)	107
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	10.9	20.9		10.9	10.9	20.9		10.5	10.5		11.0	11.0
Total Split (s)	20.0	65.0		15.0	15.0	60.0		15.0	15.0		45.0	45.0
Total Split (%)	14.3%	46.4%		10.7%	10.7%	42.9%		10.7%	10.7%		32.1%	32.1%
Maximum Green (s)	14.1	59.1		9.1	9.1	54.1		9.5	9.5		39.0	39.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lag	Lead		Lag	Lag	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	8.4	80.1			5.3	68.3	140.0	6.8	6.8		35.3	35.3
Actuated g/C Ratio	0.06	0.57			0.04	0.49	1.00	0.05	0.05		0.25	0.25
v/c Ratio	0.59	0.69			0.09	0.66	0.59	0.32	0.31		0.87	0.11
Control Delay	76.0	25.1			71.8	22.1	4.3	74.5	57.1		39.9	20.5
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	76.0	25.1			71.8	22.1	4.3	74.5	57.1		39.9	20.5
LOS	E	C			E	C	A	E	E		D	C
Approach Delay		28.0				15.3			62.8			34.6
Approach LOS		C				B			E			C
Queue Length 50th (ft)	55	436			5	432	220	24	19		318	29
Queue Length 95th (ft)	87	682			m12	556	444	58	42		m338	m48
Internal Link Dist (ft)		771				3117			596			1159
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	335	2812			111	2409	1692	106	223		943	511
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.35	0.69			0.05	0.66	0.59	0.23	0.22		0.78	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71



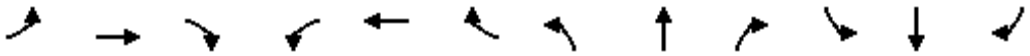


Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	45.0
Total Split (%)	32.1%
Maximum Green (s)	39.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	35.3
Actuated g/C Ratio	0.25
v/c Ratio	0.20
Control Delay	5.3
Queue Delay	0.0
Total Delay	5.3
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	30
Queue Length 95th (ft)	m47
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	572
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.19

Intersection Summary

HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	1375	185	281	1061	51	246	519	437	57	311	460
Future Volume (vph)	470	1375	185	281	1061	51	246	519	437	57	311	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3382	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.147			0.450		
Satd. Flow (perm)	1703	3406	1524	1703	3382	0	263	3406	1524	807	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		3				322			405
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3439			372			1965	
Travel Time (s)		19.1			42.6			4.6			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	490	1432	193	293	1105	53	256	541	455	62	324	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	1432	193	293	1158	0	256	541	455	62	324	479
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



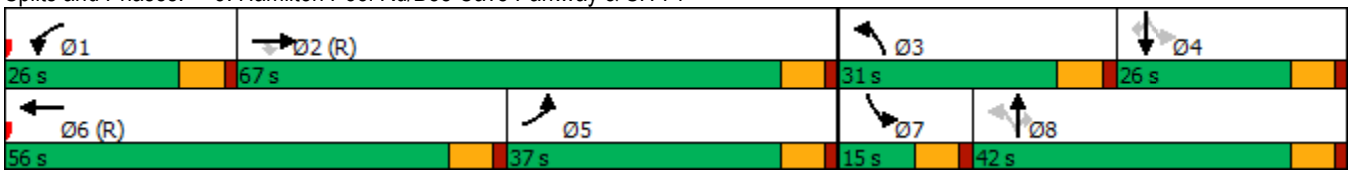
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	37.0	67.0	67.0	26.0	56.0		31.0	42.0	42.0	15.0	26.0	26.0
Total Split (%)	24.7%	44.7%	44.7%	17.3%	37.3%		20.7%	28.0%	28.0%	10.0%	17.3%	17.3%
Maximum Green (s)	30.5	60.5	60.5	19.5	49.5		24.5	35.5	35.5	8.5	19.5	19.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	30.5	63.3	63.3	19.5	52.3		47.7	36.4	36.4	26.6	19.5	19.5
Actuated g/C Ratio	0.20	0.42	0.42	0.13	0.35		0.32	0.24	0.24	0.18	0.13	0.13
v/c Ratio	1.42	1.00	0.26	1.33	0.98		0.88	0.65	0.74	0.34	1.40	0.87
Control Delay	245.8	65.9	6.0	222.4	69.9		71.9	55.8	23.3	42.1	248.0	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	245.8	65.9	6.0	222.4	69.9		71.9	55.8	23.3	42.1	248.0	28.5
LOS	F	E	A	F	E		E	E	C	D	F	C
Approach Delay		102.1			100.7			47.3			111.7	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~643	~778	10	~370	~604		199	255	124	42	~421	69
Queue Length 95th (ft)	#868	#935	62	#563	#780		#329	321	268	79	#620	#273
Internal Link Dist (ft)		1458			3359			292			1885	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	346	1436	744	221	1180		318	836	617	201	232	550
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.42	1.00	0.26	1.33	0.98		0.81	0.65	0.74	0.31	1.40	0.87

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 132 (88%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.42			
Intersection Signal Delay: 91.1		Intersection LOS: F	
Intersection Capacity Utilization 108.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	1375	185	281	1061	51	246	519	437	57	311	460
Future Volume (veh/h)	470	1375	185	281	1061	51	246	519	437	57	311	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	490	1432	0	293	1105	0	256	541	0	62	324	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	392	1471		224	1136		288	786		189	235	
Arrive On Green	0.23	0.43	0.00	0.13	0.33	0.00	0.14	0.23	0.00	0.04	0.13	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	490	1432	0	293	1105	0	256	541	0	62	324	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	34.1	61.2	0.0	19.5	47.5	0.0	18.8	21.6	0.0	4.6	19.5	0.0
Cycle Q Clear(g_c), s	34.1	61.2	0.0	19.5	47.5	0.0	18.8	21.6	0.0	4.6	19.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1471		224	1136		288	786		189	235	
V/C Ratio(X)	1.25	0.97		1.31	0.97		0.89	0.69		0.33	1.38	
Avail Cap(c_a), veh/h	392	1471		224	1136		330	814		216	235	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.76	0.76	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.9	42.1	0.0	65.3	49.6	0.0	46.9	53.0	0.0	53.6	65.3	0.0
Incr Delay (d2), s/veh	131.7	18.0	0.0	160.4	17.7	0.0	20.7	1.9	0.0	0.4	193.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	42.1	36.7	0.0	27.3	29.0	0.0	14.5	14.2	0.0	3.6	33.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.6	60.1	0.0	225.6	67.3	0.0	67.6	54.9	0.0	54.0	259.0	0.0
LnGrp LOS	F	E		F	E		E	D		D	F	
Approach Vol, veh/h		1922			1398			797			386	
Approach Delay, s/veh		93.1			100.5			59.0			226.0	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	70.6	27.4	26.0	40.6	56.0	12.6	40.7
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	19.5	60.5	24.5	19.5	30.5	49.5	8.5	35.5
Max Q Clear Time (g_c+I1), s	21.5	63.2	20.8	21.5	36.1	49.5	6.6	23.6
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	100.8
HCM 6th LOS	F

Notes

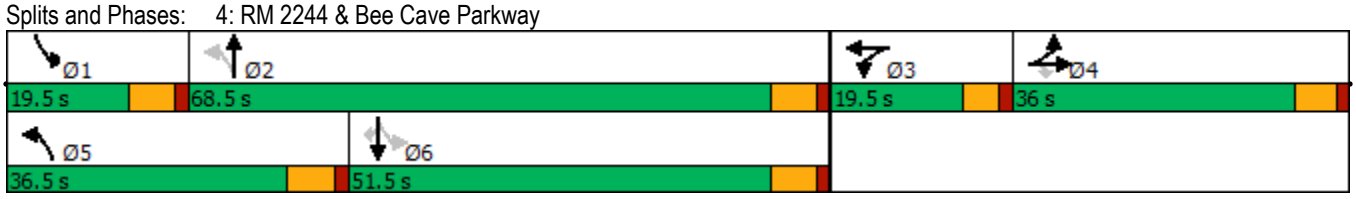
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	973	1	196	1	1	1	130	1030	7	5	658	782
Future Volume (vph)	973	1	196	1	1	1	130	1030	7	5	658	782
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected	0.950	0.952			0.984		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1750	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.984		0.200			0.155		
Satd. Flow (perm)	1681	1685	1583	0	1750	0	373	3536	0	289	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		1			1				832
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2187			246			1646			1175	
Travel Time (s)		33.1			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1035	1	209	1	1	1	138	1096	7	5	700	832
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	517	519	209	0	3	0	138	1103	0	5	700	832
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	68.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	47.7%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	62.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.7	30.7	30.7		5.2		39.5	37.7		28.1	23.0	23.0
Actuated g/C Ratio	0.36	0.36	0.36		0.06		0.47	0.45		0.33	0.27	0.27
v/c Ratio	0.85	0.85	0.31		0.03		0.41	0.70		0.03	0.73	0.80
Control Delay	42.4	42.5	8.3		40.7		16.7	22.5		13.4	32.8	8.9
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.4	42.5	8.3		40.7		16.7	22.5		13.4	32.8	8.9
LOS	D	D	A		D		B	C		B	C	A
Approach Delay		36.7			40.7			21.8			19.8	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	242	244	13		1		38	213		1	168	0
Queue Length 95th (ft)	#666	#669	84		11		84	427		8	275	108
Internal Link Dist (ft)		2107			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	609	610	680		296		681	2649		356	1924	1240
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.85	0.85	0.31		0.01		0.20	0.42		0.01	0.36	0.67

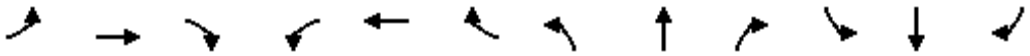
Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 84.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	540	316	60	36	322	594	40	1006	35	834	866	591
Future Volume (vph)	540	316	60	36	322	594	40	1006	35	834	866	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	255		0	165		0	245		385	400		400
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.985			0.967	0.850			0.850			0.850
Flt Protected	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (prot)	1648	3244	0	1811	1695	1539	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950	0.981		0.950			0.950			0.950		
Satd. Flow (perm)	1648	3244	0	1811	1695	1539	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8	113			108			609
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1600			824			1100			392	
Travel Time (s)		24.2			12.5			13.6			4.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	557	326	62	37	332	612	41	1037	36	860	893	609
Shared Lane Traffic (%)	45%					15%						
Lane Group Flow (vph)	306	639	0	37	424	520	41	1037	36	860	893	609
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		18			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.3	10.3		10.5	10.5		11.1	21.1	21.1	11.1	21.1	21.1
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	23.7	23.7		15.5	15.5	60.5	6.2	38.9	38.9	38.9	73.8	73.8
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.53	0.53
v/c Ratio	1.10	1.15		0.18	2.19	0.71	0.55	1.07	0.07	0.91	0.48	0.52
Control Delay	153.2	154.1		59.1	577.5	31.5	100.3	91.1	0.4	40.7	7.9	2.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	153.2	154.1		59.1	577.5	31.5	100.3	91.1	0.4	40.7	7.9	2.0
LOS	F	F		E	F	C	F	F	A	D	A	A
Approach Delay		153.8			268.5			88.5			18.3	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)	~353	~382		31	~649	323	37	~541	0	393	191	48
Queue Length 95th (ft)	#569	#517		68	#874	474	m67	#684	m0	m370	m81	m16
Internal Link Dist (ft)		1520			744			1020			312	
Turn Bay Length (ft)	255			165			245		385	400		400
Base Capacity (vph)	278	554		200	194	729	83	973	528	944	1848	1169
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	1.15		0.18	2.19	0.71	0.49	1.07	0.07	0.91	0.48	0.52

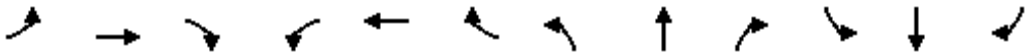
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.19			
Intersection Signal Delay: 101.9		Intersection LOS: F	
Intersection Capacity Utilization 117.4%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

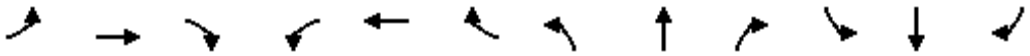
Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	2	113	3	1	1	145	1939	6	1	2221	130
Future Volume (vph)	185	2	113	3	1	1	145	1939	6	1	2221	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	10	12	12	11	14	12	12	14	12	12
Storage Length (ft)	0		95	0		85	100		0	100		0
Storage Lanes	1		1	0		1	1		0	1		0
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850					0.992	
Flt Protected	0.950	0.953			0.964		0.950			0.950		
Satd. Flow (prot)	1649	1544	1449	0	1761	1501	1851	3471	0	1851	3443	0
Flt Permitted	0.950	0.953			0.964		0.040			0.064		
Satd. Flow (perm)	1649	1544	1449	0	1761	1501	78	3471	0	125	3443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			104					7	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1108			471			736			1284	
Travel Time (s)		25.2			10.7			9.1			15.9	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	189	2	115	3	1	1	148	1979	6	1	2266	133
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	96	95	115	0	4	1	148	1985	0	1	2399	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			12			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	
Detector Template	Left			Left						Left	Thru	
Leading Detector (ft)	20	50	50	20	50	50	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	50	50	20	50	50	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3	2			6		
Detector Phase	4	4	4	3	3	3	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	9.9	21.0		9.9	21.0	
Total Split (s)	20.0	20.0	20.0	15.0	15.0	15.0	18.0	90.0		15.0	87.0	
Total Split (%)	14.3%	14.3%	14.3%	10.7%	10.7%	10.7%	12.9%	64.3%		10.7%	62.1%	
Maximum Green (s)	14.5	14.5	14.5	9.5	9.5	9.5	13.1	84.0		10.1	81.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	12.9	12.9	12.9		5.2	5.2	114.5	111.4		105.6	99.5	
Actuated g/C Ratio	0.09	0.09	0.09		0.04	0.04	0.82	0.80		0.75	0.71	
v/c Ratio	0.64	0.67	0.49		0.06	0.01	0.84	0.72		0.01	0.98	
Control Delay	79.0	83.3	16.6		67.0	0.0	49.5	5.6		3.0	28.9	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	79.0	83.3	16.6		67.0	0.0	49.5	5.6		3.0	28.9	
LOS	E	F	B		E	A	D	A		A	C	
Approach Delay		56.9			53.6			8.6			28.9	
Approach LOS		E			D			A			C	
Queue Length 50th (ft)	90	89	0		4	0	84	161		0	1213	
Queue Length 95th (ft)	150	148	58		17	0	m95	m255		m0	m#1232	
Internal Link Dist (ft)		1028			391			656			1204	
Turn Bay Length (ft)			95			85	100			100		
Base Capacity (vph)	181	169	261		119	198	229	2761		223	2448	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.53	0.56	0.44		0.03	0.01	0.65	0.72		0.00	0.98	

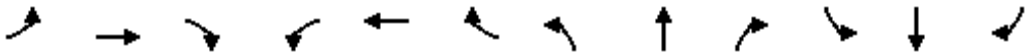
Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 134 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 21.7		Intersection LOS: C	
Intersection Capacity Utilization 99.1%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

m Volume for 95th percentile queue is metered by upstream signal.

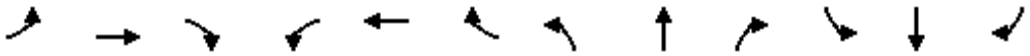
Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	6	173	83	7	37	94	1909	13	20	2108	168
Future Volume (vph)	273	6	173	83	7	37	94	1909	13	20	2108	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	12	12	12	14	12	12	12	12	12
Storage Length (ft)	80		135	90		0	130		0	150		0
Storage Lanes	0		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.999			0.989	
Flt Protected	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (prot)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3466	0
Flt Permitted	0.950	0.954		0.950	0.959		0.950			0.950		
Satd. Flow (perm)	1609	1672	1516	1665	1681	1568	1869	3501	0	1752	3466	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			153		1			10	
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		643			447			1366			1282	
Travel Time (s)		14.6			10.2			16.9			15.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	284	6	180	86	7	39	98	1989	14	21	2196	175
Shared Lane Traffic (%)	49%			46%								
Lane Group Flow (vph)	145	145	180	46	47	39	98	2003	0	21	2371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			20			14			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left			Left				Thru		Left		
Leading Detector (ft)	20	100	50	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	50	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4						
Detector Phase	3	3	3	4	4	4	1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	10.7	10.7	10.7	10.6	10.6	10.6	9.9	21.0		9.9	21.0	
Total Split (s)	24.0	24.0	24.0	15.0	15.0	15.0	15.0	88.0		13.0	86.0	
Total Split (%)	17.1%	17.1%	17.1%	10.7%	10.7%	10.7%	10.7%	62.9%		9.3%	61.4%	
Maximum Green (s)	18.3	18.3	18.3	9.4	9.4	9.4	10.1	82.0		8.1	80.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0	
All-Red Time (s)	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.8	15.8	15.8	7.8	7.8	7.8	10.1	94.6		5.7	86.3	
Actuated g/C Ratio	0.11	0.11	0.11	0.06	0.06	0.06	0.07	0.68		0.04	0.62	
v/c Ratio	0.80	0.77	0.59	0.50	0.51	0.17	0.73	0.85		0.30	1.11	
Control Delay	90.5	86.0	21.2	82.2	82.4	1.6	93.6	29.1		75.3	83.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	90.5	86.0	21.2	82.2	82.4	1.6	93.6	29.1		75.3	83.5	
LOS	F	F	C	F	F	A	F	C		E	F	
Approach Delay		62.6			58.4			32.1			83.4	
Approach LOS		E			E			C			F	
Queue Length 50th (ft)	135	135	23	43	44	0	92	814		19	~1346	
Queue Length 95th (ft)	#230	#217	100	89	90	0	m#132	#1105		48	#1503	
Internal Link Dist (ft)		563			367			1286			1202	
Turn Bay Length (ft)	80		135	90			130			150		
Base Capacity (vph)	210	218	330	111	112	248	134	2366		101	2139	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.67	0.55	0.41	0.42	0.16	0.73	0.85		0.21	1.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 69 (49%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 59.7		Intersection LOS: E	
Intersection Capacity Utilization 97.0%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



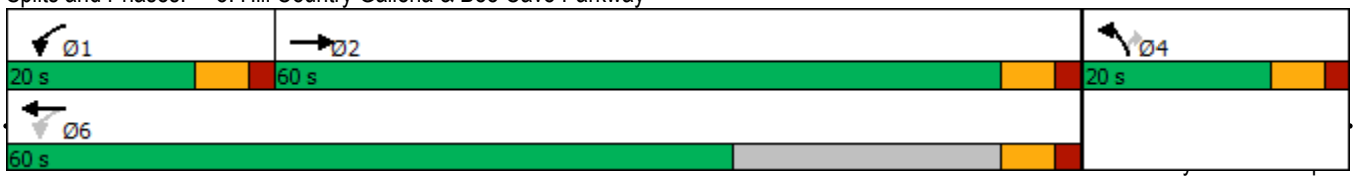
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1072	83	45	897	46	23
Future Volume (vph)	1072	83	45	897	46	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3500	0	1770	3539	1770	1583
Flt Permitted			0.122		0.950	
Satd. Flow (perm)	3500	0	227	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	12					27
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1261	98	53	1055	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1359	0	53	1055	54	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	11.0	11.0	11.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	42.7		47.0	49.2	8.1	8.1
Actuated g/C Ratio	0.67		0.73	0.77	0.13	0.13
v/c Ratio	0.58		0.16	0.39	0.24	0.12
Control Delay	10.9		4.2	4.3	33.1	14.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	10.9		4.2	4.3	33.1	14.4
LOS	B		A	A	C	B
Approach Delay	10.9			4.3	26.9	
Approach LOS	B			A	C	
Queue Length 50th (ft)	206		5	75	20	0
Queue Length 95th (ft)	280		14	111	57	21
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2852		537	3442	425	400
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.48		0.10	0.31	0.13	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 64			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1072	83	45	897	46	23
Future Volume (veh/h)	1072	83	45	897	46	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1261	98	53	1055	54	27
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1787	139	332	2495	118	105
Arrive On Green	0.53	0.53	0.05	0.70	0.07	0.07
Sat Flow, veh/h	3435	259	1781	3647	1781	1585
Grp Volume(v), veh/h	669	690	53	1055	54	27
Grp Sat Flow(s),veh/h/ln	1777	1824	1781	1777	1781	1585
Q Serve(g_s), s	14.6	14.7	0.6	6.5	1.5	0.8
Cycle Q Clear(g_c), s	14.6	14.7	0.6	6.5	1.5	0.8
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	950	975	332	2495	118	105
V/C Ratio(X)	0.70	0.71	0.16	0.42	0.46	0.26
Avail Cap(c_a), veh/h	1852	1900	721	3703	481	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	9.0	6.8	3.3	23.3	23.0
Incr Delay (d2), s/veh	1.0	1.0	0.2	0.1	2.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	6.7	0.2	1.0	1.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	10.0	7.1	3.4	26.0	24.2
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	1359			1108	81	
Approach Delay, s/veh	10.0			3.6	25.4	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.7	33.7		9.4		42.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.6	16.7		3.5		8.5
Green Ext Time (p_c), s	0.1	11.0		0.1		8.6

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	72	944	0	752	27	25	88
Future Volume (vph)	1	72	944	0	752	27	25	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950					0.950	
Satd. Flow (prot)	0	1736	3471	1863	3454	0	1736	1553
Flt Permitted		0.950					0.950	
Satd. Flow (perm)	0	1736	3471	1863	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1965		2056		877	
Travel Time (s)			29.8		31.2		19.9	
Peak Hour Factor	0.91	0.91	0.91	0.89	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	2%	4%	4%	4%	4%
Adj. Flow (vph)	1	79	1037	0	826	30	27	97
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	80	1037	0	856	0	27	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.7

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	72	944	0	752	27	25	88
Future Vol, veh/h	1	72	944	0	752	27	25	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	89	91	91	91	91
Heavy Vehicles, %	4	4	4	2	4	4	4	4
Mvmt Flow	1	79	1037	0	826	30	27	97

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	856	856	0	1037	-	0	1520	428
Stage 1	-	-	-	-	-	-	841	-
Stage 2	-	-	-	-	-	-	679	-
Critical Hdwy	6.48	4.18	-	6.44	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.54	2.24	-	2.52	-	-	3.54	3.34
Pot Cap-1 Maneuver	404	767	-	314	-	-	107	570
Stage 1	-	-	-	-	-	-	378	-
Stage 2	-	-	-	-	-	-	460	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	754	754	-	314	-	-	96	570
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	-
Stage 1	-	-	-	-	-	-	338	-
Stage 2	-	-	-	-	-	-	460	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	754	-	314	-	-	96	570
HCM Lane V/C Ratio	0.106	-	-	-	-	0.286	0.17
HCM Control Delay (s)	10.3	-	0	-	-	56.9	12.6
HCM Lane LOS	B	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	0	-	-	1.1	0.6



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	63	839	75	181	730	1	36	11	103	1	20
Future Volume (vph)	1	63	839	75	181	730	1	36	11	103	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		210		235	240		0	0		0	0	
Storage Lanes		1		1	1		0	0		1	0	
Taper Length (ft)		110			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		
Flt Protected		0.950			0.950				0.963			0.998
Satd. Flow (prot)	0	1770	3539	1583	1770	3539	0	0	1794	1583	0	1859
Flt Permitted		0.349			0.271				0.963			0.275
Satd. Flow (perm)	0	650	3539	1583	505	3539	0	0	1794	1583	0	512
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				210						164		
Link Speed (mph)			45			45			30			30
Link Distance (ft)			2056			1600			276			1044
Travel Time (s)			31.2			24.2			6.3			23.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	66	874	78	189	760	1	38	11	107	1	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	874	78	189	761	0	0	49	107	0	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			13			13			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2	1	1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	pm+pt	pm+pt	NA	Free	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases	5	5	2		1	6		8	8	8		4
Permitted Phases	2	2		Free	6						4	



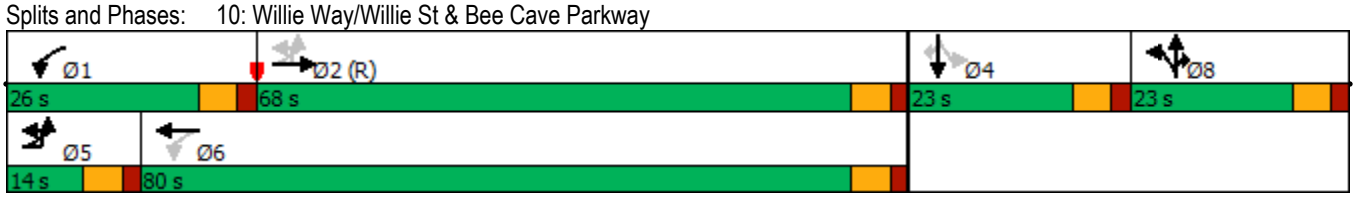
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	36
Future Volume (vph)	36
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	38
Shared Lane Traffic (%)	
Lane Group Flow (vph)	38
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	5	2		1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0
Total Split (s)	14.0	14.0	68.0		26.0	80.0		23.0	23.0	23.0	23.0	23.0
Total Split (%)	10.0%	10.0%	48.6%		18.6%	57.1%		16.4%	16.4%	16.4%	16.4%	16.4%
Maximum Green (s)	8.0	8.0	62.0		20.0	74.0		17.0	17.0	17.0	17.0	17.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lead	Lag		Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		None	Max		None	None	None	None	None
Act Effct Green (s)		97.6	90.6	140.0	104.3	95.8			9.2	9.2		8.7
Actuated g/C Ratio		0.70	0.65	1.00	0.74	0.68			0.07	0.07		0.06
v/c Ratio		0.13	0.38	0.05	0.41	0.31			0.42	0.42		0.71
Control Delay		6.5	13.7	0.1	6.2	10.9			72.6	6.0		138.9
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		6.5	13.7	0.1	6.2	10.9			72.6	6.0		138.9
LOS		A	B	A	A	B			E	A		F
Approach Delay			12.2			10.0			26.9			52.0
Approach LOS			B			A			C			D
Queue Length 50th (ft)		14	192	0	38	102			44	0		21
Queue Length 95th (ft)		34	292	0	m64	m246			85	9		m35
Internal Link Dist (ft)			1976			1520			196			964
Turn Bay Length (ft)		210		235	240							
Base Capacity (vph)		522	2289	1583	564	2420			217	336		62
Starvation Cap Reductn		0	0	0	0	0			0	0		0
Spillback Cap Reductn		0	0	0	0	0			0	0		0
Storage Cap Reductn		0	0	0	0	0			0	0		0
Reduced v/c Ratio		0.13	0.38	0.05	0.34	0.31			0.23	0.32		0.35

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 14 (10%), Referenced to phase 2:EBTL, Start of 1st Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 57.5% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway





Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	10.0
Total Split (s)	23.0
Total Split (%)	16.4%
Maximum Green (s)	17.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	8.7
Actuated g/C Ratio	0.06
v/c Ratio	0.15
Control Delay	1.7
Queue Delay	0.0
Total Delay	1.7
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	1
Queue Length 95th (ft)	m2
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	336
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11

Intersection Summary



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	63	839	75	181	730	1	36	11	103	1	20
Future Volume (veh/h)	1	63	839	75	181	730	1	36	11	103	1	20
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		66	874	0	189	760	1	38	11	107	1	21
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		563	2343		492	2494	3	115	33	130	3	62
Arrive On Green		0.03	0.66	0.00	0.07	0.91	0.91	0.08	0.08	0.08	0.03	0.03
Sat Flow, veh/h		1781	3554	1585	1781	3642	5	1396	404	1585	85	1781
Grp Volume(v), veh/h		66	874	0	189	371	390	49	0	107	22	0
Grp Sat Flow(s),veh/h/ln		1781	1777	1585	1781	1777	1869	1801	0	1585	1866	0
Q Serve(g_s), s		1.7	15.6	0.0	4.9	3.6	3.6	3.6	0.0	9.3	1.6	0.0
Cycle Q Clear(g_c), s		1.7	15.6	0.0	4.9	3.6	3.6	3.6	0.0	9.3	1.6	0.0
Prop In Lane		1.00		1.00	1.00		0.00	0.78		1.00	0.05	
Lane Grp Cap(c), veh/h		563	2343		492	1217	1280	148	0	130	65	0
V/C Ratio(X)		0.12	0.37		0.38	0.30	0.30	0.33	0.00	0.82	0.34	0.00
Avail Cap(c_a), veh/h		618	2343		654	1217	1280	219	0	192	227	0
HCM Platoon Ratio		1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		7.2	10.8	0.0	7.6	2.1	2.1	60.6	0.0	63.2	66.0	0.0
Incr Delay (d2), s/veh		0.1	0.5	0.0	0.0	0.1	0.1	1.3	0.0	16.0	3.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		1.1	9.7	0.0	2.2	1.5	1.5	3.1	0.0	7.8	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		7.3	11.2	0.0	7.7	2.2	2.2	61.9	0.0	79.2	69.0	0.0
LnGrp LOS		A	B		A	A	A	E	A	E	E	A
Approach Vol, veh/h			940			950			156			60
Approach Delay, s/veh			11.0			3.3			73.8			76.4
Approach LOS			B			A			E			E

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	98.3		10.9	9.7	101.9		17.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	20.0	62.0		17.0	8.0	74.0		17.0				
Max Q Clear Time (g_c+I1), s	6.9	17.6		5.3	3.7	5.6		11.3				
Green Ext Time (p_c), s	0.4	6.6		0.1	0.0	4.8		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		14.0
HCM 6th LOS		B

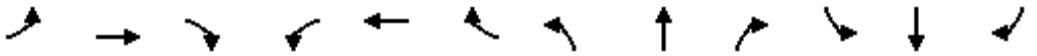
Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	38
Peak Hour Factor	0.96
Percent Heavy Veh, %	2
Cap, veh/h	55
Arrive On Green	0.03
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	38
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	3.3
Cycle Q Clear(g_c), s	3.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	55
V/C Ratio(X)	0.69
Avail Cap(c_a), veh/h	192
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	66.8
Incr Delay (d2), s/veh	13.9
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	80.7
LnGrp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



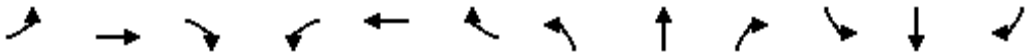
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			117		26			22	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3439			2072			591			383	
Travel Time (s)		42.6			25.7			13.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1939	47	26	1627	103	14	1	26	59	1	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1939	47	26	1627	103	14	27	0	59	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	15.0	92.0	92.0	15.0	92.0	92.0	17.0	17.0		16.0	16.0	
Total Split (%)	10.7%	65.7%	65.7%	10.7%	65.7%	65.7%	12.1%	12.1%		11.4%	11.4%	
Maximum Green (s)	9.0	86.0	86.0	9.0	86.0	86.0	11.0	11.0		10.0	10.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	7.2	91.9	91.9	7.2	91.9	91.9	6.1	6.3		7.6	10.0	
Actuated g/C Ratio	0.06	0.75	0.75	0.06	0.75	0.75	0.05	0.05		0.06	0.08	
v/c Ratio	0.25	0.73	0.04	0.25	0.61	0.08	0.08	0.25		0.28	0.15	
Control Delay	65.3	16.1	0.1	65.3	12.8	1.4	62.1	28.0		61.6	25.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	65.3	16.1	0.1	65.3	12.8	1.4	62.1	28.0		61.6	25.2	
LOS	E	B	A	E	B	A	E	C		E	C	
Approach Delay		16.3			12.9			39.7			51.4	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	22	602	0	22	423	0	6	1		25	1	
Queue Length 95th (ft)	54	831	0	54	584	17	18	33		50	30	
Internal Link Dist (ft)		3359			1992			511			303	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	131	2656	1217	131	2656	1217	312	168		283	176	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.20	0.73	0.04	0.20	0.61	0.08	0.04	0.16		0.21	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 122.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 11: SH 71 & Willie Way

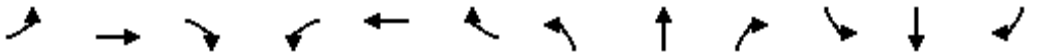




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1939	47	26	1627	103	14	1	26	59	1	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2561	1142	34	2561	1142	43	2	46	101	3	71
Arrive On Green	0.02	0.72	0.72	0.02	0.72	0.72	0.01	0.03	0.03	0.03	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	69	1526
Grp Volume(v), veh/h	26	1939	47	26	1627	103	14	0	27	59	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1596
Q Serve(g_s), s	1.7	40.0	1.0	1.7	28.2	2.3	0.5	0.0	2.0	2.0	0.0	1.7
Cycle Q Clear(g_c), s	1.7	40.0	1.0	1.7	28.2	2.3	0.5	0.0	2.0	2.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.96
Lane Grp Cap(c), veh/h	34	2561	1142	34	2561	1142	43	0	47	101	0	74
V/C Ratio(X)	0.75	0.76	0.04	0.75	0.64	0.09	0.33	0.00	0.57	0.58	0.00	0.31
Avail Cap(c_a), veh/h	134	2561	1142	134	2561	1142	319	0	147	290	0	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.2	10.3	4.8	58.2	8.6	5.0	58.4	0.0	57.1	57.2	0.0	55.0
Incr Delay (d2), s/veh	27.6	2.1	0.1	27.6	1.2	0.2	4.3	0.0	10.4	5.3	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	17.7	0.6	1.8	13.0	1.4	0.4	0.0	1.7	1.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	12.4	4.9	85.9	9.8	5.1	62.7	0.0	67.5	62.5	0.0	57.4
LnGrp LOS	F	B	A	F	A	A	E	A	E	E	A	E
Approach Vol, veh/h		2012			1756			41			82	
Approach Delay, s/veh		13.2			10.7			65.9			61.0	
Approach LOS		B			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	92.0	7.5	11.5	8.3	92.0	9.5	9.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	86.0	11.0	10.0	9.0	86.0	10.0	11.0
Max Q Clear Time (g_c+I1), s	3.7	42.0	2.5	3.7	3.7	30.2	4.0	4.0
Green Ext Time (p_c), s	0.0	22.0	0.0	0.0	0.0	17.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1143	36	51	932	4	1	1	1	53	1	10
Future Volume (vph)	3	1143	36	51	932	4	1	1	1	53	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		100	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	110			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.976			0.953	
Satd. Flow (prot)	1770	3522	0	1770	3536	0	0	1818	1583	0	1775	1583
Flt Permitted	0.950			0.950				0.976			0.953	
Satd. Flow (perm)	1770	3522	0	1770	3536	0	0	1818	1583	0	1775	1583
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		620			469			214			334	
Travel Time (s)		9.4			7.1			4.9			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1242	39	55	1013	4	1	1	1	58	1	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1281	0	55	1017	0	0	2	1	0	59	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.7%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1143	36	51	932	4	1	1	1	53	1	10
Future Vol, veh/h	3	1143	36	51	932	4	1	1	1	53	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	-	-	100	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1242	39	55	1013	4	1	1	1	58	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1017	0	0	1281	0	0	1885	2395	641	1753	2412	509
Stage 1	-	-	-	-	-	-	1268	1268	-	1125	1125	-
Stage 2	-	-	-	-	-	-	617	1127	-	628	1287	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	678	-	-	538	-	-	43	33	417	~ 54	32	509
Stage 1	-	-	-	-	-	-	178	238	-	218	278	-
Stage 2	-	-	-	-	-	-	444	278	-	437	233	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	678	-	-	538	-	-	38	30	417	~ 48	29	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	38	30	-	~ 48	29	-
Stage 1	-	-	-	-	-	-	177	237	-	217	250	-
Stage 2	-	-	-	-	-	-	388	250	-	432	232	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	83.2	299.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	34	417	678	-	-	538	-	-	47	509
HCM Lane V/C Ratio	0.064	0.003	0.005	-	-	0.103	-	-	1.249	0.021
HCM Control Delay (s)	118	13.7	10.3	-	-	12.5	-	-	$ 352.5	12.2
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.2	0	0	-	-	0.3	-	-	5.5	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1048	54	46	945	14	81
Future Volume (vph)	1048	54	46	945	14	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3514	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2187	728	
Travel Time (s)	12.5			33.1	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1178	61	52	1062	16	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1239	0	52	1062	16	91
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1048	54	46	945	14	81
Future Vol, veh/h	1048	54	46	945	14	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1178	61	52	1062	16	91

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1239	0	1844	620
Stage 1	-	-	-	-	1209	-
Stage 2	-	-	-	-	635	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	558	-	66	431
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	558	-	60	431
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	444	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	25.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	60	431	-	-	558	-
HCM Lane V/C Ratio	0.262	0.211	-	-	0.093	-
HCM Control Delay (s)	85.1	15.6	-	-	12.1	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	0.8	-	-	0.3	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1122	59	12	938	31	13
Future Volume (vph)	1122	59	12	938	31	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3514	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	700			1258	738	
Travel Time (s)	10.6			19.1	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1320	69	14	1104	36	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1389	0	14	1104	36	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	20	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1122	59	12	938	31	13
Future Vol, veh/h	1122	59	12	938	31	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1320	69	14	1104	36	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1389	0	1935	695
Stage 1	-	-	-	-	1355	-
Stage 2	-	-	-	-	580	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	489	-	58	385
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	489	-	56	385
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	508	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	109.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	56	385	-	-	489	-
HCM Lane V/C Ratio	0.651	0.04	-	-	0.029	-
HCM Control Delay (s)	148.9	14.7	-	-	12.6	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	2.7	0.1	-	-	0.1	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	89	20	38	67	11	66
Future Volume (vph)	89	20	38	67	11	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1852	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1852	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	439			436	1044	
Travel Time (s)	10.0			9.9	23.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	98	22	42	74	12	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	42	74	12	73
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

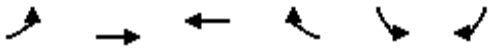
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	20	38	67	11	66
Future Vol, veh/h	89	20	38	67	11	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	22	42	74	12	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	120	0	267	109
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1480	-	727	950
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1480	-	707	950
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	950	-	-	1480	-
HCM Lane V/C Ratio	0.017	0.076	-	-	0.028	-
HCM Control Delay (s)	10.2	9.1	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	1176	938	3	7	6
Future Volume (vph)	9	1176	938	3	7	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt						0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	0	1770	1583
Link Speed (mph)		45	45		30	
Link Distance (ft)		478	620		190	
Travel Time (s)		7.2	9.4		4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	1278	1020	3	8	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	1278	1023	0	8	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

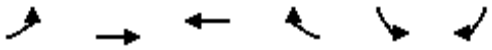
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1176	938	3	7	6
Future Vol, veh/h	9	1176	938	3	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	345	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	1278	1020	3	8	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1023	0	-	0	1681	512
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	674	-	-	-	85	507
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	674	-	-	-	84	507
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	33.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	674	-	-	-	84	507
HCM Lane V/C Ratio	0.015	-	-	-	0.091	0.013
HCM Control Delay (s)	10.4	-	-	-	52.1	12.2
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1185	936	7	0	16
Future Volume (vph)	0	1185	936	7	0	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	3536	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	3536	0	0	1611
Link Speed (mph)		45	45		30	
Link Distance (ft)		824	478		321	
Travel Time (s)		12.5	7.2		7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1288	1017	8	0	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1288	1025	0	0	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		13	13		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

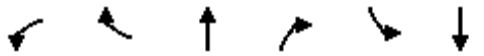
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1185	936	7	0	16
Future Vol, veh/h	0	1185	936	7	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1288	1017	8	0	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	513
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	506
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	506
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	506
HCM Lane V/C Ratio	-	-	-	0.034
HCM Control Delay (s)	-	-	-	12.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	2129	11	0	2291
Future Volume (vph)	0	17	2129	11	0	2291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		220	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1611	3539	1583	0	3539
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	3539
Link Speed (mph)	30		55			55
Link Distance (ft)	181		392			410
Travel Time (s)	4.1		4.9			5.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	2314	12	0	2490
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	2314	12	0	2490
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

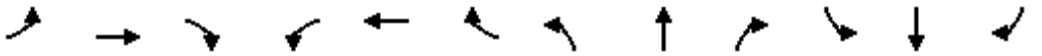
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	17	2129	11	0	2291
Future Vol, veh/h	0	17	2129	11	0	2291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	220	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	2314	12	0	2490

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1157	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	190	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	190	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	190	-
HCM Lane V/C Ratio	-	-	0.097	-
HCM Control Delay (s)	-	-	26	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	0.3	-

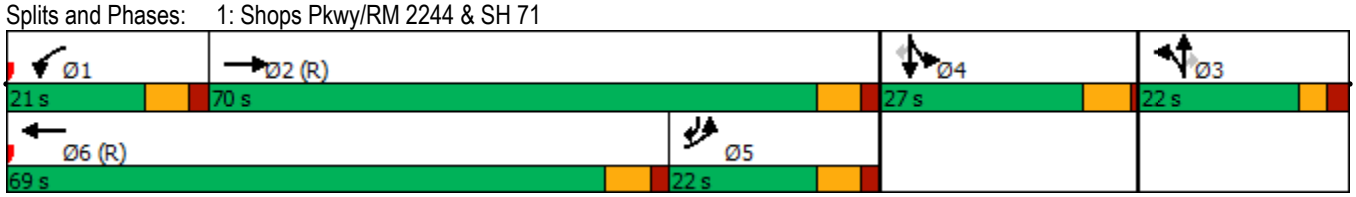


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1885	232	407	2407	44	36	89	136	521	96	655
Future Volume (vph)	128	1885	232	407	2407	44	36	89	136	521	96	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.95	0.95	0.88
Frt		0.984			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	3335	4861	0	1719	4925	0	0	3390	1538	1633	1719	2707
Flt Permitted	0.950			0.950				0.986		0.950		
Satd. Flow (perm)	3335	4861	0	1719	4925	0	0	3390	1538	1633	1719	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			2				180			292
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3236			1846			605			1646	
Travel Time (s)		44.1			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	133	1964	242	424	2507	46	38	93	142	543	100	682
Shared Lane Traffic (%)										0%		
Lane Group Flow (vph)	133	2206	0	424	2553	0	0	131	142	543	100	682
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	26.0		13.5	26.0		12.5	12.5	12.5	13.0	13.0	13.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	70.0		21.0	69.0		22.0	22.0	22.0	27.0	27.0	22.0
Total Split (%)	15.7%	50.0%		15.0%	49.3%		15.7%	15.7%	15.7%	19.3%	19.3%	15.7%
Maximum Green (s)	15.3	63.3		14.3	62.3		16.5	16.5	16.5	21.0	21.0	15.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	15.3	63.3		21.0	69.0			9.8	9.8	21.0	21.0	42.3
Actuated g/C Ratio	0.11	0.45		0.15	0.49			0.07	0.07	0.15	0.15	0.30
v/c Ratio	0.37	1.00		1.65	1.05			0.55	0.52	2.23	0.39	0.67
Control Delay	49.9	34.7		344.3	68.4			71.6	10.1	591.4	58.8	27.2
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	34.7		344.3	68.4			71.6	10.1	591.4	58.8	27.2
LOS	D	C		F	E			E	B	F	E	C
Approach Delay		35.6			107.7			39.6			260.8	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	54	428		~558	~927			62	0	~836	87	179
Queue Length 95th (ft)	m51	m371		#804	#1052			95	32	#1074	150	257
Internal Link Dist (ft)		3156			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	364	2208		257	2428			399	340	244	257	1021
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.37	1.00		1.65	1.05			0.33	0.42	2.23	0.39	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 131 (94%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.23			
Intersection Signal Delay: 109.9		Intersection LOS: F	
Intersection Capacity Utilization 103.9%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	174	1687	179	5	28	2054	747	191	143	47	995	304
Future Volume (vph)	174	1687	179	5	28	2054	747	191	143	47	995	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.986					0.850		0.972			
Flt Protected	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (prot)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (perm)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		15					639		15			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		813				3236			676			1221
Travel Time (s)		10.1				44.1			18.4			15.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	185	1795	190	5	30	2185	795	203	152	50	1059	323
Shared Lane Traffic (%)								34%				
Lane Group Flow (vph)	185	1985	0	0	35	2185	795	134	271	0	1059	323
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1794
Flt Permitted	
Satd. Flow (perm)	1794
Right Turn on Red	Yes
Satd. Flow (RTOR)	157
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	2%
Adj. Flow (vph)	229
Shared Lane Traffic (%)	
Lane Group Flow (vph)	229
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	13.5	21.7		13.5	13.5	21.7		11.0	11.0		14.0	14.0
Total Split (s)	15.0	62.0		17.0	17.0	64.0		23.0	23.0		38.0	38.0
Total Split (%)	10.7%	44.3%		12.1%	12.1%	45.7%		16.4%	16.4%		27.1%	27.1%
Maximum Green (s)	9.1	56.1		11.1	11.1	58.1		17.5	17.5		32.0	32.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	9.0	59.5			9.9	58.2	140.0	15.3	15.3		34.2	34.2
Actuated g/C Ratio	0.06	0.42			0.07	0.42	1.00	0.11	0.11		0.24	0.24
v/c Ratio	0.87	0.96			0.29	1.06	0.47	0.79	0.76		1.30	0.73
Control Delay	87.8	58.0			58.5	66.0	0.3	90.2	70.7		172.5	39.0
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	87.8	58.0			58.5	66.0	0.3	90.2	70.7		172.5	39.0
LOS	F	E			E	E	A	F	E		F	D
Approach Delay		60.6				48.6			77.2			123.4
Approach LOS		E				D			E			F
Queue Length 50th (ft)	88	~650			28	~790	0	130	125		~668	304
Queue Length 95th (ft)	m#150	#778			m31	m#752	m0	#228	176		m#774	m354
Internal Link Dist (ft)		733				3156			596			1141
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	216	2078			136	2055	1692	195	408		814	442
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.86	0.96			0.26	1.06	0.47	0.69	0.66		1.30	0.73

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.30			
Intersection Signal Delay: 70.5		Intersection LOS: E	
Intersection Capacity Utilization 99.8%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			

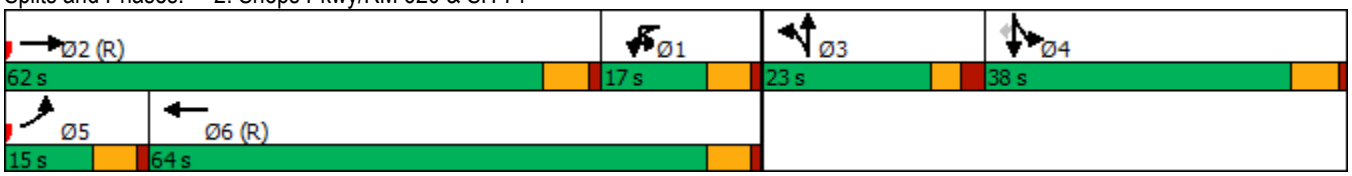


Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	14.0
Total Split (s)	38.0
Total Split (%)	27.1%
Maximum Green (s)	32.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	34.2
Actuated g/C Ratio	0.24
v/c Ratio	0.41
Control Delay	14.9
Queue Delay	0.0
Total Delay	14.9
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	113
Queue Length 95th (ft)	m128
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	557
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.41

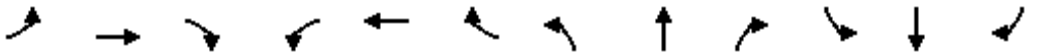
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

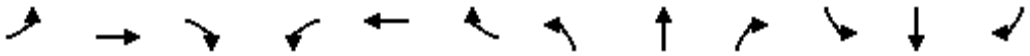
Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	1261	277	583	1513	43	225	378	460	45	494	664
Future Volume (vph)	475	1261	277	583	1513	43	225	378	460	45	494	664
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		400	1000		0	150		140	200		0
Storage Lanes	1		1	1		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3406	1524	1703	3392	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.099			0.519		
Satd. Flow (perm)	1703	3406	1524	1703	3392	0	177	3406	1524	930	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		2				464			339
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3446			343			1965	
Travel Time (s)		19.1			42.7			4.3			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	495	1314	289	607	1576	45	234	394	479	47	515	692
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	1314	289	607	1621	0	234	394	479	47	515	692
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



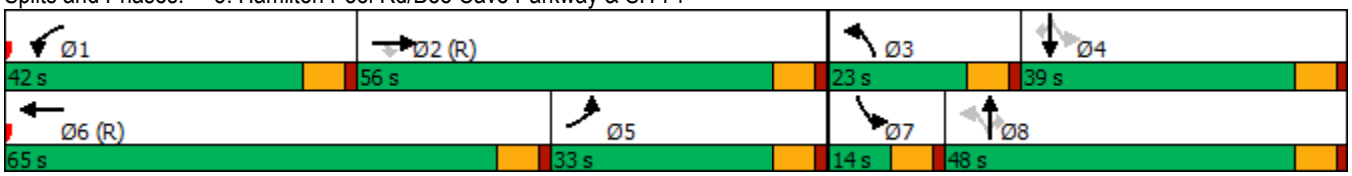
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	21.5	21.5	13.5	21.5		11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	33.0	56.0	56.0	42.0	65.0		23.0	48.0	48.0	14.0	39.0	39.0
Total Split (%)	20.6%	35.0%	35.0%	26.3%	40.6%		14.4%	30.0%	30.0%	8.8%	24.4%	24.4%
Maximum Green (s)	26.5	49.5	49.5	35.5	58.5		16.5	41.5	41.5	7.5	32.5	32.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	1.4	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	15.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	26.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	26.5	49.5	49.5	35.5	58.5		55.5	45.0	45.0	38.8	32.5	32.5
Actuated g/C Ratio	0.17	0.31	0.31	0.22	0.37		0.35	0.28	0.28	0.24	0.20	0.20
v/c Ratio	1.76	1.25	0.49	1.61	1.31		1.07	0.41	0.63	0.18	1.41	1.20
Control Delay	390.5	164.6	21.3	324.7	184.2		124.8	49.3	8.7	37.9	246.5	130.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	390.5	164.6	21.3	324.7	184.2		124.8	49.3	8.7	37.9	246.5	130.4
LOS	F	F	C	F	F		F	D	A	D	F	F
Approach Delay		198.1			222.5			47.7			174.6	
Approach LOS		F			F			D			F	
Queue Length 50th (ft)	~767	~897	101	~906	~1145		~223	181	12	33	~722	~575
Queue Length 95th (ft)	#999	#1038	197	#1149	#1285		#407	237	122	65	#956	#827
Internal Link Dist (ft)		1458			3366			263			1885	
Turn Bay Length (ft)	400		400	1000			150		140	200		
Base Capacity (vph)	282	1053	586	377	1241		218	957	761	268	364	579
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.76	1.25	0.49	1.61	1.31		1.07	0.41	0.63	0.18	1.41	1.20

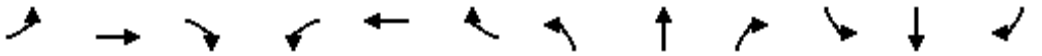
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 101 (63%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.76			
Intersection Signal Delay: 176.9		Intersection LOS: F	
Intersection Capacity Utilization 129.6%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	1261	277	583	1513	43	225	378	460	45	494	664
Future Volume (veh/h)	475	1261	277	583	1513	43	225	378	460	45	494	664
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	495	1314	0	607	1576	0	234	394	0	47	515	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	286	1065		383	1258		223	951		272	368	
Arrive On Green	0.17	0.31	0.00	0.22	0.37	0.00	0.10	0.28	0.00	0.03	0.20	0.00
Sat Flow, veh/h	1725	3441	1535	1725	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	495	1314	0	607	1576	0	234	394	0	47	515	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1725	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	26.5	49.5	0.0	35.5	58.5	0.0	16.5	15.0	0.0	3.4	32.5	0.0
Cycle Q Clear(g_c), s	26.5	49.5	0.0	35.5	58.5	0.0	16.5	15.0	0.0	3.4	32.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	1065		383	1258		223	951		272	368	
V/C Ratio(X)	1.73	1.23		1.59	1.25		1.05	0.41		0.17	1.40	
Avail Cap(c_a), veh/h	286	1065		383	1258		223	951		301	368	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.21	0.21	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.8	55.3	0.0	62.3	50.7	0.0	48.1	47.3	0.0	48.4	63.8	0.0
Incr Delay (d2), s/veh	344.0	113.7	0.0	266.4	115.2	0.0	74.0	0.1	0.0	0.1	195.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	59.9	53.8	0.0	60.6	57.5	0.0	17.1	10.4	0.0	2.7	52.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	410.8	168.9	0.0	328.6	165.9	0.0	122.1	47.4	0.0	48.5	259.5	0.0
LnGrp LOS	F	F		F	F		F	D		D	F	
Approach Vol, veh/h		1809			2183			628			562	
Approach Delay, s/veh		235.1			211.2			75.2			241.8	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	56.0	23.0	39.0	33.0	65.0	11.3	50.7
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	35.5	49.5	16.5	32.5	26.5	58.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	37.5	51.5	18.5	34.5	28.5	60.5	5.4	17.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	206.4
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	853	1	383	11	1	2	225	663	6	4	1180	1128
Future Volume (vph)	853	1	383	11	1	2	225	663	6	4	1180	1128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.982			0.999				0.850
Flt Protected	0.950	0.952			0.962		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1760	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.962		0.070			0.381		
Satd. Flow (perm)	1681	1685	1583	0	1760	0	130	3536	0	710	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			312		2			1				730
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		2187			246			1646			1175	
Travel Time (s)		33.1			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	907	1	407	12	1	2	239	705	6	4	1255	1200
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	453	455	407	0	15	0	239	711	0	4	1255	1200
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6

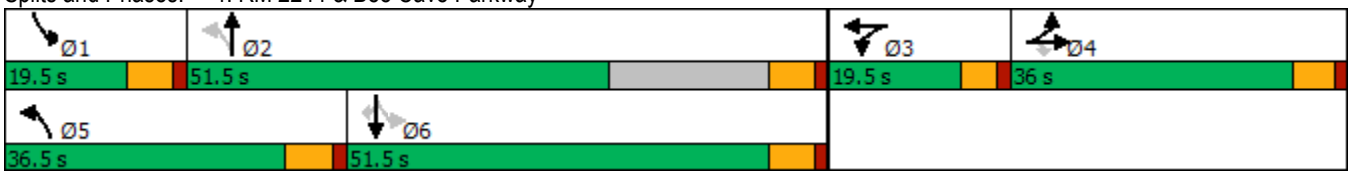
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	12.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	18.5
Total Split (s)	36.0	36.0	36.0	19.5	19.5		36.5	51.5		19.5	51.5	51.5
Total Split (%)	25.1%	25.1%	25.1%	13.6%	13.6%		25.4%	35.9%		13.6%	35.9%	35.9%
Maximum Green (s)	30.0	30.0	30.0	14.0	14.0		30.0	45.0		13.0	45.0	45.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	Min
Act Effct Green (s)	30.3	30.3	30.3		5.7		71.9	69.8		50.4	45.4	45.4
Actuated g/C Ratio	0.25	0.25	0.25		0.05		0.60	0.59		0.42	0.38	0.38
v/c Ratio	1.06	1.06	0.64		0.17		0.68	0.34		0.01	0.93	1.14
Control Delay	104.2	104.8	16.0		58.3		38.2	14.4		14.0	49.4	89.0
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	104.2	104.8	16.0		58.3		38.2	14.4		14.0	49.4	89.0
LOS	F	F	B		E		D	B		B	D	F
Approach Delay		77.1			58.3			20.4			68.7	
Approach LOS		E			E			C			E	
Queue Length 50th (ft)	~360	~371	54		9		115	118		1	443	~669
Queue Length 95th (ft)	#737	#741	195		36		230	245		7	#781	#1082
Internal Link Dist (ft)		2107			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	427	428	634		210		495	2073		465	1349	1055
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	1.06	1.06	0.64		0.07		0.48	0.34		0.01	0.93	1.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 119.1			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 61.3		Intersection LOS: E	
Intersection Capacity Utilization 101.9%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	3	467	372	104	29	483	837	137	864	37	716	1337
Future Volume (vph)	3	467	372	104	29	483	837	137	864	37	716	1337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		255		0	165		0	245		385	400	
Storage Lanes		1		0	1		1	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95
Frt			0.977			0.969	0.850			0.850		
Flt Protected		0.950	0.985		0.950			0.950			0.950	
Satd. Flow (prot)	0	1648	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Flt Permitted		0.414	0.985		0.950			0.950			0.950	
Satd. Flow (perm)	0	718	3231	0	1811	1698	1539	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			11			8	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			838			1100			437
Travel Time (s)			23.7			12.7			13.6			5.4
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	3	481	384	107	30	498	863	141	891	38	738	1378
Shared Lane Traffic (%)		45%					15%					
Lane Group Flow (vph)	0	268	707	0	30	627	734	141	891	38	738	1378
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			18			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	666
Future Volume (vph)	666
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	400
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	364
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	687
Shared Lane Traffic (%)	
Lane Group Flow (vph)	687
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3	3 1	5	2		1	6
Permitted Phases	4									2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.3	10.3	10.3		13.0	13.0		13.5	21.5	21.5	13.5	31.5
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	52.0	52.0	34.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	37.1%	37.1%	24.3%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	45.9	45.9	27.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)												7.0
Flash Dont Walk (s)												18.0
Pedestrian Calls (#/hr)												0
Act Effct Green (s)		16.7	16.7		26.5	26.5	60.5	8.9	45.9	45.9	27.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.43	0.06	0.33	0.33	0.20	0.46
v/c Ratio		3.15	1.79		0.09	1.92	1.01	1.32	0.78	0.06	1.09	0.85
Control Delay		1017.4	403.0		47.8	454.1	68.6	230.5	45.8	0.9	84.0	21.6
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		1017.4	403.0		47.8	454.1	68.6	230.5	45.8	0.9	84.0	21.6
LOS		F	F		D	F	E	F	D	A	F	C
Approach Delay			571.9			241.9			68.6			33.9
Approach LOS			F			F			E			C
Queue Length 50th (ft)		~480	~536		23	~923	~638	~167	392	0	~384	418
Queue Length 95th (ft)		#687	#675		53	#1175	#931	m#297	460	m4	m278	m271
Internal Link Dist (ft)			1487			758			1020			357
Turn Bay Length (ft)		255			165			245		385	400	
Base Capacity (vph)		85	395		342	327	729	107	1149	603	677	1624
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		3.15	1.79		0.09	1.92	1.01	1.32	0.78	0.06	1.09	0.85

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 3.15			
Intersection Signal Delay: 170.3		Intersection LOS: F	
Intersection Capacity Utilization 128.6%		ICU Level of Service H	



Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	31.5
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Walk Time (s)	7.0
Flash Dont Walk (s)	18.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.71
Control Delay	4.8
Queue Delay	0.0
Total Delay	4.8
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	79
Queue Length 95th (ft)	m63
Internal Link Dist (ft)	
Turn Bay Length (ft)	400
Base Capacity (vph)	970
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.71

Intersection Summary

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	267	1	131	2	2	1	149	1992	1	1	2488
Future Volume (vph)	1	267	1	131	2	2	1	149	1992	1	1	2488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	12	12	11	14	12	12	14	12
Storage Length (ft)		0		95	0		85	100		0	100	
Storage Lanes		1		1	0		1	1		0	1	
Taper Length (ft)		25			25			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850					0.990
Flt Protected		0.950	0.953			0.976		0.950			0.950	
Satd. Flow (prot)	0	1649	1544	1449	0	1783	1501	1851	3471	0	1851	3436
Flt Permitted		0.755	0.953			0.976		0.045			0.047	
Satd. Flow (perm)	0	1310	1544	1449	0	1783	1501	88	3471	0	92	3436
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				143			143					9
Link Speed (mph)			30			30			55			55
Link Distance (ft)			1137			471			839			1284
Travel Time (s)			25.8			10.7			10.4			15.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	272	1	134	2	2	1	152	2033	1	1	2539
Shared Lane Traffic (%)		50%										
Lane Group Flow (vph)	0	137	137	134	0	4	1	152	2034	0	1	2718
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			10			12			14			14
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left			Left						Left	Thru
Leading Detector (ft)	20	20	50	50	20	50	50	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	50	50	20	50	50	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	175
Future Volume (vph)	175
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.98
Heavy Vehicles (%)	4%
Adj. Flow (vph)	179
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3		5	2		1	6
Permitted Phases	4			4			3	2			6	
Detector Phase	4	4	4	4	3	3	3	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	13.5	21.5		12.5	28.5
Total Split (s)	18.0	18.0	18.0	18.0	12.0	12.0	12.0	19.0	97.0		13.0	91.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	8.6%	8.6%	8.6%	13.6%	69.3%		9.3%	65.0%
Maximum Green (s)	12.5	12.5	12.5	12.5	6.5	6.5	6.5	14.1	91.0		8.1	85.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		22.2	22.2	22.2		5.2	5.2	105.2	102.1		95.2	89.1
Actuated g/C Ratio		0.16	0.16	0.16		0.04	0.04	0.75	0.73		0.68	0.64
v/c Ratio		0.66	0.56	0.38		0.06	0.01	0.79	0.80		0.01	1.24
Control Delay		71.2	64.3	10.7		66.8	0.0	40.1	10.9		10.0	144.8
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		71.2	64.3	10.7		66.8	0.0	40.1	10.9		10.0	144.8
LOS		E	E	B		E	A	D	B		A	F
Approach Delay			49.0			53.4			13.0			144.8
Approach LOS			D			D			B			F
Queue Length 50th (ft)		123	121	0		4	0	79	342		0	~1600
Queue Length 95th (ft)		#298	#276	57		17	0	m78	m504		m0	m#1182
Internal Link Dist (ft)			1057			391			759			1204
Turn Bay Length (ft)				95			85	100			100	
Base Capacity (vph)		207	244	349		82	206	243	2530		166	2191
Starvation Cap Reductn		0	0	0		0	0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0	0	0		0	0
Reduced v/c Ratio		0.66	0.56	0.38		0.05	0.00	0.63	0.80		0.01	1.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 127 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay: 83.2		Intersection LOS: F	
Intersection Capacity Utilization 110.4%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	217	7	191	72	4	20	104	2011	16	49	2362
Future Volume (vph)	1	217	7	191	72	4	20	104	2011	16	49	2362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	14	12	12	12	12
Storage Length (ft)		80		135	90		0	130		0	150	
Storage Lanes		0		1	1		1	1		0	1	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850		0.999			0.989
Flt Protected		0.950	0.955		0.950	0.957		0.950			0.950	
Satd. Flow (prot)	0	1609	1674	1516	1665	1677	1568	1869	3501	0	1752	3466
Flt Permitted		0.730	0.955		0.950	0.957		0.950			0.950	
Satd. Flow (perm)	0	1237	1674	1516	1665	1677	1568	1869	3501	0	1752	3466
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				181			106		1			10
Link Speed (mph)			30			30			55			55
Link Distance (ft)			643			447			1366			1282
Travel Time (s)			14.6			10.2			16.9			15.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	226	7	199	75	4	21	108	2095	17	51	2460
Shared Lane Traffic (%)		49%			47%							
Lane Group Flow (vph)	0	116	118	199	40	39	21	108	2112	0	51	2654
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			30			20			14			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2	1	1	2		1	2
Detector Template	Left	Left			Left				Thru		Left	
Leading Detector (ft)	20	20	100	50	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	6	50	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	186
Future Volume (vph)	186
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	3%
Adj. Flow (vph)	194
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		3	3		4	4		1	6		5	2
Permitted Phases	3			3			4					
Detector Phase	3	3	3	3	4	4	4	1	6		5	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.7	10.7	10.7	10.7	10.6	10.6	10.6	9.9	31.5		9.9	21.0
Total Split (s)	18.0	18.0	18.0	18.0	15.0	15.0	15.0	20.0	87.0		20.0	87.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	10.7%	10.7%	10.7%	14.3%	62.1%		14.3%	62.1%
Maximum Green (s)	12.3	12.3	12.3	12.3	9.4	9.4	9.4	15.1	81.0		15.1	81.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		15.0	15.0	15.0	7.6	7.6	7.6	11.2	91.6		7.7	86.1
Actuated g/C Ratio		0.11	0.11	0.11	0.05	0.05	0.05	0.08	0.65		0.06	0.62
v/c Ratio		0.88	0.66	0.61	0.45	0.43	0.11	0.72	0.92		0.53	1.24
Control Delay		112.1	78.6	19.9	79.2	78.3	1.2	88.3	28.8		83.0	139.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		112.1	78.6	19.9	79.2	78.3	1.2	88.3	28.8		83.0	139.9
LOS		F	E	B	E	E	A	F	C		F	F
Approach Delay			60.6			62.5			31.7			138.9
Approach LOS			E			E			C			F
Queue Length 50th (ft)		112	111	15	37	36	0	93	1047		46	~1602
Queue Length 95th (ft)		#260	#227	99	81	78	0	m119	#1214		90	#1770
Internal Link Dist (ft)			563			367			1286			1202
Turn Bay Length (ft)		80		135	90			130			150	
Base Capacity (vph)		132	179	324	111	112	204	201	2290		188	2136
Starvation Cap Reductn		0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio		0.88	0.66	0.61	0.36	0.35	0.10	0.54	0.92		0.27	1.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 36 (26%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay: 87.7		Intersection LOS: F	
Intersection Capacity Utilization 103.7%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			



Lane Group	SBR
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



HCM 6th Edition methodology expects strict NEMA phasing.

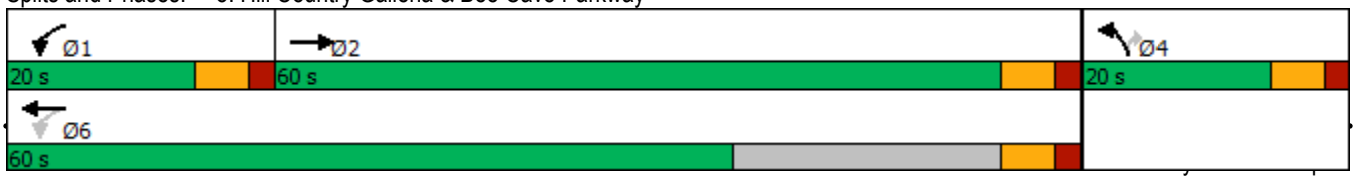


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1010	106	54	1250	145	49
Future Volume (vph)	1010	106	54	1250	145	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3490	0	1770	3539	1770	1583
Flt Permitted			0.107		0.950	
Satd. Flow (perm)	3490	0	199	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17					58
Link Speed (mph)	45			45	25	
Link Distance (ft)	1258			822	561	
Travel Time (s)	19.1			12.5	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1188	125	64	1471	171	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1313	0	64	1471	171	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	20.0	20.0	20.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	38.8		48.4	48.4	12.0	12.0
Actuated g/C Ratio	0.53		0.67	0.67	0.17	0.17
v/c Ratio	0.70		0.24	0.62	0.59	0.19
Control Delay	15.9		6.3	8.3	39.3	10.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	15.9		6.3	8.3	39.3	10.9
LOS	B		A	A	D	B
Approach Delay	15.9			8.2	32.1	
Approach LOS	B			A	C	
Queue Length 50th (ft)	237		9	175	71	0
Queue Length 95th (ft)	294		19	211	147	29
Internal Link Dist (ft)	1178			742	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2658		442	3373	348	358
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.49		0.14	0.44	0.49	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 72.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1010	106	54	1250	145	49
Future Volume (veh/h)	1010	106	54	1250	145	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1188	125	64	1471	171	58
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1630	171	313	2352	232	206
Arrive On Green	0.50	0.50	0.06	0.66	0.13	0.13
Sat Flow, veh/h	3339	341	1781	3647	1781	1585
Grp Volume(v), veh/h	649	664	64	1471	171	58
Grp Sat Flow(s),veh/h/ln	1777	1809	1781	1777	1781	1585
Q Serve(g_s), s	16.5	16.6	0.9	13.8	5.3	1.9
Cycle Q Clear(g_c), s	16.5	16.6	0.9	13.8	5.3	1.9
Prop In Lane		0.19	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	893	909	313	2352	232	206
V/C Ratio(X)	0.73	0.73	0.20	0.63	0.74	0.28
Avail Cap(c_a), veh/h	1664	1694	647	3327	432	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	11.3	8.5	5.6	24.1	22.7
Incr Delay (d2), s/veh	1.2	1.1	0.3	0.3	4.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	8.6	0.4	4.3	4.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	12.4	8.8	5.9	28.7	23.4
LnGrp LOS	B	B	A	A	C	C
Approach Vol, veh/h	1313			1535	229	
Approach Delay, s/veh	12.4			6.0	27.4	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.2	35.0		13.5		44.2
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.9	18.6		7.3		15.8
Green Ext Time (p_c), s	0.1	10.3		0.4		13.9

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	6	120	848	1	1178	42	38	100
Future Volume (vph)	6	120	848	1	1178	42	38	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950		0.950			0.950	
Satd. Flow (prot)	0	1736	3471	1736	3454	0	1736	1553
Flt Permitted		0.950		0.950			0.950	
Satd. Flow (perm)	0	1736	3471	1736	3454	0	1736	1553
Link Speed (mph)			45		45		30	
Link Distance (ft)			1965		2085		899	
Travel Time (s)			29.8		31.6		20.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	7	132	932	1	1295	46	42	110
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	139	932	1	1341	0	42	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Sign Control			Free		Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	9

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	6	120	848	1	1178	42	38	100
Future Vol, veh/h	6	120	848	1	1178	42	38	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	-	200	-	200	-	-	0	100
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	4	4	4	4	4	4	4
Mvmt Flow	7	132	932	1	1295	46	42	110

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	1341	1341	0	932	-	0	2064	671
Stage 1	-	-	-	-	-	-	1320	-
Stage 2	-	-	-	-	-	-	744	-
Critical Hdwy	6.48	4.18	-	6.48	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.88	-
Follow-up Hdwy	2.54	2.24	-	2.54	-	-	3.54	3.34
Pot Cap-1 Maneuver	196	499	-	361	-	-	46	394
Stage 1	-	-	-	-	-	-	210	-
Stage 2	-	-	-	-	-	-	425	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	447	447	-	361	-	-	~ 32	394
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 32	-
Stage 1	-	-	-	-	-	-	145	-
Stage 2	-	-	-	-	-	-	424	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	137.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	447	-	361	-	-	32	394
HCM Lane V/C Ratio	0.31	-	0.003	-	-	1.305	0.279
HCM Control Delay (s)	16.6	-	15	-	-	-$ 452.1	17.6
HCM Lane LOS	C	-	C	-	-	F	C
HCM 95th %tile Q(veh)	1.3	-	0	-	-	4.6	1.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	783	111	4	242	1047	23	93	11	210	2	11
Future Volume (vph)	61	783	111	4	242	1047	23	93	11	210	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		235		240		0	0		0	0	
Storage Lanes	1		1		1		0	0		1	0	
Taper Length (ft)	110				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.997				0.850		
Flt Protected	0.950				0.950				0.957			0.993
Satd. Flow (prot)	1770	3539	1583	0	1770	3529	0	0	1783	1583	0	1850
Flt Permitted	0.219				0.274				0.957			0.352
Satd. Flow (perm)	408	3539	1583	0	510	3529	0	0	1783	1583	0	656
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			164			2				228		
Link Speed (mph)		45				45			30			30
Link Distance (ft)		2085				1567			322			1031
Travel Time (s)		31.6				23.7			7.3			23.4
Peak Hour Factor	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	64	816	121	4	263	1091	24	101	12	228	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	816	121	0	267	1115	0	0	113	228	0	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		13				13			0			0
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2		1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Free	Perm	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases	5	2			1	6		8	8	8		4
Permitted Phases	2		Free	6	6						4	

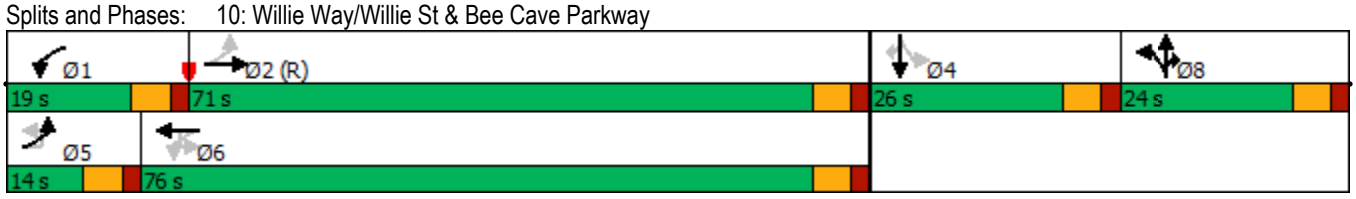


Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	65
Future Volume (vph)	65
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	117
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	68
Shared Lane Traffic (%)	
Lane Group Flow (vph)	68
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	2		6	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		22.0	10.0	22.0		22.0	22.0	22.0	22.0	22.0
Total Split (s)	14.0	71.0		76.0	19.0	76.0		24.0	24.0	24.0	26.0	26.0
Total Split (%)	10.0%	50.7%		54.3%	13.6%	54.3%		17.1%	17.1%	17.1%	18.6%	18.6%
Maximum Green (s)	8.0	65.0		70.0	13.0	70.0		18.0	18.0	18.0	20.0	20.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lag		Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		Max	None	Max		None	None	None	None	None
Act Effct Green (s)	90.7	83.6	140.0		101.9	91.6			14.3	14.3		7.6
Actuated g/C Ratio	0.65	0.60	1.00		0.73	0.65			0.10	0.10		0.05
v/c Ratio	0.19	0.39	0.08		0.55	0.48			0.62	0.62		0.40
Control Delay	9.1	17.5	0.1		6.6	14.8			74.3	14.5		80.5
Queue Delay	0.0	0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Delay	9.1	17.5	0.1		6.6	14.8			74.3	14.5		80.5
LOS	A	B	A		A	B			E	B		F
Approach Delay		14.9				13.2			34.3			19.7
Approach LOS		B				B			C			B
Queue Length 50th (ft)	16	202	0		56	371			100	0		12
Queue Length 95th (ft)	38	319	0		m79	m327			160	78		m18
Internal Link Dist (ft)		2005				1487			242			951
Turn Bay Length (ft)	210		235		240							
Base Capacity (vph)	346	2113	1583		502	2309			235	406		93
Starvation Cap Reductn	0	0	0		0	0			0	0		0
Spillback Cap Reductn	0	0	0		0	0			0	0		0
Storage Cap Reductn	0	0	0		0	0			0	0		0
Reduced v/c Ratio	0.18	0.39	0.08		0.53	0.48			0.48	0.56		0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway



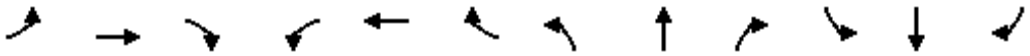


Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	22.0
Total Split (s)	26.0
Total Split (%)	18.6%
Maximum Green (s)	20.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	7.6
Actuated g/C Ratio	0.05
v/c Ratio	0.35
Control Delay	7.2
Queue Delay	0.0
Total Delay	7.2
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	1
Queue Length 95th (ft)	m9
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	326
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.21

Intersection Summary

HCM 6th Edition cannot analyze u-turn movements.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1717	14	22	2318	142	36	1	24	123	1	53
Future Volume (vph)	38	1717	14	22	2318	142	36	1	24	123	1	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			143		26			58	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3446			2053			551			306	
Travel Time (s)		42.7			25.5			12.5			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	1866	15	24	2520	154	39	1	26	134	1	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	1866	15	24	2520	154	39	27	0	134	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						



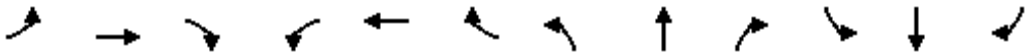
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	10.0		10.0	10.0	
Total Split (s)	10.0	100.0	100.0	18.0	108.0	108.0	10.0	12.0		10.0	12.0	
Total Split (%)	7.1%	71.4%	71.4%	12.9%	77.1%	77.1%	7.1%	8.6%		7.1%	8.6%	
Maximum Green (s)	4.0	94.0	94.0	12.0	102.0	102.0	4.0	6.0		4.0	6.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	4.0	103.4	103.4	7.4	104.1	104.1	4.0	5.7		8.8	7.9	
Actuated g/C Ratio	0.03	0.74	0.74	0.05	0.74	0.74	0.03	0.04		0.06	0.06	
v/c Ratio	0.82	0.71	0.01	0.26	0.96	0.13	0.40	0.30		0.62	0.41	
Control Delay	147.8	13.2	0.0	60.0	32.8	1.0	78.8	32.0		75.5	24.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	147.8	13.2	0.0	60.0	32.8	1.0	78.8	32.0		75.5	24.8	
LOS	F	B	A	E	C	A	E	C		E	C	
Approach Delay		16.0			31.2			59.7			60.0	
Approach LOS		B			C			E			E	
Queue Length 50th (ft)	38	508	0	22	1162	2	18	1		~76	1	
Queue Length 95th (ft)	#113	638	0	m26	m1098	m1	39	34		#154	49	
Internal Link Dist (ft)		3366			1973			471			226	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	50	2614	1200	151	2631	1214	98	93		216	145	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.82	0.71	0.01	0.16	0.96	0.13	0.40	0.29		0.62	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: SH 71 & Willie Way

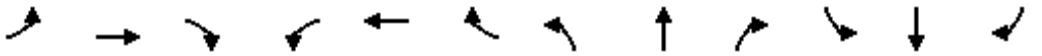




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1717	14	22	2318	142	36	1	24	123	1	53
Future Volume (veh/h)	38	1717	14	22	2318	142	36	1	24	123	1	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1866	15	24	2520	154	39	1	26	134	1	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	2651	1183	31	2589	1155	77	2	47	119	1	67
Arrive On Green	0.03	0.75	0.75	0.02	0.73	0.73	0.02	0.03	0.03	0.03	0.04	0.04
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	27	1562
Grp Volume(v), veh/h	41	1866	15	24	2520	154	39	0	27	134	0	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1589
Q Serve(g_s), s	3.2	39.3	0.3	1.9	92.6	4.1	1.6	0.0	2.3	4.8	0.0	5.2
Cycle Q Clear(g_c), s	3.2	39.3	0.3	1.9	92.6	4.1	1.6	0.0	2.3	4.8	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Lane Grp Cap(c), veh/h	62	2651	1183	31	2589	1155	77	0	49	119	0	68
V/C Ratio(X)	0.66	0.70	0.01	0.78	0.97	0.13	0.51	0.00	0.55	1.13	0.00	0.87
Avail Cap(c_a), veh/h	62	2651	1183	153	2589	1155	99	0	68	119	0	68
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.7	9.5	4.6	68.5	17.7	5.7	67.7	0.0	66.9	67.6	0.0	66.6
Incr Delay (d2), s/veh	2.3	0.1	0.0	33.0	12.4	0.2	5.1	0.0	9.3	121.3	0.0	65.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	13.3	0.2	2.0	42.2	2.5	1.3	0.0	1.9	7.4	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.1	9.6	4.6	101.6	30.2	6.0	72.7	0.0	76.1	188.9	0.0	131.6
LnGrp LOS	E	A	A	F	C	A	E	A	E	F	A	F
Approach Vol, veh/h		1922			2698			66			193	
Approach Delay, s/veh		10.9			29.4			74.1			171.4	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	110.5	9.1	12.0	10.9	108.0	10.8	10.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	94.0	4.0	6.0	4.0	102.0	4.0	6.0
Max Q Clear Time (g_c+I1), s	3.9	41.3	3.6	7.2	5.2	94.6	6.8	4.3
Green Ext Time (p_c), s	0.0	21.8	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1090	5	5	1347	13	11	1	65	28	1	7
Future Volume (vph)	10	1090	5	5	1347	13	11	1	65	28	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	100		0	0		100	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	110			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.956			0.954	
Satd. Flow (prot)	1770	3536	0	1770	3536	0	0	1781	1583	0	1777	1583
Flt Permitted	0.950			0.950				0.956			0.954	
Satd. Flow (perm)	1770	3536	0	1770	3536	0	0	1781	1583	0	1777	1583
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		523			477			234			229	
Travel Time (s)		7.9			7.2			5.3			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1185	5	5	1464	14	12	1	71	30	1	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1190	0	5	1478	0	0	13	71	0	31	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1090	5	5	1347	13	11	1	65	28	1	7
Future Vol, veh/h	10	1090	5	5	1347	13	11	1	65	28	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	100	-	-	-	-	100	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1185	5	5	1464	14	12	1	71	30	1	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1478	0	0	1190	0	0	1953	2698	595	2096	2693	739
Stage 1	-	-	-	-	-	-	1210	1210	-	1481	1481	-
Stage 2	-	-	-	-	-	-	743	1488	-	615	1212	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	452	-	-	582	-	-	38	21	447	~ 30	21	360
Stage 1	-	-	-	-	-	-	194	254	-	131	187	-
Stage 2	-	-	-	-	-	-	373	186	-	445	253	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	452	-	-	582	-	-	35	20	447	~ 24	20	360
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	20	-	~ 24	20	-
Stage 1	-	-	-	-	-	-	189	248	-	128	185	-
Stage 2	-	-	-	-	-	-	360	184	-	364	247	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	39.2	$ 431.1
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	33	447	452	-	-	582	-	-	24	360
HCM Lane V/C Ratio	0.395	0.158	0.024	-	-	0.009	-	-	1.313	0.021
HCM Control Delay (s)	172.7	14.6	13.2	-	-	11.2	-	-	$ 531.5	15.2
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.3	0.6	0.1	-	-	0	-	-	3.9	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	973	81	101	1255	41	242
Future Volume (vph)	973	81	101	1255	41	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3497	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3497	0	1770	3539	1770	1583
Link Speed (mph)	45			45	30	
Link Distance (ft)	822			2187	728	
Travel Time (s)	12.5			33.1	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1093	91	113	1410	46	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1184	0	113	1410	46	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	8.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	973	81	101	1255	41	242
Future Vol, veh/h	973	81	101	1255	41	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	125	-	0	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1093	91	113	1410	46	272

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1184	0	2070	592
Stage 1	-	-	-	-	1139	-
Stage 2	-	-	-	-	931	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	586	-	47	449
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	586	-	~ 38	449
Mov Cap-2 Maneuver	-	-	-	-	~ 38	-
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	278	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	76.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	38	449	-	-	586	-
HCM Lane V/C Ratio	1.212	0.606	-	-	0.194	-
HCM Control Delay (s)	$ 379.8	24.6	-	-	12.6	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	4.7	3.9	-	-	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	1062	204	32	1370	96	48
Future Volume (vph)	1	1062	204	32	1370	96	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0
Storage Lanes	0		0	1		1	1
Taper Length (ft)	25			25		25	
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	1.00	1.00
Frt		0.976					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	0	3454	0	1770	3539	1770	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	0	3454	0	1770	3539	1770	1583
Link Speed (mph)		45			45	30	
Link Distance (ft)		694			1258	738	
Travel Time (s)		10.5			19.1	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1	1249	240	38	1612	113	56
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1490	0	38	1612	113	56
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Right	Left	Left	Left	Right
Median Width(ft)		12			12	20	
Link Offset(ft)		0			0	0	
Crosswalk Width(ft)		16			16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		9	15		15	9
Sign Control		Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	52.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	1	1062	204	32	1370	96	48
Future Vol, veh/h	1	1062	204	32	1370	96	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	-	-	-	125	-	0	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	1249	240	38	1612	113	56

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	1612	0	0	1489	0	2253	745
Stage 1	-	-	-	-	-	1371	-
Stage 2	-	-	-	-	-	882	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	133	-	-	447	-	~ 35	357
Stage 1	-	-	-	-	-	201	-
Stage 2	-	-	-	-	-	365	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	133	-	-	447	-	~ 30	357
Mov Cap-2 Maneuver	-	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	-	191	-
Stage 2	-	-	-	-	-	334	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	$ 1015.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	30	357	-	-	447	-
HCM Lane V/C Ratio	3.765	0.158	-	-	0.084	-
HCM Control Delay (s)	$ 1515.3	17	-	-	13.8	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	13.5	0.6	-	-	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	102	13	68	140	13	80
Future Volume (vph)	102	13	68	140	13	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1872	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1872	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	362			433	1031	
Travel Time (s)	8.2			9.8	23.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	112	14	75	154	14	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	75	154	14	88
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

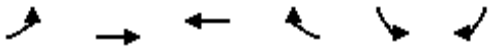
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	13	68	140	13	80
Future Vol, veh/h	102	13	68	140	13	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	112	14	75	154	14	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	423	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1473	-	591	938
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	561	938
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	938	-	-	1473	-
HCM Lane V/C Ratio	0.025	0.094	-	-	0.051	-
HCM Control Delay (s)	11.6	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	1101	1355	10	4	3
Future Volume (vph)	24	1101	1355	10	4	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3536	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3536	0	1770	1583
Link Speed (mph)		45	45		30	
Link Distance (ft)		561	523		193	
Travel Time (s)		8.5	7.9		4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1197	1473	11	4	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	1197	1484	0	4	3
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

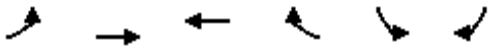
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	1101	1355	10	4	3
Future Vol, veh/h	24	1101	1355	10	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	345	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	1197	1473	11	4	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1484	0	-	0	2130	742
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	651	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	449	-	-	-	43	358
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	481	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	449	-	-	-	41	358
Mov Cap-2 Maneuver	-	-	-	-	41	-
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	65.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	449	-	-	-	41	358
HCM Lane V/C Ratio	0.058	-	-	-	0.106	0.009
HCM Control Delay (s)	13.5	-	-	-	103	15.1
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1124	1337	21	0	12
Future Volume (vph)	0	1124	1337	21	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.998			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	3532	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	3532	0	0	1611
Link Speed (mph)		45	45		30	
Link Distance (ft)		838	561		173	
Travel Time (s)		12.7	8.5		3.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1222	1453	23	0	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1222	1476	0	0	13
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		13	13		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1124	1337	21	0	12
Future Vol, veh/h	0	1124	1337	21	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1222	1453	23	0	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	738
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	360
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	360
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

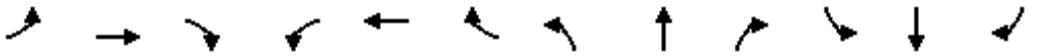
Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	360
HCM Lane V/C Ratio	-	-	-	0.036
HCM Control Delay (s)	-	-	-	15.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	14	2137	31	0	2719
Future Volume (vph)	0	14	2137	31	0	2719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		220	30	
Storage Lanes	0	1		1	2	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1611	3539	1583	0	6408
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	171		437			255
Travel Time (s)	3.9		5.4			3.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	15	2323	34	0	2955
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	2323	34	0	2955
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

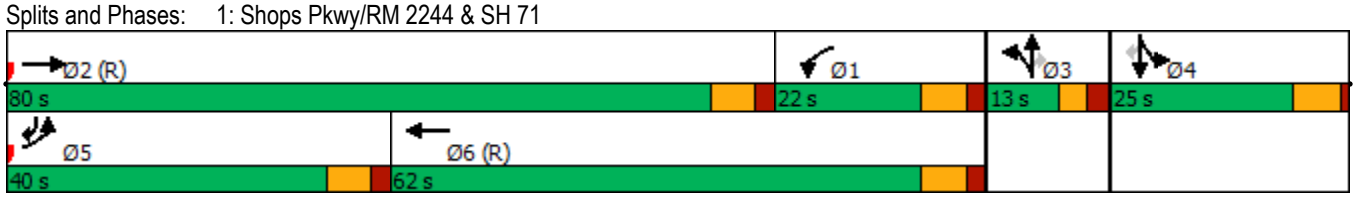


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1966	249	708	1716	13	39	61	27	273	49	365
Future Volume (vph)	72	1966	249	708	1716	13	39	61	27	273	49	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.97	1.00	0.88
Frt		0.983			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.981		0.950		
Satd. Flow (prot)	3335	4856	0	1719	4935	0	0	3373	1538	3335	1810	2707
Flt Permitted	0.950			0.950				0.981		0.950		
Satd. Flow (perm)	3335	4856	0	1719	4935	0	0	3373	1538	3335	1810	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			1				180			124
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3236			1846			605			1646	
Travel Time (s)		44.1			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	75	2048	259	738	1788	14	41	64	28	284	51	380
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	2307	0	738	1802	0	0	105	28	284	51	380
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	26.0		13.5	26.0		12.5	12.5	12.5	13.0	13.0	13.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	80.0		22.0	62.0		13.0	13.0	13.0	25.0	25.0	40.0
Total Split (%)	28.6%	57.1%		15.7%	44.3%		9.3%	9.3%	9.3%	17.9%	17.9%	28.6%
Maximum Green (s)	33.3	73.3		15.3	55.3		7.5	7.5	7.5	19.0	19.0	33.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lead	Lead		Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	Min	C-Max		None	C-Max		None	None	None	None	None	Min
Act Effct Green (s)	6.8	76.7		15.3	85.3			7.2	7.2	15.9	15.9	28.6
Actuated g/C Ratio	0.05	0.55		0.11	0.61			0.05	0.05	0.11	0.11	0.20
v/c Ratio	0.47	0.86		3.95	0.60			0.61	0.11	0.75	0.25	0.58
Control Delay	69.8	36.9		1354.1	18.5			80.1	0.9	72.8	58.7	36.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	69.8	36.9		1354.1	18.5			80.1	0.9	72.8	58.7	36.5
LOS	E	D		F	B			F	A	E	E	D
Approach Delay		38.0			406.5			63.4			52.5	
Approach LOS		D			F			E			D	
Queue Length 50th (ft)	34	389		~1217	355			50	0	130	43	120
Queue Length 95th (ft)	m46	786		#1465	442			83	0	177	85	172
Internal Link Dist (ft)		3156			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	793	2671		187	3005			180	252	452	245	1141
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.09	0.86		3.95	0.60			0.58	0.11	0.63	0.21	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 3.95			
Intersection Signal Delay: 202.6		Intersection LOS: F	
Intersection Capacity Utilization 113.4%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	111	1748	72	3	3	1497	946	33	27	9	689	46
Future Volume (vph)	111	1748	72	3	3	1497	946	33	27	9	689	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.994					0.850		0.970			
Flt Protected	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (prot)	3335	4910	0	0	1719	4940	1692	1564	3159	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.989		0.950	
Satd. Flow (perm)	3335	4910	0	0	1719	4940	1692	1564	3159	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		5					982		10			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		807				3236			676			1221
Travel Time (s)		10.0				44.1			18.4			15.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	118	1860	77	3	3	1593	1006	35	29	10	733	49
Shared Lane Traffic (%)								30%				
Lane Group Flow (vph)	118	1937	0	0	6	1593	1006	24	50	0	733	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



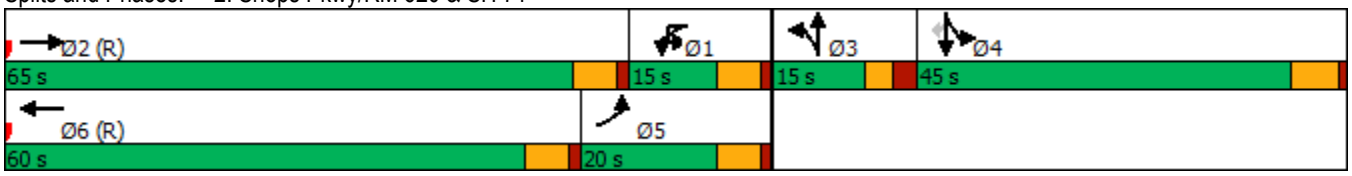
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	101
Future Volume (vph)	101
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1743
Flt Permitted	
Satd. Flow (perm)	1743
Right Turn on Red	Yes
Satd. Flow (RTOR)	111
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	5%
Adj. Flow (vph)	107
Shared Lane Traffic (%)	
Lane Group Flow (vph)	107
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	13.5	21.7		13.5	13.5	21.7		11.0	11.0		14.0	14.0
Total Split (s)	20.0	65.0		15.0	15.0	60.0		15.0	15.0		45.0	45.0
Total Split (%)	14.3%	46.4%		10.7%	10.7%	42.9%		10.7%	10.7%		32.1%	32.1%
Maximum Green (s)	14.1	59.1		9.1	9.1	54.1		9.5	9.5		39.0	39.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lag	Lead		Lag	Lag	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	8.4	80.1			5.3	68.3	140.0	6.8	6.8		35.3	35.3
Actuated g/C Ratio	0.06	0.57			0.04	0.49	1.00	0.05	0.05		0.25	0.25
v/c Ratio	0.59	0.69			0.09	0.66	0.59	0.32	0.31		0.87	0.11
Control Delay	63.5	20.0			71.8	23.1	4.1	74.5	57.1		40.4	18.2
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	63.5	20.0			71.8	23.1	4.1	74.5	57.1		40.4	18.2
LOS	E	B			E	C	A	E	E		D	B
Approach Delay		22.5				15.9			62.8			35.0
Approach LOS		C				B			E			D
Queue Length 50th (ft)	53	178			5	432	165	24	19		335	28
Queue Length 95th (ft)	m72	603			m12	556	450	58	42		352	m49
Internal Link Dist (ft)		727				3156			596			1141
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	335	2812			111	2409	1692	106	223		943	511
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.35	0.69			0.05	0.66	0.59	0.23	0.22		0.78	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 21.9		Intersection LOS: C	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71

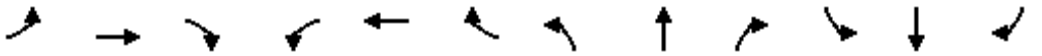




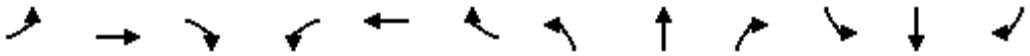
Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	14.0
Total Split (s)	45.0
Total Split (%)	32.1%
Maximum Green (s)	39.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	35.3
Actuated g/C Ratio	0.25
v/c Ratio	0.20
Control Delay	5.7
Queue Delay	0.0
Total Delay	5.7
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	31
Queue Length 95th (ft)	m55
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	572
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.19

Intersection Summary

HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	1375	185	281	1061	51	246	519	437	57	311	460
Future Volume (vph)	470	1375	185	281	1061	51	246	519	437	57	311	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	760		450	910		0	150		200	200		0
Storage Lanes	2		1	2		0	1		2	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3382	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.147			0.450		
Satd. Flow (perm)	3303	3406	1524	3303	3382	0	263	3406	1524	807	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		3				322			405
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3439			372			1965	
Travel Time (s)		19.1			42.6			4.6			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	490	1432	193	293	1105	53	256	541	455	62	324	479
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	1432	193	293	1158	0	256	541	455	62	324	479
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



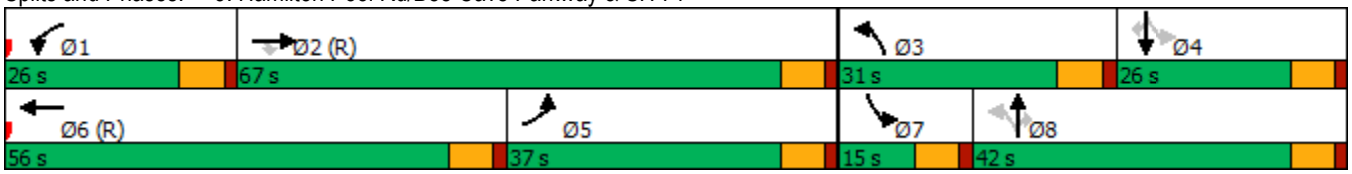
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	30.5	30.5	13.5	30.5		11.5	30.5	30.5	11.5	11.5	11.5
Total Split (s)	37.0	67.0	67.0	26.0	56.0		31.0	42.0	42.0	15.0	26.0	26.0
Total Split (%)	24.7%	44.7%	44.7%	17.3%	37.3%		20.7%	28.0%	28.0%	10.0%	17.3%	17.3%
Maximum Green (s)	30.5	60.5	60.5	19.5	49.5		24.5	35.5	35.5	8.5	19.5	19.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	2.0	2.0	1.0	2.0		2.0	1.5	1.5	1.0	1.5	1.5
Minimum Gap (s)	0.2	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	30.5	66.5	66.5	16.3	52.3		47.7	36.4	36.4	26.6	19.5	19.5
Actuated g/C Ratio	0.20	0.44	0.44	0.11	0.35		0.32	0.24	0.24	0.18	0.13	0.13
v/c Ratio	0.73	0.95	0.25	0.82	0.98		0.88	0.65	0.74	0.34	1.40	0.87
Control Delay	63.2	54.2	4.3	83.7	69.9		71.9	55.8	23.3	42.1	248.0	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	54.2	4.3	83.7	69.9		71.9	55.8	23.3	42.1	248.0	28.5
LOS	E	D	A	F	E		E	E	C	D	F	C
Approach Delay		51.7			72.7			47.3			111.7	
Approach LOS		D			E			D			F	
Queue Length 50th (ft)	234	716	0	146	~604		199	255	124	42	~421	69
Queue Length 95th (ft)	298	#935	50	195	#780		#329	321	268	79	#620	#273
Internal Link Dist (ft)		1458			3359			292			1885	
Turn Bay Length (ft)	760		450	910			150		200	200		
Base Capacity (vph)	671	1510	782	429	1180		318	836	617	201	232	550
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.95	0.25	0.68	0.98		0.81	0.65	0.74	0.31	1.40	0.87

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 132 (88%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 65.2		Intersection LOS: E	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	470	1375	185	281	1061	51	246	519	437	57	311	460
Future Volume (veh/h)	470	1375	185	281	1061	51	246	519	437	57	311	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	490	1432	0	293	1105	0	256	541	0	62	324	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	761	1573		336	1136		288	786		189	235	
Arrive On Green	0.23	0.46	0.00	0.10	0.33	0.00	0.14	0.23	0.00	0.04	0.13	0.00
Sat Flow, veh/h	3346	3441	1535	3346	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	490	1432	0	293	1105	0	256	541	0	62	324	0
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	19.9	58.0	0.0	13.0	47.5	0.0	18.8	21.6	0.0	4.6	19.5	0.0
Cycle Q Clear(g_c), s	19.9	58.0	0.0	13.0	47.5	0.0	18.8	21.6	0.0	4.6	19.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	761	1573		336	1136		288	786		189	235	
V/C Ratio(X)	0.64	0.91		0.87	0.97		0.89	0.69		0.33	1.38	
Avail Cap(c_a), veh/h	761	1573		435	1136		330	814		216	235	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.77	0.77	0.00	1.00	1.00	0.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	52.4	37.9	0.0	66.5	49.6	0.0	46.9	53.0	0.0	53.6	65.3	0.0
Incr Delay (d2), s/veh	1.5	9.4	0.0	9.7	17.8	0.0	20.7	1.9	0.0	0.4	192.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.9	33.1	0.0	9.3	29.0	0.0	14.5	14.2	0.0	3.6	32.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	47.3	0.0	76.2	67.4	0.0	67.6	54.9	0.0	54.0	257.9	0.0
LnGrp LOS	D	D		E	E		E	D		D	F	
Approach Vol, veh/h		1922			1398			797			386	
Approach Delay, s/veh		49.0			69.3			59.0			225.1	
Approach LOS		D			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.5	75.1	27.4	26.0	40.6	56.0	12.6	40.7
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	19.5	60.5	24.5	19.5	30.5	49.5	8.5	35.5
Max Q Clear Time (g_c+I1), s	15.0	60.0	20.8	21.5	21.9	49.5	6.6	23.6
Green Ext Time (p_c), s	0.1	0.3	0.1	0.0	0.2	0.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Notes

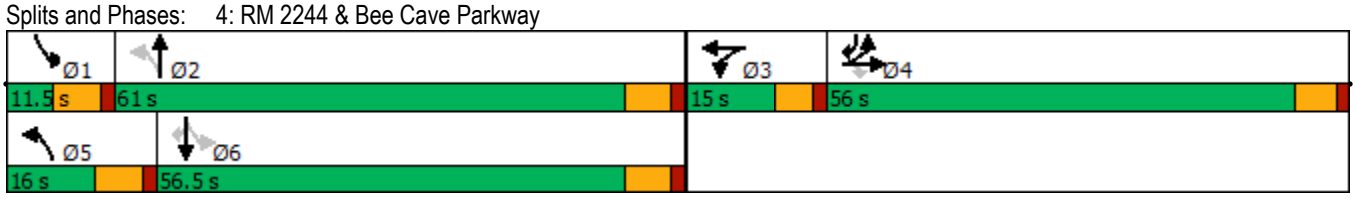
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	973	1	196	1	1	1	130	1030	7	5	658	782
Future Volume (vph)	973	1	196	1	1	1	130	1030	7	5	658	782
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected	0.950	0.952			0.984		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1750	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.984		0.196			0.126		
Satd. Flow (perm)	1681	1685	1583	0	1750	0	365	3536	0	235	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171		1							810
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		1812			246			1646			1175	
Travel Time (s)		27.5			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1035	1	209	1	1	1	138	1096	7	5	700	832
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	517	519	209	0	3	0	138	1103	0	5	700	832
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases			4				2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	5.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	11.0
Total Split (s)	56.0	56.0	56.0	15.0	15.0		16.0	61.0		11.5	56.5	56.0
Total Split (%)	39.0%	39.0%	39.0%	10.5%	10.5%		11.1%	42.5%		8.0%	39.4%	39.0%
Maximum Green (s)	50.0	50.0	50.0	9.5	9.5		9.5	54.5		5.0	50.0	50.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	None
Act Effct Green (s)	41.1	41.1	41.1		5.4		42.8	41.5		32.3	27.0	74.2
Actuated g/C Ratio	0.42	0.42	0.42		0.05		0.43	0.42		0.33	0.27	0.75
v/c Ratio	0.74	0.74	0.28		0.03		0.48	0.75		0.03	0.73	0.60
Control Delay	34.1	34.2	6.9		51.3		24.8	30.1		19.8	38.0	2.2
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	34.1	34.2	6.9		51.3		24.8	30.1		19.8	38.0	2.2
LOS	C	C	A		D		C	C		B	D	A
Approach Delay		29.6			51.3			29.5			18.6	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	255	257	13		1		52	295		2	211	3
Queue Length 95th (ft)	#663	#666	81		13		113	553		10	330	19
Internal Link Dist (ft)		1732			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	898	900	926		178		300	2060		158	1892	1469
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.58	0.58	0.23		0.02		0.46	0.54		0.03	0.37	0.57

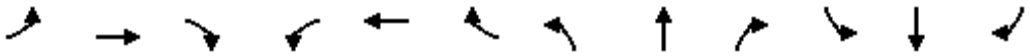
Intersection Summary			
Area Type:	Other		
Cycle Length: 143.5			
Actuated Cycle Length: 99			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 25.4		Intersection LOS: C	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	540	316	60	36	322	594	40	1006	35	834	866	591
Future Volume (vph)	540	316	60	36	322	594	40	1006	35	834	866	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	13	12	13	11	12	13	12	12	14
Storage Length (ft)	330		0	165		0	245		385	400		465
Storage Lanes	2		0	1		1	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95	1.00
Frt		0.976			0.967	0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3513	3421	0	1811	3246	1474	1694	3505	1620	3400	3505	1672
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3513	3421	0	1811	3246	1474	1694	3505	1620	3400	3505	1672
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			19	113			108			609
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		1600			824			1100			414	
Travel Time (s)		24.2			12.5			13.6			5.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	557	326	62	37	332	612	41	1037	36	860	893	609
Shared Lane Traffic (%)						15%						
Lane Group Flow (vph)	557	388	0	37	424	520	41	1037	36	860	893	609
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		26			20			11			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2	1	1	2	1
Detector Template								Thru	Right		Thru	Right
Leading Detector (ft)	50	50		50	50	50	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50	50	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3	3 1	5	2		1	6	
Permitted Phases									2			6
Detector Phase	4	4		3	3		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	10.3	10.3		13.0	13.0		11.1	21.5	21.5	13.5	31.5	31.5
Total Split (s)	29.0	29.0		21.0	21.0		13.0	45.0	45.0	45.0	77.0	77.0
Total Split (%)	20.7%	20.7%		15.0%	15.0%		9.3%	32.1%	32.1%	32.1%	55.0%	55.0%
Maximum Green (s)	23.7	23.7		15.5	15.5		6.9	38.9	38.9	38.9	70.9	70.9
Yellow Time (s)	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)											7.0	7.0
Flash Dont Walk (s)											18.0	18.0
Pedestrian Calls (#/hr)											0	0
Act Effct Green (s)	23.4	23.4		15.5	15.5	60.5	6.2	39.2	39.2	38.9	74.1	74.1
Actuated g/C Ratio	0.17	0.17		0.11	0.11	0.43	0.04	0.28	0.28	0.28	0.53	0.53
v/c Ratio	0.95	0.66		0.18	1.13	0.74	0.55	1.06	0.07	0.91	0.48	0.52
Control Delay	108.6	86.8		53.7	134.4	29.0	99.5	88.8	0.3	45.8	10.5	3.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.6	86.8		53.7	134.4	29.0	99.5	88.8	0.3	45.8	10.5	3.1
LOS	F	F		D	F	C	F	F	A	D	B	A
Approach Delay		99.6			75.5			86.3			21.5	
Approach LOS		F			E			F			C	
Queue Length 50th (ft)	277	190		31	~235	346	36	~541	0	410	248	79
Queue Length 95th (ft)	#382	245		68	#356	530	m67	#684	m0	m453	m114	m33
Internal Link Dist (ft)		1520			744			1020			334	
Turn Bay Length (ft)	330			165			245		385	400		465
Base Capacity (vph)	594	590		200	376	701	83	980	531	944	1854	1171
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.66		0.18	1.13	0.74	0.49	1.06	0.07	0.91	0.48	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 58.3		Intersection LOS: E	
Intersection Capacity Utilization 101.4%		ICU Level of Service G	

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

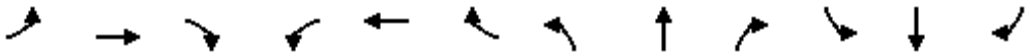
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	2	113	3	1	1	145	1939	6	1	2221	130
Future Volume (vph)	185	2	113	3	1	1	145	1939	6	1	2221	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	10	10	12	12	11	14	12	12	14	12	12
Storage Length (ft)	0		95	0		85	100		0	100		510
Storage Lanes	1		1	0		1	1		0	1		1
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950	0.953			0.964		0.950			0.950		
Satd. Flow (prot)	1649	1544	1449	0	1761	1501	1851	3471	0	1851	3471	1553
Flt Permitted	0.950	0.953			0.964		0.040			0.064		
Satd. Flow (perm)	1649	1544	1449	0	1761	1501	78	3471	0	125	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			104						133
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		1108			471			788			1284	
Travel Time (s)		25.2			10.7			9.8			15.9	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	189	2	115	3	1	1	148	1979	6	1	2266	133
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	96	95	115	0	4	1	148	1985	0	1	2266	133
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			12			14			14	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	2		1	2	1
Detector Template	Left			Left						Left	Thru	Right
Leading Detector (ft)	20	50	50	20	50	50	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	50	50	20	50	50	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4			3	2			6		6
Detector Phase	4	4	4	3	3	3	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	10.5	10.5	10.5	12.5	12.5	12.5	13.5	21.5		12.5	28.5	28.5
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	18.0	85.0		15.0	82.0	82.0
Total Split (%)	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%	12.9%	60.7%		10.7%	58.6%	58.6%
Maximum Green (s)	14.5	14.5	14.5	14.5	14.5	14.5	13.1	79.0		10.1	76.0	76.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	12.9	12.9	12.9		5.2	5.2	114.4	111.3		105.2	99.1	99.1
Actuated g/C Ratio	0.09	0.09	0.09		0.04	0.04	0.82	0.80		0.75	0.71	0.71
v/c Ratio	0.63	0.67	0.48		0.06	0.01	0.82	0.72		0.01	0.92	0.12
Control Delay	78.7	82.8	16.5		67.0	0.0	51.4	4.7		5.0	26.5	2.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	78.7	82.8	16.5		67.0	0.0	51.4	4.7		5.0	26.5	2.2
LOS	E	F	B		E	A	D	A		A	C	A
Approach Delay		56.6			53.6			8.0			25.1	
Approach LOS		E			D			A			C	
Queue Length 50th (ft)	90	89	0		4	0	83	125		0	764	0
Queue Length 95th (ft)	149	148	58		17	0	m101	m277		2	#1422	30
Internal Link Dist (ft)		1028			391			708			1204	
Turn Bay Length (ft)			95			85	100			100		510
Base Capacity (vph)	181	170	262		182	248	236	2759		223	2455	1137
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.56	0.44		0.02	0.00	0.63	0.72		0.00	0.92	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 134 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 19.6		Intersection LOS: B	
Intersection Capacity Utilization 94.9%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

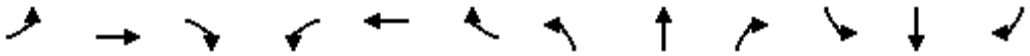
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	6	173	83	7	37	94	1909	13	20	2108	168
Future Volume (vph)	273	6	173	83	7	37	94	1909	13	20	2108	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	12	12	12	14	12	12	12	12	12
Storage Length (ft)	80		135	90		0	130		0	150		510
Storage Lanes	0		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.999				0.850
Flt Protected	0.950			0.950	0.959		0.950			0.950		
Satd. Flow (prot)	3286	1845	1516	1665	1681	1568	1869	3501	0	1752	3505	1568
Flt Permitted	0.950			0.950	0.959		0.037			0.044		
Satd. Flow (perm)	3286	1845	1516	1665	1681	1568	73	3501	0	81	3505	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			94		1				150
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		643			447			1366			1282	
Travel Time (s)		14.6			10.2			16.9			15.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	284	6	180	86	7	39	98	1989	14	21	2196	175
Shared Lane Traffic (%)				46%								
Lane Group Flow (vph)	284	6	180	46	47	39	98	2003	0	21	2196	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			20			14			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left			Left				Thru		Left		Right
Leading Detector (ft)	20	100	50	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	50	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4	6			2		2
Detector Phase	3	3	3	4	4	4	1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	13.0	13.0	13.0	33.6	33.6	33.6	9.9	31.5		9.9	33.5	33.5
Total Split (s)	23.0	23.0	23.0	33.6	33.6	33.6	15.0	86.0		15.0	86.0	86.0
Total Split (%)	14.6%	14.6%	14.6%	21.3%	21.3%	21.3%	9.5%	54.6%		9.5%	54.6%	54.6%
Maximum Green (s)	17.3	17.3	17.3	28.0	28.0	28.0	10.1	80.0		10.1	80.0	80.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0	5.0
All-Red Time (s)	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	16.3	16.3	16.3	8.8	8.8	8.8	117.8	111.4		111.0	104.9	104.9
Actuated g/C Ratio	0.10	0.10	0.10	0.06	0.06	0.06	0.75	0.71		0.70	0.67	0.67
v/c Ratio	0.84	0.03	0.57	0.49	0.51	0.22	0.71	0.81		0.19	0.94	0.16
Control Delay	90.2	63.3	15.6	89.2	89.5	2.9	54.4	21.8		10.8	34.4	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	90.2	63.3	15.6	89.2	89.5	2.9	54.4	21.8		10.8	34.4	3.0
LOS	F	E	B	F	F	A	D	C		B	C	A
Approach Delay		61.3			63.8			23.3			31.9	
Approach LOS		E			E			C			C	
Queue Length 50th (ft)	149	6	0	49	50	0	47	810		5	1068	9
Queue Length 95th (ft)	#212	22	77	95	97	0	114	1005		15	#1402	42
Internal Link Dist (ft)		563			367			1286			1202	
Turn Bay Length (ft)	80		135	90			130			150		510
Base Capacity (vph)	360	202	326	295	298	355	169	2474		166	2333	1094
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.79	0.03	0.55	0.16	0.16	0.11	0.58	0.81		0.13	0.94	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 157.6			
Actuated Cycle Length: 157.6			
Offset: 69 (44%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 7: RM 620 & Falcon Head Blvd



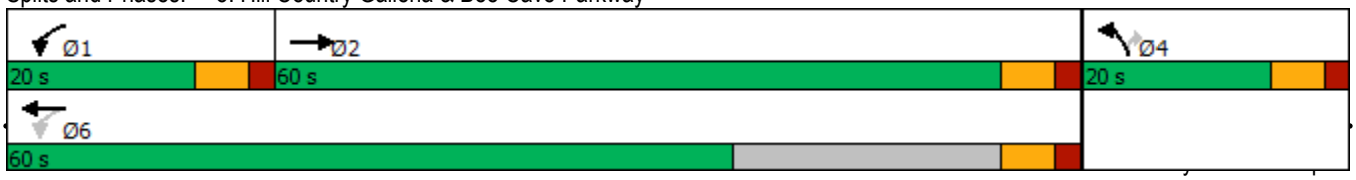
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1072	83	45	897	46	23
Future Volume (vph)	1072	83	45	897	46	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3500	0	1770	3539	1770	1583
Flt Permitted			0.122		0.950	
Satd. Flow (perm)	3500	0	227	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	12					27
Link Speed (mph)	45			45	25	
Link Distance (ft)	700			503	561	
Travel Time (s)	10.6			7.6	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1261	98	53	1055	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1359	0	53	1055	54	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	11.0		11.0	11.0	11.0	11.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	42.7		47.0	49.2	8.1	8.1
Actuated g/C Ratio	0.67		0.73	0.77	0.13	0.13
v/c Ratio	0.58		0.16	0.39	0.24	0.12
Control Delay	10.9		4.2	4.3	33.1	14.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	10.9		4.2	4.3	33.1	14.4
LOS	B		A	A	C	B
Approach Delay	10.9			4.3	26.9	
Approach LOS	B			A	C	
Queue Length 50th (ft)	206		5	75	20	0
Queue Length 95th (ft)	280		14	111	57	21
Internal Link Dist (ft)	620			423	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2852		537	3442	425	400
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.48		0.10	0.31	0.13	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 64			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway

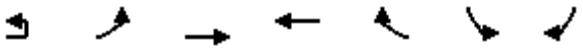




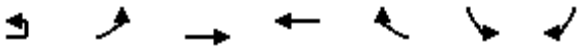
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1072	83	45	897	46	23
Future Volume (veh/h)	1072	83	45	897	46	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1261	98	53	1055	54	27
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1787	139	332	2495	118	105
Arrive On Green	0.53	0.53	0.05	0.70	0.07	0.07
Sat Flow, veh/h	3435	259	1781	3647	1781	1585
Grp Volume(v), veh/h	669	690	53	1055	54	27
Grp Sat Flow(s),veh/h/ln	1777	1824	1781	1777	1781	1585
Q Serve(g_s), s	14.6	14.7	0.6	6.5	1.5	0.8
Cycle Q Clear(g_c), s	14.6	14.7	0.6	6.5	1.5	0.8
Prop In Lane		0.14	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	950	975	332	2495	118	105
V/C Ratio(X)	0.70	0.71	0.16	0.42	0.46	0.26
Avail Cap(c_a), veh/h	1852	1900	721	3703	481	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	9.0	6.8	3.3	23.3	23.0
Incr Delay (d2), s/veh	1.0	1.0	0.2	0.1	2.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.5	6.7	0.2	1.0	1.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.0	10.0	7.1	3.4	26.0	24.2
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h	1359			1108	81	
Approach Delay, s/veh	10.0			3.6	25.4	
Approach LOS	A			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.7	33.7		9.4		42.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.6	16.7		3.5		8.5
Green Ext Time (p_c), s	0.1	11.0		0.1		8.6

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	1	72	944	752	27	25	88
Future Volume (vph)	1	72	944	752	27	25	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200			0	0	100
Storage Lanes		1			0	1	1
Taper Length (ft)		100				25	
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	1.00
Frt				0.995			0.850
Flt Protected		0.950				0.950	
Satd. Flow (prot)	0	1736	3471	3454	0	1736	1553
Flt Permitted		0.306				0.950	
Satd. Flow (perm)	0	559	3471	3454	0	1736	1553
Right Turn on Red					Yes		Yes
Satd. Flow (RTOR)				5			97
Link Speed (mph)			45	45		30	
Link Distance (ft)			1965	2056		877	
Travel Time (s)			29.8	31.2		19.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	79	1037	826	30	27	97
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	80	1037	856	0	27	97
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Left	Right	Left	Right
Median Width(ft)			12	12		12	
Link Offset(ft)			0	0		0	
Crosswalk Width(ft)			16	16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15			9	15	9
Number of Detectors	1	1	2	2		1	1
Detector Template	Left	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	20	100	100		20	20
Trailing Detector (ft)	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94	94			
Detector 2 Size(ft)			6	6			
Detector 2 Type			Cl+Ex	Cl+Ex			
Detector 2 Channel							
Detector 2 Extend (s)			0.0	0.0			
Turn Type	pm+pt	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	5	2	6		4	



Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	2	2					4
Detector Phase	5	5	2	6		4	4
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	8.0	20.0	20.0		20.0	20.0
Total Split (s)	18.0	18.0	107.0	89.0		33.0	33.0
Total Split (%)	12.9%	12.9%	76.4%	63.6%		23.6%	23.6%
Maximum Green (s)	14.0	14.0	103.0	85.0		29.0	29.0
Yellow Time (s)	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max	C-Max		None	None
Walk Time (s)			5.0	5.0		5.0	5.0
Flash Dont Walk (s)			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)			0	0		0	0
Act Effct Green (s)		124.0	124.0	113.8		8.0	8.0
Actuated g/C Ratio		0.89	0.89	0.81		0.06	0.06
v/c Ratio		0.15	0.34	0.30		0.28	0.54
Control Delay		1.7	1.7	2.4		69.2	22.7
Queue Delay		0.0	0.0	0.0		0.0	0.0
Total Delay		1.7	1.7	2.4		69.2	22.7
LOS		A	A	A		E	C
Approach Delay			1.7	2.4		32.8	
Approach LOS			A	A		C	
Queue Length 50th (ft)		6	52	44		24	0
Queue Length 95th (ft)		14	87	63		56	57
Internal Link Dist (ft)			1885	1976		797	
Turn Bay Length (ft)		200					100
Base Capacity (vph)		612	3075	2807		359	398
Starvation Cap Reductn		0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0
Reduced v/c Ratio		0.13	0.34	0.30		0.08	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of 1st Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 3.8		Intersection LOS: A	
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: Bee Cave Parkway & Tordera Dr



HCM 6th Edition cannot analyze u-turn movements.



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	63	839	75	181	730	1	36	11	103	1	20
Future Volume (vph)	1	63	839	75	181	730	1	36	11	103	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		210		235	240		0	0		0	0	
Storage Lanes		1		1	1		0	0		1	0	
Taper Length (ft)		110			25			25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850						0.850		
Flt Protected		0.950			0.950				0.963			0.998
Satd. Flow (prot)	0	1770	3539	1583	1770	3539	0	0	1794	1583	0	1859
Flt Permitted		0.293			0.314				0.963			0.275
Satd. Flow (perm)	0	546	3539	1583	585	3539	0	0	1794	1583	0	512
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				210						164		
Link Speed (mph)			45			45			30			30
Link Distance (ft)			2056			1600			276			1044
Travel Time (s)			31.2			24.2			6.3			23.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	66	874	78	189	760	1	38	11	107	1	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	874	78	189	761	0	0	49	107	0	22
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			26			26			0			0
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	2	1	1	2		1	2	1	1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94			94			94
Detector 2 Size(ft)			6			6			6			6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	custom	pm+pt	NA	Free	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases		5	2		1	6		8	8	8		4
Permitted Phases	5	2		Free	6						4	



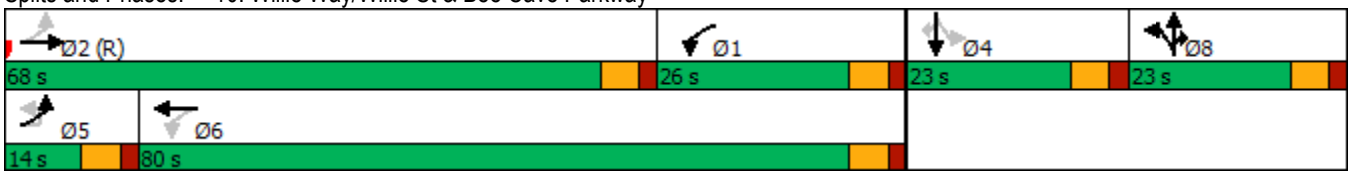
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	36
Future Volume (vph)	36
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	38
Shared Lane Traffic (%)	
Lane Group Flow (vph)	38
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	5	2		1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	10.0	20.0		10.0	20.0		20.0	20.0	20.0	20.0	20.0
Total Split (s)	14.0	14.0	68.0		26.0	80.0		23.0	23.0	23.0	23.0	23.0
Total Split (%)	10.0%	10.0%	48.6%		18.6%	57.1%		16.4%	16.4%	16.4%	16.4%	16.4%
Maximum Green (s)	8.0	8.0	62.0		20.0	74.0		17.0	17.0	17.0	17.0	17.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lead	Lead		Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max		None	Max		None	None	None	None	None
Act Effct Green (s)		80.4	80.4	140.0	94.8	94.8			9.2	9.2		8.7
Actuated g/C Ratio		0.57	0.57	1.00	0.68	0.68			0.07	0.07		0.06
v/c Ratio		0.17	0.43	0.05	0.33	0.32			0.42	0.42		0.71
Control Delay		16.2	17.8	0.1	16.2	11.4			72.6	6.0		149.2
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0
Total Delay		16.2	17.8	0.1	16.2	11.4			72.6	6.0		149.2
LOS		B	B	A	B	B			E	A		F
Approach Delay			16.4			12.3			26.9			56.1
Approach LOS			B			B			C			E
Queue Length 50th (ft)		26	225	0	61	181			44	0		21
Queue Length 95th (ft)		56	272	0	m131	m237			85	9		m#49
Internal Link Dist (ft)			1976			1520			196			964
Turn Bay Length (ft)		210		235	240							
Base Capacity (vph)		389	2033	1583	565	2395			217	336		62
Starvation Cap Reductn		0	0	0	0	0			0	0		0
Spillback Cap Reductn		0	0	0	0	0			0	0		0
Storage Cap Reductn		0	0	0	0	0			0	0		0
Reduced v/c Ratio		0.17	0.43	0.05	0.33	0.32			0.23	0.32		0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

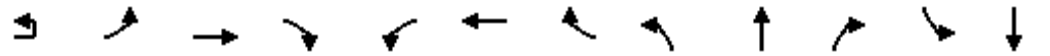
Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway





Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	23.0
Total Split (%)	16.4%
Maximum Green (s)	17.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	8.7
Actuated g/C Ratio	0.06
v/c Ratio	0.15
Control Delay	2.2
Queue Delay	0.0
Total Delay	2.2
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	m5
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	336
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11

Intersection Summary



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	63	839	75	181	730	1	36	11	103	1	20
Future Volume (veh/h)	1	63	839	75	181	730	1	36	11	103	1	20
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		66	874	0	189	760	1	38	11	107	1	21
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		277	1574		753	2466	3	115	33	130	3	62
Arrive On Green		0.07	0.89	0.00	0.18	0.45	0.45	0.08	0.08	0.08	0.03	0.03
Sat Flow, veh/h		1781	3554	1585	1781	3642	5	1396	404	1585	85	1781
Grp Volume(v), veh/h		66	874	0	189	371	390	49	0	107	22	0
Grp Sat Flow(s),veh/h/ln		1781	1777	1585	1781	1777	1869	1801	0	1585	1866	0
Q Serve(g_s), s		3.2	7.7	0.0	0.0	18.6	18.6	3.6	0.0	9.3	1.6	0.0
Cycle Q Clear(g_c), s		3.2	7.7	0.0	0.0	18.6	18.6	3.6	0.0	9.3	1.6	0.0
Prop In Lane		1.00		1.00	1.00		0.00	0.78		1.00	0.05	
Lane Grp Cap(c), veh/h		277	1574		753	1203	1266	148	0	130	65	0
V/C Ratio(X)		0.24	0.56		0.25	0.31	0.31	0.33	0.00	0.82	0.34	0.00
Avail Cap(c_a), veh/h		318	1574		753	1203	1266	219	0	192	227	0
HCM Platoon Ratio		2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		0.95	0.95	0.00	0.56	0.56	0.56	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		25.7	4.9	0.0	17.0	17.4	17.4	60.6	0.0	63.2	66.0	0.0
Incr Delay (d2), s/veh		0.4	1.3	0.0	0.1	0.4	0.4	1.3	0.0	16.0	3.0	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln		2.3	3.6	0.0	5.9	11.8	12.3	3.1	0.0	7.8	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		26.1	6.2	0.0	17.1	17.8	17.8	61.9	0.0	79.2	69.0	0.0
LnGrp LOS		C	A		B	B	B	E	A	E	E	A
Approach Vol, veh/h			940			950			156			60
Approach Delay, s/veh			7.6			17.7			73.8			76.4
Approach LOS			A			B			E			E

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	43.6	68.0		10.9	10.8	100.8		17.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	20.0	62.0		17.0	8.0	74.0		17.0				
Max Q Clear Time (g_c+I1), s	2.0	9.7		5.3	5.2	20.6		11.3				
Green Ext Time (p_c), s	0.4	6.7		0.1	0.0	4.8		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		19.0
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	36
Future Volume (veh/h)	36
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	38
Peak Hour Factor	0.96
Percent Heavy Veh, %	2
Cap, veh/h	55
Arrive On Green	0.03
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	38
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	3.3
Cycle Q Clear(g_c), s	3.3
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	55
V/C Ratio(X)	0.69
Avail Cap(c_a), veh/h	192
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	66.8
Incr Delay (d2), s/veh	13.9
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(95%),veh/ln	2.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	80.7
LnGrp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

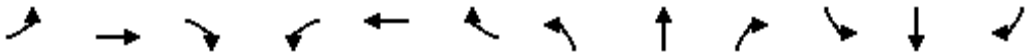
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (vph)	24	1784	43	24	1497	95	13	1	24	54	1	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			117		26			22	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3439			2072			591			383	
Travel Time (s)		42.6			25.7			13.4			8.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1939	47	26	1627	103	14	1	26	59	1	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1939	47	26	1627	103	14	27	0	59	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	10.0		10.0	10.0	
Total Split (s)	15.0	92.0	92.0	15.0	92.0	92.0	17.0	17.0		16.0	16.0	
Total Split (%)	10.7%	65.7%	65.7%	10.7%	65.7%	65.7%	12.1%	12.1%		11.4%	11.4%	
Maximum Green (s)	9.0	86.0	86.0	9.0	86.0	86.0	11.0	11.0		10.0	10.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	7.6	107.0	107.0	7.8	107.2	107.2	6.1	6.4		7.8	10.4	
Actuated g/C Ratio	0.05	0.76	0.76	0.06	0.77	0.77	0.04	0.05		0.06	0.07	
v/c Ratio	0.27	0.72	0.04	0.27	0.60	0.08	0.09	0.28		0.31	0.17	
Control Delay	70.0	15.6	0.0	41.6	13.3	0.6	65.3	29.8		67.3	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.0	15.6	0.0	41.6	13.3	0.6	65.3	29.8		67.3	25.7	
LOS	E	B	A	D	B	A	E	C		E	C	
Approach Delay		15.9			13.0			42.0			55.6	
Approach LOS		B			B			D			E	
Queue Length 50th (ft)	23	632	0	23	615	0	6	1		27	1	
Queue Length 95th (ft)	55	831	0	m32	788	m8	19	33		51	31	
Internal Link Dist (ft)		3359			1992			511			303	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	116	2704	1237	113	2709	1239	269	149		245	158	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.22	0.72	0.04	0.23	0.60	0.08	0.05	0.18		0.24	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 119 (85%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: SH 71 & Willie Way

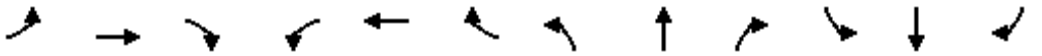




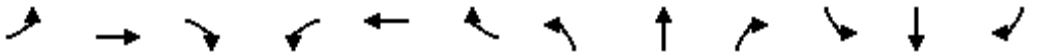
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Future Volume (veh/h)	24	1784	43	24	1497	95	13	1	24	54	1	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1939	47	26	1627	103	14	1	26	59	1	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	2183	974	280	2677	1194	41	2	44	98	3	69
Arrive On Green	0.02	0.61	0.61	0.16	0.75	0.75	0.01	0.03	0.03	0.03	0.04	0.04
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	69	1526
Grp Volume(v), veh/h	26	1939	47	26	1627	103	14	0	27	59	0	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1596
Q Serve(g_s), s	2.0	64.8	1.2	1.7	29.2	2.4	0.6	0.0	2.3	2.4	0.0	2.0
Cycle Q Clear(g_c), s	2.0	64.8	1.2	1.7	29.2	2.4	0.6	0.0	2.3	2.4	0.0	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.96
Lane Grp Cap(c), veh/h	33	2183	974	280	2677	1194	41	0	46	98	0	72
V/C Ratio(X)	0.79	0.89	0.05	0.09	0.61	0.09	0.34	0.00	0.59	0.60	0.00	0.32
Avail Cap(c_a), veh/h	115	2183	974	280	2677	1194	272	0	125	247	0	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.4	22.9	6.0	50.4	7.9	4.6	68.6	0.0	67.2	67.2	0.0	64.8
Incr Delay (d2), s/veh	13.9	2.2	0.0	0.1	1.0	0.1	4.7	0.0	11.6	5.8	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	28.9	1.1	1.4	13.6	1.4	0.5	0.0	2.0	2.0	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	25.1	6.0	50.6	8.9	4.7	73.3	0.0	78.8	73.1	0.0	67.3
LnGrp LOS	F	C	A	D	A	A	E	A	E	E	A	E
Approach Vol, veh/h		2012			1756			41			82	
Approach Delay, s/veh		25.4			9.3			76.9			71.5	
Approach LOS		C			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	92.0	7.7	12.3	8.6	111.5	10.0	10.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	86.0	11.0	10.0	9.0	86.0	10.0	11.0
Max Q Clear Time (g_c+I1), s	3.7	66.8	2.6	4.0	4.0	31.2	4.4	4.3
Green Ext Time (p_c), s	0.0	13.3	0.0	0.0	0.0	17.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1143	36	51	932	4	1	1	1	53	1	10
Future Volume (vph)	3	1143	36	51	932	4	1	1	1	53	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345		0	100		250	0		100	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.976			0.953	
Satd. Flow (prot)	1770	3522	0	1770	5080	0	0	1818	1583	0	1775	1583
Flt Permitted	0.241			0.182				0.976			0.953	
Satd. Flow (perm)	449	3522	0	339	5080	0	0	1818	1583	0	1775	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1				164			148
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		620			481			277			334	
Travel Time (s)		9.4			7.3			6.3			7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	1242	39	55	1013	4	1	1	1	58	1	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1281	0	55	1017	0	0	2	1	0	59	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

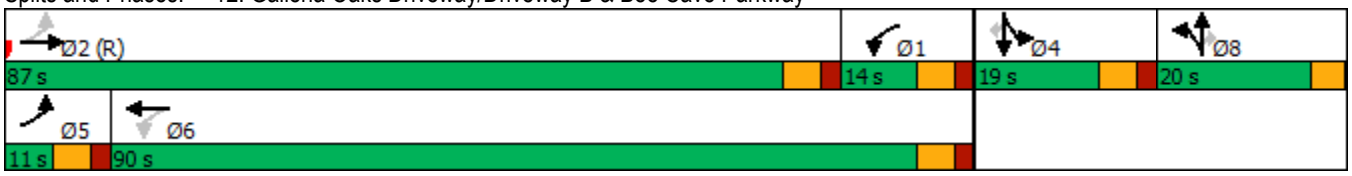


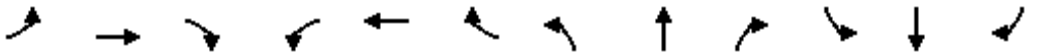
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0		10.0	22.0		20.0	20.0	20.0	10.0	10.0	10.0
Total Split (s)	11.0	87.0		14.0	90.0		20.0	20.0	20.0	19.0	19.0	19.0
Total Split (%)	7.9%	62.1%		10.0%	64.3%		14.3%	14.3%	14.3%	13.6%	13.6%	13.6%
Maximum Green (s)	5.0	81.0		8.0	84.0		16.0	16.0	16.0	13.0	13.0	13.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		0.5	0.5	0.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	Max		None	None	None	Max	Max	Max
Walk Time (s)							5.0	5.0	5.0			
Flash Dont Walk (s)							11.0	11.0	11.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)	101.7	101.7		110.6	110.6			5.8	5.8		13.0	13.0
Actuated g/C Ratio	0.73	0.73		0.79	0.79			0.04	0.04		0.09	0.09
v/c Ratio	0.01	0.50		0.16	0.25			0.03	0.00		0.36	0.04
Control Delay	15.3	25.2		6.9	4.8			65.0	0.0		66.3	0.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.3	25.2		6.9	4.8			65.0	0.0		66.3	0.3
LOS	B	C		A	A			E	A		E	A
Approach Delay		25.2			4.9			43.3			55.9	
Approach LOS		C			A			D			E	
Queue Length 50th (ft)	2	465		8	61			2	0		51	0
Queue Length 95th (ft)	m3	m702		32	156			12	0		100	0
Internal Link Dist (ft)		540			401			197			254	
Turn Bay Length (ft)	345			100					100			
Base Capacity (vph)	378	2560		349	4013			207	326		164	281
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.01	0.50		0.16	0.25			0.01	0.00		0.36	0.04

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Galleria Oaks Driveway/Driveway B & Bee Cave Parkway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1143	36	51	932	4	1	1	1	53	1	10
Future Volume (veh/h)	3	1143	36	51	932	4	1	1	1	53	1	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	1242	39	55	1013	4	1	1	1	58	1	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	2035	64	455	3904	15	3	3	5	163	3	147
Arrive On Green	0.00	0.19	0.19	0.17	0.74	0.74	0.00	0.00	0.00	0.09	0.09	0.09
Sat Flow, veh/h	1781	3517	110	1781	5250	21	912	912	1585	1753	30	1585
Grp Volume(v), veh/h	3	627	654	55	657	360	2	0	1	59	0	11
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1702	1867	1825	0	1585	1783	0	1585
Q Serve(g_s), s	0.1	45.3	45.3	0.0	8.6	8.6	0.2	0.0	0.1	4.3	0.0	0.9
Cycle Q Clear(g_c), s	0.1	45.3	45.3	0.0	8.6	8.6	0.2	0.0	0.1	4.3	0.0	0.9
Prop In Lane	1.00		0.06	1.00		0.01	0.50		1.00	0.98		1.00
Lane Grp Cap(c), veh/h	318	1028	1071	455	2532	1388	6	0	5	166	0	147
V/C Ratio(X)	0.01	0.61	0.61	0.12	0.26	0.26	0.35	0.00	0.20	0.36	0.00	0.07
Avail Cap(c_a), veh/h	376	1028	1071	455	2532	1388	209	0	181	166	0	147
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	42.2	42.2	28.0	5.7	5.7	69.6	0.0	69.6	59.6	0.0	58.0
Incr Delay (d2), s/veh	0.0	2.7	2.6	0.1	0.2	0.5	32.6	0.0	18.6	5.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	30.0	31.0	2.2	4.8	5.4	0.2	0.0	0.1	4.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	44.9	44.8	28.1	5.9	6.2	102.2	0.0	88.2	65.5	0.0	59.0
LnGrp LOS	B	D	D	C	A	A	F	A	F	E	A	E
Approach Vol, veh/h		1284			1072			3			70	
Approach Delay, s/veh		44.8			7.2			97.6			64.5	
Approach LOS		D			A			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.6	87.0		19.0	6.4	110.1		4.4				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		4.0				
Max Green Setting (Gmax), s	8.0	81.0		13.0	5.0	84.0		16.0				
Max Q Clear Time (g_c+I1), s	2.0	47.3		6.3	2.1	10.6		2.2				
Green Ext Time (p_c), s	0.0	9.7		0.1	0.0	7.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		28.8	
HCM 6th LOS		C	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1048	54	46	0	14	81
Future Volume (vph)	1048	54	46	0	14	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	0	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3514	0	1770	0	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9					91
Link Speed (mph)	45			45	30	
Link Distance (ft)	313			390	728	
Travel Time (s)	4.7			5.9	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1178	61	52	0	16	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1239	0	52	0	16	91
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1		1	1
Detector Template	Thru		Left		Left	Right
Leading Detector (ft)	100		20		20	20
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	6		20		20	20
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA		Prot		Prot	Prot
Protected Phases	2		1		8	8
Permitted Phases			1			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1		8	8
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		20.0	20.0
Total Split (s)	19.0		18.0		18.0	18.0
Total Split (%)	34.5%		32.7%		32.7%	32.7%
Maximum Green (s)	15.0		14.0		14.0	14.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	0.5		0.5		0.5	0.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	C-Max		None		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	25.8		7.1		14.0	14.0
Actuated g/C Ratio	0.47		0.13		0.25	0.25
v/c Ratio	0.75		0.23		0.04	0.19
Control Delay	19.0		23.3		15.8	5.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	19.0		23.3		15.8	5.8
LOS	B		C		B	A
Approach Delay	19.0			23.3	7.3	
Approach LOS	B			C	A	
Queue Length 50th (ft)	187		16		4	0
Queue Length 95th (ft)	#332		39		15	27
Internal Link Dist (ft)	233			310	648	
Turn Bay Length (ft)			125			210
Base Capacity (vph)	1652		450		450	470
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.75		0.12		0.04	0.19

Intersection Summary	
Area Type:	Other
Cycle Length: 55	
Actuated Cycle Length: 55	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of 1st Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 47.4%	ICU Level of Service A
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: Market Street & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1048	54	46	0	14	81
Future Volume (veh/h)	1048	54	46	0	14	81
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	1178	61	52	0	16	91
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	0	2	2
Cap, veh/h	1675	87	202	0	453	403
Arrive On Green	0.49	0.49	0.04	0.00	0.25	0.25
Sat Flow, veh/h	3531	178	1781	52	1781	1585
Grp Volume(v), veh/h	609	630	52	26.7	16	91
Grp Sat Flow(s),veh/h/ln	1777	1838	1781	C	1781	1585
Q Serve(g_s), s	14.7	14.7	1.6		0.4	2.5
Cycle Q Clear(g_c), s	14.7	14.7	1.6		0.4	2.5
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	866	896	202		453	403
V/C Ratio(X)	0.70	0.70	0.26		0.04	0.23
Avail Cap(c_a), veh/h	866	896	584		453	403
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	11.0	11.0	26.0		15.4	16.2
Incr Delay (d2), s/veh	4.7	4.6	0.7		0.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	9.0	1.1		0.3	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.7	15.6	26.7		15.6	17.5
LnGrp LOS	B	B	C		B	B
Approach Vol, veh/h	1239				107	
Approach Delay, s/veh	15.7				17.2	
Approach LOS	B				B	

Timer - Assigned Phs	1	2				8
Phs Duration (G+Y+Rc), s	6.2	30.8				18.0
Change Period (Y+Rc), s	4.0	4.0				4.0
Max Green Setting (Gmax), s	14.0	15.0				14.0
Max Q Clear Time (g_c+I1), s	3.6	16.7				4.5
Green Ext Time (p_c), s	0.1	0.0				0.2

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1122	59	12	0	31	13
Future Volume (vph)	1122	59	12	0	31	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	0
Storage Lanes		0	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	0	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3514	0	1770	0	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					15
Link Speed (mph)	45			45	30	
Link Distance (ft)	404			571	738	
Travel Time (s)	6.1			8.7	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1320	69	14	0	36	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1389	0	14	0	36	15
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	20	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1		1	1
Detector Template	Thru		Left		Left	Right
Leading Detector (ft)	100		20		20	20
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	6		20		20	20
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA		Prot		Prot	Prot
Protected Phases	2		1		8	8
Permitted Phases			1			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1		8	8
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		8.0		20.0	20.0
Total Split (s)	25.0		10.0		20.0	20.0
Total Split (%)	45.5%		18.2%		36.4%	36.4%
Maximum Green (s)	21.0		6.0		16.0	16.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	0.5		0.5		0.5	0.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	C-Max		None		Max	Max
Walk Time (s)	5.0				5.0	5.0
Flash Dont Walk (s)	11.0				11.0	11.0
Pedestrian Calls (#/hr)	0				0	0
Act Effct Green (s)	29.0		5.8		16.0	16.0
Actuated g/C Ratio	0.53		0.11		0.29	0.29
v/c Ratio	0.75		0.08		0.07	0.03
Control Delay	16.0		23.2		14.6	7.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	16.0		23.2		14.6	7.9
LOS	B		C		B	A
Approach Delay	16.0			23.2	12.7	
Approach LOS	B			C	B	
Queue Length 50th (ft)	149		4		8	0
Queue Length 95th (ft)	#348		17		24	10
Internal Link Dist (ft)	324			491	658	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1858		193		514	471
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.75		0.07		0.07	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of 1st Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Vista Ridge & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1122	59	12	0	31	13
Future Volume (veh/h)	1122	59	12	0	31	13
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	1320	69	14	0	36	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	0	2	2
Cap, veh/h	1638	86	156	0	518	461
Arrive On Green	0.48	0.48	0.01	0.00	0.29	0.29
Sat Flow, veh/h	3529	179	1781	14	1781	1585
Grp Volume(v), veh/h	682	707	14	27.1	36	15
Grp Sat Flow(s),veh/h/ln	1777	1838	1781	C	1781	1585
Q Serve(g_s), s	17.9	18.0	0.4		0.8	0.4
Cycle Q Clear(g_c), s	17.9	18.0	0.4		0.8	0.4
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	847	877	156		518	461
V/C Ratio(X)	0.80	0.81	0.09		0.07	0.03
Avail Cap(c_a), veh/h	847	877	325		518	461
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	12.2	12.2	26.8		14.1	14.0
Incr Delay (d2), s/veh	8.0	7.9	0.2		0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(95%),veh/ln	11.0	11.3	0.3		0.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.2	20.1	27.1		14.4	14.1
LnGrp LOS	C	C	C		B	B
Approach Vol, veh/h	1389				51	
Approach Delay, s/veh	20.2				14.3	
Approach LOS	C				B	

Timer - Assigned Phs	1	2				8
Phs Duration (G+Y+Rc), s	4.8	30.2				20.0
Change Period (Y+Rc), s	4.0	4.0				4.0
Max Green Setting (Gmax), s	6.0	21.0				16.0
Max Q Clear Time (g_c+I1), s	2.4	20.0				2.8
Green Ext Time (p_c), s	0.0	0.8				0.1

Intersection Summary			
HCM 6th Ctrl Delay		20.0	
HCM 6th LOS		C	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	89	20	38	67	11	66
Future Volume (vph)	89	20	38	67	11	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1852	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1852	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	439			436	1044	
Travel Time (s)	10.0			9.9	23.7	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	98	22	42	74	12	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	42	74	12	73
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

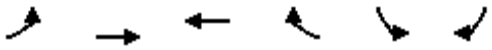
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	20	38	67	11	66
Future Vol, veh/h	89	20	38	67	11	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	22	42	74	12	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	120	0	267	109
Stage 1	-	-	-	-	109	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1480	-	727	950
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1480	-	707	950
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	950	-	-	1480	-
HCM Lane V/C Ratio	0.017	0.076	-	-	0.028	-
HCM Control Delay (s)	10.2	9.1	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	1176	938	3	7	6
Future Volume (vph)	9	1176	938	3	7	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Frt						0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5085	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5085	0	1770	1583
Link Speed (mph)		45	45		30	
Link Distance (ft)		478	620		190	
Travel Time (s)		7.2	9.4		4.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	1278	1020	3	8	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	1278	1023	0	8	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

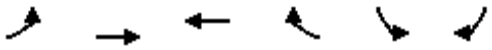
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1176	938	3	7	6
Future Vol, veh/h	9	1176	938	3	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	345	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	1278	1020	3	8	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1023	0	-	0	1681	512
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	5.34	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	3.12	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	382	-	-	-	109	434
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	462	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	382	-	-	-	106	434
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	462	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	28.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	382	-	-	-	106	434
HCM Lane V/C Ratio	0.026	-	-	-	0.072	0.015
HCM Control Delay (s)	14.7	-	-	-	41.6	13.4
HCM Lane LOS	B	-	-	-	E	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1185	936	7	0	16
Future Volume (vph)	0	1185	936	7	0	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	5080	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	5080	0	0	1611
Link Speed (mph)		45	45		30	
Link Distance (ft)		824	478		321	
Travel Time (s)		12.5	7.2		7.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1288	1017	8	0	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1288	1025	0	0	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		13	13		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1185	936	7	0	16
Future Vol, veh/h	0	1185	936	7	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1288	1017	8	0	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	513
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	433
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	433
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	433
HCM Lane V/C Ratio	-	-	-	0.04
HCM Control Delay (s)	-	-	-	13.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

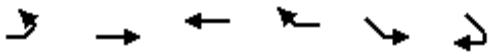


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	2129	11	0	2291
Future Volume (vph)	0	17	2129	11	0	2291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		375	30	
Storage Lanes	0	1		1	2	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1611	3539	1583	0	6408
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	170		414			332
Travel Time (s)	3.9		5.1			4.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	18	2314	12	0	2490
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	18	2314	12	0	2490
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Volume (vph)	0	950	0	1181	31	0
Future Volume (vph)	0	950	0	1181	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	0	2787	0	3539	1863	0
Flt Permitted						
Satd. Flow (perm)	0	2787	0	3539	1863	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	425			256	404	
Travel Time (s)	9.7			3.9	6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1033	0	1284	34	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1033	0	1284	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

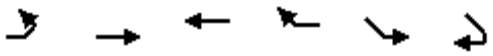


Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	0	1122	12	938	0	0
Future Volume (vph)	0	1122	12	938	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.852			
Flt Protected						
Satd. Flow (prot)	0	3539	3015	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3015	0	0	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		571	700		551	
Travel Time (s)		8.7	10.6		12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1220	13	1020	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1220	1033	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

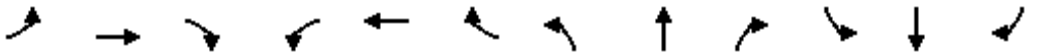
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	0	1102	0	945	14	0
Future Volume (vph)	0	1102	0	945	14	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	0	2787	0	3539	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	2787	0	3539	1770	0
Link Speed (mph)	45			30	45	
Link Distance (ft)	503			335	313	
Travel Time (s)	7.6			7.6	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1198	0	1027	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1198	0	1027	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	0	1129	945	0	0	0
Future Volume (vph)	0	1129	945	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	3539	3539	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3539	0	0	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		390	1812		370	
Travel Time (s)		5.9	27.5		8.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1227	1027	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1227	1027	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.5%		ICU Level of Service A	
Analysis Period (min) 15			

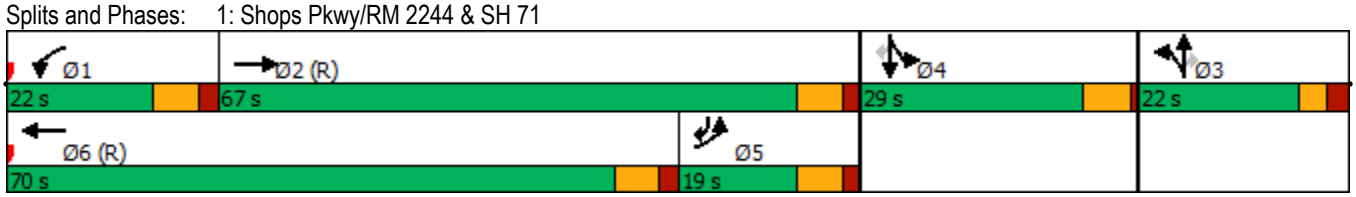


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1885	232	407	2407	44	36	89	136	521	96	655
Future Volume (vph)	128	1885	232	407	2407	44	36	89	136	521	96	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450		0	500		530	75		0	300		500
Storage Lanes	2		0	1		1	1		1	2		1
Taper Length (ft)	150			100			75			100		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	0.91	0.95	0.95	1.00	0.97	1.00	0.88
Frt		0.984			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	3335	4861	0	1719	4925	0	0	3390	1538	3335	1810	2707
Flt Permitted	0.950			0.950				0.986		0.950		
Satd. Flow (perm)	3335	4861	0	1719	4925	0	0	3390	1538	3335	1810	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			2				180			288
Link Speed (mph)		50			50			25			55	
Link Distance (ft)		3236			1846			605			1646	
Travel Time (s)		44.1			25.2			16.5			20.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	133	1964	242	424	2507	46	38	93	142	543	100	682
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	2206	0	424	2553	0	0	131	142	543	100	682
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			28			0			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	pm+ov
Protected Phases	5	2		1	6		3	3		4	4	5
Permitted Phases									3			4
Detector Phase	5	2		1	6		3	3	3	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	13.5	26.0		13.5	26.0		12.5	12.5	12.5	13.0	13.0	13.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	19.0	67.0		22.0	70.0		22.0	22.0	22.0	29.0	29.0	19.0
Total Split (%)	13.6%	47.9%		15.7%	50.0%		15.7%	15.7%	15.7%	20.7%	20.7%	13.6%
Maximum Green (s)	12.3	60.3		15.3	63.3		16.5	16.5	16.5	23.0	23.0	12.3
Yellow Time (s)	4.7	4.7		4.7	4.7		3.0	3.0	3.0	5.0	5.0	4.7
All-Red Time (s)	2.0	2.0		2.0	2.0		2.5	2.5	2.5	1.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7			5.5	5.5	6.0	6.0	6.7
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	12.3	60.3		22.0	70.0			9.8	9.8	23.0	23.0	41.3
Actuated g/C Ratio	0.09	0.43		0.16	0.50			0.07	0.07	0.16	0.16	0.30
v/c Ratio	0.45	1.05		1.57	1.04			0.55	0.52	0.99	0.34	0.68
Control Delay	53.6	54.2		312.6	62.9			71.6	10.1	94.6	55.4	28.2
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	54.2		312.6	62.9			71.6	10.1	94.6	55.4	28.2
LOS	D	D		F	E			E	B	F	E	C
Approach Delay		54.1			98.5			39.6			57.5	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	56	~567		~546	~915			62	0	257	82	183
Queue Length 95th (ft)	m53	m420		#792	#1039			95	32	#378	140	263
Internal Link Dist (ft)		3156			1766			525			1566	
Turn Bay Length (ft)	450			500						300		500
Base Capacity (vph)	293	2104		270	2463			399	340	547	297	1001
Starvation Cap Reductn	0	0		0	0			0	0	0	0	0
Spillback Cap Reductn	0	0		0	0			0	0	0	0	0
Storage Cap Reductn	0	0		0	0			0	0	0	0	0
Reduced v/c Ratio	0.45	1.05		1.57	1.04			0.33	0.42	0.99	0.34	0.68

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 131 (94%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.57			
Intersection Signal Delay: 73.3		Intersection LOS: E	
Intersection Capacity Utilization 101.8%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shops Pkwy/RM 2244 & SH 71



HCM 6th Edition methodology expects standard NEMA quad ring-barrier structure. Does not support multiple barriers.



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	174	1687	179	5	28	2054	747	191	143	47	995	304
Future Volume (vph)	174	1687	179	5	28	2054	747	191	143	47	995	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	15	12	12	12	12	12
Storage Length (ft)	600		500		350		600	80		0	700	
Storage Lanes	2		1		1		1	1		0	1	
Taper Length (ft)	75				130			50			100	
Lane Util. Factor	0.97	0.91	0.91	0.91	1.00	0.91	1.00	0.91	0.91	0.95	0.97	1.00
Frt		0.986					0.850		0.972			
Flt Protected	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (prot)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Flt Permitted	0.950				0.950			0.950	0.987		0.950	
Satd. Flow (perm)	3335	4871	0	0	1719	4940	1692	1564	3160	0	3335	1810
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		15					639		15			
Link Speed (mph)		55				50			25			55
Link Distance (ft)		813				3236			676			1221
Travel Time (s)		10.1				44.1			18.4			15.1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	185	1795	190	5	30	2185	795	203	152	50	1059	323
Shared Lane Traffic (%)								34%				
Lane Group Flow (vph)	185	1985	0	0	35	2185	795	134	271	0	1059	323
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		24				24			36			24
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2		1	1	2	1	1	2		1	2
Detector Template		Thru		Left	Left			Left	Thru			
Leading Detector (ft)	20	100		20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6		20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	2.0	0.0		0.0	0.0	2.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	3.0	0.0		0.0	0.0	0.0	3.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Prot	NA		Prot	Prot	NA	Free	Split	NA		Split	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Lane Width (ft)	16
Storage Length (ft)	900
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1794
Flt Permitted	
Satd. Flow (perm)	1794
Right Turn on Red	Yes
Satd. Flow (RTOR)	157
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.94
Heavy Vehicles (%)	2%
Adj. Flow (vph)	229
Shared Lane Traffic (%)	
Lane Group Flow (vph)	229
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.85
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	3.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	5	2		1	1	6		3	3		4	4
Permitted Phases							Free					
Detector Phase	5	2		1	1	6		3	3		4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	5.0	15.0		5.0	5.0		5.0	5.0
Minimum Split (s)	13.5	21.7		13.5	13.5	21.7		11.0	11.0		14.0	14.0
Total Split (s)	15.0	62.0		18.0	18.0	65.0		22.0	22.0		38.0	38.0
Total Split (%)	10.7%	44.3%		12.9%	12.9%	46.4%		15.7%	15.7%		27.1%	27.1%
Maximum Green (s)	9.1	56.1		12.1	12.1	59.1		16.5	16.5		32.0	32.0
Yellow Time (s)	4.7	4.7		4.7	4.7	4.7		3.0	3.0		5.0	5.0
All-Red Time (s)	1.2	1.2		1.2	1.2	1.2		2.5	2.5		1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9			5.9	5.9		5.5	5.5		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	2.0		1.0	1.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Min	C-Max		None	None	C-Max		None	None		None	None
Act Effct Green (s)	9.0	59.7			10.7	59.2	140.0	14.9	14.9		33.6	33.6
Actuated g/C Ratio	0.06	0.43			0.08	0.42	1.00	0.11	0.11		0.24	0.24
v/c Ratio	0.87	0.95			0.27	1.05	0.47	0.81	0.77		1.32	0.75
Control Delay	86.2	47.4			57.4	58.6	0.3	93.6	72.8		180.6	35.9
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	86.2	47.4			57.4	58.6	0.3	93.6	72.8		180.6	35.9
LOS	F	D			E	E	A	F	E		F	D
Approach Delay		50.7				43.2			79.7			127.7
Approach LOS		D				D			E			F
Queue Length 50th (ft)	87	~711			27	~777	0	131	125		~671	286
Queue Length 95th (ft)	m#150	#808			m30	m#756	m0	#240	178		m#794	m352
Internal Link Dist (ft)		733				3156			596			1141
Turn Bay Length (ft)	600				350		600	80			700	
Base Capacity (vph)	216	2085			148	2090	1692	184	385		800	433
Starvation Cap Reductn	0	0			0	0	0	0	0		0	0
Spillback Cap Reductn	0	0			0	0	0	0	0		0	0
Storage Cap Reductn	0	0			0	0	0	0	0		0	0
Reduced v/c Ratio	0.86	0.95			0.24	1.05	0.47	0.73	0.70		1.32	0.75

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 66.4		Intersection LOS: E	
Intersection Capacity Utilization 99.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

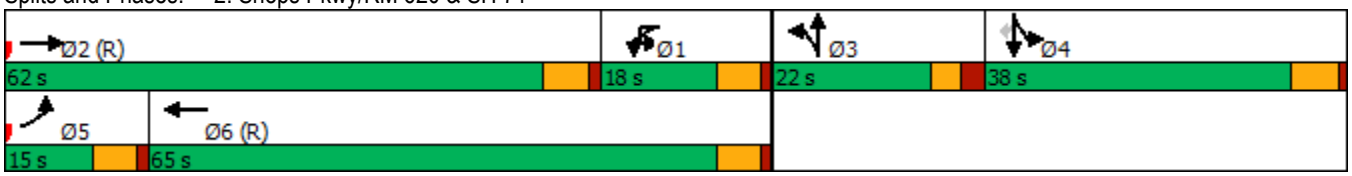


Lane Group	SBR
Protected Phases	
Permitted Phases	4
Detector Phase	4
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	14.0
Total Split (s)	38.0
Total Split (%)	27.1%
Maximum Green (s)	32.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	None
Act Effct Green (s)	33.6
Actuated g/C Ratio	0.24
v/c Ratio	0.42
Control Delay	12.2
Queue Delay	0.0
Total Delay	12.2
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	107
Queue Length 95th (ft)	m112
Internal Link Dist (ft)	
Turn Bay Length (ft)	900
Base Capacity (vph)	549
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.42

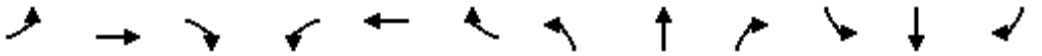
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

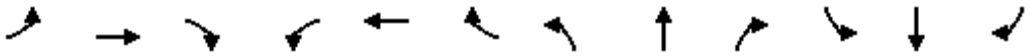
Splits and Phases: 2: Shops Pkwy/RM 620 & SH 71



HCM 6th Edition methodology expects strict NEMA phasing.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	1261	277	583	1513	43	225	378	460	45	494	664
Future Volume (vph)	475	1261	277	583	1513	43	225	378	460	45	494	664
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	760		400	910		0	150		200	200		0
Storage Lanes	2		1	2		0	1		2	1		1
Taper Length (ft)	100			150			100			100		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3392	0	1703	3406	1524	1703	1792	1524
Flt Permitted	0.950			0.950			0.086			0.519		
Satd. Flow (perm)	3303	3406	1524	3303	3392	0	154	3406	1524	930	1792	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				367			252
Link Speed (mph)		55			55			55			45	
Link Distance (ft)		1538			3446			343			1965	
Travel Time (s)		19.1			42.7			4.3			29.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	495	1314	289	607	1576	45	234	394	479	47	515	692
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	1314	289	607	1621	0	234	394	479	47	515	692
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	



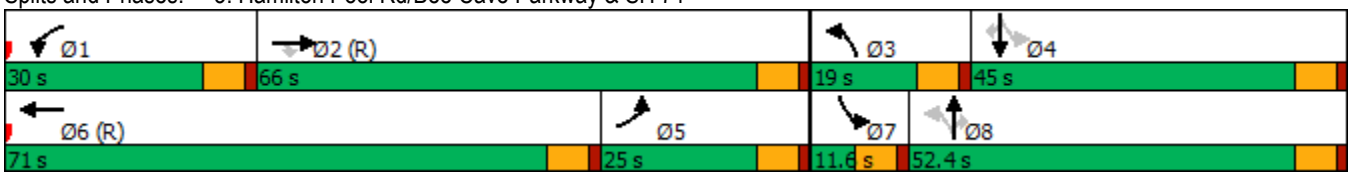
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2				8		8	4		4
Detector Phase	5	2	2	1	6		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	7.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	30.5	30.5	13.5	30.5		11.5	30.5	30.5	11.5	30.5	30.5
Total Split (s)	25.0	66.0	66.0	30.0	71.0		19.0	52.4	52.4	11.6	45.0	45.0
Total Split (%)	15.6%	41.3%	41.3%	18.8%	44.4%		11.9%	32.8%	32.8%	7.3%	28.1%	28.1%
Maximum Green (s)	18.5	59.5	59.5	23.5	64.5		12.5	45.9	45.9	5.1	38.5	38.5
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.4	0.2	0.2	1.4	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Minimum Gap (s)	0.2	0.2	0.2	1.4	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	15.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	26.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	18.5	59.5	59.5	23.5	64.5		57.5	48.2	48.2	43.6	38.5	38.5
Actuated g/C Ratio	0.12	0.37	0.37	0.15	0.40		0.36	0.30	0.30	0.27	0.24	0.24
v/c Ratio	1.30	1.04	0.43	1.25	1.18		1.33	0.38	0.67	0.17	1.19	1.24
Control Delay	205.1	83.9	18.6	182.4	132.8		216.4	46.2	16.7	36.5	158.8	153.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	205.1	83.9	18.6	182.4	132.8		216.4	46.2	16.7	36.5	158.8	153.6
LOS	F	F	B	F	F		F	D	B	D	F	F
Approach Delay		103.5			146.3			69.4			151.4	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~339	~776	99	~407	~1071		~270	176	101	32	~649	~686
Queue Length 95th (ft)	#459	#916	186	#532	#1211		#454	228	241	64	#883	#939
Internal Link Dist (ft)		1458			3366			263			1885	
Turn Bay Length (ft)	760		400	910			150		200	200		
Base Capacity (vph)	381	1266	665	485	1368		176	1026	715	278	431	558
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.30	1.04	0.43	1.25	1.18		1.33	0.38	0.67	0.17	1.19	1.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 101 (63%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 121.1		Intersection LOS: F	
Intersection Capacity Utilization 116.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hamilton Pool Rd/Bee Cave Parkway & SH 71



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	475	1261	277	583	1513	43	225	378	460	45	494	664
Future Volume (veh/h)	475	1261	277	583	1513	43	225	378	460	45	494	664
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	495	1314	0	607	1576	0	234	394	0	47	515	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6	6	6	6	6	6	6	6	6	6
Cap, veh/h	387	1280		491	1387		180	997		285	436	
Arrive On Green	0.12	0.37	0.00	0.15	0.40	0.00	0.08	0.29	0.00	0.03	0.24	0.00
Sat Flow, veh/h	3346	3441	1535	3346	3532	0	1725	3441	1535	1725	1811	1535
Grp Volume(v), veh/h	495	1314	0	607	1576	0	234	394	0	47	515	0
Grp Sat Flow(s),veh/h/ln	1673	1721	1535	1673	1721	0	1725	1721	1535	1725	1811	1535
Q Serve(g_s), s	18.5	59.5	0.0	23.5	64.5	0.0	12.5	14.7	0.0	3.3	38.5	0.0
Cycle Q Clear(g_c), s	18.5	59.5	0.0	23.5	64.5	0.0	12.5	14.7	0.0	3.3	38.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	1280		491	1387		180	997		285	436	
V/C Ratio(X)	1.28	1.03		1.24	1.14		1.30	0.40		0.17	1.18	
Avail Cap(c_a), veh/h	387	1280		491	1387		180	997		290	436	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.24	0.24	0.00	1.00	1.00	0.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	70.8	50.3	0.0	68.3	47.8	0.0	45.4	45.6	0.0	44.0	60.8	0.0
Incr Delay (d2), s/veh	144.3	32.2	0.0	110.2	63.8	0.0	170.3	0.1	0.0	0.1	100.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.1	39.8	0.0	23.0	48.0	0.0	21.5	10.2	0.0	2.5	41.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	215.0	82.5	0.0	178.5	111.5	0.0	215.7	45.7	0.0	44.1	161.5	0.0
LnGrp LOS	F	F		F	F		F	D		D	F	
Approach Vol, veh/h		1809			2183			628			562	
Approach Delay, s/veh		118.8			130.1			109.0			151.7	
Approach LOS		F			F			F			F	

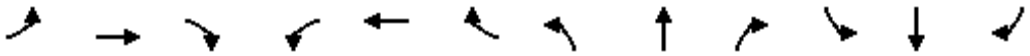
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	66.0	19.0	45.0	25.0	71.0	11.1	52.9
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	23.5	59.5	12.5	38.5	18.5	64.5	5.1	45.9
Max Q Clear Time (g_c+I1), s	25.5	61.5	14.5	40.5	20.5	66.5	5.3	16.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	125.9
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	853	1	383	11	1	2	225	663	6	4	1180	1128
Future Volume (vph)	853	1	383	11	1	2	225	663	6	4	1180	1128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	0		0	250		0	100		450
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	100			25			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.982			0.999				0.850
Flt Protected	0.950	0.952			0.962		0.950			0.950		
Satd. Flow (prot)	1681	1685	1583	0	1760	0	1770	3536	0	1770	3539	1583
Flt Permitted	0.950	0.952			0.962		0.069			0.381		
Satd. Flow (perm)	1681	1685	1583	0	1760	0	129	3536	0	710	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			285		2			1				598
Link Speed (mph)		45			30			55			55	
Link Distance (ft)		1817			246			1646			1175	
Travel Time (s)		27.5			5.6			20.4			14.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	907	1	407	12	1	2	239	705	6	4	1255	1200
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	453	455	407	0	15	0	239	711	0	4	1255	1200
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	1		1	1	1
Detector Template		Thru		Left								
Leading Detector (ft)	50	100	50	20	100		50	50		20	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	50	6	50	20	6		50	50		20	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	3.0		3.0	0.0		3.0	0.0	0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	4	4		3	3		5	2		1	6	4
Permitted Phases			4				2			6		6



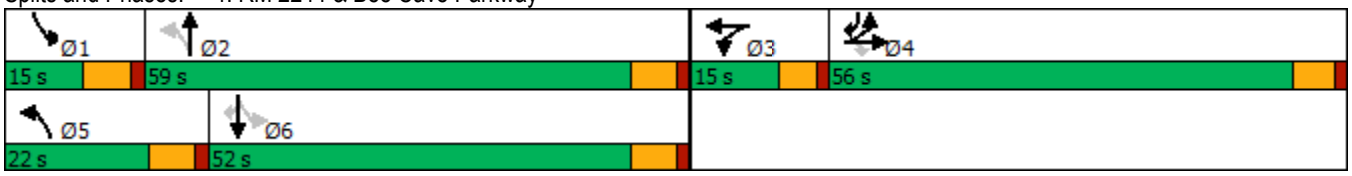
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	3		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	12.0		5.0	12.0	5.0
Minimum Split (s)	11.0	11.0	11.0	10.5	10.5		11.5	18.5		11.5	18.5	11.0
Total Split (s)	56.0	56.0	56.0	15.0	15.0		22.0	59.0		15.0	52.0	56.0
Total Split (%)	38.6%	38.6%	38.6%	10.3%	10.3%		15.2%	40.7%		10.3%	35.9%	38.6%
Maximum Green (s)	50.0	50.0	50.0	9.5	9.5		15.5	52.5		8.5	45.5	50.0
Yellow Time (s)	4.5	4.5	4.5	4.0	4.0		5.0	5.0		5.0	5.0	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		5.5		6.5	6.5		6.5	6.5	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	Min		None	Min	None
Act Effct Green (s)	46.0	46.0	46.0		5.8		68.0	65.8		50.9	45.8	96.1
Actuated g/C Ratio	0.35	0.35	0.35		0.04		0.52	0.50		0.39	0.35	0.73
v/c Ratio	0.77	0.77	0.55		0.19		0.91	0.40		0.01	1.02	0.91
Control Delay	48.4	48.4	13.1		63.5		74.4	23.5		20.2	72.0	17.6
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	48.4	48.4	13.1		63.5		74.4	23.5		20.2	72.0	17.6
LOS	D	D	B		E		E	C		C	E	B
Approach Delay		37.5			63.5			36.3			45.4	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	335	336	69		11		154	183		2	~569	279
Queue Length 95th (ft)	543	545	191		37		#363	325		9	#842	#1066
Internal Link Dist (ft)		1737			166			1566			1095	
Turn Bay Length (ft)	415						250			100		450
Base Capacity (vph)	645	647	783		130		262	1776		363	1236	1353
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.70	0.70	0.52		0.12		0.91	0.40		0.01	1.02	0.89

Intersection Summary			
Area Type:	Other		
Cycle Length: 145			
Actuated Cycle Length: 131.1			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 41.4		Intersection LOS: D	
Intersection Capacity Utilization 101.5%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: RM 2244 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	3	467	372	104	29	483	837	137	864	37	716	1337
Future Volume (vph)	3	467	372	104	29	483	837	137	864	37	716	1337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	13	11	12	13	12	12
Storage Length (ft)		330		0	165		0	245		385	400	
Storage Lanes		2		0	1		1	1		1	0	
Taper Length (ft)		100			100			100			100	
Lane Util. Factor	0.95	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.95	1.00	0.97	0.95
Frt			0.967			0.969	0.850			0.850		
Flt Protected		0.950			0.950			0.950			0.950	
Satd. Flow (prot)	0	3513	3389	0	1811	3253	1474	1694	3505	1620	3400	3505
Flt Permitted		0.950			0.950			0.950			0.950	
Satd. Flow (perm)	0	3513	3389	0	1811	3253	1474	1694	3505	1620	3400	3505
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)			21			19	113			108		
Link Speed (mph)			45			45			55			55
Link Distance (ft)			1567			838			1100			403
Travel Time (s)			23.7			12.7			13.6			5.0
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	3	481	384	107	30	498	863	141	891	38	738	1378
Shared Lane Traffic (%)							15%					
Lane Group Flow (vph)	0	484	491	0	30	627	734	141	891	38	738	1378
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			24			20			11			24
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			
Headway Factor	1.00	0.96	1.00	1.00	0.96	1.00	0.96	1.04	1.00	0.96	1.00	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1		1	1	1	1	2	1	1	2
Detector Template	Left								Thru	Right		Thru
Leading Detector (ft)	20	50	50		50	50	50	20	100	20	20	100
Trailing Detector (ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0		0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	50	50		50	50	50	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	3.0		2.0	2.0	15.0	3.0	0.0	0.0	2.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Split	Split	NA		Split	NA	pt+ov	Prot	NA	Perm	Prot	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	666
Future Volume (vph)	666
Ideal Flow (vphpl)	1900
Lane Width (ft)	14
Storage Length (ft)	400
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1672
Flt Permitted	
Satd. Flow (perm)	1672
Right Turn on Red	Yes
Satd. Flow (RTOR)	364
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.97
Heavy Vehicles (%)	3%
Adj. Flow (vph)	687
Shared Lane Traffic (%)	
Lane Group Flow (vph)	687
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	0.92
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases	4	4	4		3	3	3 1	5	2		1	6
Permitted Phases										2		
Detector Phase	4	4	4		3	3		5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.3	10.3	10.3		13.0	13.0		13.5	21.5	21.5	13.5	31.5
Total Split (s)	22.0	22.0	22.0		32.0	32.0		15.0	51.0	51.0	35.0	71.0
Total Split (%)	15.7%	15.7%	15.7%		22.9%	22.9%		10.7%	36.4%	36.4%	25.0%	50.7%
Maximum Green (s)	16.7	16.7	16.7		26.5	26.5		8.9	44.9	44.9	28.9	64.9
Yellow Time (s)	4.3	4.3	4.3		4.3	4.3		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0		1.2	1.2		1.1	1.1	1.1	1.1	1.1
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.3	5.3		5.5	5.5		6.1	6.1	6.1	6.1	6.1
Lead/Lag	Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0		1.0	2.0	2.0	1.0	2.0
Recall Mode	None	None	None		None	None		None	C-Max	C-Max	None	C-Max
Act Effct Green (s)		16.7	16.7		26.5	26.5	61.5	8.9	44.9	44.9	28.9	64.9
Actuated g/C Ratio		0.12	0.12		0.19	0.19	0.44	0.06	0.32	0.32	0.21	0.46
v/c Ratio		1.16	1.16		0.09	0.99	1.03	1.32	0.79	0.06	1.05	0.85
Control Delay		159.2	159.3		36.2	79.4	71.3	231.7	45.0	1.0	65.9	18.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		159.2	159.3		36.2	79.4	71.3	231.7	45.0	1.0	65.9	18.1
LOS		F	F		D	E	E	F	D	A	E	B
Approach Delay			159.3			74.2			68.1			27.0
Approach LOS			F			E			E			C
Queue Length 50th (ft)		~273	~275		23	312	~771	~168	371	0	~371	417
Queue Length 95th (ft)		#389	#393		54	#450	#1001	m#293	428	m4	m299	m308
Internal Link Dist (ft)			1487			758			1020			323
Turn Bay Length (ft)		330			165			245		385	400	
Base Capacity (vph)		419	422		342	631	710	107	1124	592	701	1624
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		1.16	1.16		0.09	0.99	1.03	1.32	0.79	0.06	1.05	0.85

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 6 (4%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 65.3		Intersection LOS: E	
Intersection Capacity Utilization 103.7%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.



Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	31.5
Total Split (s)	71.0
Total Split (%)	50.7%
Maximum Green (s)	64.9
Yellow Time (s)	5.0
All-Red Time (s)	1.1
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.1
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Act Effct Green (s)	64.9
Actuated g/C Ratio	0.46
v/c Ratio	0.71
Control Delay	3.2
Queue Delay	0.0
Total Delay	3.2
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	53
Queue Length 95th (ft)	m34
Internal Link Dist (ft)	
Turn Bay Length (ft)	400
Base Capacity (vph)	970
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: RM 620 & Bee Cave Parkway



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	267	1	131	2	2	1	149	1992	1	1	2488
Future Volume (vph)	1	267	1	131	2	2	1	149	1992	1	1	2488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	12	12	11	14	12	12	14	12
Storage Length (ft)		0		95	0		85	100		0	100	
Storage Lanes		1		1	0		1	1		0	1	
Taper Length (ft)		25			25			100			100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95
Frt				0.850			0.850					
Flt Protected		0.950	0.953			0.976		0.950			0.950	
Satd. Flow (prot)	0	1649	1544	1449	0	1783	1501	1851	3471	0	1851	3471
Flt Permitted		0.755	0.953			0.976		0.045			0.047	
Satd. Flow (perm)	0	1310	1544	1449	0	1783	1501	88	3471	0	92	3471
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				143			143					
Link Speed (mph)			30			30			55			55
Link Distance (ft)			1137			471			788			1284
Travel Time (s)			25.8			10.7			9.8			15.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	1	272	1	134	2	2	1	152	2033	1	1	2539
Shared Lane Traffic (%)		50%										
Lane Group Flow (vph)	0	137	137	134	0	4	1	152	2034	0	1	2539
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			10			12			14			14
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane									Yes			Yes
Headway Factor	1.00	1.00	1.09	1.09	1.00	1.00	1.04	0.92	1.00	1.00	0.92	1.00
Turning Speed (mph)	9	15		9	15		9	15		9	15	
Number of Detectors	1	1	1	1	1	1	1	1	2		1	2
Detector Template	Left	Left			Left						Left	Thru
Leading Detector (ft)	20	20	50	50	20	50	50	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	50	50	20	50	50	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	10.0	0.0	5.0	10.0	5.0	5.0		0.0	0.0
Detector 2 Position(ft)									94			94
Detector 2 Size(ft)									6			6
Detector 2 Type									Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)									0.0			0.0
Turn Type	Perm	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA



Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	175
Future Volume (vph)	175
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Storage Length (ft)	510
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1553
Flt Permitted	
Satd. Flow (perm)	1553
Right Turn on Red	Yes
Satd. Flow (RTOR)	179
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.98
Heavy Vehicles (%)	4%
Adj. Flow (vph)	179
Shared Lane Traffic (%)	
Lane Group Flow (vph)	179
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Protected Phases		4	4		3	3		5	2		1	6
Permitted Phases	4			4			3	2			6	
Detector Phase	4	4	4	4	3	3	3	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0
Minimum Split (s)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.9	21.5		12.5	21.0
Total Split (s)	18.0	18.0	18.0	18.0	12.0	12.0	12.0	19.0	97.0		13.0	91.0
Total Split (%)	12.9%	12.9%	12.9%	12.9%	8.6%	8.6%	8.6%	13.6%	69.3%		9.3%	65.0%
Maximum Green (s)	12.5	12.5	12.5	12.5	6.5	6.5	6.5	14.1	91.0		8.1	85.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.9	5.0		3.9	5.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5	4.9	6.0		4.9	6.0
Lead/Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	C-Max		None	C-Max
Act Effct Green (s)		22.2	22.2	22.2		5.2	5.2	105.2	102.1		95.2	89.1
Actuated g/C Ratio		0.16	0.16	0.16		0.04	0.04	0.75	0.73		0.68	0.64
v/c Ratio		0.66	0.56	0.38		0.06	0.01	0.79	0.80		0.01	1.15
Control Delay		71.2	64.3	10.7		66.8	0.0	49.5	10.8		2.0	86.8
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		71.2	64.3	10.7		66.8	0.0	49.5	10.8		2.0	86.8
LOS		E	E	B		E	A	D	B		A	F
Approach Delay			49.0			53.4			13.5			81.1
Approach LOS			D			D			B			F
Queue Length 50th (ft)		123	121	0		4	0	79	348		0	~1466
Queue Length 95th (ft)		#298	#276	57		17	0	m91	m594		m0	m#1421
Internal Link Dist (ft)			1057			391			708			1204
Turn Bay Length (ft)				95			85	100			100	
Base Capacity (vph)		207	244	349		82	206	243	2530		166	2210
Starvation Cap Reductn		0	0	0		0	0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0	0	0		0	0
Reduced v/c Ratio		0.66	0.56	0.38		0.05	0.00	0.63	0.80		0.01	1.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 127 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 50.8		Intersection LOS: D	
Intersection Capacity Utilization 104.8%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			



Lane Group	SBR
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	15.0
Minimum Split (s)	21.0
Total Split (s)	91.0
Total Split (%)	65.0%
Maximum Green (s)	85.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	2.0
Recall Mode	C-Max
Act Effct Green (s)	89.1
Actuated g/C Ratio	0.64
v/c Ratio	0.17
Control Delay	0.4
Queue Delay	0.0
Total Delay	0.4
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	4
Queue Length 95th (ft)	m5
Internal Link Dist (ft)	
Turn Bay Length (ft)	510
Base Capacity (vph)	1053
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.17

Intersection Summary

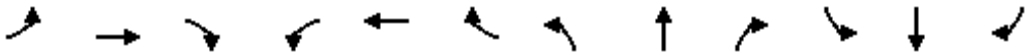
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: RM 620 & Ladera Blvd.



HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	7	191	72	4	20	104	2011	16	49	2362	186
Future Volume (vph)	217	7	191	72	4	20	104	2011	16	49	2362	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	12	12	12	14	12	12	12	12	12
Storage Length (ft)	80		135	90		0	130		0	150		510
Storage Lanes	0		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.999				0.850
Flt Protected	0.950			0.950	0.957		0.950			0.950		
Satd. Flow (prot)	3286	1845	1516	1665	1677	1568	1869	3501	0	1752	3505	1568
Flt Permitted	0.950			0.950	0.957		0.950			0.950		
Satd. Flow (perm)	3286	1845	1516	1665	1677	1568	1869	3501	0	1752	3505	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			153		1				165
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		643			447			1366			1282	
Travel Time (s)		14.6			10.2			16.9			15.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	226	7	199	75	4	21	108	2095	17	51	2460	194
Shared Lane Traffic (%)				47%								
Lane Group Flow (vph)	226	7	199	40	39	21	108	2112	0	51	2460	194
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		30			20			14			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.04	1.00	1.04	1.00	1.00	1.00	0.92	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left			Left				Thru		Left		Right
Leading Detector (ft)	20	100	50	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	50	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	2.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	12.0	0.0	0.0	8.0	8.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	Perm



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4						2
Detector Phase	3	3	3	4	4	4	1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	13.0	13.0	13.0	33.6	33.6	33.6	9.9	31.5		9.9	33.5	33.5
Total Split (s)	13.0	13.0	13.0	35.0	35.0	35.0	16.0	82.0		10.0	76.0	76.0
Total Split (%)	9.3%	9.3%	9.3%	25.0%	25.0%	25.0%	11.4%	58.6%		7.1%	54.3%	54.3%
Maximum Green (s)	7.3	7.3	7.3	29.4	29.4	29.4	11.1	76.0		5.1	70.0	70.0
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	3.9	5.0		3.9	5.0	5.0
All-Red Time (s)	2.5	2.5	2.5	2.4	2.4	2.4	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	5.6	5.6	5.6	4.9	6.0		4.9	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0		1.0	2.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Walk Time (s)				7.0	7.0	7.0					7.0	7.0
Flash Dont Walk (s)				21.0	21.0	21.0					20.0	20.0
Pedestrian Calls (#/hr)				0	0	0					0	0
Act Effct Green (s)	7.3	7.3	7.3	7.9	7.9	7.9	11.1	99.6		5.1	93.6	93.6
Actuated g/C Ratio	0.05	0.05	0.05	0.06	0.06	0.06	0.08	0.71		0.04	0.67	0.67
v/c Ratio	1.32	0.07	0.75	0.43	0.41	0.09	0.73	0.85		0.81	1.05	0.18
Control Delay	228.3	65.0	25.6	76.7	75.9	0.8	78.6	19.2		134.4	57.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	228.3	65.0	25.6	76.7	75.9	0.8	78.6	19.2		134.4	57.5	2.5
LOS	F	E	C	E	E	A	E	B		F	E	A
Approach Delay		132.3			60.4			22.1			55.0	
Approach LOS		F			E			C			E	
Queue Length 50th (ft)	~136	6	0	37	36	0	94	557		47	~1306	9
Queue Length 95th (ft)	#224	23	#103	78	77	0	m125	780		#129	#1474	39
Internal Link Dist (ft)		563			367			1286			1202	
Turn Bay Length (ft)	80		135	90			130			150		510
Base Capacity (vph)	171	96	267	349	352	450	148	2491		63	2343	1102
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.32	0.07	0.75	0.11	0.11	0.05	0.73	0.85		0.81	1.05	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 105 (75%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.32			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	

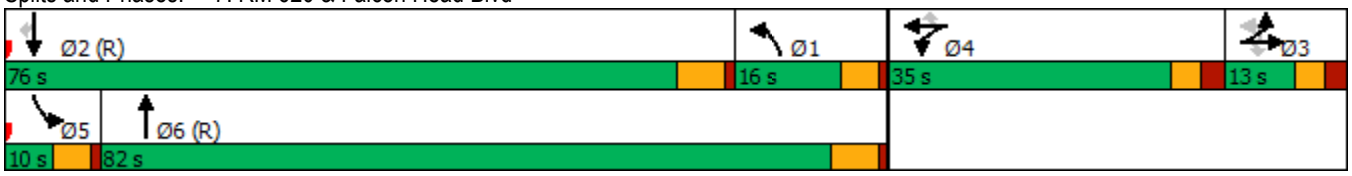
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: RM 620 & Falcon Head Blvd



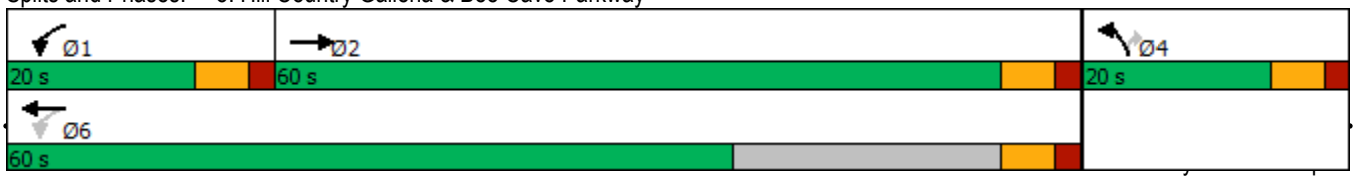
HCM 6th Edition methodology expects strict NEMA phasing.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1010	106	54	1250	145	49
Future Volume (vph)	1010	106	54	1250	145	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3490	0	1770	3539	1770	1583
Flt Permitted			0.107		0.950	
Satd. Flow (perm)	3490	0	199	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	17					58
Link Speed (mph)	45			45	25	
Link Distance (ft)	700			503	561	
Travel Time (s)	10.6			7.6	15.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1188	125	64	1471	171	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1313	0	64	1471	171	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	20			20	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	20.0	20.0	20.0
Total Split (s)	60.0		20.0	60.0	20.0	20.0
Total Split (%)	60.0%		20.0%	60.0%	20.0%	20.0%
Maximum Green (s)	54.0		14.0	54.0	14.0	14.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Min		None	Min	None	None
Act Effct Green (s)	38.8		48.4	48.4	12.0	12.0
Actuated g/C Ratio	0.53		0.67	0.67	0.17	0.17
v/c Ratio	0.70		0.24	0.62	0.59	0.19
Control Delay	15.9		6.3	8.3	39.3	10.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	15.9		6.3	8.3	39.3	10.9
LOS	B		A	A	D	B
Approach Delay	15.9			8.2	32.1	
Approach LOS	B			A	C	
Queue Length 50th (ft)	237		9	175	71	0
Queue Length 95th (ft)	294		19	211	147	29
Internal Link Dist (ft)	620			423	481	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2658		442	3373	348	358
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.49		0.14	0.44	0.49	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 72.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Hill Country Galleria & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1010	106	54	1250	145	49
Future Volume (veh/h)	1010	106	54	1250	145	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1188	125	64	1471	171	58
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1630	171	313	2352	232	206
Arrive On Green	0.50	0.50	0.06	0.66	0.13	0.13
Sat Flow, veh/h	3339	341	1781	3647	1781	1585
Grp Volume(v), veh/h	649	664	64	1471	171	58
Grp Sat Flow(s),veh/h/ln	1777	1809	1781	1777	1781	1585
Q Serve(g_s), s	16.5	16.6	0.9	13.8	5.3	1.9
Cycle Q Clear(g_c), s	16.5	16.6	0.9	13.8	5.3	1.9
Prop In Lane		0.19	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	893	909	313	2352	232	206
V/C Ratio(X)	0.73	0.73	0.20	0.63	0.74	0.28
Avail Cap(c_a), veh/h	1664	1694	647	3327	432	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	11.3	8.5	5.6	24.1	22.7
Incr Delay (d2), s/veh	1.2	1.1	0.3	0.3	4.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	8.6	0.4	4.3	4.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.4	12.4	8.8	5.9	28.7	23.4
LnGrp LOS	B	B	A	A	C	C
Approach Vol, veh/h	1313			1535	229	
Approach Delay, s/veh	12.4			6.0	27.4	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.2	35.0		13.5		44.2
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.0	54.0		14.0		54.0
Max Q Clear Time (g_c+I1), s	2.9	18.6		7.3		15.8
Green Ext Time (p_c), s	0.1	10.3		0.4		13.9

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	6	120	848	1	1178	42	38	100
Future Volume (vph)	6	120	848	1	1178	42	38	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200		200		0	0	100
Storage Lanes		1		1		0	1	1
Taper Length (ft)		100		25			25	
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00
Frt					0.995			0.850
Flt Protected		0.950		0.950			0.950	
Satd. Flow (prot)	0	1736	3471	1736	3454	0	1736	1553
Flt Permitted		0.172		0.307			0.950	
Satd. Flow (perm)	0	314	3471	561	3454	0	1736	1553
Right Turn on Red						Yes		Yes
Satd. Flow (RTOR)					5			110
Link Speed (mph)			45		45		30	
Link Distance (ft)			1965		2085		899	
Travel Time (s)			29.8		31.6		20.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	7	132	932	1	1295	46	42	110
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	139	932	1	1341	0	42	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	R NA	Left	Right	Left	Right
Median Width(ft)			12		12		12	
Link Offset(ft)			0		0		0	
Crosswalk Width(ft)			16		16		16	
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9		9	15	9
Number of Detectors	1	1	2	1	2		1	1
Detector Template	Left	Left	Thru	Left	Thru		Left	Right
Leading Detector (ft)	20	20	100	20	100		20	20
Trailing Detector (ft)	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	20	6	20	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94		94			
Detector 2 Size(ft)			6		6			
Detector 2 Type			Cl+Ex		Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)			0.0		0.0			
Turn Type	pm+pt	pm+pt	NA	Perm	NA		Prot	Perm
Protected Phases	5	5	2		6		4	



Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Permitted Phases	2	2		6				4
Detector Phase	5	5	2	6	6		4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	8.0	8.0	20.0	20.0	20.0		20.0	20.0
Total Split (s)	22.0	22.0	116.0	94.0	94.0		24.0	24.0
Total Split (%)	15.7%	15.7%	82.9%	67.1%	67.1%		17.1%	17.1%
Maximum Green (s)	18.0	18.0	112.0	90.0	90.0		20.0	20.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0		4.0	4.0
Lead/Lag	Lead	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max		None	None
Walk Time (s)			5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)			11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)			0	0	0		0	0
Act Effct Green (s)		123.2	123.2	112.2	112.2		8.8	8.8
Actuated g/C Ratio		0.88	0.88	0.80	0.80		0.06	0.06
v/c Ratio		0.40	0.31	0.00	0.48		0.39	0.55
Control Delay		4.7	1.7	2.0	3.1		72.3	21.2
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		4.7	1.7	2.0	3.1		72.3	21.2
LOS		A	A	A	A		E	C
Approach Delay			2.1		3.1		35.3	
Approach LOS			A		A		D	
Queue Length 50th (ft)		11	50	0	66		37	0
Queue Length 95th (ft)		24	80	m0	74		77	59
Internal Link Dist (ft)			1885		2005		819	
Turn Bay Length (ft)		200		200				100
Base Capacity (vph)		459	3055	449	2769		248	316
Starvation Cap Reductn		0	0	0	0		0	0
Spillback Cap Reductn		0	0	0	0		0	0
Storage Cap Reductn		0	0	0	0		0	0
Reduced v/c Ratio		0.30	0.31	0.00	0.48		0.17	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTU, Start of 1st Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 4.6		Intersection LOS: A	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Bee Cave Parkway & Tordera Dr



HCM 6th Edition cannot analyze u-turn movements.



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	61	783	111	4	242	1047	23	93	11	210	2	11
Future Volume (vph)	61	783	111	4	242	1047	23	93	11	210	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		235		240		0	0		0	0	
Storage Lanes	1		1		1		0	0		1	0	
Taper Length (ft)	110				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.997				0.850		
Flt Protected	0.950				0.950				0.957			0.993
Satd. Flow (prot)	1770	3539	1583	0	1770	3529	0	0	1783	1583	0	1850
Flt Permitted	0.219				0.274				0.957			0.352
Satd. Flow (perm)	408	3539	1583	0	510	3529	0	0	1783	1583	0	656
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			210			2				228		
Link Speed (mph)		45				45			30			30
Link Distance (ft)		2085				1567			322			1031
Travel Time (s)		31.6				23.7			7.3			23.4
Peak Hour Factor	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	64	816	121	4	263	1091	24	101	12	228	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	816	121	0	267	1115	0	0	113	228	0	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		26				26			0			0
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2		1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100		20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0		0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6		20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Free	Prot	pm+pt	NA		Split	NA	Prot	Perm	NA
Protected Phases	5	2		1	1	6		8	8	8		4
Permitted Phases	2		Free		6						4	

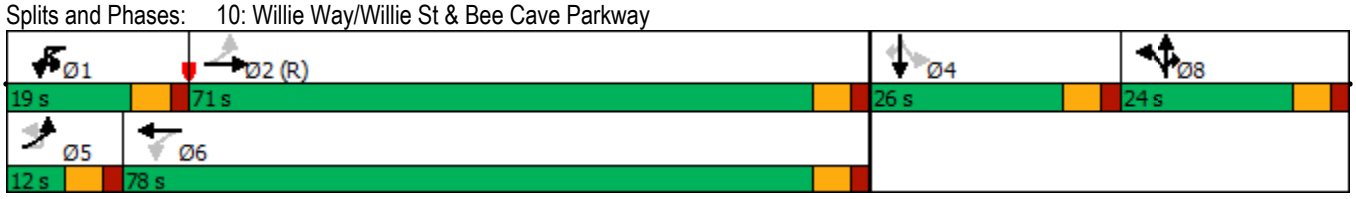


Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	65
Future Volume (vph)	65
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	164
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Adj. Flow (vph)	68
Shared Lane Traffic (%)	
Lane Group Flow (vph)	68
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	CI+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	4

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	5	2		1	1	6		8	8	8	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0		10.0	10.0	20.0		20.0	20.0	20.0	20.0	20.0
Total Split (s)	12.0	71.0		19.0	19.0	78.0		24.0	24.0	24.0	26.0	26.0
Total Split (%)	8.6%	50.7%		13.6%	13.6%	55.7%		17.1%	17.1%	17.1%	18.6%	18.6%
Maximum Green (s)	6.0	65.0		13.0	13.0	72.0		18.0	18.0	18.0	20.0	20.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0	0.0			0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0	6.0			6.0	6.0		6.0
Lead/Lag	Lead	Lag		Lead	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	None	None		None	None	None	None	None
Act Effct Green (s)	90.7	83.6	140.0		101.9	91.6			14.3	14.3		7.6
Actuated g/C Ratio	0.65	0.60	1.00		0.73	0.65			0.10	0.10		0.05
v/c Ratio	0.19	0.39	0.08		0.55	0.48			0.62	0.62		0.40
Control Delay	8.8	16.4	0.1		8.7	14.4			74.3	14.5		88.1
Queue Delay	0.0	0.0	0.0		0.0	0.0			0.0	0.0		0.0
Total Delay	8.8	16.4	0.1		8.7	14.4			74.3	14.5		88.1
LOS	A	B	A		A	B			E	B		F
Approach Delay		14.0				13.3			34.3			20.0
Approach LOS		B				B			C			C
Queue Length 50th (ft)	15	191	0		56	367			100	0		12
Queue Length 95th (ft)	36	282	0		m84	m418			160	78		m32
Internal Link Dist (ft)		2005				1487			242			951
Turn Bay Length (ft)	210		235		240							
Base Capacity (vph)	333	2113	1583		502	2309			235	406		93
Starvation Cap Reductn	0	0	0		0	0			0	0		0
Spillback Cap Reductn	0	0	0		0	0			0	0		0
Storage Cap Reductn	0	0	0		0	0			0	0		0
Reduced v/c Ratio	0.19	0.39	0.08		0.53	0.48			0.48	0.56		0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 10: Willie Way/Willie St & Bee Cave Parkway

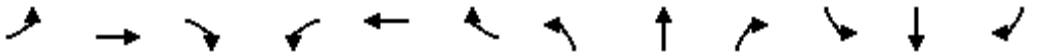




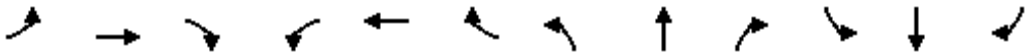
Lane Group	SBR
Detector Phase	4
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	26.0
Total Split (%)	18.6%
Maximum Green (s)	20.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	7.6
Actuated g/C Ratio	0.05
v/c Ratio	0.28
Control Delay	6.0
Queue Delay	0.0
Total Delay	6.0
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	1
Queue Length 95th (ft)	m13
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	366
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.19

Intersection Summary

HCM 6th Edition cannot analyze u-turn movements.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1717	14	22	2318	142	36	1	24	123	1	53
Future Volume (vph)	38	1717	14	22	2318	142	36	1	24	123	1	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	150		300	200		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850		0.856			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	1595	0	3433	1589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			117			143		26			58	
Link Speed (mph)		55			55			30			30	
Link Distance (ft)		3446			2053			551			306	
Travel Time (s)		42.7			25.5			12.5			7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	1866	15	24	2520	154	39	1	26	134	1	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	1866	15	24	2520	154	39	27	0	134	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						

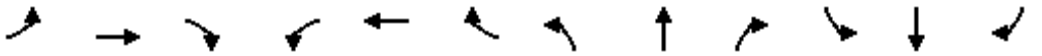


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	22.0	22.0	10.0	22.0	22.0	10.0	10.0		10.0	10.0	
Total Split (s)	10.0	100.0	100.0	18.0	108.0	108.0	10.0	10.0		12.0	12.0	
Total Split (%)	7.1%	71.4%	71.4%	12.9%	77.1%	77.1%	7.1%	7.1%		8.6%	8.6%	
Maximum Green (s)	4.0	94.0	94.0	12.0	102.0	102.0	4.0	4.0		6.0	6.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	4.0	104.8	104.8	7.4	105.5	105.5	4.0	4.0		8.5	6.5	
Actuated g/C Ratio	0.03	0.75	0.75	0.05	0.75	0.75	0.03	0.03		0.06	0.05	
v/c Ratio	0.82	0.70	0.01	0.26	0.95	0.13	0.40	0.39		0.64	0.46	
Control Delay	147.8	12.8	0.0	96.6	17.2	0.1	78.8	39.5		78.2	27.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	147.8	12.8	0.0	96.6	17.2	0.1	78.8	39.5		78.2	27.6	
LOS	F	B	A	F	B	A	E	D		E	C	
Approach Delay		15.5			17.0			62.7			62.7	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	38	508	0	23	1162	0	18	1		63	1	
Queue Length 95th (ft)	#113	638	0	m27	m1123	m0	39	34		#130	49	
Internal Link Dist (ft)		3366			1973			471			226	
Turn Bay Length (ft)	150		250	150		300	200			200		
Base Capacity (vph)	50	2648	1214	151	2666	1227	98	70		209	130	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.82	0.70	0.01	0.16	0.95	0.13	0.40	0.39		0.64	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 44 (31%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: SH 71 & Willie Way

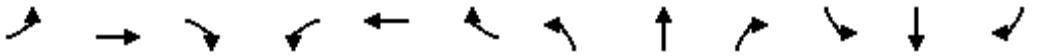




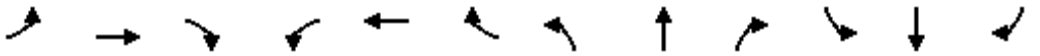
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1717	14	22	2318	142	36	1	24	123	1	53
Future Volume (veh/h)	38	1717	14	22	2318	142	36	1	24	123	1	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1866	15	24	2520	154	39	1	26	134	1	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	2629	1173	31	2589	1155	77	2	44	148	1	77
Arrive On Green	0.03	0.74	0.74	0.02	0.73	0.73	0.02	0.03	0.03	0.04	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	59	1535	3456	27	1562
Grp Volume(v), veh/h	41	1866	15	24	2520	154	39	0	27	134	0	59
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	0	1594	1728	0	1589
Q Serve(g_s), s	3.2	40.3	0.3	1.9	92.6	4.1	1.6	0.0	2.3	5.4	0.0	5.1
Cycle Q Clear(g_c), s	3.2	40.3	0.3	1.9	92.6	4.1	1.6	0.0	2.3	5.4	0.0	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		0.98
Lane Grp Cap(c), veh/h	51	2629	1173	31	2589	1155	77	0	46	148	0	78
V/C Ratio(X)	0.81	0.71	0.01	0.78	0.97	0.13	0.51	0.00	0.59	0.90	0.00	0.76
Avail Cap(c_a), veh/h	51	2629	1173	153	2589	1155	99	0	46	148	0	78
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.27	0.27	0.27	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.6	10.0	4.8	68.5	17.7	5.7	67.7	0.0	67.2	66.7	0.0	65.7
Incr Delay (d2), s/veh	22.0	0.5	0.0	33.0	12.4	0.2	5.1	0.0	18.9	46.9	0.0	33.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	15.2	0.2	2.0	42.2	2.5	1.3	0.0	2.2	6.0	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.6	10.4	4.8	101.6	30.2	6.0	72.7	0.0	86.1	113.6	0.0	99.4
LnGrp LOS	F	B	A	F	C	A	E	A	F	F	A	F
Approach Vol, veh/h		1922			2698			66			193	
Approach Delay, s/veh		12.1			29.4			78.2			109.3	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	109.6	9.1	12.9	10.0	108.0	12.0	10.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	94.0	4.0	6.0	4.0	102.0	6.0	4.0
Max Q Clear Time (g_c+I1), s	3.9	42.3	3.6	7.1	5.2	94.6	7.4	4.3
Green Ext Time (p_c), s	0.0	21.7	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1090	5	5	1347	13	11	1	65	28	1	7
Future Volume (vph)	10	1090	5	5	1347	13	11	1	65	28	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345		0	100		250	0		100	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999				0.850			0.850
Flt Protected	0.950			0.950				0.956			0.954	
Satd. Flow (prot)	1770	3536	0	1770	5080	0	0	1781	1583	0	1777	1583
Flt Permitted	0.128			0.210				0.956			0.954	
Satd. Flow (perm)	238	3536	0	391	5080	0	0	1781	1583	0	1777	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1				164			148
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		527			474			225			229	
Travel Time (s)		8.0			7.2			5.1			5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1185	5	5	1464	14	12	1	71	30	1	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1190	0	5	1478	0	0	13	71	0	31	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6					8			4

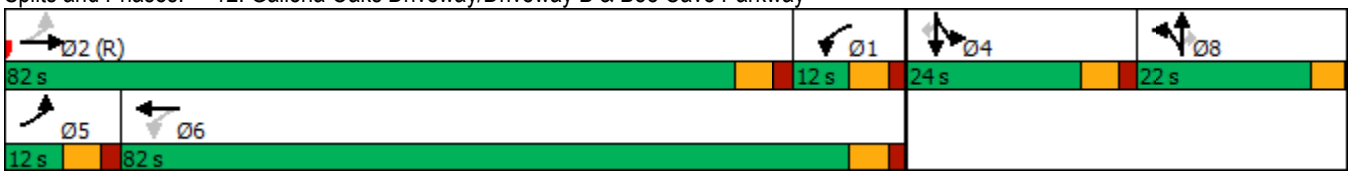


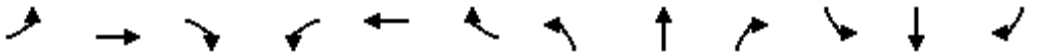
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0		10.0	22.0		20.0	20.0	20.0	22.0	22.0	22.0
Total Split (s)	12.0	82.0		12.0	82.0		22.0	22.0	22.0	24.0	24.0	24.0
Total Split (%)	8.6%	58.6%		8.6%	58.6%		15.7%	15.7%	15.7%	17.1%	17.1%	17.1%
Maximum Green (s)	6.0	76.0		6.0	76.0		18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		0.5	0.5	0.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		6.0	6.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	Max		None	None	None	Max	Max	Max
Walk Time (s)							5.0	5.0	5.0			
Flash Dont Walk (s)							11.0	11.0	11.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)	98.9	98.9		96.4	96.4			6.6	6.6		18.0	18.0
Actuated g/C Ratio	0.71	0.71		0.69	0.69			0.05	0.05		0.13	0.13
v/c Ratio	0.05	0.48		0.02	0.42			0.15	0.31		0.14	0.02
Control Delay	18.7	26.7		10.4	11.1			67.6	3.4		55.9	0.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.7	26.7		10.4	11.1			67.6	3.4		55.9	0.1
LOS	B	C		B	B			E	A		E	A
Approach Delay		26.7			11.1			13.4			44.4	
Approach LOS		C			B			B			D	
Queue Length 50th (ft)	6	372		1	183			12	0		25	0
Queue Length 95th (ft)	m8	m383		8	294			35	0		58	0
Internal Link Dist (ft)		447			394			145			149	
Turn Bay Length (ft)	345			100					100			
Base Capacity (vph)	234	2497		328	3498			228	346		228	332
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.05	0.48		0.02	0.42			0.06	0.21		0.14	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Galleria Oaks Driveway/Driveway B & Bee Cave Parkway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1090	5	5	1347	13	11	1	65	28	1	7
Future Volume (veh/h)	10	1090	5	5	1347	13	11	1	65	28	1	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	1185	5	5	1464	14	12	1	71	30	1	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	1970	8	362	3375	32	94	8	91	222	7	204
Arrive On Green	0.00	0.18	0.18	0.11	0.65	0.65	0.06	0.06	0.06	0.13	0.13	0.13
Sat Flow, veh/h	1781	3629	15	1781	5216	50	1650	138	1585	1726	58	1585
Grp Volume(v), veh/h	11	580	610	5	956	522	13	0	71	31	0	8
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1702	1861	1788	0	1585	1784	0	1585
Q Serve(g_s), s	0.4	42.1	42.1	0.0	19.3	19.3	1.0	0.0	6.2	2.2	0.0	0.6
Cycle Q Clear(g_c), s	0.4	42.1	42.1	0.0	19.3	19.3	1.0	0.0	6.2	2.2	0.0	0.6
Prop In Lane	1.00		0.01	1.00		0.03	0.92		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	195	965	1014	362	2203	1205	102	0	91	229	0	204
V/C Ratio(X)	0.06	0.60	0.60	0.01	0.43	0.43	0.13	0.00	0.78	0.14	0.00	0.04
Avail Cap(c_a), veh/h	254	965	1014	362	2203	1205	230	0	204	229	0	204
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	43.5	43.5	30.6	12.1	12.1	62.7	0.0	65.1	54.1	0.0	53.4
Incr Delay (d2), s/veh	0.1	2.8	2.6	0.0	0.6	1.1	0.6	0.0	13.6	1.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	28.2	29.4	0.2	11.3	12.4	0.8	0.0	5.1	1.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	46.3	46.2	30.6	12.7	13.3	63.2	0.0	78.7	55.3	0.0	53.8
LnGrp LOS	B	D	D	C	B	B	E	A	E	E	A	D
Approach Vol, veh/h		1201			1483			84			39	
Approach Delay, s/veh		46.0			13.0			76.3			55.0	
Approach LOS		D			B			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.0	82.0		24.0	7.4	96.6		12.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		4.0				
Max Green Setting (Gmax), s	6.0	76.0		18.0	6.0	76.0		18.0				
Max Q Clear Time (g_c+I1), s	2.0	44.1		4.2	2.4	21.3		8.2				
Green Ext Time (p_c), s	0.0	8.5		0.1	0.0	13.1		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		29.6	
HCM 6th LOS		C	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	973	81	101	0	41	242
Future Volume (vph)	973	81	101	0	41	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	125		0	210
Storage Lanes		0	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3497	0	1770	0	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3497	0	1770	0	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13					272
Link Speed (mph)	45			45	30	
Link Distance (ft)	313			390	728	
Travel Time (s)	4.7			5.9	16.5	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1093	91	113	0	46	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1184	0	113	0	46	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1		1	1
Detector Template	Thru		Left		Left	Right
Leading Detector (ft)	100		20		20	20
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	6		20		20	20
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)	94					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Turn Type	NA		Prot		Prot	Prot
Protected Phases	2		1		8	8
Permitted Phases						



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1		8	8
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0		20.0		20.0	20.0
Total Split (s)	55.0		20.0		25.0	25.0
Total Split (%)	55.0%		20.0%		25.0%	25.0%
Maximum Green (s)	51.0		16.0		21.0	21.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	0.5		0.5		0.5	0.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	4.0		4.0		4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	C-Max		None		Max	Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	55.3		11.7		21.0	21.0
Actuated g/C Ratio	0.55		0.12		0.21	0.21
v/c Ratio	0.61		0.55		0.12	0.50
Control Delay	17.1		51.1		33.2	7.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	17.1		51.1		33.2	7.7
LOS	B		D		C	A
Approach Delay	17.1			51.1	11.4	
Approach LOS	B			D	B	
Queue Length 50th (ft)	250		69		24	0
Queue Length 95th (ft)	344		118		54	63
Internal Link Dist (ft)	233			310	648	
Turn Bay Length (ft)			125			210
Base Capacity (vph)	1940		283		371	547
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.61		0.40		0.12	0.50

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: Market Street & Bee Cave Parkway





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	973	81	101	0	41	242
Future Volume (veh/h)	973	81	101	0	41	242
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	1093	91	113	0	46	272
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	0	2	2
Cap, veh/h	1959	163	143	0	374	333
Arrive On Green	0.59	0.59	0.08	0.00	0.21	0.21
Sat Flow, veh/h	3415	276	1781	113	1781	1585
Grp Volume(v), veh/h	584	600	113	54.6	46	272
Grp Sat Flow(s),veh/h/ln	1777	1821	1781	D	1781	1585
Q Serve(g_s), s	20.1	20.1	6.2		2.1	16.4
Cycle Q Clear(g_c), s	20.1	20.1	6.2		2.1	16.4
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1048	1074	143		374	333
V/C Ratio(X)	0.56	0.56	0.79		0.12	0.82
Avail Cap(c_a), veh/h	1048	1074	285		374	333
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	12.5	12.5	45.2		32.0	37.7
Incr Delay (d2), s/veh	2.1	2.1	9.5		0.7	19.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	12.2	5.4		1.7	12.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.7	14.6	54.6		32.7	57.2
LnGrp LOS	B	B	D		C	E
Approach Vol, veh/h	1184				318	
Approach Delay, s/veh	14.6				53.7	
Approach LOS	B				D	

Timer - Assigned Phs	1	2				8
Phs Duration (G+Y+Rc), s	12.0	63.0				25.0
Change Period (Y+Rc), s	4.0	4.0				4.0
Max Green Setting (Gmax), s	16.0	51.0				21.0
Max Q Clear Time (g_c+I1), s	8.2	22.1				18.4
Green Ext Time (p_c), s	0.1	8.3				0.3

Intersection Summary			
HCM 6th Ctrl Delay		25.1	
HCM 6th LOS		C	

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	1062	204	32	0	96	48
Future Volume (vph)	1	1062	204	32	0	96	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0
Storage Lanes	0		0	0		1	1
Taper Length (ft)	25			25		25	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.976					0.850
Flt Protected				0.950		0.950	
Satd. Flow (prot)	0	3454	0	1770	0	1770	1583
Flt Permitted				0.950		0.950	
Satd. Flow (perm)	0	3454	0	1770	0	1770	1583
Right Turn on Red			Yes				Yes
Satd. Flow (RTOR)		36					56
Link Speed (mph)		45			45	30	
Link Distance (ft)		404			572	738	
Travel Time (s)		6.1			8.7	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1	1249	240	38	0	113	56
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	1490	0	38	0	113	56
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Right	Left	Left	Left	Right
Median Width(ft)		12			12	20	
Link Offset(ft)		0			0	0	
Crosswalk Width(ft)		16			16	16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		9	15		15	9
Number of Detectors	1	2		1		1	1
Detector Template	Left	Thru		Left		Left	Right
Leading Detector (ft)	20	100		20		20	20
Trailing Detector (ft)	0	0		0		0	0
Detector 1 Position(ft)	0	0		0		0	0
Detector 1 Size(ft)	20	6		20		20	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0		0.0	0.0
Detector 2 Position(ft)		94					
Detector 2 Size(ft)		6					
Detector 2 Type		Cl+Ex					
Detector 2 Channel							
Detector 2 Extend (s)		0.0					
Turn Type	Perm	NA		Prot		Prot	Prot
Protected Phases		2		1		8	8
Permitted Phases	2						



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2		1		8	8
Switch Phase							
Minimum Initial (s)	4.0	4.0		4.0		4.0	4.0
Minimum Split (s)	20.0	20.0		20.0		20.0	20.0
Total Split (s)	60.0	60.0		20.0		20.0	20.0
Total Split (%)	60.0%	60.0%		20.0%		20.0%	20.0%
Maximum Green (s)	56.0	56.0		16.0		16.0	16.0
Yellow Time (s)	3.5	3.5		3.5		3.5	3.5
All-Red Time (s)	0.5	0.5		0.5		0.5	0.5
Lost Time Adjust (s)		0.0		0.0		0.0	0.0
Total Lost Time (s)		4.0		4.0		4.0	4.0
Lead/Lag	Lag	Lag		Lead			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0
Recall Mode	C-Max	C-Max		None		Max	Max
Walk Time (s)	5.0	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0		0	0
Act Effct Green (s)		68.4		7.6		16.0	16.0
Actuated g/C Ratio		0.68		0.08		0.16	0.16
v/c Ratio		0.63		0.28		0.40	0.19
Control Delay		11.1		48.2		42.5	12.0
Queue Delay		0.0		0.0		0.0	0.0
Total Delay		11.1		48.2		42.5	12.0
LOS		B		D		D	B
Approach Delay		11.1			48.2	32.4	
Approach LOS		B			D	C	
Queue Length 50th (ft)		274		23		65	0
Queue Length 95th (ft)		336		51		112	31
Internal Link Dist (ft)		324			492	658	
Turn Bay Length (ft)				125			
Base Capacity (vph)		2372		283		283	300
Starvation Cap Reductn		0		0		0	0
Spillback Cap Reductn		0		0		0	0
Storage Cap Reductn		0		0		0	0
Reduced v/c Ratio		0.63		0.13		0.40	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTU and 6:, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 47.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Vista Ridge & Bee Cave Parkway



HCM 6th Edition cannot analyze u-turn movements.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	102	13	68	140	13	80
Future Volume (vph)	102	13	68	140	13	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	75
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1872	0	1805	1900	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1872	0	1805	1900	1805	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	362			433	1031	
Travel Time (s)	8.2			9.8	23.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	112	14	75	154	14	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	75	154	14	88
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

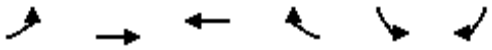
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	13	68	140	13	80
Future Vol, veh/h	102	13	68	140	13	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	75
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	112	14	75	154	14	88

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	423	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1473	-	591	938
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	561	938
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	715	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	938	-	-	1473	-
HCM Lane V/C Ratio	0.025	0.094	-	-	0.051	-
HCM Control Delay (s)	11.6	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	1101	1355	10	4	3
Future Volume (vph)	24	1101	1355	10	4	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	345			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Frt			0.999			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	5080	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	5080	0	1770	1583
Link Speed (mph)		45	45		30	
Link Distance (ft)		561	527		193	
Travel Time (s)		8.5	8.0		4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1197	1473	11	4	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	1197	1484	0	4	3
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

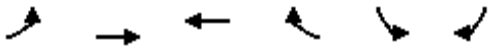
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	1101	1355	10	4	3
Future Vol, veh/h	24	1101	1355	10	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	345	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	1197	1473	11	4	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1484	0	-	0	2130	742
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	651	-
Critical Hdwy	5.34	-	-	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	3.12	-	-	-	3.67	3.92
Pot Cap-1 Maneuver	227	-	-	-	58	307
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	467	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	227	-	-	-	51	307
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	467	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	54.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	227	-	-	-	51	307
HCM Lane V/C Ratio	0.115	-	-	-	0.085	0.011
HCM Control Delay (s)	22.9	-	-	-	82.1	16.9
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.3	0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1124	1337	21	0	12
Future Volume (vph)	0	1124	1337	21	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Frt			0.998			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	5075	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	5075	0	0	1611
Link Speed (mph)		45	45		30	
Link Distance (ft)		838	561		173	
Travel Time (s)		12.7	8.5		3.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1222	1453	23	0	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1222	1476	0	0	13
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		13	13		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1124	1337	21	0	12
Future Vol, veh/h	0	1124	1337	21	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1222	1453	23	0	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	738
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	-	0	309
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	309
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	309
HCM Lane V/C Ratio	-	-	-	0.042
HCM Control Delay (s)	-	-	-	17.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.1

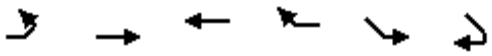


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	14	2137	31	0	2719
Future Volume (vph)	0	14	2137	31	0	2719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		375	30	
Storage Lanes	0	1		1	2	
Taper Length (ft)	25				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.86
Frt		0.865		0.850		
Flt Protected						
Satd. Flow (prot)	0	1611	3539	1583	0	6408
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	141		403			344
Travel Time (s)	3.2		5.0			4.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	15	2323	34	0	2955
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	2323	34	0	2955
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

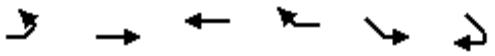
Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1054	0	0	1255	41	0
Future Volume (vph)	1054	0	0	1255	41	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	0
Link Speed (mph)	45			30	45	
Link Distance (ft)	503			335	313	
Travel Time (s)	7.6			7.6	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1146	0	0	1364	45	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1146	0	0	1364	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	0	1215	1255	0	0	0
Future Volume (vph)	0	1215	1255	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	3539	3539	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3539	0	0	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		390	1817		370	
Travel Time (s)		5.9	27.5		8.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1321	1364	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1321	1364	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↑↑	↑↑			
Traffic Volume (vph)	0	1110	1370	0	0	0
Future Volume (vph)	0	1110	1370	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	3539	3539	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	3539	3539	0	0	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		572	700		551	
Travel Time (s)		8.7	10.6		12.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1207	1489	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1207	1489	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Volume (vph)	0	1370	0	1266	96	0
Future Volume (vph)	0	1370	0	1266	96	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.88	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	0	2787	0	3539	1863	0
Flt Permitted						
Satd. Flow (perm)	0	2787	0	3539	1863	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	425			270	404	
Travel Time (s)	9.7			4.1	6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1489	0	1376	104	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1489	0	1376	104	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Cost Estimates

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SH 71 Eastbound and Westbound Left Turn Lane at Hamilton Pool Road
Cost Estimate

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	10,086.00	60,516.00
REMOVING CONC (MEDIANS)	SY	332	36.86	12,237.52
REMOVING CONC (WHEELCHAIR RAMP)	SY	112	44.42	4,975.04
EXCAVATION ROADWAY (12")	CY	900	36.07	32,463.00
EMBANKMENT (FINAL) (ORD COMP) (TY A) (24")	CY	2000	42.00	84,000.00
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	14000	0.27	3,780.00
D-GR HMA(SQ) TY-B PG64-22	TON	3874	149.00	577,226.00
D-GR HMA(SQ) TY-C SAC-B PG64-22	TON	646	115.00	74,290.00
DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	26	444.17	11,548.42
DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	44	567.67	24,977.48
CONC BOX CULV (10 FT X 10 FT)	LF	100	1,800.00	180,000.00
RC PIPE (CL III) (18 IN)	LF	1055	118.07	124,563.85
RC PIPE (CL III) (54 IN)	LF	250	800.00	200,000.00
SET (TY I) (S= 10 FT) (HW= 7 FT) (6: 1) (P)	EA	2	32,000.00	64,000.00
SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	17	1,932.00	32,844.00
SET (TY II) (54 IN) (RCP) (6: 1) (P)	EA	1	12,500.00	12,500.00
REMOV STR (SET)	EA	20	696.49	13,929.80
CURB RAMPS (TY 1)	EA	16	2,447.51	39,160.16
CONC DIRECTIONAL ISLAND	SY	332	160.33	53,229.56
MTL W-BEAM GD FEN (TIM POST)	LF	4000	33.40	133,600.00
REMOVE METAL BEAM GUARD FENCE	LF	575	4.47	2,570.25
CONDT (PVC) (SCH 40) (2")	LF	180	22.36	4,024.80
CONDT (PVC) (SCH 40) (3") (BORE)	LF	800	45.46	36,368.00
ELEC CONDR (NO.6) BARE	LF	50	2.52	126.00
ELEC CONDR (NO.6) INSULATED	LF	100	2.65	265.00
ELEC CONDR (NO.8) BARE	LF	980	1.97	1,930.60
ELEC CONDR (NO.8) INSULATED	LF	920	2.10	1,932.00
GROUND BOX TY D (162922)W/APRON	EA	6	1,663.12	9,978.72
ELC SRV TY D 120 / 240 070 (NS) SS (E) SP (O)	EA	1	10,000.00	10,000.00
IN SM RD SN SUP & AM TY10BWG (1) SA (U)	EA	16	1,053.62	16,857.92
RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF	1590	1.03	1,637.70
RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	6360	1.61	10,239.60
REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	3740	1.84	6,881.60
REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	720	4.42	3,182.40
REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	144	10.08	1,451.52
REFL PAV MRK TY I (W)(ARROW)(100MIL)	EA	10	204.97	2,049.70
REFL PAV MRK TY I (W)(WORD)(100MIL)	EA	10	236.79	2,367.90
RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	9380	1.28	12,006.40
REFL PAV MRK TY II (W) 4" (BRK)	LF	1590	1.01	1,605.90
REFL PAV MRK TY II (W) 4" (SLD)	LF	6360	0.99	6,296.40
REFL PAV MRK TY II (W) 8" (SLD)	LF	3740	1.15	4,301.00
REFL PAV MRK TY II (W) 12" (SLD)	LF	720	1.90	1,368.00
REFL PAV MRK TY II (W) 24" (SLD)	LF	144	4.37	629.28
REFL PAV MRK TY II (W) (ARROW)	EA	10	104.24	1,042.40
REFL PAV MRK TY II (W) (WORD)	EA	10	117.40	1,174.00
REFL PAV MRK TY II (Y) 4" (SLD)	LF	9380	0.92	8,629.60
REFL PAV MRKR TY II-A-A	EA	235	8.28	1,945.80

SH 71 Eastbound and Westbound Left Turn Lane at Hamilton Pool Road
Cost Estimate

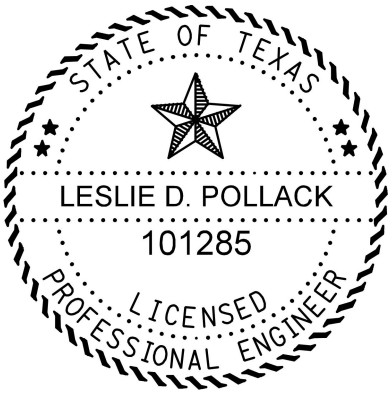
ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REFL PAV MRKR TY I-C	EA	267	6.29	1,679.43
INSTALL HWY TRF SIG (ISOLATED)	EA	1	29,516.50	29,516.50
REMOVING TRAFFIC SIGNALS	EA	1	6,164.10	6,164.10
BACK PLATE (12")(3 SEC)	EA	12	95.00	1,140.00
BACK PLATE (12")(4 SEC)	EA	2	105.00	210.00
PED SIG SEC (12 IN) LED (2 INDICATIONS)	EA	8	247.09	1,976.72
VEH SIG SEC (12")LED(GRN ARW)	EA	6	340.71	2,044.26
VEH SIG SEC (12")LED(GRN)	EA	8	348.72	2,789.76
VEH SIG SEC (12")LED(YEL ARW)	EA	8	341.04	2,728.32
VEH SIG SEC (12")LED(YEL)	EA	8	382.90	3,063.20
VEH SIG SEC (12")LED(RED ARW)	EA	6	342.89	2,057.34
VEH SIG SEC (12")LED(RED)	EA	8	375.03	3,000.24
TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1600	3.54	5,664.00
TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	2400	3.47	8,328.00
TRF SIG CBL (TY C)(14 AWG)(2 CONDR)	LF	1600	1.30	2,080.00
INS TRF SIG PL AM(S)1 ARM(32')LUM	EA	1	12,219.75	12,219.75
INS TRF SIG PL AM(S)1 ARM(55')LUM	EA	1	41,975.82	41,975.82
INS TRF SIG PL AM(S)1 ARM(48')LUM	EA	1	16,149.49	16,149.49
INS TRF SIG PL AM(S)1 ARM(60')LUM	EA	1	38,066.07	38,066.07
PED POLE ASSEMBLY	EA	6	3,088.52	18,531.12
PED DETECT PUSH BUTTON (APS)	EA	8	1,257.08	10,056.64
PED DETECTOR CONTROLLER UNIT	EA	1	3,940.20	3,940.20
VIVDS CAMERA ASSEMBLY	EA	6	1,800.00	10,800.00
VIVDS COMMUNICATION CABLE (COAXIAL)	LF	1200	2.35	2,820.00
EROSION CONTROL (3%)	LS	1	64,000.00	64,000.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	212,000.00	212,000.00

MATERIALS	$	2,393,704
ENGINEERING (15%)	$	359,056
INSPECTION (7%)	$	167,559
CONTINGENCY (20%)	$	478,741
TOTAL	$	3,399,060

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Hamilton Pool Road Widening at SH 71
Cost Estimate

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
EXCAVATION ROADWAY (12")	CY	450	36.07	16,231.50
EMBANKMENT (FINAL) (ORD COMP) (TY A) (24")	CY	900	42.00	37,800.00
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	3400	0.27	918.00
D-GR HMA(SQ) TY-B PG64-22	TON	1234	149.00	183,866.0
D-GR HMA(SQ) TY-C SAC-B PG64-22	TON	206	115.00	23,690.00
RC PIPE (CL III) (18 IN)	LF	375	118.07	44,276.25
SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	8	1,932.00	15,456.00
REMOVE STR (SET)	EA	8	696.49	5,571.92
IN SM RD SN SUP & AM TY10BWG (1) SA (U)	EA	12	1,053.62	12,643.44
RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF	248	1.03	254.93
RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	1650	1.18	1,947.00
RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	1650	1.28	2,112.00
REFL PAV MRK TY II (W) 4" (BRK)	LF	248	1.01	249.98
REFL PAV MRK TY II (W) 4" (SLD)	LF	1650	0.99	1,633.50
REFL PAV MRK TY II (Y) 4" (SLD)	LF	1650	0.92	1,518.00
REFL PAV MRKR TY I-C	EA	12	8.28	99.36
REFL PAV MRKR TY II-A-A	EA	83	6.29	522.07
EROSION CONTROL (3%)	LS	1	9,575.25	11,000.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	36,000.00	36,000.00
ROW ACQUISITION	AC	0.5	79,950.00	39,975.00

MATERIALS	$	435,765
ENGINEERING (15%)	$	65,365
INSPECTION (7%)	$	30,504
CONTINGENCY (20%)	$	87,153
TOTAL	$	618,786

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition acreage estimated and costs based on TCAD vaules.

07.14.23



Signal Modifications RM 2244 at Bee Cave Parkway
Cost Estimate

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	0.25	10,086.00	2,521.50
INSTALL HWY TRF SIG (ISOLATED)	EA	1	29,516.50	29,516.50
BACK PLATE (12") (5 SEC)	EA	1	95.00	95.00
VEH SIG SEC (12") LED (GRN ARW)	EA	1	340.71	340.71
VEH SIG SEC (12") LED (GRN)	EA	1	348.72	348.72
VEH SIG SEC (12") LED (YEL ARW)	EA	1	341.04	341.04
VEH SIG SEC (12") LED (YEL)	EA	1	382.90	382.90
VEH SIG SEC (12") LED (RED)	EA	1	375.03	375.03
TRF SIG CBL (TY A) (14 AWG) (7 CONDR)	LF	200	3.47	694.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	4,000.00	4,000.00

MATERIALS	$	38,615
ENGINEERING (15%)	$	5,792
INSPECTION (7%)	$	2,703
CONTINGENCY (20%)	$	7,723
SUBTOTAL	$	54,834
SMALL QUANTITY ESCALATION FACTOR	$	27,417
TOTAL	$	82,251

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Southbound Right-Turn Lane on RM 620 at Ladera Ranch Blvd
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (WHEELCHAIR RAMP)	SY	7	44.42	310.94
EXCAVATION ROADWAY (12")	CY	200	36.07	7,214.00
EMBANKMENT (FINAL) (ORD COMP) (TY A) (24")	CY	400	42.00	16,800.00
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	1400	0.27	378.00
D-GR HMA TY-B PG64-22	TON	534	149.00	79,566.00
D-GR HMA TY-C PG70-22	TON	91	115.00	10,465.00
DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	13	444.17	5,774.21
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
PORT CTB (FUR & INST) (LOW PROF) (TY 1)	LF	510	13.57	6,920.70
CURB RAMPS (TY 7)	EA	1	2,447.51	2,447.51
CONDT (PVC) (SCH 40) (3")	LF	30	22.36	670.80
CONDT (PVC) (SCHD 40) (3") (BORE)	LF	600	45.46	27,276.00
ELEC CONDR (NO. 8) BARE	LF	630	1.97	1,241.10
ELEC CONDR (NO.8) INSULATED	LF	400	2.10	840.00
GROUND BOX TY D (162922)W/APRON	EA	1	1,663.12	1,663.12
REMOVE GROUND BOX	EA	1	271.48	271.48
IN SM RD SN SUP & AM TY10BWG (1) SA (U)	EA	2	1,053.62	2,107.24
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	510	1.84	938.40
REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	174	4.42	769.08
REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	12	10.08	120.96
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REFL PAV MRK TY II (W) 4" (SLD)	LF	610	0.99	603.90
REF PAV MRK TY II (W) 8" (SLD)	LF	510	1.15	586.50
REFL PAV MRK TY II (W) 12" (SLD)	LF	174	1.90	330.60
REFL PAV MRK TY II (W) 24" (SLD)	LF	12	4.37	52.44
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	610	1.28	780.80
REFL PAV MRKR TY I-C	EA	26	6.29	163.54
ELIM EXT PAV MRK & MRKS (4")	LF	610	1.13	689.30
INSTALL HWY TRF SIG (ISOLATED)	EA	1	29,516.50	29,516.50
TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	200	3.54	708.00
TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	400	3.47	1,388.00
TRF SIG CBL (TY C)(14 AWG)(2 CONDR)	LF	200	1.30	260.00
RELOC TRF SG PL AM(S)SNGL MST ARM POLE	EA	1	3,611.11	3,611.11
VIVDS CABLING	LF	200	2.36	472.00
VIVDS CAM ASSY (RELOCATE)	EA	1	1,153.33	1,153.33
EROSION CONTROL (3%)	LS	1	7,200.00	7,200.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	25,000.00	25,000.00

Southbound Right-Turn Lane on RM 620 at Ladera Ranch Blvd
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST		TOTAL COST
			MATERIALS	$	269,875
			ENGINEERING (15%)	$	40,481
			INSPECTION (7%)	$	18,891
			CONTINGENCY (20%)	$	53,975
			TOTAL	**$**	**383,223**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Southbound Right-Turn Lane on RM 620 at Falcon Head Blvd.
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (WHEELCHAIR RAMP)	SY	14	44.42	621.88
EXCAVATION ROADWAY (12")	CY	207	36.07	7,466.49
EMBANKMENT (FINAL) (ORD COMP) (TY A) (24")	CY	414	42.00	17,388.00
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	1380	0.27	372.60
D-GR HMA TY-B PG64-22	TON	547	149.00	81,503.00
D-GR HMA TY-C PG70-22	TON	91	115.00	10,465.00
DRILL SHAFT (RDWY ILL POLE) (30 IN)	LF	10	444.17	4,441.70
DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	13	567.67	7,379.71
RC PIPE (CL III) (24 IN)	LF	200	130.65	26,130.00
INLET (COMPL)(CURB)(TY 2)(10')	EA	1	7,980.00	7,980.00
SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	4	1,932.00	7,728.00
REMOV STR (INLET)	EA	1	1,194.83	1,194.83
REMOVE STR (SET)	EA	4	696.49	2,785.96
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
PORT CTB (FUR & INST) (LOW PROF) (TY 1)	LF	490	13.57	6,649.30
CURB RAMPS (TY 7)	EA	2	2,447.51	4,895.02
REMOVE RD IL ASM (SHOE-BASE)	EA	1	1,422.78	1,422.78
IN RD IL (TY SA) 40S-8 (250W EQ) LED	EA	1	8,831.68	8,831.68
CONDT (PVC) (SCH 40) (3")	LF	60	22.36	1,341.60
CONDT (PVC) (SCHD 40) (3") (BORE)	LF	400	45.46	18,184.00
ELEC CONDR (NO. 8) BARE	LF	460	1.97	906.20
ELEC CONDR (NO.8) INSULATED	LF	400	2.10	840.00
GROUND BOX TY D (162922) W / APRON	EA	2	1,663.12	3,326.24
REMOVE GROUND BOX	EA	2	271.48	542.96
IN SM RD SN SUP & AM TY10BWG (1) SA (U)	EA	2	1,053.62	2,107.24
RELOCATE SM RD SN SUP&AM TY S80	EA	1	692.79	692.79
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	510	1.84	938.40
REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	174	4.42	769.08
REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	48	10.08	483.84
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REFL PAV MRK TY II (W) 4" (SLD)	LF	610	0.99	603.90
REF PAV MRK TY II (W) 8" (SLD)	LF	510	1.15	586.50
REFL PAV MRK TY II (W) 12" (SLD)	LF	174	1.90	330.60
REFL PAV MRK TY II (W) 24" (SLD)	LF	48	4.37	209.76
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	610	1.28	780.80
REFL PAV MRKR TY I-C	EA	26	6.29	163.54
ELIM EXT PAV MRK & MRKS (4")	LF	610	1.13	689.30
INSTALL HWY TRF SIG (ISOLATED)	EA	1	29,516.50	29,516.50
TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	400	3.54	1,416.00
TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	400	3.47	1,388.00
TRF SIG CBL (TY C)(14 AWG)(2 CONDR)	LF	400	1.30	520.00
RELOC TRF SG PL AM(S)SNGL MST ARM POLE	EA	1	3,611.11	3,611.11
VIVDS CABLING	LF	400	2.35	940.00
VIVDS CAM ASSY (RELOCATE)	EA	2	1,153.33	2,306.66
EROSION CONTROL (3%)	LS	1	9,100.00	9,100.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	32,000.00	32,000.00

Southbound Right-Turn Lane on RM 620 at Falcon Head Blvd.
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
			MATERIALS	$ 343,136
			ENGINEERING (15%)	$ 51,470
			INSPECTION (7%)	$ 24,020
			CONTINGENCY (20%)	$ 68,627
			TOTAL	**$ 487,253**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Eastbound Left Turn Lane on Bee Cave Parkway at RM 620
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	480	22.71	10,900.80
EXCAVATION ROADWAY (12")	CY	570	36.07	20,559.90
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	200	0.27	54.00
D-GR HMA TY-B PG64-22	TON	350	149.00	52,150.00
D-GR HMA TY-C PG70-22	TON	58	115.00	6,670.00
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
PORT CTB (FUR & INST) (LOW PROF) (TY 1)	LF	500	13.57	6,785.00
CONC CURB & GUTTER (TY II)	LF	480	41.60	19,968.00
IN SM RD SN SUP&AM TYS80(1)SA(U)	EA	1	1,053.62	1,053.62
RELOCATE SM RD SN SUP&AM TY 10BWG	EA	4	692.79	2,771.16
REMOVE SM RD SN SUP&AM	EA	1	156.51	156.51
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	330	1.84	607.20
REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	12	10.08	120.96
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REF PAV MRK TY II (W) 8" (SLD)	LF	330	1.15	379.50
REFL PAV MRK TY II (W) 24" (SLD)	LF	12	4.37	52.44
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
REFL PAV MRKR TY II-C-R	EA	17	6.02	102.34
ELIM EXT PAV MRK & MRKS (DBL ARROW)	EA	2	119.58	239.16
EROSION CONTROL (3%)	LS	1	4,700.00	4,700.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	16,000.00	16,000.00

MATERIALS	$	174,855
ENGINEERING (15%)	$	26,228
INSPECTION (7%)	$	12,240
CONTINGENCY (20%)	$	34,971
TOTAL	**$**	**248,295**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Eastbound Left Turn Lane on Falconhead Blvd at RM 620
Engineer's Opinion of Probable Construction Costs

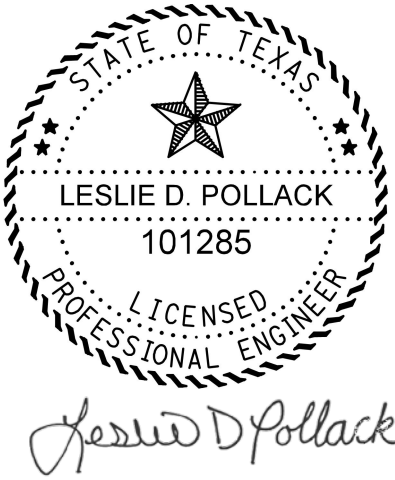
ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	325	22.71	7,380.75
EXCAVATION ROADWAY (12")	CY	100	36.07	3,607.00
D-GR HMA TY-B PG64-22	TON	198	149.00	29,502.00
D-GR HMA TY-C PG70-22	TON	33	115.00	3,795.00
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
PORT CTB (FUR & INST) (LOW PROF) (TY 1)	LF	300	13.57	4,071.00
CONC CURB & GUTTER (TY II)	LF	325	41.60	13,520.00
IN SM RD SN SUP&AM TYS80(1)SA(U)	EA	1	1,053.62	1,053.62
RELOCATE SM RD SN SUP&AM TY 10BWG	EA	4	692.79	2,771.16
REMOVE SM RD SN SUP&AM	EA	1	156.51	156.51
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	175	1.84	322.00
REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	12	10.08	120.96
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REF PAV MRK TY II (W) 8" (SLD)	LF	175	1.15	201.25
REFL PAV MRK TY II (W) 24" (SLD)	LF	12	4.37	52.44
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
REFL PAV MRKR TY II-C-R	EA	9	6.02	54.18
ELIM EXT PAV MRK & MRKS (DBL ARROW)	EA	2	119.58	239.16
EROSION CONTROL (3%)	LS	1	3,000.00	3,000.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	10,200.00	10,200.00

MATERIALS	$	111,632
ENGINEERING (15%)	$	16,745
INSPECTION (7%)	$	7,814
CONTINGENCY (20%)	$	22,326
TOTAL	**$**	**158,517**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



RM 2244 Southbound Left Turn Lane at SH 71
Cost Estimate

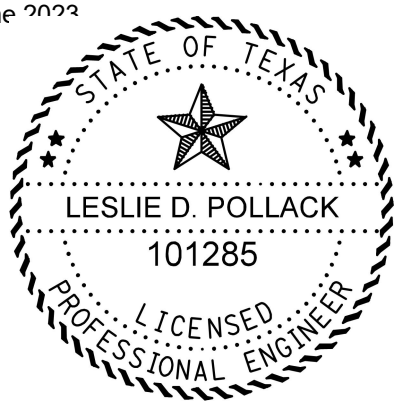
ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	10,086.00	60,516.00
REMOVING CONC (MEDIANS)	SY	900	36.86	33,174.00
EXCAVATION ROADWAY (12")	CY	1211	36.07	43,684.78
EMBANKMENT (FINAL) (ORD COMP) (TY A) (24")	CY	1453	42.00	61,040.00
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	3633	0.27	981.00
D-GR HMA(SQ) TY-B PG64-22	TON	480	149.00	71,460.40
D-GR HMA(SQ) TY-C SAC-B PG64-22	TON	240	115.00	27,577.00
RIPRAP (CONC) (5 IN)	CY	52	660.11	34,227.93
RC PIPE (CL III) (18 IN)	LF	200	118.07	23,614.00
SET (TY II) (24 IN) (RCP) (6: 1) (P)	EA	10	1,932.00	19,320.00
REMOV STR (SET)	EA	10	696.49	6,964.90
MTL W-BEAM GD FEN (TIM POST)	LF	300	33.40	10,020.00
REMOVE METAL BEAM GUARD FENCE	LF	300	4.47	1,341.00
IN SM RD SN SUP & AM TY10BWG (1) SA (U)	EA	2	1,053.62	2,107.24
RE PM W/RET REQ TY I (W)4"(BRK)(100MIL)	LF	3640	1.03	3,749.20
REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	1635	1.84	3,008.40
REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2900	1.84	5,336.00
REFL PAV MRK TY I (W)(ARROW)(100MIL)	EA	16	204.97	3,279.52
REFL PAV MRK TY I (W)(WORD)(100MIL)	EA	16	236.79	3,788.64
REFL PAV MRK TY II (W) 4" (BRK)	LF	3640	1.01	3,676.40
REFL PAV MRK TY II (W) 6" (SLD)	LF	1635	0.99	1,618.65
REFL PAV MRK TY II (W) 8" (SLD)	LF	2900	1.15	3,335.00
REFL PAV MRK TY II (W) (ARROW)	EA	16	104.24	1,667.84
REFL PAV MRK TY II (W) (WORD)	EA	16	117.40	1,878.40
REFL PAV MRKR TY I-C	EA	327	6.29	2,056.83
TRAFFIC SIGNAL (COMPLETE IN PLACE)	EA	1	500,000.00	500,000.00
EROSION CONTROL (3%)	LS	1	28,000.00	28,000.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	93,000.00	93,000.00

MATERIALS	$	1,050,423
ENGINEERING (15%)	$	157,563
INSPECTION (7%)	$	73,530
CONTINGENCY (20%)	$	210,085
TOTAL	$	1,491,601

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Leslie D Pollack

Extend Eastbound Left Turn Lane on Bee Cave Parkway at Driveway C
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	480	22.71	10,900.80
EXCAVATION ROADWAY (12")	CY	319	36.07	11,488.96
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	956	0.27	258.00
D-GR HMA TY-B PG64-22	TON	126	149.00	18,793.87
D-GR HMA TY-C PG70-22	TON	63	115.00	7,252.67
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
CONC CURB & GUTTER (TY II)	LF	480	41.60	19,968.00
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	330	1.84	607.20
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REF PAV MRK TY II (W) 8" (SLD)	LF	330	1.15	379.50
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
REFL PAV MRKR TY II-C-R	EA	17	6.02	102.34
ELIM EXT PAV MRK & MRKS (ARROW)	EA	1	77.09	77.09
ELIM EXT PAV MRK & MRKS (WORD)	EA	1	82.88	82.88
EROSION CONTROL (3%)	LS	1	3,100.00	3,100.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	11,000.00	11,000.00

MATERIALS	$	115,596
ENGINEERING (15%)	$	17,339
INSPECTION (7%)	$	8,092
CONTINGENCY (20%)	$	23,119
TOTAL	**$**	**164,146**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Extend Eastbound Left Turn Lane on Bee Cave Parkway at Driveway B
Engineer's Opinion of Probable Construction Costs

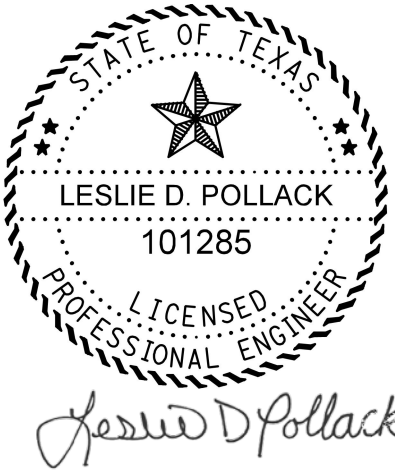
ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	480	22.71	10,900.80
EXCAVATION ROADWAY (12")	CY	319	36.07	11,488.96
DRILL SEEDING (PERM) (URBAN) (CLAY)	SY	956	0.27	258.00
D-GR HMA TY-B PG64-22	TON	126	149.00	18,793.87
D-GR HMA TY-C PG70-22	TON	63	115.00	7,252.67
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
CONC CURB & GUTTER (TY II)	LF	480	41.60	19,968.00
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	330	1.84	607.20
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	2	236.79	473.58
REF PAV MRK TY II (W) 8" (SLD)	LF	330	1.15	379.50
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	2	117.40	234.80
REFL PAV MRKR TY II-C-R	EA	17	6.02	102.34
ELIM EXT PAV MRK & MRKS (ARROW)	EA	1	77.09	77.09
ELIM EXT PAV MRK & MRKS (WORD)	EA	1	82.88	82.88
EROSION CONTROL (3%)	LS	1	3,100.00	3,100.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	11,000.00	11,000.00

MATERIALS	$	115,596
ENGINEERING (15%)	$	17,339
INSPECTION (7%)	$	8,092
CONTINGENCY (20%)	$	23,119
TOTAL	**$**	**164,146**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Construct a Continuous Green-Tee on Bee Cave Parkway at Vista Ridge
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	895	22.71	20,325.45
EXCAVATION ROADWAY (12")	CY	663	36.07	23,913.07
D-GR HMA TY-B PG64-22	TON	263	149.00	39,117.47
D-GR HMA TY-C PG70-22	TON	131	115.00	15,095.67
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
CONC CURB & GUTTER (TY II)	LF	1645	41.60	68,432.00
CONC DIRECTIONAL ISLAND	SY	63	160.33	10,020.63
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	150	1.84	276.00
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	1	236.79	236.79
REF PAV MRK TY II (W) 8" (SLD)	LF	150	1.15	172.50
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	1	117.40	117.40
REFL PAV MRKR TY II-C-R	EA	8	6.02	48.16
ELIM EXT PAV MRK & MRKS (ARROW)	EA	1	77.09	77.09
ELIM EXT PAV MRK & MRKS (WORD)	EA	1	82.88	82.88
TRAFFIC SIGNAL INSTALLATION	LS	1	500,000.00	500,000.00
EROSION CONTROL (3%)	LS	1	6,300.00	6,300.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	72,000.00	72,000.00

MATERIALS	$	787,092
ENGINEERING (15%)	$	118,064
INSPECTION (7%)	$	55,096
CONTINGENCY (20%)	$	157,418
TOTAL	**$**	**1,117,670**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



Construct a Continuous Green-Tee on Bee Cave Parkway at Market Street
Engineer's Opinion of Probable Construction Costs

ITEM DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL COST
REMOVING CONC (CURB AND GUTTER)	LF	500	22.71	11,355.00
EXCAVATION ROADWAY (12")	CY	370	36.07	13,359.26
D-GR HMA TY-B PG64-22	TON	147	149.00	21,853.33
D-GR HMA TY-C PG70-22	TON	73	115.00	8,433.33
BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3	10,086.00	30,258.00
CONC CURB & GUTTER (TY II)	LF	1250	41.60	52,000.00
CONC DIRECTIONAL ISLAND	SY	63	160.33	10,020.63
REF PAV MRK TY I (W) 8" (SLD) (100MIL)	LF	600	1.84	1,104.00
REF PAV MRK TY I (W) (ARROW) (100MIL)	EA	2	204.97	409.94
REF PAV MRK TY I (W) (WORD) (100MIL)	EA	1	236.79	236.79
REF PAV MRK TY II (W) 8" (SLD)	LF	600	1.15	690.00
REF PAV MRK TY II (W) (ARROW)	EA	2	104.24	208.48
REF PAV MRK TY II (W) (WORD)	EA	1	117.40	117.40
REFL PAV MRKR TY II-C-R	EA	30	6.02	180.60
ELIM EXT PAV MRK & MRKS (ARROW)	EA	1	77.09	77.09
ELIM EXT PAV MRK & MRKS (WORD)	EA	1	82.88	82.88
TRAFFIC SIGNAL INSTALLATION	LS	1	500,000.00	500,000.00
EROSION CONTROL (3%)	LS	1	4,600.00	4,600.00
TOTAL MOBILIZATION PAYMENT (10%)	LS	1	66,000.00	66,000.00

MATERIALS	$	720,987
ENGINEERING (15%)	$	108,148
INSPECTION (7%)	$	50,469
CONTINGENCY (20%)	$	144,197
TOTAL	**$**	**1,023,801**

Assumptions used in preparation of estimate:

1. TxDOT 12 Month Average Low Bid Prices used for cost estimates, accessed June 2023.
2. Utility Adjustments not included
3. ROW acquisition not required.

07.14.23



The Terrace TIA
Traffic Improvement (Site+Off-Site) Preliminary Opinion of Probable Costs and and Pro-Rata Fiscal Share

Intersection	Recommended Improvements	Pro-Rata Applicable Movement	Terrace Site Volume		Site Plus Forecasted (No Site) Volume		Pro-Rata Share		Estimated Improvement Cost	Pro-Rata Improvement Cost	Agreed Fiscal Share
			AM	PM	AM	PM	By Percentage	Agreed to post			
SH 71 and RM 2244/Shops Parkway	Construct a southbound left-turn lane to provide two left-turn lanes, one through lane, and two right-turn lanes.	Southbound Left Movement	31	12	242	509	12.80%	0.00%	$1,491,601	$190,925	$0
	Optimize signal timing.	Total Intersection	42	46	5,496	6,591	0.80%	0.00%	$5,000	$5,000	$0
SH 71 and RM 620/Shops Parkway	Optimize signal timing.	Total Intersection	9	28	5,278	6,741	0.40%	0.00%	$5,000	$5,000	$0
SH 71 and Hamilton Pool Road	Construct an additional eastbound and westbound left-turn lane to provide dual left turns	Eastbound Left Movement	6	11	465	465	2.40%	0.00%	$3,399,060	$81,577	$0
	Widen Hamilton Pool Road to provide two southbound receiving lanes.	Exiting Southbound	11	3	766	1,350	1.40%	0.00%	$618,786	$8,663	$0
	Optimize signal timing.	Total Intersection	34	32	5,419	6,385	0.60%	0.00%	$5,000	$5,000	$0
RM 2244 and Bee Cave Parkway	Install a southbound right-turn overlap phase.	Southbound Right Movement	9	27	773	1,101	2.40%	0.00%	$82,251	$1,974	$0
	Optimize signal timing.	Total Intersection	71	68	3,714	4,389	1.90%	0.00%	$5,000	$5,000	$0
RM 620 and Bee Cave Parkway	Construct an additional eastbound left-turn lane to provide dual left-turn lanes, one through lane, and one through/right-turn shared lane.	Eastbound Left Movement	5	12	534	458	2.60%	0.00%	$248,295	$6,456	$0
	Construct a westbound right-turn lane to provide one left-turn lane, one through lane, one through/right-turn shared lane and one right-turn only lane. Extend the turn lan	Westbound Right Movement	46	67	334	460	14.60%	100.00%	$914,902	$133,576	$914,902
	Optimize signal timing.	Total Intersection	55	88	5,185	5,963	1.50%	0.00%	$5,000	$5,000	$0
RM 620 and Ladera Boulevard	Construct a southbound right-turn lane.	Southbound Approach	8	22	2,343	2,643	0.80%	0.00%	$383,223	$3,066	$0
	Optimize signal timing.	Total Intersection	31	41	4,714	5,171	0.80%	0.00%	$5,000	$5,000	$0
RM 620 and Falcon Head Boulevard	Construct a southbound right-turn lane	Southbound Approach	7	20	2,289	2,578	0.80%	0.00%	$487,253	$3,898	$0
	Construct an additional eastbound left-turn lane to provide dual left-turn lanes	Eastbound Approach	0	2	452	414	0.50%	0.00%	$158,517	$793	$0
	Optimize signal timing.	Total Intersection	28	38	4,864	5,203	0.70%	0.00%	$5,000	$5,000	$0
Bee Cave Parkway and Tordera Drive	Install a traffic signal.	Total Intersection	33	32	1,876	2,301	1.80%	0.00%	$500,000	$9,000	$0
	Conduct a traffic signal warrant study	Total Intersection	33	32	1,876	2,301	1.80%	0.00%	$15,000	$270	$0
Bee Cave Parkway and Willie Way	Optimize signal timing.	Total Intersection	33	32	2,064	2,631	1.60%	0.00%	$5,000	$5,000	$0
	Install R10-11T sign.	Northbound Right Movement	0	0	3,576	4,487	0.00%	0.00%	$500	$0	$0
SH 71 and Willie Way	Install a traffic signal.	Total Intersection	0	0	3,576	4,487	0.00%	0.00%	$500,000	$0	$0
	Conduct a traffic signal warrant study	Total Intersection	0	0	3,576	4,487	0.00%	0.00%	$15,000	$0	$0
Bee Cave Parkway and Market Street	Installation of a signalized continuous green-tee intersection	Total Intersection	71	68	1,923	2,160	3.70%	0.00%	$1,023,801	$37,881	$0
	Conduct a traffic signal warrant study	Total Intersection	71	68	1,923	2,160	3.70%	0.00%	$15,000	$555	$0
Bee Cave Parkway and Vista Ridge	Installation of a signalized continuous green-tee intersection	Total Intersection	74	77	1,996	2,355	3.70%	0.00%	$1,117,670	$41,354	$0
	Conduct a traffic signal warrant study	Total Intersection	74	77	1,996	2,355	3.70%	0.00%	$15,000	$555	$0
Bee Cave Parkway and Driveway C	Conduct a pedestrian hybrid beacon warrant study	-	-	-	-	-	100.00%	100.00%	$5,000	$5,000	$5,000
									Terrace Fiscal Share	**$565,542**	**$919,902**

Pro-Rata Share Calculation
Westbound Right-Turn Lane - RM 620 and Bee Cave Parkway

2024 Site + Forecasted
Westbound Right-turn on Bee Cave Pkwy at RM 620

		Percent in Outside Lar	Volume in Outside Lane
AM Peak	594 veh	64.00%	380.16
PM Peak	837 veh	63.00%	527.31

Westbound Right-turn on Bee Cave Pkwy at Driveway D

AM Peak	7 veh
PM Peak	21 veh

Southbound Right-turn from Driveway D onto Bee Cave Pkwy

AM Peak	16 veh
PM Peak	12 veh

Westbound Right-turn on Bee Cave Pkwy at Driveway C

AM Peak	3 veh
PM Peak	10 veh

Southbound Right-turn from Driveway C onto Bee Cave Pkwy

AM Peak	6 veh
PM Peak	4 veh

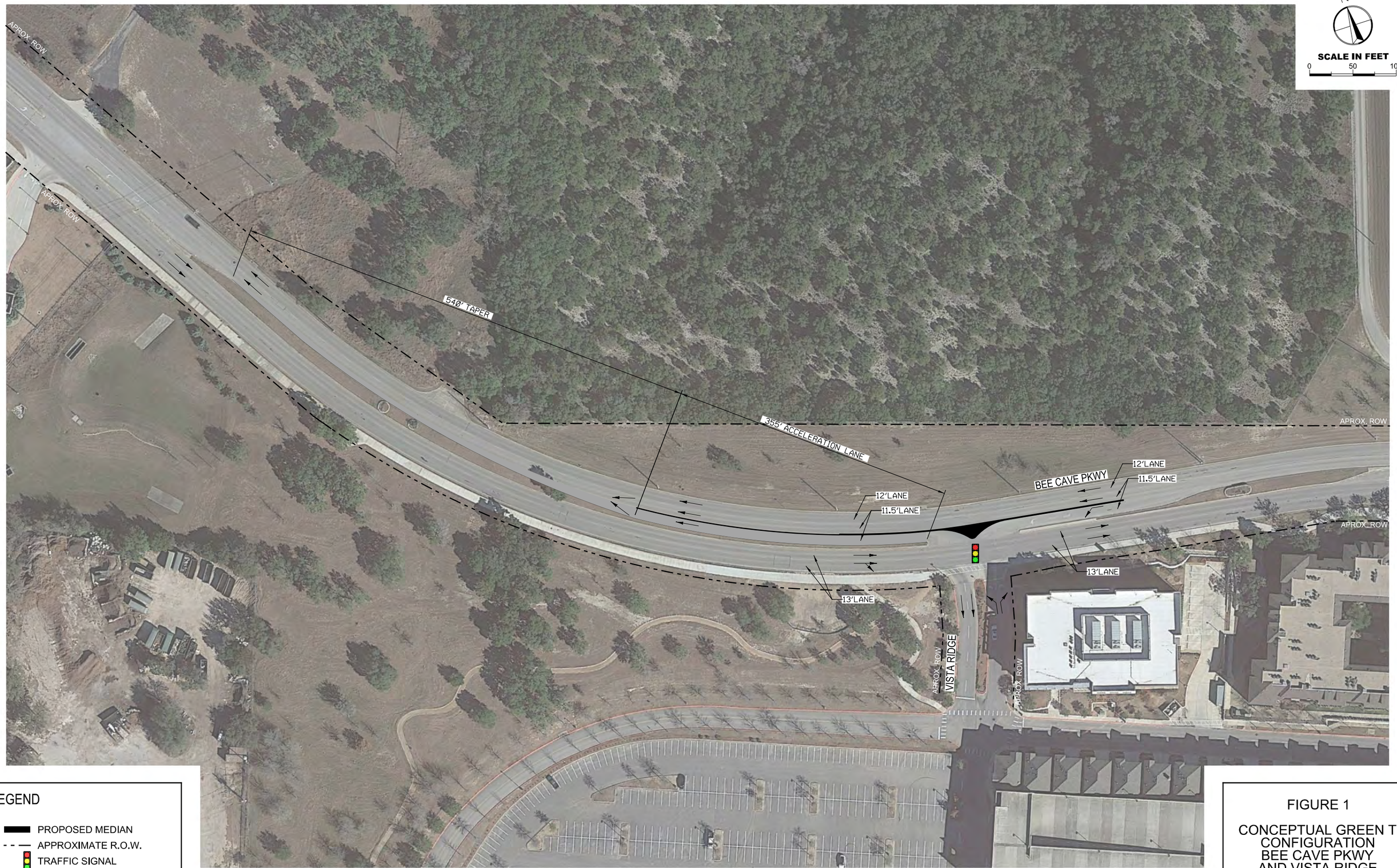
Westbound Right-turn on Bee Cave Pkwy at Driveway B

AM Peak	4 veh
PM Peak	13 veh

Southbound Right-turn from Driveway B onto Bee Cave Pkwy

AM Peak	10 veh
PM Peak	7 veh

	Site	**Total Site + Forecasted**	**Forecasted**	**Site / Forecasted Percentage**
AM Peak	46 veh	380 veh	334 veh	**13.77%**
PM Peak	67 veh	527 veh	460 veh	14.56%



LEGEND

- PROPOSED MEDIAN
- APPROXIMATE R.O.W.
- TRAFFIC SIGNAL

Background Map Copyrighted by Google, 2023

FIGURE 1

CONCEPTUAL GREEN T CONFIGURATION
BEE CAVE PKWY
AND VISTA RIDGE



LEGEND

- PROPOSED MEDIAN
- APPROXIMATE R.O.W.
- TRAFFIC SIGNAL

Background Map Copyrighted by Google, 2023

FIGURE 2

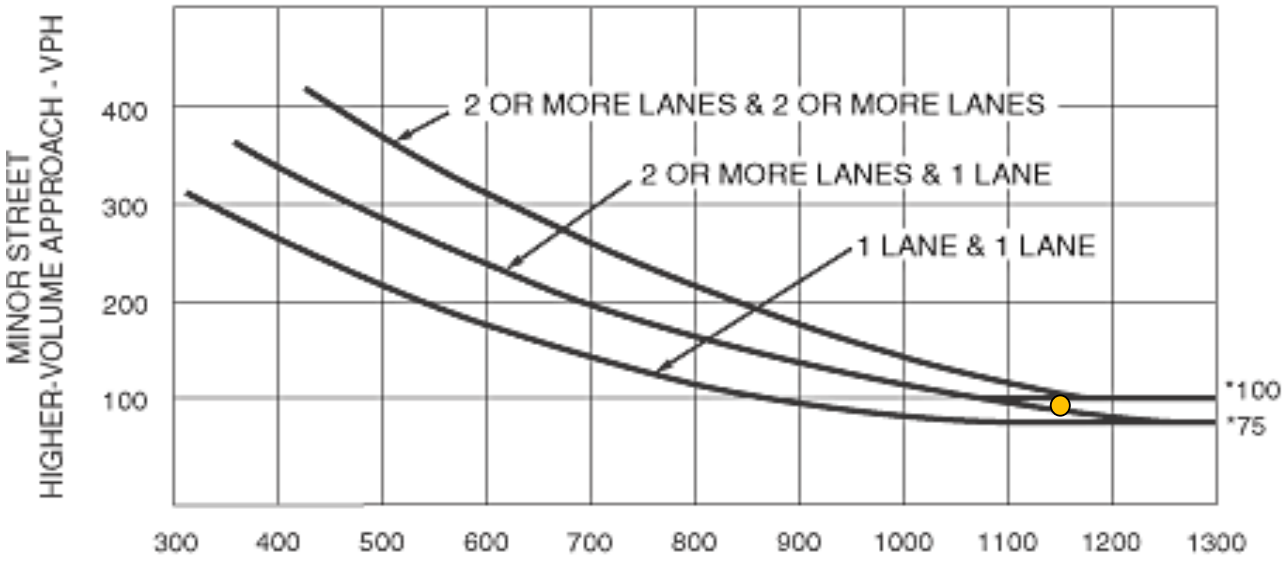
CONCEPTUAL GREEN T CONFIGURATION
BEE CAVE PKWY
AND MARKET ST

Signal Warrants

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

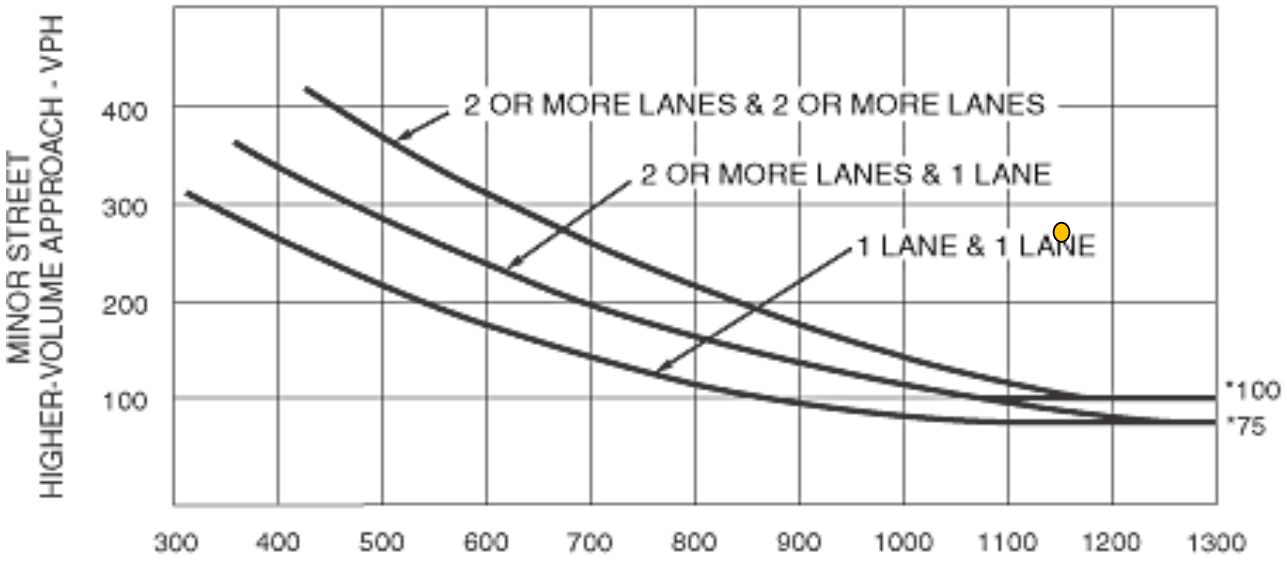


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

2024 Site Plus Forecasted AM Signal Warrant - Bee Cave Parkway and Market Street

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

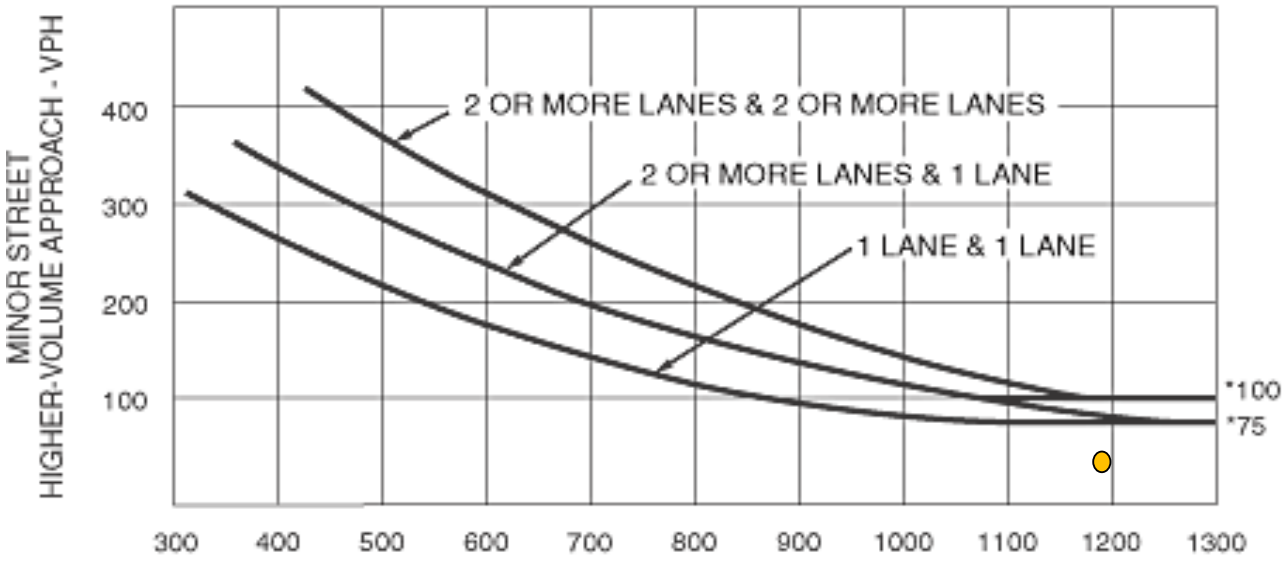


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

2024 Site Plus Forecasted PM Signal Warrant - Bee Cave Parkway and Market Street

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

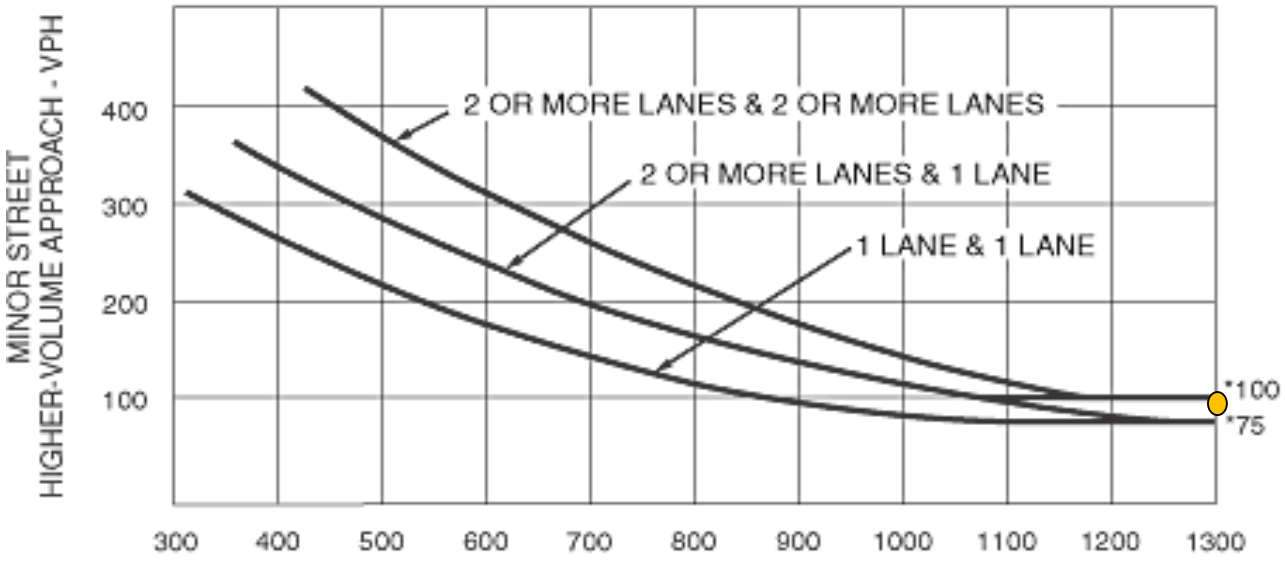


*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

2024 Site Plus Forecasted AM Signal Warrant - Bee Cave Parkway and Vista Ridge Street

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

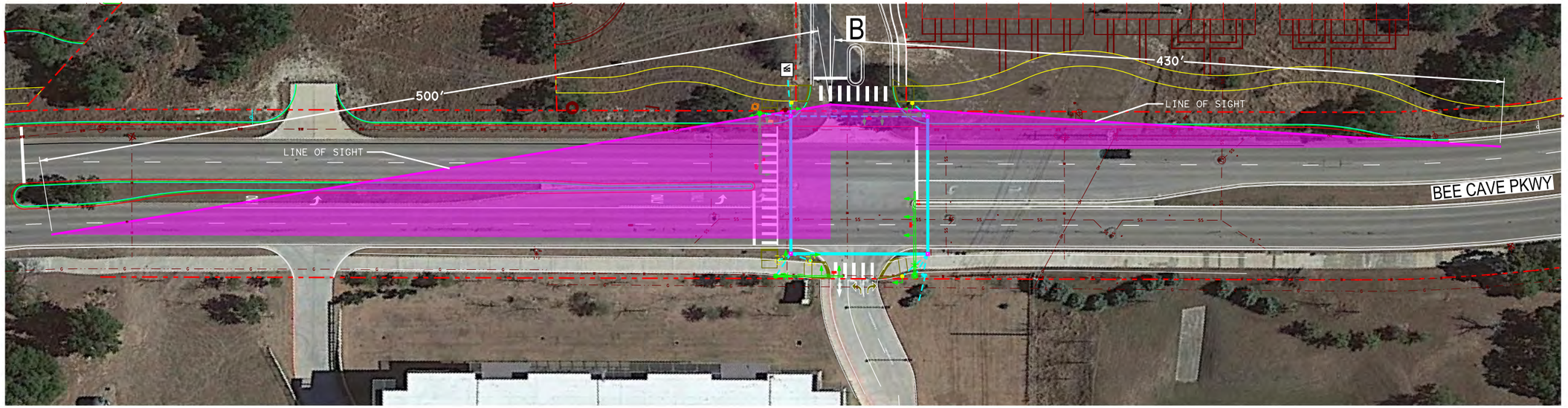


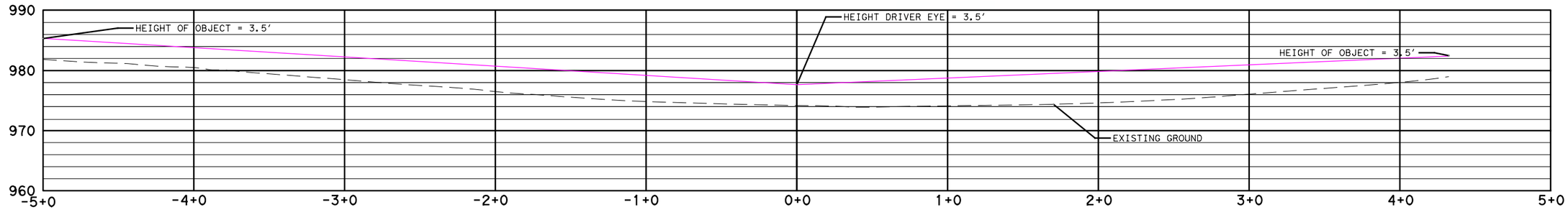
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

2024 Site Plus Forecasted PM Signal Warrant - Bee Cave Parkway and Vista Ridge Street

Intersection Sight Distance

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Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.
2. Decision point is assumed to be offset 14 ft from the proposed edge of pavement.
3. Driveway B is assumed to be signalized.

Table 9-7. Design Intersection Sight Distance—Case B1, Left Turn from Stop

U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	165.4	170	20	20	41.7	45
20	115	220.5	225	30	35	62.6	65
25	155	275.6	280	40	50	83.4	85
30	200	330.8	335	50	65	104.3	105
35	250	385.9	390	60	85	125.1	130
40	305	441.0	445	70	105	146.0	150
45	360	496.1	500	80	130	166.8	170
50	425	551.3	555	90	160	187.7	190
55	495	606.4	610	100	185	208.5	210
60	570	661.5	665	110	220	229.4	230
65	645	716.6	720	120	250	250.2	255
70	730	771.8	775	130	285	271.1	275
75	820	826.9	830				
80	910	882.0	885				

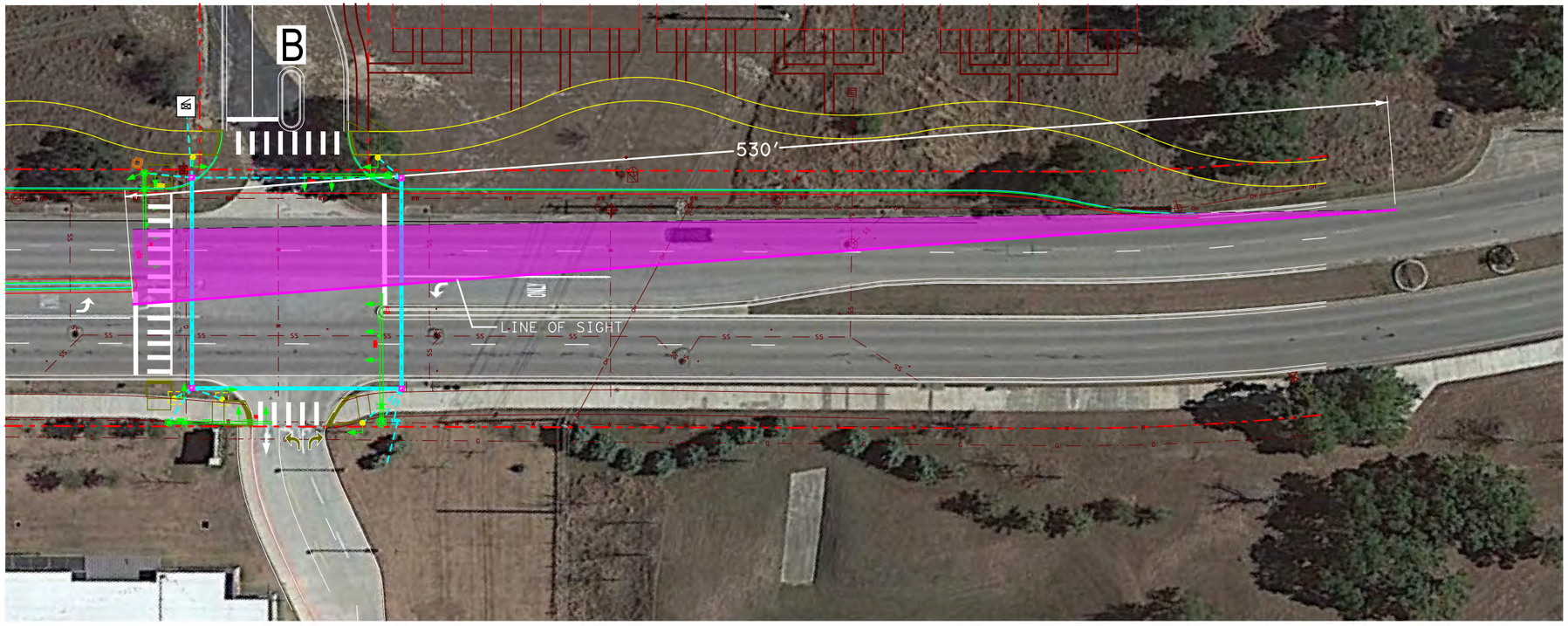
Table 9-9. Design Intersection Sight Distance—Case B2, Right Turn from Stop

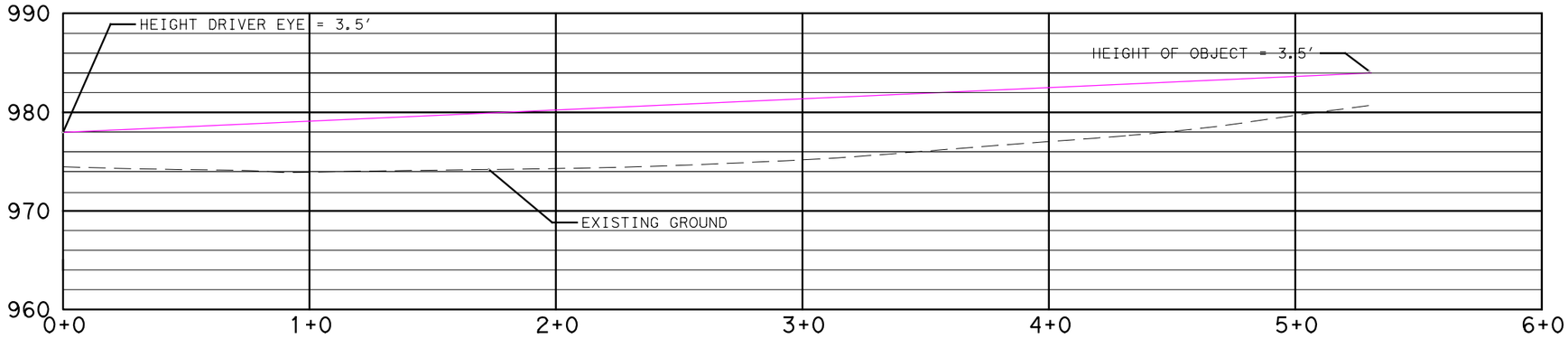
U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	143.3	145	20	20	36.1	40
20	115	191.1	195	30	35	54.2	55
25	155	238.9	240	40	50	72.3	75
30	200	286.7	290	50	65	90.4	95
35	250	334.4	335	60	85	108.4	110
40	305	382.2	385	70	105	126.5	130
45	360	430.0	430	80	130	144.6	145
50	425	477.8	480	90	160	162.6	165
55	495	525.5	530	100	185	180.7	185
60	570	573.3	575	110	220	198.8	200
65	645	621.1	625	120	250	216.8	220
70	730	668.9	670	130	285	234.9	235
75	820	716.6	720				
80	910	764.4	765				

TERRACE TIA

DRIVEWAY B

INTERSECTION SIGHT DISTANCE





SCALE IN FEET
0 25 52

Table 9-15. Design Intersection Sight Distance—Case C2, Left or Right Turn at Yield-Controlled Intersections

U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Length of Leg	
		Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	176.4	180
20	115	235.2	240
25	155	294.0	295
30	200	352.8	355
35	250	411.6	415
40	305	470.4	475
45	360	529.2	530
50	425	588.0	590
55	495	646.8	650
60	570	705.6	710
65	645	764.4	765
70	730	823.2	825
75	820	882.0	885
80	910	940.8	945

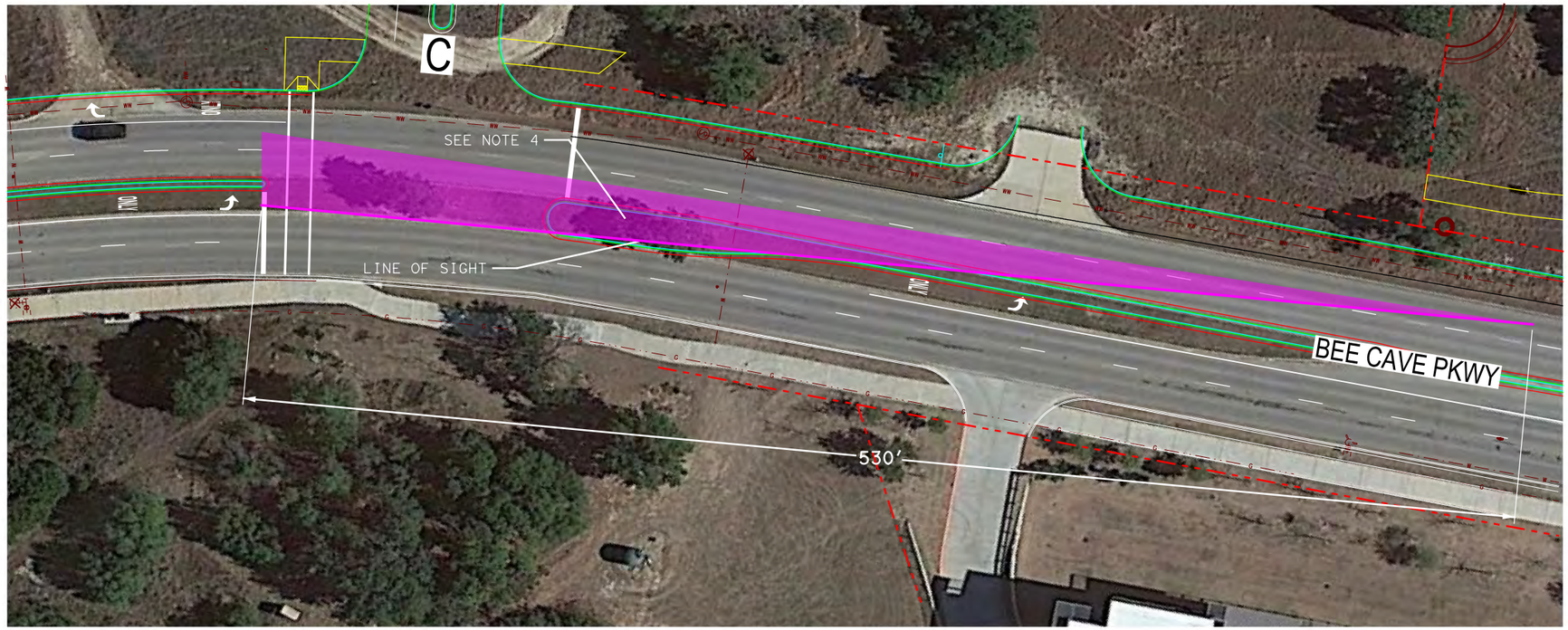
Metric			
Design Speed (km/h)	Stopping Sight Distance (m)	Length of Leg	
		Passenger Cars	
		Calculated (m)	Design (m)
20	20	44.5	45
30	35	66.7	70
40	50	89.0	90
50	65	111.2	115
60	85	133.4	135
70	105	155.7	160
80	130	177.9	180
90	160	200.2	205
100	185	222.4	225
110	220	244.6	245
120	250	266.9	270
130	285	289.1	290

Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.
2. Decision point is assumed to be at the stop bar of the eastbound left-turn lane.
3. Driveway B is assumed to be signalized.

TERRACE TIA

DRIVEWAY B

MAJOR-STREET LEFT TURN INTERSECTION SIGHT DISTANCE

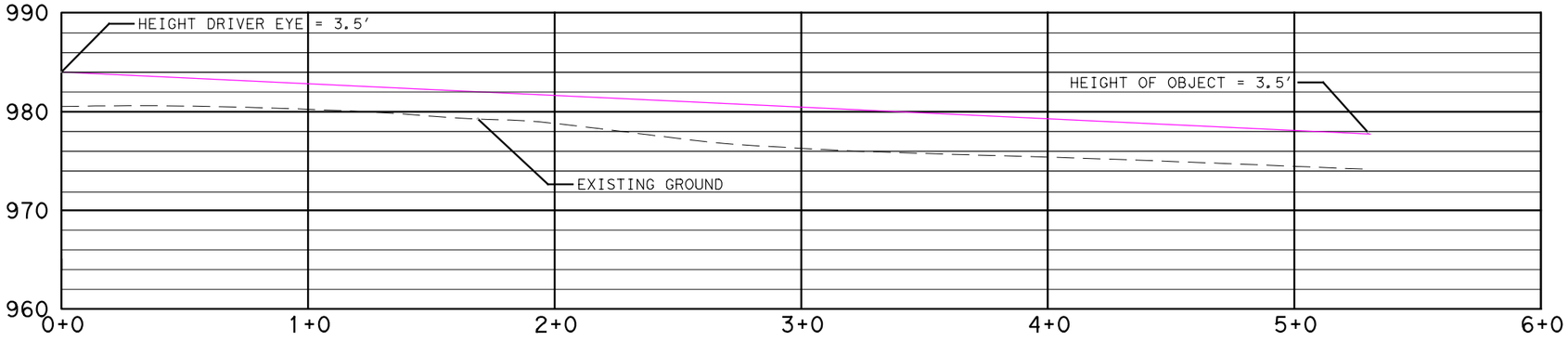


SCALE IN FEET
0 35 70

Table 9-15. Design Intersection Sight Distance—Case C2, Left or Right Turn at Yield-Controlled Intersections

U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Length of Leg	
		Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	176.4	180
20	115	235.2	240
25	155	294.0	295
30	200	352.8	355
35	250	411.6	415
40	305	470.4	475
45	360	529.2	530
50	425	588.0	590
55	495	646.8	650
60	570	705.6	710
65	645	764.4	765
70	730	823.2	825
75	820	882.0	885
80	910	940.8	945

Metric			
Design Speed (km/h)	Stopping Sight Distance (m)	Length of Leg	
		Passenger Cars	
		Calculated (m)	Design (m)
20	20	44.5	45
30	35	66.7	70
40	50	89.0	90
50	65	111.2	115
60	85	133.4	135
70	105	155.7	160
80	130	177.9	180
90	160	200.2	205
100	185	222.4	225
110	220	244.6	245
120	250	266.9	270
130	285	289.1	290

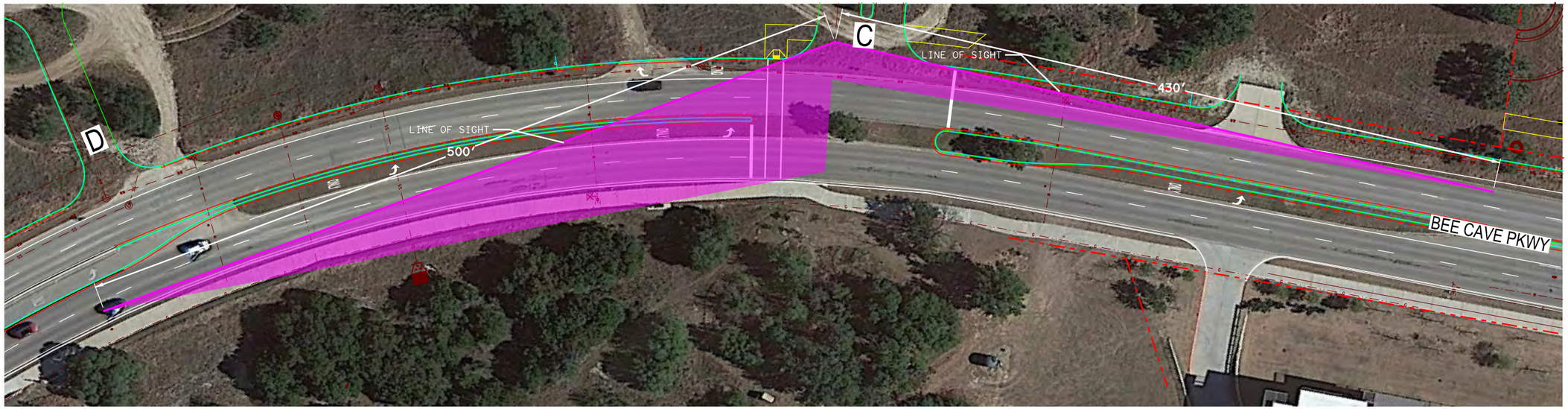


Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.
2. Decision point is assumed to be at the stop bar of the eastbound left-turn lane.
3. Driveway C is assumed to operate as full-purpose.
4. Raised median island should be cleared of any vegetation obstruction line of site at the time of construction of Driveway C to improve sight line.

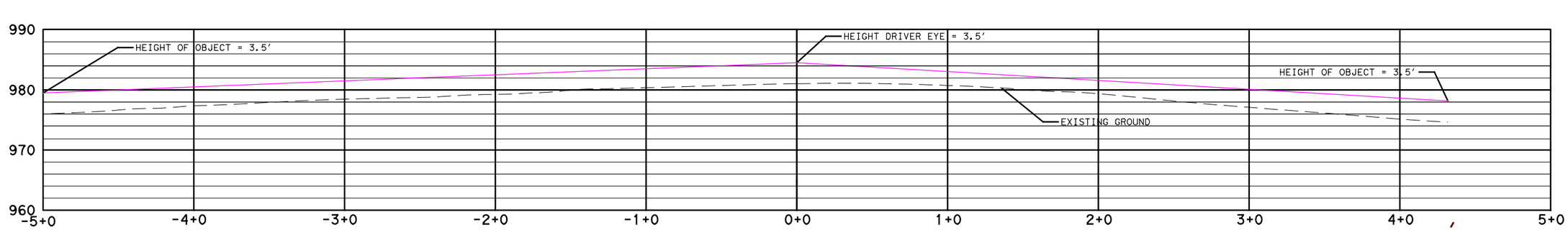
TERRACE TIA

DRIVEWAY C

MAJOR-STREET LEFT TURN INTERSECTION SIGHT DISTANCE



SCALE IN FEET
0 40 80



Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.
2. Decision point is assumed to be offset 14 ft from the proposed edge of pavement.
3. Driveway C is assumed to operate as full-purpose.

Table 9-7. Design Intersection Sight Distance—Case B1, Left Turn from Stop

U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	165.4	170	20	20	41.7	45
20	115	220.5	225	30	35	62.6	65
25	155	275.6	280	40	50	83.4	85
30	200	330.8	335	50	65	104.3	105
35	250	385.9	390	60	85	125.1	130
40	305	441.0	445	70	105	146.0	150
45	360	496.1	500	80	130	166.8	170
50	425	551.3	555	90	160	187.7	190
55	495	606.4	610	100	185	208.5	210
60	570	661.5	665	110	220	229.4	230
65	645	716.6	720	120	250	250.2	255
70	730	771.8	775	130	285	271.1	275
75	820	826.9	830				
80	910	882.0	885				

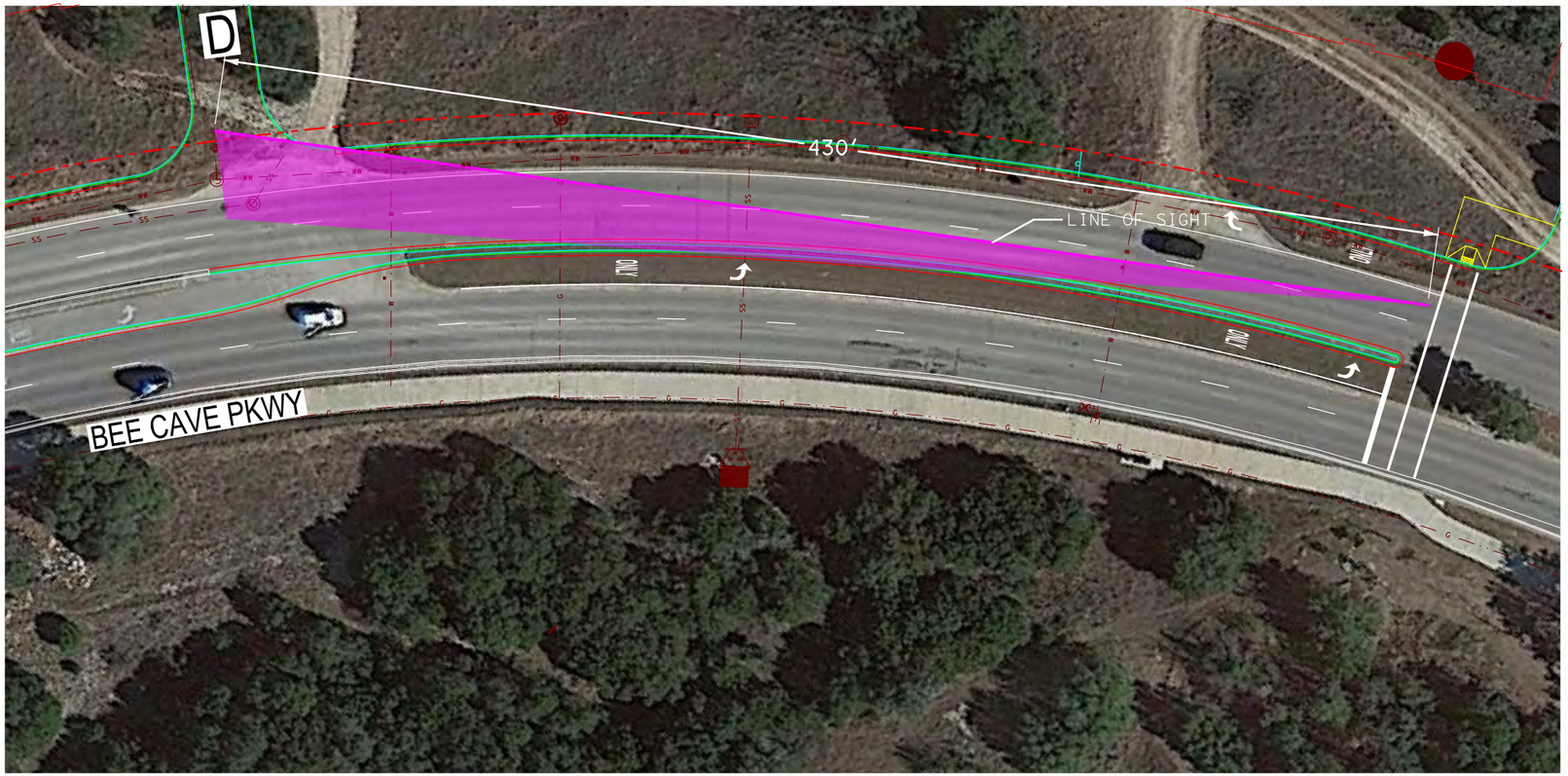
Table 9-9. Design Intersection Sight Distance—Case B2, Right Turn from Stop

U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	143.3	145	20	20	36.1	40
20	115	191.1	195	30	35	54.2	55
25	155	238.9	240	40	50	72.3	75
30	200	286.7	290	50	65	90.4	95
35	250	334.4	335	60	85	108.4	110
40	305	382.2	385	70	105	126.5	130
45	360	430.0	430	80	130	144.6	145
50	425	477.8	480	90	160	162.6	165
55	495	525.5	530	100	185	180.7	185
60	570	573.3	575	110	220	198.8	200
65	645	621.1	625	120	250	216.8	220
70	730	668.9	670	130	285	234.9	235
75	820	716.6	720				
80	910	764.4	765				

TERRACE TIA

DRIVEWAY C

INTERSECTION SIGHT DISTANCE

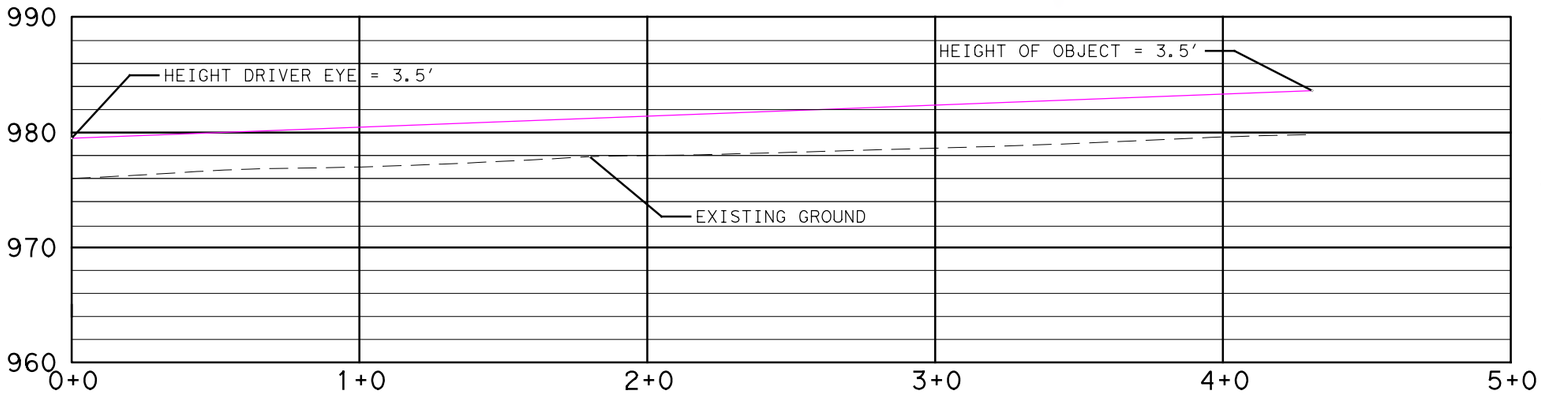


SCALE IN FEET
0 25 50

Table 9-9. Design Intersection Sight Distance—Case B2, Right Turn from Stop

U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	143.3	145
20	115	191.1	195
25	155	238.9	240
30	200	286.7	290
35	250	334.4	335
40	305	382.2	385
45	360	430.0	430
50	425	477.8	480
55	495	525.5	530
60	570	573.3	575
65	645	621.1	625
70	730	668.9	670
75	820	716.6	720
80	910	764.4	765

Metric			
Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	36.1	40
30	35	54.2	55
40	50	72.3	75
50	65	90.4	95
60	85	108.4	110
70	105	126.5	130
80	130	144.6	145
90	160	162.6	165
100	185	180.7	185
110	220	198.8	200
120	250	216.8	220
130	285	234.9	235

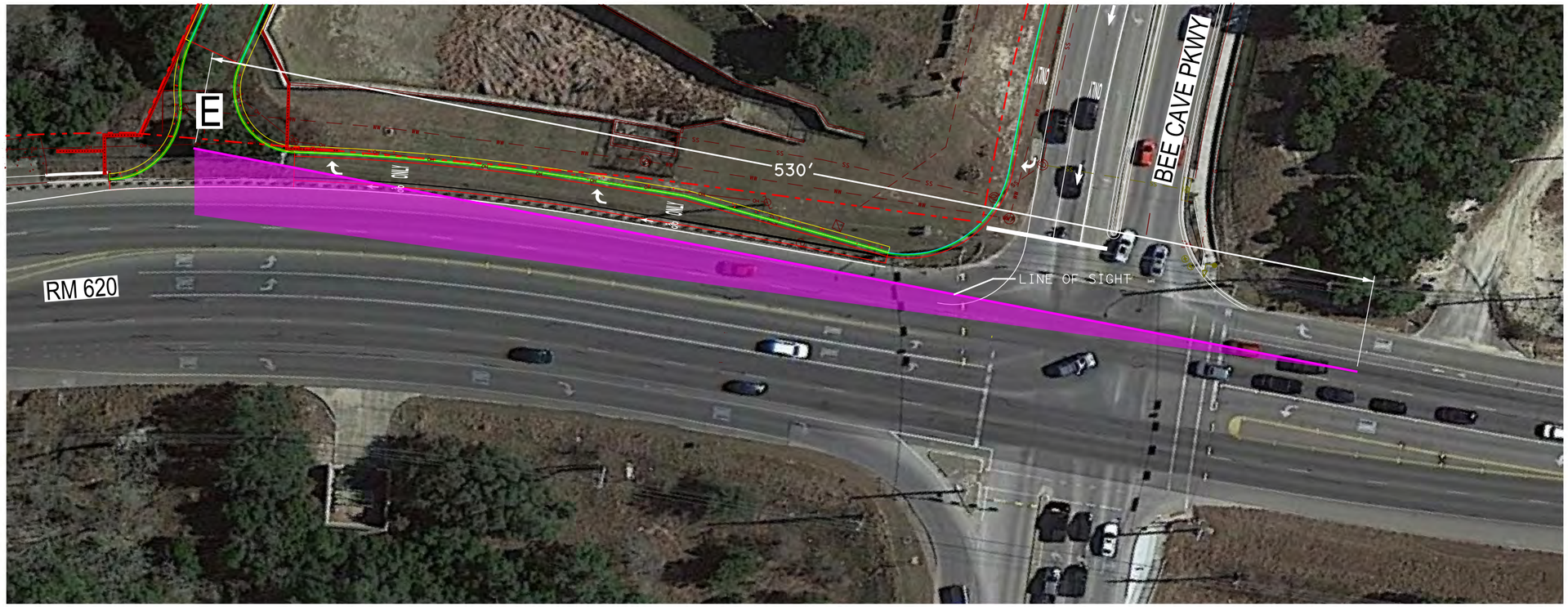


Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.
2. Decision point is assumed to be offset 14 ft from the proposed edge of pavement.
3. Driveway D is assumed to operate as right-in/right-out.

TERRACE TIA

DRIVEWAY D

INTERSECTION SIGHT DISTANCE



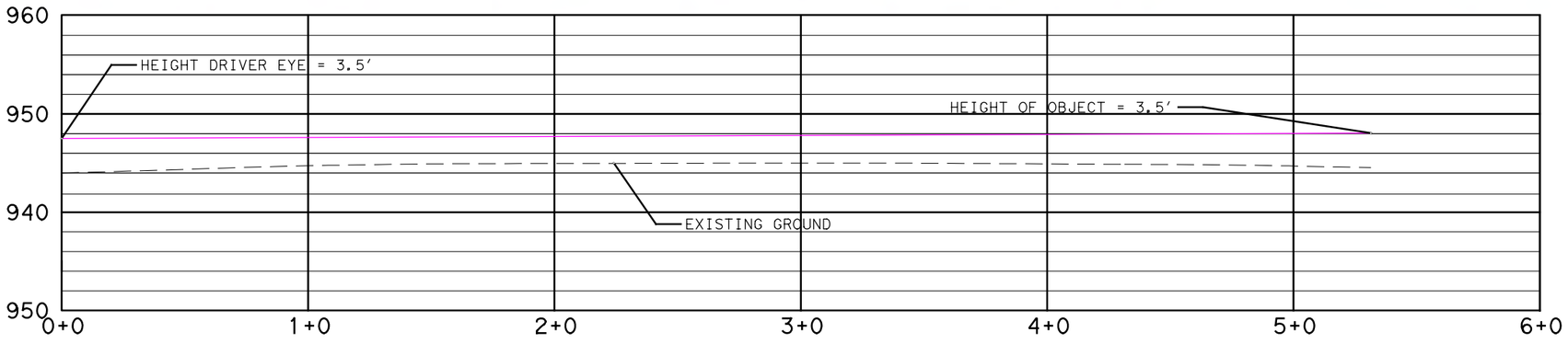


Table 9-9. Design Intersection Sight Distance—Case B2, Right Turn from Stop

U.S. Customary				Metric			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars		Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)			Calculated (m)	Design (m)
15	80	143.3	145	20	20	36.1	40
20	115	191.1	195	30	35	54.2	55
25	155	238.9	240	40	50	72.3	75
30	200	286.7	290	50	65	90.4	95
35	250	334.4	335	60	85	108.4	110
40	305	382.2	385	70	105	126.5	130
45	360	430.0	430	80	130	144.6	145
50	425	477.8	480	90	160	162.6	165
55	495	525.5	530	100	185	180.7	185
60	570	573.3	575	110	220	198.8	200
65	645	621.1	625	120	250	216.8	220
70	730	668.9	670	130	285	234.9	235
75	820	716.6	720				
80	910	764.4	765				

Notes:
1. Posted speed on RM 620 is 55 mph.
2. Decision point is assumed to be offset 14 ft from the proposed edge of pavement.
3. Driveway E is assumed to operate as right-in/right-out.

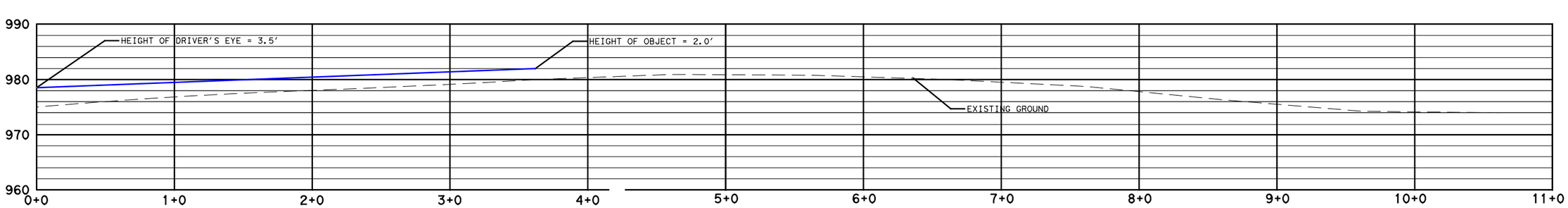
TERRACE TIA

DRIVEWAY E

INTERSECTION SIGHT DISTANCE



SCALE IN FEET
0 40 80



U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	165.4	170
20	115	220.5	225
25	155	275.6	280
30	200	330.8	335
35	250	385.9	390
40	305	441.0	445
45	360	496.1	500
50	425	551.3	555
55	495	606.4	610
60	570	661.5	665
65	645	716.6	720
70	730	771.8	775
75	820	826.9	830
80	910	882.0	885

Note:
Posted speed on Bee Cave Parkway is 45 mph.

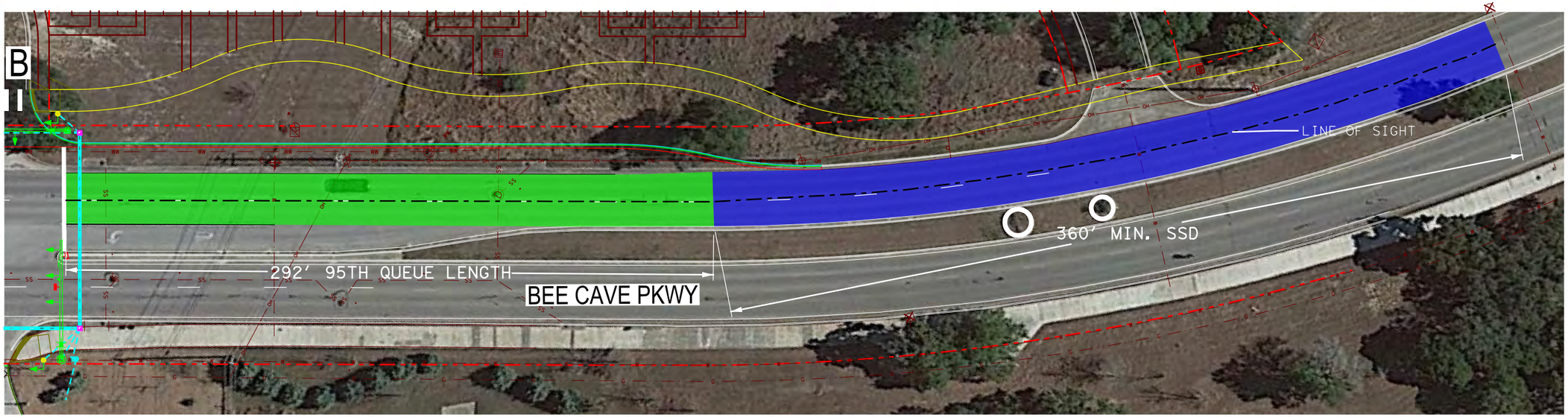
LIMITS OF 95TH QUEUE LENGTH (DISTANCE FROM STOP BAR)

LIMITS OF MIN SSD (DISTANCE FROM BACK OF QUEUE)

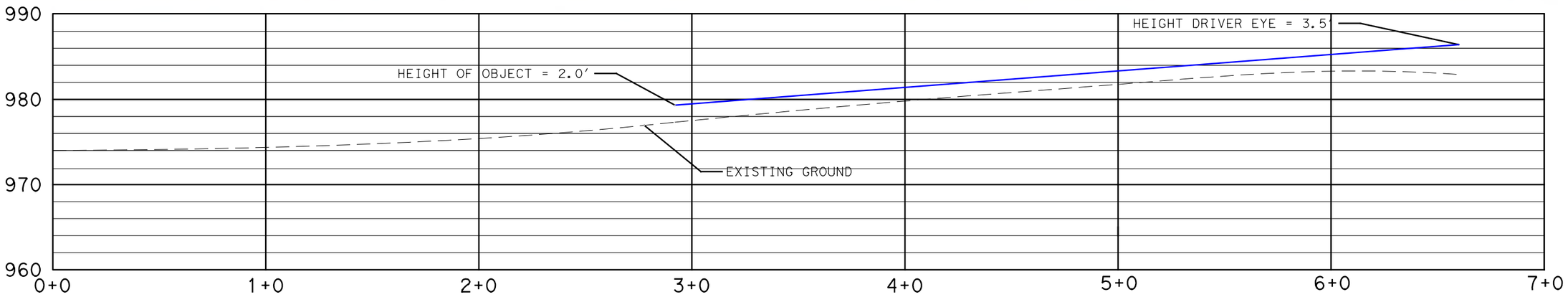
TERRACE TIA

DRIVEWAY B

EB APPROACH
STOPPING SIGHT DISTANCE



SCALE IN FEET
0 25 50



U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	165.4	170
20	115	220.5	225
25	155	275.6	280
30	200	330.8	335
35	250	385.9	390
40	305	441.0	445
45	360	496.1	500
50	425	551.3	555
55	495	606.4	610
60	570	661.5	665
65	645	716.6	720
70	730	771.8	775
75	820	826.9	830
80	910	882.0	885

Note:
Posted speed on Bee Cave Parkway is 45 mph.

LIMITS OF 95TH QUEUE LENGTH (DISTANCE FROM STOP BAR)

LIMITS OF MIN SSD (DISTANCE FROM BACK OF QUEUE)

TERRACE TIA

DRIVEWAY B

WB APPROACH
STOPPING SIGHT DISTANCE

Pedestrian Highway Beacon Study

Pedestrian Hybrid Beacon Warrant Study

Bee Cave Parkway and Pearl Driveway C

Bee Cave, Texas
First Submission: July 14, 2023
Second Submission: July 25, 2023

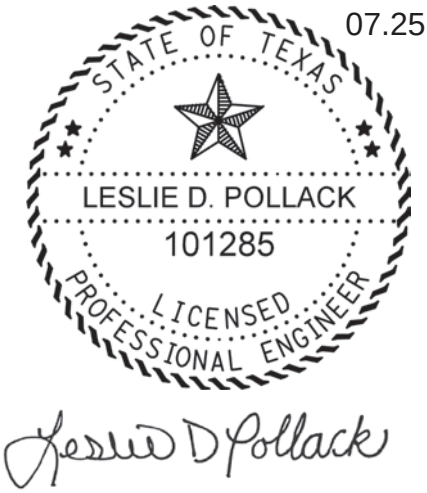
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Pedestrian Hybrid Beacon Warrant Study

Bee Cave Parkway and Pearl Driveway C

Bee Cave, Texas
First Submission: July 14, 2023
Second Submission: July 25, 2023

07.25.23



Prepared for
Morgan Group

Prepared by

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Website: hdrinc.com

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Executive Summary

HDR Engineering, Inc. has performed a pedestrian hybrid beacon (PHB) warrant study at the intersection of Bee Cave Parkway and Pearl Driveway C in Bee Cave, Texas to determine if a PHB is warranted.

This memorandum summarizes the analysis used to determine if a PHB is recommended at this intersection. PHBs are pedestrian actuated traffic control devices that help improve pedestrian safety at crossings without a traffic signal. The determination of PHB installation is based on engineering judgment after considering the following factors: location conditions, spacing of adjacent crosswalks and traffic signals, vehicular volumes and speeds, pedestrian volumes, and crash history. Guidelines for PHB installation are also defined in the Texas Manual on Uniform Traffic Control Devices (Ref. 1), TxDOT Traffic Signal Manual (Ref. 2), and FHWA's Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (Ref. 3). The Austin Transportation Department has developed a crossing treatment tool based on guidelines defined in the TMUTCD, which was also utilized in the analysis for this study (Ref. 4).

Based on the vehicular volumes, pedestrian volume thresholds, crash history, and posted speed limits, the installation of a PHB is not recommended at Bee Cave Parkway and Pearl Driveway C at this time. It is recommended that subsequent study and additional mitigation measures be completed prior to installation of a PHB.



FIGURE 1

STUDY AREA MAP

Pedestrian Hybrid Beacon Warrant Study

Study Area

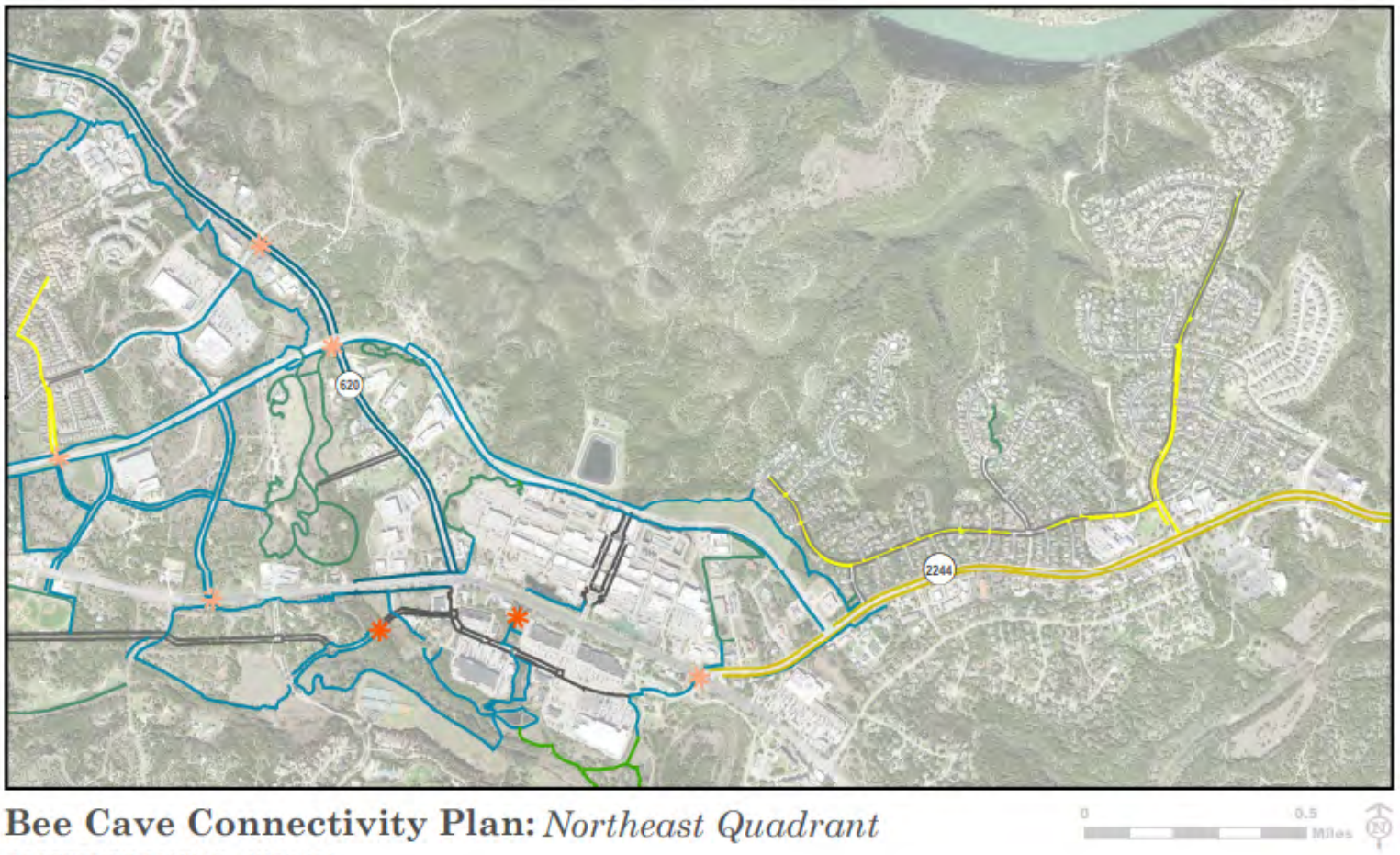
Bee Cave Parkway is a four-lane divided minor arterial with two eastbound and two westbound lanes at the proposed PHB location. Pearl Driveway C will be constructed on the north side of Bee Cave Parkway at a median opening. Pearl Driveway C will provide one inbound and two outbound travel lanes and form the stop-controlled approach to the intersection. With construction of the Pearl development, westbound Bee Cave Parkway will be widened from two to three westbound travel lanes. The posted speed limit on Bee Cave Parkway is 45 miles per hour. 21,000 vehicles per day were recorded on Bee Cave Parkway, east of RM 620, in 2021.

A 10’ shared-use path is present on the south side of Bee Cave Parkway at this intersection. A 10’ shared-use path will be constructed on the north side of Bee Cave Parkway with the Pearl development. No pedestrian crossings are currently provided at this location. The proposed shared-use paths and pedestrian crossing locations are included on the City of Bee Cave’s Connectivity Plan (Ref. 5).

The nearest existing controlled pedestrian crossing is located at the signalized intersection of RM 620 and Bee Cave Parkway, approximately 1,300 feet to the west. A traffic signal with a controlled pedestrian crossing is proposed at Bee Cave Parkway and Pearl Driveway B / Galleria Oaks Driveway, approximately 500 feet to the east.

The land use on the north side of Bee Cave Parkway is proposed as multi-family residential (Pearl development). It should be noted that a scenic overlook is also proposed on the multi-family residential property. The land use on the south side of Bee Cave Parkway consists of a natural area with recreational trails. Office buildings are located on the south side of Bee Cave Parkway at the location of the proposed signal of Pearl Driveway B / Galleria Oaks Driveway, approximately 500 feet to the east. Commercial land use is present on the south side of Bee Cave Parkway at the Hill Country Galleria development, approximately 1,700 feet from the location of the commercial land use at Galleria Parkway. The distance between Driveway B and the Galleria Parkway intersection is 2,300 feet.

Figure 2. Bee Cave Connectivity Plan



Data Collection

24-hour traffic volume counts were conducted on Bee Cave Parkway, east of RM 620 in November of 2021. Weekday intersection turning movement counts (TMCs) with pedestrian data were recorded at the intersections of Bee Cave Parkway with RM 620 and Hill Country Galleria Driveway, in November of 2021. Traffic data is included in the appendix.

Crash Data

A summary of the crash data for the most recent three-year period is also included based on information provided by the TxDOT Crash Records Information System (Ref. 6). Information such as crash type and severity are included in the Appendix. A summary of annual crash data at the study intersection is provided in a later section of this report.

Field Observations

Site visits to observe existing roadway geometry and traffic operations were conducted June and September of 2022 during off-peak periods. Photographs showing the existing street approaches are shown in Figures 3 through 6. No pedestrian crossing activity was observed at this location intersection. Vehicles were observed driving faster than the posted speed limit on Bee Cave Parkway. A spot speed study was not completed.

Vehicles on the westbound approach of Bee Cave Parkway at RM 620 currently queue past proposed Pearl Driveway C during the PM peak period.

Figure 3. Looking East from Dwy C



Figure 4. Looking East from Median



Figure 5. Looking West from Dwy C



Figure 6. Looking West from Median



Analysis Methodology

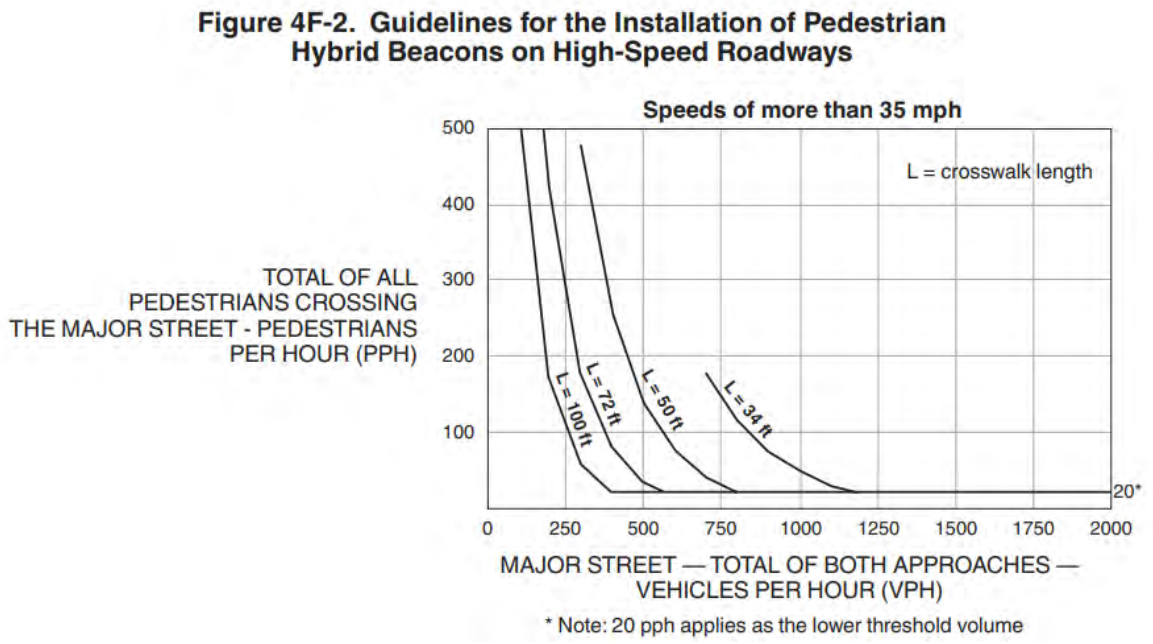
The following sources were utilized for evaluation of a pedestrian hybrid beacon.

- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- TxDOT Traffic Signals Manual
- Austin Transportation Department Crossing Treatment Tool
- Federal Highway Administration's Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

TMUTCD Criteria

Information in this section on the application of a PHB is adapted from Chapter 4F of the 2011 TMUTCD. The determination of the installation of a PHB is based on engineering judgement and the following criteria based on the vehicles per hour on the major street (both approaches) and the corresponding total of all pedestrians crossing the major street for one hour (any four consecutive 15-minute periods) of an average day falls above the applicable curves in the figure below.

Figure 7. TMUTCD Figure 4F-2



PEDESTRIAN GENERATION

Since the proposed Pearl Driveway C does not exist, no pedestrian crossings of Bee Cave Parkway were recorded at this location. To provide an estimate of pedestrian demand, several

methods were utilized. According to a 2009 study published by the American Planning Association, the estimated pedestrian commute mode share is 5% for a central business district (Ref. 7). For the purposes of this analysis, the number of pedestrian trips were estimated by taking 5% of the overall trips generated by the proposed Pearl development. During the PM peak period, 8 pedestrian trips were estimated using this methodology.

A review of 2021 peak hour traffic counts indicated there were 7 pedestrians observed on Bee Cave Parkway at Hill Country Galleria Oaks Driveway as well 5 pedestrians on Bee Cave Parkway at RM 620. An origin/destination study was not conducted for pedestrians; however, it is assumed that a maximum of 7 pedestrians per hour will utilize the proposed crossing of Bee Cave Parkway at Driveway C.

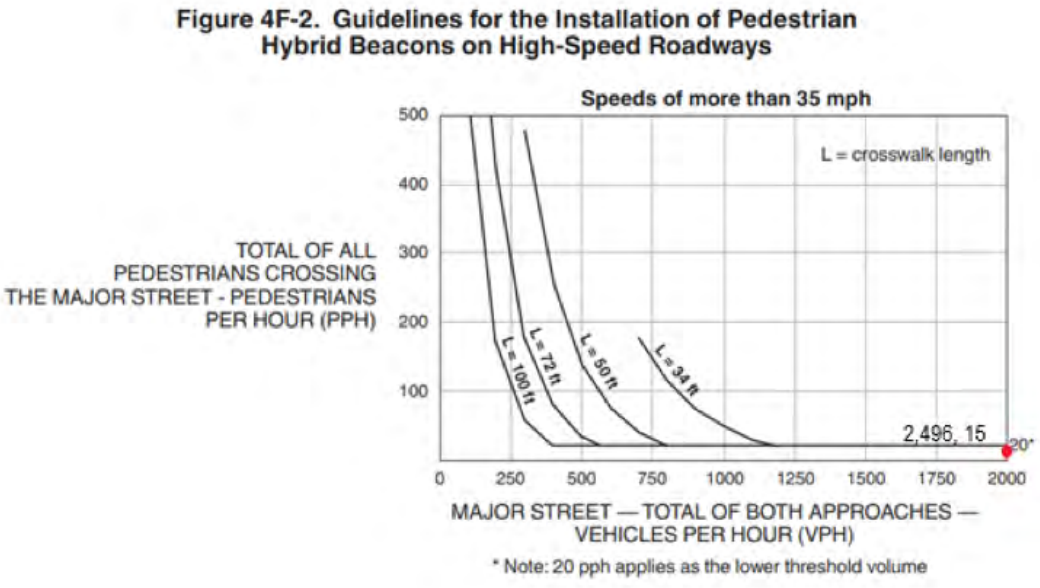
Finally, as the City of Bee Cave trail system becomes more robust, it is anticipated that the pedestrian demand will continue to increase. The ultimate pedestrian demand for the proposed crosswalk is difficult to quantify.

Using a combination of the modal share of trip generation as well as adjacent pedestrian counts, it is estimated that a 15 pedestrians per hour will utilize the proposed pedestrian crossing of Bee Cave Parkway at Pearl Driveway C.

VOLUME ANALYSIS

Figure 8 below shows the maximum major street volumes and total pedestrian crossing volumes. Based on the data below, the pedestrian volumes present on Bee Cave Parkway do not meet the threshold of 20 pedestrians per hour as identified in the TMUTCD; therefore the criteria for the installation of a PHB is not met at this intersection based on TMUTCD volume guidelines.

Figure 8. TMUTCD Figure 4F-2: Bee Cave Parkway and Pearl Driveway C



CRASH DATA CRITERIA

A PHB will be recommended if a pedestrian or bicyclist injury or fatality has occurred at or near the study location during the recent three-year period (2020-2023). Table 1 summarizes the crashes reported on Bee Cave Parkway, between RM 620 and Galleria Parkway, for the recent three-year period (July 2020 – July 2023). A total of twelve crashes were recorded during the three-year period. None of the crashes involved pedestrians or cyclists. However, it should be noted that one fatal pedestrian crash occurred at the intersection of RM 620 and Bee Cave Parkway in July 2020. The intersection of RM 620 and Bee Cave Parkway has controlled pedestrian crossings on two approaches, and installation of a PHB 1,300 feet to the east would not be considered a countermeasure for this crash. Therefore, the criteria for the installation of a PHB is not met at this intersection based on crash data guidelines. The crash data obtained from the C.R.I.S Query website is provided for reference in the Appendix.

Table 1. Crashes: Bee Cave Parkway and Pearl Driveway C

Year	Crashes	Pedestrian / Bicycle Crashes
2020	3	0
2021	2	0
2022	5	0
2023	2	0
Total	**12**	**0**

TxDOT Criteria

The TXDOT Traffic Signal Manual defines the following criteria for installation of a Pedestrian Hybrid Beacon:

- an engineering study must be performed and meet the guidelines detailed in Chapter 4F of the TMUTCD
- an established crosswalk with adequate visibility, markings and signs
- a posted speed limit of 40 mph or less (does not include school speed zones)
- 20 pedestrians or more crossing in one hour
- location deemed as a high risk area (e.g. schools, shopping centers, etc.)
- crosswalk is more than 300 ft. from an existing, traffic controlled pedestrian crossing

The following TxDOT criteria are not met at this location:

- an engineering study must be performed and meet the guidelines detailed in Chapter 4F of the TMUTCD
- a posted speed limit of 40 mph or less (does not include school speed zones)
- 20 pedestrians or more crossing in one hour

Therefore, the criteria for the installation of a PHB is not met at this intersection based on TxDOT criteria.

Federal Highway Administration Guidelines

The Federal Highway Administration does not include a warrant for pedestrian hybrid beacons but recommends countermeasures at midblock pedestrian crossings. The following factors are evaluated at the proposed crossing location:

- Number of travel lanes – 4+
- Raised median presence – yes
- Posted speed limit - >40 mph
- Average Annual Daily Traffic - >21,000 vpd

FHWA recommends the following countermeasures to consider:

- Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- Pedestrian Hybrid Beacon (PHB)

In addition, crosswalk visibility enhancements such as high-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crosswalk warning signs should always occur in conjunction with other identified countermeasures.

It should be noted that FHWA always recommends consideration of pedestrian hybrid beacons at crossing locations with speed limits over 40 miles per hour and does not consider pedestrian volumes in the analysis.

ATD Crossing Treatment Guidelines

Austin Transportation Department's (ATD) crossing treatment guidelines worksheet provides general recommendations on pedestrian crossing treatments to be considered at unsignalized intersections. The guidelines worksheet was utilized to analyze if a pedestrian hybrid beacon should be recommended at the study intersection based on several factors listed below.

- Proximity to existing marked crosswalks
- Pedestrian and vehicular volumes
- Stopping sight distance
- Proximity to trails, shared-use paths, schools, and transit stops

The ATD Crossing Treatment Tool was reviewed identify a treatment recommendation at Bee Cave Parkway and Pearl Driveway C. The information on crossing distance, speed, number of lanes, pedestrian volumes, and vehicle volumes was entered to determine appropriate treatment type. Based on the parameter inputs outlined in the tool, the ATD crossing treatment criteria was met for this intersection for installation of a PHB. The analysis worksheet utilized for this location is provided in the Appendix.

Summary and Recommendations

The collected vehicular, pedestrian, and crash data was compared against multiple sources to determine whether the installation of a PHB is warranted at the following study intersection:

- Bee Cave Parkway and Pearl Driveway C

Table 2 below summarizes the warrant criteria for the study intersection.

Table 2. Pedestrian Hybrid Beacon Warrant Study

Criteria	PHB Recommended	Justification
TMUTCD Volume Criteria	No	Insufficient Pedestrian Volumes
TMUTCD Crash Data	No	No Pedestrian Crashes
TXDOT Criteria	No	Insufficient Pedestrian Volumes Posted Speed Limit
ATD Crossing Treatment Tool	Yes	Multiple Factors
FHWA Guide	Yes	Posted Speed Limit

Based on the results of the study, a pedestrian hybrid beacon is not recommended at this time. However, this location should be considered for installation of a pedestrian hybrid beacon in the future. The existing conditions on Bee Cave Parkway and unfavorable pedestrian crossing opportunities will preclude this crossing location from achieving the pedestrian counts defined in the PHB warrants. The minimum pedestrian volume should not be considered the primary criteria for implementation of PHB, but rather the provision of a safe pedestrian crossing. Several mitigation measures are recommended below, which should be implemented, followed by a subsequent pedestrian hybrid beacon warrant study.

Due to the existing volumes and high speeds at the crossing location, the following countermeasures are recommended to be completed prior to implementation of a PHB at this location:

- Construct a median refuge for pedestrians at the crossing location (proposed with the Pearl project).
- Reduce the posted speed limit on Bee Cave Parkway to 40 miles per hour.

- Construct the pedestrian shared-use path / trail system to the proposed crossing location (proposed with the Pearl project). Do not install the PHB prior to a complete pedestrian network, accessible by pedestrians.
- Construct PHB with high-visibility crosswalk markings and warning signs with the pedestrian hybrid beacon installation (proposed in PHB design plans).

References

1. Texas Manual on Uniform Traffic Control Devices, 2011 Edition. Texas Department of Transportation, Austin, Texas.
2. Traffic Signals Manual, 2020-1. Texas Department of Transportation, Austin, Texas.
3. Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations. Federal Highway Administration Office of Safety, Washington DC.
4. Pedestrian Crossing Guidelines. City of Austin Transportation Department, Austin, Texas.
5. Connectivity Plan, City of Bee Cave, Texas.
6. Crash Records Information System (C.R.I.S.). Texas Department of Transportation, Austin, Texas.
7. American Planning Association. Simple Techniques for Forecasting Bicycle and Pedestrian Demand.

Appendix

** PDF file created with demo version of the ComponentOne VSPDF8 control. **

GRAM Traffic Counting, Inc.
3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

Site Code: 2
Station ID:
Bee Cave Pkwy
East of RM 620
Latitude: 0' 0.0000 Undefined

Start	11/16/202	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	189			5	208				
12:15		3	219			1	205				
12:30		0	214			2	194				
12:45		2	202	8	824	7	158	15	765	23	1589
01:00		3	200			3	171				
01:15		1	208			0	195				
01:30		0	186			0	176				
01:45		1	177	5	771	0	148	3	690	8	1461
02:00		1	191			2	188				
02:15		1	210			1	190				
02:30		0	214			0	195				
02:45		0	223	2	838	1	187	4	760	6	1598
03:00		1	180			0	212				
03:15		2	168			0	240				
03:30		1	154			1	259				
03:45		1	194	5	696	1	243	2	954	7	1650
04:00		2	165			2	238				
04:15		6	193			2	271				
04:30		3	216			3	181				
04:45		10	206	21	780	2	279	9	969	30	1749
05:00		15	171			3	242				
05:15		14	211			5	278				
05:30		22	209			9	231				
05:45		33	223	84	814	14	248	31	999	115	1813
06:00		47	189			16	216				
06:15		62	186			28	203				
06:30		69	123			40	159				
06:45		127	128	305	626	49	167	133	745	438	1371
07:00		189	102			62	108				
07:15		249	87			87	145				
07:30		233	91			152	144				
07:45		242	78	913	358	154	129	455	526	1368	884
08:00		251	57			221	106				
08:15		227	52			198	77				
08:30		255	54			156	76				
08:45		234	36	967	199	134	57	709	316	1676	515
09:00		222	39			155	66				
09:15		205	41			158	51				
09:30		168	26			162	46				
09:45		188	24	783	130	157	38	632	201	1415	331
10:00		180	19			129	41				
10:15		169	22			122	24				
10:30		200	13			147	22				
10:45		180	9	729	63	146	17	544	104	1273	167
11:00		173	7			152	11				
11:15		191	5			158	15				
11:30		234	3			162	2				
11:45		217	8	815	23	181	3	653	31	1468	54
Total		4637	6122			3190	7060			7827	13182
Percent		43.1%	56.9%			31.1%	68.9%			37.3%	62.7%
Grand Total		4637	6122			3190	7060			7827	13182
Percent		43.1%	56.9%			31.1%	68.9%			37.3%	62.7%

ADT ADT 21,009 AADT 21,009

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	132	124	68	0	324	2	13	47	0	62	3	128	1	0	132	78	56	5	0	139	657
07:15	170	181	81	0	432	4	19	64	0	87	4	128	1	0	133	51	78	4	0	133	785
07:30	146	167	68	0	381	5	45	102	0	152	5	175	4	0	184	94	83	13	0	190	907
07:45	170	216	94	0	480	13	39	102	0	154	8	226	5	0	239	91	67	6	0	164	1037
Total	618	688	311	0	1617	24	116	315	0	455	20	657	11	0	688	314	284	28	0	626	3386
08:00	178	166	97	0	441	3	54	164	0	221	8	202	9	0	219	127	64	16	0	207	1088
08:15	176	185	106	0	467	5	50	143	0	198	5	231	9	0	245	106	42	14	0	162	1072
08:30	189	179	128	0	496	6	50	100	0	156	7	202	6	0	215	89	60	12	0	161	1028
08:45	165	185	127	0	477	5	44	85	0	134	11	208	4	0	223	99	65	10	0	174	1008
Total	708	715	458	0	1881	19	198	492	0	709	31	843	28	0	902	421	231	52	0	704	4196
Grand Total	1326	1403	769	0	3498	43	314	807	0	1164	51	1500	39	0	1590	735	515	80	0	1330	7582
Apprch %	37.9	40.1	22	0		3.7	27	69.3	0		3.2	94.3	2.5	0		55.3	38.7	6	0		
Total %	17.5	18.5	10.1	0	46.1	0.6	4.1	10.6	0	15.4	0.7	19.8	0.5	0	21	9.7	6.8	1.1	0	17.5	
Vehicles	1310	1354	714	0	3378	43	310	787	0	1140	50	1450	38	0	1538	707	506	79	0	1292	7348
% Vehicles	98.8	96.5	92.8	0	96.6	100	98.7	97.5	0	97.9	98	96.7	97.4	0	96.7	96.2	98.3	98.8	0	97.1	96.9
Heavy Vehicles	16	49	55	0	120	0	4	20	0	24	1	50	1	0	52	28	9	1	0	38	234
% Heavy Vehicles	1.2	3.5	7.2	0	3.4	0	1.3	2.5	0	2.1	2	3.3	2.6	0	3.3	3.8	1.7	1.2	0	2.9	3.1

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	170	**216**	94	0	480	**13**	39	102	0	154	**8**	226	5	0	239	91	**67**	6	0	164	1037
08:00	178	166	97	0	441	3	**54**	**164**	0	**221**	8	202	**9**	0	219	**127**	64	**16**	0	**207**	**1088**
08:15	176	185	106	0	467	5	50	143	0	198	5	**231**	9	0	**245**	106	42	14	0	162	1072
08:30	**189**	179	**128**	0	**496**	6	50	100	0	156	7	202	6	0	215	89	60	12	0	161	1028
Total Volume	713	746	425	0	1884	27	193	509	0	729	28	861	29	0	918	413	233	48	0	694	4225
% App. Total	37.8	39.6	22.6	0		3.7	26.5	69.8	0		3.1	93.8	3.2	0		59.5	33.6	6.9	0		
PHF	.943	.863	.830	.000	.950	.519	.894	.776	.000	.825	.875	.932	.806	.000	.937	.813	.869	.750	.000	.838	.971
Vehicles	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	396	228	47	0	671	4085
% Vehicles	98.5	96.0	92.2	0	96.1	100	98.4	97.6	0	97.9	100	96.9	96.6	0	96.9	95.9	97.9	97.9	0	96.7	96.7
Heavy Vehicles	11	30	33	0	74	0	3	12	0	15	0	27	1	0	28	17	5	1	0	23	140
% Heavy Vehicles	1.5	4.0	7.8	0	3.9	0	1.6	2.4	0	2.1	0	3.1	3.4	0	3.1	4.1	2.1	2.1	0	3.3	3.3

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45					07:45					07:45					07:30					
+0 mins.	170	**216**	94	0	480	**13**	39	102	0	154	**8**	226	5	0	239	94	**83**	13	0	190	
+15 mins.	178	166	97	0	441	3	**54**	**164**	0	**221**	8	202	**9**	0	219	91	67	6	0	164	
+30 mins.	176	185	106	0	467	5	50	143	0	198	5	**231**	9	0	**245**	**127**	64	**16**	0	**207**	
+45 mins.	**189**	179	**128**	0	**496**	6	50	100	0	156	7	202	6	0	215	106	42	14	0	162	
Total Volume	713	746	425	0	1884	27	193	509	0	729	28	861	29	0	918	418	256	49	0	723	
% App. Total	37.8	39.6	22.6	0		3.7	26.5	69.8	0		3.1	93.8	3.2	0		57.8	35.4	6.8	0		
PHF	.943	.863	.830	.000	.950	.519	.894	.776	.000	.825	.875	.932	.806	.000	.937	.823	.771	.766	.000	.873	
Vehicles	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	401	252	48	0	701	
% Vehicles	98.5	96	92.2	0	96.1	100	98.4	97.6	0	97.9	100	96.9	96.6	0	96.9	95.9	98.4	98	0	97	
Heavy Vehicles	11	30	33	0	74	0	3	12	0	15	0	27	1	0	28	17	4	1	0	22	
% Heavy Vehicles	1.5	4	7.8	0	3.9	0	1.6	2.4	0	2.1	0	3.1	3.4	0	3.1	4.1	1.6	2	0	3	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	132	123	64	0	319	2	12	46	0	60	3	126	1	0	130	74	55	5	0	134	643
07:15	168	176	78	0	422	4	19	59	0	82	4	127	1	0	132	50	76	4	0	130	766
07:30	146	159	65	0	370	5	45	101	0	151	5	168	4	0	177	91	83	13	0	187	885
07:45	166	206	87	0	459	13	37	100	0	150	8	219	5	0	232	87	65	6	0	158	999
Total	612	664	294	0	1570	24	113	306	0	443	20	640	11	0	671	302	279	28	0	609	3293
08:00	173	158	95	0	426	3	53	161	0	217	8	199	9	0	216	124	63	15	0	202	1061
08:15	174	177	100	0	451	5	50	138	0	193	5	221	8	0	234	99	41	14	0	154	1032
08:30	189	175	110	0	474	6	50	98	0	154	7	195	6	0	208	86	59	12	0	157	993
08:45	162	180	115	0	457	5	44	84	0	133	10	195	4	0	209	96	64	10	0	170	969
Total	698	690	420	0	1808	19	197	481	0	697	30	810	27	0	867	405	227	51	0	683	4055
Grand Total	1310	1354	714	0	3378	43	310	787	0	1140	50	1450	38	0	1538	707	506	79	0	1292	7348
Apprch %	38.8	40.1	21.1	0		3.8	27.2	69	0		3.3	94.3	2.5	0		54.7	39.2	6.1	0		
Total %	17.8	18.4	9.7	0	46	0.6	4.2	10.7	0	15.5	0.7	19.7	0.5	0	20.9	9.6	6.9	1.1	0	17.6	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	166	**206**	87	0	459	**13**	37	100	0	150	**8**	219	5	0	232	87	**65**	6	0	158	999
08:00	173	158	95	0	426	3	**53**	**161**	0	**217**	8	199	**9**	0	216	**124**	63	**15**	0	**202**	**1061**
08:15	174	177	100	0	451	5	50	138	0	193	5	**221**	8	0	**234**	99	41	14	0	154	1032
08:30	**189**	175	**110**	0	**474**	6	50	98	0	154	7	195	6	0	208	86	59	12	0	157	993
Total Volume	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	396	228	47	0	671	4085
% App. Total	38.8	39.6	21.7	0		3.8	26.6	69.6	0		3.1	93.7	3.1	0		59	34	7	0		
PHF	.929	.869	.891	.000	.955	.519	.896	.772	.000	.823	.875	.943	.778	.000	.951	.798	.877	.783	.000	.830	.963

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:45					07:45					07:30				
+0 mins.	166	**206**	87	0	459	**13**	37	100	0	150	**8**	219	5	0	232	91	**83**	13	0	187
+15 mins.	173	158	95	0	426	3	**53**	**161**	0	**217**	8	199	**9**	0	216	87	65	6	0	158
+30 mins.	174	177	100	0	451	5	50	138	0	193	5	**221**	8	0	**234**	**124**	63	**15**	0	**202**
+45 mins.	**189**	175	**110**	0	**474**	6	50	98	0	154	7	195	6	0	208	99	41	14	0	154
Total Volume	702	716	392	0	1810	27	190	497	0	714	28	834	28	0	890	401	252	48	0	701
% App. Total	38.8	39.6	21.7	0		3.8	26.6	69.6	0		3.1	93.7	3.1	0		57.2	35.9	6.8	0	
PHF	.929	.869	.891	.000	.955	.519	.896	.772	.000	.823	.875	.943	.778	.000	.951	.808	.759	.800	.000	.868

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	1	4	0	5	0	1	1	0	2	0	2	0	0	2	4	1	0	0	5	14
07:15	2	5	3	0	10	0	0	5	0	5	0	1	0	0	1	1	2	0	0	3	19
07:30	0	8	3	0	11	0	0	1	0	1	0	7	0	0	7	3	0	0	0	3	22
07:45	4	10	7	0	21	0	2	2	0	4	0	7	0	0	7	4	2	0	0	6	38
Total	6	24	17	0	47	0	3	9	0	12	0	17	0	0	17	12	5	0	0	17	93
08:00	5	8	2	0	15	0	1	3	0	4	0	3	0	0	3	3	1	1	0	5	27
08:15	2	8	6	0	16	0	0	5	0	5	0	10	1	0	11	7	1	0	0	8	40
08:30	0	4	18	0	22	0	0	2	0	2	0	7	0	0	7	3	1	0	0	4	35
08:45	3	5	12	0	20	0	0	1	0	1	1	13	0	0	14	3	1	0	0	4	39
Total	10	25	38	0	73	0	1	11	0	12	1	33	1	0	35	16	4	1	0	21	141
Grand Total	16	49	55	0	120	0	4	20	0	24	1	50	1	0	52	28	9	1	0	38	234
Apprch %	13.3	40.8	45.8	0		0	16.7	83.3	0		1.9	96.2	1.9	0		73.7	23.7	2.6	0		
Total %	6.8	20.9	23.5	0	51.3	0	1.7	8.5	0	10.3	0.4	21.4	0.4	0	22.2	12	3.8	0.4	0	16.2	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	**5**	**8**	2	0	15	0	**1**	3	0	4	0	3	0	0	3	3	**1**	**1**	0	5	27
08:15	2	8	6	0	16	0	0	**5**	0	**5**	0	10	**1**	0	11	**7**	1	0	0	**8**	**40**
08:30	0	4	**18**	0	**22**	0	0	2	0	2	0	7	0	0	7	3	1	0	0	4	35
08:45	3	5	12	0	20	0	0	1	0	1	**1**	**13**	0	0	**14**	3	1	0	0	4	39
Total Volume	10	25	38	0	73	0	1	11	0	12	1	33	1	0	35	16	4	1	0	21	141
% App. Total	13.7	34.2	52.1	0		0	8.3	91.7	0		2.9	94.3	2.9	0		76.2	19	4.8	0		
PHF	.500	.781	.528	.000	.830	.000	.250	.550	.000	.600	.250	.635	.250	.000	.625	.571	1.000	.250	.000	.656	.881

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45					07:45					08:00					07:45					
+0 mins.	4	**10**	7	0	21	0	**2**	2	0	4	0	3	0	0	3	4	**2**	0	0	6	
+15 mins.	**5**	8	2	0	15	0	1	3	0	4	0	10	**1**	0	11	3	1	**1**	0	5	
+30 mins.	2	8	6	0	16	0	0	**5**	0	**5**	0	7	0	0	7	**7**	1	0	0	**8**	
+45 mins.	0	4	**18**	0	**22**	0	0	2	0	2	**1**	**13**	0	0	**14**	3	1	0	0	4	
Total Volume	11	30	33	0	74	0	3	12	0	15	1	33	1	0	35	17	5	1	0	23	
% App. Total	14.9	40.5	44.6	0		0	20	80	0		2.9	94.3	2.9	0		73.9	21.7	4.3	0		
PHF	.550	.750	.458	.000	.841	.000	.375	.600	.000	.750	.250	.635	.250	.000	.625	.607	.625	.250	.000	.719	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - AM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	114	196	121	0	431	5	75	158	0	238	12	237	14	0	263	100	37	8	0	145	1077
16:15	146	201	133	0	480	2	83	186	0	271	15	177	7	0	199	84	40	12	0	136	1086
16:30	141	281	127	0	549	3	67	111	0	181	20	87	13	0	120	54	62	11	1	128	978
16:45	135	253	127	0	515	2	96	181	0	279	29	125	6	0	160	81	65	23	0	169	1123
Total	536	931	508	0	1975	12	321	636	0	969	76	626	40	0	742	319	204	54	1	578	4264
17:00	113	274	121	0	508	4	83	155	0	242	28	203	6	0	237	69	52	21	0	142	1129
17:15	160	285	93	0	538	4	98	176	0	278	26	176	7	0	209	78	44	16	0	138	1163
17:30	134	272	121	0	527	4	73	154	0	231	26	83	8	0	117	82	67	19	1	169	1044
17:45	154	251	121	0	526	4	54	190	0	248	20	220	7	0	247	63	62	18	1	144	1165
Total	561	1082	456	0	2099	16	308	675	0	999	100	682	28	0	810	292	225	74	2	593	4501
Grand Total	1097	2013	964	0	4074	28	629	1311	0	1968	176	1308	68	0	1552	611	429	128	3	1171	8765
Apprch %	26.9	49.4	23.7	0		1.4	32	66.6	0		11.3	84.3	4.4	0		52.2	36.6	10.9	0.3		
Total %	12.5	23	11	0	46.5	0.3	7.2	15	0	22.5	2	14.9	0.8	0	17.7	7	4.9	1.5	0	13.4	
Vehicles	1087	1975	935	0	3997	28	619	1299	0	1946	174	1287	67	0	1528	590	422	127	3	1142	8613
% Vehicles	99.1	98.1	97	0	98.1	100	98.4	99.1	0	98.9	98.9	98.4	98.5	0	98.5	96.6	98.4	99.2	100	97.5	98.3
Heavy Vehicles	10	38	29	0	77	0	10	12	0	22	2	21	1	0	24	21	7	1	0	29	152
% Heavy Vehicles	0.9	1.9	3	0	1.9	0	1.6	0.9	0	1.1	1.1	1.6	1.5	0	1.5	3.4	1.6	0.8	0	2.5	1.7

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	113	274	**121**	0	508	**4**	83	155	0	242	**28**	203	6	0	237	69	52	**21**	0	142	1129
17:15	**160**	**285**	93	0	**538**	4	**98**	176	0	**278**	26	176	7	0	209	78	44	16	0	138	1163
17:30	134	272	121	0	527	4	73	154	0	231	26	83	**8**	0	117	**82**	**67**	19	**1**	**169**	1044
17:45	154	251	121	0	526	4	54	**190**	0	248	20	**220**	7	0	**247**	63	62	18	1	144	**1165**
Total Volume	561	1082	456	0	2099	16	308	675	0	999	100	682	28	0	810	292	225	74	2	593	4501
% App. Total	26.7	51.5	21.7	0		1.6	30.8	67.6	0		12.3	84.2	3.5	0		49.2	37.9	12.5	0.3		
PHF	.877	.949	.942	.000	.975	1.00	.786	.888	.000	.898	.893	.775	.875	.000	.820	.890	.840	.881	.500	.877	.966
Vehicles	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
% Vehicles	99.6	98.7	97.6	0	98.7	100	98.7	99.1	0	99.0	100	99.0	100	0	99.1	96.9	98.7	100	100	98.0	98.8
Heavy Vehicles	2	14	11	0	27	0	4	6	0	10	0	7	0	0	7	9	3	0	0	12	56
% Heavy Vehicles	0.4	1.3	2.4	0	1.3	0	1.3	0.9	0	1.0	0	1.0	0	0	0.9	3.1	1.3	0	0	2.0	1.2

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 2

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:30					16:45					17:00					16:45					
+0 mins.	141	281	**127**	0	**549**	2	96	**181**	0	**279**	**28**	203	6	0	237	81	65	**23**	0	**169**	
+15 mins.	135	253	127	0	515	**4**	83	155	0	242	26	176	7	0	209	69	52	21	0	142	
+30 mins.	113	274	121	0	508	4	**98**	176	0	278	26	83	**8**	0	117	78	44	16	0	138	
+45 mins.	**160**	**285**	93	0	538	4	73	154	0	231	20	**220**	7	0	**247**	**82**	**67**	19	**1**	169	
Total Volume	549	1093	468	0	2110	14	350	666	0	1030	100	682	28	0	810	310	228	79	1	618	
% App. Total	26	51.8	22.2	0		1.4	34	64.7	0		12.3	84.2	3.5	0		50.2	36.9	12.8	0.2		
PHF	.858	.959	.921	.000	.961	.875	.893	.920	.000	.923	.893	.775	.875	.000	.820	.945	.851	.859	.250	.914	
Vehicles	544	1073	457	0	2074	14	342	662	0	1018	100	675	28	0	803	300	223	79	1	603	
% Vehicles	99.1	98.2	97.6	0	98.3	100	97.7	99.4	0	98.8	100	99	100	0	99.1	96.8	97.8	100	100	97.6	
Heavy Vehicles	5	20	11	0	36	0	8	4	0	12	0	7	0	0	7	10	5	0	0	15	
% Heavy Vehicles	0.9	1.8	2.4	0	1.7	0	2.3	0.6	0	1.2	0	1	0	0	0.9	3.2	2.2	0	0	2.4	

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	111	188	119	0	418	5	74	157	0	236	11	232	13	0	256	96	37	7	0	140	1050
16:15	145	198	122	0	465	2	83	183	0	268	15	173	7	0	195	81	39	12	0	132	1060
16:30	140	275	123	0	538	3	66	110	0	179	20	85	13	0	118	53	61	11	1	126	961
16:45	132	246	126	0	504	2	92	180	0	274	28	122	6	0	156	77	63	23	0	163	1097
Total	528	907	490	0	1925	12	315	630	0	957	74	612	39	0	725	307	200	53	1	561	4168
17:00	112	269	119	0	500	4	82	155	0	241	28	199	6	0	233	67	50	21	0	138	1112
17:15	160	283	89	0	532	4	95	173	0	272	26	174	7	0	207	77	44	16	0	137	1148
17:30	134	268	120	0	522	4	73	154	0	231	26	83	8	0	117	79	66	19	1	165	1035
17:45	153	248	117	0	518	4	54	187	0	245	20	219	7	0	246	60	62	18	1	141	1150
Total	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
Grand Total	1087	1975	935	0	3997	28	619	1299	0	1946	174	1287	67	0	1528	590	422	127	3	1142	8613
Apprch %	27.2	49.4	23.4	0		1.4	31.8	66.8	0		11.4	84.2	4.4	0		51.7	37	11.1	0.3		
Total %	12.6	22.9	10.9	0	46.4	0.3	7.2	15.1	0	22.6	2	14.9	0.8	0	17.7	6.9	4.9	1.5	0	13.3	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	112	269	119	0	500	**4**	82	155	0	241	**28**	199	6	0	233	67	50	**21**	0	138	1112
17:15	**160**	**283**	89	0	**532**	4	**95**	173	0	**272**	26	174	7	0	207	77	44	16	0	137	1148
17:30	134	268	**120**	0	522	4	73	154	0	231	26	83	**8**	0	117	**79**	**66**	19	**1**	**165**	1035
17:45	153	248	117	0	518	4	54	**187**	0	245	20	**219**	7	0	**246**	60	62	18	1	141	**1150**
Total Volume	559	1068	445	0	2072	16	304	669	0	989	100	675	28	0	803	283	222	74	2	581	4445
% App. Total	27	51.5	21.5	0		1.6	30.7	67.6	0		12.5	84.1	3.5	0		48.7	38.2	12.7	0.3		
PHF	.873	.943	.927	.000	.974	1.00	.800	.894	.000	.909	.893	.771	.875	.000	.816	.896	.841	.881	.500	.880	.966

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:30					16:45					17:00					16:45				
+0 mins.	140	275	123	0	**538**	2	92	**180**	0	**274**	**28**	199	6	0	233	77	63	**23**	0	163
+15 mins.	132	246	**126**	0	504	**4**	82	155	0	241	26	174	7	0	207	67	50	21	0	138
+30 mins.	112	269	119	0	500	4	**95**	173	0	272	26	83	**8**	0	117	77	44	16	0	137
+45 mins.	**160**	**283**	89	0	532	4	73	154	0	231	20	**219**	7	0	**246**	**79**	**66**	19	**1**	**165**
Total Volume	544	1073	457	0	2074	14	342	662	0	1018	100	675	28	0	803	300	223	79	1	603
% App. Total	26.2	51.7	22	0		1.4	33.6	65	0		12.5	84.1	3.5	0		49.8	37	13.1	0.2	
PHF	.850	.948	.907	.000	.964	.875	.900	.919	.000	.929	.893	.771	.875	.000	.816	.949	.845	.859	.250	.914

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	3	8	2	0	13	0	1	1	0	2	1	5	1	0	7	4	0	1	0	5	27
16:15	1	3	11	0	15	0	0	3	0	3	0	4	0	0	4	3	1	0	0	4	26
16:30	1	6	4	0	11	0	1	1	0	2	0	2	0	0	2	1	1	0	0	2	17
16:45	3	7	1	0	11	0	4	1	0	5	1	3	0	0	4	4	2	0	0	6	26
Total	8	24	18	0	50	0	6	6	0	12	2	14	1	0	17	12	4	1	0	17	96
17:00	1	5	2	0	8	0	1	0	0	1	0	4	0	0	4	2	2	0	0	4	17
17:15	0	2	4	0	6	0	3	3	0	6	0	2	0	0	2	1	0	0	0	1	15
17:30	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	9
17:45	1	3	4	0	8	0	0	3	0	3	0	1	0	0	1	3	0	0	0	3	15
Total	2	14	11	0	27	0	4	6	0	10	0	7	0	0	7	9	3	0	0	12	56
Grand Total	10	38	29	0	77	0	10	12	0	22	2	21	1	0	24	21	7	1	0	29	152
Apprch %	13	49.4	37.7	0		0	45.5	54.5	0		8.3	87.5	4.2	0		72.4	24.1	3.4	0		
Total %	6.6	25	19.1	0	50.7	0	6.6	7.9	0	14.5	1.3	13.8	0.7	0	15.8	13.8	4.6	0.7	0	19.1	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	**3**	**8**	2	0	13	0	1	1	0	2	**1**	**5**	**1**	0	**7**	**4**	0	**1**	0	5	**27**
16:15	1	3	**11**	0	**15**	0	0	**3**	0	3	0	4	0	0	4	3	1	0	0	4	26
16:30	1	6	4	0	11	0	1	1	0	2	0	2	0	0	2	1	1	0	0	2	17
16:45	3	7	1	0	11	0	**4**	1	0	**5**	1	3	0	0	4	4	**2**	0	0	**6**	26
Total Volume	8	24	18	0	50	0	6	6	0	12	2	14	1	0	17	12	4	1	0	17	96
% App. Total	16	48	36	0		0	50	50	0		11.8	82.4	5.9	0		70.6	23.5	5.9	0		
PHF	.667	.750	.409	.000	.833	.000	.375	.500	.000	.600	.500	.700	.250	.000	.607	.750	.500	.250	.000	.708	.889

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					16:00				
+0 mins.	**3**	**8**	2	0	13	0	1	1	0	2	**1**	**5**	**1**	0	**7**	**4**	0	**1**	0	5
+15 mins.	1	3	**11**	0	**15**	0	**4**	1	0	5	0	4	0	0	4	3	1	0	0	4
+30 mins.	1	6	4	0	11	0	1	0	0	1	0	2	0	0	2	1	1	0	0	2
+45 mins.	3	7	1	0	11	0	3	**3**	0	**6**	1	3	0	0	4	4	**2**	0	0	**6**
Total Volume	8	24	18	0	50	0	9	5	0	14	2	14	1	0	17	12	4	1	0	17
% App. Total	16	48	36	0		0	64.3	35.7	0		11.8	82.4	5.9	0		70.6	23.5	5.9	0	
PHF	.667	.750	.409	.000	.833	.000	.563	.417	.000	.583	.500	.700	.250	.000	.607	.750	.500	.250	.000	.708

GRAM Traffic Counting, inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 7 - RM 620 & Bee Cave Pkwy - PM
Site Code : 7_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
16:15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	50	0	0	50	

	RM 620 Southbound					Bee Cave Pkwy Westbound					RM 620 Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
16:15	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	**3**	0	0	**3**	**6**
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	10
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.417	.000	.000	.417	.000	.417	.000	.000	.417	.417

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	**3**	0	**3**	0	0	**3**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		0	100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.417	.000	.000	.417	.000	.417	.000	.000	.417

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	4	70	0	0	74	1	0	4	0	5	0	177	5	0	182	261
07:15	0	0	0	0	0	4	101	0	0	105	5	0	2	0	7	0	217	4	0	221	333
07:30	0	0	0	0	0	8	143	0	0	151	5	0	4	0	9	0	219	13	0	232	392
07:45	0	0	0	0	0	8	159	0	0	167	8	0	6	0	14	0	204	11	0	215	396
Total	0	0	0	0	0	24	473	0	0	497	19	0	16	0	35	0	817	33	0	850	1382
08:00	0	0	0	0	0	11	231	0	0	242	13	0	8	0	21	0	220	18	0	238	501
08:15	0	0	0	0	0	12	169	0	0	181	8	0	2	0	10	0	198	25	0	223	414
08:30	0	0	0	0	0	5	139	0	0	144	8	0	4	0	12	0	184	13	0	197	353
08:45	0	0	0	0	0	11	146	0	0	157	4	0	2	0	6	0	229	12	0	241	404
Total	0	0	0	0	0	39	685	0	0	724	33	0	16	0	49	0	831	68	0	899	1672
Grand Total	0	0	0	0	0	63	1158	0	0	1221	52	0	32	0	84	0	1648	101	0	1749	3054
Apprch %	0	0	0	0		5.2	94.8	0	0		61.9	0	38.1	0		0	94.2	5.8	0		
Total %	0	0	0	0	0	2.1	37.9	0	0	40	1.7	0	1	0	2.8	0	54	3.3	0	57.3	
Vehicles	0	0	0	0	0	62	1135										1622				
% Vehicles	0	0	0	0	0	98.4	98	0	0	98	98.1	0	100	0	98.8	0	98.4	99	0	98.5	98.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	1.6	2	0	0	2	1.9	0	0	0	1.2	0	1.6	1	0	1.5	1.7

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	8	143	0	0	151	5	0	4	0	9	0	219	13	0	232	392
07:45	0	0	0	0	0	8	159	0	0	167	8	0	6	0	14	0	204	11	0	215	396
08:00	0	0	0	0	0	11	**231**	0	0	**242**	**13**	0	**8**	0	**21**	0	**220**	18	0	**238**	**501**
08:15	0	0	0	0	0	**12**	169	0	0	181	8	0	2	0	10	0	198	**25**	0	223	414
Total Volume	0	0	0	0	0	39	702	0	0	741	34	0	20	0	54	0	841	67	0	908	1703
% App. Total	0	0	0	0		5.3	94.7	0	0		63	0	37	0		0	92.6	7.4	0		
PHF	.000	.000	.000	.000	.000	.813	.760	.000	.000	.765	.654	.000	.625	.000	.643	.000	.956	.670	.000	.954	.850
Vehicles	0	0	0	0	0	39	690	0	0	729	33	0	20	0	53	0	825	67	0	892	1674
% Vehicles							98.3	0	0	98.4	97.1	0	100	0	98.1	0	98.1	100	0	98.2	98.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	2.9	0	0	0	1.9	0	1.9	0	0	1.8	1.7

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00					07:30					07:45					07:30					
+0 mins.	0	0	0	0	0	8	143	0	0	151	8	0	6	0	14	0	219	13	0	232	
+15 mins.	0	0	0	0	0	8	159	0	0	167	**13**	0	**8**	0	**21**	0	204	11	0	215	
+30 mins.	0	0	0	0	0	11	**231**	0	0	**242**	8	0	2	0	10	0	**220**	18	0	**238**	
+45 mins.	0	0	0	0	0	**12**	169	0	0	181	8	0	4	0	12	0	198	**25**	0	223	
Total Volume	0	0	0	0	0	39	702	0	0	741	37	0	20	0	57	0	841	67	0	908	
% App. Total	0	0	0	0		5.3	94.7	0	0		64.9	0	35.1	0		0	92.6	7.4	0		
PHF	.000	.000	.000	.000	.000	.813	.760	.000	.000	.765	.712	.000	.625	.000	.679	.000	.956	.670	.000	.954	
Vehicles	0	0	0	0	0	39	690	0	0	729	36	0	20	0	56	0	825	67	0	892	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	16	0	0	16	
% Heavy Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	2.7	0	0	0	1.8	0	1.9	0	0	1.8	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	3	70	0	0	73	1	0	4	0	5	0	175	5	0	180	258
07:15	0	0	0	0	0	4	95	0	0	99	5	0	2	0	7	0	214	4	0	218	324
07:30	0	0	0	0	0	8	141	0	0	149	5	0	4	0	9	0	219	13	0	232	390
07:45	0	0	0	0	0	8	157	0	0	165	8	0	6	0	14	0	198	11	0	209	388
Total	0	0	0	0	0	23	463	0	0	486	19	0	16	0	35	0	806	33	0	839	1360
08:00	0	0	0	0	0	11	225	0	0	236	12	0	8	0	20	0	213	18	0	231	487
08:15	0	0	0	0	0	12	167	0	0	179	8	0	2	0	10	0	195	25	0	220	409
08:30	0	0	0	0	0	5	137	0	0	142	8	0	4	0	12	0	184	13	0	197	351
08:45	0	0	0	0	0	11	143	0	0	154	4	0	2	0	6	0	224	11	0	235	395
Total	0	0	0	0	0	39	672	0	0	711	32	0	16	0	48	0	816	67	0	883	1642
Grand Total	0	0	0	0	0	62	1135	0	0	1197	51	0	32	0	83	0	1622	100	0	1722	3002
Apprch %	0	0	0	0		5.2	94.8	0	0		61.4	0	38.6	0		0	94.2	5.8	0		
Total %	0	0	0	0	0	2.1	37.8	0	0	39.9	1.7	0	1.1	0	2.8	0	54	3.3	0	57.4	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	8	141	0	0	149	5	0	4	0	9	0	**219**	13	0	**232**	390
07:45	0	0	0	0	0	8	157	0	0	165	8	0	6	0	14	0	198	11	0	209	388
08:00	0	0	0	0	0	11	**225**	0	0	**236**	**12**	0	**8**	0	**20**	0	213	18	0	231	**487**
08:15	0	0	0	0	0	**12**	167	0	0	179	8	0	2	0	10	0	195	**25**	0	220	409
Total Volume	0	0	0	0	0	39	690	0	0	729	33	0	20	0	53	0	825	67	0	892	1674
% App. Total	0	0	0	0		5.3	94.7	0	0		62.3	0	37.7	0		0	92.5	7.5	0		
PHF	.000	.000	.000	.000	.000	.813	.767	.000	.000	.772	.688	.000	.625	.000	.663	.000	.942	.670	.000	.961	.859

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:30					07:45					07:30				
+0 mins.	0	0	0	0	0	8	141	0	0	149	8	0	6	0	14	0	**219**			**232**
+15 mins.	0	0	0	0	0	8	157	0	0	165	**12**	0	**8**	0	**20**	0	198	11	0	209
+30 mins.	0	0	0	0	0	11	**225**	0	0	**236**	8	0	2	0	10	0	213	18	0	231
+45 mins.	0	0	0	0	0	**12**	167	0	0	179	8	0	4	0	12	0	195	**25**	0	220
Total Volume	0	0	0	0	0	39	690	0	0	729	36	0	20	0	56	0	825	67	0	892
% App. Total	0	0	0	0		5.3	94.7	0	0		64.3	0	35.7	0		0	92.5	7.5	0	
PHF	.000	.000	.000	.000	.000	.813	.767	.000	.000	.772	.750	.000	.625	.000	.700	.000	.942	.670	.000	.961

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
07:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
Total	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	0	11	0	0	11	22
08:00	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	0	7	0	0	7	14
08:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	1	0	6	9
Total	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	15	1	0	16	30
Grand Total	0	0	0	0	0	1	23	0	0	24	1	0	0	0	1	0	26	1	0	27	52
Apprch %	0	0	0	0		4.2	95.8	0	0		100	0	0	0		0	96.3	3.7	0		
Total %	0	0	0	0	0	1.9	44.2	0	0	46.2	1.9	0	0	0	1.9	0	50	1.9	0	51.9	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	0	3	0	0	3	9
07:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
08:00	0	0	0	0	0	0	6	0	0	6	**1**	0	0	0	**1**	0	**7**	0	0	**7**	**14**
Total Volume	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	16	0	0	16	33
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.250	.000	.000	.000	.250	.000	.571	.000	.000	.571	.589

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					**07:15**					**07:15**					**07:15**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**6**			**6**										
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6
+45 mins.	0	0	0	0	0	0	6	0	0	6	**1**	0	0	0	**1**	0	**7**	0	0	**7**
Total Volume	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	16	0	0	16
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.00	.66	.00	.00	.667	.25	.00	.00	.00	.250	.00	.57	.00	.00	.571
	0	0	0	0		0	7	0	0		0	0	0	0		0	1	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - AM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 5

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	4
08:00	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	3
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	10
Apprch %	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	50	0	0	50	0	50	0	0	50	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:00	0	0	0	0	0	0	1	0	0	1	0	**2**	0	0	**2**	0	0	0	0	0	**3**
Total Volume	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	6
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00					07:45					07:15					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**2**			**2**		**2**			**2**					
Total Volume	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0	
PHF	.00 0	.00 0	.00 0	.00 0	.000	.00 0	.37 5	.00 0	.00 0	.375	.00 0	.50 0	.00 0	.00 0	.500	.00 0	.00 0	.00 0	.00 0	.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	18	214	0	0	232	22	0	9	0	31	0	148	8	0	156	419
16:15	0	0	0	0	0	3	235	0	1	239	22	0	11	0	33	0	157	11	0	168	440
16:30	0	0	0	0	0	7	215	0	0	222	18	0	8	0	26	0	185	19	0	204	452
16:45	0	0	0	0	0	16	247	0	0	263	33	0	8	0	41	0	189	19	0	208	512
Total	0	0	0	0	0	44	911	0	1	956	95	0	36	0	131	0	679	57	0	736	1823
17:00	0	0	0	0	0	10	241	0	0	251	29	0	17	0	46	0	182	15	0	197	494
17:15	0	0	0	0	0	11	209	0	0	220	27	0	7	0	34	0	179	19	0	198	452
17:30	0	0	0	0	0	6	150	0	0	156	22	0	11	0	33	0	155	22	0	177	366
17:45	0	0	0	0	0	6	152	0	0	158	34	0	15	0	49	0	177	25	0	202	409
Total	0	0	0	0	0	33	752	0	0	785	112	0	50	0	162	0	693	81	0	774	1721
Grand Total	0	0	0	0	0	77	1663	0	1	1741	207	0	86	0	293	0	1372	138	0	1510	3544
Apprch %	0	0	0	0		4.4	95.5	0	0.1		70.6	0	29.4	0		0	90.9	9.1	0		
Total %	0	0	0	0	0	2.2	46.9	0	0	49.1	5.8	0	2.4	0	8.3	0	38.7	3.9	0	42.6	
Vehicles	0	0	0	0	0	77	1642										1352				
% Vehicles	0	0	0	0	0	100	98.7	0	100	98.8	99.5	0	100	0	99.7	0	98.5	100	0	98.7	98.8
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.2	0.5	0	0	0	0.3	0	1.5	0	0	1.3	1.2

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	7	215	0	0	222	18	0	8	0	26	0	185	**19**	0	204	452
16:45	0	0	0	0	0	**16**	**247**	0	0	**263**	**33**	0	8	0	41	0	**189**	19	0	**208**	**512**
17:00	0	0	0	0	0	10	241	0	0	251	29	0	**17**	0	**46**	0	182	15	0	197	494
17:15	0	0	0	0	0	11	209	0	0	220	27	0	7	0	34	0	179	19	0	198	452
Total Volume	0	0	0	0	0	44	912	0	0	956	107	0	40	0	147	0	735	72	0	807	1910
% App. Total	0	0	0	0		4.6	95.4	0	0		72.8	0	27.2	0		0	91.1	8.9	0		
PHF	.000	.000	.000	.000	.000	.688	.923	.000	.000	.909	.811	.000	.588	.000	.799	.000	.972	.947	.000	.970	.933
Vehicles	0	0	0	0	0	44	898	0	0	942	107	0	40	0	147	0	725	72	0	797	1886
% Vehicles							98.5	0	0	98.5	100	0	100	0	100	0	98.6	100	0	98.8	98.7
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.5	0	0	0	0	0	0	1.4	0	0	1.2	1.3

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:00					16:15					17:00					16:30					
+0 mins.	0	0	0	0	0	3	235	0	**1**	239	29	0	**17**	0	46	0	185	**19**	0	204	
+15 mins.	0	0	0	0	0	7	215	0	0	222	27	0	7	0	34	0	**189**	19	0	**208**	
+30 mins.	0	0	0	0	0	**16**	**247**	0	0	**263**	22	0	11	0	33	0	182	15	0	197	
+45 mins.	0	0	0	0	0	10	241	0	0	251	**34**	0	15	0	**49**	0	179	19	0	198	
Total Volume	0	0	0	0	0	36	938	0	1	975	112	0	50	0	162	0	735	72	0	807	
% App. Total	0	0	0	0		3.7	96.2	0	0.1		69.1	0	30.9	0		0	91.1	8.9	0		
PHF	.000	.000	.000	.000	.000	.563	.949	.000	.250	.927	.824	.000	.735	.000	.827	.000	.972	.947	.000	.970	
Vehicles	0	0	0	0	0	36	924	0	1	961	111	0	50	0	161	0	725	72	0	797	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	10	0	0	10	
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.4	0.9	0	0	0	0.6	0	1.4	0	0	1.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021
Page No : 3

Groups Printed- Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	18	212	0	0	230	22	0	9	0	31	0	142	8	0	150	411
16:15	0	0	0	0	0	3	233	0	1	237	22	0	11	0	33	0	155	11	0	166	436
16:30	0	0	0	0	0	7	213	0	0	220	18	0	8	0	26	0	184	19	0	203	449
16:45	0	0	0	0	0	16	243	0	0	259	33	0	8	0	41	0	185	19	0	204	504
Total	0	0	0	0	0	44	901	0	1	946	95	0	36	0	131	0	666	57	0	723	1800
17:00	0	0	0	0	0	10	235	0	0	245	29	0	17	0	46	0	177	15	0	192	483
17:15	0	0	0	0	0	11	207	0	0	218	27	0	7	0	34	0	179	19	0	198	450
17:30	0	0	0	0	0	6	149	0	0	155	22	0	11	0	33	0	154	22	0	176	364
17:45	0	0	0	0	0	6	150	0	0	156	33	0	15	0	48	0	176	25	0	201	405
Total	0	0	0	0	0	33	741	0	0	774	111	0	50	0	161	0	686	81	0	767	1702
Grand Total	0	0	0	0	0	77	1642	0	1	1720	206	0	86	0	292	0	1352	138	0	1490	3502
Apprch %	0	0	0	0		4.5	95.5	0	0.1		70.5	0	29.5	0		0	90.7	9.3	0		
Total %	0	0	0	0	0	2.2	46.9	0	0	49.1	5.9	0	2.5	0	8.3	0	38.6	3.9	0	42.5	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	7	213	0	0	220	18	0	8	0	26	0	184	**19**	0	203	449
16:45	0	0	0	0	0	**16**	**243**	0	0	**259**	**33**	0	8	0	41	0	**185**	19	0	**204**	**504**
17:00	0	0	0	0	0	10	235	0	0	245	29	0	**17**	0	**46**	0	177	15	0	192	483
17:15	0	0	0	0	0	11	207	0	0	218	27	0	7	0	34	0	179	19	0	198	450
Total Volume	0	0	0	0	0	44	898	0	0	942	107	0	40	0	147	0	725	72	0	797	1886
% App. Total	0	0	0	0		4.7	95.3	0	0		72.8	0	27.2	0		0	91	9	0		
PHF	.000	.000	.000	.000	.000	.688	.924	.000	.000	.909	.811	.000	.588	.000	.799	.000	.980	.947	.000	.977	.936

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:15					17:00					16:30				
+0 mins.	0	0	0	0	0	3	233	0	**1**				**17**					**19**		
+15 mins.	0	0	0	0	0	7	213	0	0	220	27	0	7	0	34	0	**185**	19	0	**204**
+30 mins.	0	0	0	0	0	**16**	**243**	0	0	**259**	22	0	11	0	33	0	177	15	0	192
+45 mins.	0	0	0	0	0	10	235	0	0	245	**33**	0	15	0	**48**	0	179	19	0	198
Total Volume	0	0	0	0	0	36	924	0	1	961	111	0	50	0	161	0	725	72	0	797
% App. Total	0	0	0	0		3.7	96.1	0	0.1		68.9	0	31.1	0		0	91	9	0	
PHF	.000	.000	.000	.000	.000	.563	.951	.000	.250	.928	.841	.000	.735	.000	.839	.000	.980	.947	.000	.977

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

Groups Printed- Heavy Vehicles

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	8
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	13	0	0	13	23
17:00	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
17:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
17:45	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	4
Total	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	0	7	0	0	7	19
Grand Total	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	0	20	0	0	20	42
Apprch %	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	50	0	0	50	2.4	0	0	0	2.4	0	47.6	0	0	47.6	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
16:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
16:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
17:00	0	0	0	0	0	0	**6**	0	0	**6**	0	0	0	0	0	0	**5**	0	0	**5**	**11**
Total Volume	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	12	0	0	12	26
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.583	.000	.000	.583	.000	.000	.000	.000	.000	.000	.600	.000	.000	.600	.591

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					**16:15**					**17:00**					**16:00**				
+0 mins.	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**			**6**
+15 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2
+30 mins.	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	**6**	0	0	**6**	**1**	0	0	0	**1**	0	4	0	0	4
Total Volume	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	13	0	0	13
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.00	.58	.00	.00	.583	.25	.00	.00	.00	.250	.00	.54	.00	.00	.542
	0	0	0	0		0	3	0	0		0	0	0	0		0	2	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, TX 78626
512-832-8650

File Name : Site 6 - Bee Cave Pkwy & Hill Country Galleria Driveway - PM
Site Code : 6_____
Start Date : 11/16/2021

Groups Printed- Pedestrians

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	5
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0	10
17:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	9	0	0	9	0	5	0	0	5	0	0	0	0	0	14
Apprch %	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	64.3	0	0	64.3	0	35.7	0	0	35.7	0	0	0	0	0	

	Southbound					Bee Cave Pkwy Westbound					Hill Country Galleria Driveway Northbound					Bee Cave Pkwy Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	**4**	0	0	**4**	0	**1**	0	0	**1**	0	0	0	0	0	**5**
16:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0	10
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.438	.000	.000	.438	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	**4**			**4**		**1**			**1**					
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	7	0	0	7	0	3	0	0	3	0	0	0	0	0
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.43	.00	.00	.438	.00	.75	.00	.00	.750	.00	.00	.00	.00	.000
	0	0	0	0		0	8	0	0		0	0	0	0		0	0	0	0	

Intersection-Related Crashes
Bee Cave Parkway, between RM 620 and Galleria Oaks Driveway
January 2021-July 2023

Crash ID	At Intersection Flag	Crash Date	Crash Severity	Crash Time	Intersection Related	Light Condition	Manner of Collision	Road Base Type	Surface Condition	Weather Condition
18070814	FALSE	1/15/2021	N - NOT INJURED	1628	INTERSECTION	1 - DAYLIGHT	ANGLE - ONE STRAIGHT-ONE LEFT TURN	No Data	1 - DRY	1 - CLEAR
18663436	FALSE	12/19/2021	N - NOT INJURED	1521	NON INTERSECTION	1 - DAYLIGHT	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	No Data	1 - DRY	1 - CLEAR
18698892	FALSE	1/12/2022	N - NOT INJURED	1719	INTERSECTION	1 - DAYLIGHT	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	No Data	1 - DRY	1 - CLEAR
18836175	TRUE	4/4/2022	N - NOT INJURED	837	INTERSECTION	1 - DAYLIGHT	ANGLE - ONE STRAIGHT-ONE LEFT TURN	No Data	1 - DRY	1 - CLEAR
18917949	TRUE	5/18/2022	N - NOT INJURED	1738	INTERSECTION	1 - DAYLIGHT	ANGLE - ONE STRAIGHT-ONE LEFT TURN	No Data	1 - DRY	1 - CLEAR
18961233	TRUE	6/13/2022	N - NOT INJURED	1732	INTERSECTION	1 - DAYLIGHT	ANGLE - ONE STRAIGHT-ONE LEFT TURN	No Data	1 - DRY	1 - CLEAR
19209429	FALSE	10/31/2022	N - NOT INJURED	1330	NON INTERSECTION	1 - DAYLIGHT	SAME DIRECTION - BOTH GOING STRAIGHT-REAR END	No Data	1 - DRY	1 - CLEAR
19360309	FALSE	1/27/2023	N - NOT INJURED	1217	NON INTERSECTION	1 - DAYLIGHT	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	No Data	1 - DRY	2 - CLOUDY
19489172	TRUE	4/7/2023	N - NOT INJURED	1226	INTERSECTION	1 - DAYLIGHT	ANGLE - ONE STRAIGHT-ONE LEFT TURN	No Data	2 - WET	3 - RAIN

FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations (July 2018)

Pedestrian Crash Countermeasure Analysis for Bee Cave Parkway and Driveway C crossing:

Table 1. Application of pedestrian crash countermeasures by roadway feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 2 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ● 9
3 lanes with raised median (1 lane in each direction)	● 2 3 4 5	● ● 5 7 9	○ ● 5 ● 9	○ 3 4 5 7 9	○ ● 5 ● 9	○ ● 5 ● 9	○ ● 4 5 7 9	○ ● 5 ● 9	○ ● 5 ● 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 2 3 4 5 6 7 9	● ● 5 6 7 9	○ ● 5 6 ● 9	○ 3 4 5 6 7 9	○ ● 5 6 ● 9	○ ● 5 6 ● 9	○ ● 4 5 6 7 9	○ ● 5 6 ● 9	○ ● 5 6 ● 9
4+ lanes with raised median (2 or more lanes in each direction)	● ● 5 7 8 9	● ● 5 7 8 9	○ ● 5 8 ●	○ ● 5 7 8 9	○ ● 5 ● 8 ●	○ ● 5 8 ●	○ ● 5 ● 7 8 9	○ ● 5 8 ●	○ ● 5 8 ●
4+ lanes w/o raised median (2 or more lanes in each direction)	● ● 5 6 7 8 9	○ ● 5 ◐ 7 8 9	○ ● 5 ◐ 8 ●	○ ● 5 ◐ 7 8 9	○ ● 5 ◐ ● 8 ●	○ ● 5 ◐ 8 ●	○ ● 5 ◐ ● 7 8 9	○ ● 5 ◐ 8 ●	○ ● 5 ◐ 8 ●

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100. Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition (revised 2012). Chapter 4F. Pedestrian Hybrid Beacons. FHWA, Washington, D.C., FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/. Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C. Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C., and personal interviews with selected pedestrian safety practitioners.

Bee Cave Parkway Roadway Features:

- AADT: >21,000 vehicles per day (HDR Counts taken in 2021)
- Posted Speed Limit: 45 mph
- Roadway Configuration: 2 lanes in each direction

FHWA Recommended Pedestrian Countermeasures

Countermeasures to consider:

- Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- Pedestrian Hybrid Beacon (PHB)

Crosswalk visibility enhancements such as high-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crosswalk warning signs should always occur in conjunction with other identified countermeasures.

Crossing Treatment Tool

Instructions:
Fill in information in green boxes below to determine what treatment type is most appropriate for the crossing location in question

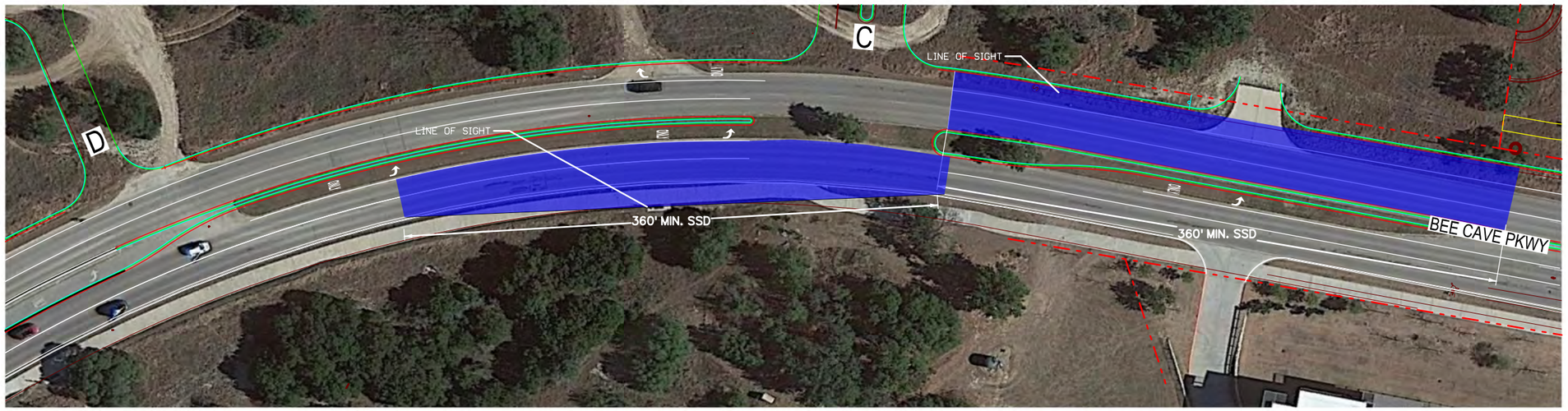
Analyst and Site Information			
Analyst Name	HDR	Major Street	Bee Cave Parkway
Analysis Date	July 7, 2023	Minor Street or Location	Pearl Driveway C

Speed: 85th percentile speed if known, or posted or statutory speed limit on the major street (mph)	45
Pedestrian Volume: pedestrian crossings per hour in peak hour	15
Crossing Distance: curb to curb pedestrian crossing distance (feet)	36
Vehicle Volume: total peak hour volume of both approaches OR approach being crossed if refuge island is present	2,496
Maximum Number of Lanes to cross in one direction of traffic	3
Treatment Recommendation	**RED**

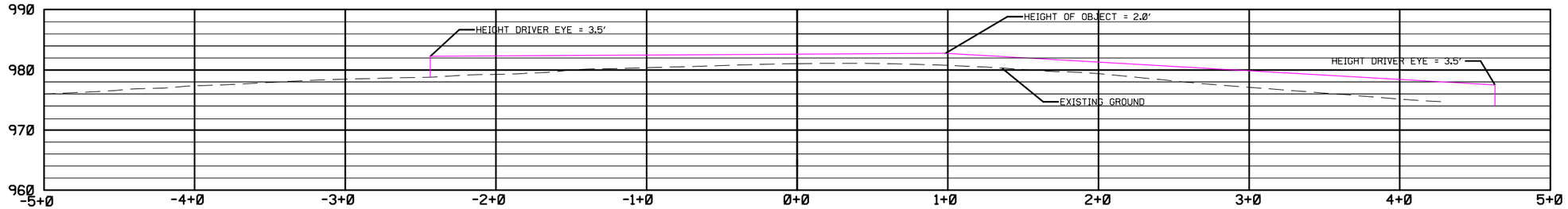


NO TREATMENT	Treatment typically not recommended -- use engineering judgement
CROSSWALK	Marked crosswalk + curb ramps
ACTIVE OR ENHANCED	Devices that increase visibility of the crossing and/or warn motorists of pedestrian presence + curb ramps - RRFB - In-street signage/Gateway treatment - Advance yield bars - In-roadway warning lights - Overhead flashing beacons
RED	Pedestrian Hybrid Beacon + curb ramps
SIGNAL	Traffic signal, if warrants are met + curb ramps

Note: This worksheet provides general recommendations on pedestrian crossing treatments to consider at unsignalized intersections; in all cases, engineering judgment should be used in selecting a specific treatment for installation. In addition to the results provided by this worksheet, users should consider whether a pedestrian treatment could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex geometrics, or nearby traffic signals.



SCALE IN FEET
0 40 80



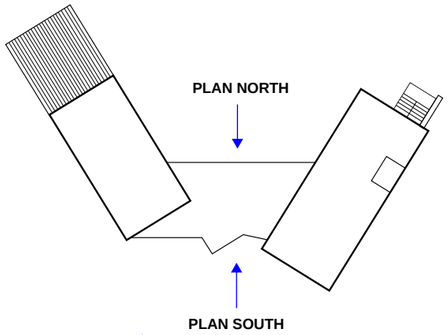
Notes:
1. Posted speed on Bee Cave Parkway is 45 mph.

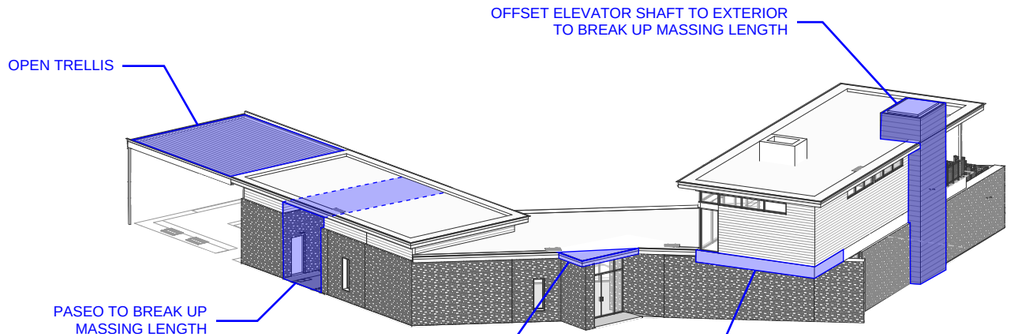
U.S. Customary			
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance for Passenger Cars	
		Calculated (ft)	Design (ft)
15	80	165.4	170
20	115	220.5	225
25	155	275.6	280
30	200	330.8	335
35	250	385.9	390
40	305	441.0	445
45	360	496.1	500
50	425	551.3	555
55	495	606.4	610
60	570	661.5	665
65	645	716.6	720
70	730	771.8	775
75	820	826.9	830
80	910	882.0	885

TERRACE TIA

PEDESTRIAN HYBRID BEACON

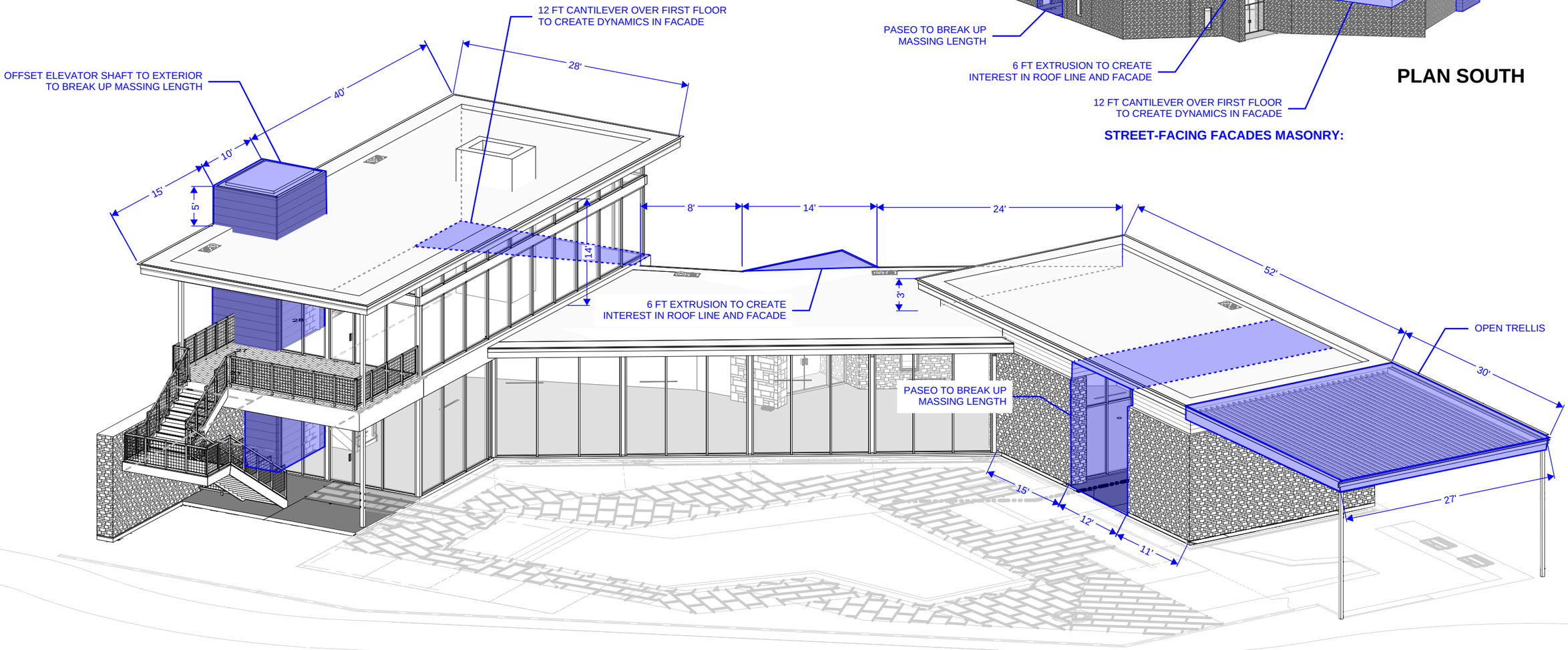
STOPPING SIGHT DISTANCE





PLAN SOUTH

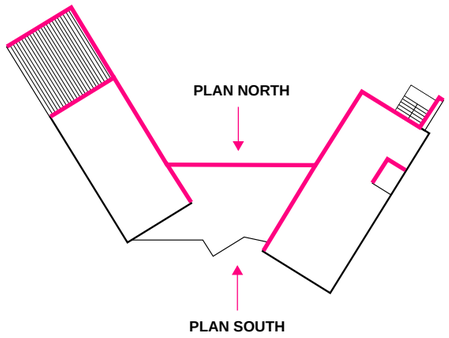
STREET-FACING FACADES MASONRY:

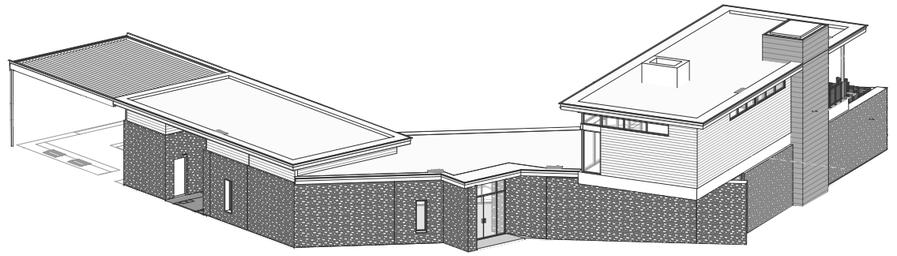


UNOCCUPIED HILLSIDE-FACING FACADES:

PLAN NORTH

AMENITY BUILDING - MASSING

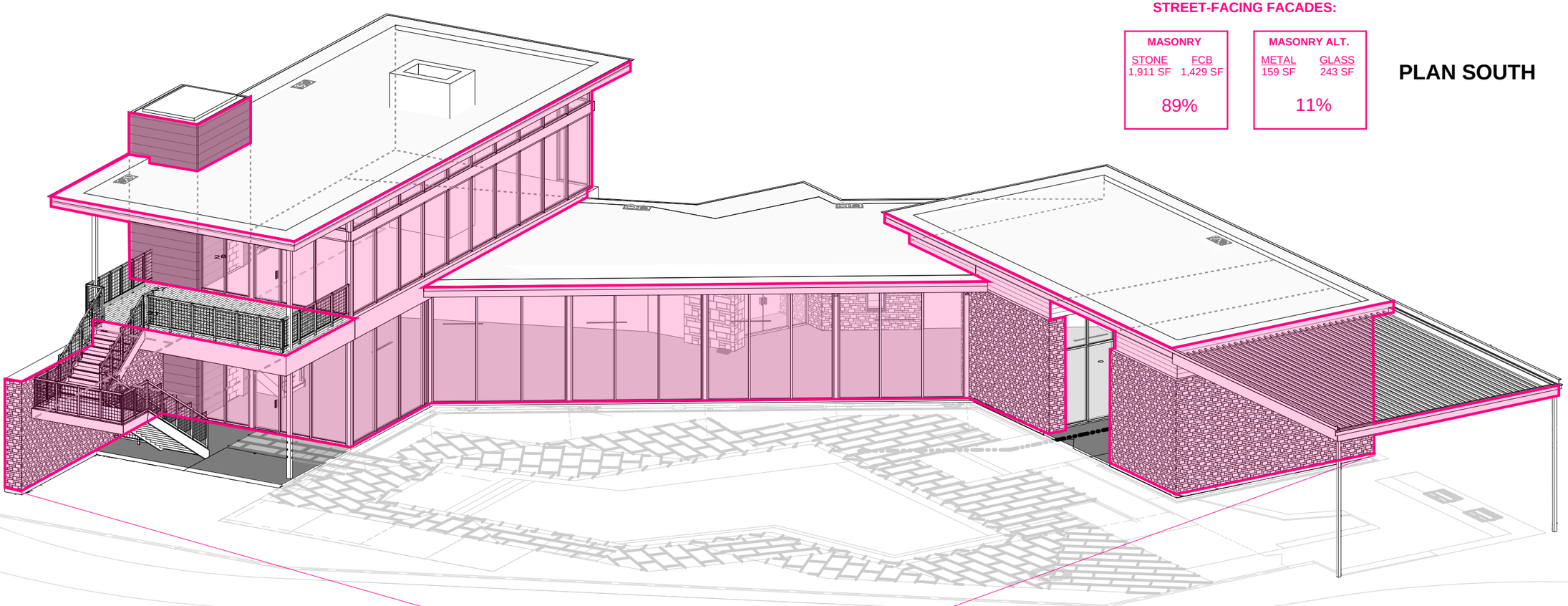




STREET-FACING FACADES:

MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
1,911 SF	1,429 SF	159 SF	243 SF
89%		11%	

PLAN SOUTH



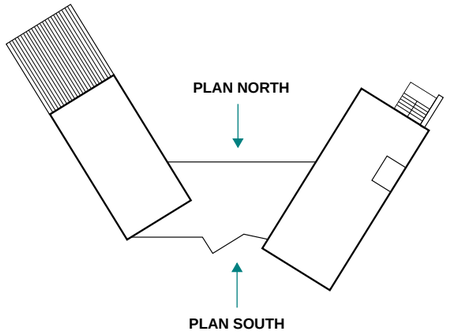
PLAN NORTH

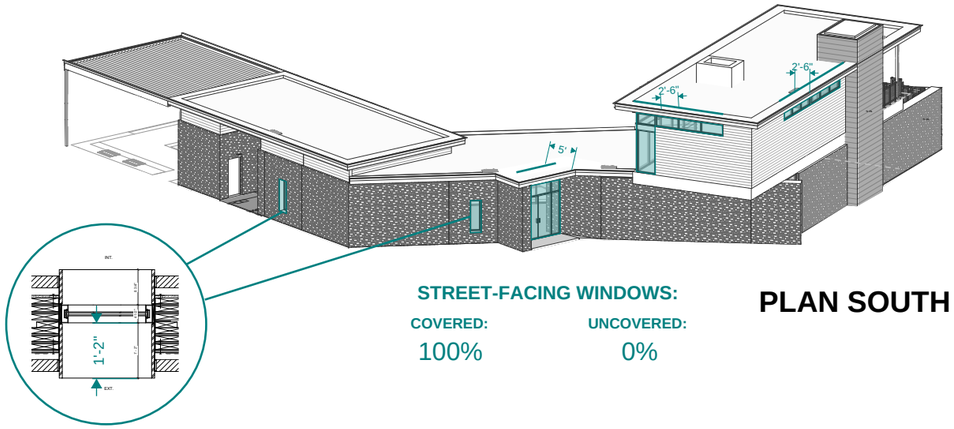
UNOCCUPIED HILLSIDE-FACING FACADES:

PLAN NORTH AND COURTYARD PLAN NORTHEAST FACADES PERCEIVED SIMULTANEOUSLY

MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
969 SF	822 SF	124 SF	1,715 SF
49%		51%	

AMENITY BUILDING - MATERIALS

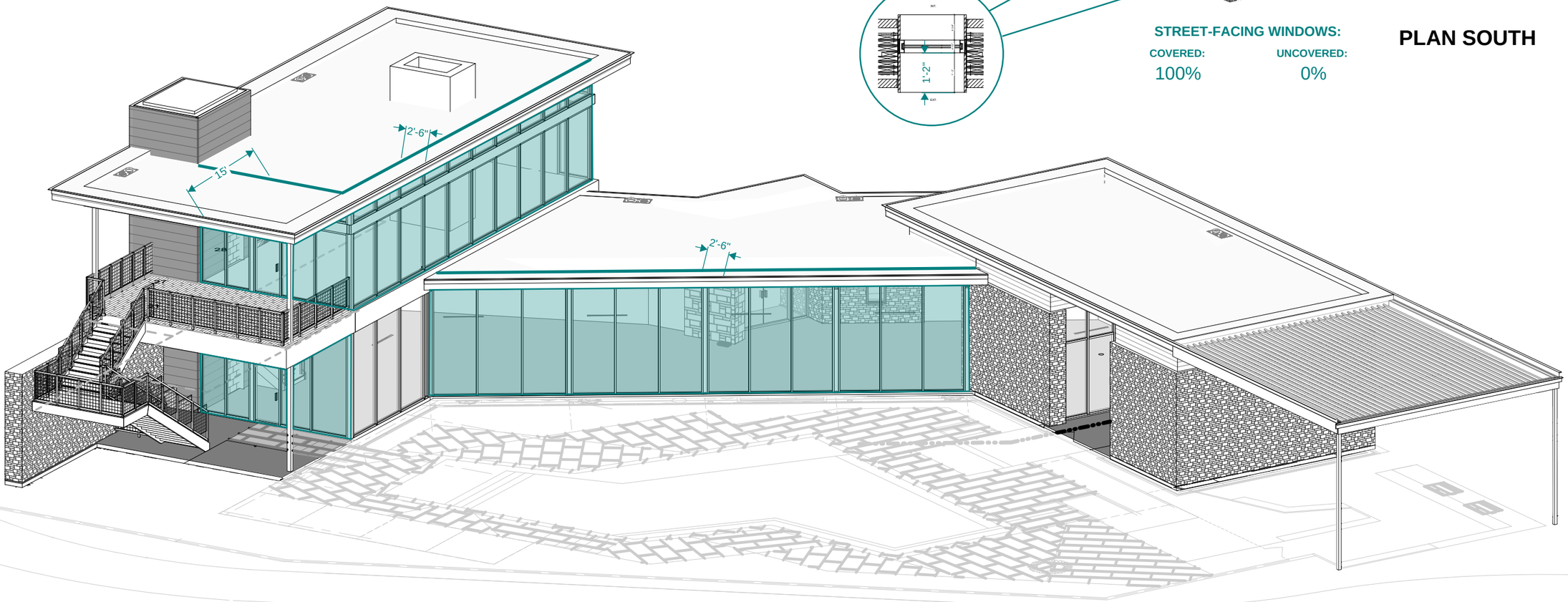




STREET-FACING WINDOWS:

COVERED:	UNCOVERED:
100%	0%

PLAN SOUTH

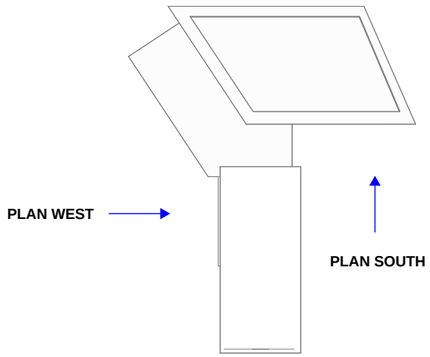


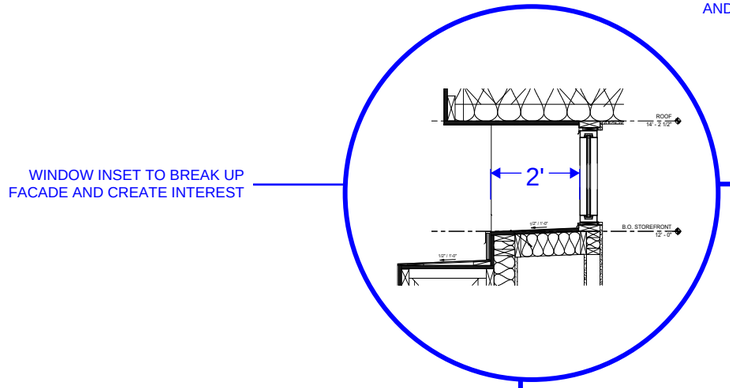
HILLSIDE-FACING WINDOWS:

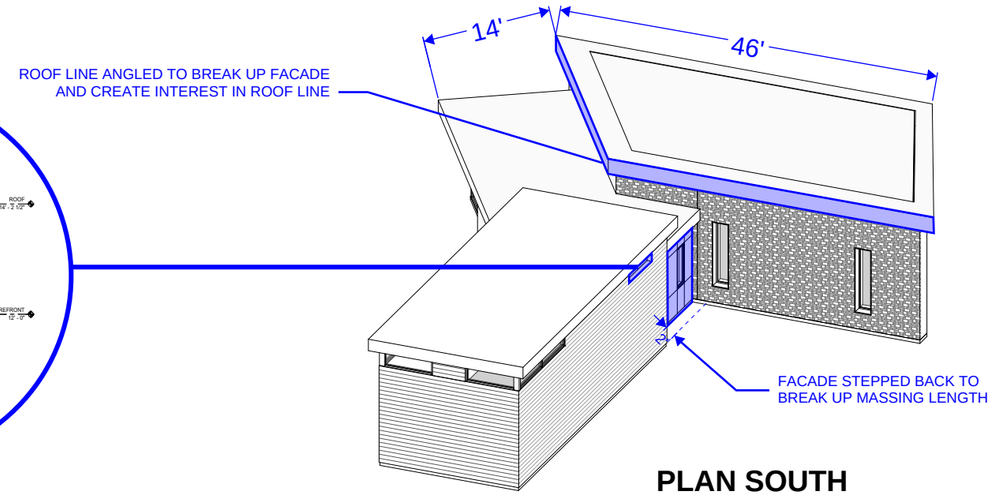
COVERED:	UNCOVERED:
90%	10%

PLAN NORTH

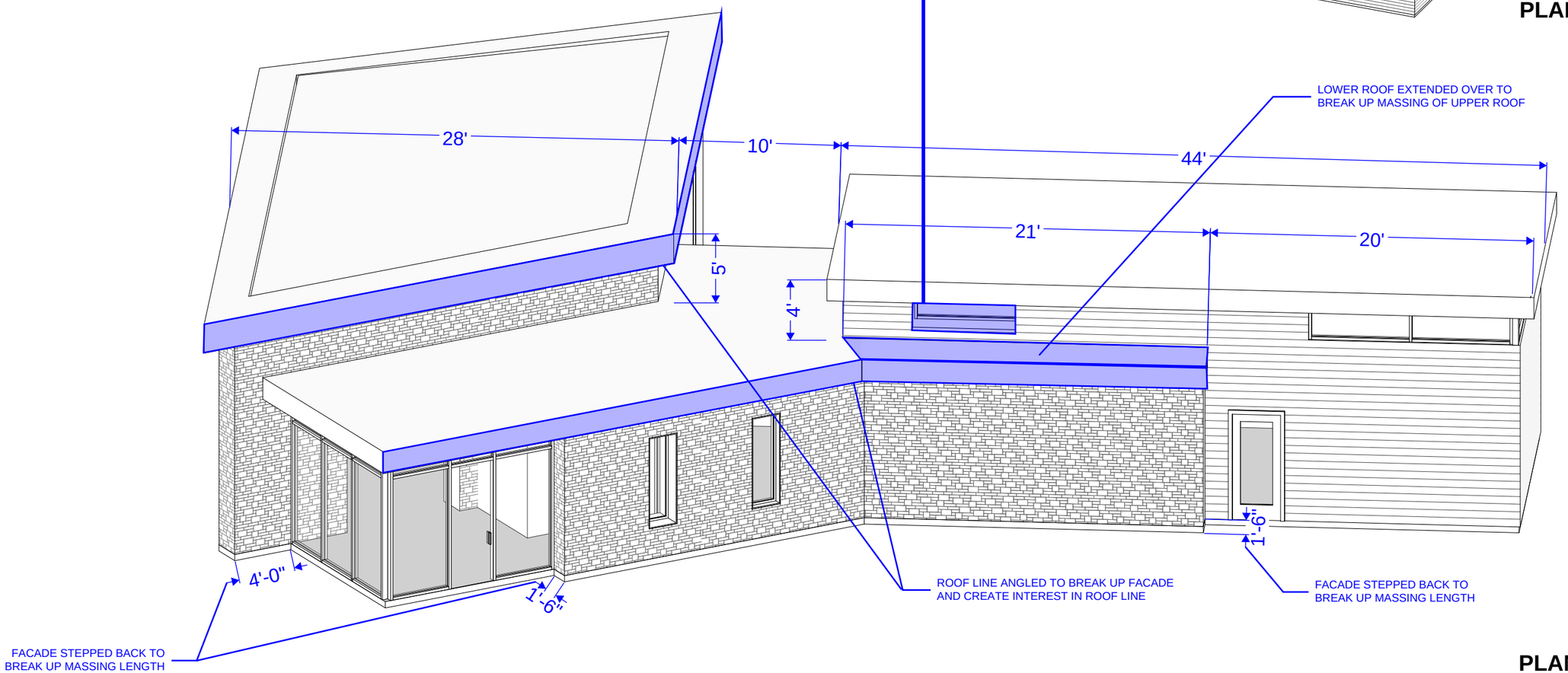
AMENITY BUILDING - GLASS COVERAGE





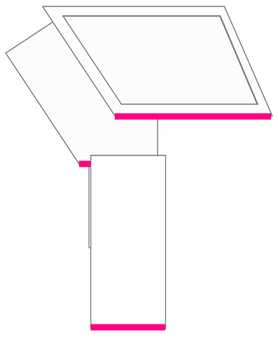


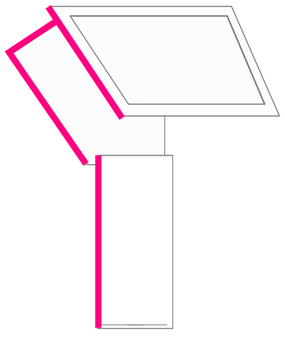
PLAN SOUTH



PLAN WEST

LEASING BUILDING - MASSING



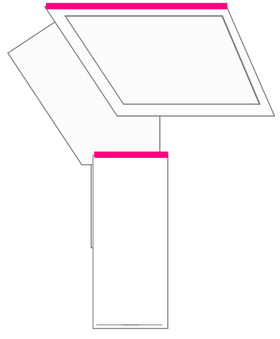


SOUTH

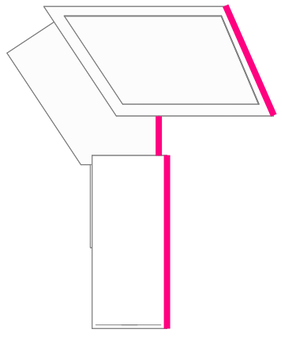
WEST

STREET-FACING FACADES

PRIORITIZED USE OF GLASS AT CORNER FOR NORTHERN NATURAL LIGHT & TO CONNECT RESIDENTS TO THE HILL COUNTRY



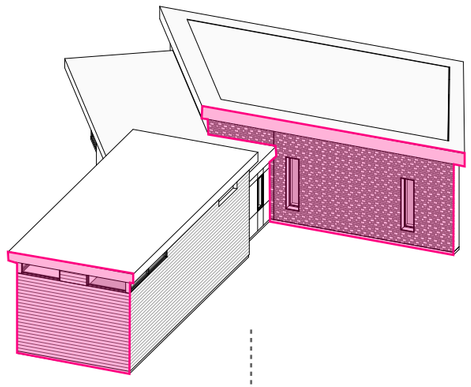
PRIORITIZED USE OF GLASS AT CORNER FOR NORTHERN NATURAL LIGHT & TO CONNECT RESIDENTS TO THE HILL COUNTRY

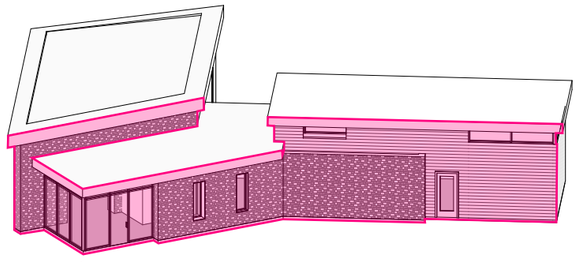


NORTH

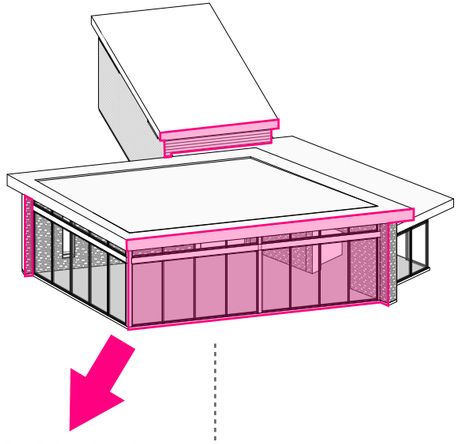
EAST

UNOCCUPIED HILLSIDE-FACING FACADES

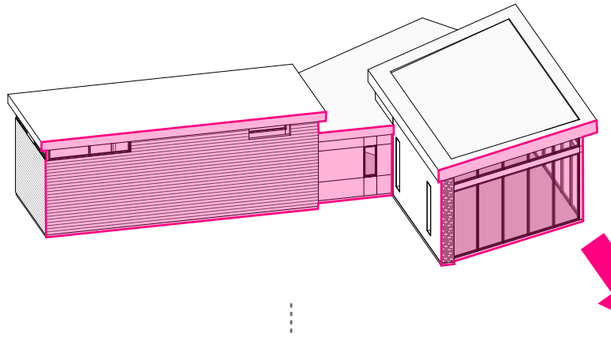




PRIORITIZED USE OF GLASS TO ARTICULATE FUTURE RESIDENT ENTRY



PRIORITIZED USE OF GLASS AT CORNER FOR NORTHERN NATURAL LIGHT & TO CONNECT RESIDENTS TO THE HILL COUNTRY



PRIORITIZED USE OF GLASS AT CORNER FOR NORTHERN NATURAL LIGHT & TO CONNECT RESIDENTS TO THE HILL COUNTRY

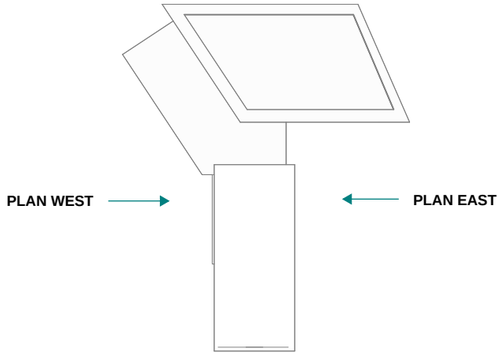
MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
403 SF	215 SF	107 SF	57 SF
80%		20%	

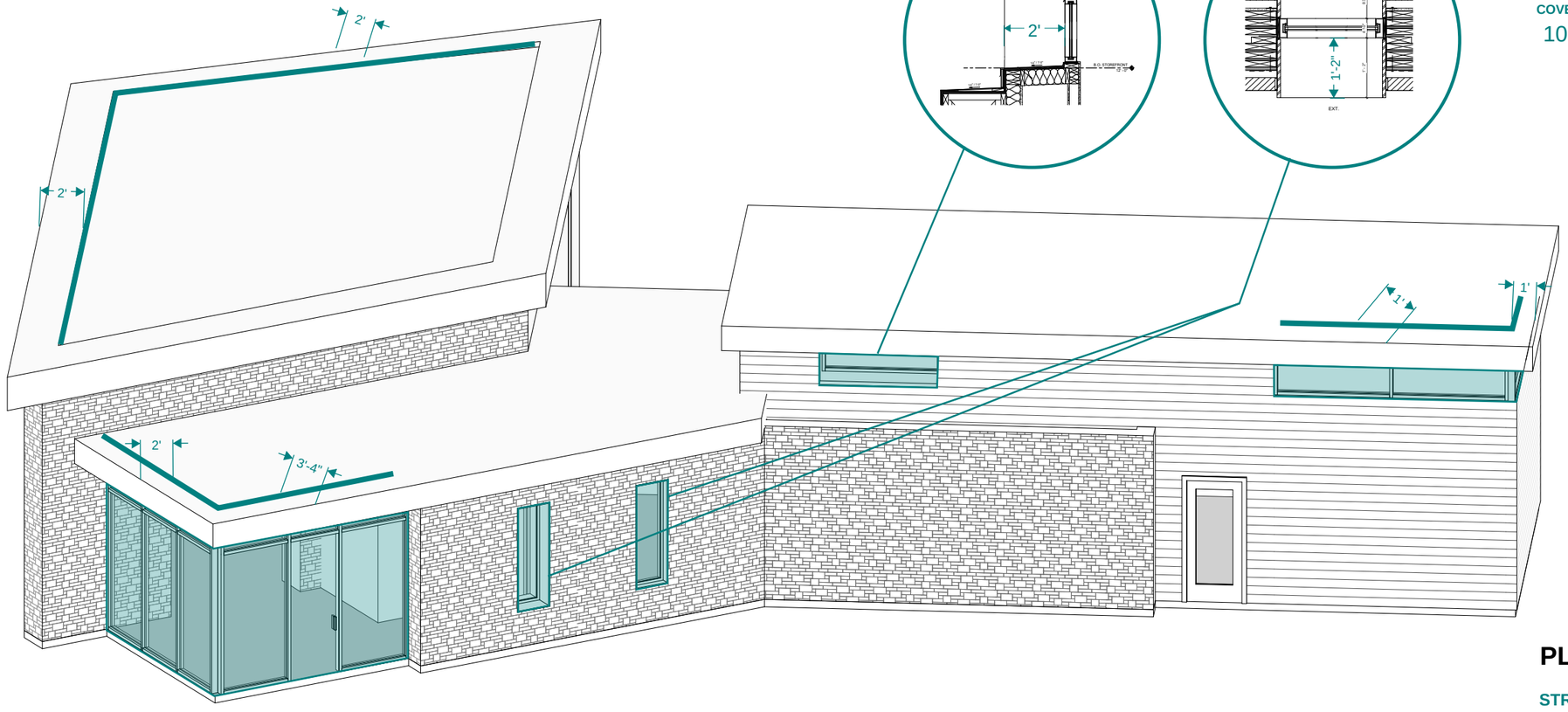
MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
564 SF	301 SF	198 SF	313 SF
63%		37%	

MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
52 SF	69 SF	155 SF	517 SF
15%		85%	

MASONRY		MASONRY ALT.	
STONE	FCB	METAL	GLASS
26 SF	661 SF	162 SF	370 SF
56%		44%	

LEASING BUILDING - MATERIALS





PLAN EAST

HILLSIDE-FACING WINDOWS:

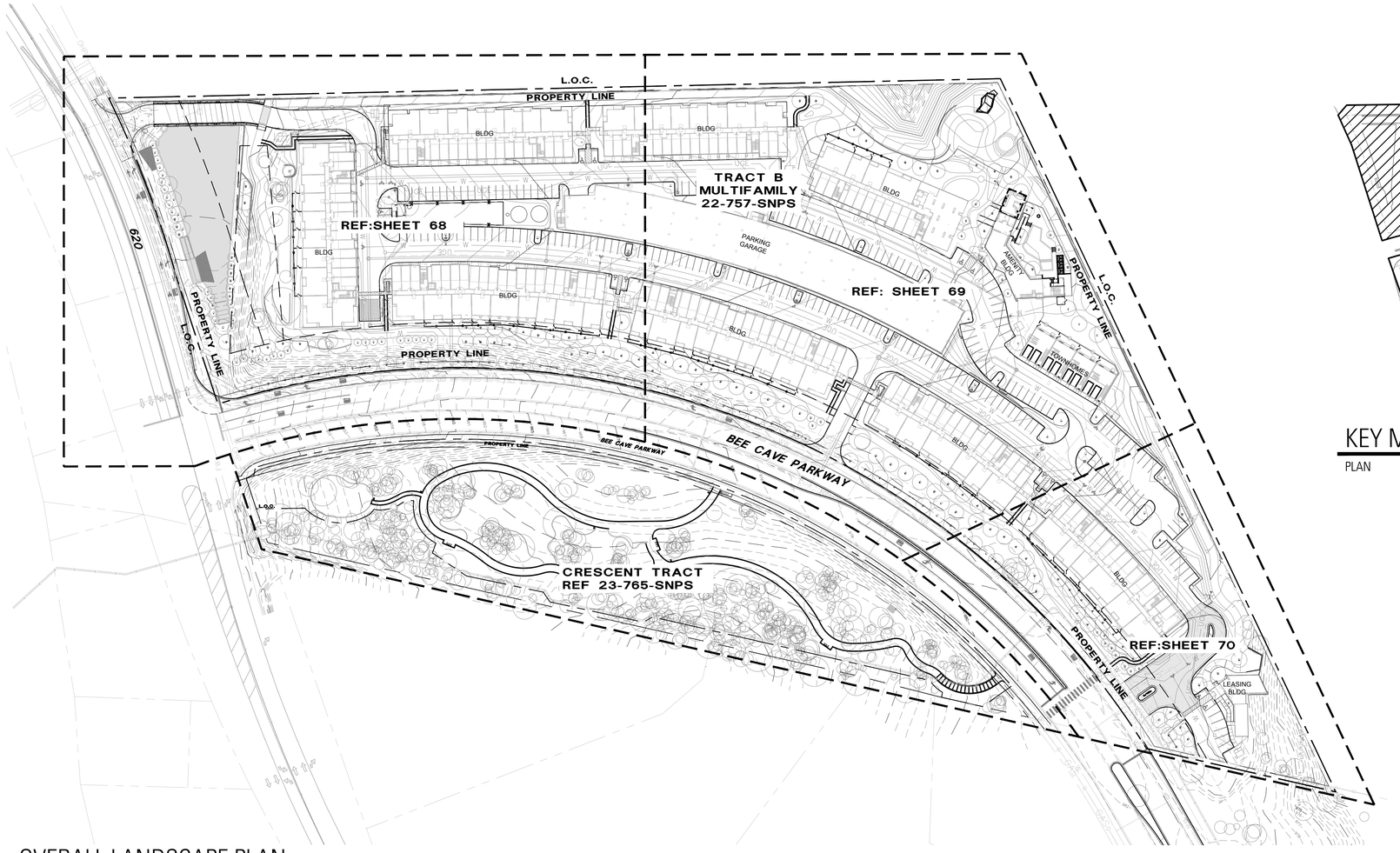
COVERED:	UNCOVERED:
100%	0%

PLAN WEST

STREET-FACING WINDOWS:

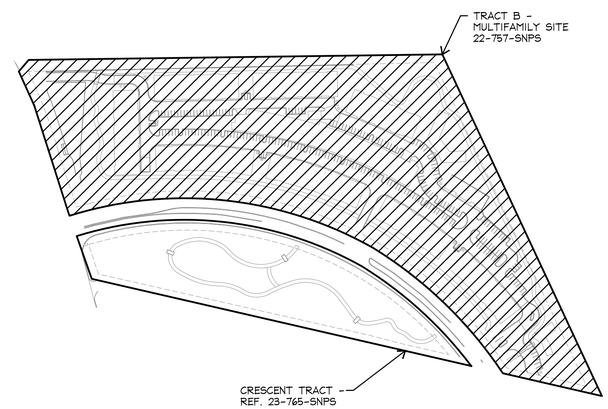
COVERED:	UNCOVERED:
90%	10%

LEASING BUILDING - GLASS COVERAGE



1 OVERALL LANDSCAPE PLAN

SCALE: 1"=80' NORTH



KEY MAP

PLAN NOT TO SCALE

No.	REVISIONS	DATE	BY

landscape architects, planners & designers
3232 e cesar chavez st
bldg 1, suite 100
austin, tx 78702
(512) 327-1011
TBG

05/15/2023

KHA PROJECT 067786609
DATE MARCH 2023
SCALE: AS SHOWN
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX

OVERALL LANDSCAPE PLAN

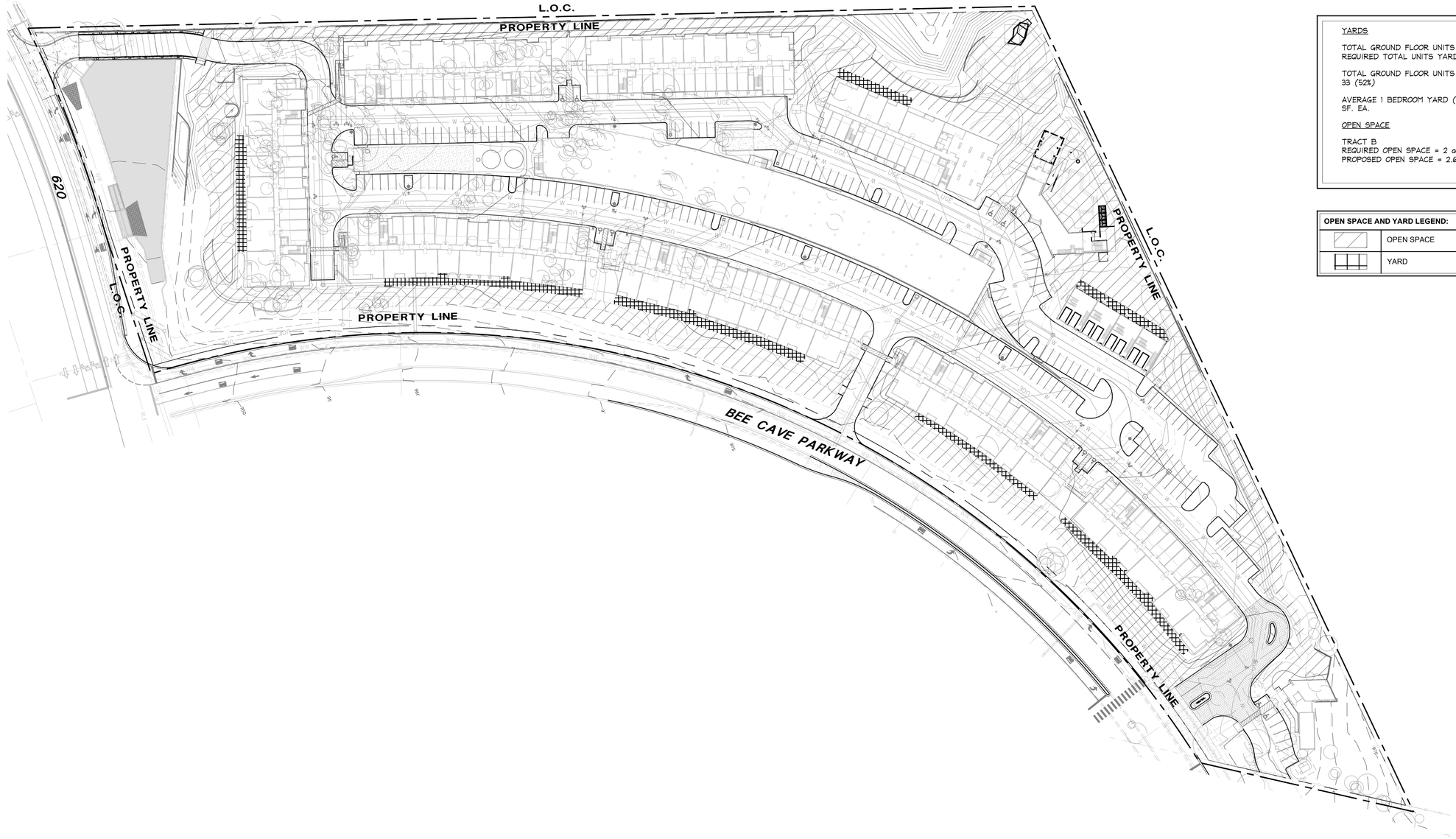
THE PEARL AT BEE CAVE
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
66 OF 90

811 Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

Plotted By:Nolan Stone Date:May 15, 2023 05:44:49pm File Path:P:\X22310 - Pearl Bee Cave\09 Permit\Tract B\CAD\sheets\X22310-Tract B-L-01.dwg
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1 MUTLIFAMILY OPEN SPACE & YARD PLAN

YARDS

TOTAL GROUND FLOOR UNITS = 64
REQUIRED TOTAL UNITS YARDS (AT LEAST 75 SQFT IN AREA) = 32

TOTAL GROUND FLOOR UNITS WITH YARD OF AT LEAST 75 SQFT = 33 (52%)

AVERAGE 1 BEDROOM YARD (WITH A DEPTH OF 10 FT) = 230 - 260 SF. EA.

OPEN SPACE

TRACT B
REQUIRED OPEN SPACE = 2 acres
PROPOSED OPEN SPACE = 2.6 acres (114,309 sqft)

OPEN SPACE AND YARD LEGEND:	
	OPEN SPACE
	YARD

Know what's **below.**
Call before you dig.

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austin, tx 78702
[512] 327-1011
TBG

05/15/2023

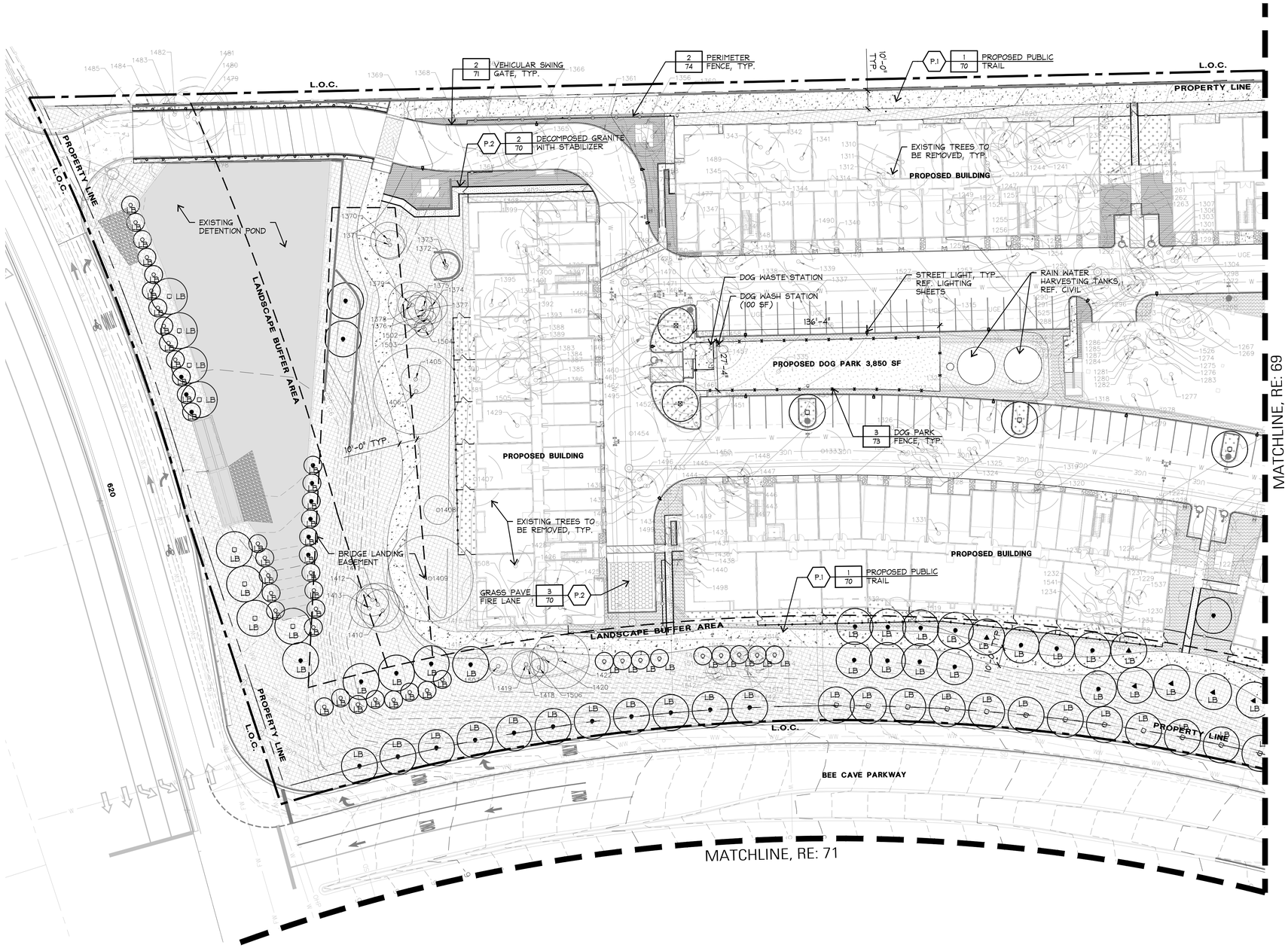
KHA PROJECT 067786609
DATE MARCH 2023
SCALE: AS SHOWN
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX

OPEN SPACE AND YARD PLAN

THE PEARL AT BEE CAVE
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
67 OF 90

Plotted By:Nolan Stone Date:May 15, 2023 05:45:01pm File Path:P:\A22310 - Pearl Bee Cave\09 Permit\Tract B\CAD\sheets\A22310-Tract B-L-01.dwg
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EXISTING TREE LEGEND:	
○1022	EXISTING TREE TO REMAIN
○1019	EXISTING TREE TO BE REMOVED

MATERIAL LEGEND:	
	CONCRETE
	DECOMPOSED GRANITE
	MULCH
	WOOD DECKING
	GRAVEL

PLANTING LEGEND:	
	SOD - BERMUDA
	SHRUB BED
	REVEGETATION AREA - NATIVE SEED MIX

LB	LANDSCAPE BUFFER TREE - 4" CAL. TREES. FOR SPECIES REF. PLANTING SCHEDULE

*Per Ord. 804. HWY 620 landscape buffer will contain 30 cal. inches of trees per 100 LF of area (101 total cal. in. required). Bee Cave Pkwy shall contain trees that total 46 cal. inches of trees per 100 LF of area (586 total cal. in. required).

BUFFER TREES

PROPOSED 620 LANDSCAPE BUFFER TREES ON SHEET= 37 TREES (148 CAL IN.)
PROPOSED BEE CAVE PARKWAY LANDSCAPE BUFFER TREES ON SHEET= 62 TREES (248 CAL IN.)
EXISTING BEE CAVE PARKWAY LANDSCAPE BUFFER TREES ON SHEET= 43 CAL IN.

TOTAL MITIGATION ON SHEET (INCLUDING BUFFER TREES)

TOTAL PROPOSED TREE INCHES ON SHEET = 428 CAL. IN.

NORTH
0 5' 15' 30' 60'
SCALE: 1"=30'

Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

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KHA PROJECT 067786609	DATE MARCH 2023	SCALE: AS SHOWN
DESIGNED BY: XXX	DRAWN BY: XXX	CHECKED BY: XXX

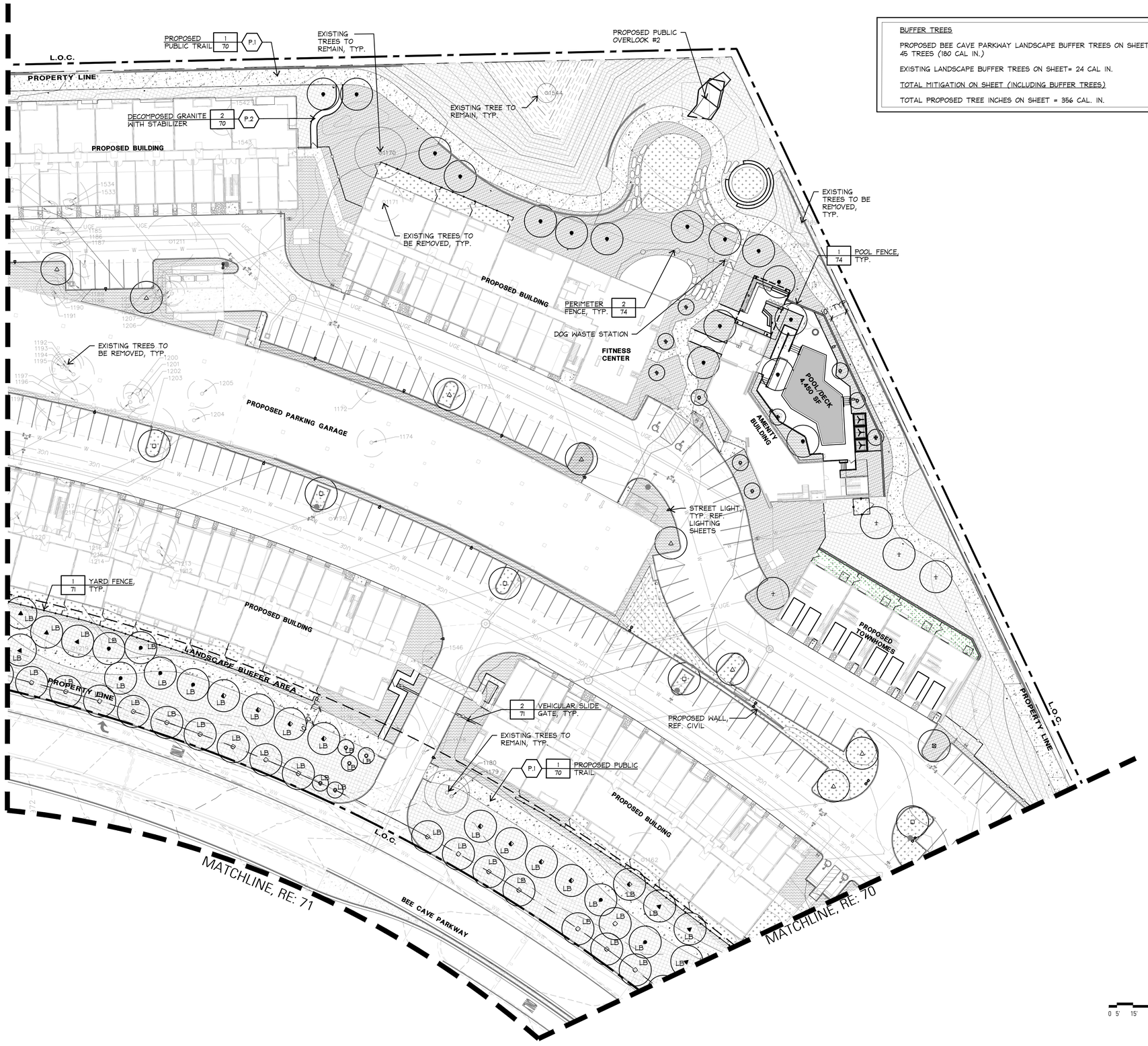
LANDSCAPE PLAN (1 OF 4)

THE PEARL AT BEE CAVE

CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
68 OF 90

Plotted By:Nolan Stone Date:May 15, 2023 05:45:13pm File Path:P:\A22310 - Pearl Bee Cave\09 Permit\Tract B\CAD\sheets\A22310-Tract B-L-01.dwg
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BUFFER TREES

PROPOSED BEE CAVE PARKWAY LANDSCAPE BUFFER TREES ON SHEET= 45 TREES (180 CAL IN.)

EXISTING LANDSCAPE BUFFER TREES ON SHEET= 24 CAL IN.

TOTAL MITIGATION ON SHEET (INCLUDING BUFFER TREES)

TOTAL PROPOSED TREE INCHES ON SHEET = 356 CAL. IN.

EXISTING TREE LEGEND:

○1022	EXISTING TREE TO REMAIN
○1019	EXISTING TREE TO BE REMOVED

MATERIAL LEGEND:

	CONCRETE
	DECOMPOSED GRANITE
	MULCH
	WOOD DECKING
	GRAVEL

PLANTING LEGEND:

	SOD - BERMUDA
	SHRUB BED
	REVEGETATION AREA - NATIVE SEED MIX

LB	LANDSCAPE BUFFER TREE - 4" CAL. TREES. FOR SPECIES REF. PLANTING SCHEDULE

*Per Ord. 804. HWY 620 landscape buffer will contain 30 cal. inches of trees per 100 LF of area (101 total cal. in. required). Bee Cave Pkwy shall contain trees that total 46 cal. inches of trees per 100 LF of area (586 total cal. in. required).

N O R T H
0 5' 15' 30' 60'
SCALE: 1"=30'

Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

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austin, tx 78702
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KHA PROJECT 067786609
DATE MARCH 2023
SCALE: AS SHOWN
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX

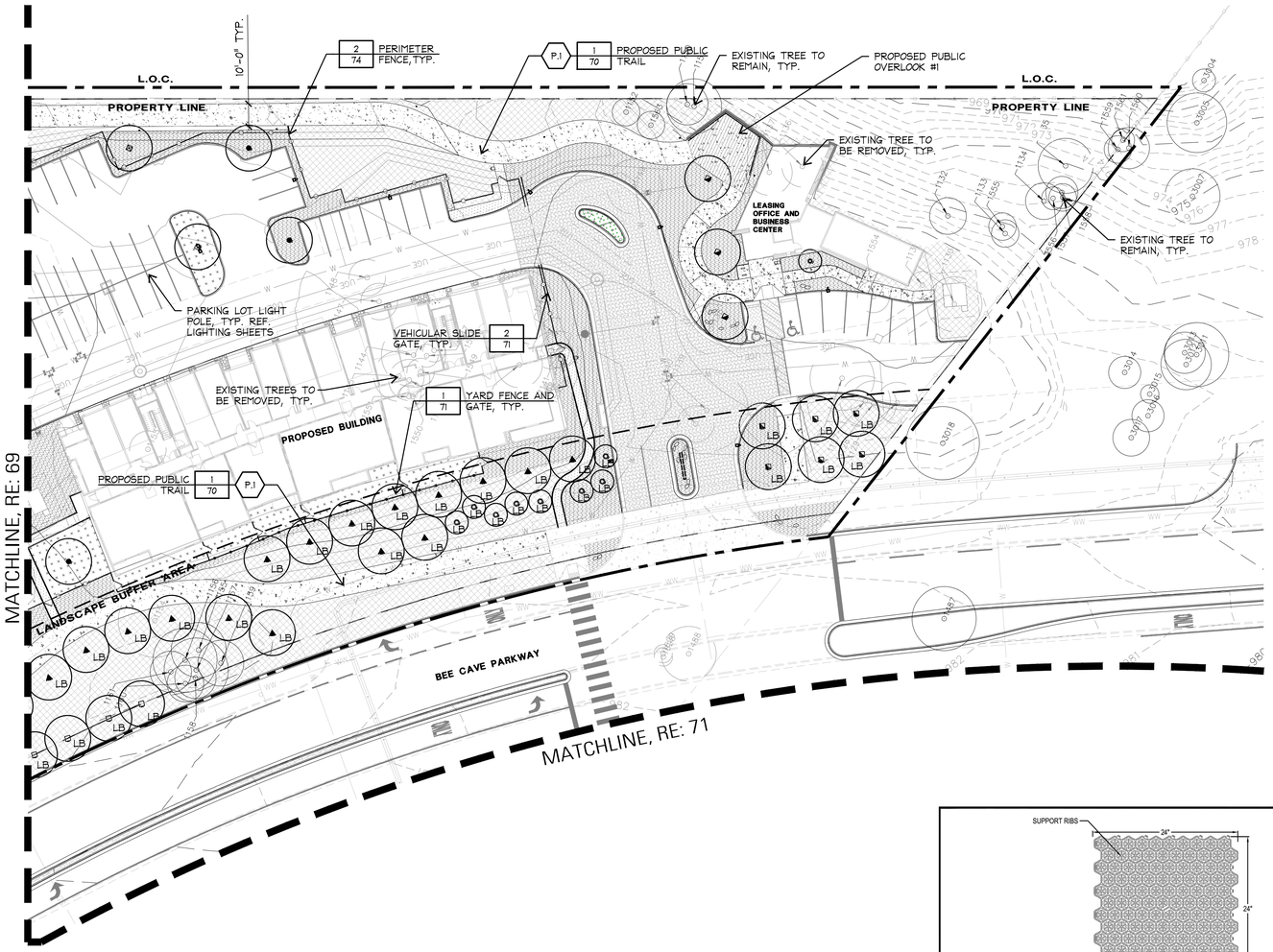
LANDSCAPE PLAN (2 OF 4)

THE PEARL AT BEE CAVE

CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
69 OF 90

Plotted By:Nolan Stone Date:May 15, 2023 05:45:31pm File Path:P:\A22310 - Pearl Bee Cave\09 Permit\Tract B\CAD\sheets\A22310-Tract B-L-01.dwg
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MATERIAL LEGEND:	
	CONCRETE
	DECOMPOSED GRANITE
	MULCH
	WOOD DECKING
	GRAVEL

PLANTING LEGEND:	
	SOD - BERMUDA
	SHRUB BED
	REVEGETATION AREA - NATIVE SEED MIX

EXISTING TREE LEGEND:	
o1022	EXISTING TREE TO REMAIN
o1019	EXISTING TREE TO BE REMOVED

LB	LANDSCAPE BUFFER TREE - 4" CAL. TREES. FOR SPECIES REF. PLANTING SCHEDULE

*Per Ord. 804, HWY 620 landscape buffer will contain 30 cal. inches of trees per 100 LF of area (101 total cal. in. required). Bee Cave Pkwy shall contain trees that total 46 cal. inches of trees per 100 LF of area (586 total cal. in. required).

NORTH
0 5' 15' 30' 60'
SCALE: 1"=30'

MATERIALS SCHEDULE

PAVING

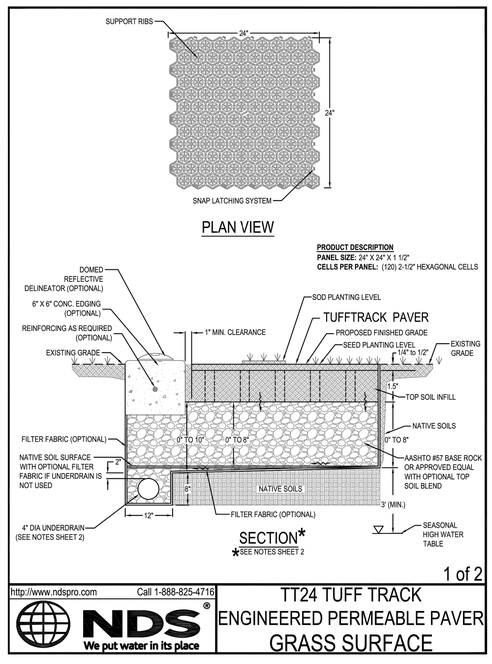
KEY	DESCRIPTION /MODEL NUMBER	COLOR	FINISH	CONTACT	REMARKS
P.1	CONCRETE	GRAY	MEDIUM BROOM	LOCAL SOURCE	- REFER TO SPECS
P.2	DECOMPOSED GRANITE GRAVEL W/ STABILIZER	NATURAL	N/A	COMPANY: WHITTLESEY LANDSCAPE SUPPLY PHONE: (512) 385-0732	- REFER TO SPECS
P.3	GRASS PAVE -NDS TUFF TRACK - TT-24, 2'X2'	N/A	N/A	COMPANY: NATIONAL DIVERSIFIED SALES, INC. WEBSITE: WWW.NDSPRO.COM	- REFER TO SPECS

BUFFER TREES

PROPOSED BEE CAVE PARKWAY LANDSCAPE BUFFER TREES ON SHEET= 34 TREES (136 CAL IN.)
EXISTING LANDSCAPE BUFFER TREES ON SHEET = 67 CAL. IN.

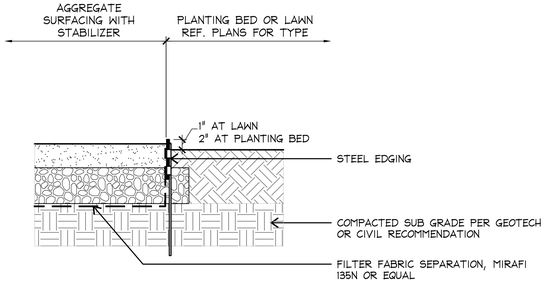
TOTAL MITGATION ON THIS SHEET (INCLUDING BUFFER TREES)

TOTAL PROPOSED TREE INCHES ON SHEET = 172 CAL. IN.



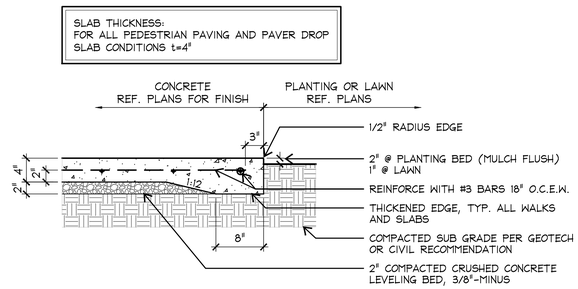
3 FIRELANE GRASS PAVE SURFACE

SECTION — SCALE: 1/4"=1'-0"



2 DECOMPOSED GRANITE WITH STABILIZER AT PLANTING

SECTION — SCALE: 1"=1'-0"



1 CONCRETE WALK

SECTION — SCALE: 1"=1'-0"

811 Know what's below. Call before you dig.

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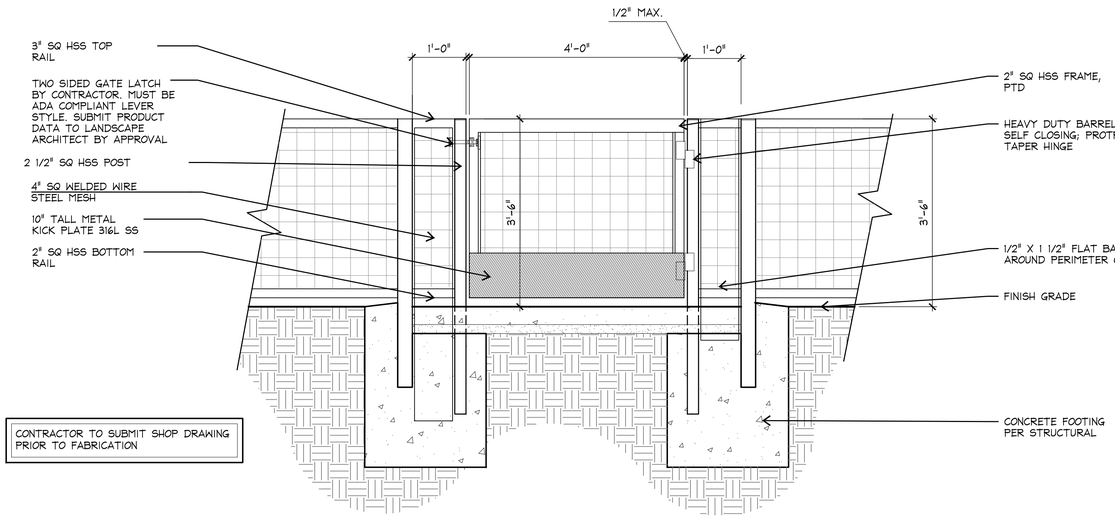
LANDSCAPE PLAN (3 OF 4)

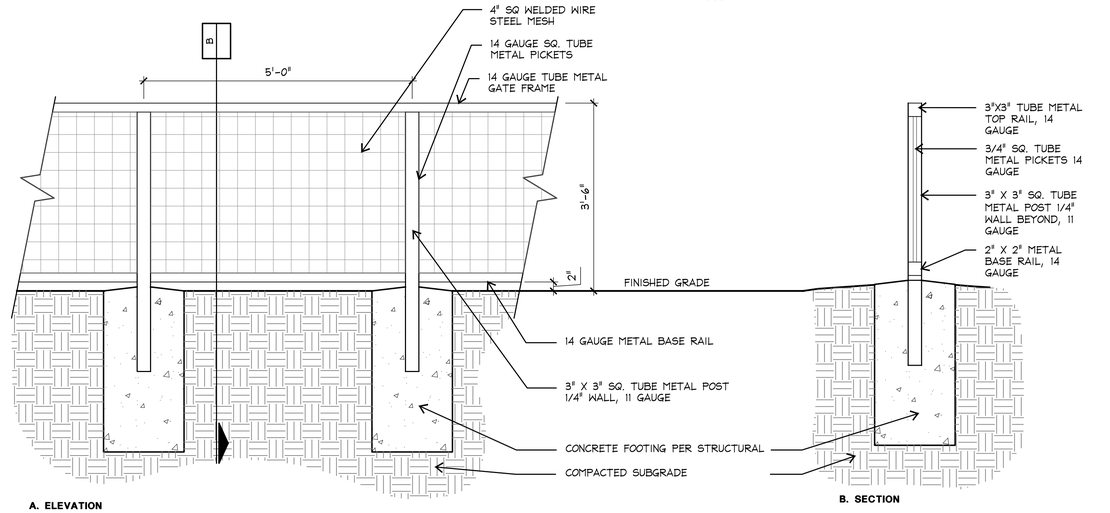
THE PEARL AT BEE CAVE

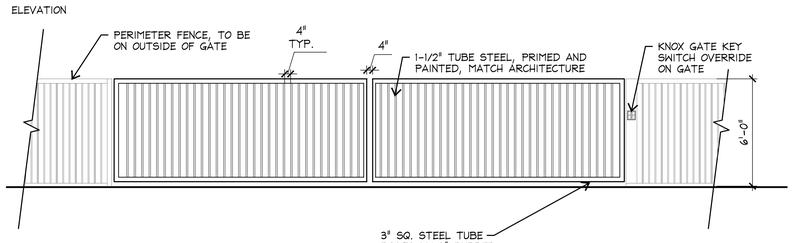
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
70 OF 90

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NOTE:
CONTRACTOR TO PROVIDE SHOP DRAWING'S FOR VEHICULAR GATES FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.

1 YARD FENCE AND GATE
SECTION — SCALE: 3/4"=1'-0"

2 VEHICULAR SLIDE GATE
SECTION — SCALE: 1/4"=1'-0"

Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

landscape architects, planners & designers
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austin, tx 78702
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CHRISTOPHER BRIAN MOSS 2785 REGISTERED LANDSCAPE ARCHITECT STATE OF TEXAS

05/15/2023

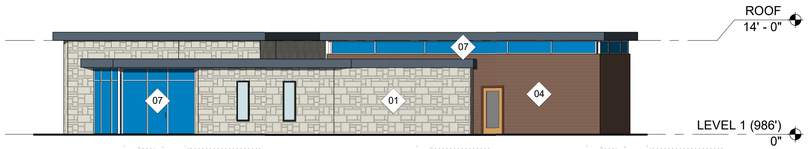
KHA PROJECT 067786609
DATE MARCH 2023
SCALE: AS SHOWN
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: XXX

LANDSCAPE PLAN (4 OF 4)

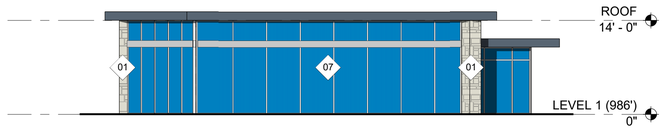
THE PEARL AT BEE CAVE
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
71 OF 90

Plotted By:Nolan Stone Date:May 15, 2023 05:46:14pm File Path:P:\A22310 - Pearl Bee Cave\09 Permit\Tract B\CAD\sheets\A22310-Tract B-LL-01.dwg
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1 WEST ELEVATION
3/32" = 1'-0"



2 NORTH ELEVATION
3/32" = 1'-0"

MATERIAL LEGEND:

01 **LIMESTONE VENEER**
COBRA'S CREAM

02 **DARK BRICK**

03 **COMPOSITE METAL PANEL**
ALPOLIC - GZZ GREY ZINC

04 **WOOD LOOK FIBER CEMENT BOARD**
WOODTONE - RIVER ROCK

05 **STANDING SEAM METAL ROOF**
CHARCOAL GRAY

06 **UNIT WINDOW**
PLYGEM - SINGLE HUNG

07 **FIXED ALUMINUM FRAMING SYSTEM**
RAM WINDOW

08 **VINYL DOOR**

09 **HARDIE PANEL**
SW 7048 - URBAN BRONZE

10 **3 LAYER STUCCO**
BM 855 - CLOUD COVER

11 **3 LAYER STUCCO**
SW 7048 - URBAN BRONZE

11 **3 LAYER STUCCO**

12 **GARAGE DOOR**
AMARR - SW 7048 - URBAN BRONZE

13 **EXPOSED STRL STEEL**
PAINTED - SW 7048 - URBAN BRONZE

14 **MESH RAILING**
PAINTED - SW 7048 - URBAN BRONZE

15 **GLU LAM BEAM**

gff ARCHITECTS
Dallas | Fort Worth | Austin

PEARL BEE CAVE
MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No. Date Revision

GFF
Drawn By

GFF
Reviewed

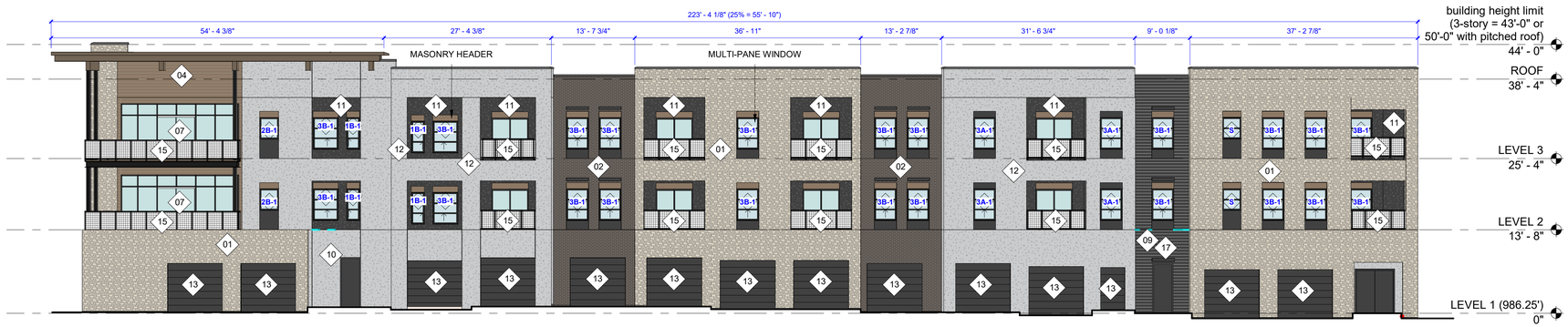
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03/15/2023

BUILDING 1
ELEVATIONS
(LEASING)

Project No. 21025
Date xx/xx/xxxx

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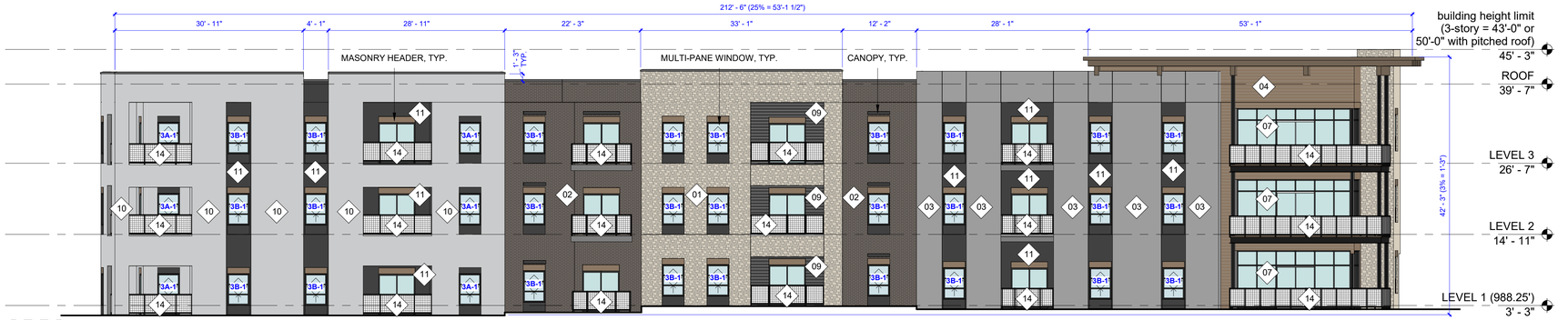


1 NORTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	5,811 SF
ALTERNATIVES:	548 SF
TOTAL:	6,359 SF
% OF ALTERNATIVE:	8.6%

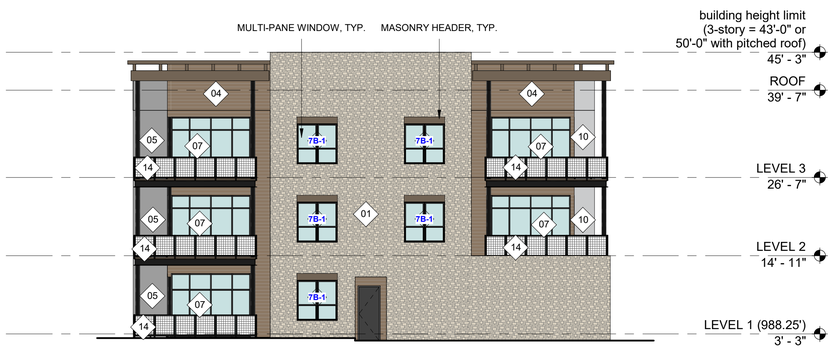


2 SOUTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	5,734 SF
ALTERNATIVES:	1,413 SF
TOTAL:	7,147 SF
% OF ALTERNATIVE:	19.7%



3 EAST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,191 SF
ALTERNATIVES:	196 SF
TOTAL:	2,387 SF
% OF ALTERNATIVE:	8.2%



4 WEST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,700 SF
ALTERNATIVES:	N/A SF
TOTAL:	2,700 SF
% OF ALTERNATIVE:	0%

TOTAL BUILDING WINDOWS:

TOTAL WINDOWS:	100
UNCOVERED:	47
UNCOVERED PERCENT:	47%
TOTAL SF:	3,684 SF
UNCOVERED SF:	960 SF
UNCOVERED PERCENT:	47%

MATERIAL LEGEND:

01	**LIMESTONE VENEER**	COBRA'S CREAM
02	**DARK BRICK**	
03	**COMPOSITE METAL PANEL**	ALPOLIC - GZZ GREY ZINC
04	**WOOD LOOK FIBER CEMENT BOARD**	WOODTONE - RIVER ROCK
05	**STANDING SEAM METAL ROOF**	CHARCOAL GRAY
06	**UNIT WINDOW**	PLYGEM - SINGLE HUNG
07	**FIXED ALUMINUM FRAMING SYSTEM**	RAM WINDOW
08	**VINYL DOOR**	
09	**HARDIE PANEL**	SW 7048 - URBAN BRONZE
10	**3 LAYER STUCCO**	BM 855 - CLOUD COVER
11	**3 LAYER STUCCO**	SW 7048 - URBAN BRONZE
12	**3 LAYER STUCCO**	
13	**GARAGE DOOR**	AMARR - SW 7048 - URBAN BRONZE
14	**EXPOSED STRL STEEL**	PAINTED - SW 7048 - URBAN BRONZE
15	**MESH RAILING**	PAINTED - SW 7048 - URBAN BRONZE
16	**GLU LAM BEAM**	

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PEARL BEE CAVE MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No. Date Revision

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GFF Reviewed

03/15/2023

BUILDING 2 & 3 ELEVATIONS

Project No. 21025

Date xx/xx/xxxx

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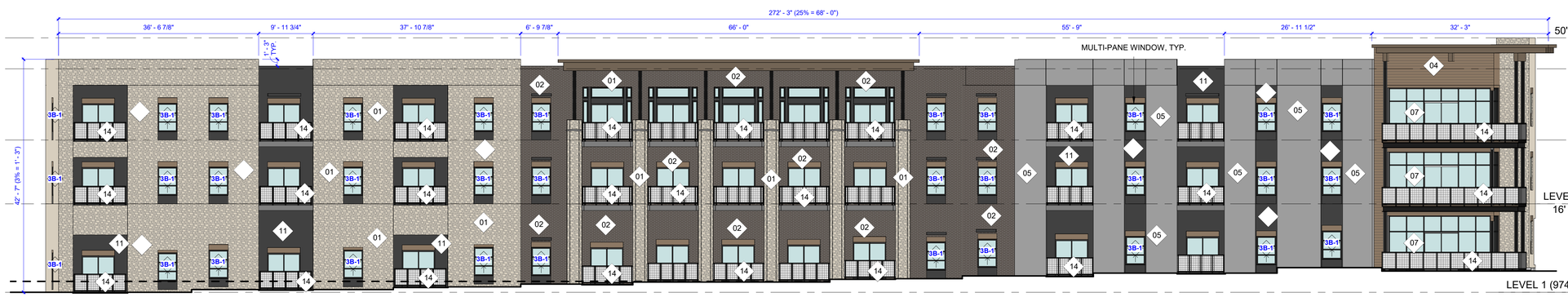


1 NORTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	5,811 SF
ALTERNATIVES:	548 SF
TOTAL:	6,359 SF
% OF ALTERNATIVE:	8.6%

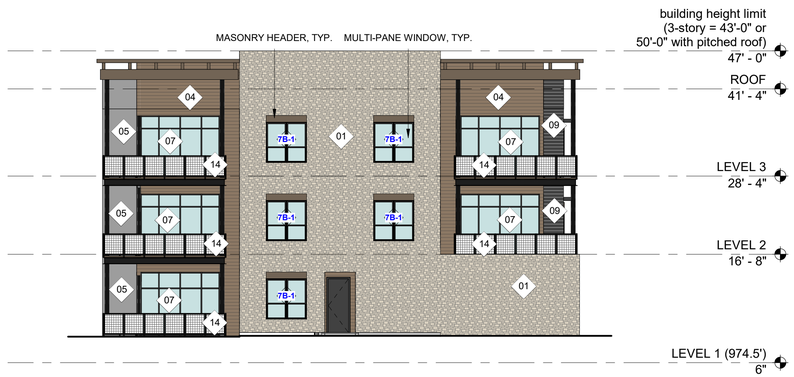


2 SOUTH ELEVATION (middle)

3/32" = 1'-0"

AREAS:

MASONRY:	7,151 SF
ALTERNATIVES:	1,485 SF
TOTAL:	8,636 SF



3 EAST ELEVATION

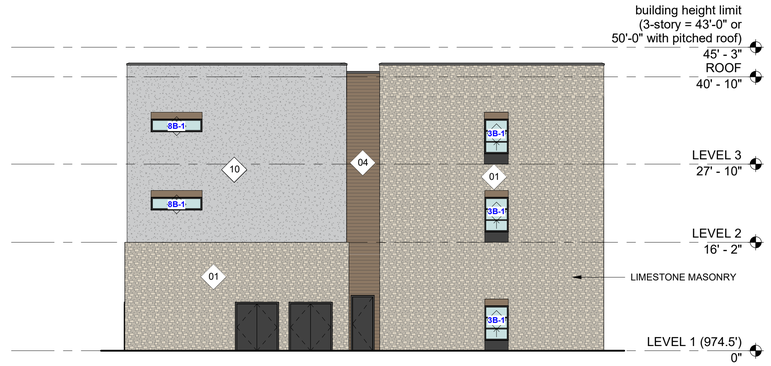
3/32" = 1'-0"

AREAS:

MASONRY:	2,178 SF
ALTERNATIVES:	196 SF
TOTAL:	2,374 SF
% OF ALTERNATIVE:	8.2%

TOTAL BUILDING WINDOWS:

TOTAL WINDOWS:	138
UNCOVERED:	67
UNCOVERED PERCENT:	48.5%
TOTAL SF:	4,943 SF
UNCOVERED SF:	1,214 SF
UNCOVERED PERCENT:	24.5%



4 WEST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,469 SF
ALTERNATIVES:	N/A SF
TOTAL:	2,469 SF
% OF ALTERNATIVE:	0%

MATERIAL LEGEND:

01	LIMESTONE VENEER	COBRA'S CREAM
02	DARK BRICK	
03	COMPOSITE METAL PANEL	ALPOLIC - GZZ GREY ZINC
04	WOOD LOOK FIBER CEMENT BOARD	WOODTONE - RIVER ROCK
05	STANDING SEAM METAL ROOF	CHARCOAL GRAY
06	UNIT WINDOW	PLYGEM - SINGLE HUNG
07	FIXED ALUMINUM FRAMING SYSTEM	RAM WINDOW
08	VINYL DOOR	
09	HARDIE PANEL	SW 7048 - URBAN BRONZE
10	3 LAYER STUCCO	BM 855 - CLOUD COVER
11	3 LAYER STUCCO	SW 7048 - URBAN BRONZE
12	3 LAYER STUCCO	
13	GARAGE DOOR	AMARR - SW 7048 - URBAN BRONZE
14	EXPOSED STRL STEEL	PAINTED - SW 7048 - URBAN BRONZE
15	MESH RAILING	PAINTED - SW 7048 - URBAN BRONZE
16	GLU LAM BEAM	

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PEARL BEE CAVE MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No.	Date	Revision

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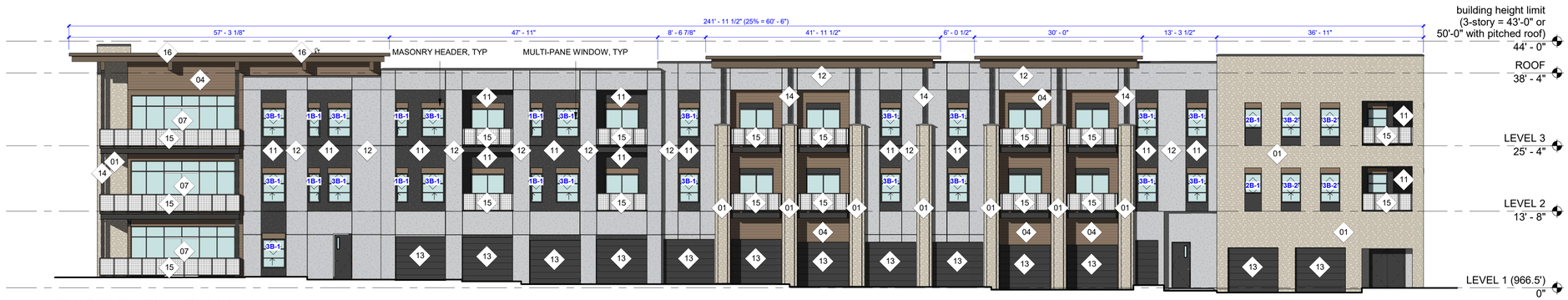
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BUILDING 4 & 5 ELEVATIONS

Project No. 21025

Date xx/xx/xxxx

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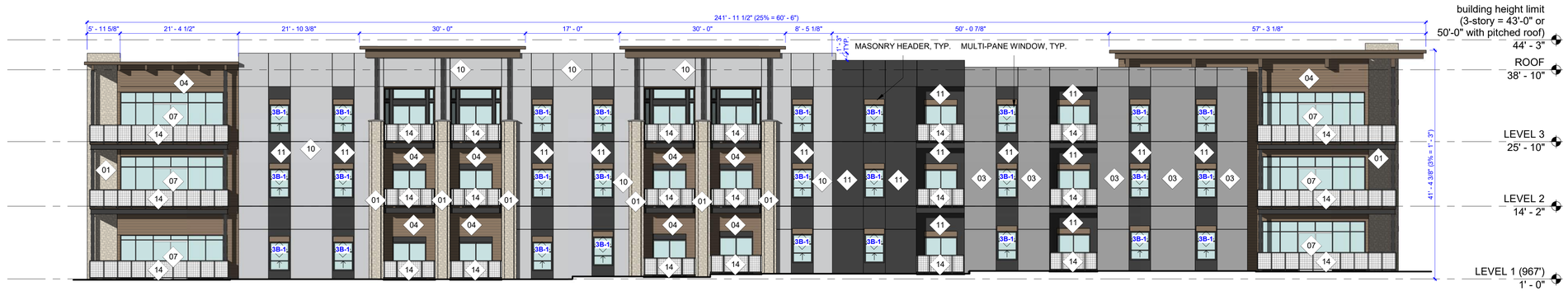


1 EAST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	6,381 SF
ALTERNATIVES:	1,119 SF
TOTAL:	7,500 SF
% OF ALTERNATIVE:	14.9%

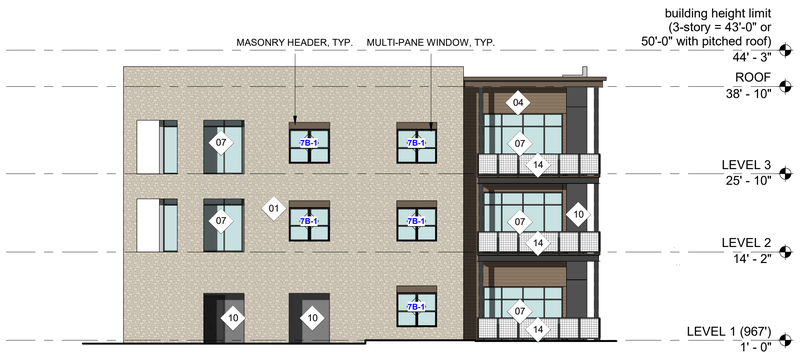


2 WEST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	6,404 SF
ALTERNATIVES:	1,565 SF
TOTAL:	7,969 SF
% OF ALTERNATIVE:	19.6%

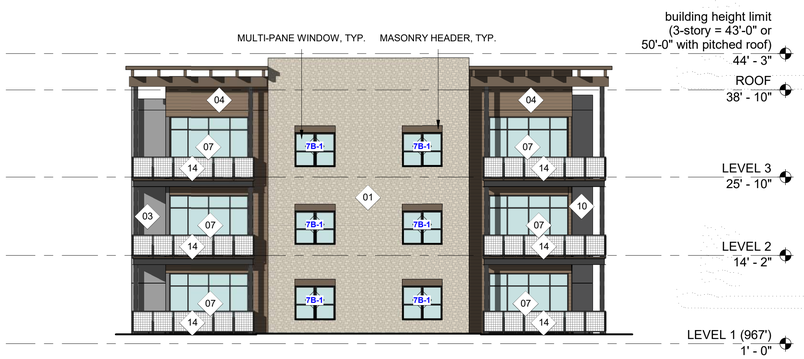


3 NORTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,171 SF
ALTERNATIVES:	112 SF
TOTAL:	2,283 SF
% OF ALTERNATIVE:	4.9%



4 SOUTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	1,859 SF
ALTERNATIVES:	308 SF
TOTAL:	2,167 SF
% OF ALTERNATIVE:	14.2%

TOTAL BUILDING WINDOWS:

TOTAL WINDOWS:	117
UNCOVERED:	58
UNCOVERED PERCENT:	49.5%
TOTAL SF:	5,820 SF
UNCOVERED SF:	1,229 SF
UNCOVERED PERCENT:	21.1%

MATERIAL LEGEND:

01	**LIMESTONE VENEER**	COBRA'S CREAM
02	**DARK BRICK**	
03	**COMPOSITE METAL PANEL**	ALPOLIC - GZZ GREY ZINC
04	**WOOD LOOK FIBER CEMENT BOARD**	WOODTONE - RIVER ROCK
05	**STANDING SEAM METAL ROOF**	CHARCOAL GRAY
06	**UNIT WINDOW**	PLYGEM - SINGLE HUNG
07	**FIXED ALUMINUM FRAMING SYSTEM**	RAM WINDOW
08	**VINYL DOOR**	
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12	**3 LAYER STUCCO**	
13	**GARAGE DOOR**	AMARR - SW 7048 - URBAN BRONZE
14	**EXPOSED STRL STEEL**	PAINTED - SW 7048 - URBAN BRONZE
15	**MESH RAILING**	PAINTED - SW 7048 - URBAN BRONZE
16	**GLU LAM BEAM**	

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PEARL BEE CAVE
MULTIFAMILY
13400 Bee Cave Parkway
Bee Cave, TX 78738

No.	Date	Revision

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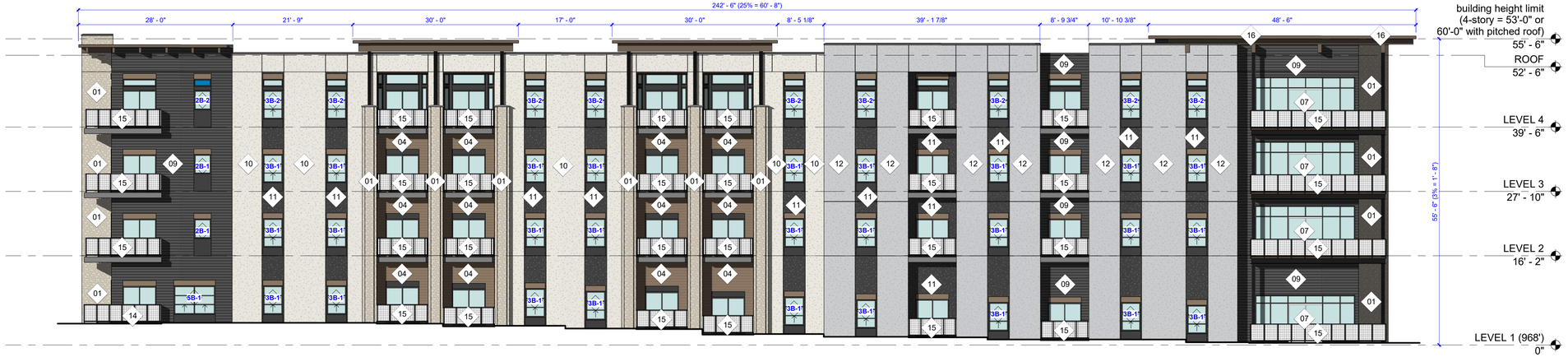
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BUILDING 6 ELEVATIONS

Project No. 21025

Date xx/xx/xxxx

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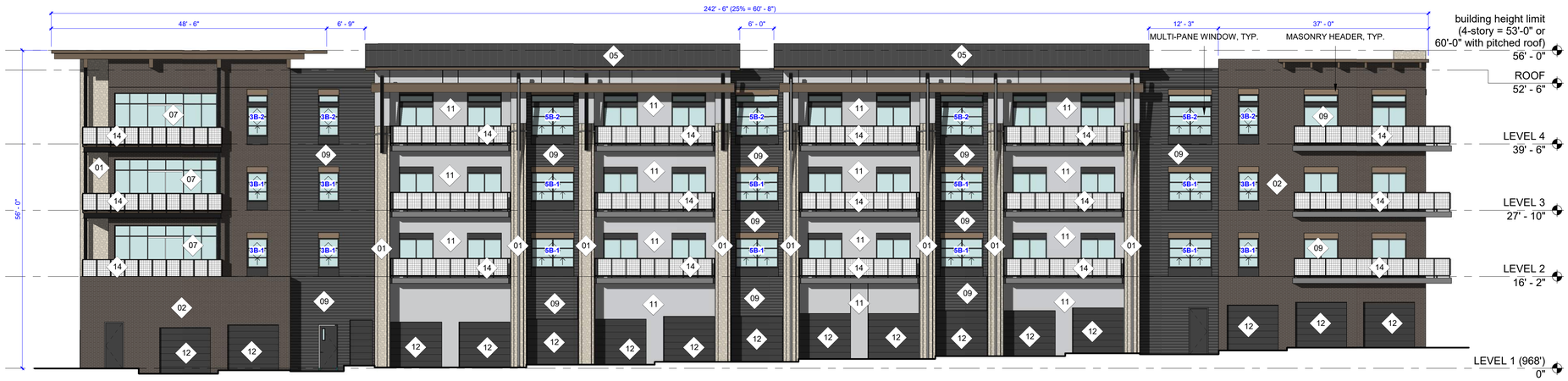


1 NORTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	9,679 SF
ALTERNATIVES:	371 SF
TOTAL:	10,050 SF
% OF ALTERNATIVE:	3.6%

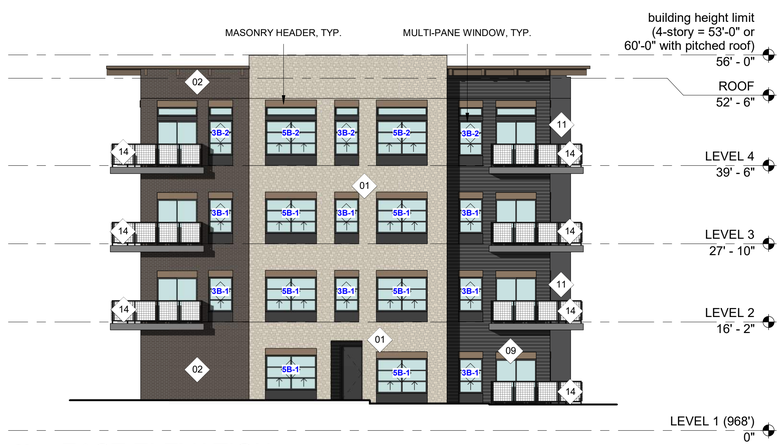


2 SOUTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	9,161 SF
ALTERNATIVES:	274 SF
TOTAL:	9,435 SF
% OF ALTERNATIVE:	2.9%

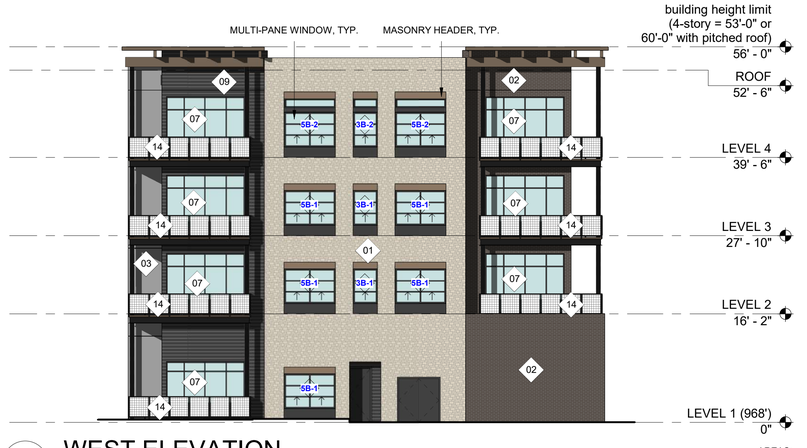


3 EAST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,149 SF
ALTERNATIVES:	47 SF
TOTAL:	2,196 SF
% OF ALTERNATIVE:	2.1%



4 WEST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,202 SF
ALTERNATIVES:	190 SF
TOTAL:	2,392 SF
% OF ALTERNATIVE:	7.9%

TOTAL BUILDING WINDOWS:

TOTAL WINDOWS:	167
UNCOVERED:	82
UNCOVERED PERCENT:	49.1%
TOTAL SF:	6,572 SF
UNCOVERED SF:	1,651 SF
UNCOVERED PERCENT:	25.1%

MATERIAL LEGEND:

01	**LIMESTONE VENEER** COBRA'S CREAM
02	**DARK BRICK**
03	**COMPOSITE METAL PANEL** ALPOLIC - GZZ GREY ZINC
04	**WOOD LOOK FIBER CEMENT BOARD** WOODTONE - RIVER ROCK
05	**STANDING SEAM METAL ROOF** CHARCOAL GRAY
06	**UNIT WINDOW** PLYGEM - SINGLE HUNG
07	**FIXED ALUMINUM FRAMING SYSTEM** RAM WINDOW
08	**VINYL DOOR**
09	**HARDIE PANEL** SW 7048 - URBAN BRONZE
10	**3 LAYER STUCCO** BM 855 - CLOUD COVER
11	**3 LAYER STUCCO** SW 7048 - URBAN BRONZE
12	**3 LAYER STUCCO**
13	**GARAGE DOOR** AMARR - SW 7048 - URBAN BRONZE
14	**EXPOSED STRL STEEL** PAINTED - SW 7048 - URBAN BRONZE
15	**MESH RAILING** PAINTED - SW 7048 - URBAN BRONZE
16	**GLU LAM BEAM**

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PEARL BEE CAVE MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No.	Date	Revision

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BUILDING 7 & 8 ELEVATIONS

Project No. 21025

Date xx/xx/xxxx

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1 SOUTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	7,440 SF
ALTERNATIVES:	167 SF
TOTAL:	7,908 SF
% OF ALTERNATIVE:	19.7%



2 NORTH ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	7,826 SF
ALTERNATIVES:	250 SF
TOTAL:	8,593 SF
% OF ALTERNATIVE:	2.9%

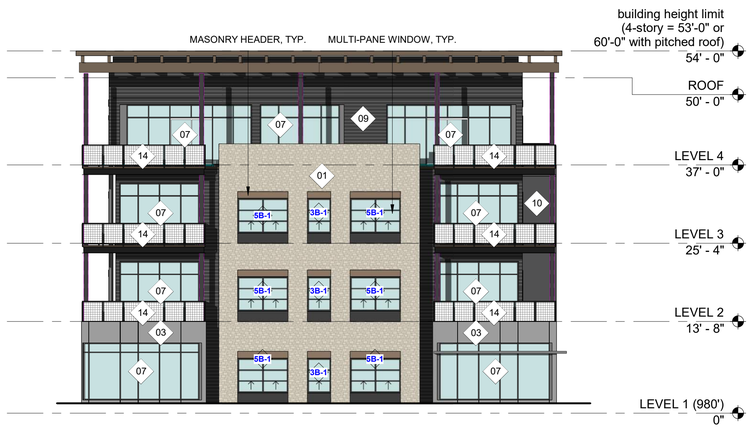


3 WEST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	1,377 SF
ALTERNATIVES:	179 SF
TOTAL:	1,566 SF
% OF ALTERNATIVE:	11.5%



4 EAST ELEVATION

3/32" = 1'-0"

AREAS:

MASONRY:	2,395 SF
ALTERNATIVES:	66 SF
TOTAL:	2,461 SF
% OF ALTERNATIVE:	2.6%

TOTAL BUILDING WINDOWS:

TOTAL WINDOWS:	214
UNCOVERED:	89
UNCOVERED PERCENT:	41.5%
TOTAL SF:	7,955 SF
UNCOVERED SF:	3,484 SF
UNCOVERED PERCENT:	43.7%

MATERIAL LEGEND:

01	**LIMESTONE VENEER** COBRA'S CREAM
02	**DARK BRICK**
03	**COMPOSITE METAL PANEL** ALPOLIC - GZZ GREY ZINC
04	**WOOD LOOK FIBER CEMENT BOARD** WOODTONE - RIVER ROCK
05	**STANDING SEAM METAL ROOF** CHARCOAL GRAY
06	**UNIT WINDOW** PLYGEM - SINGLE HUNG
07	**FIXED ALUMINUM FRAMING SYSTEM** RAM WINDOW
08	**VINYL DOOR**
09	**HARDIE PANEL** SW 7048 - URBAN BRONZE
10	**3 LAYER STUCCO** BM 855 - CLOUD COVER
11	**3 LAYER STUCCO** SW 7048 - URBAN BRONZE
11	**3 LAYER STUCCO**
12	**GARAGE DOOR** AMARR - SW 7048 - URBAN BRONZE
13	**EXPOSED STRL STEEL** PAINTED - SW 7048 - URBAN BRONZE
14	**MESH RAILING** PAINTED - SW 7048 - URBAN BRONZE
15	**GLU LAM BEAM**

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PEARL BEE CAVE MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No.	Date	Revision

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BUILDING 9 ELEVATIONS

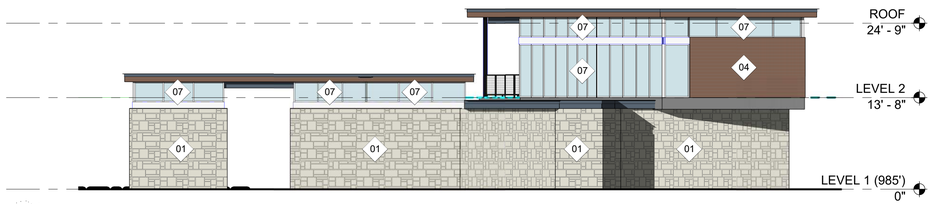
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1 SOUTH ELEVATION
3/32" = 1'-0"



2 WEST ELEVATION
3/32" = 1'-0"

MATERIAL LEGEND:

01	**LIMESTONE VENEER** COBRA'S CREAM	
02	**DARK BRICK**	
03	**COMPOSITE METAL PANEL** ALPOLIC - GZZ GREY ZINC	
04	**WOOD LOOK FIBER CEMENT BOARD** WOODTONE - RIVER ROCK	
05	**STANDING SEAM METAL ROOF** CHARCOAL GRAY	
06	**UNIT WINDOW** PLYGEM - SINGLE HUNG	
07	**FIXED ALUMINUM FRAMING SYSTEM** RAM WINDOW	
08	**VINYL DOOR**	
09	**HARDIE PANEL** SW 7048 - URBAN BRONZE	
10	**3 LAYER STUCCO** BM 855 - CLOUD COVER	
11	**3 LAYER STUCCO** SW 7048 - URBAN BRONZE	
11	**3 LAYER STUCCO**	
12	**GARAGE DOOR** AMARR - SW 7048 - URBAN BRONZE	
13	**EXPOSED STRL STEEL** PAINTED - SW 7048 - URBAN BRONZE	
14	**MESH RAILING** PAINTED - SW 7048 - URBAN BRONZE	
15	**GLU LAM BEAM**	

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PEARL BEE CAVE
MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

No. Date Revision

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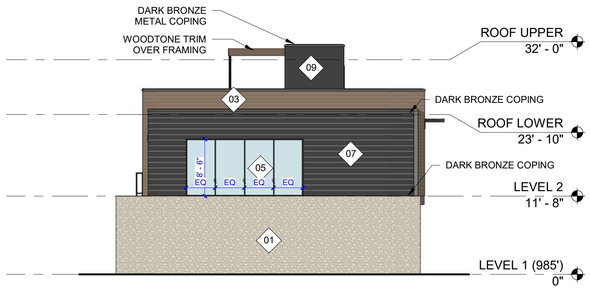
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BUILDING 10
ELEVATIONS
(AMENITY)

Project No. 21025

Date xx/xx/xxxx

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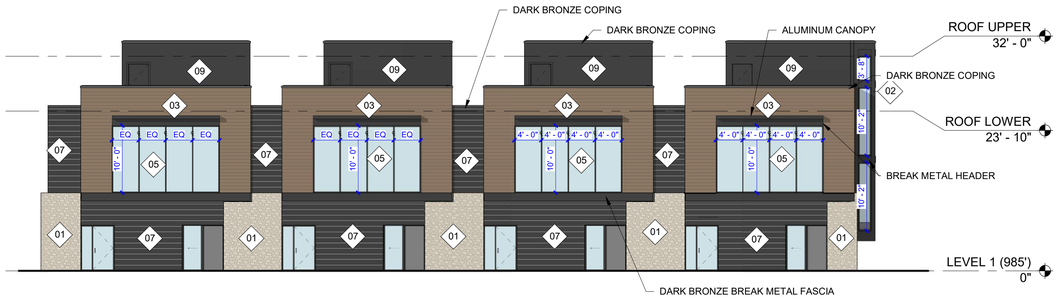


3 ELEVATION - EAST

3/32" = 1'-0"

AREAS:

MASONRY:	1,245 SF
ALTERNATIVES:	N/A SF
TOTAL:	1,245 SF
% OF ALTERNATIVE:	0%

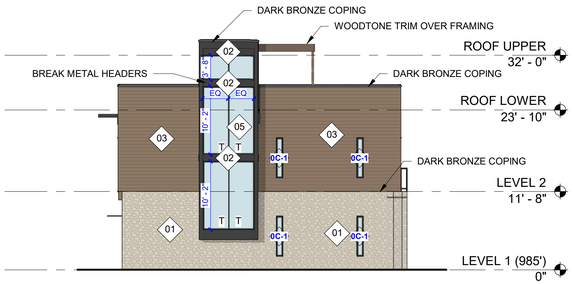


1 ELEVATION - NORTH

3/32" = 1'-0"

AREAS:

MASONRY:	3,762 SF
ALTERNATIVES:	N/A SF
TOTAL:	3,762 SF
% OF ALTERNATIVE:	0%

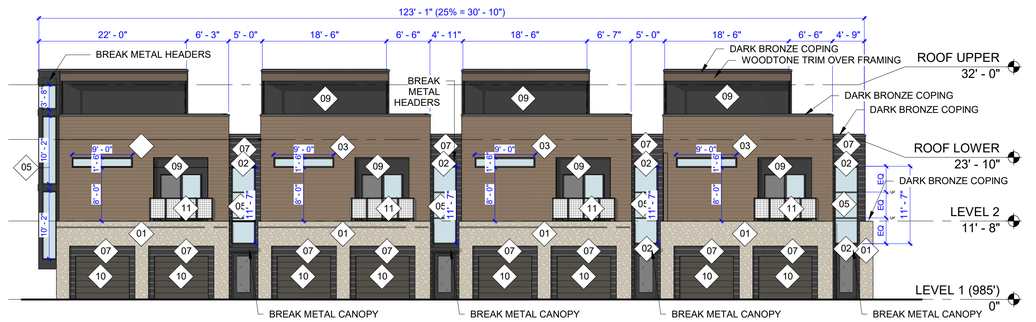


4 ELEVATION - WEST

3/32" = 1'-0"

AREAS:

MASONRY:	1,210 SF
ALTERNATIVES:	N/A SF
TOTAL:	1,210 SF
% OF ALTERNATIVE:	0%



2 ELEVATION - SOUTH

3/32" = 1'-0"

AREAS:

MASONRY:	3,762 SF
ALTERNATIVES:	N/A SF
TOTAL:	3,762 SF
% OF ALTERNATIVE:	0%

COVERED GLASS	
50% MIN. # OF PANES	
UNCOVERED	36
COVERED	44
COVERED %	55%
50% MIN. SF	
UNCOVERED	670 SF
COVERED	1,221 SF
COVERED %	64%

DECORATIVE HEADERS:	
75% MIN # OF PANES	
NON-DECORATIVE	12
DECORATIVE	40
DECORATIVE %	77%
75% MIN SF	
NON-DECORATIVE	220 SF
DECORATIVE	1,085 SF
DECORATIVE %	83%

MATERIAL LEGEND:

01	**LIMESTONE VENEER**	COBRA'S CREAM
02	**BREAK METAL**	DARK BRONZE
03	**WOOD LOOK FIBER CEMENT BOARD**	WOODTONE - RIVER ROCK
04	**UNIT WINDOW**	PLYGEM - SINGLE HUNG
05	**FIXED ALUMINUM FRAMING SYSTEM**	RAM WINDOW
06	**VINYL DOOR**	DARK BRONZE
07	**HARDIE PANEL**	SW 7048 - URBAN BRONZE
08	**3 LAYER STUCCO**	BM 855 - CLOUD COVER
09	**3 LAYER STUCCO**	SW 7048 - URBAN BRONZE
10	**GARAGE DOOR**	AMARR - SW 7048 - URBAN BRONZE
11	**MESH RAILING**	PAINTED - SW 7048 - URBAN BRONZE

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PEARL BEE CAVE MULTIFAMILY

13400 Bee Cave Parkway
Bee Cave, TX 78738

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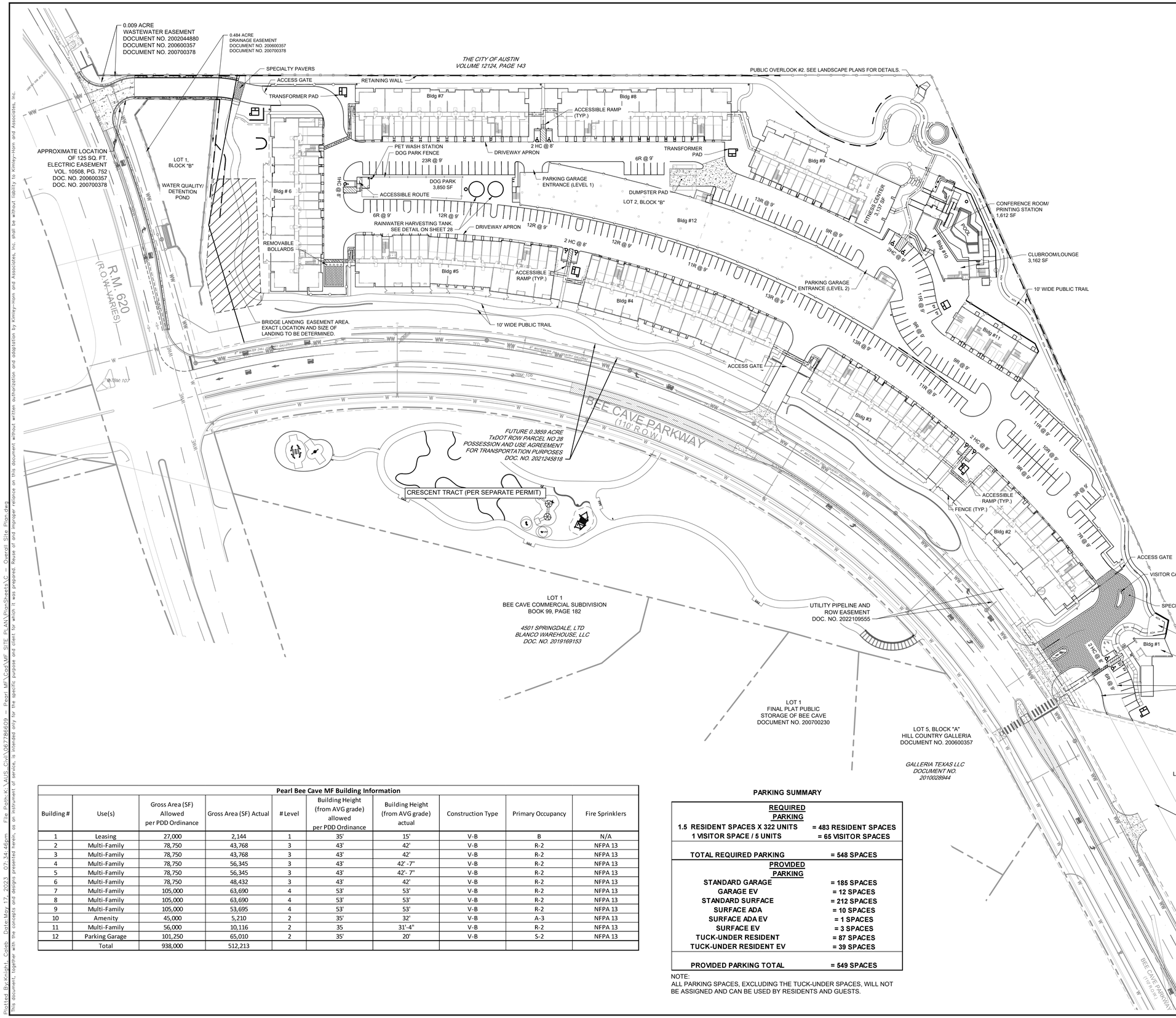
03/15/2023

BUILDING 11 ELEVATIONS (TOWNHOUSES)

Project No. 21025

Date xx/xx/xxxx

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N W E S

0 60' 120'
GRAPHIC SCALE 60'

LEGEND

- PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- FENCE (SEE LANDSCAPE PLAN FOR DETAILS)
- ACCESSIBLE ROUTE
- ELECTRICAL VEHICLE PARKING SPACE

IMPERVIOUS COVER SUMMARY

MAXIMUM ALLOWABLE IC (PER ORDINANCE 480) = 7.40 ACRES

PROVIDED IC	SF	ACRES
BUILDINGS	176,225	4.05
ROADWAYS	134,700	3.09
DRIVEWAY APRONS	3,750	0.09
PRIVATE SIDEWALKS *	2,250	0.05
TRANSFORMER PADS	350	0.01
DUMPSTER PAD	2,568	0.06
AMENITY DECK **	1,914	0.04
RAINWATER HARVESTING TANK	500	0.01
TOTAL	322,257	7.40

* POROUS CONCRETE/PERMEABLE PAVERS COUNT AS 50% IMPERVIOUS COVER
** WOOD DECK COUNTS AS 50% IMPERVIOUS COVER

SITE DATA
ZONING ORDINANCE = 480, PLANNED DEVELOPMENT MF-1 AND SFA
SITE AREA = 13.40 ACRES

REQUIRED SETBACKS:
- 50' LANDSCAPE BUFFER ALONG BEE CAVE PARKWAY (FROM EXISTING RIGHT OF WAY)
- 15' BUILDING SETBACK ADJACENT TO LOT 3
- 10' BUILDING SETBACK ADJACENT TO THE BALCONES CANYONLANDS WILDLIFE PRESERVE
- 75' BUILDING SETBACK FROM RM 620 RIGHT OF WAY

LTFR CODE MODIFICATION NOTE
A CODE MODIFICATION REQUEST WAS APPROVED ON MAY 05, 2022 TO ALLOW THE BUILDINGS TO BE CLOSER THAN 15' TO THE FIRE APPARATUS ROADWAYS

Pearl Bee Cave MF Building Information

Building #	Use(s)	Gross Area (SF) Allowed per PDD Ordinance	Gross Area (SF) Actual	# Level	Building Height (from AVG grade) allowed per PDD Ordinance	Building Height (from AVG grade) actual	Construction Type	Primary Occupancy	Fire Sprinklers
1	Leasing	27,000	2,144	1	35'	15'	V-B	B	N/A
2	Multi-Family	78,750	43,768	3	43'	42'	V-B	R-2	NFPA 13
3	Multi-Family	78,750	43,768	3	43'	42'	V-B	R-2	NFPA 13
4	Multi-Family	78,750	56,345	3	43'	42'-7"	V-B	R-2	NFPA 13
5	Multi-Family	78,750	56,345	3	43'	42'- 7"	V-B	R-2	NFPA 13
6	Multi-Family	78,750	48,432	3	43'	42'	V-B	R-2	NFPA 13
7	Multi-Family	105,000	63,690	4	53'	53'	V-B	R-2	NFPA 13
8	Multi-Family	105,000	63,690	4	53'	53'	V-B	R-2	NFPA 13
9	Multi-Family	105,000	53,695	4	53'	53'	V-B	R-2	NFPA 13
10	Amenity	45,000	5,210	2	35'	32'	V-B	A-3	NFPA 13
11	Multi-Family	56,000	10,116	2	35	31'-4"	V-B	R-2	NFPA 13
12	Parking Garage	101,250	65,010	2	35'	20'	V-B	S-2	NFPA 13
	Total	938,000	512,213						

PARKING SUMMARY

REQUIRED PARKING	
1.5 RESIDENT SPACES X 322 UNITS	= 483 RESIDENT SPACES
1 VISITOR SPACE / 5 UNITS	= 65 VISITOR SPACES
TOTAL REQUIRED PARKING	= 548 SPACES
PROVIDED PARKING	
STANDARD GARAGE	= 185 SPACES
GARAGE EV	= 12 SPACES
STANDARD SURFACE	= 212 SPACES
SURFACE ADA	= 10 SPACES
SURFACE ADA EV	= 1 SPACES
SURFACE EV	= 3 SPACES
TUCK-UNDER RESIDENT	= 87 SPACES
TUCK-UNDER RESIDENT EV	= 39 SPACES
PROVIDED PARKING TOTAL	= 549 SPACES

NOTE:
ALL PARKING SPACES, EXCLUDING THE TUCK-UNDER SPACES, WILL NOT BE ASSIGNED AND CAN BE USED BY RESIDENTS AND GUESTS.

Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
10814 JOLLYVILLE ROAD AVALON IV SUITE 200 AUSTIN, TX 78759
PHONE: 512-418-1771 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928
TBPE Firm No. 928
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LANCE R. ORR 96173 LICENSED PROFESSIONAL ENGINEER
5/17/2023

KHA PROJECT 067786609
DATE MARCH 2023
SCALE: AS SHOWN
DESIGNED BY: BTS
DRAWN BY: PGI
CHECKED BY: LRO

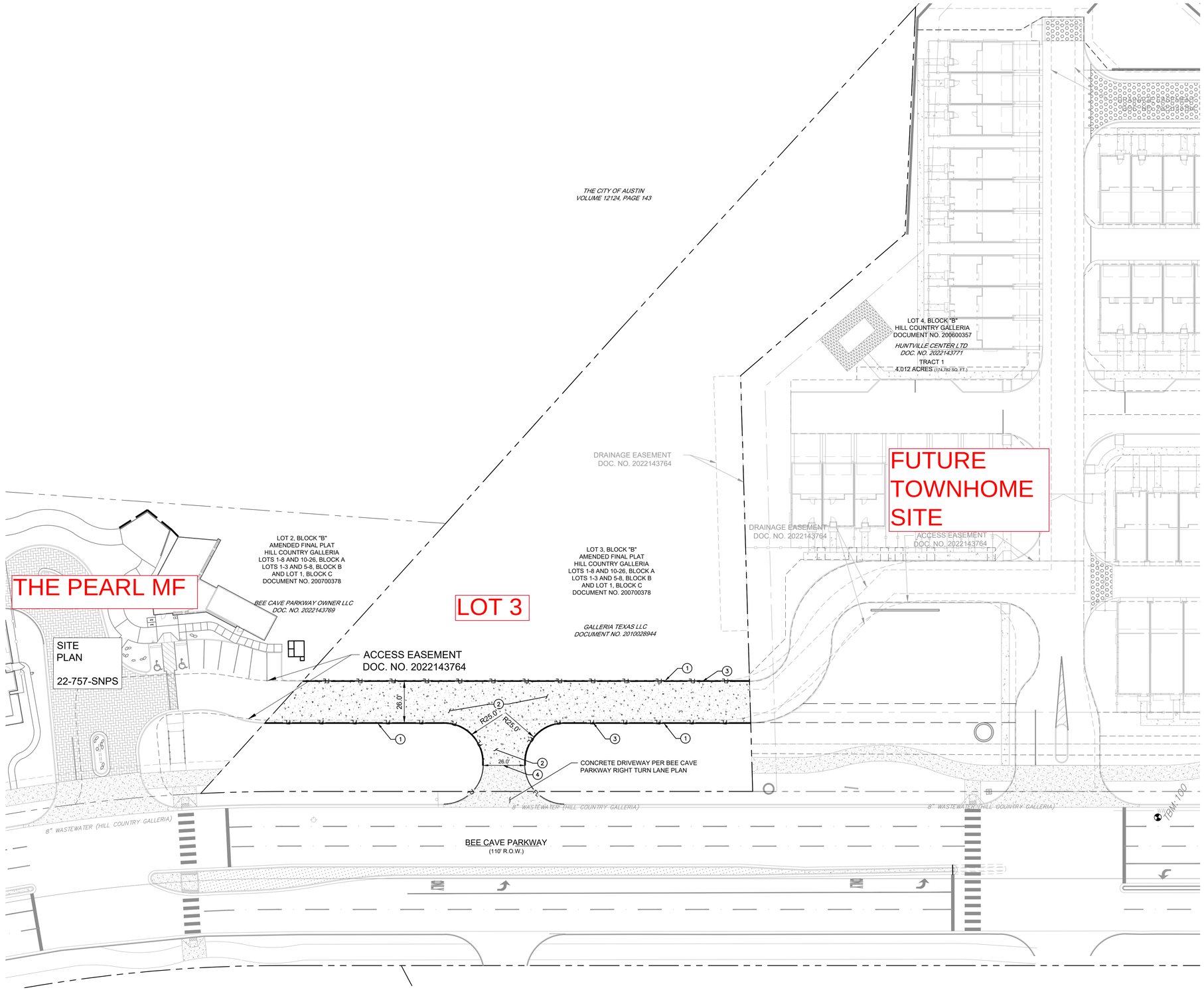
SITE PLAN

THE PEARL AT BEE CAVE
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
12 OF 90

Plotted By: Knight, Caleb Date: May 17, 2023 07:34:46pm File Path: K:\AUS_Civil\067786609 — Pearl MF\Cad\MF SITE PLAN\PlanSheets\C — Overall Site Plan.dwg
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Plotted By: Makenzie Nuresh Date: June 14, 2023 06:34:23pm File Path: K:\aus_civil\067786609 — pearl mf\Civil\07_Sitesheets\C — Overall Site Plan.dwg
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N E S W

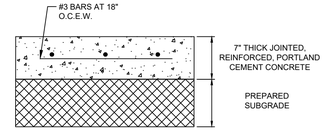
0 30' 60'
GRAPHIC SCALE 30'

LEGEND

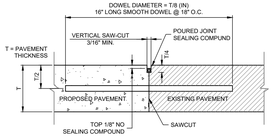
PROPERTY LINE
FL FIRE LANE
CONCRETE PAVEMENT

PAVEMENT CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER DETAIL ON SHEET 13.
2. CONSTRUCT CONCRETE PAVEMENT PER DETAIL THIS SHEET.
3. INSTALL FIRE LANE STRIPING. SEE NOTE BELOW.
4. CONNECT NEW CONCRETE PAVEMENT TO CONCRETE DRIVEWAY WITH LONGITUDINAL BUTT JOINT PER DETAIL ON THIS SHEET



HEAVY DUTY CONCRETE PAVEMENT SECTION
NTS



NOTE:
1. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
2. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.
3. TO BE USED WHEREVER NEW CONCRETE PAVEMENT IS TO BE PLACED ADJACENT TO EXISTING CONCRETE PAVEMENT.
4. DOWEL DIAMETER = T/8 (IN.)

BUTT JOINT

NOTES

1. CONTRACTOR TO REFER TO GEOTECHNICAL RECOMMENDATIONS FOR PAVEMENT DESIGN, JOINT SPACING AND SUBGRADE PREPARATION BY ECS SOUTHWEST, LLP., PROJECT NO. 17:6002, DATED 10-24-2022. CONTRACTOR IS ALSO RESPONSIBLE TO VERIFY THAT THE REPORT HAS NOT BEEN MODIFIED PRIOR TO CONSTRUCTION.
2. MAXIMUM CROSS SLOPE ON SIDEWALKS SHALL BE 2%. MAXIMUM RUNNING SLOPE SHALL BE 5%, RUNNING SLOPE ON CURB RAMPS SHALL BE 8.33% MAXIMUM WITH 2% MAXIMUM CROSS SLOPE. CONTRACTOR SHALL VERIFY GRADES PRIOR TO POURING CONCRETE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL SLEEVES FOR WET AND DRY UTILITIES AND IRRIGATION PRIOR TO POURING PAVEMENT.

FIRE LANE STRIPING NOTE

FIRE LANE STRIPING TO BE 8" WIDE RED PAINT WITH "FIRE LANE - TOW AWAY ZONE" IN 4" TALL WHITE LETTERS. WORDING MAY NOT BE SPACED MORE THAN 35' APART. STRIPING TO BE PAINTED ON THE FACE OF THE CURB WHEN PRESENT.

BENCHMARK

TBM 100: PK NAIL W/SHINER SET IN SOUTHEAST CORNER OF INLET ON EASTERLY RIGHT-OF-WAY LINE OF BEE CAVE PARKWAY, ±1750' SOUTHERLY OF R.M. 620, ±28' SOUTHERLY OF TREE TAGGED NO. 962, ±75' NORTHWESTERLY OF FIRE HYDRANT.
ELEVATION=974.63' (NOT SHOWN)

811 Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

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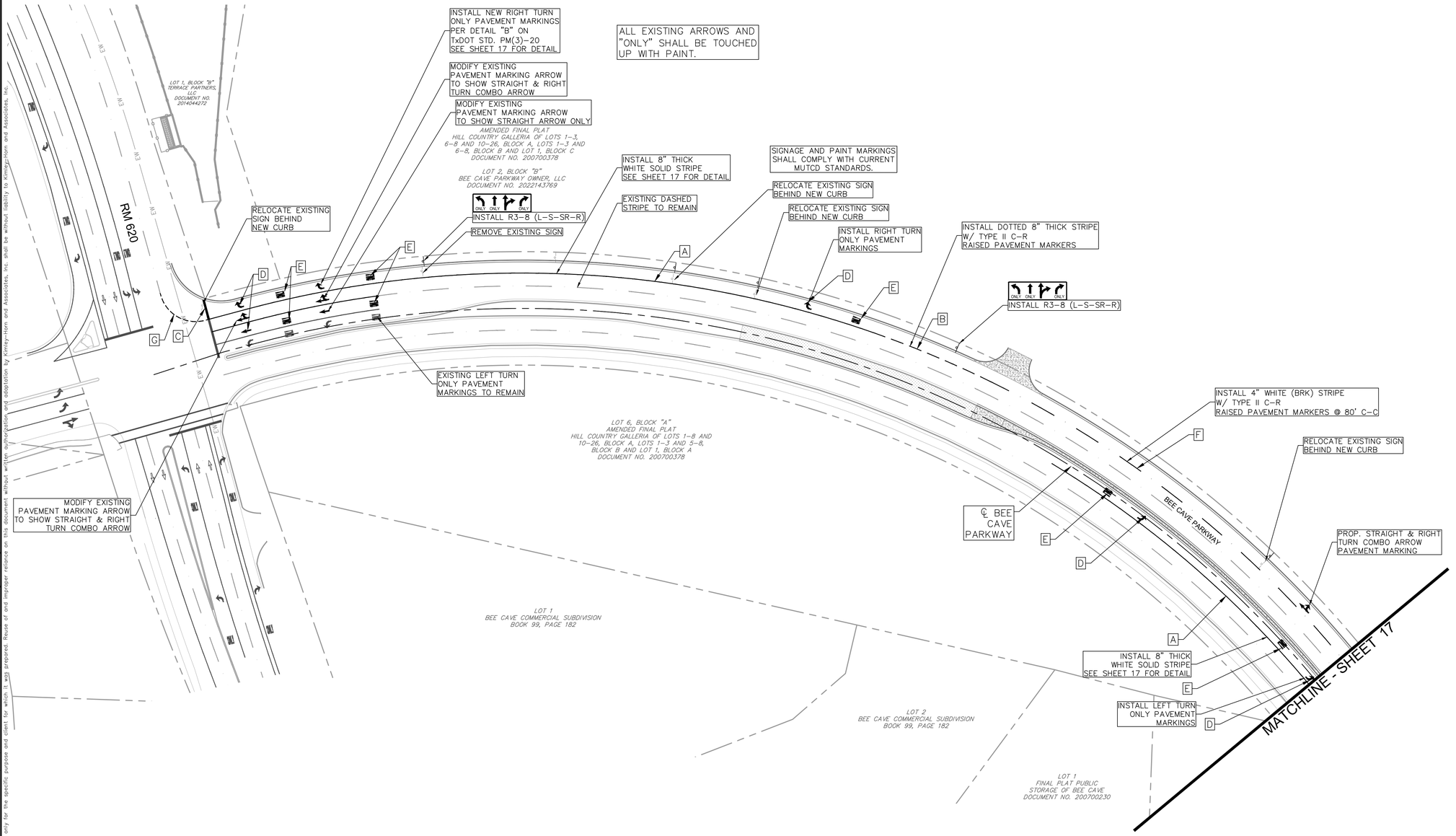
STATE OF TEXAS
LANCE R. ORITI
96173
LICENSED PROFESSIONAL ENGINEER
6/14/2023

KHA PROJECT 067786609	DATE JUNE 2023	SCALE: AS SHOWN	DESIGNED BY: PGI	DRAWN BY: PGI	CHECKED BY: LO

SITE & PAVING PLAN

LOT 3 HCG
DRIVEWAY IMPROVEMENTS
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

SHEET NUMBER
8 OF 13



N

W E

S

0 50' 100'

GRAPHIC SCALE 50'

LEGEND

- A — 8" WHITE (SOLID) W/ RAISED PAVEMENT MARKER TYPE II C-R
- B — 8" WHITE (DOT) W/ RAISED PAVEMENT MARKER TYPE II C-R
- C — 24" WHITE (SOLID)
- D — ARROW WHITE
- E — WORD "ONLY" WHITE
- F — 4" WHITE (BRK) W/ RAISED PAVEMENT MARKER TYPE II C-R @ 80' C-C
- G — 8" WHITE (DOT) 2' LONG W/ 2'-4' GAPS. SEE DETAIL ON SHEET 17

NOTES:

1. SIGNS TO BE RELOCATED SHALL BE MOUNTED ON TEMPORARY SUPPORTS DURING CONSTRUCTION.
2. REFER TO TxDOT STANDARDS PM (1)-12 THRU PM (3)-12 FOR ADDITIONAL DETAILS.

Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 512-418-1771 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TBPE Firm No. 928

STATE OF TEXAS
LANCE R. ORITI
96173
LICENSED PROFESSIONAL ENGINEER

07/11/2023

KHA PROJECT	067786609
DATE	JULY 2023
SCALE	AS SHOWN
DESIGNED BY:	LO
DRAWN BY:	BM/JC
CHECKED BY:	LO

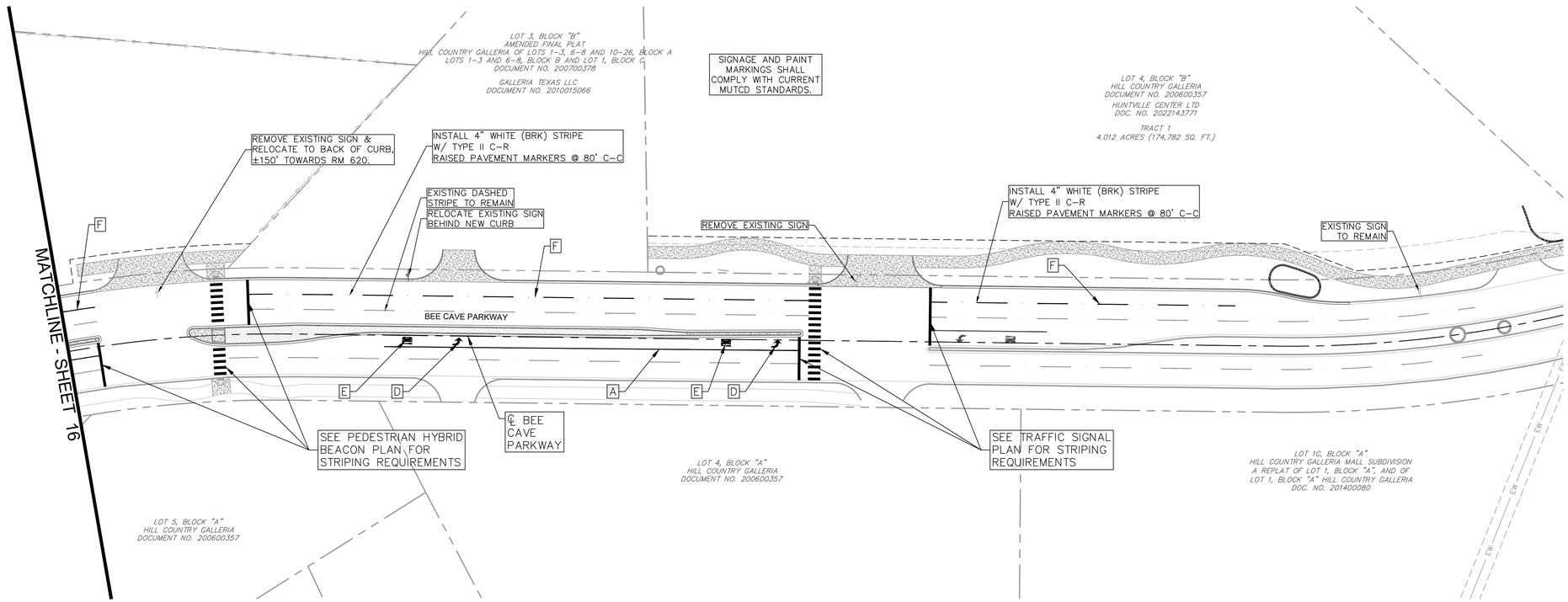
PAVEMENT STRIPING & SIGNAGE PLAN (SHEET 1 OF 2)

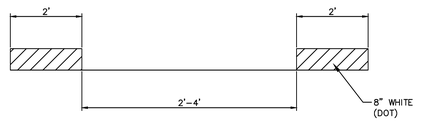
BEE CAVE PARKWAY IMPROVEMENTS

CITY OF BEE CAVE
TRAVIS COUNTY COUNTY, TEXAS

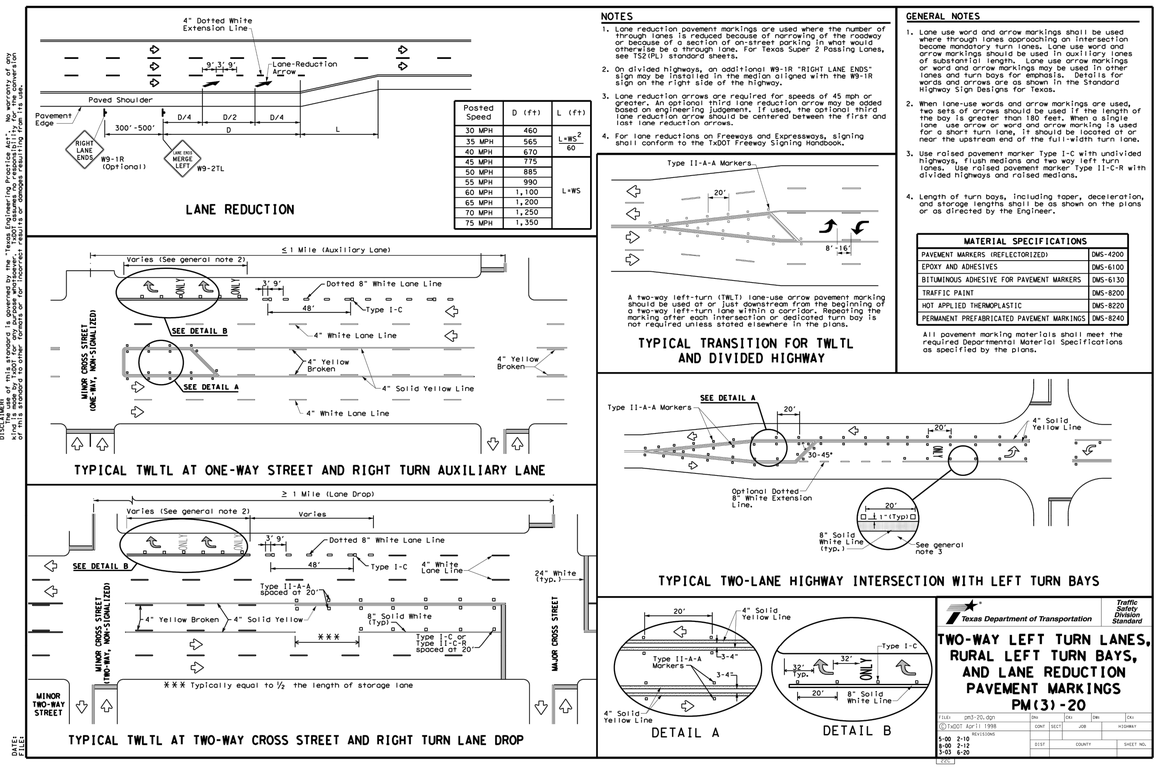
SHEET NUMBER
16 OF 29

Plotted By:Chavez, Jorge Date:July 11, 2023 05:29:04pm File Path:K:\AUS_Civil\067786609 - Pearl MF\Civil\ECP RIGHT TURN LANE\PlanSheets\C - Paving Plan.dwg
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8" WHITE DOT MARKINGS @ RM 620 N.T.S.



DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No liability of any kind is assumed by TxDOT for any modification of this standard, or the use of this standard in connection with any project. TxDOT's sole responsibility is limited to the preparation and distribution of the standard in its original form.

DATE: FILE:

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Plotted By: Chavez, Jorge Date: July 11, 2023 04:53:41pm File Path: K:\AUS_Civil\067786609 - Pearl MF\Cad\BCP RIGHT TURN LANE\Plan Sheets\IC - Paving Plan.dwg

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LANCE R. ORITI
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LICENSED
PROFESSIONAL ENGINEER
07/11/2023

KHA PROJECT 067786609
DATE JULY 2023
SCALE AS SHOWN
DESIGNED BY: LO
DRAWN BY: BM/JC
CHECKED BY: LO

PAVEMENT STRIPING & SIGNAGE PLAN (SHEET 2 OF 2)

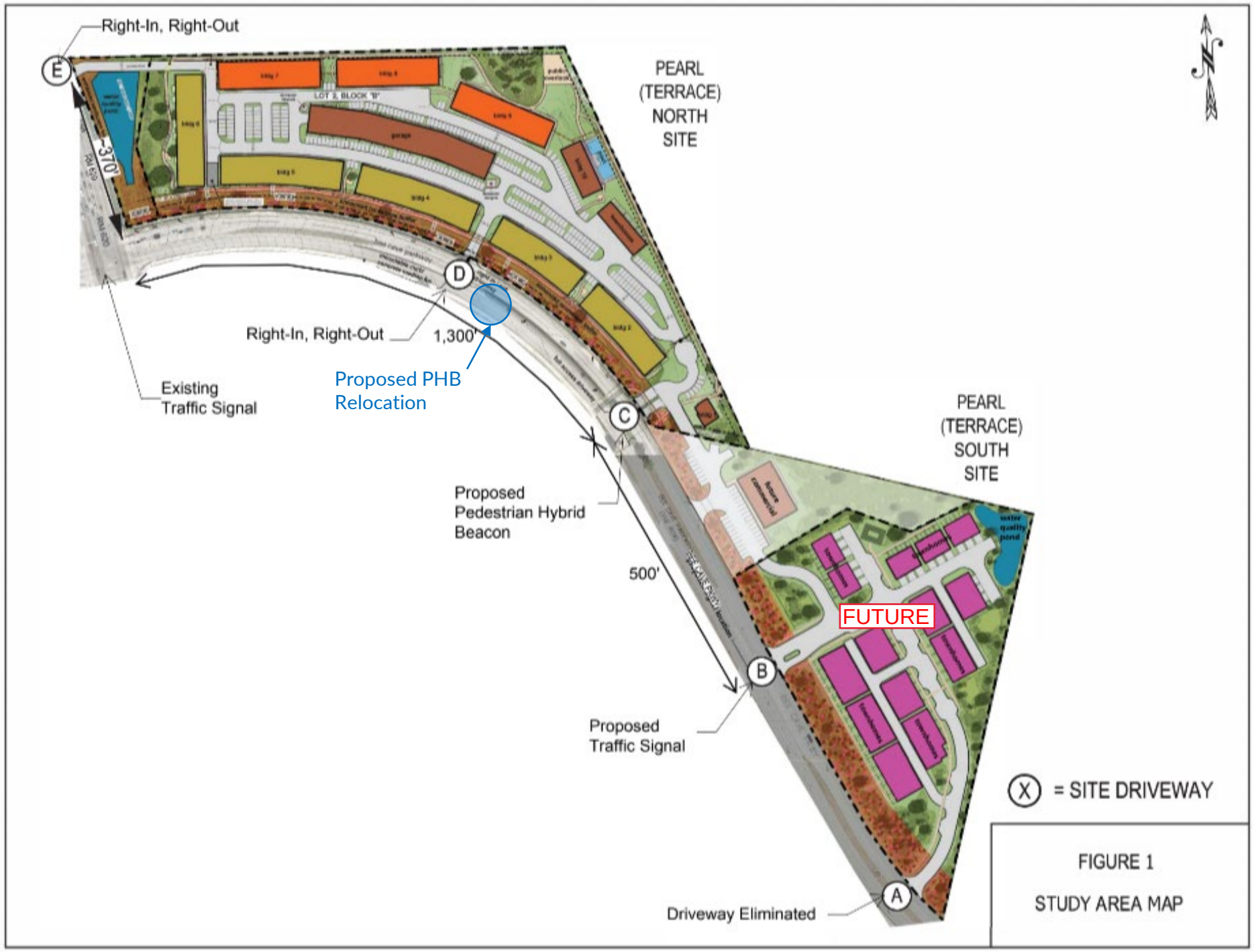
BEE CAVE PARKWAY IMPROVEMENTS

CITY OF BEE CAVE
TRAVIS COUNTY COUNTY, TEXAS

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WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SHEET NUMBER
17 OF 29


Right-In, Right-Out
E
370'
PEARL
(TERRACE)
NORTH
SITE
D
Right-In, Right-Out
1,300'
Proposed PHB
Relocation
Existing
Traffic Signal
C
PEARL
(TERRACE)
SOUTH
SITE
Proposed
Pedestrian Hybrid
Beacon
500'
FUTURE
B
Proposed
Traffic Signal
X = SITE DRIVEWAY
A
Driveway Eliminated
FIGURE 1
STUDY AREA MAP

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SIDEWALK AND TRAIL EASEMENT

THE STATE OF TEXAS §
§ KNOW ALL BY THESE PRESENTS;
COUNTY OF TRAVIS §

That **BEE CAVE PARKWAY OWNER, LLC**, a Delaware limited liability company, hereinafter referred to as "**Grantor**", being the owner of the land described in **Exhibit A** attached hereto and made a part hereof for all purposes (the "**Land**"), for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable consideration to Grantor in hand paid by the City of Bee Cave, Texas whose address is 4000 Galleria Parkway, Bee Cave, Texas 78738, hereinafter referred to as "**Grantee**", the receipt and sufficiency of which are hereby acknowledged and confessed, and for which no lien, or encumbrance expressed or implied, is retained, has this day GRANTED and CONVEYED and by these presents does GRANT and CONVEY unto Grantee, an easement ("**Easement**") solely for pedestrian use of a sidewalk structure and trail (collectively, the "**Improvements**"), upon and across that certain tract located on the Land, the proposed location of which is depicted in **Exhibit B** attached hereto and made a part hereof for all purposes ("**Easement Tract**").

TO HAVE AND TO HOLD the Easement unto Grantee forever, and Grantor binds itself, and its successors and assigns, to warrant and forever defend all and singular the Easement unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under Grantor, but not otherwise; subject, however, to all title exceptions and other matters of record, or visible and apparent on the ground, which affect the Easement Tract, to the extent the same are valid and enforceable.

1. Grantee will be solely responsible for any damage or injury to persons or property resulting from the activities of Grantee, its agents, employees, contractors, subcontractors, invitees, or guests, including users of the Easement Tract (collectively, "**City Parties**") in coming upon or about the Easement Tract, including, without limitation, any damage caused to Grantor's larger property on which the Easement Tract is located. TO THE FULLEST EXTENT PERMITTED BY LAW, GRANTEE AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS GRANTOR, ITS AGENTS, EMPLOYEES, AFFILIATES, TENANTS AND INVITEES (COLLECTIVELY, "**GRANTOR PARTIES**") FOR ANY CLAIMS ASSERTED AGAINST OR INCURRED BY A GRANTOR PARTY IN CONNECTION WITH OR ARISING OUT OF CITY PARTIES' USE OF AND/ OR ACTIVITIES UPON THE EASEMENT OR EASEMENT TRACT, UNLESS CAUSED BY THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF A GRANTOR PARTY. Grantee will maintain a policy or policies of commercial general liability insurance, in the minimum amount of $1,000,000 per occurrence, which names Grantor and its designees as an additional insured, and insures against liability for bodily injury, personal injury, death, or property damage in support of Grantee's obligations herein. The Grantee will be

DRAFT

solely responsible for the safety of the City Parties in connection with their entry upon or use of the Easement or Easement Tract. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, EACH PARTY HERETO HEREBY WAIVES THE RIGHT TO SEEK CONSEQUENTIAL, SPECIAL, INDIRECT OR PUNITIVE DAMAGES FROM THE OTHER PARTY.

2. The Easement is nonexclusive and Grantor reserves the right to grant encumbrances, including, without limitation, easements for utility lines and facilities, utility crossings and drainage facilities, upon, across or under the Easement Tract, which do not unreasonably interfere with Grantee's rights under this instrument or use of the Easement ("**Permitted Dedications**") and Grantor (or the grantee named in any such Permitted Dedication) will have the right to construct any facilities upon, across or within the Easement Tract in accordance with the terms of the Permitted Dedications. Grantee hereby acknowledges Grantor's right to grant the Permitted Dedications, and no further approval by Grantee of such Permitted Dedications or any construction pursuant to the terms thereof will be required. Notwithstanding anything contained herein to the contrary, Grantor hereby expressly reserves the right to construct, install, repair and maintain curb cuts and access points and driveways (for both vehicular and pedestrian access) over and across the Easement Tract for access to and from Bee Cave Parkway and/or Highway 620 in areas within the Easement Tract to be determined by Grantor, in Grantor's sole and absolute discretion, and Grantee hereby acknowledges that such curb cuts, access points and driveways shall not unreasonably interfere with Grantee's use of the Easement. Grantor further reserves and will continue to enjoy the right to utilize the surface and subsurface of the Easement Tract for all purposes which do not unreasonably interfere with or prevent the use of the Easement by Grantee as contemplated herein.

3. The terms and obligations contained herein shall be covenants running with the land and shall be perpetual for so long as Grantee uses the Easement for the purpose stated in the initial paragraph hereof. The terms and conditions contained herein shall bind, inure to the benefit of, and be enforceable by, Grantor and Grantee and their respective successors and assigns. .

4. Grantor agrees, at Grantor's expense, to construct the Improvements to be located on the Easement Tract. Upon completion of construction of such Improvements within the Easement Tract, Grantor agrees to maintain the Easement Tract at Grantor's cost and expense.

5. Upon completion of the Improvements, Grantor will cause an as-built legal description to be prepared reflecting the actual, installed location of the Improvements and the parties hereto shall execute and record an amendment to this instrument replacing the depiction of the Easement Tract, attached hereto as **Exhibit B**, with the as-built legal description.

6. Grantor and Grantee acknowledge that the Easement granted herein does not constitute a conveyance of the Easement Tract or any portion thereof. Any improvements or facilities related to the Easement shall be owned by Grantor.

7. The City Parties shall only access the Easement via public rights-of-way that abut the Easement Tract.

8. Notices given hereunder shall be in writing and deemed to have been properly delivered (a) upon receipt, if delivered by reputable overnight courier or (b) upon receipt of such email, if sent via email, provided a confirming copy of such notice is delivered in the manner provided in subsection (a). A party may change its respective address for notice by giving five (5) business days' advance written notice to the other party in the manner provided for herein. Each party's respective address for notice is as follows:

Grantor: Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Jason Hauck
3000 Richmond Avenue
Houston, Texas 77098
Email: jasonh@morgangroup.com

With Required Copy To:
Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Legal Department; Rosalind McLeroy/ Julie Stephenson
3000 Richmond Avenue
Houston, Texas 77098
Email:Rosalindm@morgangroup.com/
julie.stephenson@morgangroup.com

With Required Copy To:
Jackson Walker LLP
1401 McKinney, Suite 1900
Houston, Texas 77010
Attention: Lewis S. Kasner
Email: lkasner@jw.com

Grantee: City of Bee Cave, Texas
Attn: City Secretary
4000 Galleria Parkway
Bee Cave, TX 78738
Email:
kholloway@beecavete
xas.gov

9. Miscellaneous. This instrument embodies the entire agreement between the parties hereto regarding the subject matter hereof. If any provision herein is for any reason held to be invalid, illegal, or unenforceable, such invalidity, illegality, or unenforceability shall not affect any other provision hereof, and this instrument shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein. This instrument shall be governed in accordance with the laws of the State of Texas. The prevailing party in any legal action or proceeding shall be entitled to recover from the non-prevailing party all reasonable attorneys' fees

and court costs incurred in connection with such legal action or proceeding. The failure of either party to enforce at any time any provision hereof shall not be construed to be a waiver of such provision, nor in any way to affect the validity of the Easement or the right of such party thereafter to enforce any such provision; no waiver of any breach hereof shall constitute a waiver of any other or subsequent breach. Each party agrees that it will execute and deliver such other documents and take such other action as may be reasonably requested by the other party to effectuate the purposes hereof. This instrument may only be amended by a written agreement executed by the parties hereto and recorded in the official public records. Except as expressly set forth herein, there are no intended third party beneficiaries of this instrument nor of the rights and privileges conferred herein.

– Remainder of Page Intentionally Left Blank –

IN WITNESS THEREOF, Grantor has caused this instrument to be executed on this _____ day of _____, 202_.

GRANTOR:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
COUNTY OF _____ §

Before me, the undersigned notary, on this day personally appeared _____, _____ of Bee Cave Parkway Owner, LLC, a Delaware limited liability company, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 202_.

[Seal]

_____
Notary Public, State of Texas

ACCEPTED:

CITY OF BEE CAVE, TEXAS

By:_____
Name:_____
Title:_____

APPROVED AS TO FORM:

By:_____

After Recording, Return To:

Kaylynn Holloway
City of Bee Cave
4000 Galleria Parkway
Bee Cave, Texas 78738

EXHIBIT A

LEGAL DESCRIPTION OF THE LAND

Lots 1 and 2, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas.

SAVE AND EXCEPT that certain tract of land conveyed to the State of Texas by instrument recorded in Document No. 2023037347, Official Public Records of Travis County, Texas.

EXHIBIT B

DEPICTION OF THE EASEMENT TRACT

Attached to this cover page.

NOTICE OF CONFIDENTIALITY RIGHTS: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your Social Security number or your driver's license number.

WATER QUALITY CONTROLS EASEMENT

Date:	_____, 2023
Grantor:	**BEE CAVE PARKWAY OWNER, LLC**, a Delaware limited liability company
Grantor's Address:	3000 Richmond Avenue Houston, Texas 77098
City:	**CITY OF BEE CAVE, TEXAS**, a Texas home-rule municipal corporation situated in Travis County, Texas
City's Address:	Bee Cave City Hall 400 Galleria Parkway Bee Cave, Travis County, Texas 78738
Easement Tract:	The land located in Travis County, Texas as described in the attached **Exhibit A** Such Easement Tract being a portion of Lot 1, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas (the "**Plat**").
Easement Duration:	Perpetual
Easement Purpose:	To reirrigate or spray detained water onto the Easement Tract from the detention pond located on the 0.484 acre drainage easement created by the Plat (see Sheet 23 of 40 of the Plat).
City Permit:	The approved and released City of Bee Cave Site Plan No. _____-SCP as the site plan is amended, revised, or corrected from time to time
Permitted Encumbrances:	Any easements, liens, encumbrances, and other matters not subordinated to the Easement Tract and of record in the Real

DRAFT

Property Records of the Texas county in which the Easement Tract is located that are valid, existing, and affect the Easement Tract as of the Date

Non-Permitted Activity: Installation, construction, operation, use, maintenance, repair, modification, upgrade, and replacement of any vertical building in the Easement Tract

Grantor, for **TEN AND NO/100 DOLLARS ($10.00)** and other good and valuable consideration paid to Grantor, the receipt and sufficiency of which is acknowledged by Grantor, **GRANTS, SELLS, AND CONVEYS** to the City a non-exclusive easement in, over, under, on, and across the Easement Tract for the Easement Purpose as may be necessary or desirable subject to the Permitted Encumbrances, together with (i) the right of ingress and egress at all times over, on, and across the Easement Tract for use of the Easement Tract for the Easement Purpose, (ii) the right to eliminate any encroachments in the Easement Tract that interfere in any material way or are inconsistent with the rights granted the City under this instrument for the Easement Purpose as determined by the City in its reasonable discretion, and (iii) any and all rights and appurtenances pertaining to use of the Easement Tract (collectively, the "**Easement**").

TO HAVE AND TO HOLD the Easement to the City and City's successors and assigns for the Easement Duration and Easement Purpose; provided, however, Grantor reserves the right to enter upon and use any portion of the Easement Tract and to install, construct, operate, use, maintain, repair, modify, upgrade, and replace within the Easement Tract the improvements allowed under the City Permit, but in no event shall Grantor, except with respect to the improvements allowed under the City Permit, enter upon or use any portion of the Easement Tract for any Non-Permitted Activity or in any other manner that interferes in any material way or is inconsistent with the rights granted the City under this Easement for the Easement Purpose as determined by City in its reasonable discretion; provided, that Grantee expressly acknowledges and consents to sidewalks, trails, pavement, parking, gates, and landscaping (other than trees) on the Easement Tract.

Grantor binds Grantor and Grantor's heirs, successors, and assigns to **WARRANT AND FOREVER DEFEND** the title to the Easement, subject to the Permitted Encumbrances, to the City against every person whomsoever lawfully claiming or to claim the Easement Tract or any part of the Easement Tract when the claim is by, through, or under Grantor, but not otherwise.

Except where the context otherwise requires, *Grantor* includes *Grantor's heirs, successors, and assigns* and *City* includes *City's employees, agents, consultants, contractors, successors, and assigns*; and where the context requires, singular nouns and pronouns include the plural.

[Signature pages follow.]

DRAFT

Executed effective the Date first above stated.

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
COUNTY OF _____ §

This instrument was acknowledged before me on _____, 2023 by _____, the _____ of BEE CAVE PARKWAY OWNER, LLC, a Delaware limited liability company, on behalf of said limited liability company.

SEAL:

_____
Notary Public, State of Texas

APPROVED AS TO FORM:
CITY OF BEE CAVE, TEXAS

By:_____
Name: _____
Title: _____

DRAFT

EXHIBIT A

Legal Description and Depiction of Easement Tract

[To be inserted]

DRAFT

MEDIAN AND RIGHT-OF-WAY MAINTENANCE AGREEMENT

STATE OF TEXAS §
§ **KNOW ALL MEN BY THESE PRESENTS:**
COUNTY OF TRAVIS §

THIS MEDIAN AND RIGHT-OF-WAY MAINTENANCE AGREEMENT (this "Agreement") is entered into this _____ day of _____, 2023, by and between the **CITY OF BEE CAVE, TEXAS,** a Texas home-rule municipal corporation in Travis County, Texas (the "City"), and **BEE CAVE PARKWAY OWNER, LLC,** a Delaware limited liability company ("Developer"), both acting through their duly authorized officers or employees (hereinafter the "Agreement").

WITNESSETH:

WHEREAS, Developer is the owner of certain real property adjacent to the public right-of-way of Bee Cave Parkway and located in the City of Bee Cave, Texas ("Developer's Property");

WHEREAS, pursuant to the construction of a multifamily residential project on Developer's Property, Developer is applying for permits under Project Nos. 22-757-SNPS and 22-763-SNPS (collectively, the "Permits") and, in connection therewith, has agreed to install and maintain shrubs, bushes, vegetation and related facilities, as approved by the City (collectively, the "Public Improvements"), within medians to be constructed and located on Bee Cave Parkway (east of and not including RM 620, and west of and not including Bee Caves Road/ RM 2244), the proposed locations for which are depicted on Exhibit "A" attached hereto and incorporated herein by reference (hereinafter and collectively, the "Landscape Area");

WHEREAS, the City, under the terms and conditions set forth herein, is agreeable to Developer installing and maintaining the Public Improvements within the Landscape Area for the purpose of enhancing the overall aesthetics of Developer's Property; and

WHEREAS, the City and Developer desire to set forth the responsibilities and obligations with regard to the installation and maintenance contemplated herein.

NOW, THEREFORE, for and in consideration of the covenants, obligations and undertakings to be performed by each of the parties to this Agreement, the said parties do hereby agree as follows:

1. **Installation and Maintenance**. Prior to completion of the multifamily residential project on Developer's Property, Developer, at Developer's cost and expense, shall install the Public Improvements within the Landscape Area in a good and workmanlike manner and in accordance with all applicable laws. Following installation, Developer shall maintain, or cause to be maintained, the Public Improvements for the Term (hereinafter defined) in a neat and well-kept condition, in compliance with all applicable laws, rules and ordinances, and in accordance with the maintenance schedule agreed to by the City and Developer, as set forth on Exhibit "B" attached hereto and

incorporated herein by reference (the "Maintenance Schedule"). In the event Developer fails to maintain the Public Improvements in accordance with this Section 1, the City may provide written notice of default to Developer specifying in reasonable detail the nature of such default. If Developer fails to cure such default within ten (10) business days of receiving the City's written notice, the City may perform such maintenance and charge Developer for the City's reasonable, actual, out-of-pocket costs for same.

2. **Term.** Subject to the remaining provisions of this Section 2, Developer, at Developer's cost and expense, shall furnish all labor, materials, equipment and services necessary to maintain the Public Improvements for a period of fifteen (15) years following construction of the Public Improvements (the "Term"), unless the City assumes such maintenance obligations prior to expiration of the Term, in which event this Agreement shall terminate. Notwithstanding the preceding sentence, the effectiveness of this Agreement and the covenants herein are conditioned upon final approval of the Permits with no additional restrictions therein not agreed to by Developer. An affidavit executed by Developer and recorded in the Official Public Records of Travis County, Texas certifying the facts supporting the ineffectiveness and expiration of this Agreement pursuant to the foregoing shall constitute a valid termination of this Agreement and, thereafter, neither party hereto shall have any rights or obligations hereunder.

3. **Access Easement**. Commencing on the date hereof and for the duration of the Term, the City grants to Developer an easement along, within, across, and adjacent to the Landscape Area for the purpose of installing, maintaining and accessing the Public Improvements and to permit Developer to perform its obligations under this Agreement.

4. **Ownership of Public Improvements.** During the Term, all Public Improvements shall be and remain the property of Developer. Upon expiration or termination of this Agreement, the Public Improvements shall become the property of the City and the City shall have no obligation to maintain the Public Improvements to Developer's standards, but shall be obligated to maintain the Public Improvements in accordance with applicable law and any relevant standards promulgated by the City.

5. **Damages**. Developer shall be responsible for repairing damage to the Public Improvements and/or the Landscape Area, except to the extent caused by the negligence or willful misconduct of the City, its officers, agents, employees, and contractors and their respective officers, agents or representatives (collectively, the "City Group").

6. **Insurance**. Developer, at its own expense, agrees to obtain and keep in full force during the Term commercial general liability insurance providing coverage for bodily injury (including death), property damage and premises/operations in an amount of Two Million Dollars ($2,000,000.00) for injuries and damages to persons, and in the amount of Five Hundred Thousand Dollars ($500,000.00) for property damage arising out of, or in connection with, the installation or maintenance of the Public Improvements as provided for in this Agreement. The City shall be named as an additional insured on all insurance policies required herein. Developer shall furnish the City with certificates of insurance evidencing the coverage required by this paragraph. Such certificates must be

delivered to the City prior to Developer commencing construction of the Public Improvements.

7. **Indemnity**. DEVELOPER AGREES TO DEFEND, INDEMNIFY AND HOLD THE CITY AND ITS RESPECTIVE OFFICERS, AGENTS AND EMPLOYEES, HARMLESS AGAINST ANY AND ALL CLAIMS, LAWSUITS, JUDGMENTS, FINES, PENALTIES, COSTS AND EXPENSES FOR PERSONAL INJURY (INCLUDING DEATH), PROPERTY DAMAGE OR OTHER HARM OR VIOLATIONS FOR WHICH RECOVERY OF DAMAGES, FINES, OR PENALTIES IS SOUGHT OR SUFFERED BY ANY PERSON AND WHICH ARISE OUT OF DEVELOPER'S BREACH OF ANY TERMS OF THIS AGREEMENT, VIOLATIONS OF LAW, OR FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF DEVELOPER OR ITS RESPECTIVE OFFICERS, AGENTS, EMPLOYEES AND CONTRACTORS (COLLECTIVELY, "DEVELOPER GROUP") DURING THE TERM. THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL NOT APPLY TO ANY LIABILITY RESULTING FROM THE CITY GROUP'S BREACH OF ANY TERMS OF THIS AGREEMENT, VIOLATIONS OF LAW, OR FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE CITY GROUP. THE PROVISIONS OF THIS PARAGRAPH ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND ARE NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, THE CITY HEREBY WAIVES THE RIGHT TO SEEK CONSEQUENTIAL, SPECIAL, INDIRECT AND/OR PUNITIVE DAMAGES FROM DEVELOPER GROUP AND DEVELOPER'S SUCCESSORS AND ASSIGNS.

DEVELOPER, AT ITS OWN EXPENSE, IS REQUIRED TO DEFEND THE CITY AGAINST ALL CLAIMS FOR WHICH DEVELOPER IS LIABLE UNDER THIS SECTION 7. THE CITY RESERVES THE RIGHT TO PROVIDE A PORTION OR ALL OF ITS OWN DEFENSE; HOWEVER, THE CITY IS UNDER NO OBLIGATION TO DO SO. ANY SUCH ACTION BY CITY IS NOT TO BE CONSTRUED AS A WAIVER OF DEVELOPER'S OBLIGATION TO DEFEND THE CITY OR AS A WAIVER OF DEVELOPER'S OBLIGATION TO INDEMNIFY THE CITY PURSUANT TO THIS SECTION 7. DEVELOPER SHALL RETAIN DEFENSE COUNSEL PROMPTLY UPON RECEIPT OF THE CITY'S WRITTEN NOTICE THAT THE CITY IS INVOKING ITS RIGHT TO INDEMNIFICATION UNDER THIS AGREEMENT. IF DEVELOPER FAILS TO RETAIN COUNSEL AS REQUIRED, THE CITY SHALL HAVE THE RIGHT TO RETAIN DEFENSE COUNSEL ON ITS OWN BEHALF AND DEVELOPER SHALL BE LIABLE FOR ALL REASONABLE COSTS INCURRED BY THE CITY.

8. **City Responsibility**. Notwithstanding anything contained herein to the contrary, the City shall be responsible for installation and maintenance of all street pavement, water mains, sanitary sewer mains, storm sewer mains, and appurtenances thereto within, adjacent to or abutting the Landscape Area.

9. **As-Built Legal Descriptions**. Upon completion of such medians, the legal description of the Landscape Area will be deemed to be the actual, as-built location of the medians. At Developer's option, Developer may cause as-built legal descriptions to be

prepared reflecting the actual, installed location of all such medians and the parties hereto shall execute and record an amendment to this Agreement replacing the depiction of the Landscape Area attached hereto as Exhibit "A" with the as-built legal descriptions, provided, however, in no event shall recordation of such an amendment be required hereunder.

10. **Amendment**. Subject to the terms of Section 2 hereof, this Agreement and all requirements hereunder may only be modified or amended by written instrument executed by Developer and the City, their successors or assigns.

11. **Notices**. Any notice required to be given or served upon any party hereto in connection with this Agreement must be in writing and delivered to the party at the address(es) set forth below by (i) courier, (ii) overnight delivery service (including FedEx), or (iii) certified mail, return receipt requested, all with a copy by email. If such notice is given via courier, such notice will be deemed to have been given when received. If such notice is sent by overnight delivery service, such notice is deemed received at the time of the first attempted delivery of such notice. If such notice is sent by certified mail, such notice will be deemed received two (2) days after a certified letter containing such notice, with postage prepaid, is deposited in the United States mail.

Developer:
Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Jason Hauck
3000 Richmond Avenue
Houston, Texas 77098
Email: jasonh@morgangroup.com

With Required Copy To:

Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Legal Department; Rosalind McLeroy/ Julie Stephenson
3000 Richmond Avenue
Houston, Texas 77098
Email:Rosalindm@morgangroup.com/julie.stephenson@morgangroup.com

With Required Copy To:

Jackson Walker LLP
1401 McKinney, Suite 1900
Houston, Texas 77010
Attention: Lewis S. Kasner
Email: lkasner@jw.com

The City:

City of Bee Cave, Texas
Attn: City Secretary
4000 Galleria Parkway
Bee Cave, Texas 78738
Email:
kholloway@beecavetexas.gov

Either party hereto may change its address for notice purposes by giving the other party at least ten (10) days' prior written notice of such change of address.

12. **Governing Law**. The laws of the State of Texas shall govern the interpretation, validity, performance, and enforcement of this Agreement, and Travis County, Texas shall be the exclusive venue for any action to enforce the terms and conditions of this Agreement.

13. **Covenant Runs with the Land**. These conditions and covenants shall run with the land and shall also be binding upon Developer and its successors-in-interest. Upon conveyance of the entirety of Developer's Property, the then-owner of Developer's Property will be released and discharged from any and all obligations under this Agreement from and after the date of such conveyance, but no such conveyance shall release the prior owner of Developer's Property from any liabilities existing prior to such conveyance.

14. **Severability**. In the event any one or more of the provisions contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

15. **Third Party Beneficiaries.** The provisions of this Agreement are for the exclusive benefit of the parties hereto, and their permitted successors and assigns, and not for the benefit of any third party.

16. **Full Agreement**. This instrument embodies the entire agreement between the parties hereto regarding the subject matter hereof.

17. **Further Assurances**. Each party agrees that it will execute and deliver such other documents and take such other action as may be reasonably requested by the other party to effectuate the purposes hereof.

[SIGNATURES TO FOLLOW]

Executed to be effective as of the date first set forth above.

CITY:

CITY OF BEE CAVE, TEXAS,
a Texas home-rule municipal corporation in Travis County

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

Before me, the undersigned notary, on this day personally appeared _____, _____ of City of Bee Cave, Texas, a Texas home-rule municipal corporation in Travis County, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 2023.

[Seal]

_____
Notary Public, State of Texas

DEVELOPER:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
§
COUNTY OF _____ §

Before me, the undersigned notary, on this day personally appeared _____, _____ of Bee Cave Parkway Owner, LLC, a Delaware limited liability company, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 2023.

[Seal]

_____
Notary Public, State of Texas

Exhibit “A”

DEPICTION OF THE LANDSCAPE AREA

Exhibit "B"

MAINTENANCE SCHEDULE

The Public Improvements shall be maintained in accordance with the following annual schedule:

January 1 – March 15:	3 visits
March 15 – June 15:	6 visits
June 15 – August 15:	3 visits
August 15 – November 15:	6 visits
November 15 – December 31:	3 visits

DECLARATION OF RESTRICTIVE COVENANT

THE STATE OF TEXAS §
§ KNOW ALL PERSONS BY THESE PRESENTS:
COUNTY OF TRAVIS §

This Declaration of Restrictive Covenant (this "**Restrictive Covenant**") is entered into by and between Bee Cave Parkway Owner, LLC, a Delaware limited liability company ("**Owner**"), and HomeBase Texas, a Texas nonprofit corporation ("**HomeBase**"), as of _____, 202__.

RECITALS

A. Owner owns that certain tract of land located in the City of Bee Cave, Travis County, Texas more particularly described in Exhibit "A" attached hereto and made a part hereof (the "**Property**").

B. Owner desires to provide for the redevelopment of the Property as a multifamily residential project (the "**Project**"). In connection with the Project, Owner is applying for a site development permit from the City of Bee Cave, Texas (the "**City**") under Project No. 22-757-SNPS (the "**Site Permit**").

C. In accordance with the applicable zoning ordinance, Owner hereby executes this Restrictive Covenant with HomeBase.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and subject to all of the terms and conditions of this Restrictive Covenant, Owner and HomeBase agree that the Property shall be subject to the following covenants, conditions and restrictions, which are impressed upon the Property by this Restrictive Covenant:

I. DECLARATIONS AND AGREEMENTS

1.1. Definitions. For purposes of this Agreement, the following terms shall have the following meanings:

1.1.1. "**Owner**" means Owner and all future owners of the fee interest of all or any portion of the Property (whether such fee interest is obtained through a purchase from Owner or through a purchase at a foreclosure sale or trustee's sale or through a deed in lieu of foreclosure) and their successors and assigns.

1.1.2. "**AMI**" means annual median income in the Austin metropolitan statistical area, as published annually by the Federal government.

1.1.3. "**Affordable Housing Unit**" means a habitable unit reserved for rental by households earning no more than eighty percent (80%) AMI.

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1.2. Applicability. Owner hereby acknowledges that the terms, covenants, conditions and provisions of this Restrictive Covenant shall only be binding on Owner and encumber the Property if the Property is developed as a multifamily development in accordance with the Site Permit.

1.3. Affordability Requirements. Subject to the terms and conditions hereof, if the Project is constructed on the Property, then Owner shall provide thirty-four (34) of the residential units in the Project as Affordable Housing Units (the "**Affordable Housing Unit Requirement**"), which units shall be in the same proportion to the overall mix of units in the Project. Subject to the provisions in Section 3.12 below, Owner shall comply with the Affordable Housing Unit Requirement for a period of forty (40) years from the First Certificate of Occupancy Date (the "**Term**").

a. The "**First Certificate of Occupancy Date**" shall mean the date on which the first certificate of occupancy for the Project is issued by the City or similar governmental agency. To put third parties on notice of the First Certificate of Occupancy Date, upon issuance and Owner's receipt of such certificate of occupancy, a written notice acknowledging issuance of the certificate and stating the date of issuance shall be executed solely by Owner and recorded in the Official Public Records of Travis County, Texas.

II. COMPLIANCE, MONITORING AND REMEDIES

2.1. Compliance with Affordable Housing Requirements. Beginning on the First Certificate of Occupancy Date and continuing until the expiration or sooner termination of this Restrictive Covenant, all occupancy of the Project shall be in full compliance with the Affordable Housing Unit Requirement.

2.2. Compliance Monitoring of Affordable Housing Units and Fee. While Owner is required to provide Affordable Housing Units under this Agreement, then within thirty (30) days after written request from HomeBase from time to time (but not more frequently than once per calendar quarter), Owner will provide information and materials reasonably necessary and as requested by HomeBase to evidence Owner's compliance with the Affordable Housing Unit Requirement. In consideration of HomeBase's compliance monitoring activities, Owner shall pay to HomeBase the following annual fee on the conditions set forth below:

a) Annual Fee. Following the First Certificate of Occupancy Date, Owner shall pay to HomeBase, for the duration of the Term, the amount of $100 per calendar year for each Affordable Housing Unit in the Project, to be paid on the anniversary of the First Certificate of Occupancy Date. The amount of such annual payment shall increase in accordance with the CPI-U as reported by the U.S. Bureau of Labor Statistics on each fifth anniversary of the First Certificate of Occupancy Date. For example, for a project with a First Certificate of Occupancy Date in 2015, the fee for years 1-5 shall be $100/year per Affordable Housing Unit, and be recalculated in 2020 based on the change in CPI (using

https://www.bls.gov/data/inflation_calculator.htm) for an increase to $110.38 for years 6- 10, and so on through the Term.

2.3. Excusable Delays. Whenever performance is required of the Owner, the Owner shall perform its obligations using commercially reasonable and necessary measures to complete such performance within a reasonable time; provided, however, that if completion of performance is delayed at any time by reasons of acts of God, severe weather events, pandemic, war, civil commotion, riots, strikes, picketing, or other labor disputes, unavailability of labor or material, damage to work in progress by reason of fire or other casualty, or any other cause not within Owner's control (financial inability, imprudent management or negligence excepted), then the time for performance as herein specified will be extended by the amount of delay actually so caused.

2.4. Breach Does Not Permit Termination. Notwithstanding anything to the contrary contained herein, no breach of this Restrictive Covenant entitles the Owner to cancel, rescind or otherwise terminate this Restrictive Covenant, but such limitations do not affect in any manner any other rights or remedies which the Owner may have hereunder by reason of any breach of this Restrictive Covenant.

2.5. Remedies. Following the occurrence of a breach of Owner's obligations under this Restrictive Covenant, only HomeBase, including its successors and assigns, shall be entitled to institute proceedings for full and adequate relief from the consequences of said breach or threatened breach. If Owner shall fail to comply with any term, provision or covenant of this Restrictive Covenant and shall not cure such failure within thirty (30) days after Owner's receipt of written notice from HomeBase detailing such failure (or if the default is of such character as to require more than thirty (30) days to cure and the Owner shall fail to commence to cure the same within such period or shall fail to use reasonable diligence in curing such default thereafter), HomeBase shall have the option of pursuing any remedy it may have at law or in equity, including, without limitation, specific performance or injunctive relief from a court of competent jurisdiction.

III. GENERAL PROVISIONS

3.1. Entire Agreement. This Restrictive Covenant, and the exhibits attached hereto, contain all the representations and the entire agreement between the parties to this Restrictive Covenant with respect to the subject matter hereof. Any prior correspondence, memoranda or agreements are superseded in total by this Restrictive Covenant and the exhibits attached hereto. The provisions of this Restrictive Covenant will be construed as a whole according to their common meaning and not strictly for or against Owner.

3.2. Severability. The provisions of this Restrictive Covenant are deemed to be independent and severable, and the invalidity or partial invalidity of any provision or portion hereof does not affect the validity or enforceability of any other provision.

3.3. Inurement. This Restrictive Covenant and the restrictions created hereby inure to the benefit of and bind Owner, and its successors and assigns. When Owner conveys all or any portion of the Property, that former Owner will thereupon be released and discharged from

any and all further obligations, if any, under this Restrictive Covenant that it had in connection with the Property conveyed by it from and after the date of recording of such conveyance, but no such sale releases that former Owner from any liabilities, if any, actual or contingent, existing as of the time of such conveyance.

3.4. Estoppel Certificates. Within ten (10) days after written request from Owner, HomeBase agrees to execute and deliver a certificate certifying that, to HomeBase's knowledge, (a) Owner is not in default in the performance of its obligations under this Restrictive Covenant, or, if in default, describing the nature and amount or degree of such default, and (b) such other information regarding the status of the obligations under this Restrictive Covenant as may be reasonably requested by Owner.

3.5. No Third-Party Beneficiaries. The provisions of this Restrictive Covenant are for the exclusive benefit of the parties hereto, and their permitted successors and assigns, and not for the benefit of any third person, nor shall this Restrictive Covenant be deemed to have conferred any rights, express or implied, upon any third person or the public.

3.6. No Dedication. No provision of this Restrictive Covenant shall be construed to grant or create any rights whatsoever in or to any portion of the Property other than the covenants, conditions and restrictions specifically set forth herein. Nothing in this Restrictive Covenant shall ever constitute or be construed as a dedication of any interest herein described to the public or give any member of the public any right whatsoever.

3.7. Governing Law; Place of Performance. This Restrictive Covenant and all rights and obligations created hereby will be governed by the laws of the State of Texas. This Restrictive Covenant is performable in Travis County, Texas.

3.8. Captions. The captions preceding the text of each section and subsection hereof are included only for convenience of reference and will be disregarded in the construction and interpretation of this Restrictive Covenant.

3.9. Notices. All notices required or permitted to be given hereunder, or given in regard to this Restrictive Covenant, shall be in writing and the same shall be given and be deemed to have been properly delivered (a) upon receipt if delivered by a national, reputable overnight courier addressed to the other party at the address hereinafter specified, (b) if mailed, three (3) business days following the date placed in the United States mail, postage prepaid, by certified mail, return receipt requested, addressed to the party at the address herein specified and (c) if emailed, upon receipt of such email, provided a confirming copy of such notice is delivered in the manner provided in subsections (a) or (b) above. Owner or HomeBase may change their respective addresses for notices by giving five (5) business days' advance written notice to the other in the manner provided for herein. Until changed in the manner provided herein, Owner and HomeBase's address for notice is as follows:

Owner:

Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Jason Hauck

DRAFT

3000 Richmond Avenue
Houston, Texas 77098
Email: jasonh@morgangroup.com

With Required Copy To:

Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Legal Department; Rosalind McLeroy/ Julie Stephenson
3000 Richmond Avenue
Houston, Texas 77098
Email: Rosalindm@morgangroup.com/ julie.stephenson@morgangroup.com

With Required Copy To:

Jackson Walker LLP
1401 McKinney, Suite 1900
Houston, TX 77010
Attention: Lewis S. Kasner
Email: lkasner@jw.com

HomeBase:

HomeBase Texas
Attn: Wayne Gerami
500 West Ben White Blvd., Suite
100 Austin, Texas 78704
Email: wgerami@ahfh.org

3.10. Negation of Partnership. None of the terms or provisions of this Restrictive Covenant will be deemed to create a partnership between the Owner and HomeBase in their respective businesses or otherwise; nor will it cause them to be considered joint ventures or members of any joint enterprise.

3.11. Modification and Amendment. Subject to the terms of Section 3.12 below, this Restrictive Covenant may only be modified, amended or terminated upon the recording of a written modification, amendment or termination document in the Official Records of the county in Texas where the Property is located, which is executed, acknowledged and approved by (a) HomeBase or its successor; and (b) Owner or its successor. Owner and HomeBase acknowledge any modification or amendment of this Restrictive Covenant shall require the City's consent, such consent not be unreasonably withheld, conditioned, or delayed.

3.12. Expiration. This Restrictive Covenant shall be deemed to have terminated and shall be of no further force and effect upon expiration of the Term. Notwithstanding the preceding sentence or anything to the contrary herein, the effectiveness of this Restrictive Covenant and the agreements of Owner and HomeBase reflected herein are conditioned upon final approval of the Site Permit by the City with no conditional overlay or additional restrictions

not agreed to by Owner. An affidavit executed solely by Owner and recorded in the Official Public Records of Travis County, Texas, certifying the facts supporting the expiration or ineffectiveness of this Restrictive Covenant pursuant to the foregoing shall constitute a valid termination of this Restrictive Covenant and, thereafter, this Restrictive Covenant shall no longer encumber the Property. Any potential purchaser, lender, investor or tenant of the Property and any other third parties shall have the right to rely on such affidavit without any further investigation or inquiry.

3.13. Counterparts; Multiple Originals. This Restrictive Covenant may be executed simultaneously in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

[*Remainder of page intentionally left blank; Signatures follow*.]

DRAFT

Executed to be effective as of the date first written above.

OWNER:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

THE STATE OF TEXAS §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the __day of _____, 202_ by _____, _____ of Bee Cave Parkway Owner, LLC, a Delaware limited liability company, on behalf of said limited liability company.

(SEAL)

_____
Notary Public Signature

DRAFT

HOMEBASE:

HOMEBASE TEXAS, INC., a Texas
nonprofit corporation

By: _____
Name: Phyllis Snodgrass
Title: Authorized Person

THE STATE OF TEXAS §
§
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the __day of _____, 202_ by Phyllis Snodgrass, the Authorized Person of HOMEBASE TEXAS, INC., a Texas non-profit corporation, on behalf of said non-profit corporation.

(SEAL)

_____
Notary Public Signature

DRAFT

Exhibit A

Legal Description

Lots 1 and 2, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas.

DRAFT

CONSTRUCTION AND MAINTENANCE AGREEMENT

STATE OF TEXAS §
§ **KNOW ALL MEN BY THESE PRESENTS:**
COUNTY OF TRAVIS §

THIS CONSTRUCTION AND MAINTENANCE AGREEMENT (this "Agreement") is entered into this _____ day of _____, 2023, by and between the **CITY OF BEE CAVE, TEXAS,** a Texas home-rule municipal corporation in Travis County, Texas (the "City"), and **BEE CAVE PARKWAY OWNER, LLC,** a Delaware limited liability company ("Developer"), both acting through their duly authorized officers or employees (hereinafter the "Agreement").

WITNESSETH:

WHEREAS, Developer is the owner of certain real property located in the City of Bee Cave, Texas, more particularly described on Exhibit "A" attached hereto and incorporated herein by reference ("Developer's Property");

WHEREAS, the City is the owner of certain real property located near Developer's Property, more particularly described on Exhibit "B" attached hereto and incorporated herein by reference (the "Crescent Tract");

WHEREAS, pursuant to the construction of a multifamily residential project on Developer's Property, Developer is applying for permits under Project Nos. 22-757-SNPS and 23-765-SNPS (collectively, the "Permits") from the City and, in connection therewith, Developer has agreed to construct and maintain a public trail and related facilities on the Crescent Tract (collectively, the "Public Improvements"), in a location mutually agreed upon by the City and Developer;

WHEREAS, the City, under the terms and conditions set forth herein, is agreeable to Developer constructing and maintaining the Public Improvements on the Crescent Tract; and

WHEREAS, the City and Developer desire to set forth the responsibilities and obligations with regard to the construction and maintenance contemplated herein.

NOW, THEREFORE, for and in consideration of the covenants, obligations and undertakings to be performed by each of the parties to this Agreement, the said parties do hereby agree as follows:

1. **Construction and Maintenance**. Concurrently with construction of the multifamily residential project on Developer's Property, Developer, at Developer's cost and expense, shall construct and install the Public Improvements on the Crescent Tract. Installation of the Public Improvements shall be in compliance with all applicable laws, rules and ordinances. Following completion of the Public Improvements, Developer shall provide the City with written notice of such completion and the City shall inspect the Public Improvements and, within fifteen (15) days of receipt of Developer's notice, send a written

notice to Developer either approving or objecting to the Public Improvements. In the event the City objects to the Public Improvements, such written notice from the City shall provide the specific reasons therefor and the method for resolving same. In the event the City fails to timely deliver such written notice either approving or objecting to the Public Improvements, such failure to respond shall be deemed an approval of such Public Improvements. Following installation and the City's acceptance of the Public Improvements, as set forth herein, Developer shall maintain or cause to be maintained the trail for the Term (hereinafter defined).

2. **Term.** Subject to the remaining provisions of this Section 2, Developer, at Developer's cost and expense, shall furnish all labor, materials, equipment and services necessary to maintain the Public Improvements in perpetuity (the "Term"), unless the City assumes such maintenance obligations, in which event this Agreement shall terminate. Notwithstanding anything to the contrary in this Section 2, the effectiveness of this Agreement and the covenants herein are conditioned upon final approval of the Permits with no additional restrictions therein not agreed to by Developer. An affidavit executed by Developer and recorded in the Official Public Records of Travis County, Texas certifying the facts supporting the ineffectiveness and expiration of this Agreement pursuant to the foregoing shall constitute a valid termination of this Agreement and, thereafter, neither party hereto shall have any rights or obligations hereunder.

3. **Temporary Construction Easement and Access Easement**. In connection with this Agreement and so as to permit Developer to perform its obligations hereunder, the City grants to Developer the following easements:

(a) Commencing on the date hereof and continuing until construction and final approval of the Public Improvements is complete, a temporary construction easement along, within and across the Crescent Tract for the purposes of designing, constructing, installing and inspecting the Public Improvements; and

(b) Commencing on the date hereof and continuing for the duration of the Term, an access easement along, within and across the Crescent Tract for the purpose of accessing, maintaining, repairing and replacing the Public Improvements.

4. **Damages**. Developer shall be responsible for repairing damage to the Public Improvements and/or the Crescent Tract except to the extent caused by the negligence or willful misconduct of the City, its officers, agents, employees, and contractors and their respective officers, agents, or representatives (collectively, the "City Group").

5. **Insurance**. Developer, at its own expense, agrees to obtain and keep in full force during the Term commercial general liability insurance providing coverage for bodily injury (including death), property damage and premises/operations in an amount of Two Million Dollars ($2,000,000.00) for injuries and damages to persons, and in the amount of Five Hundred Thousand Dollars ($500,000.00) for property damage arising out of, or in connection with, the construction or maintenance of the Public Improvements as provided for in this Agreement. The City shall be named as an additional insured on all

insurance policies required herein. Developer shall furnish the City with certificates of insurance evidencing the coverage required by this paragraph. Such certificates must be delivered to the City prior to Developer commencing construction of the Public Improvements.

6. **Indemnity**. DEVELOPER AGREES TO DEFEND, INDEMNIFY AND HOLD THE CITY AND ITS RESPECTIVE OFFICERS, AGENTS AND EMPLOYEES, HARMLESS AGAINST ANY AND ALL CLAIMS, LAWSUITS, JUDGMENTS, FINES, PENALTIES, COSTS AND EXPENSES FOR PERSONAL INJURY (INCLUDING DEATH), PROPERTY DAMAGE OR OTHER HARM OR VIOLATIONS FOR WHICH RECOVERY OF DAMAGES, FINES, OR PENALTIES IS SOUGHT OR SUFFERED BY ANY PERSON AND WHICH ARISE OUT OF DEVELOPER'S BREACH OF ANY TERMS OF THIS AGREEMENT, VIOLATIONS OF LAW, OR FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF DEVELOPER OR ITS RESPECTIVE OFFICERS, AGENTS, EMPLOYEES AND CONTRACTORS (COLLECTIVELY, "DEVELOPER GROUP") DURING THE TERM. THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL NOT APPLY TO ANY LIABILITY RESULTING FROM THE CITY GROUP'S BREACH OF ANY TERMS OF THIS AGREEMENT, VIOLATIONS OF LAW, OR FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE CITY GROUP. THE PROVISIONS OF THIS PARAGRAPH ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND ARE NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, THE CITY HEREBY WAIVES THE RIGHT TO SEEK CONSEQUENTIAL, SPECIAL, INDIRECT AND/OR PUNITIVE DAMAGES FROM DEVELOPER GROUP AND DEVELOPER'S SUCCESSORS AND ASSIGNS.

DEVELOPER, AT ITS OWN EXPENSE, IS REQUIRED TO DEFEND THE CITY AGAINST ALL CLAIMS FOR WHICH DEVELOPER IS LIABLE UNDER THIS SECTION 6. THE CITY RESERVES THE RIGHT TO PROVIDE A PORTION OR ALL OF ITS OWN DEFENSE; HOWEVER, THE CITY IS UNDER NO OBLIGATION TO DO SO. ANY SUCH ACTION BY CITY IS NOT TO BE CONSTRUED AS A WAIVER OF DEVELOPER'S OBLIGATION TO DEFEND THE CITY OR AS A WAIVER OF DEVELOPER'S OBLIGATION TO INDEMNIFY THE CITY PURSUANT TO THIS SECTION 6. DEVELOPER SHALL RETAIN DEFENSE COUNSEL PROMPTLY UPON RECEIPT OF THE CITY'S WRITTEN NOTICE THAT THE CITY IS INVOKING ITS RIGHT TO INDEMNIFICATION UNDER THIS AGREEMENT. IF DEVELOPER FAILS TO RETAIN COUNSEL AS REQUIRED, THE CITY SHALL HAVE THE RIGHT TO RETAIN DEFENSE COUNSEL ON ITS OWN BEHALF AND DEVELOPER SHALL BE LIABLE FOR ALL REASONABLE COSTS INCURRED BY THE CITY.

7. **Amendment**. Subject to the terms of Section 2 hereof, this Agreement and all requirements hereunder may only be modified or amended by written instrument executed by Developer and the City, their successors or assigns.

8. **Notices**. Any notice required to be given or served upon any party hereto in connection with this Agreement must be in writing and delivered to the party at the

address(es) set forth below by (i) courier, (ii) overnight delivery service (including FedEx), or (iii) certified mail, return receipt requested, all with a copy by email. If such notice is given via courier, such notice will be deemed to have been given when received. If such notice is sent by overnight delivery service, such notice is deemed received at the time of the first attempted delivery of such notice. If such notice is sent by certified mail, such notice will be deemed received two (2) days after a certified letter containing such notice, with postage prepaid, is deposited in the United States mail.

Developer:
Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Jason Hauck
3000 Richmond Avenue
Houston, Texas 77098
Email: jasonh@morgangroup.com

With Required Copy To:

Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Legal Department; Rosalind McLeroy/ Julie Stephenson
3000 Richmond Avenue
Houston, Texas 77098
Email:Rosalindm@morgangroup.com/julie.stephenson@morgangroup.com

With Required Copy To:

Jackson Walker LLP
1401 McKinney, Suite 1900
Houston, Texas 77010
Attention: Lewis S. Kasner
Email: lkasner@jw.com

The City:

City of Bee Cave, Texas
Attn: City Secretary
4000 Galleria Parkway
Bee Cave, Texas 78738
Email: kholloway@beecavetexas.gov

Either party hereto may change its address for notice purposes by giving the other party at least ten (10) days' prior written notice of such change of address.

9. **Governing Law**. The laws of the State of Texas shall govern the interpretation, validity, performance, and enforcement of this Agreement, and Travis

County, Texas shall be the exclusive venue for any action to enforce the terms and conditions of this Agreement.

10. **Covenant Runs with the Land**. These conditions and covenants shall run with the land and shall also be binding upon Developer and its successors-in-interest. Upon conveyance of the entirety of Developer's Property, the then-owner of Developer's Property will be released and discharged from any and all obligations under this Agreement from and after the date of such conveyance, but no such conveyance shall release the prior owner of Developer's Property from any liabilities existing prior to such conveyance..

11. **Severability**. In the event any one or more of the provisions contained in this Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

12. **Third Party Beneficiaries.** The provisions of this Agreement are for the exclusive benefit of the parties hereto, and their permitted successors and assigns, and not for the benefit of any third party.

13. **Full Agreement**. This instrument embodies the entire agreement between the parties hereto regarding the subject matter hereof.

14. **Further Assurances**. Each party agrees that it will execute and deliver such other documents and take such other action as may be reasonably requested by the other party to effectuate the purposes hereof.

[SIGNATURES TO FOLLOW]

Executed to be effective as of the date first set forth above.

CITY:

CITY OF BEE CAVE, TEXAS,
a Texas home-rule municipal corporation in Travis County

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

Before me, the undersigned notary, on this day personally appeared _____, _____ of City of Bee Cave, Texas, a Texas home-rule municipal corporation in Travis County, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 2023.

[Seal]

_____
Notary Public, State of Texas

DEVELOPER:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
§
COUNTY OF _____ §

Before me, the undersigned notary, on this day personally appeared _____, _____ of Bee Cave Parkway Owner, LLC, a Delaware limited liability company, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 2023.

[Seal]

_____
Notary Public, State of Texas

Exhibit “A”

LEGAL DESCRIPTION OF DEVELOPER’S PROPERTY

Lots 1 and 2, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas.

Exhibit "B"

LEGAL DESCRIPTION OF THE CRESCENT TRACT

Lot 6, Block A of the Amended Final Plat of Hill Country Galleria of Lots 1-8 and 10-26, Block A, Lots 1-3 and 5-8, Block B and Lot 1, Block C, a subdivision Travis County, Texas, according to the map or plat recorded under Document Number 200700378 of the Official Public Records of Travis County, Texas.

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT
(Bridge Easement)

THE STATE OF TEXAS §
§ KNOW ALL BY THESE PRESENTS;
COUNTY OF TRAVIS §

This CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT (this "Agreement") is made and entered into as of _____, 2023, by and between and **BEE CAVE PARKWAY OWNER, LLC**, a Delaware limited liability company ("Grantor"), and **CITY OF BEE CAVE, TEXAS**, a Texas home-rule municipal corporation in Travis County, Texas ("Grantee").

A. Grantor is the owner of that certain property described on **Exhibit A** attached hereto and made a part hereof (the "Property").

B. As a part of the redevelopment, Grantee may install a pedestrian bridge, including footings and related facilities, on the Property (collectively, the "Improvements") in the location described on **Exhibit B-1** and depicted on **Exhibit B-2**, each attached hereto and made a part hereof (the "Bridge Easement Tract"), which will cross Highway 620 and connect to a public sidewalk and trail located on the Property (the "Trail"), as such Trail is contemplated under that certain Sidewalk and Trail Easement dated _____, 2023 by and between Grantor and Grantee and recorded in the Records (hereinafter defined) under File No. _____ (the "Trail Easement").

C. Grantee and Grantor desire to set forth and establish certain terms and conditions with respect to the Bridge Easement (hereinafter defined), as more particularly set forth herein.

NOW, THEREFORE, for and in consideration of the premises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantee and Grantor hereby agree as follows:

1. **Grant of Easement**. Subject to the terms and conditions of this Agreement, Grantor hereby grants to Grantee a non-exclusive easement on the Bridge Easement Tract solely for purposes of constructing, installing, inspecting, maintaining, repairing, and replacing the Improvements (the "Bridge Easement"). The Bridge Easement shall run with the land and bind the heirs, successors and assigns of Grantor and Grantee.

2. **Term and Termination**. Subject to Section 15 and the provisions of this Section 2, the Bridge Easement shall be perpetual, provided, however, that the Bridge Easement shall be revocable by Grantor upon thirty (30) days' prior written notice to Grantee following (a) Grantee's failure to commence construction of all Improvements within ten (10) years of the Contribution

Date (hereinafter defined) or (b) Grantee's default after expiration of any applicable notice and cure period under this Agreement.

3. **Existing Encumbrances; No Warranty**. This Agreement is made subject to, without limitation, all restrictions, covenants, conditions, rights-of-way, easements, mineral reservations and royalty reservations of record in the Official Public Records of Travis County, Texas (the "Records"), but only to the extent that the same are valid and subsisting and affect the Bridge Easement Tract and/or the Property. The Bridge Easement granted herein is made without any representation or warranty by Grantor, express or implied, statutory or otherwise, regarding the condition, nature, suitability or any other aspect or characteristic of the Bridge Easement Tract or the Property, and Grantee accepts the Bridge Easement and the right to use the Bridge Easement Tract AS IS, WHERE IS, AND WITH ALL FAULTS.

4. **Construction and Bridge Contribution**.

(a) In the event Grantee elects to construct the Improvements, Grantee shall give Grantor at least forty-five (45) days' prior written notice before commencing construction. Excepting the Bridge Contribution (as defined in Section 4(b)), Grantee shall, at Grantee's cost and expense, construct the Improvements within the Bridge Easement Tract, provided Grantee shall not commence any construction until Grantee obtains all permits, licenses, and other approvals required by all governmental authorities for such construction and maintenance and Grantee shall provide Grantor with all such permits and licenses obtained. Grantee shall take all safety precautions which the nature of its construction may require or indicate. Grantee shall further report to Grantor in writing, as soon as practicable, all accidents or occurrences resulting in injuries to persons, including death, or damage to property arising out of or during the course of construction or otherwise pursuant to the rights granted hereby and, upon request, shall furnish Grantor with copies of all reports made by Grantee or any Professional Services Firm (as defined on **Exhibit C**) to their respective insurers or others regarding such accidents and occurrences. Within six (6) months of Grantee fully completing construction of all Improvements and providing Grantor with written notice of such completion, and provided the Trail has been completed, Grantor shall, at Grantor's cost and expense, construct a connection connecting the Improvements to the Trail (the "Bridge Connection").

(b) On _____, 2023 (the "Contribution Date"), Grantor remitted to Grantee the sum of One Thousand And 00/100 Dollars ($1,000.00) per multifamily unit to be constructed on the Property for a total sum of Three Hundred Twenty Two Thousand And 00/100 Dollars ($322,000.00), which, in the event Grantee elects to construct the Improvements, shall be used solely by Grantee for the construction and maintenance of the Improvements (the "Bridge Contribution"). If this Agreement terminates within ten (10) years of the Contribution Date, Grantor shall be entitled to a full refund of the Bridge Contribution within forty-five (45) days of such termination. The provisions of this Paragraph shall survive the termination or cancellation of this Agreement.

5. **Maintenance**. Following construction of the Improvements, Grantee shall, at Grantee's cost and expense, maintain the Bridge Easement Tract and the Improvements, including, without limitation, paving, curbing, drainage, fencing and landscaping thereon, and remove any trash or debris, unless caused by the willful misconduct or gross negligence of Grantor, its

employees, agents, contractors or invitees (collectively, "Grantor Group"). In addition, Grantee shall promptly clean up and remove any spilled or leaked hazardous fluids or substances in accordance with applicable laws.

6. **Indemnity and Insurance**. Except for those claims caused by the willful misconduct or gross negligence of Grantor Group, to the extent allowable under state law, Grantee shall indemnify Grantor for all claims, losses, expenses, damages, demands, causes of action, suits and liability of every kind, type and character ("Claims"), which are asserted by any third party for personal injury, death or loss of or damage to property, arising out of the construction, operation, maintenance and/or use of the Bridge Easement Tract and/or the Property by Grantee, its agents, employees, contractors, subcontractors, invitees, and/or guests, (collectively, "Grantee Group"). Grantee shall maintain general liability insurance with a financially responsible insurance company authorized to do business in the State of Texas with a limit of not less than $1,000,000.00 per incident and $1,000,000 in the aggregate, which names Grantor and its designees as additional insured(s) and insures against liability for bodily injury, personal injury, death, or property damage in support of Grantee's obligations herein. Grantee may not enter, or permit any member of Grantee Group to enter, the Bridge Easement Tract until Grantee furnishes certificates of insurance to Grantor evidencing the coverages and limits required herein. The provisions of this Paragraph shall survive the termination or cancellation of this Agreement.

7. **Amendment**. Except as set forth in Section 2 and Section 15 herein, this Agreement may only be modified, amended, or terminated by written agreement executed by Grantor and Grantee.

8. **As-Built Legal Description**. Upon completion of the Improvements, Grantee will cause an as-built description to be prepared reflecting the actual, installed location of the Improvements and the Parties shall execute and record an amendment to this Agreement replacing the legal description of the Bridge Easement Tract, attached hereto as **Exhibit B-1**, with the as-built legal description. For the avoidance of doubt, the as-built legal description will define the Bridge Easement Tract as the premises encompassing only (i) the Improvements, (ii) the Bridge Connection, and (iii) an additional area of five (5) feet on all sides of the Improvements and the Bridge Connection for the purpose of permitting Grantee to maintain the Bridge Easement Tract and the Improvements in accordance with Grantee's obligations under Section 5 above.

9. **Removal of Improvements**. In the event Grantee constructs the Improvements and this Agreement terminates, whether by mutual agreement or otherwise, Grantor shall thereafter own the Improvements and all appurtenances thereto. The provisions of this Paragraph shall survive the termination or cancellation of this Agreement.

10. **Grantor's Rights**. Grantor expressly reserves the right to use the surface and subsurface of the Bridge Easement Tract for any use or purpose that does not unreasonably interfere with Grantee's use of the Bridge Easement, including, without limitation, the right to grant additional easements to other parties within, across and under the Bridge Easement Tract and the right to reirrigate within the Bridge Easement Tract for the benefit of the Property. All rights in and to the Bridge Easement Tract not expressly granted to Grantee in this Agreement are reserved and retained by Grantor for itself, its successors and assigns, including, but not limited

to, the purposes for which the Bridge Easement is granted to Grantee, and for any other purposes whatsoever.

11. **No Assignment**. Grantee shall not assign this Agreement without the prior written consent of Grantor, which may be withheld in Grantor's sole discretion.

12. **Mortgages**. Breach of any of the covenants or restrictions contained in this Agreement shall not defeat or render invalid the lien of any mortgage, but all of the foregoing provisions, restrictions, and covenants shall be binding and effective against any owner of any portion of the Bridge Easement Tract that acquires title by foreclosure or trustee's sale or by deed in lieu of foreclosure or trustee's sale. Grantor retains the ongoing right to mortgage all or a portion of the Bridge Easement Tract without the consent of Grantee.

13. **Default; Remedies**.

(a) In the event either party breaches the terms of this Agreement, the non-defaulting party shall provide written notice to the defaulting party of any material breach by the defaulting party, specifying in detail the alleged event(s) of default. If such breach involves (i) a monetary obligation, then the defaulting party shall have thirty (30) days to cure such breach after receipt of notice or (ii) a non-monetary obligation, then the defaulting party shall have thirty (30) days to cure such breach after receipt of notice; provided, however, if such breach endangers the Property or safety of persons on the Property, such cure period shall be shortened to five (5) days. So long as the defaulting party has commenced and is diligently proceeding in good faith to cure such breach, the defaulting party shall have a reasonable period beyond the initial cure period set forth above to cure if the breach cannot reasonably be completed within such applicable initial cure period, provided, in no event, shall the defaulting party have longer than forty-five (45) days for monetary defaults and sixty (60) days for non-monetary defaults.

(b) In the event of an uncured event of default by a defaulting party under this Agreement, the non-defaulting party shall have and shall be entitled to exercise any and all remedies available to such party under this Agreement and at law or in equity, all of which remedies shall be cumulative. Such remedies shall include (i) the right in the non-defaulting party to pay or perform any obligations of the defaulting party that have not been paid or performed as required hereunder, and to obtain (A) subrogation rights therefor and (B) immediate reimbursement from the defaulting party for reasonable, out-of-pocket costs of same and (ii) the right in the non-defaulting party (but not the obligation) to seek and obtain injunctive relief, specific performance or other equitable relief (each of the parties hereby acknowledging and agreeing that (A) the other party may not have an adequate remedy at law and (B) neither party shall be required to post any bond in connection therewith).

14. **Notices**.

(a) Any notice or other communication to be given or served upon any party hereto in connection with this Agreement must be in writing and delivered to the party at the address(es) set forth below (i) via courier, (ii) by overnight delivery service (including FedEx), or (iii) by certified mail, return receipt requested, all with a copy by email. If such notice is given via courier, such notice will be deemed to have been given when received. If such notice is sent by

overnight delivery service, such notice is deemed received at the time of first attempted delivery of such notice. If such notice is sent by certified mail, such notice will be deemed received 2 days after a certified letter containing such notice, properly addressed with postage prepaid, is deposited in the United States mail. Any notice, however delivered, that is confirmed or acknowledged (excluding any automatically generated electronic acknowledgement) by a party below to have been received by such party is effective notice.

Grantor: Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Jason Hauck
3000 Richmond Avenue
Houston, Texas 77098
Email: jasonh@morgangroup.com

With Required Copy To:
Bee Cave Parkway Owner, LLC
c/o Morgan PRL Development LLC
Attn: Legal Department; Rosalind McLeroy/ Julie Stephenson
3000 Richmond Avenue
Houston, Texas 77098
Email:Rosalindm@morgangroup.com/
julie.stephenson@morgangroup.com

With Required Copy To:
Jackson Walker LLP
1401 McKinney, Suite 1900
Houston, Texas 77010
Attention: Lewis S. Kasner
Email: lkasner@jw.com

Grantee: City of Bee Cave, Texas
Attn: City Secretary
4000 Galleria Parkway
Bee Cave, Texas 78738
Email:
kholloway@beecavete
xas.gov

(b) Either party may designate another address by giving the other party five (5) days' prior written notice of such change of address in accordance with the provisions hereof.

15. **Abandonment**. Notwithstanding anything to the contrary herein, it is expressly acknowledged by Grantee that if Grantee fails to use and/or abandons the rights granted herein and such non-use and/or abandonment continues for a period of eighteen (18) months, all rights of Grantee herein shall ipso facto terminate and automatically revert to Grantor, its successors and assigns.

DRAFT

16. **Effect on Third Parties**. Except for Section 12, which is for the benefit of a mortgagee, the rights, privileges, or immunities conferred hereunder are for the benefit of Grantor and Grantee, and their respective successor and assigns, and not for any third party.

17. **No Partnership or Conveyance of Fee**. Neither this Agreement nor any acts of Grantor or Grantee shall be deemed or construed by the parties hereto, or any of them, or by any third person, to create the relationship of principal and agent, or of partnership, or of joint venture, or of any association between Grantor and Grantee. Grantor and Grantee acknowledge that the rights granted herein do not constitute a conveyance of the Bridge Easement Tract or any portion thereof.

18. **Entire Agreement; Incorporation**. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof. There are no verbal agreements of any kind between the parties with respect hereto. The recitals above and exhibits attached hereto are incorporated by reference as if fully set forth in the body of this Agreement.

19. **Governing Law**. This Agreement shall be construed in accordance with the laws of the State of Texas, without regard to its conflicts of laws principles.

20. **Attorneys' Fees**. The prevailing party in any legal action or proceeding shall be entitled to recover from the non-prevailing party all reasonable attorneys' fees and court costs incurred in connection with such legal action or proceeding.

21. **No Waiver**. The failure of either party to enforce at any time any provision hereof shall not be construed to be a waiver of such provision, nor in any way to affect the validity of the Bridge Easement or the right of such party thereafter to enforce any such provision. No waiver of any breach hereof shall constitute a waiver of any other or subsequent breach.

22. **Further Assurances**. Each party agrees that it will execute and deliver such other documents and take such other action as may be reasonably requested by the other party to effectuate the purposes hereof.

23. **Counterparts**. This Agreement may be executed in any number of identical counterparts, each of which shall constitute an original and shall together constitute one and the same instrument.

[Signature Page Follows]

DRAFT

EXECUTED as of the date of the acknowledgment set forth below, TO BE EFFECTIVE as of the _____ day of _____, 2023.

GRANTOR:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
COUNTY OF _____ §

Before me, the undersigned notary, on this day personally appeared _____, _____ of Bee Cave Parkway Owner, LLC, a Delaware limited liability company, known to me through valid identification to be the person whose name is subscribed to the preceding instrument and acknowledged to me that the person executed the instrument in the person's official capacity for the purposes and consideration expressed in the instrument.

Given under my hand and seal of office on _____, 2023.

[Seal]

_____
Notary Public, State of Texas

DRAFT

ACCEPTED:

GRANTEE:

CITY OF BEE CAVE, TEXAS

By:_____
Name:_____
Title:_____

APPROVED AS TO FORM:

By:_____

DRAFT

EXHIBIT A

Property

Lots 1 and 2, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas.

DRAFT

EXHIBIT B-1

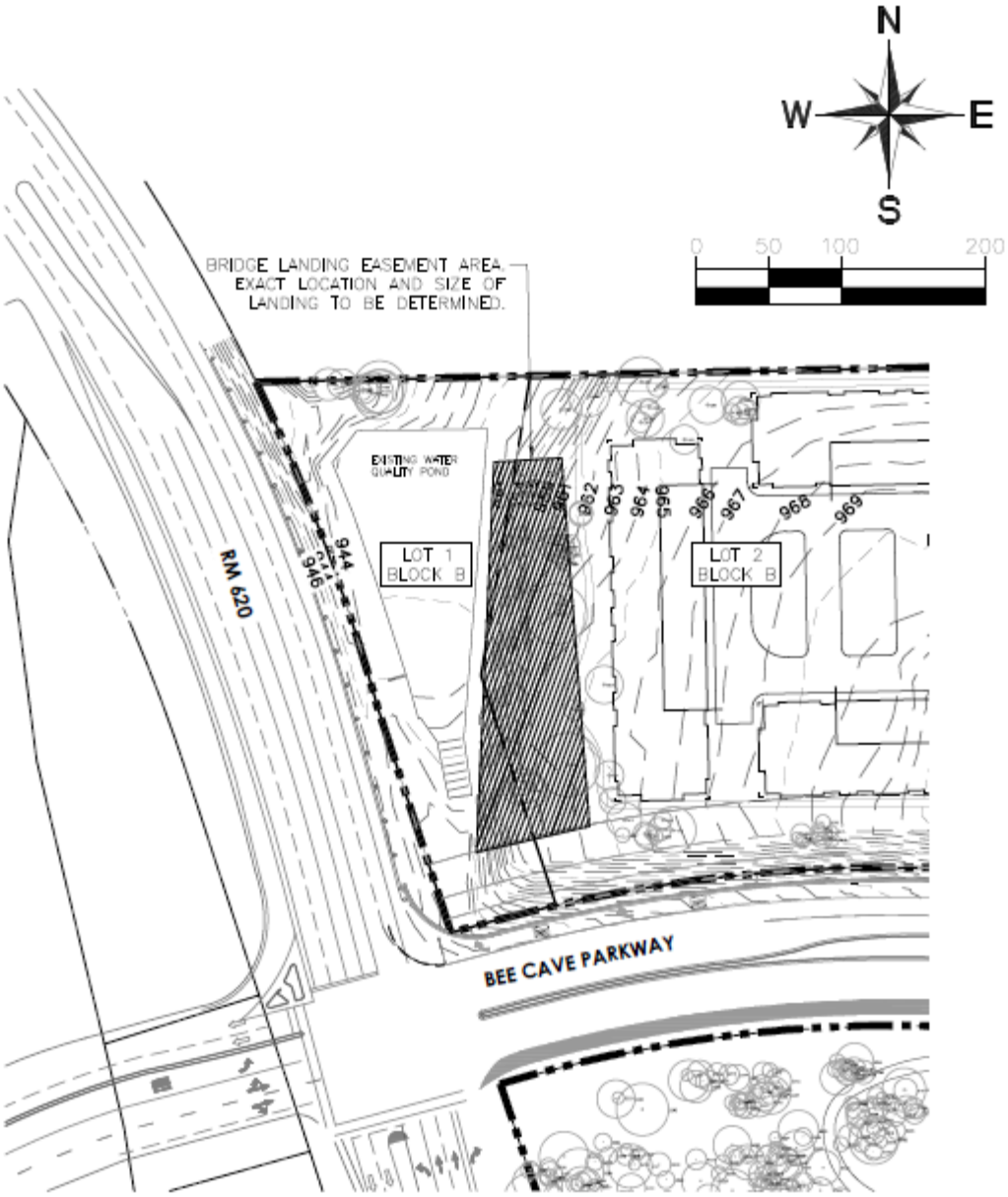
Legal Description of Bridge Easement Tract

[To Be Inserted]

DRAFT

EXHIBIT B-2

Depiction of Bridge Easement Tract



PEARL BEE CAVE BRIDGE LANDING EXHIBIT

Bee Cave, Texas
July 2022

Kimley»Horn
5301 SOUTHWEST PARKWAY,
BUILDING 3, SUITE 100
AUSTIN, TX 78735
512-646-2237
STATE OF TEXAS REGISTRATION NO. F-928

DWG NAME
LAST SAVED

EXHIBIT C

Insurance Requirements for Professional Service Firm

Grantee agrees that the following provisions related to insurance and indemnity shall be included in all agreements with any third party provider of labor and/or services to Grantee (each, a "Professional Services Firm") in connection with Grantee's construction or maintenance of the Bridge Easement and/or use of the Bridge Easement Tract.

Insurance. Professional Services Firm shall, prior to entering the Property, purchase and thereafter maintain insurance in the limits delineated below to protect Professional Services Firm and Bee Cave Parkway Owner, LLC ("Grantor"), its employees, agents and designees (collectively, the "Other Beneficiaries"), from any claims which may arise out of or result from the performance of any work by Professional Services Firm and its employees and agents.

Such claims include but are not limited to:

a. Claims under worker's compensation and any other employee benefits acts applicable to the performance of the Work;

b. Claims for damages because of bodily injury and personal injury, including death; and

c. Claims for damages to property.

Professional Services Firm's commercial general liability insurance shall also provide coverage for the following:

a. Contractual liability insurance as applicable to any hold-harmless agreements in the Agreement;

b. Personal injury liability;

c. Broad Form liability;

d. Independent Contractors.

Professional Services Firm's insurance shall be not less than the amounts shown below:

COVERAGE	**LIMIT OF LIABILITY**
Workers' Compensation	Statutory for Workers' Compensation
Employer's Liability	Bodily Injury by Accident $100,000 (each accident)
	Bodily Injury by Disease $100,000 (policy limit)
	Bodily Injury by Disease $100,000 (each employee)

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Commercial General Liability:	Bodily Injury and Property Damage, Combined Limits of $1,000,000 each Occurrence, and $1,000,000 aggregate per 12-month period (defense costs excluded from face amount of policy)
Automobile Liability (owned (if any) and non-owned, including hired)	$1,000,000 combined single limit
Professional Liability Coverage	$1,000,000 per claim/aggregate

a) With the prior approval Grantor, Professional Services Firm may substitute different types of coverage for those specified as long as the total amount of required protection is not reduced.

b) If professional liability coverage is written on a "claims made" basis, then Professional Services Firm shall also provide proof of renewal each year for two (2) years after completion of work, or in the alternative evidence of extended reporting period coverage for a period of two (2) years after substantial completion, or a project liability policy for the Project covered by this Agreement with a duration of two (2) years after substantial completion.

c) The issuer of any policy shall be authorized to transact insurance business in Texas or be an eligible non-admitted insurer in the State of Texas and have a Best's rating of at least B+ and a Best's Financial size Category of Class VI or better, according to the most current edition of Best's Key Rating Guide.

d) Each policy, except Workers' Compensation, Employer's Liability and Professional Liability, and all renewals or replacements during the term of this Agreement, shall name the Other Beneficiaries as additional insureds. Each policy, except Professional Liability, must contain an endorsement to the effect that the issuer waives all rights of subrogation or other recovery against the Other Beneficiaries, whether in contract, tort (including negligence and strict liability) or otherwise. Each policy hereunder, except Workers' Compensation and Professional Liability insurance, shall be primary to any other insurance available to the Other Beneficiaries with respect to claims arising hereunder.

e) Professional Services Firm shall be responsible for and pay any claims or losses to the extent of any deductible amounts and waives any claim it may ever have for same against the Other Beneficiaries.

f) Each policy must expressly state that it may not be canceled or non-renewed unless thirty (30) days' advance written notice is given in writing to Grantor.

g) Professional Services Firm shall be solely responsible for payment of all insurance premiums and deductibles, if any, that may from time to time be due under all of the insurance policies required of Professional Services Firm.

h) Certificates of insurance shall be delivered by Professional Services Firm to Grantor prior to entering the Bridge Easement Tract. Upon request by Grantor, Professional Services Firm shall furnish copies of all policies referred to above. Professional Services Firm shall continuously and without interruption, maintain in force the required insurance coverage set forth herein for the duration of the work and/or services performed in connection with this Agreement. Professional Services Firm agrees that Grantor shall not be deemed to have waived its right to terminate this Agreement because of any acts or omissions by Grantor regarding its review of insurance documents required herein.

EXCEPT FOR THOSE CLAIMS ARISING FROM THE WILLFUL MISCONDUCT OR GROSS NEGLIGENCE OF GRANTOR, PROFESSIONAL SERVICES FIRM SHALL INDEMNIFY AND HOLD HARMLESS, THE OTHER BENEFICIARIES AND THEIR RESPECTIVE OFFICERS, DIRECTORS, AND EMPLOYEES FROM AND AGAINST ALL SUITS, CLAIMS, DEMANDS, CAUSES OF ACTION AND LIABILITY OF EVERY KIND, TYPE AND CHARACTER (COLLECTIVELY, "CLAIMS") ARISING FROM PROFESSIONAL SERVICES FIRM'S WORK AND/OR SERVICES, INCLUDING, WITHOUT LIMITATION, ANY AND ALL DAMAGES, LIABILITIES, FINES, COSTS, FEES, EXPENSES, OR LOSSES OF EVERY OR ANY KIND, INCLUDING, WITHOUT LIMITATION, REASONABLE ATTORNEY'S FEES AND COSTS OF INVESTIGATION AND LITIGATION AND OTHER EXPENSES INCURRED IN ENFORCING THIS INDEMNITY PROVISION WHATSOEVER WHICH MAY BE INCURRED BY THE OTHER BENEFICIARIES (COLLECTIVELY, "DAMAGES"), EVEN IF SUCH CLAIMS OR DAMAGES ARISE, OR ARE ALLEGED TO HAVE ARISEN, IN WHOLE OR IN PART FROM THE NEGLIGENCE OR STRICT LIABILITY OF ANY ONE OF THE OTHER BENEFICIARIES OR THEIR AGENTS, BUT NOT IF SUCH CLAIMS OR DAMAGES ACTUALLY ARISE FROM THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF SUCH OTHER BENEFICIARY. THIS INDEMNITY SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

DRAFT

RESTRICTIVE COVENANT
AND TERMINATION OF PRIOR RESTRICTIVE COVENANT

EFFECTIVE DATE: _____, 2023

OWNER: Bee Cave Parkway Owner, LLC, a Delaware limited liability company

MAILING ADDRESS: 3000 Richmond Avenue
Houston, Texas 77098
Attn: Jason Hauck

CONSIDERATION: Ten and No/100 Dollars ($10.00) and other good and valuable consideration paid by the City of Bee Cave, Texas to Owner, the receipt and sufficiency of which is hereby acknowledged.

PROPERTY: As described in **Exhibit A** attached hereto and made a part hereof.

DEFINITIONS & RECITALS:

A. The term "Owner" means: Owner described above and all future owners of the fee interest of any portion of the Property, whether such fee interest is obtained through a purchase from Owner or through a purchase at a foreclosure sale or trustee's sale or through a deed lieu of foreclosure, and their successors and assigns.

B. The term "Facilities" means those water quality facilities that convey and receive storm water runoff and any associated best management practices, or facilities used to treat the storm water, all related to the Property, as are more particularly described on **Exhibit B** attached and incorporated by reference, and which Facilities are located within the water quality easements as described in **Exhibit B**.

C. Terrace Partners LLC, a prior owner of the Property, executed and recorded a similar Restrictive Covenant affecting the Property for the benefit of the City dated May 13, 2018, and recorded on June 1, 2018, as Document No. 2018084822 (the "Original Restriction"). The parties desire, and the City has agreed, to terminate the Original Restriction.

D. Owner and the City of Bee Cave, Texas ("City") have agreed that the Property should be impressed with certain covenants and restrictions.

NOW THEREFORE, it is declared that Owner, for the consideration set forth herein, shall hold, sell and convey the Property, subject to the following covenants and restrictions impressed upon the Property by this Restrictive Covenant (this "Agreement"). These covenants and restrictions shall run with the land and shall be binding on Owner (as described above).

AGREEMENT:

1. Termination of Original Restriction. Owner and the City hereby acknowledge and agree that the Original Restriction is hereby terminated as of the date hereof and is of no further force and effect.

2. O&M Plan. Owner of the Property shall comply with the "Inspection, Maintenance, Repair and Retrofit Plan, and Schedule for Retention/Reirrigation Ponds" attached hereto as **Exhibit C** (the "O&M Plan"), as such O&M Plan may be amended from time to time by Owner upon approval by City, such approval not to be unreasonably withheld, conditioned, or delayed.

3. IPM Plan. Owner of the Property shall comply with the Integrated Pest Management Plan approved by City for the Property and attached hereto as **Exhibit D**, (the "IPM Plan"), as such IPM Plan may be amended from time to time by Owner upon approval by City, such approval not to be unreasonably withheld, conditioned, or delayed.

4. NPS Permit. Owner of the Property shall comply with NPS Pollution Control Permit #22-757-SNPS ("NPS Permit") issued by City for the Property, as the NPS Permit may be amended from time to time by Owner upon approval by City, such approval not to be unreasonably withheld, conditioned, or delayed. Owner hereby agrees that the portion of the Property used for water quality purposes and described in the O&M Plan shall be used according to the City of Bee Cave Non-Point Source Pollution Prevention ("NPS") ordinances in effect on the Effective Date.

5. Easement. Owner hereby grants and conveys and by these presents does GRANT AND CONVEY unto City, whose address is as set forth in the notice provisions below, a non-exclusive easement for reasonable inspection and monitoring, as applicable, of the Facilities, as required by applicable law, upon and across the Property, TO HAVE AND TO HOLD the same to City and its successors and assigns for the duration described herein, together with privilege at any and all times to reasonably enter the Property for the purpose of inspecting and monitoring the Facilities as required by applicable law.

6. Maintenance. Owner shall continuously maintain the Property and Facilities in accordance with the requirements of the City of Bee Cave and NPS ordinances, any and all permits or approvals issued by City related thereto, and in accordance with the O&M Plan. The portion of the Property on which the Facilities are located may not be used for any purpose inconsistent with or detrimental to the proper operation of the Facilities.

7. Enforcement. If any person, persons, corporation, or entity violates this Agreement, it will be lawful for City, its successors and assigns, to prosecute proceedings at law, or in equity, against the person, or entity violating or attempting to violate such covenant and to prevent the person or entity from violating or attempting to violate such covenant. The failure at any time to enforce this Agreement by City, its successors and assigns, whether any violations hereof are known or not, does not constitute a waiver or estoppel of the right to do so.

8. Entire Agreement; Modification and Amendment. This Agreement embodies the entire agreement between the parties hereto regarding the subject matter hereof. This Agreement may only be modified, amended or terminated upon the filing of such modification, amendment or termination in the Official Records of Travis County, Texas, approved and executed by City and Owner. Such action only becomes effective after it is reduced to writing, signed by the foregoing described parties and filed in the Real Property Records of Travis County.

9. Duration. Unless modified, amended, or terminated, this Agreement remains in effect in perpetuity.

10. Inurement. This Agreement and the restrictions created hereby inure to the benefit of the City and binds the Owner. When Owner conveys all or any portion of the Property, the former Owner will thereupon be released and discharged from any and all further obligations, if any, under this Agreement that it had in connection with the Property conveyed by it from and after the date of recording of such conveyance, but no such sale releases that Owner from any liabilities, if any, actual or contingent, arising prior to the time of such conveyance. Each contract, deed or conveyance of any kind conveying all or a portion of the Property after the date hereof will conclusively be held to have been executed, delivered, and accepted subject to this Agreement, regardless of whether or not they are set out in full or by reference in said contract, deed or conveyance.

11. Non-Merger. This Agreement will not be subject to the doctrine of merger, even though the underlying fee ownership of the Property, or any parts thereof, is vested in one party or entity.

12. Governing Law; Place of Performance. This Agreement and all rights and obligations created hereby will be governed by the laws of the State of Texas, and Travis County, Texas shall be the exclusive venue for any action to enforce the terms and conditions of this Agreement.

13. Notices. Any notice to Owner or City must be in writing and given by delivering the same to such party in person, by expedited, private carrier services (such as Federal Express), or by sending the same by certified mail, return receipt requested, with postage prepaid to the intended recipient's last known mailing address. All notices under this Agreement will be deemed given, received, made or communicated on the date personal delivery is effect or, if mailed, on the delivery date or attempted delivery date shown on the return receipt or tracking information.

City:

4000 Galleria Parkway
Bee Cave, Travis County, Texas 78738
Attn: City Manager

Owner:

To the address set forth above.

14. Breach Does Not Permit Termination. Notwithstanding anything to the contrary contained herein, no breach of this Agreement entitles Owner to cancel, rescind or otherwise terminate this Agreement, but such limitations do not affect in any manner any other rights or remedies which the Owner may have by reason of any breach of this Agreement, including, without limitation, specific performance and injunctive relief.

15. Existing Encumbrances. The easement and other rights granted or created by this Agreement are subject to any and all matters of record affecting the Property. However, Owner represents that, as of the Effective Date and to its actual knowledge, there are no easements or other rights granted or created which would cause this Agreement to be unenforceable.

[Signature on following page]

This Agreement is executed as of the date set forth below to be effective as of the Effective Date.

OWNER:

BEE CAVE PARKWAY OWNER, LLC,
a Delaware limited liability company

By:_____
Jason Hauck, Vice President

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

This instrument was acknowledged before me on this _____ day of _____, 2023, by Jason Hauck, as Vice President of BEE CAVE PARKWAY OWNER, LLC, a Delaware limited liability company, on behalf of said company.

SEAL:

_____
Notary Public in and for the State of Texas

Exhibit A

Legal Description of Property

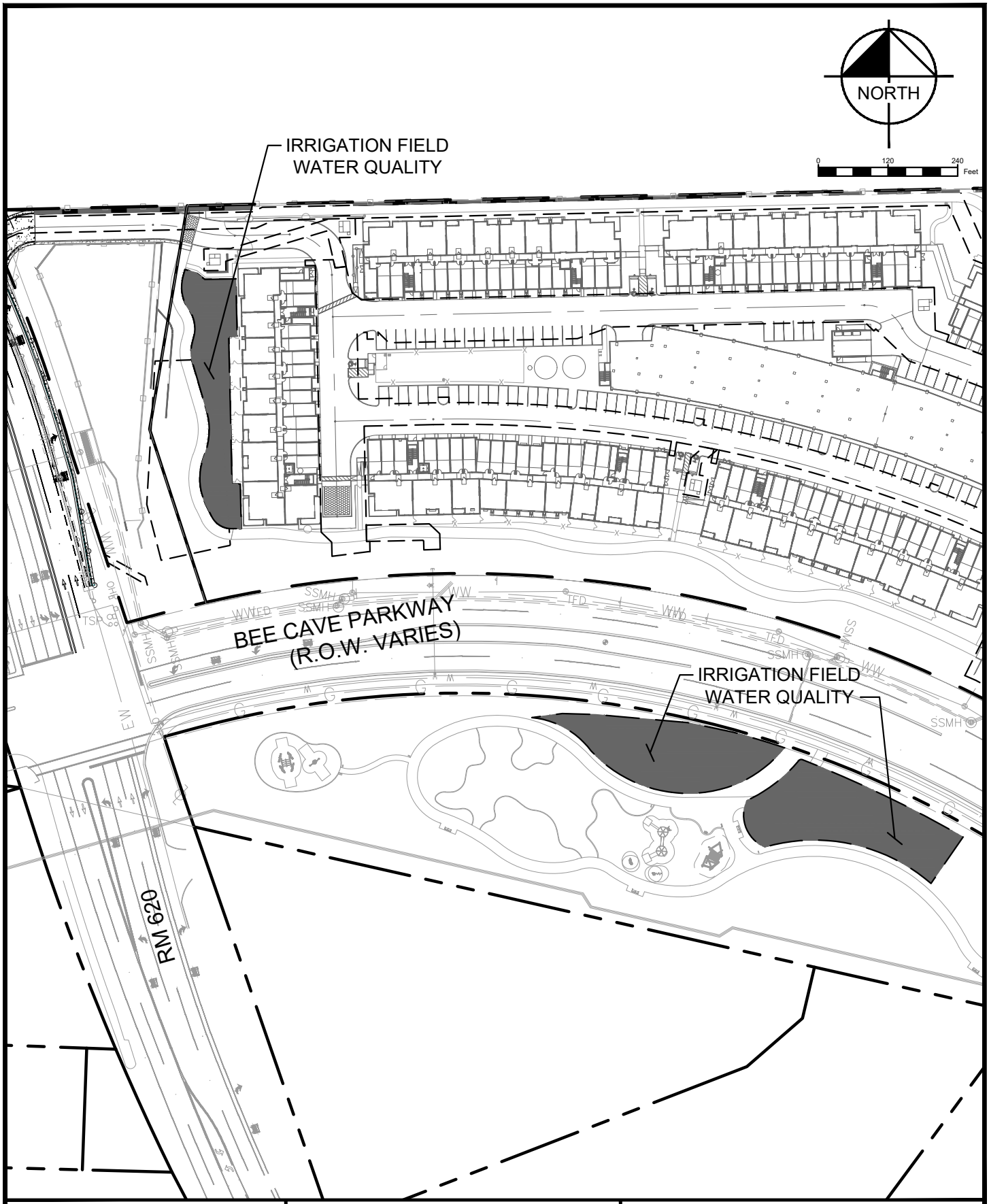
Lots 1 and 2, Block "B" of the AMENDED FINAL PLAT HILL COUNTRY GALLERIA OF LOTS 1-8 AND 10-26, BLOCK A, LOTS 1-3 AND 5-8, BLOCK B AND LOT 1, BLOCK C, a subdivision in Travis County, Texas, according to the map or plat thereof, recorded under Document No. 200700378 of the Official Public Records of Travis County, Texas.

SAVE AND EXCEPT that certain tract of land conveyed to the State of Texas by instrument recorded in Document No. 2023037347, Official Public Records of Travis County, Texas.

Exhibit B

Facilities

[Attached]



THE PEARL AT BEE CAVE
APARTMENTS
CITY OF BEE CAVE
TRAVIS COUNTY, TEXAS

EXHIBIT B

Kimley»Horn
10814 Jollyville Road
Campus IV, Suite 200
Austin, Texas 78759
(512) 418-1771

Exhibit C

O&M Plan

Inspection, Maintenance, Repair and Retrofit Plan, and Schedule for Retention/Reirrigation Ponds

PROJECT NAME: The Pearl at Bee Cave
ADDRESS: 13400 Bee Cave Parkway
CITY, STATE, ZIP: Bee Cave, Texas 78738

DRY PONDS

Sediment Removal. Remove sediment from splitter box, basin, and wet wells at least two times per year or when the depth reaches 6 inches.

Mowing. The upper stage, side slopes, and embankment of a retention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.

Debris and Litter Removal. Debris and litter accumulated near the basin pump should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the irrigation system.

Nuisance Control. Standing water or soggy conditions in the retention basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).

MAJOR MAINTENANCE REQUIREMENTS

1. Ponds

The following maintenance activities shall be performed to ensure proper function:

a. Accumulated paper, trash and debris shall be removed as necessary to maintain proper operation.
b. Structural integrity shall be maintained at all times. Basins and all appurtenances shall be inspected annually, or more frequently if specified, and repairs shall be made if necessary. When maintenance or repairs are performed, the pond shall be restored to the original lines and grades.
c. Corrective maintenance shall occur:
    i. Any time drawdown of the Water Quality Volume does not occur within ninety-six (96) hours (i.e., no standing water is allowed), unless a greater maximum drawdown time is specified in the plans.
    ii. For detention ponds only, any time drawdown does not occur within twenty-four (24) hours.
d. The inlet and outlet shall be maintained unimpeded in order to convey flow at all times. Observed blockages to the inlet and outlet, due to vegetation, sediment, debris, or any other cause, shall be removed.
e. Integrated pest management shall be performed and shall adhere to the Integrated Pest Management Guidelines.

2. Irrigation Fields

Inspections. The irrigation system, including pumps, should be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. Two of these inspections should occur during or immediately following wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately. In particular, sprinkler heads must be checked to determine if any are broken, clogged, or not spraying properly. All inspection and testing reports should be kept on site and accessible to inspectors.

Irrigation Areas. To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.

Responsible Party for Maintenance: Bee Cave Parkway Owners, LLC

Address: 3000 Richmond Ave

City, State, Zip: Houston, TX 77098

Telephone Number: (281) 352-2878

Signature of Responsible Party: _____

Exhibit D

IPM Plan

[Attached]

The Pearl at Bee Cave Apartments
IPM Plan

July 19, 2023

PART A – PROJECT DESCRIPTION

1. Project Name: *The Pearl at Bee Cave Apartments*

2. Project Type: *Commercial Development*

3. Project Address/Location: *13400 Bee Cave Parkway*
   Bee Cave, Texas 78738

4. Project Owner contact information:

   Bee Cave Parkway Owner, LLC
   3000 Richmond Avenue
   Houston, Texas 77098

5. Environmental Reviewer: *City of Bee Cave*

6. IPM Plan Reviewer: *City of Bee Cave*

7. Reason for IPM requirements:
   Requirement of the City of Bee Cave. The proposed IPM Plan is to provide public education to the prospective tenants, on methods to reduce non-point source pollution and protect the Contributing Zone of the Edwards Aquifer.

8. Built Structures:
   a. *11 multifamily buildings and one parking garage*

9. Environmental Features:
   a. *1 Retention re-irrigation pond*

The Pearl at Bee Cave Apartments
IPM Plan

July 19, 2023

PART B – ANTICIPATED PEST PROBLEMS, IPM PLANS and PUBLIC EDUCATION PROGRAM

10. Potential Pests: *Control of the following pests is anticipated for the project:*

- *a. Insects*
- *b. Fungal diseases*

11. As part of its education program, the development will utilize the City of Austin's attached Grown Green publications including:

- *a. Lawn Care: Includes information about weed control*
- *b. Lawn Problems: Includes information about grubs, chinch bugs, brown patch and take-all patch, as well as associated problems such as drought stress, shade, and iron chlorosis.*
- *c. Fungal Leaf Spots*
- *d. Aphides*
- *e. Beetles*
- *f. Caterpillars*
- *g. Fire Ants*
- *h. Fleas*
- *i. Mosquitoes*
- *j. Poison Ivy*
- *k. Powdery Mildew*
- *l. Spider Mites*
- *m. Scale*
- *n. Snails and Slugs*
- *o. Stink Bugs*

12. The public education portion of the IPM plan also includes the following information from the City's yard care publications:

- *a. Beneficial Insects*
- *b. Tree Care*
- *c. Weeds*
- *d. Products Toxicity Comparisons*
- *e. Landscaping*
- *f. Hiring a Professional for Pest Control and Maintenance*

The Pearl at Bee Cave Apartments
IPM Plan

July 19, 2023

PUBLIC EDUCATION PLAN

INTRODUCTION

This document is intended to provide citizens with the information necessary to follow an environmentally sensitive approach to lawn care, pest management, and to other aspects of urban living. To maintain a healthy environment and avoid polluting, it is important that each individual employ the following recommended measures. If a service company is employed by the property owner, then the owner must ensure that the company:

- Is aware of the covenants and restrictions on the property
- Is given a copy of this guide
- Use the practices recommended in this guide

2.0 DEFINITION of IPM

Integrated pest management (IPM) is a system of controlling pests (weeds, diseases, insects or others) in which pests are identified, action thresholds are considered, all possible control options are evaluated and selected control(s) are implemented. Control options--which include biological, cultural, manual, mechanical and chemical methods--are used to prevent or remedy unacceptable pest activity or damage. Choice of control option(s) is based on effectiveness, environmental impact, site characteristics, public health and safety, and economics. IPM takes advantage of all appropriate pest management options.

3.0 GROW GREEN PROGRAM

The Grow Green program is a partnership of the City of Austin Watershed Protection and Development Review Department and the Cooperative Extension Service of Travis County. This program is a community-wide environmental education program intended to preserve and protect our water resources. The Grow Green partnering agencies distribute educational materials, such as the earth-wise guides included in this document, to the Austin-area nurseries and home improvement stores that have elected to participate in the program.

4.0 EARTH-WISE GUIDES

The earth-wise guides in this document were developed as an educational component of the Grow Green program. The Grow Green earth-wise guides are available for free at each participating retailer. This information is meant to assist individuals in identifying a pest of concern and describe a least-toxic approach to managing the pest. So that you may choose a least toxic control measure, various products labeled for the control of that pest are rated according to toxicity and persistence. These guides are updated on an occasional basis as new products and treatment options become available. Additional copies may be available upon request by either picking them up at a participating retailer, or by contacting the City of Austin at (512) 974-2550 or the Cooperative Extension Service at (512) 854-9600.

5.0 VEHICLE MAINTENANCE

Used motor oil, oil filters, car batteries, and tires should be dropped off at an appropriate facility. Many automotive shops, lubrication centers, and some recycling centers will accept these materials. For more information on proper disposal and recycling, refer to the next item, 6.0 Disposal and Recycling. When cleaning your vehicle, it is important that the wastewater from the cleaning process not enter the storm drain system. Approved car washing facilities direct the wastewater to a treatment facility. When washing a vehicle at home, drain the wash water to a landscape area. Thus the landscaping can use the water, and the dirt and cleaning agents can be degraded.

6.0 DISPOSAL and RECYCLING

It is important to recycle any material that is recyclable, and to properly dispose of items that cannot be recycled. Residents of the City of Austin or of Travis County have access to the Home Chemical Collection facility located at 2514 Business Center Drive, south of the Ben White/Burleson intersection. It is open Tuesday and Wednesday from 12 to 7 p.m. The phone number for the facility is (512) 974-4343. If you reside outside Travis county, contact your local county government or the Texas Commission on Environmental Quality (TCEQ) to find out if there is a disposal site or recycling program for your area. The TCEQ offers citizens two easy ways to access this information. One method is to use the toll-free phone number (1-800-CLEAN-UP), that allows you to enter your five-digit ZIP code to find information specific to your locale. Web surfers can find the same information on the Internet at www.1800cleanup.org.

The Pearl at Bee Cave Apartments
IPM Plan

July 19, 2023

Plant Diseases

Bacterial Leaf Spot

Cotton Root Rot/Root Rot

Fire Blight

Oak Wilt

Thirps

Viruses

BACTERIAL LEAF SPOT

Problem
Leaves yellow and may drop. Plants lose vigor and produce less chlorophyll. Bacterial Leaf Spot is caused by wet plant foliage and injury. This is commonly seen on:

Greens
Turnips
Cauliflower
Cabbage
English Ivy
Tomatoes
Fruit trees
Several ornamental shrubs and trees

Least Toxic Solutions

- Avoid wetting foliage when watering.
- Space plants to allow adequate air flow.
- Do not injure foliage. Bacteria enter plants through wounds or natural openings.
- Remove infected plant sections.
- Carefully consider use of chemical controls— they are often only marginally effective.
- If you must use a chemical control, apply a copper hydroxide product such as Kocide®.

COTTON ROT/ROOT ROT

Description: Fungal plant disease that attacks the roots of plants, turning them brown rather than a healthy white. Cotton root rot is common in soils with a pH over 7.2 and in areas with high summer temperatures. Problem: Plants wilt, dieback and lose vigor. Control is difficult because symptoms normally appear after damage to the stem or root is severe. Cotton Root Rot moves through the soil from plant to plant, with symptoms usually occurring in July and August.

Attacks: More than 2,000 species of plants including:

Cotton
Ornamentals
Fruit trees
Nut trees
Shade trees
Most landscape plants

Least Toxic Solutions

Cotton Root Rot

No treatment available once plant is infected. Mulch plants to keep soil cool. Add organic material to clay soils. Use resistant plants, natives and grasses. When practical, acidify soil in the root zone of the plant.

Root Rot

Ensure proper drainage and allow excessively wet soils to dry. Plant in raised beds if drainage is marginal. Avoid crowding plants in beds. Place plants at the same soil depth as they were in the container you purchased them in. Because there are several different fungi that cause root rots, have the disease diagnosed at the Texas A & M Plant Disease Lab or by Extension personnel before applying fungicide.

FIRE BLIGHT

Description: Bacterial disease that causes rapid blackening and desiccation of blooms and foliage. Affected shoots bend at the tip in a "shepherd's hook". Black, sunken twig and branch cankers develop later. Problem: Fire Blight causes twig dieback and blossom blight in up to 2-24 inches of twig length. The bacterium stays in the cankers over winter and in the spring, oozes from the cankers and is carried by wind, rain and insects to healthy foliage.

Attacks:
Pears
Apples
Pyracantha
Quince
Loquat
Indian Hawthorne
Photinia

Least Toxic Solutions

Avoid high nitrogen levels and excessive pruning. Vigorous growth is much more susceptible to fire blight. Prune four inches below visible cankers. pruning equipment between cuts with one part household bleach to nine parts of water. Clean and oil equipment after pruning. Select fire blight resistant varieties and species. Contact the Extension office at 854-9600 for a list. With the exception of Kocide® and streptomycin sulfate, chemical controls are usually ineffective.

OAK WILT

Description
Fungus that plug water-conducting vessels, reducing flow of water up the stem of the tree. Often causes leaves to wilt and fall prematurely. Live Oaks: Tree appears weakened. One area of the tree dies at a time. Areas around leaf veins are often brightly colored.

Red Oaks: Die in a flash of fall color in early summer.

Problem
Disease spread by beetles feeding on tree wounds. Also can travel from tree to tree through interconnected roots. Oak Wilt travels 75 feet per year in all directions. Live Oaks die quickly one tree at a time.

Attacks

- Blackjack Oak
- Live Oaks
- Schumard Oak
- Spanish Oak/Texas Red Oak

Least Toxic Solutions:

- Prune oak trees only in the coldest part of winter and hottest part of summer.
- Use a pruning paint to protect cut or wounded areas immediately after pruning or wounds are discovered. Sterilize tools after pruning.
- Contact Chris Dolan, City of Austin Oak Wilt Suppression Program at 512-974-1881 for information.
- Trench 4' deep and at least 100 feet from infected and susceptible trees to sever root connections.
- Only use old, dry wood if you use oak firewood.
- Certified applicators can inject ALAMO® into tree roots. This method is best used as a preventative.

THRIPS

Description
Description To the naked eye, they look like tiny threads; with a hand lens, their narrow, fringed wings are visible. When holding an infested rose bloom you can see that they are very active. They may even bite!

Infestation
Tattered flowers, deformed flowers, silvery spots or streaks on leaves - by the time damage is visible the infestation is already severe.

Attacks:

- Roses
- Daylilies
- Iris
- other flowers

Lifecycle
Adults lay hundreds of eggs in plant tissue. In Roses, the eggs hatch inside the flower bud. The resulting nymphs scrap plant tissue, then, suck the sap, damaging the flower before it opens. There are many generations per year.

Least Toxic Solutions: Thrips are notoriously very difficult to control, so early detection is important when trying to keep the populations in check.

Aim for control rather than eradication. The only way to completely get rid of thrips is to destroy the infested plants - not an option most want to consider

- Remove and dispose of infested blooms
- Clean up leaf litter
- Always read and follow pesticide labels
- Alternate the following treatments:
    - Spray with Neem oil. For best results the spray needs to come in contact with the insect, but Neem oil is also slightly systemic; meaning some of it will absorb into the plant tissue and help weaken the insect after it feeds on the plant
    - Dust plants and immediate area with diatomaceous earth Use a light weight horticultural oil

VIRUSES

Description
Sub-microscopic infectious particles that multiply only inside living cells. Viruses enter plants through wounds and by insects that feed on plants. Symptoms vary but include abnormal color, vein patterns, shape, mottling, ring spots and mosaic patterns in leaves; Can include abnormal flower color and fruit size, shape and color.

Problem
Seldom lethal to plants, but severely affect the quantity, quality and longevity of the host plant.

The Pearl at Bee Cave Apartments
IPM Plan

July 19, 2023

Attacks
Many types of plants.

Least Toxic Solutions:

- Chemicals do not effectively control virus diseases.
- Select plant stock that is free of viruses.
- Cover susceptible annual garden plants with a row cover fabric to keep sucking insects away from healthy plants.
- Diseased plants should be removed and destroyed to prevent infection of other plants by sucking insects that move from plant to plant.

grow green

earth-wise guide to

Lawn Care

www.growgreen.org

a dense, healthy lawn with deep roots improves the lawn's ability to absorb water, reduce runoff and out-compete weeds

in this fact sheet:

- Starting a New Lawn
- Grass Options
- Mowing
- Irrigation
- Aerating
- Fertilizing
- Weeding









Grow Green encourages the use of native and adapted, drought-resistant plants and grasses. These plants conserve water and protect water quality by requiring fewer pesticides and fertilizers.

Starting a New Lawn

- Minimize your total lawn area. Consider lawn alternatives such as beds and mulched areas to reduce water and fertilizer needs
- Start with a minimum of six inches of high quality soil to grow a healthy lawn
- Prepare the soil by removing perennial weeds and tilling in at least 2" of compost
- Level your lawn area to avoid low spots where water will pool or consider creating a rain garden with moisture-loving plants for a large low area (www.growgreen.org/downloads/landscaping.pdf)
- Choose between seed, plugs, or sod, then keep soil moist until the lawn becomes established
- Avoid over-watering a newly seeded lawn to prevent grass seed from washing away

Caring for an Established Lawn

Mow Properly

- Mow grass frequently enough so that no more than 1/3 of the leaf blade is removed at one time
- Mow when the grass is dry to prevent spread of turf diseases
- Cut the grass at the recommended height to help establish a deeper root system (refer to chart below)
- Sharpen mower blades regularly; sharp blades do less damage to grass

Identify before you buy

Need help diagnosing a plant problem? Call the Texas AgriLife Extension Service at 512-854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu

Grass Options*

Grass	Drought Tolerance	Mowing Height	Sun	Start-up Requirements
Buffalo	*Very High*	*(Mowing optional) 2- 3"*	*6 hours/day minimum*	*Sod, plugs, seed*
Common Bermuda	*High*	*1.5 - 2"*	*Full sun*	*Seed or sod*
Zoysia	*High*	*1.5 - 2"*	*Full sun to partial shade*	*Sod or plugs*
St. Augustine	*Low (Medium in shade)*	*2 .5" (sun), 3 - 3.5" (shade)*	*Best for shady spots (requires the most water in sun)*	*Sod or plugs*

* see the Grow Green Plant Guide for more options

Follow the Mandatory Watering Schedule

www.waterwiseaustin.org
or call 974-2199 for information on water audits, finding a City-certified licensed irrigator, and other water conservation tips

- **Do not bag your grass clippings** unless disease is present
- Use a mulching mower if possible
- Do not blow clippings into a storm drain

Irrigate Efficiently

- Don't overwater to help prevent fungal diseases. Water before the sun comes up or after the sun goes down to prevent evaporation.
- Water deeply and infrequently to encourage deeper roots and prevent thatch
- Water so that the soil is wet to a depth of 4-6 inches. To achieve this, you will need to apply 1/2 to 1 inch of water which can be measured in a small can or rain gauge
- Because water is more likely to run off clay soils and sloping lots, it may be necessary to irrigate slowly or in multiple short cycles to prevent water run-off
- Allow soil to dry out between waterings
- Watering is seldom necessary during the dormant season (December-February)

Aerating

- Aerate your lawn at least once a year to improve drainage and bring more oxygen to the soil
- Moisten your soil the day before aerating to make the job easier and more effective
- Use a hollow-tined aerator that removes the plugs to increase water and oxygen to the soil
- After aerating, apply $^{1}/_{8}$″ of compost to increase microbial activity (Call 972-1954 for information on Dillo Dirt, an organic compost produced by the City of Austin's Water Utility.)

Fertilizing

Right Knowledge

- Test your soil every 2-3 years and base your fertilizer application on the results (without a soil test, use rates for low to medium foot traffic on the following page)

Right Products

- Use organic fertilizers which are naturally slow release - they provide a good quality turf and soil
- If choosing a synthetic fertilizer,
  - make sure there is a high percentage of slow release chemical in the product
  - if using standard synthetic, follow the "Right Rate" recommendations (right) carefully

avoid weed and feed products!

1. The best time to use a fertilizer is not usually the best time to use an herbicide

2. Spreading herbicides over the entire yard is usually overkill - hand-pull or spot treat weeds instead

Overseeding with rye grass is not necessary. It requires more fertilizer, mowing and irrigation and can delay the growth of the permanent turf, often leaving it thin and weak.

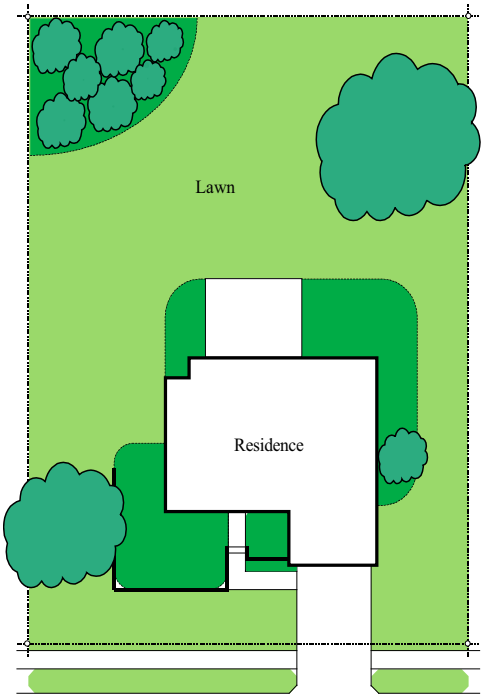
- Buy a fertilizer with low phosphorous (the middle number in the fertilizer ratio. 4-1-2)
- Improve both soil texture and nutrient levels by applying $^{1}/_{4}$″ compost to the top of your lawn **instead** of fertilizer

Right Rate

- Measure your lawn size, not your property size (over-application is one of the greatest threats to water quality)
- Leave grass clippings on the lawn to return 60% of the needed nitrogen and 100% of the phosphorous and potassium to the soil naturally
- If not bagging the clippings, use half as much, half as often as recommended on the bag ($^{1}/_{2}$ lb.N/1000 square feet, no more than twice a year)
- Use a fertilizer spreader with a deflector guard to avoid getting fertilizer on hard surfaces
- Save any leftover fertilizer for the next season; store in a cool dry place

Right Timing

- Spring Fertilization: April 15 (after the lawn has been mowed two times)
- Fall Fertilization: Early October (may only be necessary if lawn looks unhealthy)
- **Never fertilize before a rain!**



When calculating how much fertilizer to apply, measure only the lawn areas – subtract house, driveway, walkways, and beds from the total area of your property.

Right Method

- Water in gently to avoid runoff
- Sweep any fertilizer off sidewalks and roads back onto the lawn

Weed Appropriately

- As you develop a dense, healthy turf, weed problems will diminish
- Fill in bare spots in your lawn with grass plugs or seed
- Monitor and remove weeds regularly before they get established or bloom and release their seeds
- Avoid using herbicides. An effective and least toxic way to remove weeds is to pull them by hand
- If you decide to treat chemically, refer to the Grow Green Weed fact sheet (www.austintexas.gov/sites/default/files/files/Watershed/growgreen/lawncare.pdf)

did you know?

Atrazine, the weed killer most often found in weed and feed products, has been found in 70% of the monitoring tests at Austin springs

When should I fertilize and how often?

Turf Use:	Application Rate:	Application time:
Low to Medium foot traffic	1/2 pound of nitrogen per 1000 square feet of lawn area applied ONCE per year	± April 15 (after grass has been mowed two times)
Moderate to High foot traffic	1/2 pound of nitrogen per 1000 square feet of lawn area applied TWICE per year	± April 15 by October 15th

How much fertilizer should I apply?

Soil in Austin is normally high in phosphorus and potassium; therefore fertilizing amounts should be based on the nitrogen content of the fertilizer. In general apply ½ pound of nitrogen/1000 square feet. Refer to chart for amounts or visit http://aggie-turf.tamu.edu/aggieturf2/calculators/fertsheet.html

Fertilizer Analysis: *Comparison of Nitrogen (N) to Phosphorus (P) to Potassium (K)*	Amount of Fertilizer	
	Lbs.	Cups
4-2-3	12.5	25
6-1-1 6-2-4	8	16
8-2-4	6	12
9-1-1	5.5	11
11-2-2	3	6
26-2-13	2	4
32-0-10	1.6	3

To convert lbs. to cups multiply the number of lbs. x 2
Based on estimation that 1/2 lb. of dry fertilizer = 1 cup

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

A dense, healthy lawn is the best defense against weeds

Toxicity/Threat:

◯ *low* ◐ *low to moderate* ◑ *high* ● *highest* **NA** *not applicable*

? *unknown toxicity* *earth-wise*

Hazards:

note	*Product Name*	*active ingredient(s) / concentrations*	*human acute*	*toxicity chronic*	*aquatic life*	*birds, bees, pets*	*soil mobility*	*environmental persistence*
	Weed and Feed Products							
	Concern® Weed Prevention Plus™ 8-2-4	*Corn gluten*	◯	◯	◐	◯	?	?
	Fertilome® Weed & Feed Special 20-0-4	*Simazine .63%*	◯	◐	◯	◯	◯	◐
	Scotts® Turf Builder® Halts® Crabgrass Preventer 30-3-4	*Pendimethalin 1.71%*	◐	◯	◑	◐	◯	◑
	Vigoro® Ultra Weed & Feed 28-3-3	*2,4-D 0.64%, MCPP 0.16%, Dicamba 0.03%*	◐	◑	◐	◯	●	◐
	Scotts® Turf Builder® WinterGuard™ PLUS 2® Weed Control	*2,4-D 1.04% MCPP 0.52%*	◐	◑	◑	◯	●	◐
	Vigoro® UltraTurf™ St.Augustine Weed & Feed with Atrazine 29-3-5	*Atrazine 1.102%, Related compounds 0.058%*	◐	◑	◑	◯	●	◑
	Lesco Atrazine 0.92% Plus 17-4-6	*Atrazine .92%*	◐	◑	◑	◯	●	◑
	Scotts® Bonus® S Max Southern Weed and Feed & Fire Ant Killer 26-2-9	*Atrazine 1.089% Bifenthrin 0.110%,*	◐	◑	●	◑	●	◑

most toxic

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable ? unknown toxicity 🐞 earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Pre-emergent Products							
	Green Light® Portrait® Granules	Isoboxen 0.38%	◐	◑	◐	○	◑	◐
	Hi Yield® Crabgrass Control	Benefin 1.33%, Trifluralin 0.67%	◐	◐	◑	◐	◑	◐
	Post-emergent Products							
🐞	Agralawn Crabgrass Control	Cinnamon bark 0.95%	○	?	○	○	○	?
🐞	Spectracide® Weed Stop® 2x Weed Killer for Lawns Gel	Diquat dibromide 0.18% Fluazifop-p-buytl .06% Dicamba.04%	◐	?	◐	○	◐	○
	SedgeHammer® (formerly called Manage)	Halosulfuron - methyl 75%	◐	◐	◐	○	◑	?
	Ortho® Weed-B-Gon Weed Chickweed, Clover & Oxalis	Triclopyr, triethylamine salt 8%	◐	◐	◑	◐	◐	○
	Hi-Yield® Grass Killer (Poast®)	Sethoxydim 18%	◑	?	◑	○	◐	○
	Image® Kills Nutsedge	Imazaquin 3.3%	◐	?	◐	○	●	◑
	Fertilome® Crabgrass, Nutgrass & Dallisgrass Killer	Monosodium acid methanearsonate 13.2%	◐	●	◐	○	○	◑
	Ortho® Weed-B-Gon Max® Plus Crabgrass Control Ready-to-Use	2,4-D 0.12%, MCPP 0.22%, Dicamba quniclorac 0.10%	◐	◑	◐	○	●	◐
	Spectracide® Weed Stop® 2x for Lawns Concentrate	2,4-D 7.57%, Dicamba 0.71%, MCPP 2.73%, Sulfentrazone 0.18%	◐	◑	◑	○	●	◐
	Bayer Advanced™ All-in-One Weed Killer Ready-to-Spray	2,4-D 4.85%, Quindorac 1.61%	◐	◑	◑	○	●	◐
	Hi-Yield® Atrazine Weed Killer	Atrazine 40.8% Related compounds 2.2%	◐	◑	◑	○	●	◑
	Ortho® Weed-B-Gon® Spot Weed Killer for St Augustine Lawns	Atrazine 0.60%	◐	◑	◑	○	●	◑
	Bayer Advanced™ All-in-One Weed Killer	MSMA 9.81%, 2,4 -D 3.18% MCPP 1.6%, Dicamba .79%	◐	●	◐	○	○	◑/◐
	Ortho® Weed-B-Gon® Crabgrass Killer for Lawns	Calcium acid methanearsinate 0.50%	◐	●	◐	○	○	◑/◐

most toxic

why grow green?

The Grow Green program is based on Integrated Pest Management (IPM) principles that encourage the LEAST TOXIC approach to pesticide and fertilizer use. The goal is to reduce the amount of landscape chemicals that degrade water quality when they run off into waterways or leach into our groundwater.

Per land development regulations, the City of Austin requires that certain neighborhoods implement a least-toxic approach (Integrated Pest Management or IPM) when managing pests on-site. The Grow Green fact sheets are based on IPM which includes accurate pest identification, problem prevention, physical, and/or biological treatment when feasible. Chemical products are allowable but least toxic options (marked with a ladybug) are preferred.

The City of Austin and the Texas AgriLife Extension Service provide this information as a comparative reference only. Listing of specific product trade names does not constitute an endorsement of its use. Many other pesticides and pesticide products are available and may be suitable for use other than those listed in these tables. **Check labels carefully as trade names and active ingredients may change.**

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

City of Austin WATERSHED PROTECTION
512-974-2550

TEXAS A&M AGRILIFE EXTENSION
512-854-9600

03/16

grow green

earth-wise guide to

Lawn Problems

in this fact sheet:

- Chinch bugs
- Grubs
- Brown Patch
- Take All Patch
- Drought Stress
- Iron Chlorosis
- Shade Stress

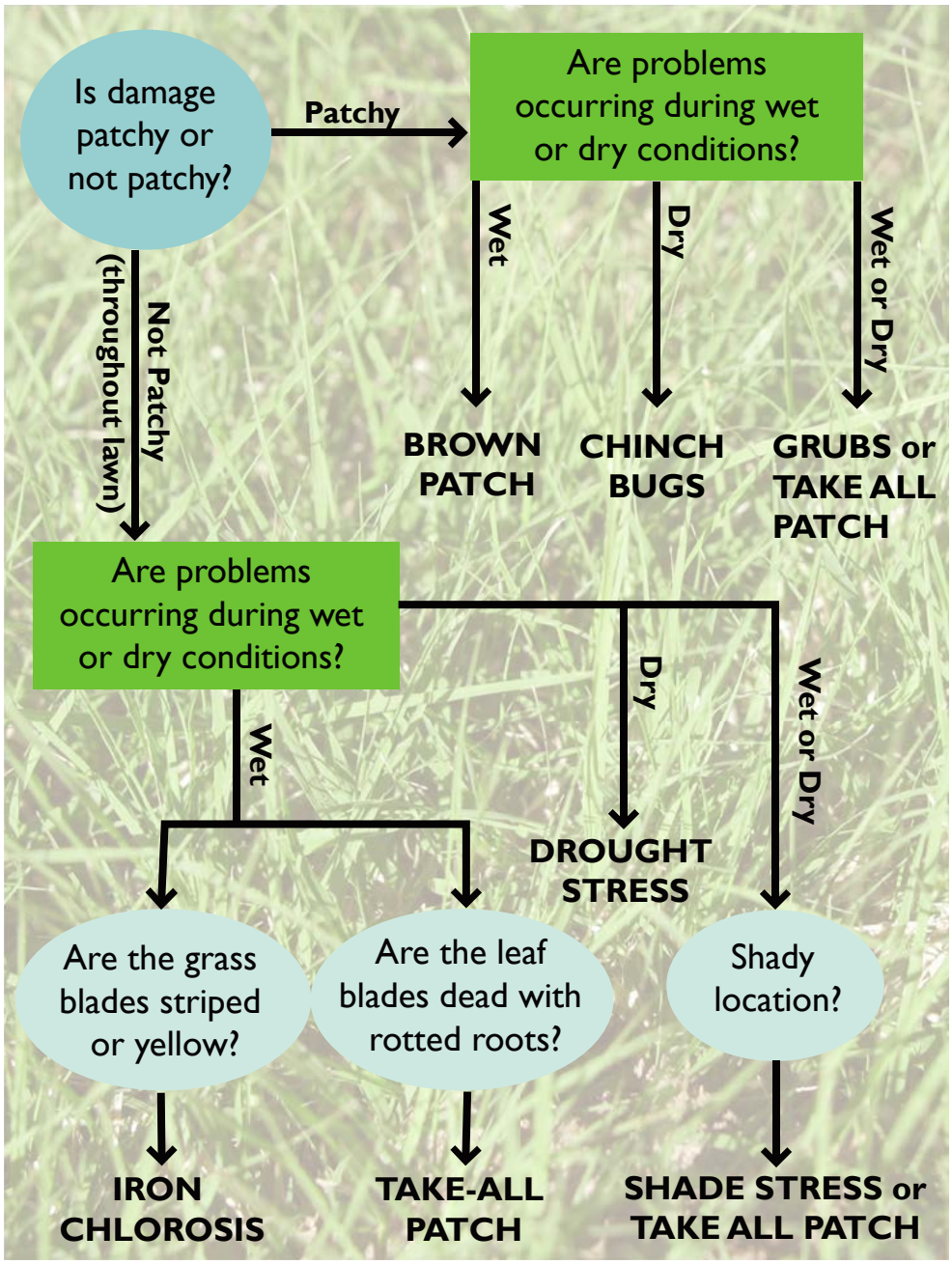
quick tips to avoid lawn problems

- Establish a healthy soil depth (at least six inches under your turf)
- Choose the correct turf for your light conditions and lawn use
- Aerate your lawn once a year to improve drainage and reduce soil compaction
- Irrigate efficiently (water in the morning, wet soil to a depth of 4-6 inches, and allow the soil to dry out between waterings)
- Mow properly taking no more than 1/3 of the leaf blade off with each mowing
- Test your soil periodically to determine which nutrients are lacking BEFORE you decide whether or not to fertilize
- Choose natural or certified organic fertilizers which are naturally slow release
- Build a healthy turf to avoid the need for herbicides

Identify before you buy

Need help diagnosing a plant problem? Call the Texas AgriLife Extension Service at 512-854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu

Follow the flow chart to identify what may be damaging your lawn:



Insect Pests

Testing for Chinch Bugs:
Cut the bottom out of a coffee can and push the can one inch into your turf near the edge of a dead patch. Fill the can with water. If present, chinch bugs will float to the surface.





Chinch Bugs

Description:

Adults are small and slender; 1/6" to 1/5" long with black bodies and whitish wings; wings are clear with black "bases" on forewings; recently hatched nymphs are wingless, pinkish-red, with a light-colored band across their backs.

Infestation:

Cause expanding, irregular patches of dead or stunted grass surrounded by a halo of yellowing, dying grass; typically begins in a sunny location adjacent to a concrete walkway or curb. Damage can increase rapidly, especially in sunny locations during hot, dry weather.

Attacks:

Primarily St. Augustine grass; may feed on zoysia or bermuda grass

Prevention/Solutions: Prevent drought stress in your lawn. Irrigate efficiently (see page 1). Make your yard a haven for beneficial predator insects, such as big-eyed bugs and birds by avoiding the wide use of lawn chemicals. Check for chinch bug infestation on the grass blades at the edges of affected areas. Use insecticidal soap or other least toxic treatments (see last page). If there are signs of damage, spot treat only infested areas

Testing for Grubs:
Cut out one square foot of turf in an area you suspect of having grubs. Look for grubs in the soil directly under the turf, then press the turf back into place and water it in.



Grubs

Description:

Creamy white and C-shaped with three pairs of legs; grow to 1/2 - 1" long; grubs are May and June Beetle larvae.

Infestation:

Feed on roots and other underground plant parts; severely damaged lawns lose vigor and turn brown and can be lifted by hand like a carpet; most lawn damage occurs during summer and fall months.

Attacks:

St. Augustine, bermuda, zoysia, buffalo grass

Solutions: Promote healthy roots in your lawn by mowing high and watering effectively. Only treat when more than 5-10 grubs per square foot are found. Apply beneficial nematodes, (tiny worms that kill grubs) to affected areas and be sure to water them in.

Other Stresses



Drought Stress

Description:

Grass looks blue-green or silverish. Individual leaf blades curl. Footprints remain in the lawn when you step on it. The soil under the lawn is dry.

Tolerance to drought:

All turf can survive some drought stress, although some types of turf require less water than others

Buffalo:	Very Drought Tolerant
Bermuda, Zoysia:	Drought Tolerant
St. Augustine:	Drought Tolerant In Shade Only

Solutions: Choose drought tolerant turf grass. Irrigate efficiently by watering deeply and infrequently; water to a depth of 4 to 6 inches every time you water, and allow soil to dry out between waterings. Steeply sloped areas can be difficult to water effectively. Consider alternatives to turf slopes.



Iron Chlorosis

Description:

Leaf blades of the grass are striped green and yellow or completely yellow. Iron chlorosis occurs in alkaline (high pH) soils with high phosphorus levels, and also under cool wet soil conditions.

Attacks:

St. Augustine grass

Solutions: DO NOT use fertilizers that are high in phosphorus. Top dress turf with 1/4 - 1/3" compost. Aerate your lawn once a year. Iron supplements provide temporary relief.



Shade Stress

Description:

Turf grass thins and disappears, leaving bare patches of soil or areas of weeds.

Attacks:

Buffalo grass and bermuda grass do not grow well in shaded areas

Solutions: Choose shade tolerant groundcovers or shade tolerant turf grasses (such as St. Augustine and to a lesser extent, zoysia) to plant in shady areas. Thin out branches of trees a bit to "brighten" shady areas. Set mower higher to allow more leaf blade to capture sunlight. Minimize foot traffic or pet activity in shady areas.

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ *low* ◐ *low to moderate* ◑ *high* ● *highest* **NA** *not applicable*

? *unknown toxicity* *earth-wise*

Hazards:

note	Product Name	target pest	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Brown Patch and Take All Patch								
	Antidote™	grub	Beneficial nematodes	?	?	?	?	?	?
	Concern® Diatamaceous Earth Crawling Insect Killer	chinch	Diatomaceous earth from silcone dioxide 85% Other elemental oxides 10%	?	?	?	?	?	?
least toxic	Bonide® Grub Beater	grub	Azadirachtin 0.09%	◐	?	◐	◑	○	○
	Maxide® Dual Insect Killer	both	Thiamethoxan 0.20% Lambda-cyhalothrin 0.04%	◐	◐	◑	◑	◑	◐
	Spectracide® Triazicide® Once and Done!™ Insect Killer2 Concentrate	both	Gamma-cyhalothrin 0.25%	◑	◐	◑	◑	◐	◑
	Spectracide® Grub Stop™ Once & Done!™	grub	Halofenozide 1.5%	◐	?	●	◐	○	◐
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	chinch	Cyfluthrin 0.75%	◐	?	●	◑	○	◐
	Scotts®Turf Builder® with SummerGuard™	chinch	Bifenthrin 0.86%	◐	?	●	◑	○	◐
	Green Light® Neem II Ready-to-Use	chinch	Pyrethrin 0.02% PBO 0.20% Neem Oil 0.90%	◐	●	◐	◑	○	○
	Diatect® Multi-purpose	chinch	Pyrethrins 0.2% PBO 1.0% Silicone dioxide 82%	○	●	◑	◑	○	○
	Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules	chinch	Imidacloprid 0.15% Beta-cyfluthrin 0.05%	◐	?	●	◑	◑	◑
	Scotts® GrubEx® Season-Long Grub Killer	grub	Imidacloprid 0.2%	◐	?	●	◑	◑	◑
	Bayer Advanced™ 24 Hour Grub Killer Plus Ready-to-Spread Granules	both	Trichlorfon 6.24%	◐	◑	◑	◑	●	◐
	Hi-Yield® Turf Ranger Insect Control Granules	chinch	Deltamethrin 0.1%	◐	◐	●	●	○	◐/◑
most toxic	GardenTech® Sevin® Lawn Insect Granules	chinch	Carbaryl 2%	◐	◑	●	●	◑	◑

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Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service.
The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

If You Must Use a Pesticide...

- Avoid applying broad spectrum pesticides — they destroy beneficial insects as well as pests and leave trees or shrubs unprotected if pests return
- Avoid highly mobile or persistent products
- Apply only to plants specified on the label — some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to the feeding chinch bugs and grubs. Non-systemics must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects
- Avoid overuse of chemicals — many pests have become resistant to certain pesticides

Fungal Diseases



Take-All Patch

Description:

Yellowing of grass and darkening of grass roots is the first symptom of take-all patch, followed by the turf thinning in irregular shapes. The roots can become so rotted that the grass can be easily pulled up. Take-all patch spreads mainly from fall through spring when there is abundant moisture and cool, mild temperatures, but dieback symptoms appear in the hot, stressful days of summer.

Infestation:

Grass roots rot, and eventually kill lawn

Attacks:

St. Augustine, zoysia, and bermuda grass

Solutions: Maintain good drainage in lawn area. Irrigate efficiently (see page 1). Avoid heavy fertilization of turf areas, as excessive nitrogen seems to promote take-all patch. Raise the mowing height on your mower to reduce stress to your turf. Avoid the use of broadleaf herbicides which may weaken turf. Avoid urea-based fertilizers.

Some differences between take-all patch and brown patch: With take-all patch, the roots rot; with brown patch, the grass blades rot. Brown patch is circular in shape, take-all patch has an irregular shape. Brown patch mainly occurs during the cool season, while take-all patch appears mostly during the warm season.



Brown Patch

Description:

Circular patterns of dead grass blades; in 2-3 weeks, new leaves may emerge in the center of the circular patch giving diseased areas a donut-shaped appearance; occurs in late fall through early spring when daytime temperatures range between 75-85° Fahrenheit. Promoted by wet weather or frequent irrigation.

Infestation:

Turf turns brown and grass blades rot off of the runners; can spread in an area from 1 - 50'

Attacks:

Primarily St. Augustine grass

Solutions: When you irrigate, water early in the morning to allow the grass blades to dry out during the day. Irrigate efficiently (see page 1). Avoid overfertilization of your lawn. Aerate your lawn once a year. Fungicides are most effective when used at the first sign of disease.

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable

? unknown toxicity 🐞 earth-wise

Hazards:



note	Product Name	target fungus	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Brown Patch and Take All Patch								
🐞	Serenade® Lawn Disease Control	brown	*Bacillus subtilis 1.34%*	○	○	○	○	○	○
	Maxide® Dual Disease	both	*Azoxystrobin 0.31%*	○	◐	◑	○	◑	○
	Green Light® Fung-Away	both	*Triadimefon 0.5%*	◐	◑	◐	○	◑	◐
	Fertilome® Liquid Systemic Fungicide	brown	*Propiconazole 1.55%*	◐	◐	◑	◑	◐	◐
	Fertilome® Halt Systemic Rose, Flower, Lawn &Ornamentals Fungicide	brown	*3-thioallphanate 50%*	○	◐	◑	◑	◑	○
	Scotts® Lawn Fungus Control	brown	*Thiophanate-methyl 2.3%*	◐	●	◐	○	○	◐
	Actinovate® SP	both	*Streptomyces lydicus 0.037%*	◐	?	◑	○	●	◐
	Spectracide Immunox® Lawn Disease Control Granules	both	*Myclobutanil 0.39%*	◐	◑	●	◑	◐	◐
	Spectracide Immunox® Plus Insect & Disease Control	brown	*Myclobutanil 0.78%* *Permethrin 1.25%*	◐	◑	●	●	◐	◐/◑
	Fertilome® Liquid Systemic Fungicide	both	*Myclobutanil triazole-propanenitrile 0.39%*	◐	◑	●	●	◐	◑

least toxic ↓ most toxic

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The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

If You Must Use a Fungicide...

- Avoid applying the more toxic fungicides
- Avoid highly mobile or persistent products
- Apply only to plants specified on the label — some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Systemic fungicides are taken up by the plant and make its tissues and fluids toxic to the fungus. Non-systemics must be applied to all infested plant surfaces for best results, because they must come into direct contact with the fungus
- Avoid overuse of chemicals

why grow green?

The Grow Green program is based on Integrated Pest Management (IPM) principles that encourage the LEAST TOXIC approach to pesticide and fertilizer use. The goal is to reduce the amount of landscape chemicals that degrade water quality when they run off into waterways or leach into our groundwater.

Grow Green is a partnership between the City of Austin Watershed Protection Department and Texas AgriLife Extension Service. Call 974-2550 or 854-9600 for more information or visit our website at **www.growgreen.org**

www.growgreen.org

City of Austin WATERSHED PROTECTION 512-974-2550

Texas A&M AgriLife Extension 512-854-9600

03/16

grow green

earth-wise guide to

Fungal Leaf Spot



Blackspot on rose

description

Circular to irregular lesion with a dry, brown or black raised center; randomly scattered damage. It is unlikely to be fungal leaf spot if the damage is exclusively at the leaf margins or on the veins

attacks

Many species of garden and landscape plants

infestation

Leaves turn yellow, then brown and drop from plant; sometimes leaves drop before turning brown; spreads easily on wet foliage



Look for a raised center on a spot caused by fungus

Least Toxic Solutions

- Select disease resistant plants (see Grow Green Plant Guide)
- Avoid wetting foliage; water in the early morning so leaves dry quickly
- Space plants to allow adequate air flow
- Never prune wet plants
- Prune out small areas of diseased material and discard after pruning
- Use a bleach solution (1 part bleach to 10 parts water) to disinfect pruners after pruning a diseased plant; then oil shears to prevent rust

Not all leaf problems are caused by fungus. Fungicides are ineffective for drought-stress, chemical damage, bacterial or viral spots or insect damage

If You Must Use a Fungicide...

- Apply fungicide at the first sign of disease to prevent spreading
- Some fungicides can damage plant foliage - test on a small area before treating the whole plant
- Never use systemic fungicides on plants that you intend to eat
- Avoid applying the more toxic fungicides and avoid over-application



fungal leaf spot on photinia

identify before you buy

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product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

◯ low ◐ low to moderate ◑ high ● highest **NA** not applicable
? unknown toxicity ☠ banned by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Serenade® Disease Control	*Bacillus subtilis 1.34%*	◯	◯	◯	◯	◯	◯
	Safer® Garden Fungicide	*Sulfur 12%*	◯	?	◯	◯	◯	N/A
	Garden-Ville® Potassium Bicarbonate	*Potassium Bicarbonate*	◐	◯	◯	◯	?	?
	Bonide® Remedy	*Potassium bicarbonate 85%*	◐	◯	◯	◯	?	?
	Concern® Copper Soap Fungicide®	*Copper octonate 0.08%*	◐	◯	◐	◯	◯	◯
	Ortho® Ecosense™ Brand Disease Control	*Copper Octanate 0.08%*	◐	◯	◐	◯	◯	◯
	Bonide® Liquid Copper Concentrate	*Copper octonate 10%*	◐	◯	◐	◯	◯	N/A
	Safer® 3 in 1 Spray	*Potassium salt of fatty acid 0.75%* *Sulfur 0.40%*	◐	?	◐	◯	◯	◯
	Actinovate® SP	*Streptomyces lydicus 0.037%*	◐	?	◑	◯	●	◐
	Green Light® Neem Concentrate	*Neem Oil 70%*	◐	?	◐	◑	◯	◯
	Bayer Advanced™ Disease Control for Roses, Flowers & Shrubs Concentrate	*Tebuconazole 2.9%*	◐	◯	◑	◯	◐	◐
	Green Light® Fung-Away	*Triadimefon (Bayleton) 0.5%`*	◐	◑	◐	◯	◑	◐
	Bonide® Garden Dust	*Copper 7% Rotenone 0.75%* *Other cube resins 1.5%*	◐	◯	◑	◑	◑	◯
	Scotts® Lawn Fungus Control	*Thiophanate-methyl 2.3%*	◐	●	◐	◯	◯	◐
	Green Light® Neem II Ready-to-Use	*Pyrethrin .02% Piperonyl butoxide 0.20% Neem Oil 0.90%*	◐	●	◐	◑	◯	◯
	GardenTech® Sevin® Daconil® Ready-to-Use	*Chlorothalonil 0.087%*	◑	●	◑	◯	◐	◑/◐
	Spectracide Immunox® Lawn Disease Control Granules	*Myclobutanil 0.39%*	◐	◑	●	●	◐	◑/◐
	Bayer Advanced™ 3 in 1 Insect, Disease & Mite Control	*Tebuconazole 0.65%* *Imidaproclid 0.47%* *Tau-fulvalinate 0.61%*	◐	◐	●	●	◑	◑

most toxic

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City of Austin WATERSHED PROTECTION 512-974-2550

TEXAS A&M AGRILIFE EXTENSION 512-854-9600

02/15

grow green

earth-wise guide to

Aphids



aphid, magnified

description

Tiny (1/16-1/8") insect with soft body, long legs and antennae; cornicles or "tailpipes" on tip of abdomen; 250 species; reproduce quickly; attack new growth or underside of leaf

infestation

Suck sap from plants and excrete clear, sticky "honeydew" that often grows black, sooty fungus that blocks sunlight from leaves; feeding can stunt growth, deform and discolor leaves, or cause them to drop prematurely; usually attack new growth; some aphids transmit plant diseases

attack

- Bedding plants
- Hibiscus
- Oleanders
- Roses
- Vegetables
- Crape myrtles
- Oaks
- Pecans

identify before you buy

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Least-Toxic Solutions

- Monitor often for early detection and to determine if control is needed; natural predators may make treatment unnecessary
- For minor infestations, spray host plants with water at high pressure to dislodge aphids
- Introduce ladybugs or lacewings and other beneficial insects to your landscape after infestation has been identified – for best results follow release instructions carefully; best to release in an enclosed area
- Use sticky barriers to prevent ants from tending aphids and protecting them from natural predators
- Help control aphids with insecticidal soaps and horticultural oils
- Use a row cover to physically keep the aphids off vegetable crops while allowing air, light and water exchange
- Use natural or slow-release fertilizer to avoid excessive new growth
- Most aphids are host-plant specific and usually don't move to other species

If You Must Use a Pesticide...

- Avoid systemic pesticides on vegetables and edible plants. Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to foliage-feeding insects
- Non-systemic pesticides must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects
- Avoid applying broad spectrum pesticides - they destroy beneficial insects as well as pests and leave trees or shrubs unprotected if pests return
- Apply only to plants specified on the label - some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Several pesticide applications may be needed for control at 7-10 day intervals, or as instructed by the product label
- Avoid overuse of chemicals – many pests have become resistant to certain pesticides



aphids and associated sooty mold

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable
? unknown toxicity ☠ banned by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Bonide® Hot Pepper Wax Ready-to-Use	Capsaicin and related Capsaicinoids 0.184%	◐	?	◐	○	?	?
	Concern® Insect Killing Soap	Fatty acid soap 1%	◐	?	◐	○	○	○
	Garden Safe® Fungicide 3-in-1 Ready-to-Use	Extract of neem oil 0.9%	◐	?	◐	◑	○	○
	Orange Guard® Home Pest Control	D-limonene	◑	?	◐	◐	○	○
	Green Light® Neem Concentrate	Clarified hydrophobic extract, of Neem Oil 70%	◐	?	◐	◑	○	○
	Maxide® Dual Insect Killer	Thiamethoxan 0.20 Lambda-cyhalothrin 0.04%	◐	◐	◑	◑	◑	◐
	Green Light® Neem II Ready-to-Use	Pyrethrin 0.02% Piperonyl butoxide 0.20% Clarified hydrophobic extract of neem Oil	◐	●	◐	◑	○	○
	Ortho® Orthenex® Garden Insect & Disease Control Concentrate	Acephate 4%, Triforine 3.25% Fenbutatin oxide 0.75%	◐	◑	◐	●	◐	◐
	Concern® Multi-Purpose Insect Killer	Pyrethrins 0.24%; Potassium salt of fatty acid 20%	◐	●	◑	◑	○	○
	Bayer Advanced™ PowerForce® Mosquito Killer Plus Outdoor Fogger	Tetramethrin 0.15% Permethrin 0.15% Piperonyl butoxide 0.75%	◐	◑	●	◑	○	◑/◐
	Bayer Advanced™ Complete Insect Dust Ready-to-Use	Permethrin 0.25%	◐	◑	●	◑	○	◑/◐
	Bayer Advanced™ Tree & Shrub Insect Control Concentrate	Imidacloprid 1.47%	◐	?	●	◑	◑	◑
	Bonide® All Seasons® Horticultural Spray Oil	Petroleum oil 98%	◐	?	●	●	?	?
	GardenTech® Sevin® Ready-to-Use 5% Dust Bug Killer	Carbaryl 5%	◐	◑	●	●	◑	◑
	Bayer Advanced™ 2 in 1 Systemic Flower Care	Disulfoton 0.1%	◑	◑	●	●	◑	◑

most toxic

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why grow green?

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City of Austin WATERSHED PROTECTION 974-2550

AgriLIFE EXTENSION Texas A&M System 854-9600

01/10

grow green

earth-wise guide to

Beetles

pest beetles:

There are many types of beetles in the Austin area, many of them beneficial. The two most common groups of pest beetles are listed below.



Flea Beetle



Striped Flea Beetle

Flea Beetles:

Attack:

Many vegetables including cucumbers, tomatoes, peppers and eggplant, potatoes and corn

Damage:

"Shot gun" pattern feeding damage on leaves and may also spread diseases such as potato blight and bacterial wilt. Larvae feed underground on roots

Flea Beetle Solutions:

- Irrigate efficiently. Drought stressed plants are more susceptible to damage
- Try companion planting with catnip, sage and mint to repel beetles
- Plant trap crops (mustard is good)



Spotted Cucumber Beetle



Banded Cucumber Beetle



Striped Cucumber Beetle

Cucumber Beetles:

Attack:

All members of the squash and cucumber family

Damage:

Minimal feeding damage, however they spread diseases such as bacterial wilt and squash mosaic virus that can kill plants

Cucumber Beetle Solutions:

- Choose disease resistant squash plants such as Cougar, Destiny III, Liberator III, Sunglo and Sunray
- Use trellises to get plants off the ground and mulch heavily around plants

identify before you buy

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Least Toxic Solutions For All Beetles

- Use floating row cover
- Remove dead plant materials and debris from garden
- Treat soil with beneficial nematodes
- Check for damage early and often during the growing season

helpful beetles:

These beetles are beneficial and cause no damage in the garden. They feed on aphids, caterpillars and other garden pests.



Ground Beetle



Ground Beetle



Lady Bird Beetle

product toxicity comparisons

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Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest NA not applicable
? unknown toxicity ☠ banked by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
earth-wise	Green Light® Home & Garden Insect Spray	*Thyme oil .33% Clove oil .33 % Sesame oil .33%*	?	○	?	?	?	?
earth-wise	Bonide® Hot Pepper Wax Ready-to-Use [repellant only]	*Capsaicin and related capsaicinoids 0.184%*	◐	?	◐	○	?	?
	Safer® BioNEEM	*Azadirachtin 0.09%,*	◐	?	◐	◑	○	○
	Garden Tech™ Rose & Flower Insect Spray	*Pyrethrins .02%, Piperonyl butoxide 0.20%*	◐	◐	◑	◑	○	○
	Spectracide® Triazicide® Once and Done!™ Insect Killer2 Concentrate	*Gamma-cyhalothrin 0.25%*	◑	◐	◑	◑	◐	◑
	Ortho® Bug-B-Gon® Max® Lawn & Garden Insect Killer Concentrate Ready-to-Spray	*Bifenthrin 0.3%*	◐	?	●	◑	○	◐
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	?	●	◑	○	◐
	Ortho® Malathion Plus™ Insect Spray Concentrate	*Malathion 50%*	◐	?	◑	●	○	◐
	Bayer Advanced™ Complete Insect Killer Dust for Gardens Ready-to-Use	*Carbaryl 0.126%*	◐	◑	◐	●	◐	◐
	Diatect® Garden and Floral Insect Control	*Silicon dioxide 82.9% Pyrethrin 0.2% Piperonyl butoxide 1.0%*	◐	◑	●	◑	○	○
	Ortho® Bug- B-Gon® Max® Garden Insect Dust	*Permethrin 0.25%*	◐	◑	●	◑	○	◑/◐
	Bayer Advanced™ Complete Insect Dust Ready-to-Use	*Permethrin 0.25%*	◐	◑	●	◑	○	◑/◐
	Bayer Advanced™ Tree & Shrub Insect Control Concentrate	*Imidacloprid 1.47%*	◐	?	●	◑	◑	◑
	Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules	*Imidacloprid 0.15% Beta-cyfluthrin 0.05%*	◐	?	●	◑	◑	◑
	Ortho® Bug-B-Gon® Max® Garden & Landscape Insect Killer Ready-to-Use	*Esfenvalerate 0.0033%*	◐	◐	●	●	○	◑/◐
	Eliminator®Sevin® 5% Dust	*Carbaryl 5%*	◐	◑	●	●	◑	◑
most toxic	GardenTech® Sevin® Ready-to-Use 5% DustBug Killer	*Carbaryl 5%*	◐	◑	●	●	◑	◑

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www.growgreen.org

Watershed Protection Development Review
512-974-2550

AgriLIFE EXTENSION
Texas A&M System
512-854-9600

04/09

grow green

earth-wise guide to

Caterpillars

pest caterpillars



Tomato Horn Worm



Tent Caterpillar



Genista



Spring Cankerworm

Least Toxic Solutions

Caterpillars can be found year round but are most prevalent in spring and fall; some types are specific to a season while others complete more than one life cycle per year

- Monitor infestations of very young caterpillars to see if natural controls like predators, parasitic wasps or harsh weather will eliminate infestation
- Do not treat native trees; infestations are natural and rarely threaten tree health unless tree is stressed or weakened
- For butterfly gardening enthusiasts, expect some caterpillar damage – caterpillars are the larval stage of butterflies (see photos below)
- Egg masses and groups of caterpillars found on trees or branches can be removed by hand or pruned out of the tree and destroyed
- Dislodge young (small) tent caterpillars with high-pressure water sprays or open web with a broom to allow parasitic wasps easier access
- Release parasitic wasps when caterpillars first appear
- Use row covers - they are an effective barrier in vegetable gardens
- Encourage wasp and fly parasites which often attack caterpillars (see Beneficial Insects fact sheet or for details visit www.growgreen.org)
- Treat young caterpillars with a product containing *Bacillus thuringiensis* (B.t.), but do not use near butterfly gardens
- Hand-pick caterpillars from plants and drop in a bucket of soapy water

If You Must Use a Pesticide...

- Avoid applying broad spectrum pesticides - they destroy beneficial insects as well as pests and leave trees or shrubs unprotected if pests return
- Apply only to plants specified on the label - some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Avoid systemic pesticides on vegetables and edible plants. Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to feeding caterpillars
- Non-systemic pesticides must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects
- Avoid overuse of chemicals - many pests have become resistant to certain pesticides

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butterfly larva:



Monarch



Swallowtail



Gulf Fritillary

product toxicity comparisons

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Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	American Brand® Thuricide Concentrate	*Bacillus thuringiensis, var kurstaki 1.5%*	◐	○	◐	◐	○	○
	Green Light® Dipel Dust	*Bacillus thuringiensis, var kurstaki 0.45%*	◐	○	◐	◐	○	○
	Fertilome® Borer Bagworm, Leafminer & Tent Caterpillar Spray	*Spinosad 0.5%*	◐	?	◑	◑	○	◐
	Bonide® Garden Dust	*Copper 7% Rotenone 0.75% Other cube resins 1.5%*	◐	○	◑	◑	◑	○
	Spectracide® Grub Stop™ Once & Done!™	*Halofenozide 1.5%*	◐	?	●	◐	○	◐
	Green Light® Neem II Ready-to-Use	*Pyrethrin 0.02% Piperonyl butoxide 0.20% Clarified hydrophobic extract of neem Oil*	◐	●	◐	◑	◐	◐
	Ortho® Bug-B-Gon® Max® Season Long Insect Killer for Lawns	*Bifenthrin 0.115%*	◐	?	●	◑	○	◐
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	?	●	◑	○	◐
	Concern® Multi-Purpose Insect Killer	*Pyrethrins 0.24%, Potassium salt of fatty acid 20%*	◐	●	◑	◑	○	○
	Bayer Advanced™ Complete Insect Dust Ready-to-Use	*Permethrin 0.25%*	◐	◑	●	◑	○	◑/◐
	Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules	*Imidacloprid 0.72% beta-cyfluthrin 0.36%*	◐	?	●	◑	◑	◑
	GardenTech® Sevin® Lawn Insect Granules	*Carbaryl 2%*	◐	◑	●	●	◑	◑
	Eliminator®Sevin® 5% Dust	*Carbaryl 2%*	◐	◑	●	●	◑	◑
	Ortho®Volck® Oil Spray	*Mineral oil Petroleum oil 97%*	◐	?	●	●	?	?

most toxic

www.growgreen.org

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City of Austin WATERSHED PROTECTION 512-974-2550

TEXAS A&M AGRILIFE EXTENSION 512-854-9600

03/16

grow green

earth-wise guide to

Fire Ants



Enlarged photo of fire ants

description

Fire ant colonies contain the queen(s), winged males and females, workers (wingless, sterile females) and brood (eggs, larvae and pupae).

infestation

Fire ants create mounds up to 18" tall. They prefer open sunny areas such as lawns, pastures, parks and disturbed areas, and often nest under sidewalks, slabs or at the base of trees.

problems

Fire ants can be a problem year round but are most prevalent in the spring and fall. Fire ants don't injure turfgrass but mounds become unsightly; ants are aggressive and cause painful stings that may become infected. They can invade electrical equipment and cause short circuits.



Fire ant mound

Least Toxic Solutions

- Before treating, properly identify pest as fire ants - many other species of ants occur in Texas and some are predators of fire ants; call the Extension office at 512-854-9600 for details, or visit http://fireant.tamu.edu
- Carefully pour a large pot (about 3 gallons) of boiling water on each mound. This will kill a mound about 60% of the time; this works best after a rain
- Introduce nematodes (*Steinernema carpocapsae*), the small round worms that attack fire ant larvae, grubs, and other soil-dwelling larvae. They work best when applied to moist soil at dusk

If you must use a pesticide...

- Choose baits over contact products; baits are safer to use because they are ant-specific and formulated with very small percentages of the active ingredients
- For less than five fire ant mounds per 1/4 acre, treat mounds individually
- For more than five mounds per 1/4 acre, spread ant BAIT products over the entire lawn once or twice a year, mid-April and September (fall application reduces spring infestations)
- Apply baits when ants are foraging (toss a potato chip next to an active mound in the yard and check back in 15 minutes to see if ants are feeding)
- In hot weather, apply baits in evening when temperatures are cooler
- Use fresh bait—opened containers may last only a few months
- Share excess bait with a neighbor before it goes stale; it can help lengthen the time between infestations
- Avoid application before rain (at least 8 hours)
- Use insecticides only where recommended on the product label — for instance, do not use them in the vegetable garden unless specified
- Make sure to apply the proper amount of bait (many baits are applied 1-1.5 pounds per acre) and use a hand-held spreader set on the lowest setting. Walk in a criss-cross pattern for good coverage of the whole area
- DO NOT USE GASOLINE OR DIESEL FUEL TO TREAT MOUNDS

If you must use a pesticide...

- *Use the least toxic pesticide first*
- *Read and follow label directions*

Neighborhood Ant-Out!

Organize your neighbors to treat fire ants at the same time - you share the cost of the bait and control the pests rather than driving them from yard to yard. Call (512) 854-9600 for information.

If you have unwanted or banned chemicals (Dursban or Diazinon) in your garage, please take them for safe disposal to a household hazardous waste facility. In Austin call (512) 974-4343 for information.

product toxicity comparisons

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Toxicity/Threat:

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Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Fire Ant Baits							
least toxic	Spectracide® Fire Ant Killer Plus Preventer Bait Once & Done!™	*Indoxacarb 0.016%*	◐	?	◐	◐	?	?
	Fertiliome® Come and Get It! Fire Ant Killer	*Spinosad 0.015%*	◐	?	◑	◑	○	◐
	Amdro® Fire Ant Bait	*Hydramethylnon 0.73%*	◐	◑	◑	◑	○	◐
most toxic	Amdro® Fire Strike™ Fire Ant Bait	*Hydramethylnon 0.036% Methoprene 0.0172%*	◐	◑	◑	◑	○	◐
	Mound Treatment							
	Safer™ Fire Ant Killer	*D-limonene 78.2%*	◑	?	◐	◐	○	○
	Spectracide® Fire Ant Killer Granules Mound Destroyer™	*Lambda-cyhalothrin 0.04%*	◑	◐	◑	◑	◐	◑/◐
	Amdro® Quick Kill Fire Ant Mound Drench	*Zeta-Cypermethrin 0.35%*	◐	○	●	◑	○	◐
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	?	●	◑	○	◐
	Bayer Advanced™ Fire Ant Killer Ready-to-Use Dust	*Beta-cyfluthrin 0.5%*	◐	?	●	◑	○	◐
	Ortho® Orthene® Fire Ant Killer	*Acephate 50%*	◐	◑	◐	●	◐	◐
	Eliminator® Fire Ant Killer Dust	*Deltamethrin .05%*	◐	◐	●	●	○	◑/◐
most toxic	Spectracide® Fire Ant Killer Ready-to-Use Dust	*Permethrin 0.25%*	◐	◑	●	●	○	◑/◐
	Broadcast Granular							
least toxic	Garden Tech® Over'n Out!™ Fire Ant Killer Granules	*Fipronil 0.0103%*	◐	○	◑	◑	○	◑
	Ortho® Max® Fire Ant Killer Broadcast Granules	*Bifenthrin 0.1%*	◐	?	●	◑	○	◐
most toxic	Scotts® Bonus® S Max Southern Weed and Feed & Fire Ant Killer	*Bifenthrin 0.110%, Atrazine 1.089%*	◐	◑	◑	○	●	◑

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Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

why grow green?

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Grow Green is a partnership between the City of Austin Watershed Protection Department and Texas AgriLife Extension Service. Call 512-974-2550 or 512-854-9600 for more information or visit our website at **www.growgreen.org**

City of Austin WATERSHED PROTECTION 512-974-2550

TEXAS A&M AGRILIFE EXTENSION 512-854-9600

02/15

earth-wise guide to

Fleas



Enlarged photo of a flea

description

Fleas are tiny insects with hind legs modified for jumping; adults are found on pets; eggs, larvae and pupae are found in carpet and in shady, moist soil in the yard; they leave black droppings around pet sleeping areas and jump when disturbed

infestation

Fleas can attack pets and people - flea bites are mostly on the lower legs, and can turn red and itch. Most adult fleas live on the animal host (pets or other animals in the area), however, flea eggs and larva can be found in bedding, carpeting and areas where pets spend time resting and sleeping. An effective program to eliminate fleas must include controlling fleas on pets, and removing eggs and larva from the living area

If you have fleas in your house but do not have pets, you could have animals entering your attic or crawlspace.

Least Toxic Solutions

- Keep your house well vacuumed, especially where your pet rests; dispose of vacuum bags after use to prevent fleas from escaping back into your home
- Steam clean carpets to remove organic material which is food for flea larvae
- Wash your pet's bedding regularly in hot water; wash your bedding if pets sleep with you
- Use a flea comb to remove fleas from your pet. Drop fleas in a bucket of soapy water
- Shampoo your pet regularly with a gentle shampoo to remove fleas and flea eggs. Shampoos containing chemical pesticides are not necessary because ANY soapy water will kill fleas
- Try flea traps that utilize light, heat and sticky boards to trap adult fleas living in your carpeting
- Test for flea infestation by walking around in white socks – fleas will be visible as they jump on your legs
- If areas of your yard are heavily infested, treat them using a spray of beneficial nematodes (*Steinernema carpocapsae*). These organisms kill flea larva, but are not harmful to the environment

If You Must Use a Pesticide...

- Many new products target fleas specifically. Try spray products containing insect growth regulators that stop fleas from maturing into adults, eliminating the flea population
- Very effective once-monthly pills or spot treatments for pets are available through veterinarians. These products contain chemicals that kill fleas and stop flea larvae from developing, but are of low toxicity to people and pets
- If you have a severe infestation, diatomateous earth or boric acid can be used in cracks and crevices around the house. Do not use dusts in open areas
- Some pesticides, such as those containing d-limonene (from citrus), kill fleas on contact. These can be applied indoors and outdoors, however some products may stain furniture, carpet, etc. Read the label for the allowable treatment areas. Do NOT spray them on pets!
- If you feel you must use a pesticide, make the most earth-friendly choice
- Always follow the instructions on the label of any product that you use

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable

? unknown toxicity ☠ banned by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
earth-wise	Antidote™	*Beneficial nematodes*	?	?	?	?	?	?
	Concern® Citrus Home Pest Control™	*D-limonene 5.8%*	◐	?	◑	◐	○	○
	Cutter® Bug Free Backyard® Concentrate	*Lambda-cyhalothrin 0.5%*	◑	◐	◑	◑	◐	◑/◐
	Maxide® Dual Insect Killer	*Thiamethoxan 0.20%* *Lambda-cyhalothrin 0.04%*	◐	◐	◑	◑	◑	◐
	Spectracide® Triazicide® Once and Done!™ Insect Killer2 Concentrate	*Gamma-cyhalothrin 0.25%*	◑	◐	◑	◑	◐	◑
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	?	●	◑	○	◐
	Scotts®Turf Builder® with SummerGuard™	*Bifenthrin 0.86%*	◐	?	●	◑	○	◐
	Diatect® Multi-purpose	*Pyrethrins 0.2% Piperonyl butoxide 1.0% Silicone dioxide 82%*	◐	●	◑	◑	○	○
	Bayer Advanced™ Complete Insect Dust Ready-to-Use	*Permethrin 0.25%*	◐	◑	●	◑	◐	◑/◐
	Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules	*Imidacloprid 0.15%* *beta-cyfluthrin 0.5%*	◐	?	●	◑	◑	◑
	Eliminator® Fire Ant Killer Dust	*Deltamethrin .05%*	◐	◐	●	●	○	◑/◐
	Hi-Yield® Turf Ranger Insect Control Granules	*Deltamethrin 0.1%*	◐	◐	●	●	○	◑/◐
most toxic	GardenTech® Sevin® Lawn Insect Granules	*Carbaryl 2%*	◐	◑	●	●	◑	◑

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why grow green?

The Grow Green program educates Austin area residents on the LEAST TOXIC approach to pest management and responsible fertilizer use. Our goal is to reduce the amount of landscape chemicals that "runoff" into our waterways or leach into our groundwater and degrade water quality.

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www.ci.austin.tx.us/watershed/wq_scoop.htm

Dogs for the Environment
Scoop the Poop

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01/10

grow green

earth-wise guide to

Mosquitoes



Adult Asian tiger mosquito

description

Mosquitoes are small (~1/4 inch) flies that play an important role in food webs, but can become a nuisance when abundant, and in worst cases spread disease such as West Nile Virus. Only females bite because the extra protein and iron is necessary to produce the eggs



Mosquito larvae in aquatic stage

habitat

Reducing mosquito populations is best approached before they become adults. Awareness of how to how to limit breeding sites can drastically reduce their numbers around our homes without harming other living things. Asian tiger mosquitoes rarely need to fly more than 50 feet to bite and their average lifetime flight distance is less than 200 yards!

Least Toxic Solutions...

Reduce Mosquito Breeding Sites

- Eliminate persistent standing water near the home such as poorly drained gutters, buckets, A/C condensate, old tires, tarps, potted plant saucers, and other small containers
- Replace water every day in pet dishes, and at least once every four days in bird baths
- Repair leaky outside faucets and pipes
- Ensure that tree cavities do not hold water for more than four days
- Store buckets, wheelbarrows, pots and other containers upside down



Manage Potential Habitat

- Install screens on rain water harvesting cisterns and French drains
- *Gambusia affinis*, a mosquito eating fish, can be bought at some local nurseries for placement in water gardens and small ponds
- Use products with *Bacillus thuringiensis* var. *israeliensis* to control mosquitoes in rain barrels and other small containers of water near your home. These products are much less likely to affect pollinators, other beneficial insects and wildlife. These products are not effective in large or flowing waters, so do not use in creeks or ponds

Prevent Bites

- Be aware that peak activity for many mosquito species occurs at dusk and dawn
- Wear light-colored, loose-fitting clothing when outside, and minimize skin exposure
- Keep window and door screens on your home in good condition
- Sitting in the strong air current of a fan can reduce getting bit because mosquitos are weak fliers.
- Mosquito repellents can be effective when used properly. Apply to clothing and exposed skin according to label instructions. Once indoors, wash treated skin with soap and water. For recommendations on effectiveness and precautions, research reputable websites, such as EPA www2.epa.gov/insect-repellents or the CDC www.cdc.gov/westnile/faq/repellent.html
- Citronella candles can provide short-term relief within a radius of about 6 feet per candle outdoors. Do not use indoors

Check with your vet about keeping your pets protected from mosquitoes that can carry heartworms

If you feel that your mosquito problem is not alleviated by the above recommendations, then consider having a professional from the City of Austin Rodent and Vector Control program audit your home (http://www.austintexas.gov/department/rodent-and-vector-control) ; 512-978-0370

The American Academy of Pediatrics provides recommendations for using insect repellents on children

For more information, visit the Center for Disease Control website at www.cdc.gov

The two best things you can do to avoid mosquito bites when outdoors:

1) Wear insect repellent and

2) Empty all outdoor items around your house that hold any amount of water

Avoid electric bug zappers, mosquito foggers, and misters - they may inadvertently hurt or kill beneficial insects and other wildlife. Studies have shown "bug zappers" are not effective on mosquitoes.



Green anole: Wendy VanDyk Evans, Bugwood.org



Neon skimmer



Black-chinned hummingbird

Least Toxic Products...

Larvacides:

- *Bacillus thuringiensis* var. *israeliensis*, (Bti) is a bacterium which is the active ingredient in products called mosquito "dunks" or "plunks". The bacteria release a biological larvacide that kills aquatic mosquito larvae in small stagnant pools of water, such as rain barrels and water gardens that are intended to hold water for more than a few days. These products are much less likely to affect beneficial insects like pollinators. These products are not effective in large or flowing waters, so do not use in creeks or big ponds
- *Bacillus sphaericus* is a bacterium that is specific to mosquitoes. It is more effective in polluted water than Bti, but has more limited efficacy against some types of mosquitoes
- Insect growth regulators, such as methoprene can prevent the larvae from turning into an adult

Adulticides:

Since pesticides vary greatly in toxicity, they should be used very selectively, if at all, and only during the peak time for disease, (July-September) and when mosquitoes are actually present

Pyrethrins and pyrethroids are common active ingredients in residential indoor and outdoor foggers and sprays

- Pyrethrins – a mixture of six chemicals extracted from Chrysanthemums. It is a natural insecticide that excites the nervous system and leads to paralysis and death of the insect. They can breakdown within hours or up to days of being exposed to air and sunlight
- Pyrethroids – are synthetic versions of pyrethrins; they last longer and are more light-stable than pyrethrins. They are relatively low cost, are fast-acting, kill insects at low doses and have a lower toxicity to animals and birds compared to organophosphates Examples are: permethrin, lambda-cyhalothrin, deltamethrin, cyfluthrin, and bifenthrin
- Since pyrethrins and permethrin are toxic to all insects, they may kill beneficial insects such as honeybees, ladybugs, butterflies and other non-target species. In addition, permethrin is very highly toxic to fish
- Piperonyl butoxide is a synergist commonly present in some pesticide formulations. It is moderately to highly toxic to fish, amphibians, and other aquatic organisms; it is persistence in soil and sediment. May be carcinogenic
- Caution: if pyrethroids are applied to or get in waterways they are toxic to aquatic creatures. They stick tightly to soil, and are being found more frequently in the sediments of urban creeks and streams. Toxicity to aquatic life can affect the food web, impacting birds and mammals too

For more information about mosquitoes see our Creekside Story blog "Call the SWAT team!"

www.austintexas.gov/blog/call-swat-team

For more information about pesticide-related subjects including health risks and toxicology, see The National Pesticide Information Center (NPIC) http://npic.orst.edu/ (EPA has a cooperative agreement with Oregon State University, which operates NPIC)

See the pesticide label for specific information on its use, storage and disposal. The label is the law.

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www.growgreen.org

City of Austin
WATERSHED PROTECTION
512-974-2550

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03/16

grow green

earth-wise guide to

Poison Ivy



Toxicodendron radicans

description

Consistently has three leaflets with smooth, wavy or serrated edges; leaflets are alternate on the stem; clusters of whitish flowers and fruit are not showy

growth habits

Persistent deciduous perennial; young plants can be 1'-2' tall and are herbaceous; mature plants can be woody and cover hundreds of square feet; can grow to be vine-like, shrubby or a groundcover; vine attaches to any object that will support it; spreads by rhizomes and seeds

growing preferences

Prefers fertile, well-drained soil; most common in shady areas

problem:

Oily resin can cause severe itching, skin inflammation and blisters; oil can bond on to the skin within 20 minutes of exposure and stay active on some surfaces for up to five years; allergic reaction may take as little as four hours or up to 10 days; three out of four people will have some type of reaction within 24-72 hours. IF EYES SWELL SHUT, SEE A DOCTOR IMMEDIATELY

Least Toxic Solutions...

Physically Remove the Plant

- It is best to pull small plants when soil is moist - grab plants through a plastic bag and turn inside out over the plant
- Smother small plants with mulch
- If vine is growing up into a tree, sever vine at ground level
- Use a sharp shovel or grubbing tool to remove established plant roots
- Do not mow or string trim plants
- Salt is not recommended to kill the plants - the quantity necessary would stay in the soil and continue to kill anything planted until leached away
- Bag or bury the vegetation that is removed (do not burn foliage – may cause severe injury if inhaled)
- Might take persistence!

Leaflets of Three Let it Be!

If you must use an herbicide...

- Use herbicide as a last resort
- Follow label instructions carefully
- Don't use herbicide right before a rain – it can run off to harm our creeks
- Apply post-emergent product when plants are actively growing for best results
- Use a wiper applicator, weed wand or a foam formulation designed to apply herbicide directly on the vegetation to minimize drifting
- May require a series of applications
- Consult with your Extension agent or nursery professional for more information

Rash Prevention

- Prevent rashes by avoiding contact with the plant
- Wear gloves, long sleeves and pants
- Preventative blockers are available pre-exposure; special cleansers may help after exposure
- Avoid indirect contact- the oil can stay active for 1 to 5 years on clothing and equipment

Treatment

- If you come in contact with the plant, wash the oil from your skin with cold water within 20 minutes of exposure
- Try over-the-counter anti-itch products for minor itching or swelling or check with your pharmacist
- If case is severe, consult with your doctor



New poison ivy growth



Leaflets with lobe variation



Poison ivy with flowers

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable

? unknown toxicity 🐞 earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
🐞	Finale® Weed and Grass Killer Concentrate	Glufosinate-ammonium 1.0%	◐	◐	◐	◐	?	○
	Roundup® Poison Ivy & Tough Brush Killer Plus Ready-to-Use	Glyphosate 1% Triclopyr 2%	◐	?	◐	○	○	◑
	Roundup® Weed & Grass Killer Super Concentrate	Glyphosate 50.2%	◐	?	◐	○	○	◑
	Eliminator® Weed & Grass Killer	Glyphosate 1.92%	◐	?	◐	○	○	◑
	Ortho® Max Poison Ivy & Tough Brush Killer Concentrate	Triclopyr 8%	◐	?	◐	○	●	◑
	Spectracide® Poison Oak & Poison Ivy Brush Killer EZ Spray™	2,4-D 0.493% 2-methy-4-chlorophenoxy	◐	◑	◑	○	●	◐

most toxic

Resources: American Academy for Dermatology / www.aad.org

Photo Credits: University of Texas Plant Resources Center; City of Austin Balcones Canyonland Preserve

Poison Ivy & Pets

Use pet shampoo or a mild dish washing soap to remove poison ivy oil from pet coats.

Don't be fooled! There are many plants that look like poison ivy.



*Virginia Creeper



Boxelder



Peppervine



Sorrelvine

*has also been know to cause allergic reactions

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Per land development regulations, the City of Austin requires that certain neighborhoods implement a least-toxic approach (Integrated Pest Management or IPM) when managing pests on-site. The Grow Green fact sheets are based on IPM which includes accurate pest identification, problem prevention, physical, and/or biological treatment when feasible. Chemical products are allowable but least toxic options (marked with a ladybug) are preferred.

City of Austin WATERSHED PROTECTION 512-974-2550

Texas A&M AgriLife EXTENSION 512-854-9600

02/15

grow green

earth-wise guide to

Powdery Mildew



description

White powdery fungal growth on the leaf surface; does not require moist leaves to spread, but is particularly active in the spring and fall during cool, humid conditions. Spreads rapidly and can produce spores within 72 hours of infection

infestation

- Can cause leaves, buds and twigs to be distorted and dwarfed
- New growth particularly susceptible
- Powdery mildew seldom causes permanent damage to plants

attacks

- Crape Myrtle
- Squash
- Phlox
- Roses
- Many species of plants under appropriate conditions

Least Toxic Solutions

- Avoid excess fertilizer
- Choose mildew-resistant plant varieties (see Crape Myrtle varieties below)
- Allow space for good air circulation when planting
- Remove a plant that repeatedly contracts powdery mildew
- Avoid severe pruning – it stimulates new growth which is more susceptible to infection
- Remove infected leaves from plant and off the ground



choose disease resistant roses such as 'Belinda's Dream'

If You Must Use a Fungicide...

- Avoid applying the more toxic fungicides. Manage the disease with low toxicity products containing potassium bicarbonate or neem oil
- Apply the fungicide at the first sign of disease to help prevent outbreak
- Mix according to directions and apply only recommended dosage
- Test fungicide on a small area before treating the whole plant - some products damage plant foliage
- Avoid overuse of chemicals
- Never use systemic fungicides on plants that you intend to eat

identify before you buy

Need help diagnosing a plant problem? Call the Texas Agrilife Extension @ 854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu

Disease Resistant Crape Myrtle varieties:

- Apalachee
- Biloxi
- Basham's Party Pink
- Caddo
- Chickasaw
- Choctaw
- Fantasy
- Lipan
- Miami
- Natchez
- Osage
- Pecos
- Red Rocket
- Tightwad Red
- Tonto
- Townhouse
- Tuscarora
- Tuskegee
- Wichita

Check www.growgreen.org for more varieties

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable

? unknown toxicity earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
earth-wise	Monterey E-Rase™	Jojoba oil 97.50%	○	?	?	?	?	?
earth-wise	Serenade® Disease Control	Bacillus subtilis 1.34%	○	○	○	○	○	○
earth-wise	Safer® Garden Fungicide	Sulfur 12%	○	?	○	○	○	N/A
earth-wise	Garden-Ville® Potassium Bicarbonate	Potassium bicarbonate	◐	○	○	○	?	?
earth-wise	Concern® Copper Soap Fungicide®	Copper octonate 0.08%	◐	○	◐	○	○	○
earth-wise	Safer® 3 in 1 Spray	Potassium salt of fatty acid .75% Sulfur .40%	◐	○	◐	○	○	○
	Green Light® Neem Concentrate	Extract of Neem Oil 70%	◐	?	◐	◑	○	○
	Garden Safe® Fungicide 3-in-1 Ready-to-Use	Extract of Neem Oil 0.9%	◐	?	◐	◑	○	○
	Bayer Advanced™ Disease Control for Roses, Flowers & Shrubs Concentrate	Tebuconazole 2.9%	◐	○	◑	○	◐	◐
	Fertilome® Liquid Systemic Fungicide	Propiconazole 1.55%	◐	◐	◑	◑	◐	◐
	Fertilome® Halt Systemic Rose, Flower, Lawn & Ornamentals Fungicide	Acephate 4%, Triforine 3.25%,	○	◐	◑	◑	◑	○
	Bonide® Garden Dust	Copper 7% Rotenone 0.75% Other cube resins 1.5%	◐	○	◑	◑	◑	○
	Actinovate® SP	Streptomyces lydicus 0.037%	◐	?	◑	○	●	◐
	Green Light® Neem II Ready-to-Use	Pyrethrin .02% PBO .20% Extract of Neem Oil 0.90%	◐	●	◐	◑	○	○
	Ortho® Orthenex® Garden Insect & Disease Control Concentrate	3-thioallphanate 50%, Fenbutatin oxide 0.75%	◐	◑	◐	●	◐	◐
	GardenTech® Sevin® Daconil® Ready-to-Use	Chlorothalonil 0.087%	◑	●	◑	○	◐	◐/◑
	Spectracide Immunox® Plus Insect & Disease Control	Myclobutanil 0.78% Permethrin 1.25%	◐	◑	●	●	◐	◐/◑
	Bayer Advanced™ 3 in 1 Insect, Disease & Mite Control	Tebuconazole 0.65% Imidaproclid 0.47% Tau-fulvalinate 0.61%	◐	◐	●	●	◑	◑

most toxic

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www.growgreen.org

City of Austin WATERSHED PROTECTION 974-2550

AgriLIFE EXTENSION 854-9600 Texas A&M System

04/10

grow green

earth-wise guide to

Spider Mites



Spider mite magnified

description

Adults are tiny (1/150-1/50"); varied in color; spider-like, with eight legs and no antennae; eggs are laid on the underside of leaves and on buds

infestation

Leaves lose color as numerous yellow specks appear and often turn bronze and curl under; may be covered with a fine web; often becomes noticeable during dry, hot summer weather

attack

- Fruit trees
- Tomatoes
- Marigolds
- Strawberries
- Buddleia
- Roses
- Junipers
- Rosemary
- Many house plants

Least Toxic Solutions

- Monitor often for early detection
- Be sure to look under leaves and inspect new houseplants
- Take a white piece of paper and strike some affected leaves on it - the mites can be seen crawling slowly on the paper
- For minor infestations, spray host plants weekly with high pressure water spray upward from beneath the plant foliage
- Apply insecticidal soaps or horticultural oils; spray upward from beneath the plant foliage
- Keep plants adequately watered to prevent stress
- Encourage natural enemies like green lacewing larvae, ladybugs and predatory mites

If You Must Use a Pesticide...

- Choose less-toxic pesticides to avoid destroying beneficial insects along with pests, leaving trees or shrubs unprotected if pests return
- Apply pesticides only to plants listed on the label - some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Apply correctly:
  - Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to the feeding spider mites
  - Non-systemic must be applied to all infested plant surfaces because they must come into direct contact with the insects
- Severe infestations may require repeated applications; check the label for frequency and timing
- Avoid overuse of chemicals — many pests have become resistant to certain pesticides



Spider mite damage

identify before you buy

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product toxicity comparisons

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Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable
? unknown toxicity ☠ banned by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
earth-wise	Green Light® Home & Garden Insect Spray	Thyme oil 0.33% Clove oil 0.33% Sesame oil 0.33%	?	○	◐	?	?	?
earth-wise	Concern® Insect Killing Soap	Fatty acid soap 1%	◐	?	◐	○	○	○
earth-wise	Bonide® Hot Pepper Wax Ready-to-Use	Capsaicin and related capsaicinoids 0.184%	◐	?	◐	○	?	?
	Garden Safe® Fungicide 3-in-1 Ready-to-Use	Extract of Neem Oil 0.9%	◐	?	◐	◑	○	○
	Green Light® Lawn & Garden Spray with Spinosad RTU	Spinosad 0.5%	◐	?	◑	◑	○	◐
	Bonide® Garden Dust	Copper 7% Rotenone 0.75% Other cube resins 1.5%	◐	○	◑	◑	◑	○
	Green Light® Neem II Ready-to-Use	Pyrethrin .02% Piperonyl butoxide 0.20% Extract of Neem Oil	◐	●	◐	◑	○	○
	Ortho® Orthenex® Garden Insect & Disease Control Concentrate	Acephate 4%, Triforine 3.25%, Fenbutatin-oxide 0.75%	◐	◑	◐	●	◐	◐
	Concern® Multi-Purpose Insect Killer	Pyrethrins 0.24%, Potassium salt of fatty acid 20%	◐	●	◑	◑	○	○
	Bayer Advanced™ PowerForce® Mosquito Killer Plus Outdoor Fogger	Tetramethrin 0.15%, Permethrin 0.15%, Piperonyl butoxide 0.75%	◐	◑	●	◑	○	◑/◐
	Ortho® Volck® Oil Spray	Mineral oil 97%	◐	?	●	●	?	?
	Bonide® All Seasons® Horticultural Spray Oil	Petroleum oil 98%	◐	?	●	●	?	?
	Bayer Advanced™ 3 in 1 Insect, Disease & Mite Control	Tebuconazole 0.65% Imidaproclid 0.47% Tau-fulvalinate 0.61%	◐	◐	●	●	◑	◑
	Bayer Advanced™ 2 in 1 Systemic Flower Care	Disulfoton 0.1%	◐	◐	●	●	◑	◑

most toxic

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why grow green?

The Grow Green program educates Austin area residents on the LEAST TOXIC approach to pest management and responsible fertilizer use. Our goal is to reduce the amount of landscape chemicals that "runoff" into our waterways or leach into our groundwater and degrade water quality.

Grow Green is a partnership between the City of Austin Watershed Protection Department and Texas A&M AgriLife Extension. Call 512-974-2550 or 512-854-9600 for more information or visit our website at **www.growgreen.org.**

If you have leftover or banned chemicals such as diazinon or Dursban (chlorpyrifos) in your garage, please take them for safe disposal to a household hazardous waste facility. In Austin call 974-4343 for information.

City of Austin WATERSHED PROTECTION 512-974-2550
TEXAS A&M AGRILIFE EXTENSION 512-854-9600

03/16

grow green

earth-wise guide to

Scale Insects



scale on stem, magnified

description

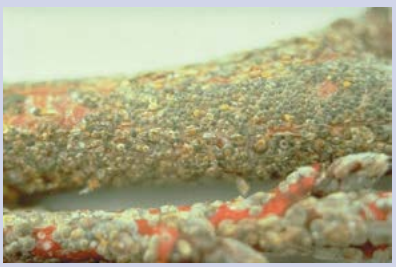
Very small, sucking insects found on leaves, twigs, stems and sometimes fruits; often mistaken for part of plant since they look like natural bumps and do not move when mature; sometimes mistaken for fungal growth

infestation

Insects suck plant's fluids; in large numbers, can cause yellowing of leaves, leaf drop and dieback of twigs and limbs; may kill plant; scale excrete "honeydew," a sticky substance that attracts ants and often causes black "sooty mold"

attack

- Many landscape trees and shrubs as well as fruit and nut trees



heavy scale can look like bumps on the bark, but can easily be scraped off with a thumbnail

Least Toxic Solutions



scale on leaf, magnified

- Monitor plants regularly for honeydew, sooty mold, yellowing or wilting
- Use sticky barriers to control ants in the garden – this can help control scale
- For small infestations, rub off by hand using garden gloves, a toothbrush or cotton swab dipped in alcohol
- For severe infestations, sections of plants can be pruned and discarded
- Use dormant oil during late winter, or highly refined horticultural oil during spring and summer
- Repeat applications over the course of the season; several applications will probably be necessary
- When possible, discard heavily infested ornamental plants and replant with native and adapted plant species

If You Must Use a Pesticide...

- Treat scales when in the "crawler" stage for best results
- Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to the feeding scale insects. Non-systemic pesticides must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects. Never use systemic pesticides on food crops
- Avoid applying a broad spectrum pesticide – they destroy beneficial insects as well as pests
- Apply only to plants specified on the label – some formulations injure tender ornamental plants and new growth
- Mix and use according to product label and apply only recommended dosage
- Avoid overuse of chemicals – many pests have become resistant to certain pesticides

If you must use a pesticide...

- *Use the least toxic pesticide first*
- *Read and follow label directions*

identify before you buy

Need help diagnosing a plant problem? Call the Texas Agrilife Extension Service @ 512-854-9600 and ask for the master gardener desk or email them at travismg@ag.tamu.edu

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ *low* ◐ *low to moderate* ◑ *high* ● *highest* **NA** *not applicable*

? *unknown toxicity* *earth-wise*

Hazards:



note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Lily Miller Vegol Year Round Pesticidal Oil	*Canola oil 96%*	?	N/A	N/A	N/A	N/A	N/A
	Bonide® Hot Pepper Wax Ready-to-Use	*Capsaicin and related capsaicinoids 0.184%*	◐	?	◐	○	?	?
	Safer® Insecticidal Soap Multi-purpose Insect Killer w/Seaweed	*Fatty acid soap 2%*	◐	?	◐	○	○	○
	Concern® Insect Killing Soap	*Potassium salts of fatty acid 1%*	◐	?	◐	○	○	○
	Fertilome® Dormant Oil	*Petroleum Distillate %98.8%*	◐	?	◐	○	○	◐
	Green Light® Neem Concentrate	*Extract of Neem Oil 70%*	◐	?	◐	◑	○	○
	Green Light® Neem II Ready-to-Use Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	●	◐	◑	○	○
	Bayer Advanced™ PowerForce®	*Pyrethrin .02% PBO .20% Extract of Neem Oil 0.90%*	◐	?	●	◑	○	◐
	Concern® Multi-Purpose Insect Killer	*Pyrethrins 0.24% PBO 0.20%,*	◐	●	◑	◑	○	○
	Bayer Advanced™ Tree & Shrub Insect Control	*Imidacloprid 1.47%*	◐	?	●	◑	◑	◑
	Bayer Advanced™ 3 in 1 Insect, Disease & Mite Control	*Tebuconazole 0.65% Imidaproclid 0.47% Tau-fulvalinate 0.61%*	◐	◐	●	●	◑	◑
	Bonide® All Seasons® Horticultural Spray Oil	*Petroleum oil 98%*	◐	?	●	●	?	?
	Ortho® Volck® Oil Spray	*Petroleum oil 97%*	◐	?	●	●	?	?

least toxic ↓ *most toxic*

If you have unwanted or banned chemicals (Dursban or Diazinon) in your garage, please take them for safe disposal to a household hazardous waste facility. In Austin call (512)974-4343 for information.

www.growgreen.org

Think least toxic!

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City of Austin
WATERSHED PROTECTION
512-974-2550

TEXAS A&M AGRILIFE EXTENSION
512-854-9600

02/15

grow green

earth-wise guide to

Snails and Slugs



Enlarged photo of a snail

description

These mollusks have fleshy, soft, slimy, legless bodies; range in color from whitish-yellow to black; 1/2-4"; slow-moving; require moisture for survival

Snails have a hard spiral shell on their backs that provides protection from predators and during periods of excessive heat and dryness

infestation

Feed on plants by scraping off the tissue or eating holes in the leaves or flowers; leave glistening trails of slime wherever they crawl

attacks

Leaves, flowers and stems of plants. Snails and slugs can completely devour young vegetable seedlings overnight

identify before you buy

Need help diagnosing a plant problem? Call the Texas Agrilife Extension @ 512-854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu

Least Toxic Solutions

- Reduce excessive moisture through efficient irrigation
- Get out your flashlight and hand pick snails and slugs at night when they are active – drop them in a jar of soapy water
- Eliminate hiding places such as under flower pots and landscape timbers
- Destroy snail and slug eggs (they look like crystal beads) – they are often found in large clusters under rocks and debris
- Place barriers of copper stripping around planters to prevent snails and slugs from accessing plants



Slug with egg cluster

- Use window screen material or row covers to protect seedlings – be sure to bury the edges
- Attract snails overnight to a hollowed-out, melon rind or a shallow container filled with beer or apple cider. Dispose of them in the early morning and replenish the bait often
- Treat for snails and slugs only if significant plant damage begins to appear

If You Must Use a Pesticide...

- Use snail and slug baits as a last resort
- Place baits close to hiding places where snails will cross them
- Baits will be less effective in hot/dry or cold weather when snails are less active
- Be aware that metaldehyde baits are very toxic to dogs and cats
- Use a tamper-proof bait station for metaldehyde products
- Spread an iron phosphate product over entire lawn



Slugs are attracted to moist places

If you must use a pesticide...

- *Use the least toxic pesticide first*
- *Read and follow label directions*

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable
? unknown toxicity ☠ banned by EPA earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Green Light® Snail and Bug Bait	*Orthoboric acid 5%*	○	○	○	○	◐	○
	Bayer Advanced™ Snail and Slug Killer Bait	*Iron phosphate 1%*	○	?	◐	○	○	N/A
	Sluggo®	*Iron phosphate 1%*	○	?	◐	○	○	N/A
	Monterey Sluggo® Iron Plus	*Iron phosphate 1% Spinosad .07%*	○	?	◑	◑	○	○
	Ortho® Bug-Geta® Snail & Slug Killer	*Metaldehyde 2%*	◐	?	◐	●	◐	◐
	Green Light® Bug and Snail Bait	*Metaldehyde 1%, Carbaryl 5%*	◐	◑	◐	●	◐	◐
most toxic	Eliminator® Bug & Snail Bait	*Metaldehyde 2%, Carbaryl 5%*	◐	◑	◐	●	◐	◐

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www.growgreen.org

City of Austin WATERSHED PROTECTION 512-974-2550

TEXAS A&M AGRILIFE EXTENSION 512-854-9600

09/16

grow green

earth-wise guide to

Stink Bugs

and similar insects



Brown Stink Bug

description

Brown Stink Bug: Adults are brown with checkered border beneath their wing covers; shield-shaped and 1/2" long

Southern Green Stink Bug: Adults are light green; 1/2" long; nymphs are round and bluish-gray with red marks

Leaf-footed bug: Adults are dark gray to brown/black; 1" long and 1/3" wide with a yellowish stripe across the back

All emit a distinct odor when handled

damage

Stink bugs suck juices from leaves, stems and fruits, causing deformed growth; pecan kernels develop black spots

attack

Many fruits and vegetables, and are especially fond of:

- Tomatoes
- Southern Peas
- Peaches
- Pecans

Least Toxic Solutions



Stink bug nymphs hatching from eggs

- Control stink bugs only if you have excessive damage to your fruit and vegetable crops
- Control weeds to prevent heavy infestations
- Use row covers as an effective barrier in vegetable gardens
- Properly identify before treating; some stink bug species and their close relatives are beneficial insects; call the Texas AgriLife Extension Service at 854-9600 for more information
- Avoid chemicals and make your yard a haven for beneficial insects. Insects such as pill bugs (sow bugs, roly polys) eat stink bug eggs
- Destroy egg masses and clusters of young nymphs feeding close together; they are particularly damaging to developing fruit, beans, nuts and seeds

If You Must Use a Pesticide...



Southern Green Stink Bug

- Avoid applying the more toxic pesticides — they destroy both beneficial insects and pests and leave trees or shrubs unprotected if pests return
- Apply pesticides only to plants specified on the label — some formulations injure tender ornamental plants and new growth
- Use pesticides according to directions and apply only recommended dosage
- Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to the feeding stink bugs. Because they remain in plant tissue, systemics are NOT recommended for use on vegetables or fruits



Brown Stink Bug on a leaf

- Non-systemic pesticides must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects
- Avoid overuse of chemicals — many pests have become resistant to certain pesticides

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ *low* ◐ *low to moderate* ◑ *high* ● *highest* **NA** *not applicable*

? *unknown toxicity* *earth-wise*

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Floating Row Cover	Non-Chemical						
	Bonide® Hot Pepper Wax Ready-to-Use	Capsaicin and related capsaicinoids 0.184%	◐	?	◐	○	?	?
	Ortho® Bug-B-Gon® Max® Lawn & Garden Insect Killer Concentrate Ready-to-Spray	Bifenthrin 0.3%,	◐	?	◐	◑	○	○
	Bayer Advanced™ Complete Insect Killer Dust for Gardens Ready-to-Use	Carbaryl 0.126%	◐	◐	◑	◑	○	○
	Bayer Advanced™ Complete Insect Dust Ready-to-Use	Permethrin 0.25%	◑	◐	◑	◑	◐	◑
	Ortho® Bug- B-Gon® Max® Garden Insect Dust Insect Killer Concentrate Ready-to-Spray	Permethrin 0.25%	◐	?	●	◑	○	◐
	Diatect® Garden and Floral Insect Control	Silicon dioxide 82.9% Pyrethrin .2% Piperonyl butoxide 1.0%	◐	?	●	◑	○	◐

most toxic

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Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Agricultural and Environmental Safety Program, Texas AgriLife Extension Service who can be reached for questions at (979) 862-1035. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

identify before you buy

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City of Austin WATERSHED PROTECTION 974-2550

AgriLIFE EXTENSION Texas A&M System 854-9600

04/10

grow green

earth-wise guide to

Beneficial Insects



Parasitic wasp pupae on a tomato hornworm

don't kill the good guys!

more than 95% of insects aren't pests. some pollinate our flowers and vegetables, while many others feed on pests in our gardens. by allowing them to do their job, we can reduce the need for pesticides and maintain austin's water quality.

resources

- A Field Guide to Common Texas Insects, *Drees & Jackman*
- The Texas Bug Book—the Good, the Bad, and the Ugly, *Malcolm Beck and Howard Garrett*
- Natural Enemies Handbook - The Illustrated Guide to Biological Pest Control, *University of California Press*
- Common Sense Pest Control, *William Olkowski, et al.*
- http://hortipm.tamu. edu/pestprofiles/beneficials.html

1. Preventing Pests

- Use disease and insect-resistant plants
- Monitor your plants regularly to catch problems early
- Encourage birds, lizards and frogs – they can be very helpful in controlling insects
- Properly identify problem pests before treating and choose treatment according to the pest

2. Attract Beneficials in Your Yard

- Plan the garden so there are blooming plants throughout the seasons to provide nectar and pollen
- Provide an accessible source of water, such as a bird bath, small water garden or a pond and some rocks so they can access the water safely
- Provide shelter – leave some leaf litter or plant some groundcovers

3. Introduce Populations of Natural Enemies

- If you don't have enough beneficals in your yard, purchase them from a nursery or commercial insectary
- Follow release directions from supplier for optimum results

Managed colonies of bees, important pollinators, are believed to be in decline because of mites, diseases and environmental stresses including the over-use of pesticides

4. Have Patience:

- Tolerate a few pests – they provide a food source for beneficial insects
- Resist the urge to spray when you first see plant damage – plants can withstand a lot of damage and you should allow time for beneficial populations to build up
- Monitor outbreak areas – if beneficials do not populate, other solutions may be necessary

4. Make Wise Product Choices

- When spraying is necessary, select a narrow spectrum product whenever possible. Broad spectrum insecticides don't discriminate between pests and beneficial insects – they kill both. This can include naturally-derived products such as pyrethrum and rotenone as well as chemical products
- Avoid over-use of pesticides – they can increase the chance of pest resistance
- Choose an insecticide that won't harm other insect-eating garden creatures like birds, bats, spiders, lizards, and toads (see last page and Grow Green Products fact sheet for ratings)
- Treat only the outbreak area
- Choose products that break down quickly like soaps or pyrethrum sprays

Good Guys

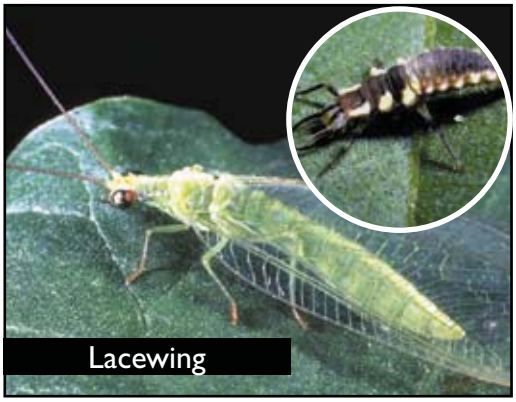
Photos by Lisa Lennon and Wizzie Brown



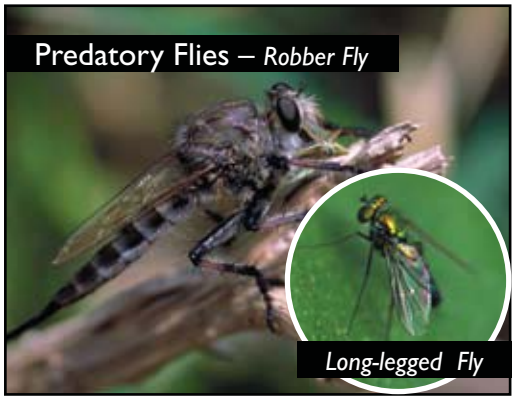






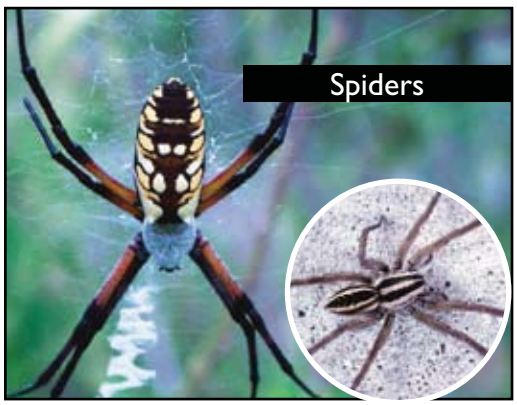


















Some Common Beneficial Insects:

Insect	Food Source	Description	Attracted to:
Assassin Bug	Larvae and adults: • Beetles • Caterpillars • Many other pests	Large eyes; excellent hunters	Sunflowers
Damsel Bugs	Nymphs and adults: • Caterpillar eggs • Small larvae • Fleahoppers • Leafhoppers • Spider Mites	Nymphs: similar to adults but without wings; wings develop as insect matures	Clover
Damsel Flies	Adults: • Mosquitos • Gnats • Other flying insects	Black to reddish-brown or metallic, small to medium, fast-moving insects;	Water
Ground Beetles	Larvae and adults: • Snails • Slugs • Root-feeding insects	Feed at night	• Stone pathways • White clover • Compost piles
Lacewings *Green or Brown*	• Aphids • Small Caterpillars • Whiteflies • Thrips	**Green:** lay eggs on long stalk **Brown:** lay tiny eggs on leaves near aphids their food source	Nectar-producing plants like: • Scented geraniums • Roses
Lady Beetle *(Ladybugs)*	Larvae and adults: • Aphids • Scales • Mites • Other soft-bodied insects	**Larvae:** wingless, spiny: orange and black markings **Adults:** red or orange with dark spots or black with two red spots or no spots	Nectar-producing plants like: • Tansy • Scented geraniums • Tropical milkweed
Predatory Flies	Adults: • Caterpillars • Beetle larvae • Sawflies	**Examples:** • Robber Fly: large head, prominent eyes, long legs, thin abdomen • Long-legged Fly: medium to small, slender, with green, blue or copper metallic colored bodies and long legs	Nectar-producing plants
Predatory Wasps	Most insect groups	**Examples:** • Red Wasps (see picture): red bodies with black wings, "paper" nest • Yellowjackets: ½ inch long wasp, with clear wings, yellow and black, shorter legs	Pollen-producing plants with tiny flowers like: • Caraway • Fennel • Tansy
Praying Mantis	Nymphs: many pests and beneficials Adults: • Flies • Bees • Crickets • Moths	Nymphs: similar to adult but without wings; wings develop as insect matures	Flower and vegetable gardens
Spiders	• Flying insects • Caterpillars • Others	**Arachnids:** have eight legs, various sizes, usually specialized as either roaming hunters or web builders; many are harmless	Flower and vegetable gardens
Syrphid Flies	Larvae: • Aphids • Caterpillars • Beetles • Thrips	**Larvae:** creamy-white to green or brown **Adults:** 1/4 to 3/4", black or brown with yellow-banded abdomens; resemble small wasps or bees but only have two wings	Composite flowers like: • Dill • Fennel • Coreopsis • Feverfew
Honey Bees	Pollen and flower nectar	Not aggressive if left alone; they are necessary for fruit-producing plants in the vegetable garden such as squash, watermelons, and okra	Pollen and nectar-producing flowers like: • Asters • Black-eyed Susans • Goldenrod
Giant Wheel Bug	Nymphs and adults: • Caterpillars • Moths • Squash bugs • Cucumber beetles	**Nymphs:** similar to adult but brightly-colored; don't have a crest **Adults:** 1 to 1 1/4", grey to brown	Live in shrubs and trees

grow green

earth-wise guide to

Tree Care



Steps:

1. **Evaluate** the condition of your existing trees
2. **Nurture** existing trees
3. **Renew** with the right plants in the right place

Evaluation Assistance

For more information about tree assessment, visit:

www.treesaregood.com/treecare/treecareinfo.aspx

Urban trees need our help. Evolving Central Texas weather has included exceptional drought, record high and low temperatures, and sudden flooding. According to the State Climatologist, the current drought conditions are expected to continue for several more years and if continued indefinitely will become our new "normal". To prepare for these expected changes we need to evaluate the health of existing trees, care for them, and make informed decisions to replenish our urban forest.



1 Evaluate

Assess the current condition of your trees to help you prioritize time and resources.

Trees in urban settings are exposed to a wide variety of environmental and cultural stresses which impact their health. Healthy trees are equipped to handle stress, but when exposed to prolonged stress they reach a point of non-recovery.

Oak Wilt is an infectious tree disease found in many Austin neighborhoods. Visit texasoakwilt.org to learn more on how to prevent oak wilt in your neighborhood.

Look for these signs of stress to help determine if your trees need some extra care:

- Leaves that are scorched, wilting, unusual colors, prematurely shedding or turning brown without falling
- Twigs and branches that are dying might indicate root problems and overall tree decline
- Cut or damaged roots
- Mushrooms around the base of tree
- Signs of internal decay on large trees or limbs should be inspected by a certified arborist for risk; these signs include: cavity openings, nesting holes, mushrooms, carpenter ants, termites and missing wood

2 Nurture

Take care of stressed trees.

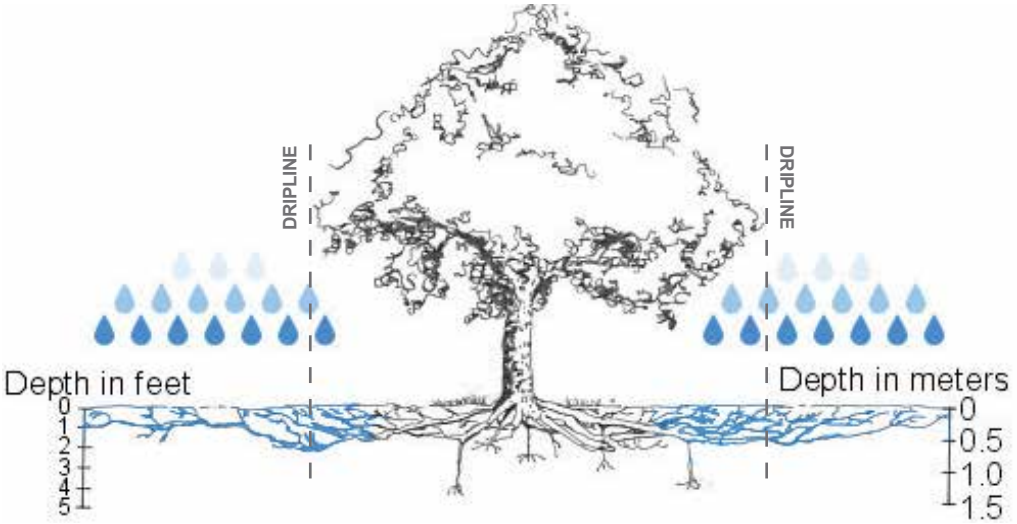
Trees provide value to your landscape, and it is costly to remove a dead tree.

The total effects of severe environmental stress may not be seen for years, so preservation under extreme conditions is important.

Basic Care

- Water wisely
- Compost to enrich the soil, but do not fertilize during periods of stress
- Properly mulch the root zone
- Expand mulched area as far out to dripline as possible, but do not place mulch against trunk
- Limit pruning to broken and/or dead branches that might be a safety hazard and follow Oak Wilt prevention pruning guidelines texasoakwilt.org
- Avoid using weed and feed products, they can damage trees





For stressed trees, provide supplemental water to the outer area of a tree's root zone, where there are the highest concentrations of water-adsorbing roots are located

Water Wisely

How often & where to water:

Check Austin Water's website for current watering restrictions to avoid potential fines at WaterWiseAustin.org

- Established but distressed trees:
  - In dry periods during the growing season, water at least once every two weeks; in winter, water once a month if no significant rainfall.
  - At a minimum, trees should be watered to the dripline
  - Large, mature trees should be watered in the root zone shown in the diagram; many of the very fine water-absorbing roots extend beyond the dripline

How much:

- Trees generally need 5-10 gallons of water per inch of diameter. Use the lower end for healthy trees, the higher end for stressed trees and those with roots covered in turf or groundcover
- If water is standing or running off you are watering too much or too quickly. Use mulch or small berms on slopes, heavy soils (clays), and compacted soils to assure water soaks in and does not run off onto paved surfaces
- The day after watering use a trowel or screwdriver to check soil moisture depth; if the soil is moist 4-5 inches deep, you watered enough

How long:

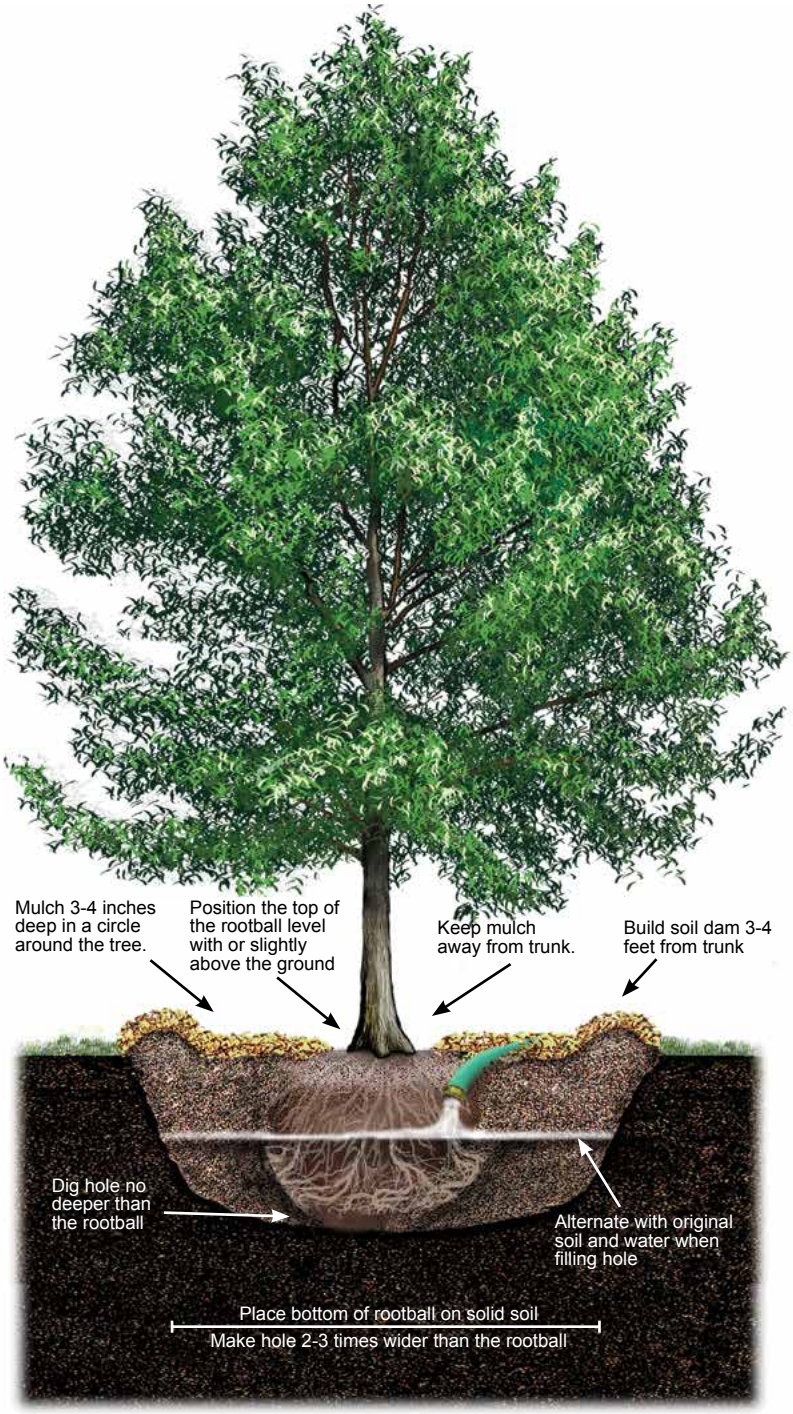
- Water slowly and deeply to ensure that water percolates well below the soil surface to the tree roots
- Accomplish slower water application rates by hand-watering, using a doughnut-shaped sprinkler, spray nozzle or a soaker hose. You can also fill 5-gallon buckets or water bottles with a few ¼ inch holes drilled in the bottom and place over the roots of the tree near the dripline.
- Check out a digital hose meter from The Austin Public Library or time the filling of a 5 gallon bucket to learn how long to water. For hose meter availability, search for "hose meter" in APL catalog at library.austintexas.gov
- Add a few minutes of watering if the tree roots are covered in turfgrass or groundcover
- Use a timer or establish a personal reminder (i.e. tie a string around your finger) so you do not forget that you are watering your tree

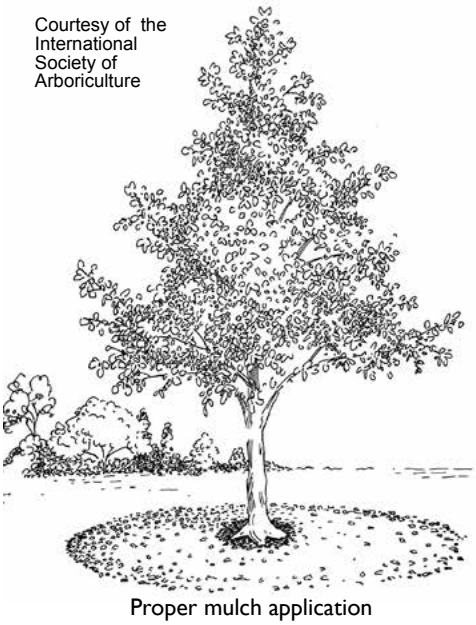
Size of Tree	Water Needs
Diameter (inches)	**Gallons per week**
0-5	1-5
6-10	10-20
11-15	30-45
16-20	60-80
21-25	100-125
26-30	150-180
31-35	210-245
36-40	280-320
41-45	360-405
46+	450+

Compost and Mulch

Besides proper watering, the best thing you can do for your trees is to apply mulch over their root systems

- How to apply compost
  - Apply in the spring and/or the fall
  - Apply ½ inch to the edge of the tree canopy
  - Keep compost 4-5 inches away from the base of the tree
  - Apply compost before applying mulch
- How to apply hardwood mulch:
  - Apply mulch as needed to maintain 3-4 inches deep
  - Keep mulch 4-5 inches away from the base of the tree
- Benefits:
  - Insulates the soil and roots from extreme temperatures
  - Slows soil moisture evaporation, which extends the amount of time between watering
  - Mimics the forest floor. The decomposition of the organic matter in the mulch (in addition to any existing compost) will release nutrients that become available to be absorbed by the roots
  - Reduces weed and grass competition. Turf conflicts with the presence of trees because they compete for the same resources
  - Provides a buffer between the turf and tree to help protect the trunk and surface roots from mower and equipment damage. Wounds at the base of the trees cause lifelong problems





Proper mulch application



Incorrect mulch application

FAQ

- What is the difference between how mulch and compost are applied?
  - Mulch = organic materials applied on top of the soil (do not mix mulch into the soil, the decomposition process uses up nutrients and prevents them from being available to the plants)
  - Compost = well-decomposed plant material used to mix into the soil and sometimes recommended to use as mulch

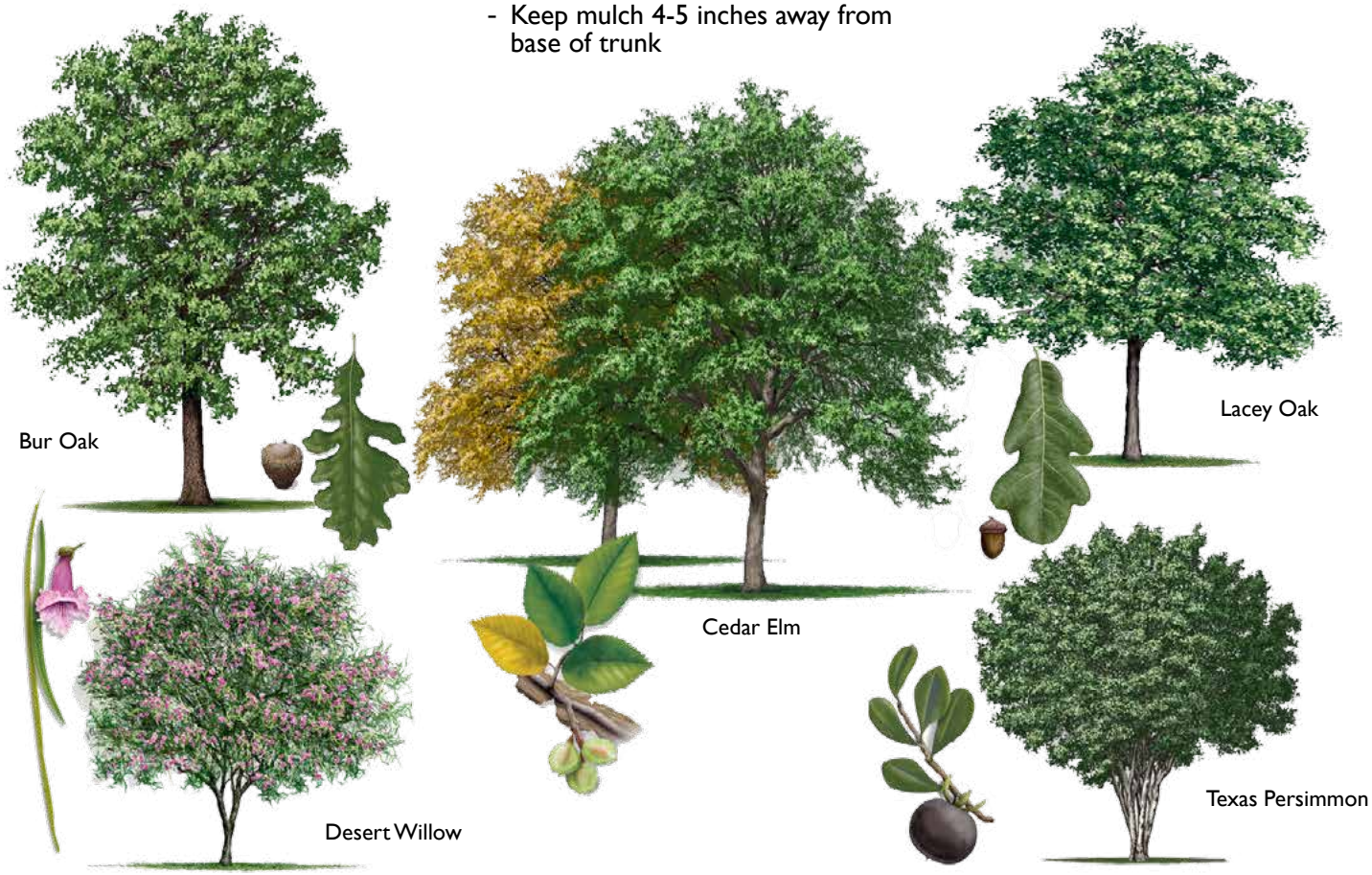
3 Renew

Planting trees is an optimistic and sustainable investment that demonstrates commitment to our future.

- If you plant make a commitment. Determine available time and money to care for your tree once it is planted. Trees are an investment that will yield higher quality benefits when planted properly
- Watering new trees:
  - Water thoroughly once per week.
  - Trees that have been in the ground less than two years have underdeveloped root systems, so concentrate water near the planting area out to the dripline
- **Small Trees = Small Needs** Saplings and small trees need less water during establishment and adapt quickly to new conditions
- Match to location – right tree right place
  - Consider soil type, slope, existing access to water, shade, landscape function and does the space allow for mature tree height and width
  - A properly sited tree will be healthier and require less water
- Plant a diverse palette of native tree species
- Plant trees at the proper depth, no deeper than the depth of soil in the rootball
- Planting Season: October – March
- Mulch
  - 3-4 inches deep
  - Keep mulch 4-5 inches away from base of trunk



Drought Tolerant Species Include:



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512-854-9600

URBAN FORESTRY CITY OF AUSTIN

City Arborist Program

AUSTIN PARKS & RECREATION

AUSTIN ENERGY®

Austin WATER Clearly Reliable

For more earth-wise tips, visit
www.growgreen.org *or*
www.austinurbanforestry.org

For water conserving tips and rebates, visit
www.waterwiseaustin.org

grow green

earth-wise guide to

Weeds



description

A weed is a plant that is growing where it is not wanted; it easily reproduces and spreads; competes with desirable plants for space, light and nutrition; detracts from the aesthetics of the landscape; can harbor pests and diseases

germination

Weed seeds may lie dormant, germinating when soil is disturbed and seeds are exposed to light; seeds may be windblown, spread by birds or introduced with imported soil

goal

Disrupt the weed's life cycle without damaging the environment

For assistance identifying weeds and choosing least toxic options, call the AgriLife Extension at 512-854-9600

Least Toxic Solutions

Prevent Weeds

- Keep plants healthy to help them out-compete weeds
- Do not let weeds flower or go to seed – it greatly increases their potential population
- Do not bring soil with weed seeds or roots on site
- Use drip irrigation in beds to put water only where you want it – weeds will have a much harder time growing without water
- Monitor and remove weeds regularly before they get established
- Prevent weeds from growing by blocking light and/or creating a physical barrier to growth

Weed Barrier Options

- Cover plant beds with 4-6" of mulch
- Cover soil with 4-6 sheets of newspaper and cover with leaves to make a weed barrier in plant beds (lasts several months)
- Use weed control fabrics that allow water and air to reach plant roots (weeds may germinate in soil or fine-textured mulch on top of the fabric)
- Use a layer of cardboard covered with mulch for non-planted spaces like utility areas
- Avoid black plastic – it is non-biodegradable and reduces air exchange with roots
- Solarize new areas before planting to kill weeds and seeds (See Grow Green Installation and Maintenance fact sheet)
- Fill in pavement cracks with caulking compound formulated for asphalt or concrete

Physically Remove

- Pull weeds regularly to keep populations from getting out of hand
- Weed by hand when practical
- Pull or hoe weeds when plants are small and the soil is moist
- Use hoes designed to move horizontally below the soil surface to avoid bringing seeds to the surface
- Be careful not to damage shallow-rooted landscape plants

Weed Disposal

- Dispose of weeds that have flowered or gone to seed in the trash
- Put vegetative structures like rhizomes (underground stems) from Johnsongrass and "nutlets" from nutsedge in the trash – not in the compost pile

Identify before you buy

Need help diagnosing a plant problem? Call the Texas AgriLife Extension Service at 512-854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu

Avoid using weed and feed products because:

- the best time to treat weeds is not the best time to fertilize
- broadcasting weed killer over and entire lawn is usually overkill

Name	Description	Growing Season	Comments/ Growing Conditions	Least Toxic Solutions
PERENNIALS, BROADLEAF				
Broadleaf Plaintain *Plantago major*	• Rosette with large, rounded, wavy-edged leaves • Greenish flowers on 5-10" stalks	• Warm season perennial • Seeds germinate early to late spring	• Reproduces by seed • Resprouts from root system • Prefers rich soil and moderately wet areas	• Remove by hand or weed fork • Be sure to remove the entire crown of the plant
Dandelion *Taraxacum officinale*	• Rosette with lobed and serrated leaves • Round , fluffy seed heads • Yellow flower • Milky sap	• Cool season perennial • Seeds germinate in fall	• Reproduces by seed • Resprouts from root • Prefers moist areas in full sun • Edible	• Can easily be removed with a weed fork • Must remove the taproot
Dichondra *Dichondra repens*	• 1/2 to 3/4" kidney shaped leaves • Inconspicuous in turf	• Warm season perennial • Seeds germinate in spring	• Creeping stems root where nodes contact the soil • Seeds may stay dormant for years • Grows in both sun and shade • Prefers fertile soil that is frequently watered	• Shallow roots make it easy to remove by hand if soil is moist and loose • Use a diamond, swan neck or stirrup hoe
Field Bindweed *Convolvulus arvensis*	• Vine with 3-10' long stems; can run along ground or climb • Flower similar to Morning Glories • Leaves are alternate with smooth edges	• Warm season perennial • Seeds germinate in spring and summer	• Reproduces by seed • Plant fragments of roots as short as 2" can form new plants • Seeds may live in soil 60 years	• Dig out root with a weed fork to eliminate • Repeat every 2 or 3 weeks or as soon as the bindweed reaches 6" in length
Poison Ivy *Toxicodendron radicans*	• Creeping or climbing woody vine • Leaf edges may be smooth, wavy or serrated • Alternate leaves with 3 leaflets	• Leafs out from deciduous stem in spring with onset of warm weather	• Reproduces by rhizomes* and seeds spread by birds • Resprouts from root • Can cause rashes when dormant • Fumes from burning can cause lung damage	• Wear gloves, long sleeves and long pants if removing manually • Must eliminate roots
PERENNIALS, GRASSY				
Bermudagrass *Cynodon dactylon*	• Fine-textured grass, often used as a turfgrass • Becomes a weed when it starts creeping into landscape beds	• Warm season perennial • Goes dormant with the onset of cold weather	• Spreads by seeds, rhizomes* and stolons** • Spreads rapidly during hot times of year • Grows in any soil; prefers full sun	• Use barriers that extend 8-10" below the surface • Dig out as much of the roots and stolons** as possible with a Korean hoe • May take several tries
Dallisgrass *Paspalum dilataum*	• Low-growing, coarse-textured grass • Light green leaves • Long seed heads on tall stalks	• Warm season perennial • Seeds germinate in spring	• Grows faster than most turfgrasses • Thrives in hot, humid conditions • Prefers moist soil • Tolerates sandy and clay soils	• Dig out crown of the plant and remove all of the stem with a weed fork
Johnsongrass *Sorghum halepense*	• Wide leaf blade with white strip down the center • Can grow up to 6' • Thick, creeping rhizomes*	• Warm season perennial	• Reproduces by rhizomes* and seeds • Stems root at the nodes • Sometimes introduced by soil brought in from off site	• Take out as much of the rhizome as possible • Persistent so may take several tries
Quackgrass *Elytrigia repens*	• Grassy plant can grow 1-3.5' tall • Resembles wheat	• Evergreen	• Reproduces by seed and rhizomes* • Tolerates all types of soils	• Do not till -- broken segment of plants can root and sprout into new plants • Persistent so may take several tries
PERENNIALS, SEDGE				
Nutgrasses Yellow Nutsedge *Cyperus esculentus* Purple Nutsedge *Cyperus rotundus*	• Grass-like in appearance • Has a triangular stem • Some rhizomes* terminate in hard tubers (nutlets)	• Emerges from nutlet in spring	• Spreads via rhizomes* and seeds • Often reappears after a good summer rain • Prefers sun • Sometimes introduced by soil brought from off site	• Thoroughly remove with a weed fork in the spring before nutlets form • Persistent so may take several tries

* rhizomes- underground stems **stolons- above ground stems


Broadleaf Plaintain


Bermudagrass

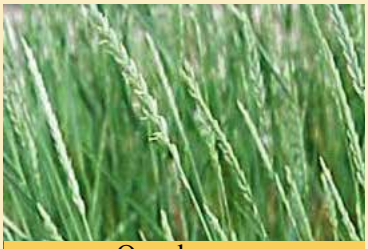

Dandelion


Dallisgrass

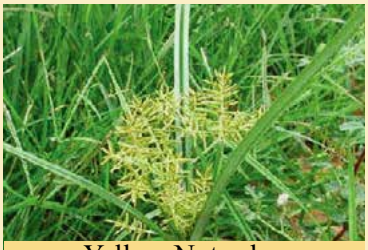

Dichondra


Johnsongrass


Field Bindweed


Quackgrass


Poison Ivy


Yellow Nutsedge


Carpetweed


Spotted Spurge


Chickweed


Annual Bluegrass


Common Lambsquarters


Large Crabgrass


Henbit


Sandbur


Purslane


Smooth Crabgrass

PERENNIAL SOLUTIONS

Least toxic solutions

- Manually remove the root system
- Water thoroughly 1-2 days before digging to soften soil
- Remove flower or seed heads to prevent spreading

If you must use a weed killer...

- Herbicides are more effective against young growing weeds
- Choose a product that is formulated to kill the specific weed (non-selective products will kill or set back any plants they come in contact with)
- Read and follow label directions
- Spot treat problems when possible
- Be aware that very aggressive weeds may require more than one application

ANNUAL SOLUTIONS

General habits

- Annual weeds germinate from seeds each year; usually mature in one growing season and die within 12 months
- Cool season annual seeds typically begin germinating in late September and grow through the winter months; warm season annual seeds typically begin germinating in early March and grow through the spring and summer months

Least toxic solutions

- Pull or mow before plants seed
- Mulch beds before September to suppress winter annuals early and before March to smother warm season annuals
- Use a string trimmer on more mature growth of broadleaf weeds
- Spot treat young plants with products that contain herbicidal soap or 20% acetic acid (vinegar)

If you must use an herbicide...

- Post-emergent herbicides are more effective before a weed has flowered or gone to seed
- Pre-emergents that target cool season or winter annuals must be applied in mid-September before their seeds germinate
- Pre-emergents that target warm season or summer annuals must be applied late January before their seeds germinate

Name	Description	Growing Season	Comments/ Growing Conditions	Least Toxic Solutions
		ANNUALS, BROADLEAF		
Carpetweed *Mollugo verticillata*	• Forms circular mats up to 20” wide • Leaves grow in whorls around the stem	• Warm season annual • Seed germinates in spring	• Prolific seeder • Shallow taproot • Prefers fertile, dry, sandy soil	• Easy to remove with hoe
Common Chickweed *Stellaria media*	• Grows in thick mats • Small white flowers with five petals • Shiny, pointed leaves	• Emerges in fall; grows very little until late winter	• Shallow, fibrous roots • Found most often in shady, moist lawn areas	• Easy to hand pull
Common Lambsquarters *Chenopodium album*	• Low-growing in turf or sprawling and upright • Wavy Leaves • Green flowers with white mealy powder	• Warm season annual • Seed germinates in spring	• Thrives in rich, fertile soil • Edible	• Easy to pull by grabbing base of plant
Henbit *Lamium amplexicaule*	• Grows upright but can root at the nodes • Rounded, serrated leaves • Square stems • Pale purple flowers	• Cool season annual • Seed germinates in the fall; grows very little until late winter to early spring	• Fibrous shallow roots • Prefers good soil with high moisture level • Edible	• Easy to hand pull
Purslane *Portulaca eleracea*	• Prostrate; branches from a central point • Shiny, fleshy leaves and purple-red stems • Inconspicuous yellow flowers	• Warm season annual • Seed germinates in late spring	• Seed can remain viable up to 40 years • Thrives in extremely hot, dry weather • Edible	• Remove by hand • Put plant fragments in trash because they can root
Spotted Spurge *Euphorbia maculatacaule*	• Grows in dense mats • Reddish green to dark green leaves with purple splotch on top • Inconspicuous flowers	• Warm season annual • Seed germinates in late spring to early summer	• Prolific seeder • Shallow taproot • Stem has milky sap	• Easy to hand pull or hoe
		ANNUALS, GRASSY		
Annual Bluegrass *Poa annua*	• Upright, clumping growth • Grows 4”-6” when not mowed • Seed heads appear in mid to late spring	• Cool season annual • Seed germinates in fall • Grows very little until late winter	• Prefers wet, compacted soils • Small clumps growing in lawn makes it look uneven	• Insert weed fork into soil at the base of plant, then twist and remove
Large Crabgrass *Digitaria sanguinalis*	• Can grow to more than 3’ tall • Pale, blue-green, sharply pointed leaves	• Warm season annual • Seed germinates spring to fall	• Spreads by seed and by long stems rooting at the nodes • Single plant can produce 150,000 seeds/year • Thrives in hot, dry conditions	• Dig out crown of plant and remove all of the stem with a weed fork
Sandbur *Cenchrus longispinus*	• Mat-forming • Grows 12” tall • Pale green leaf blades • Produces seed stalk with sharp burs	• Warm season annual • Seed germinates in spring	• Usually found on poor sandy soils	• Dig out crown of plant and remove all of the stem with a weed fork
Smooth Crabgrass *Digitaria ischaemum*	• Low-growing • 15” or shorter • Dull green leaves; some reddish-purple color appears on stems as it ages	• Warm season annual • Seed germinates spring through fall	• Spreads seed and roots from nodes touching soil • Most often found in turf; it will tolerate mowing and still produce seed	• Dig out crown of plant and remove all of the stem with a weed fork

If you must use a weed killer...

- Use herbicides only as a last resort – they can end up in streams and aquifers. They may also damage desirable turf and landscape plants
- Spot treat existing problems with a selective post-emergent product
- Understand and choose the correct product
  - Pre-emergents: prevent seeds from germinating – in general they are broadcast over a large area, most often used to control annual weeds; must be applied before targeted weed seeds germinate; use only if an area has a history of excessive weeds
  - Post-emergents: kill weeds after they have emerged; most often used on perennial weeds – may require more than one application for stubborn perennials
  - Non-selective post emergents: will kill or set back almost any plant they come in contact with
  - Selective post-emergent herbicides: specifically formulated for certain types of weeds i.e. grassy weeds, broadleaf weeds, sedges and woody vegetation
- Don't use an herbicide right before a rain – it can run off to harm our creeks rather than helping your yard
- Always follow the EPA-approved label directions
- Consult with your Extension Agent or nursery professional for more information
- Apply products at the proper time for effective control or prevention of weeds
- Use a wiper applicator or weed wand designed to apply herbicide directly on the vegetation for post-emergent, non-selective products to minimize drifting
- When using a sprayer, use low pressure and large droplets; apply when it is not windy

From Your Yard



to Our Creeks



From Left to Right *(Korean Hoe, Diamond Hoe, Swan Neck Hoe, Stirrup Oscillating Hoe, Stirrup Hoe, Standard Garden Hoe)*

Weeding Tools

Choose a tool that causes the least amount of soil disturbance

- Korean Hoe is shaped like a plow; used to grub out larger weeds or for making a shallow trench
- A Diamond Hoe has a flat diamond shaped blade designed to move just below the soil surface
- A Swan-neck Hoe has a curved neck that positions it to skim just below the soil surface
- The Stirrup or Oscillating Hoe has a double-edged blade that slides back and forth, minimizing soil disturbance
- The Standard Garden Hoe has a a large blade that is set at a sharp angle to the ground for chopping through overgrown weeds
- A Collinear hoe has a angled handle and a narrow blade

Resources

Bio-Integral Resource Center (BIRC): 510-524-2567/ www.birc.org

Texas AgriLife Extension: http://agrilifeextension.tamu.edu/solutions/weed-control-turfgrass/

Weeds: Control Without Poison by Charles Walters

The Gardener's Weed Book: Earth-Safe Controls by Barbara Pleasant

Common Weeds of the United States by United States Agricultural Research Service

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ low to moderate ◑ high ● highest **NA** not applicable

? unknown toxicity earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Pre-emergent							
earth-wise	Concern® Weed Prevention Plus™ 8-2-4	*Corn gluten 100%*	○	○	◐	○	?	?
most toxic	Monterey Weed Impede™	*Orzyalin 40.48%*	○	○	●	○	○	○
most toxic	Preen® Garden Weed Preventer	*Trifluralin 1.47%*	◐	?	●	◐	○	◐
most toxic	Green Light® Amaze® Grass & Weed Killer	*Benefin 1%, Oryzalin 1%*	◐	●	◑	◑	○	◑/●
	Post-emergent							
earth-wise	Green Light® Organic Spot Weeder	*2-Phenethyl proprionate 2.5% Eugenol 2.5%*	○	?	?	○	○	○
earth-wise	Bioganic™ Spot Weeder Ready-to-Use	*Phenethyl proprionate 2.5% Eugenol 2.5%*	○	?	?	○	○	○
earth-wise	Ortho® Ecosense™ Brand Organic Weed & Grass Killer	*2-Phenethyl proprionate 2.5% Eugenol 2.5%*	○	?	?	○	○	○
most toxic	Roundup® Weed and Grass Killer Ready-to-Use Plus	*Glyphosate 2%, Pelargonic acid 2%*	◐	?	◐	○	○	◑
most toxic	Eliminator® Weed & Grass Killer	*Glyphosate 2%*	◐	?	◐	○	○	◑
most toxic	SedgeHammer	*Halosulfuron - methyl 75%*	◐	◐	◐	○	◑	?
most toxic	Ortho® Weed-B-Gon Max® Ready to Spray	*Triclopyr 1.56%, MCPA 13.72%, Dicamba 1.35%*	◐	◐	◑	◐	◐	○
most toxic	Maestro Gro Vinegar	*Acetic acid/Vinegar 20%*	●	?	◐	○	○	○
most toxic	Amdro® Image® Nutsedge Killer	*Imazaquin 3.3%*	◐	?	◐	○	●	◑
most toxic	Eliminator® Liquid Edger	*Sodium cacodylate 0.53% Cacodylic acid 0.09%*	◑	●	◑	◑	○	◑/●
most toxic	Hi-Yield® Atrazine Weed Killer	*Atrazine 40.8%, Related compounds 2.2%*	◐	◑	◑	○	●	◑
	Pre and Post-emergent *(for pavement cracks)*							
most toxic	Roundup® Extended Control Weed & Grass Killer plus Preventer Concentrate	*Glyphosate 18%, Diquat 0.73% Imazapic 0.3%*	◐	?	◐	○	○	◑
most toxic	Ortho® Season Long Max® Weed & Grass Killer Plus Preventer Ready-to-Use	*Glyphosate 0.25% Oxyfluorfen 0.25%*	◐	?	◐	○	○	◑

why grow green?

The Grow Green program is based on Integrated Pest Management (IPM) principles that encourage the LEAST TOXIC approach to pesticide and fertilizer use. The goal is to reduce the amount of landscape chemicals that degrade water quality when they run off into waterways or leach into our groundwater.

The City of Austin and the Texas AgriLife Extension provide this information as a comparative reference only. Listing of a specific product trade name does not constitute an endorsement of its use. Many other pesticides and pesticide products, other than those listed in these tables are available and may be suitable for use. **Check labels carefully as trade names and active ingredients may change.**

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service.
The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

City of Austin WATERSHED PROTECTION
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09/16



earth-wise guide to

Products

Toxicity Ratings

why grow green?

The Grow Green program recommends the least toxic approach to pest management and responsible fertilizer use in order to reduce the amount of landscape chemicals that runoff into our waterways and degrade water quality.

about the products

In order to provide the most useful product-rating list to customers, several area gardening retail stores were surveyed to determine which products were most frequently available in the stores.
Those products (with a few additions to provide an adequate number of products per problem) are listed here. Texas Cooperative Extension Service and the City of Austin provide this information as a comparative reference only, and do not necessarily agree with the ratings provided. Listing of a specific product trade name does not constitute an endorsement of its use. Many pesticides and pesticide products other than those listed in these tables are available and may be suitable for use.

about the ratings

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Education Program, Texas Cooperative Extension who can be reached for questions at (979) 862-1035.

The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

Washington Toxics Coalition
Criteria for Evaluating Lawn and Garden Chemicals

Home lawn and garden pest control products are rated for acute toxicity, chronic health effects, aquatic toxicity, off-target toxicity, persistence, and mobility. Factors determining the ratings in each category are:

Acute Toxicity: oral acute toxicity, inhalation toxicity, skin irritation and toxicity, potential for eye irritation and damage. Acute hazards are evaluated on the basis of the formulated product. EPA's toxicity categories are used as the basis of the ranking.

Chronic Toxicity: presence of ingredients which may cause cancer, reproductive or developmental effects, or other long-term toxicity.

Aquatic Toxicity: hazard to fish and other aquatic species as indicated by required warnings on product label.

Off-Target Toxicity: hazard to birds, bees and other beneficial insects, and pets, as indicated by required warnings on product label.

Persistence: half-life of active ingredient(s) in soil.

Mobility: soil mobility as indicated by soil binding and soil half-life.

Within each of these categories, four ratings are possible. The qualitative interpretation of these ratings is as follows:

○ **Lowest toxicity or environmental impacts.** Follow label precautions for safest possible use of product.

◐ **Low to moderate toxicity or environmental impacts.** Factors should be taken into account in deciding whether and how to use the product.

◑ **Higher toxicity or environmental impacts.** Product presents significant hazards that may be reduced by choosing a different product.

● **Highest hazard level**. Product should be avoided or considered only as a last resort, especially if it received several of these ratings.

N/A **Not enough information available for rating.** (no score)

? **Not applicable** (e.g. half-life for minerals)

Important Note:

- Product ratings are based upon product labels, published data, or reference sources. Products may contain ingredients or contaminants unknown to us, whose presence, if known, would change the product's rating.
- Safety of a product depends to a great extent upon how it is used. Since individuals may exercise different safety precautions, a high rating is not a guarantee of a product's safety, just as a low rating does not necessarily imply that use will cause harm or damage.
- These ratings are presented as an informational service. A high rating does not constitute an endorsement of a particular product. Washington Toxics Coalition (WTC) makes no guarantees as to the safety or efficacy of any product rated by these criteria and assumes no responsibility or liability for any injury or damage which may occur as a result of using any such product.
- There is no universal set of criteria for ranking products. WTC has chosen an approach that looks at only the product itself and does not consider any safety protection offered by the package or the label directions. Safe and effective pest control may require a mix of tactics and products. WTC cannot offer hard and fast rules about which products to buy, but suggest giving priority to products with lower hazard ratings.

Ratings for Pest Control Products (including pesticide/fertilizer mixtures)

I. Acute Human Health Hazard

Based directly on EPA toxicity/hazard categories:

- ○ Slightly toxic or practically non-toxic. Mild or slight eye or skin irritant. Signal word CAUTION may be required on label.
- ◐ Moderately toxic or moderate skin or eye irritant. Signal word CAUTION.
- ◕ Very toxic or severe but reversible skin or eye irritant. Signal word WARNING.
- ● Extremely toxic or corrosive (causes skin or eye burns). Signal word DANGER.

II. Other Human Health Hazards

If product contains unknown or undisclosed "inert ingredients", the rating for chronic effects shall be "?" unless there are established chronic effects from the known ingredients sufficient to classify the product ○ or ◐.

- ○ **All ingredients are known**. Product contains no ingredient listed as a known or suspected human or animal carcinogen, reproductive or developmental toxicant, or other ingredient associated with long-term hazard.
- ◐ **All ingredients are known.** Product contains no known or suspected human or animal carcinogen as an ingredient.
- ◕ Contains possible carcinogen or reproductive or developmental toxicant, or use of similar products has caused long-term toxicity.
- ● Contains known, suspected, anticipated, or probable human carcinogen as an ingredient.

III. Environmental Characteristics

A. Toxicity to Aquatic Organisms

- ○ Product presents no hazard to aquatic organisms.
- ◐ Product label warns to keep out of water.
- ◕ Product label warns of toxicity to fish or other aquatic life.
- ● Product label warns of high toxicity to fish or other aquatic life.

B. Toxicity to Other Wildlife (selectivity of active ingredients)

- ○ Practically non-toxic to birds, bees, and other beneficials.
- ◐ Selective in toxicity (e.g. toxic only to caterpillars) but still toxic to important species.
- ◕ Product label warns of toxicity to particular species or product is known to be a broad-spectrum insecticide.
- ● Poses higher-level hazards to beneficial organisms or wildlife as indicated by label warnings such as "highly toxic" or "extremely toxic."

C. Environmental Persistence

- ○ Half-life of active ingredients = 7 days or less in average soil.
- ◐ Half-life of active or toxic ingredients = 8 - 29 days.
- ◑ Half-life of active or toxic ingredients = 30 - 180 days.
- ● Half-life of active or toxic ingredients > 180 days.

Sources: Oregon State University Extension Pesticide Properties Database,[2] Agricultural Research Service/US Department of Agriculture Pesticide Properties Database,[3] or the Hazardous Substances Databank,[4] in that order.

D. Mobility (active ingredient only)

- ○ Very low to extremely low mobility in soil
- ◐ Low mobility
- ◑ Moderate mobility
- ● High to very high mobility

Source: OSU Extension Pesticide Properties Database.[2]

If you have leftover or banned chemicals in your garage, please take them for safe disposal to a household hazardous waste facility. Visit www.yardwise.org/

E. Breakdown Products

If the breakdown products of any ingredient are known to be of similar or greater toxicity, persistence, or mobility than the original compound, the ratings should be based upon both the ingredient and its metabolites.

1 EXTOXNET, The Extension Toxicology Network, Pesticide Information Profiles, http://extoxnet.orst.edu
2 Oregon State University Extension Pesticide Properties Database, http://npic.orst.edu/ppdmove.htm
3 Agricultural Research Service, US Department of Agriculture Pesticide Properties Database, http://ars.usda.gov/services/docs.htm?docid=6433
4 Hazardous Substances Databank, Toxnet, National Library of Medicine, http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB

Earth-wise designations are assigned to products where all known ratings are ○ or ◐. As with all pesticides, unknown hazards may exist and should be treated with extreme caution.

Active vs. Inert Ingredients

A pesticide product has two main components: the active ingredient(s) and the inert (other) ingredient(s). The EPA requires the manufacturer to list on the label the percent of the active ingredient only – those substances that destroy, prevent or repel a pest.

An inert ingredient is any substance in a pesticide product having no pesticidal action. Inert ingredients are typically added to improve storage, handling, application, effectiveness, or safety. The EPA does not require pesticide manufacturers to divulge inert ("other") ingredients as they are considered proprietary information.

While people may believe that inert ingredients are harmless – as the term suggests – in fact, they aren't necessarily chemically or biologically inert and can contribute substantially to the hazards of the product. Some are in fact, more toxic than the active ingredient. Since 1997, 2300 inert ingredients have been used in pesticide products and more than a quarter (26%) of the inerts used, have been identified as hazardous by state, federal or international agencies.

With the exception of the acute toxicity category which analyzes the entire pesticide product, the following toxicity comparisons rate only the active ingredients. While the information is considered extremely useful, it is limited to the available public information.

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

◯ *low* ◐ *moderate* ◑ *high* ● *highest* **NA** *not applicable*
? *unknown toxicity* *earth-wise*

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Actinovate® SP	*Streptomyces lydicus 0.037%*	◐	?	◑	◯	●	◐
	Agralawn Crabgrass Control	*Cinnamon bark 0.95%*	◯	?	◯	◯	◯	?
	Amdro® Fire Strike™ Yard Treatment Fire Ant Bait	*Hydramethylnon 0.036% Methoprene 0.25%*	◐	◑	◑	◑	◯	◐
	Amdro® Image® Nutsedge Killer	*Imazaquin 3.3%*	◐	?	◐	◯	●	◑
	Amdro® Pro Fire Ant Bait	*Hydramethylnon 0.73%*	◐	◑	◑	◑	◯	◐
	Bayer Advanced™ 2 in 1 Systemic Flower Care	*Disulfoton 0.1%*	◑	◑	●	●	◑	◑
	Bayer Advanced™ 3 in 1 Insect, Disease & Mite Control	*Tebuconazole 0.65% Imidaproclid 0.47% Tau-fulvalinate 0.61%*	◐	◐	●	●	◑	◑
	Bayer Advanced™ All-in-One Weed Killer for Lawns Concentrate	*MSMA 9.81%, 2,4-D 3.81% MCPP 1.6% Dicamba 0.79%*	◐	●	◐	◯	◯	●/◐
	Bayer Advanced™ 24 Hour Grub Killer Plus Ready-to-Spread Granules	*Trichlorfon 6.24%*	◐	◑	◑	◑	●	◐
	Bayer Advanced™ All-in-One Lawn Weed & Crabgrass Killer Ready-to-Spray	*2,4-D 4.85% Quinclorac 1.61%*	◐	◑	◑	◯	●	◐
	Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules	*Imidacloprid 0.15% Beta-cyfluthrin 0.5%*	◐	?	●	◑	◑	◑
	Bayer Advanced™ Disease Control for Roses, Flowers & Shrubs Concentrate	*Tebuconazole 2.9%*	◐	◯	◑	◯	◐	◐
	Bayer Advanced™ Fire Ant Killer Ready-to-Use Dust	*Beta-cyfluthrin 0.5%*	◐	?	●	◑	◯	◐
	Bayer Advanced™ PowerForce® Mosquito Killer Plus Outdoor Fogger	*Tetramethrin 0.15%, Permethrin 0.15%, Piperonyl butoxide 0.75%*	◐	◑	●	◑	◯	◑/◐
	Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate	*Cyfluthrin 0.75%*	◐	?	●	◑	◯	◐
	Bayer Advanced™ Snail & Slug Killer Bait	*Iron phosphate 1%*	◯	?	◐	◯	◯	N/A
	Bayer Advanced™ Tree & Shrub Insect Control Concentrate	*Imidacloprid 1.47%*	◐	?	●	◑	◑	◑
	Bioganic™ Spot Weeder Ready-to-Use	*Phenethyl proprionate 2.5% Eugenol 2.5%*	◯	?	?	◯	◯	◯
	Black Flag® Backyard Fogger	*Permethrin 0.2%, Tetramethrin 0.2%*	◐	◑	●	◑	◐	◑/◐
	Bonide® All Seasons® Horticultural Spray Oil	*Petroleum oil 98%*	◐	?	●	●	?	?
	Bonide® Fire Ant Granules	*Permethrin 0.25%*	◐	◑	●	◑	◯	◑/◐
	Bonide® Garden Dust	*Copper 7% Rotenone 0.75% Other cube resins 1.5%*	◐	◯	◑	◑	◑	◯
	Bonide® Grub Beater	*Azadirachtin 0.09%*	◐	?	◐	◑	◯	◯
	Bonide® Hot Pepper Wax Ready-to-Use	*Capsaicin and related capsaicinoids 0.184%*	◐	?	◐	◯	?	?

If you are considering a product that is not listed on this fact sheet, look for one with the 'same' active ingredient(s) -- it should have a similar toxicity rating unless the concentrations are different.

herbicide *fungicide* *insecticide* *combination*

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Bonide® Mosquito Beater Flying Insect Yard Fog	*Resemethrin 0.2%*	○	○	◐	◐	?	◕
	Bonide® Stinger Fire Ant Killer	*Bifenthrin 0.20%*	◐	?	●	◕	○	◐
🐞	Concern® Citrus Home Pest Control™	*D-limonene 5.8%*	◐	?	◕	◐	○	○
🐞	Concern® Copper Soap Fungicide®	*Copper Octonate 0.08%*	◐	○	◐	○	○	○
🐞	Concern® Insect Killing Soap	*Fatty acid soap*	◐	?	◐	○	○	○
	Concern® Multi-Purpose Insect Killer	*Pyrethrins 0.02%, PBO 0.2%*	◐	●	◕	◕	○	○
	Concern® Weed Prevention Plus™ 8-2-4	*Corn gluten 100%*	○	○	◐	○	?	?
🐞	Cutter® Advanced Insect Repellent	*Picaridin 7%*	◐	?	N/A	N/A	N/A	N/A
	Cutter® Bug Free Backyard® Concentrate	*Lambda-cyhalothrin 0.5%*	◕	◐	◕	◕	◐	◕/◐
	Diatect® Multi-purpose	*Pyrethrins 0.2% PBO 1.0% Silicone dioxide 82%*	◐	●	◕	◕	○	○
	Diatect® Results Fire Ant Control	*Pyrethrins 0.2% PBO 1.0% Silicone dioxide 82%*	◐	●	◕	◕	○	○
🐞	Ecosmart® Organic™ Insect Repellent	*Rosemary Oil 0.5% Cinnamon Leaf Oil 0.5% Lemongrass 0.5 Geranoil 1%*	◐	?	N/A	N/A	N/A	N/A
	Eliminator® Bug & Snail Bait	*Metaldehyde 2%, Carbaryl 5%*	◐	◕	◐	●	◐	◐
	Eliminator® Liquid Edger	*Sodium cacodylate 0.53%, Cacodylic acid 0.09%*	◕	●	◕	◕	○	●/◕
	Fertilome® Borer Bagworm, Leafminer & Tent Caterpillar Spray	*Spinosad 0.5%*	◐	?	◕	◕	○	◐
	Fertilome® Broad Spectrum Landscape & Garden Fungicide	*Chlorothalonil 12.5%*	◕	●	◕	○	◐	◕/◐
	Fertilome® Crabgrass, Nutgrass & Dallisgrass Killer	*Monosodium acid methanearsonate 13.2%*	◐	●	◐	○	○	◕
🐞	Fertilome® Dormant Oil	*Parrafinic oil 98%*	◐	?	◐	○	○	◐
	Fertilome® F Stop Lawn Fungicide	*Myclobutanil 0.39%*	◐	◕	●	●	◐	◕
	Fertilome® Halt Systemic Rose, Flower, Lawn & Ornamentals Fungicide	*3-thioallophanate 50%*	○	◐	◕	◕	◕	○
	Fertilome® Liquid Systemic Fungicide	*Propiconazole 1.55%*	◐	◐	◕	◕	◐	◐
🐞	Fertilome® Weed & Feed Special 20-0-4	*Simazine 0.63%*	○	◐	○	○	○	◐
🐞	Finale® Weed and Grass Killer Concentrate	*Glufosinate-ammonium 1.0%*	◐	◐	◐	◐	?	○
	Garden Safe® Fungicide 3-in-1 Ready-to-Use	*Neem Oil 0.9%*	◐	?	◐	◕	○	○
	Garden Tech® Over'n Out!™ Fire Ant Killer Granules	*Fipronil 0.0103%*	◐	○	◕	◕	○	◕
🐞	Garden Tech® Over'n Out!™ Fire Ant Killer Mound Treatment	*Indoxacarb 0.008%*	◐	?	◐	◐	?	?
	GardenTech® Sevin® Daconil® Ready-to-Use	*Chlorothalonil 0.087%*	◕	●	◕	○	◐	◕/◐

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ *low* ◐ *moderate* ◑ *high* ● *highest* **NA** *not applicable*
? *unknown toxicity* *earth-wise*

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Bonide® Mosquito Beater Flying Insect Yard Fog	*Resemethrin 0.2%*	○	○	◐	◐	?	◑
	Bonide® Stinger Fire Ant Killer	*Bifenthrin 0.20%*	◐	?	●	◑	○	◐
	Concern® Citrus Home Pest Control™	*D-limonene 5.8%*	◐	?	◑	◐	○	○
	Concern® Copper Soap Fungicide®	*Copper Octonate 0.08%*	◐	○	◐	○	○	○
	Concern® Insect Killing Soap	*Fatty acid soap*	◐	?	◐	○	○	○
	Concern® Multi-Purpose Insect Killer	*Pyrethrins 0.02%, PBO 0.2%*	◐	●	◑	◑	○	○
	Concern® Weed Prevention Plus™ 8-2-4	*Corn gluten 100%*	○	○	◐	○	?	?
	Cutter® Advanced Insect Repellent	*Picaridin 7%*	◐	?	N/A	N/A	N/A	N/A
	Cutter® Bug Free Backyard® Concentrate	*Lambda-cyhalothrin 0.5%*	◑	◐	◑	◑	◐	◑/◐
	Diatect® Multi-purpose	*Pyrethrins 0.2% PBO 1.0% Silicone dioxide 82%*	◐	●	◑	◑	○	○
	Diatect® Results Fire Ant Control	*Pyrethrins 0.2% PBO 1.0% Silicone dioxide 82%*	◐	●	◑	◑	○	○
	Ecosmart® Organic™ Insect Repellent	*Rosemary Oil 0.5% Cinnamon Leaf Oil 0.5% Lemongrass 0.5 Geranoil 1%*	◐	?	N/A	N/A	N/A	N/A
	Eliminator® Bug & Snail Bait	*Metaldehyde 2%, Carbaryl 5%*	◐	◑	◐	●	◐	◐
	Eliminator® Liquid Edger	*Sodium cacodylate 0.53%, Cacodylic acid 0.09%*	◑	●	◑	◑	○	●/◑
	Fertilome® Borer Bagworm, Leafminer & Tent Caterpillar Spray	*Spinosad 0.5%*	◐	?	◑	◑	○	◐
	Fertilome® Broad Spectrum Landscape & Garden Fungicide	*Chlorothalonil 12.5%*	◑	●	◑	○	◐	◑/◐
	Fertilome® Crabgrass, Nutgrass & Dallisgrass Killer	*Monosodium acid methanearsonate 13.2%*	◐	●	◐	○	○	◑
	Fertilome® Dormant Oil	*Parrafinic oil 98%*	◐	?	◐	○	○	◐
	Fertilome® F Stop Lawn Fungicide	*Myclobutanil 0.39%*	◐	◑	●	●	◐	◑
	Fertilome® Halt Systemic Rose, Flower, Lawn & Ornamentals Fungicide	*3-thioallophanate 50%*	○	◐	◑	◑	◑	○
	Fertilome® Liquid Systemic Fungicide	*Propiconazole 1.55%*	◐	◐	◑	◑	◐	◐
	Fertilome® Weed & Feed Special 20-0-4	*Simazine 0.63%*	○	◐	○	○	○	◐
	Finale® Weed and Grass Killer Concentrate	*Glufosinate-ammonium 1.0%*	◐	◐	◐	◐	?	○
	Garden Safe® Fungicide 3-in-1 Ready-to-Use	*Neem Oil 0.9%*	◐	?	◐	◑	○	○
	Garden Tech® Over'n Out!™ Fire Ant Killer Granules	*Fipronil 0.0103%*	◐	○	◑	◑	○	◑
	Garden Tech® Over'n Out!™ Fire Ant Killer Mound Treatment	*Indoxacarb 0.008%*	◐	?	◐	◐	?	?
	GardenTech® Sevin® Daconil® Ready-to-Use	*Chlorothalonil 0.087%*	◑	●	◑	○	◐	◑/◐

If you are considering a product that is not listed on this fact sheet, look for one with the 'same' active ingredient(s) -- it should have a similar toxicity rating unless the concentrations are different.

herbicide | fungicide | insecticide | combination

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity acute	human toxicity chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Ortho® Bug-B-Gon® Max® Season Long Insect Killer for Lawns	Bifenthrin .115%	◐	?	●	◑	○	◐
	Ortho® Bug-Geta® Snail & Slug Killer	Metaldehyde 3.25%	◐	?	◐	●	◐	◐
	Ortho® Ecosense™ Brand Disease Control	Copper Octonate 0.08%	◐	○	◐	○	○	○
	Ortho® Ecosense™ Brand Insecticidal Soap	Potassium salt of fatty acid soap 1.0%	◐	?	◐	○	○	○
	Ortho® Ecosense™ Brand Organic Weed & Grass Killer	2-phenethyl propionate 2.5% Eugenol 2.5% Sodium laurel sulfate .05%	○	?	?	○	○	○
	Ortho® Max Season Long ® Weed & Grass Killer Plus Preventer Ready-to-Use	Glyphosate 0.25% Oxyfluorfen 0.25%	○	?	◐	○	○	◑
	Ortho® Max® Fire Ant Killer Broadcast Granules	Bifenthrin 0.1%	◐	?	●	◑	○	◐
	Ortho® Max® Tree & Shrub Insect Control	Imidacloprid 1.47%	◐	?	●	◑	◑	◑
	Ortho® Orthene® Fire Ant Killer	Acephate 50%	◐	◑	◐	●	◐	◐
	Ortho® Orthenex® Garden Insect & Disease Control Concentrate	Acephate 4%,Triforine 3.25%, Fenbutatin-oxide 0.75%	◐	◑	◐	●	◐	◐
	Ortho® Volck® Oil Spray	Petroleum oil 97%	◐	?	●	●	?	?
	Ortho® Weed-B-Gon Max® Plus Crabgrass Control Ready-to-Use	2,4-D 0.12%, Dicamba quniclorac 0.10% MCPP 0.22%	◐	◑	◐	○	●	◐
	Ortho® Weed-B-Gon® Crabgrass Killer for Lawns	Calcium acid methanearsinate 0.50%	◐	●	◐	○	○	●/◐
	Ortho® Weed-B-Gon® Spot Weed Killer for St Augustine Lawns	Atrazine 0.60%	◐	◑	◑	○	●	◑
	Preen® Garden Weed Preventer	Trifluralin 1.47%	◐	?	●	◐	○	◐
	Repel® Lemon Eucalyptus Insect repellent	P-menthane	◐	?	N/A	N/A	N/A	N/A
	Roundup® Poison Ivy & Tough Brush Killer Plus Ready-to-Use	Glyphosate 1% Triclopyr 0.1%	◐	?	◐	○	○	◑
	Roundup® Weed & Grass Killer Super Concentrate	Glyphosate 50.2%	◐	?	◐	○	○	◑
	Safer® 3 in 1 Spray	Potassium salt of fatty acid .75% Sulfur .40%	◐	?	◐	○	○	○
	Safer® Garden Fungicide	Sulfur 12%	○	?	○	○	○	N/A
	Safer®Fire Ant Killer	d-limonene 78%	◑	?	◐	◐	○	○
	SC Johnson Off!® Power Pad Lamp	D-CIS/transallenthrin 21.97%	◐	?	●	◑	◐	◐
	SC Johnson Off® Mosquito Coil For Outdoor Use	D-CIS transallethrin 0.33%, Sodium benzoate 0.15%	◐	?	●	◑	◐	◐
	Scotts® Bonus® S Max Southern Weed and Feed & Fire Ant Killer	Bifenthrin 0.110%, Atrazine 1.089%	◐	◑	●	◑	●	◑
	Scotts® Bonus® S Southern Weed and Feed	Atrazine 1.055%	◐	◑	◑	○	●	◑

product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

Toxicity/Threat:

○ low ◐ moderate ◑ high ● highest **NA** not applicable
? unknown toxicity 🐞 earth-wise

Hazards:

note	Product Name	active ingredient(s) / concentrations	human toxicity: acute	human toxicity: chronic	aquatic life	birds, bees, pets	soil mobility	environmental persistence
	Scotts® GrubEx® Season-Long Grub Killer	*Imidacloprid*	◐	?	●	◑	◑	◑
	Scotts® Lawn Fungus Control	*Thiophanate-methyl 2.3%*	◐	●	◐	○	○	◐
	Scotts® Turf Builder® Halts® Crabgrass Preventer	*Pendimethalin 1.71%*	◐	○	◑	◐	○	◑
	Scotts® Turf Builder® WinterGuard™ PLUS 2® Weed Control	*2,4-D 1.04% MCPP 0.52%*	◐	◑	◑	○	●	◐
	SedgeHammer™	*Halosulfuron - methyl 75%*	◐	◐	◐	○	◑	?
🐞	Serenade® Disease Control	*Bacillus subtilis 1.34%*	○	○	○	○	○	○
🐞	Serenade® Lawn Disease Control	*Bacillus subtilis 1.34%*	○	○	○	○	○	○
	Spectracide® Fire Ant Killer Granules Mound Destroyer™	*Lambda-cyhalothrin 0.04%*	◑	◐	◑	◑	◐	◑/◐
🐞	Spectracide® Fire Ant Killer Plus Preventer Bait Once & Done!™	*Indoxacarb 0.016%*	◐	?	◐	◐	?	?
	Spectracide® Grub Stop™ Once & Done!™	*Halofenozide 1.5%*	◐	?	●	◐	○	◐
	Spectracide® Immunox® Plus Insect & Disease Control	*Myclobutanil 0.78%* *Permethrin 1.25%*	◐	◑	●	●	◐	◑/◐
	Spectracide® Malathion Concentrate	*Malathion 50%*	◐	?	◑	●	○	◐
	Spectracide® Poison Oak & Poison Ivy Brush Killer EZ Spray™	*2,4-D 0.493%* *2-methy-4-chlorophenoxy*	◐	◑	◑	○	●	◐
	Spectracide® Triazicide® Once and Done!™ Insect Killer Ready-to-Use	*Cyhalothrin 0.25%*	◑	◐	◑	◑	◐	◑
🐞	Spectracide® Weed & Grass Killer Concentrate	*Diquat dibromide 2.3%%* *fluazifop-p-buytl 1.15%%* *Dicamba 0.77%*	◐	?	◐	○	◐	○
	Spectracide® Weed Stop® 2x for Lawns Concentrate	*2,4-D 7.57%, Dicamba 0.71%,* *MCPP 2.73%, Sulfentrazone 0.18%*	◐	◑	◑	○	●	◐
🐞	Summit® Mosquito Dunks	*B.t. israeliensis 10.31%*	◐	?	○	○	N/A	○
🐞	TomCat® Fire Ant Killer Granules	*Indoxacarb 0.008%*	◐	◐	◐	◐	?	◐
🐞	True Stop™ Fire Ant Killer	*Rotenone 0.25% Other resins 0.30%*	◐	◐	◐	◐	○	○
	Vigoro® Ultra Weed & Feed 28-3-3	*2,4-D 0.64%, MCPP 0.16%,* *Dicamba 0.03%*	◐	◑	◐	○	●	◐
	Vigoro® UltraTurf™ St. Augustine Weed & Feed with Atrazine 29-3-5	*Atrazine 1.102%,* *Related compounds 0.058%*	◐	◑	◑	○	●	◑

The City of Austin and the Texas Cooperative Extension provide this information as a comparative reference only. Listing of specific product trade names does not constitute an endorsement of its use. Many other pesticides and pesticide products are available and may be suitable for use other than those listed in these tables.

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Education Program, Texas Cooperative Extension who can be reached for questions at (979) 862-1035. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

City of Austin
WATERSHED PROTECTION
974-2550

AgriLIFE EXTENSION
Texas A&M System
854-9600

04/10

grow green

earth-wise guide to

Landscape Design

The purpose of this fact sheet is to provide background information on creating a green garden for either the do-it-yourselfer of for those working with a landscape professional

benefits of a green garden:

- Reduce water usage
- Reduce the need for pesticides and fertilizers
- Lower the overall impact on the surrounding environment
- Provide wildlife habitat
- Preserve the look and feel of Central Texas

steps to a green garden:

- Analyze conditions in your yard
- Start with a plan
- Plant trees to create shade
- Incorporate techniques to keep water on the land
- Select tough plants

Choose a style or design that appeals to you (clockwise from top left): The structural elegance of sun-loving xeric plants or the bright colors of a cottage garden, a tailored formal yard or an innovative rain garden.

Green Garden, Central Texas Style

Green Gardens come in many styles. They range from cottage gardens full of color, to soothing Zen gardens, to hot cactus rock gardens. Each of these styles can be created using a plant palette tailored to the unique conditions of the Central Texas area, and more specifically, to the conditions in your own yard. An array of native and adapted plants makes a Green Garden a beautiful, earth-friendly landscape that reflects the character of our local environment, and gives your yard and your community a distinct sense of place.

In addition, Green Gardens require less water and are less prone to insect and disease problems and the need for chemical maintenance. Less chemical input reduces pollution in our creeks and streams. By creating a Green Garden, you are helping to protect Austin's environment one yard at a time.









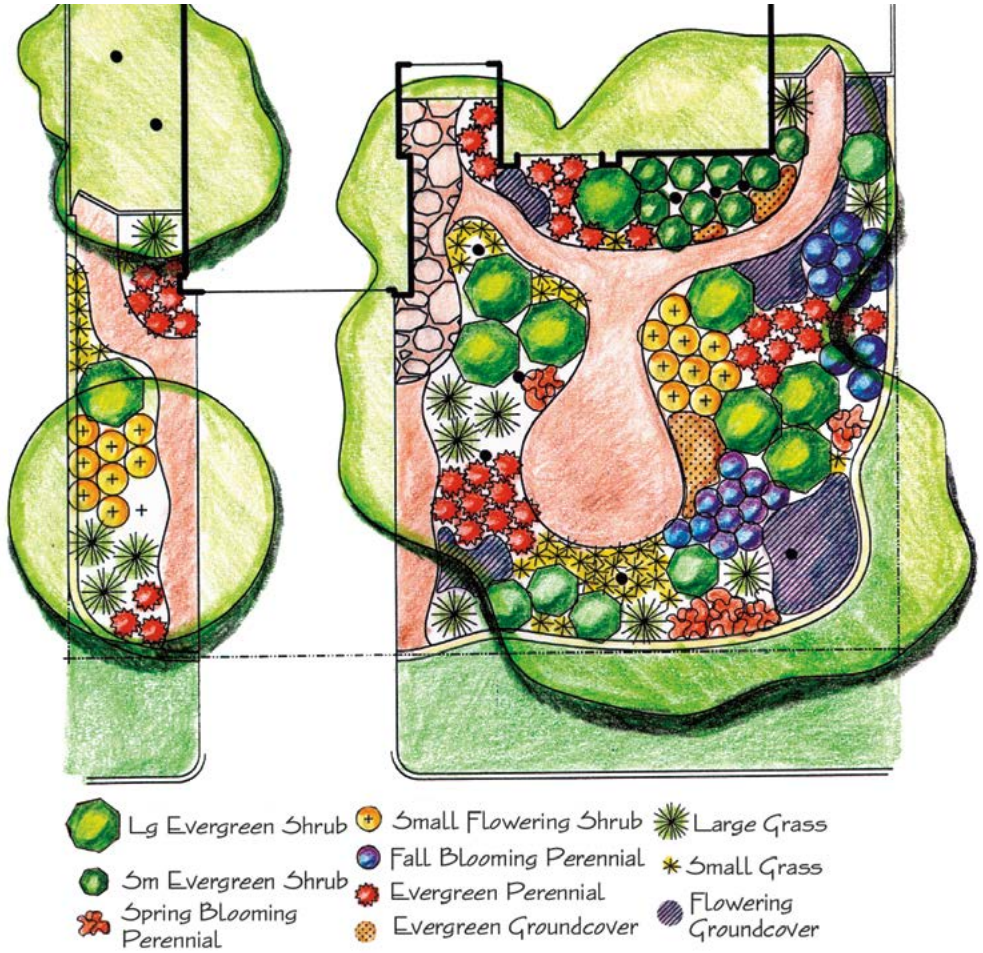
Planning is...

...the evaluation of what you already have in your landscape, and the creation of a clear road map to what you would like to achieve. Begin with the end in mind!

- **Lifestyle** - Think about **how you use your yard now**, and how you would like to use it in the future, so you can design with those needs in mind. Lawns can demand significant maintenance (time, chemicals and water), so minimize turf areas when possible
- **Current Conditions** - Evaluate the **current conditions in your yard**...where are the sun and shade? What views would you like to hide or enhance? How can you accommodate difficult conditions such as steep slopes, deer, problem soils or poor drainage?
- **Seasons** - Take into account the **different seasons**. For example, many landscapes look great in spring, but lack winter interest. Once identified, this problem is easily corrected by adding a few interesting structural plants or evergreens
- **Budget** - Realize that landscaping can be costly. As a rough estimate, **allow for a budget** of $3-5 per square foot to be landscaped if you are doing the work yourself. Then create a budgetary timeline for completion of your project
- **Timing** - Implement your plan in the following sequence:
  - Install hardscapes (sidewalks, paths, edges, etc.) and underground irrigation system if desired. *Installing hardscapes after planting endangers plants that are already in the ground*
  - Create beds before planting turf
  - Plant trees and shrubs
  - Install beds according to your own priorities – complete them in the order that is most satisfying to you

Optional Plan Layouts

The Details:



The Look:





Taking photos may help you to better analyze your current conditions. Use tracing paper over a "before" photo to outline existing features and then pencil in new plants and beds. Incorporate plants of different heights, structures and textures to add aesthetic interest.

KEEP WATER ON THE LAND

With increased population growth and smaller lots, much of our land is being covered with roadways, rooftops, parking lots and sidewalks that do not let water soak into the soil. This decreases baseflow (the constant flow in a creek) while increasing the chances of flooding and streambank erosion. The result is that many creeks have excessive flow during heavy rains and dry up shortly afterwards.

You can help both our waterways and your drainage problems by incorporating some "greenscape" techniques into your landscape plans.

Gutter downspouts

Direct downspouts to either
a) vegetated areas rather than pavement to allow water to soak in rather than run off or
b) underground to a rain garden

Rainwater Harvesting

By directing rooftop gutters to a rain barrel, you can then use the collected rainwater on areas of the land that most need water.

Swale or "Dry Creekbed"

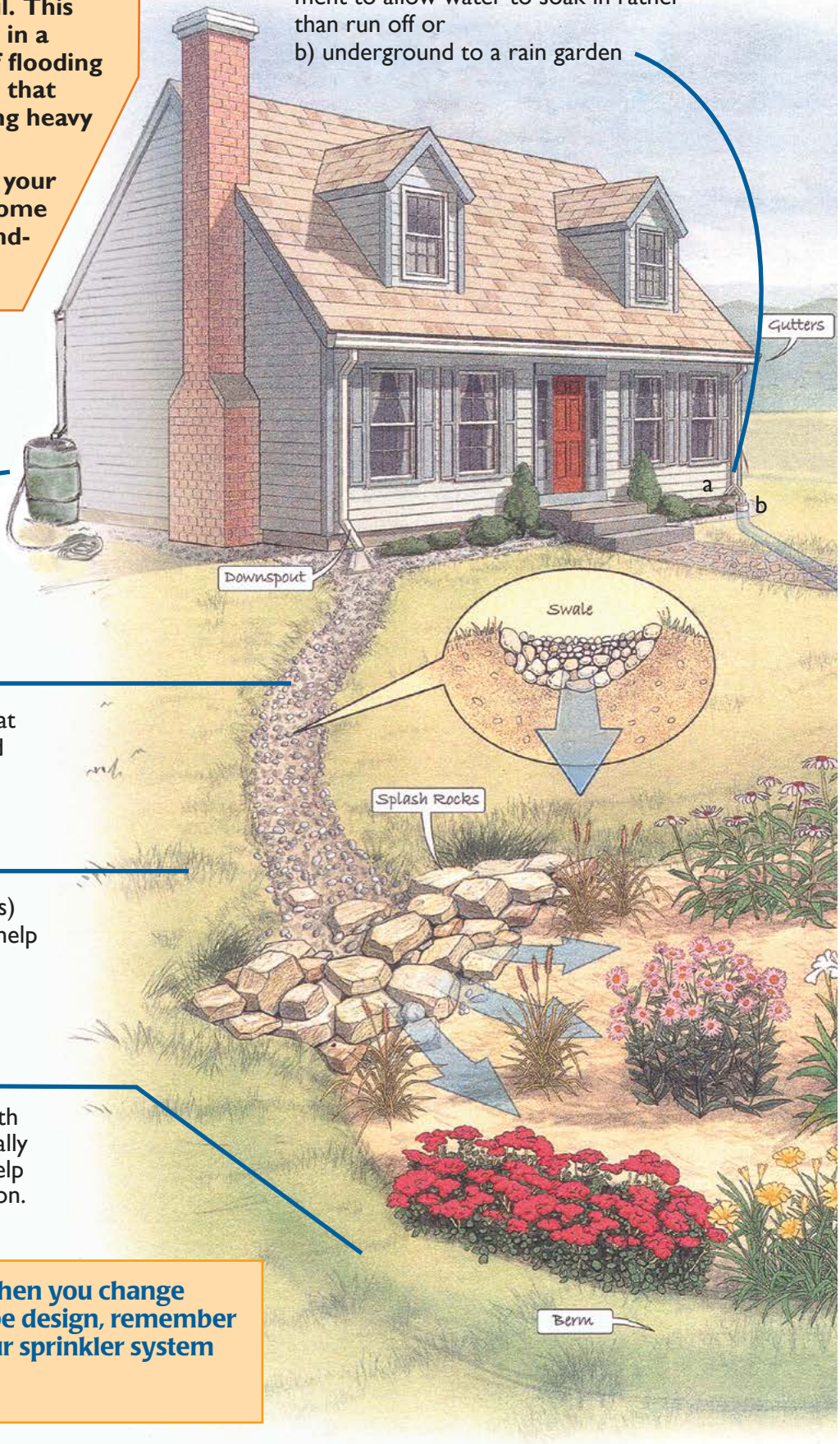
Installing a stone or grassed channel that directs rainwater to an area of the yard where it can be better absorbed.

Soils

At least 4 inches (and ideally 6-8 inches) of organic topsoil should be added to help keep nutrients and water on the land.

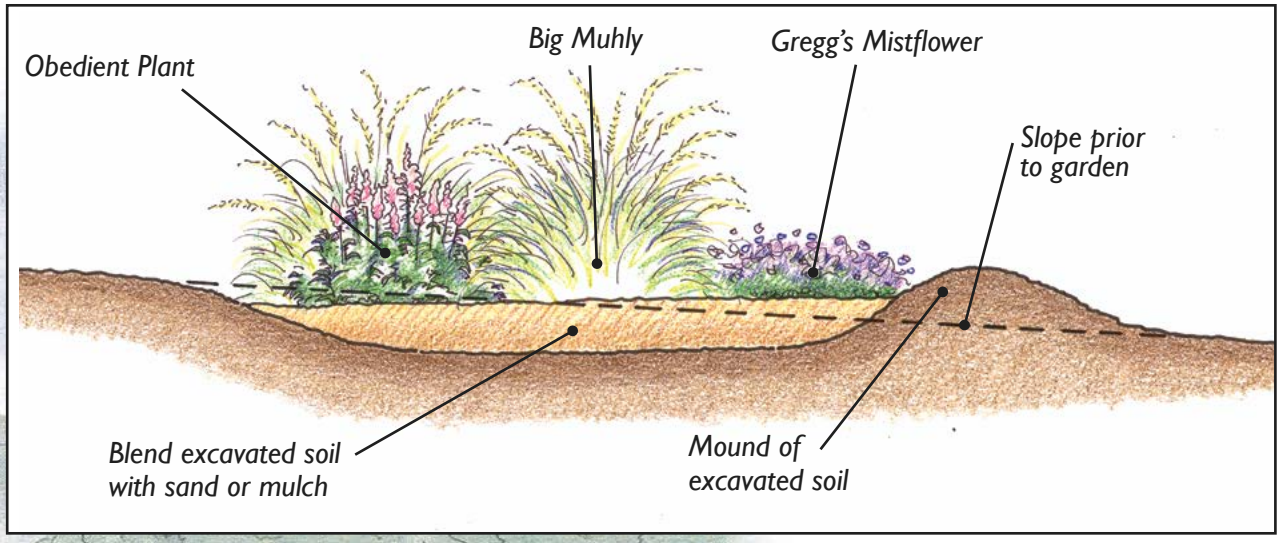
Berm

This could be a mound of earth or a low stone wall. It is typically at the bottom of a slope to help retain water or prevent erosion.



Reminder: When you change your landscape design, remember to change your sprinkler system as well!

Cross Section: Rain Garden



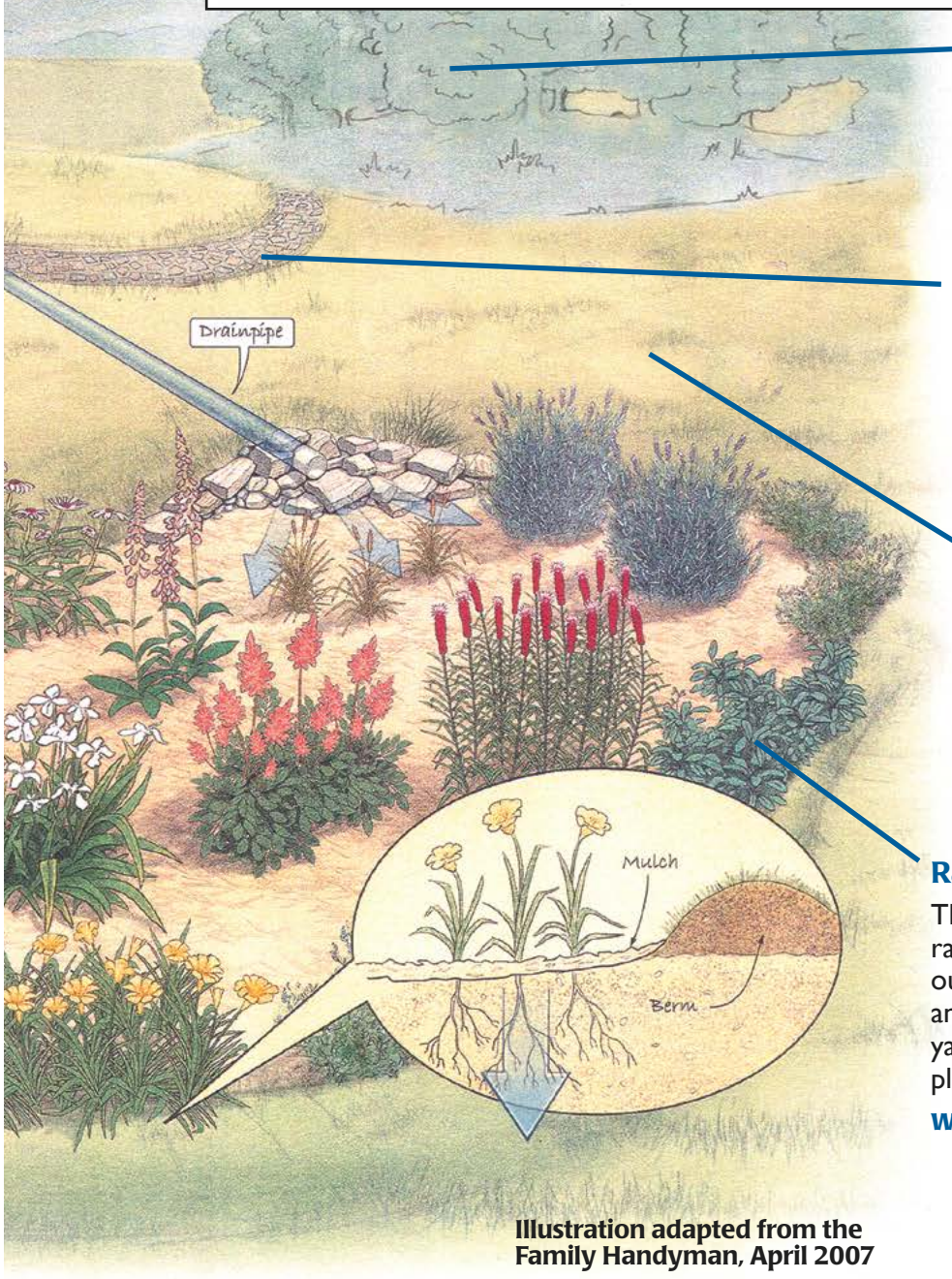


Illustration adapted from the Family Handyman, April 2007

Trees

Plant disease-resistant natives to promote water retention, improve air quality, provide shade and habitat.

Porous Pavement

An alternative to asphalt, porous materials contain voids to encourage water to infiltrate the land. Some options include bark mulch, gravel, pervious concrete, paving stones and tumbled glass.

Your Lawn As a Filter

Grass slows down water flow and allows infiltration. Lawn does best in an area that is nearly level and should not be treated with chemicals in order to reduce the potential for water pollution.

Rain Gardens

These gardens are designed to catch and store rainfall for short periods of time and then dry out; they can be filled with attractive plants and often help solve drainage issues in the yard. For details on rain garden design and plant choices, see the following page and visit **www.growgreen.org/plants.htm.**

Transition is...

...the logical and efficient way to convert your yard to a green garden. For more information look for the Grow Green Installation and Maintenace fact sheet



1. *The original yard had a typical suburban look – a single row of shrubs near the house and a large area of St. Augustine grass.*



2. *Th remove neighb added plants An irrig installe*





5. *The finished product – a green garden with textural and seasonal variety for all to enjoy!*



Step-by-Step Transition

St. Augustine was and donated to a Enriched soil was maintain healthier d to conserve water. ion system would be at this time.





3. *Walkways and landscape beds were installed to set the framework for the yard.*



4. *Trees and plants were placed to anticipate growth and shade*

Design is...

... the arrangement of plant and structural elements to satisfy your landscape plan

Use graph paper to draw up your design, and choose a scale of 1 inch =10 feet (10 little squares per inch on your paper). This scale is good for many residential size projects, and using graph paper facilitates the placing of plants when you are ready for installation

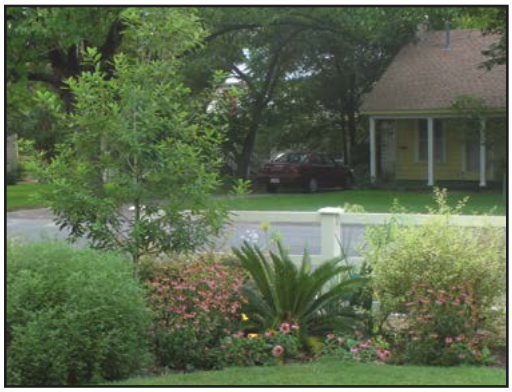
Consider the following in your design:



- **Proportion** - keep the size of your plants proportional to the house and environment around you, i.e., smaller plants for smaller spaces, larger plants for larger spaces



- **Variation in height** - an interesting design has a variety of plant heights, from groundcover underfoot to vines and trees overhead



- **Combination of evergreen and deciduous plants** - having only evergreen plants creates a static, unchanging landscape, yet deciduous plants often have no winter appeal. Use a combination of both



- **Plant texture** - coarse-textured plants have large sturdy leaves that stand still and silent; fine-textured plants have feathery leaves that dance in the wind. Use a combination for added interest



- **Seasonal interest** - choose plants for interest in each season – structure, berries and bark for winter, flowers and foliage for the other seasons

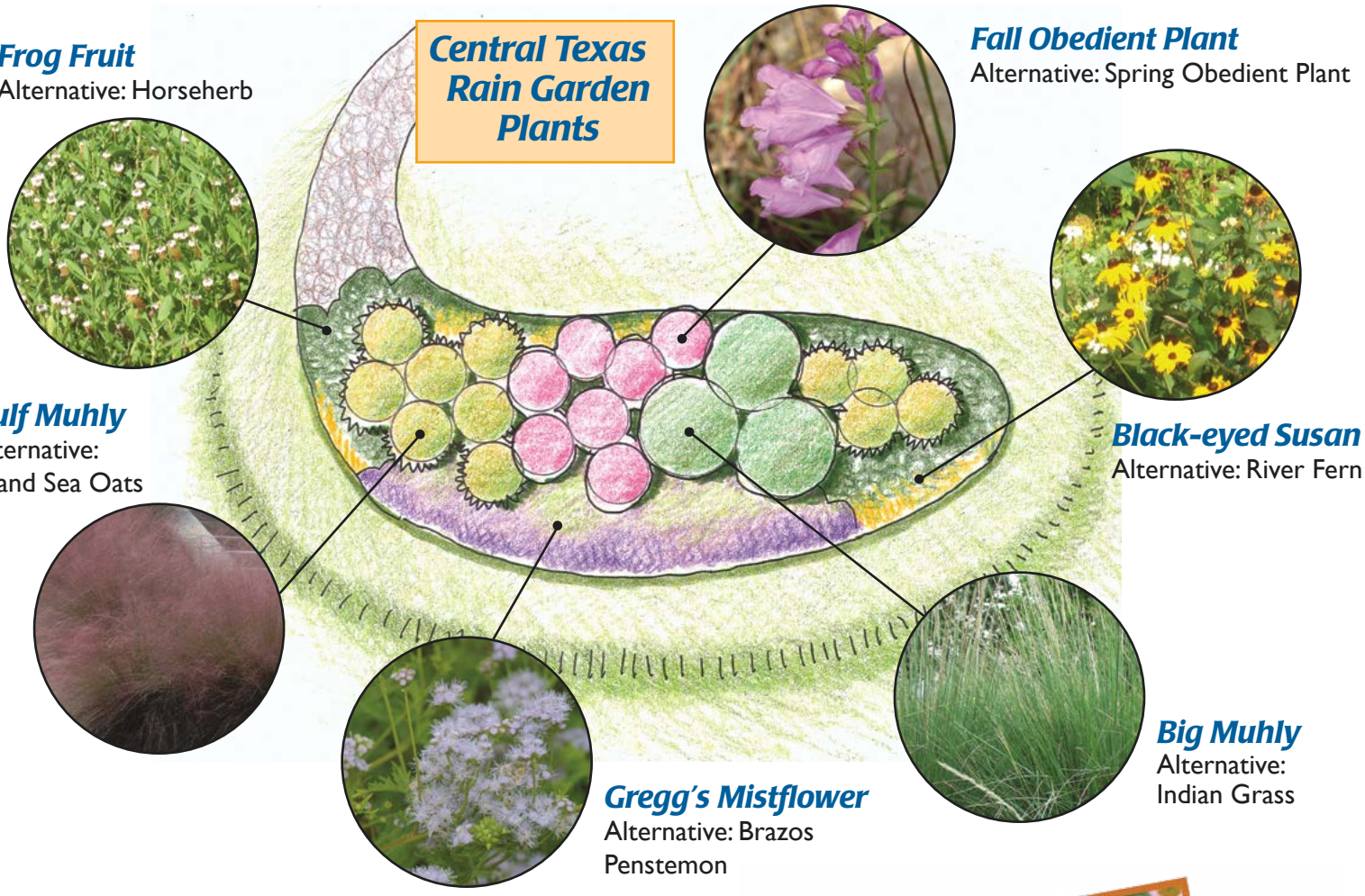


- **Foliage color** - if flowers aren't in season it is possible to have a colorful landscape using plants with different foliage color

- **Plant Choice and Placement**
  - See the Grow Green Native and Adapted Landscape Plant Guide for plants that thrive in central Texas. Copies are available at all Grow Green nurseries or online at www.growgreen.org
  - Even native and well-adapted plants can have differing water and drainage requirements. Choose mainly drought-tolerant plants, and group them with others of similar needs
  - If you select a few more water-needy plants, group them together, and close to a source of water
  - Put the right plant in the right place - shade-loving plants in the shade, and sun-loving plants in the sun
  - Pay careful attention to plant spacing. Even the tiniest acorn grows into a mighty oak. Plant young plants according to their adult space requirements to minimize crowding, pest and disease problems
  - Design your yard to create more shade. It is an excellent way to save on water and cooling costs through the summer months

Plants to Avoid - *Avoid invasive plants that escape from yards to take over natural areas. They choke out native species and upset the balance of the surrounding ecosystem. For a list of earth-wise plants, look for a copy of the* ***Grow Green Native and Adapted Landscape Plant Guide****, or check the web at* ***www.growgreen.org***

Central Texas Rain Garden Plants



Frog Fruit
Alternative: Horseherb

Fall Obedient Plant
Alternative: Spring Obedient Plant

Gulf Muhly
Alternative:
Inland Sea Oats

Black-eyed Susan
Alternative: River Fern

Big Muhly
Alternative:
Indian Grass

Gregg's Mistflower
Alternative: Brazos
Penstemon

KEEP DIRT AND MULCH OUT OF THE STORM DRAIN!

Soil is one of our most common pollutants. Bare dirt can erode during rainfall and travel to our creeks, clogging waterways, damaging fish gills and carrying chemicals with it.

Solutions:

- Plant or mulch any bare soil
- Stabilize eroded areas as needed
- Install erosion controls if you are doing construction or landscaping projects

Caution: If you mulch a sloped area, make sure to contain any loose materials with edging so a heavy rain doesn't wash it away.



For a landscape design template that fits your needs and style, visit www.growgreen.org and click on Landscape Design!

Become a Backyard Habitat

Austin is one of America's first Wildlife Habitat Communities!
Learn how to certify your yard by visiting the
National Wildlife Foundation website at
www.nwf.org/backyard/

www.growgreen.org

City of Austin
WATERSHED PROTECTION
512-974-2550

TEXAS A&M AGRILIFE EXTENSION
512-854-9600

03/16

earth-wise guide to

Hiring a Landscape Professional



this fact sheet is a guide to help you choose a professional who practices earth-wise principles

General Information:

The State of Texas requires licenses for:

- pest and weed control
- irrigation systems installation

The State of Texas does not require licenses for:

- mowing and yard care
- tree pruning

Resources:

Green Garden Certified Professionals
www.ci.austin.tx.us/greengarden/certified_professionals.htm

American Society of Landscape Architects (Austin)
www.texasasla.org www.asla.org

International Society of Arboriculture
(217) 355-9411 www.iso-arbor.com

Texas Commission on Environmental Quality (Irrigation Licensing)
(512-463-7407 www.tceq.org

Texas Nursery and Landscaping Association (512) 280-5182
www.txnla.org/search/index.html

Texas Structural Pest Control Board
(512) 305-8250 www.spcbtx.org

Designers:

Questions	Answers
Do you plan to use or reuse the materials (rocks, plants, etc.) that are already on the site?	Reuse of materials reduces energy needs for transporting materials onsite and saves money
What type of materials would you bring on site for hardscapes?	The goal is to keep water on the land in order to to prevent runoff of landscape chemicals; therefore, porous materials are preferred
What techniques would you use to keep rainwater on the land?	Techniques such as raingardens, and rainwater harvesting are beneficial. See www.growgreen.org/downloads/landscaping.pdf
Can you tell me if there are any invasive species on the property, and if so, what would you recommend doing with them?	Ideally, invasive species should be removed if practical and plant is not providing another benefit (e.g., it is the only shade-producing tree on the site)
Do you use primarily native and adapted plants of central Texas?	See www.growgreen.org/plants.htm for a recommended plant list for general landscaping needs
What type of plants would you use to provide food for wildlife?	For detailed information on which types of wildlife you'd like to attract, visit http://www.nwf.org/backyard/tipsheets.cfm
What elements would you include to provide wildlife habitat?	Food, water and cover are the primary requirements for a wildlife habitat. See www.keepaustinwild.com for details.

Irrigators:

Questions	Answers
Are you a licensed irrigator?	The State of Texas requires this license for in-ground systems
What are the environmental features on the equipment you install?	Multiple stations and varied head types are usually required for optimal efficiency, i.e., soaker hoses and drip irrigation reduce runoff and are 20% more efficient than sprayers
How do you prevent runoff and evaporation from the system?	Make sure spray and rotor heads are installed correctly and adjusted to keep water in the landscape and out of the street or off of hardscaped areas. Proper pressure is critical to avoiding over-spray and contributing to evaporation.
Can you tell me about the City of Austin's watering restrictions?	Visit www.waterwiseaustin.org
Are you on the City's Waterwise Irrigation Professionals List?	Visit www.ci.austin.tx.us/watercon/downloads/WWIPlist.pdf

Pest Control Operators/ Companies:

Questions	Answers
Are you a licensed pest control operator?	The State of Texas requires this license for chemical treatments
Do you use organic pest controls?	In general, organic products have the least impact on the environment because they are natural and more often slow release
Do you practice Integrated Pest Management which calls for properly identifying a problem and treating with the least toxic solution first or do you provide regularly scheduled chemical prevention methods?	Regularly scheduled controls are not recommended. In general, contractors should monitor often and treat only problems
Will you show me the problem before treating?	Proper diagnosis is critical to identifying the best treatment or action to take
Do you test the soil before applying fertilizer?	A soil test will provide the most accurate identification of your soil's needs.
Do you use organic or chemical fertilizer?	Organic is preferred because it is slow release
Are you familiar with the City of Austin recommendations for reduced fertilizer use?	In general, use 1/2 lb. of nitrogen no more than 2 times per year. Visit www.ci.austin.tx.us/growgreen/fertsolutions.htm
Do you apply fertliizer before rainfall?	Austin's rainfall is unpredictable; excessive rain can cause runoff sending your fertilizer to our waterways

Maintenance Professionals:

Questions	Answers
Do you use any alternative fuel equipment?	Hand-, propane-, or electric-powered are good alternatives
How do you recycle plant debris?	Cut down trees can be reused as mulch; other plant materials can be composted on site, taken to a reputable recycling center or put in pre-purchased lawn bags which can be picked up by the City with the trash to be made into Dillo Dirt
Do you leave grass clippings on the lawn or use a mulching mower?	Grass clippings should be left on the lawn to return nutrients to the lawn naturally and reduce waste in our landfills
How much mulch do you think is necessary in flower beds?	At least 2" at establishment and an additional 1" to maintain cover at all times
Do you test the soil before applying fertilizer?	A soil test will provide the most accurate identification of your soil's needs
Do you use organic or chemical fertilizer?	Organic is preferred because it is slow release
Are you familiar with the City of Austin recommendations for reduced fertilizer use?	For full details of the City's recommendations, visit www.ci.austin.tx.us/growgreen/fertsolutions.htm
Do you apply fertliizer before rainfall?	Austin's rainfall is unpredictable; excessive rain can cause runoff sending your fertilizer to our waterways
Do you leave grass and flower seedheads for wildlife?	These are an important food source

Tree Care:

Questions	Answers
Are you a certified arborist?	Though a license is not required by the State of Texas, an arborist is recommended for severe problems

www.growgreen.org
www.cityofaustin.org/greengarden
For Green Builders, visit
www.cityofausitn.org/greenbuilder

City of Austin
WATERSHED PROTECTION
974-2550

AgriLIFE EXTENSION
Texas A&M System
854-9600

02/10

Planning & Zoning Commission Meeting
August 1, 2023
Agenda Item Transmittal

Agenda Title:	Discuss and consider action on Site and NPS Plans for the Pearl multi-family development located at 13400 Bee Cave Parkway, Bee Cave, TX for the following: a. The Pearl at Bee Cave b. Lot 3 Hill County Galleria – Cross Access Driveway Improvements c. Bee Cave Parkway Improvements d. Crescent Tract Improvements
Commission Action:	Consider Recommendation to Approve or Deny
Initiating Department:	Planning & Development
Staff Contact:	Kevin Sawtelle, City Engineer

1. INTRODUCTION/PURPOSE

The purpose of this agenda item is to consider four (4) site plan approvals for the Pearl at Bee Cave multi-family development generally located northeast of the intersection of RR 620 and Bee Cave Parkway. While these site plans are being opened under a single agenda item, consideration of a recommendation to approve or deny will need to consist of four (4) separate motions.

a. **The Pearl at Bee Cave** is a proposed development that will consist of eight (8) multifamily buildings including 318 units, one (1) townhouse building including 4 dwelling units, one (1) amenity center, and one (1) leasing office on approximately 13.4-acres to be constructed in one (1) phase.

b. **Lot 3 Hill Country Galleria – Cross Access Driveway Improvements** is an access drive across the intervening lot between connecting the two Pearl PDD Tracts; the multi-family tract and the townhome tract that will be considered under a separate site plan in the future.

c. **Bee Cave Parkway Improvements** are plans for a 2,400 linear foot right turn lane addition on westbound Bee Cave Parkway which extends the entire frontage of the Pearl properties, traffic signal arm improvements at RR 620 and Bee Cave Parkway, a new traffic signal at the existing main entrance into the Galleria Oaks office complex, which alights with what will become the entrance to the townhome tract, and a cross walk across Bee Cave Parkway equipped with a pedestrian hybrid beacon.

d. **Crescent Tract Improvements** consist of trail and landscaping improvements on the Crescent Tract located across Bee Cave Parkway from the Pearl multi-family development.

The full sets of plans and engineering report are available to download HERE as they are too large to attach to the agenda item.

The property is located at the northeast corner of RM 620 and Bee Cave Parkway and is situated on two (2) existing platted lots – Lots 1 and 2, Block B, Amended Final Plat Hill Country Galleria of Lots 1-8 and 10-26, Block A, Lots 1-3 and 5-8, Block B and Lot 1, Block C, Document No. 200700378 of the official public records of Travis County. Lot 1, Block B encompasses the existing detention pond seen from RM 620.

The property is zoned PD-MF-1 and SFA per Ordinance No. 480 approved on July 26, 2022.

2. DESCRIPTION/ JUSTIFICATION

a) Background

On July 26, 2022, the applicant received approval for an amendment to the Planned Development District Ordinance for a project originally known as the Terraces at Bee Cave and approved by City Council in April 2017 (Ord. 334) with a limited amendment related to impervious cover approved in May 2018 (Ord. 375). The approved Terraces project included condominiums, offices, a restaurant, parking garages, and a scenic overlook. The Terraces project was proposed to be developed in 3 Phases over a 7 to 10 year period. A Site Plan for Phase 1 of the Terraces project, composed of condominiums, townhomes, an office/restaurant building, a scenic overlook and associated infrastructure, was presented to City Council on July 10, 2018 but denied on the grounds it did not comply with the PDD ordinance..

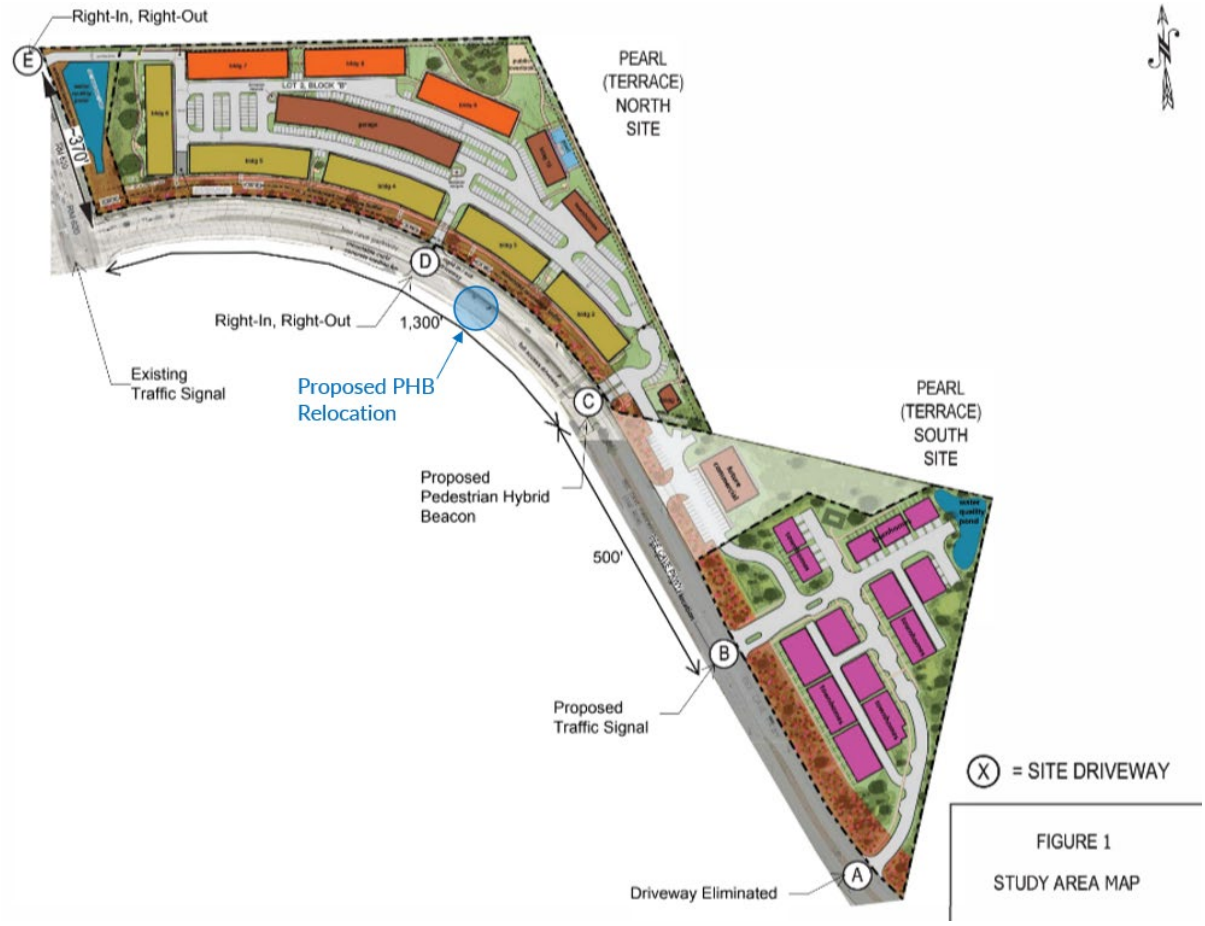
The proposed project, The Pearl at Bee Cave, includes apartments with structured garage and surface parking, single-family attached townhomes, private amenities for the apartments and townhomes, onsite and off-site public trails, and scenic overlooks..

The following list includes the key development standards and requirements included in the PDD Amendment, Ord. 480. These are reflected in the plan sets under consideration, unless otherwise noted in red below:

1. Tract B (Pearl Multi-family) is restricted to three 4-story buildings with a maximum height of 60 feet that shall be located parallel to the property line shared with the Balcones Preserve and no closer than 225 feet from Bee Cave Parkway. Additionally, the building on Tract B parallel to Hwy 620 shall be no closer than 125 feet to 620 and limited to 3 stories and a maximum height of 50 feet.
2. Maximum building heights of 50’ and 60’ for buildings with pitched roofs; 43' and 53' without pitched roofs.
3. Multi-family guest parking required at 1 guest space per 5 dwelling units.
4. A maximum of 322 units on Tract B (multi-family development).
5. A minimum of 34 units on Tract B set aside for Workforce Housing with deed restrictions requiring an affordability for households earning no more than 80% of the area median

income (AMI) for the Austin Metropolitan Statistical Area (MSA) for a period of forty years. Set aside units to be proportionate to the overall mix of bedroom types offered on Tract B. Affordability compliance to be monitored by a 3rd party agency with annual reports provided to the City. (See attached Affordable Housing Restrictive Covenant, this must be recorded prior to the issuance of the first Certificate of Occupancy for the multifamily development)

6. A driveway connection from the multi-family development to RM 620.
7. A traffic signal with pedestrian cross-walk and pedestrian signal at the townhome tract driveway across from Galleria Oaks offices; to be installed prior to the issuance of the first Certificate of Occupancy (CO) for the multi-family development.
8. A pedestrian cross walk and pedestrian activated signal at full access driveway to Tract B. Due to safety concerns recognized during the plan review, City Staff and the consultants agreed to relocate this pedestrian crossing (PHB) approximately 500' west of the full access driveway (Driveway C shown below) near the right-in/right-out only Driveway D to avoid potential pedestrian-vehicle conflicts with left turning movements into and out of the development. This relocation was determined late in the review process and those associated plan updates are recommended as a condition of approval. The relocated PHB shall minimize the impact on the left-turn vehicular storage at Driveway C and the TIA and PHB Warrant study need to be updated to reflect the new location.



9. An easement from Tracts A & B to the benefit of Lot 3, the intervening parcel, easement shall include terms for construction and maintenance of the cross-access drive. This easement was recorded in August 2022, (Doc. #2022143764) and the plans for the cross access drive included in item b - Lot 3 Hill County Galleria – Cross Access Driveway Improvements
10. Pursuant to WTCPUA approval, greywater to be used for irrigation on Tract A & B. WTCPUA is currently reviewing the effluent line plans which will be provided to the City upon their approval.
11. A pedestrian bridge landing easement Tract B that will allow for connection of a pedestrian bridge over Hwy 620 to the loop trail on Tract B; see attached Draft Bridge Easement.
12. A $1000 per unit ($322,000) landowner contribution to be used for the construction and maintenance of the pedestrian bridge over Hwy 620. This is due prior to the issuance of the site development permit for the multifamily development.
13. A 2,400 linear foot right-turn lane on Bee Cave Parkway to be constructed prior to issuance of the first Certificate of Occupancy for the Project. The right turn lane is included in item c – Bee Cave Parkway Improvements.
14. Median landscaping on Bee Cave Parkway from Bee Cave Road to Hwy 620. Landscaping to be drought tolerant with temporary irrigation for establishment. Landowner to maintain the medians for a period of 15 years. (See sheets 200-205 of the Bee Cave Parkway Improvements Plans & attached Median Maintenance Agreement)

b) Issues and Analysis

Building Design & Site Amenities

The building design for the proposed multifamily development complies with the PDD required construction characteristics and standards summarized here, please refer to Ord. 480 for complete enumeration. Building elevations may be found at sheets 83-90 of The Pearl site plan. Per the PDD Ordinance the project was eligible for separate architectural pre-approval, however the applicant elected to submit elevations concurrent with the Site Plan, which is also permissible.

- ✓ Exterior wall construction for residential structures will consist of a minimum of one hundred percent (100%) Masonry and Masonry Alternatives.
- ✓ Use of Masonry Alternatives will be allowed on no more than twenty percent (20%) of any facades; provided that all buildings visible from a public street, including interior driveways
- ✓ Use of enhanced materials on at least three (3) prominent building elements (as visible from Bee Cave Parkway and Hwy 620
- ✓ Muted, earth-toned palette shall be utilized for all building materials.

Refer to tables on the building elevations for building materials and their associated percentages per building façade. Building 1 (leasing center) and Building 10 (amenity center) deviate from the proscribed materials requirements while meeting the design intent of the PDD Ord

Ordinance, please refer to attached additional exhibits of these buildings. Ex. C Sec. IV.K allows Council to approve deviations at Site Plan.

- ✓ Corner or wraparound balconies on each floor of each building.
- ✓ Corner treatments on all buildings consisting of at least one (1) change in slope (for hipped or gabled roof) or non-horizontal element (for flat roof) per corner, a horizontal cornice projection of at least eight (8) inches, bracketed eaves, or similar treatment. The corner treatment must extend at least ten percent (10%) of the length of building elevation.
- ✓ Stairwells between floors and corridors providing access to units shall be placed in the interior of the building and may or may not be conditioned.

See building elevations.

- ✓ At least seventy-five percent (75%) of windows include decorative features such as multi-pane or mullioned glass, arched forms, painted or treated cedar or cementitious fiber shutters, brick or stone soldier course, or similar.
- ✓ Awnings or canopies on at least fifty percent (50%) of windows. Windows recessed into patios and balconies shall count towards this feature.

Refer to tables on the building elevations sheets for notation of decorative features, such as masonry headers and multi-pane windows, and calculation of percent of covered windows. Building 1 (leasing center) and Building 10 (amenity center) do not specifically meet the awning and canopy requirement, however these are non-resident buildings and staff is satisfied their design aligns with intent of the PDD Ord Ordinance, please refer to attached additional exhibits of these buildings. Ex. C Sec. IV.K allows Council to approve deviations at Site Plan.

- ✓ Vertical offsets on all buildings with a flat roof that are equal to 3% of the wall height. No section of flat roof shall maintain the same plane for a distance that exceeds twenty-five (25%) percent of the horizontal wall length.

Refer to dimensioned building elevations sheets 83-90 of The Pearl site plan. Building 1 (leasing center) does not specifically meet this requirement, however staff is satisfied the design aligns with the design intent of the PDD Ord Ordinance and recommends approval of the deviation as permitted by the PDD Ordinance.

- ✓ Fenced and sodded yards for at least fifty percent (50%) of ground floor units equivalent to seventy-five (75) square feet in area.

See Open Space exhibit at Sheet 67 of The Pearl site plan.

- ✓ Minimum floor area per Dwelling Unit of five hundred fifty (550) square feet.

See Sheet 80 of The Pearl plan set for summary of unit types and square footages.

- ✓ *Units with an exterior wall that faces a street with a classification of Collector or Arterial shall provide double-pane glass window, sound-deadening material, or other

measure that prevents sound levels from exceeding the ambient decibel level in units that do not face such a street.

- ✓ *Buildings that do not satisfy the code requirements for Fire Department aerial apparatus shall be protected by an NFPA 13 fire suppression system.
- ✓

**These characteristics to be confirmed at building plan review.

Per Ord. 22-480 Ex. C Sec. VI.B the project shall include the following amenities:

- ✓ Leasing Office/Business Center, Conference Room & Printing Stations: 2,000 SF
- ✓ Clubroom/Lounge: 3,000 SF
- ✓ Fitness Center: 2,000 SF

See The Pearl Site Plan sheet 12 for square footages of these amenities in Buildings 1, 9 and 10.

- ✓ Outdoor Pool/Spa/Deck: 1 Pool @ 1,500 SF
- ✓ Pet Wash Station: 1 Pet Wash @ 100 SF *see Pearl Site Plan sheet 73 for detail*
- ✓ Dog Park: 1 (must have a 6' fence – *see Pearl Site Plan sheet 73 for detail*
- ✓ Public Trails: 1
- ✓ Public Overlooks/View Deck: 2

See The Pearl Site Plan sheet 12 for the location of these required amenities.

A new 10-foot wide trail is proposed to loop around the project site. This trail will be open for public use but will be located completely outside the gates and fences of the development. This trail leads to a Scenic Overlook situated near the northeast corner of the site adjacent to the Balcones Canyonland Wildlife Preserve.

Open Space & Landscaping

The landscape plans for multifamily development may be found at Sheets 68-75 of the site plan. Per the approved PDD Ordinance, RR 620 landscape buffer shall contain 30 caliper inches of trees per 100 linear foot of areas resulting in 101 caliper inches required. The attached landscaping plans propose 37 – 4" trees along the RR 620 frontage for a total of 148 caliper inches. The Bee Cave Parkway landscape buffer shall contain trees that total 46 caliper inches per 100 linear feet for a total requirement of 586 caliper inches along Bee Cave Parkway. The development is required to meet the 60% tree caliper inch retention or mitigation requirement; a total of 1,675 caliper inches must be preserved or planted. The landscaping plans indicate credit for 719 caliper inches preserved and 956 caliper inches to be planted inclusive of the required buffer trees, meeting the 60% requirement. The multifamily development provides 2.6 acres of open space; 2 aces is required per the PDD Ordinance. An open space exhibit may be found at Sheet 67 of The Pearl site plan.

Lighting

Although PDD Ord. 480 is tied to the City's "Old Code" vs. the Unified Development Code and the IDA Dark Sky Community lighting standards contained therein, Ex. C Sec. VI.E. requires compliance with theses standards. The photometric plans for The Pearl (see site plan sheets 76-77) have been reviewed by the city's third-party lighting review and found in compliance.

Site Access, and Parking

Access to the Pearl multi-family site will be provided by two driveways on Bee Cave Parkway and one driveway on RM 620. The driveway on RM 620 and the western driveway on Bee Cave Parkway, closest to RM 620 (Driveway D) will be right in/right out driveways only. The eastern driveway on Bee Cave Parkway (Driveway C) will be full access. In addition, private access easements were granted across the two adjacent properties to the east, which will allow cross access between the properties and will allow residents of this site to access the new traffic signal that is proposed at the Townhome project east of the site (Driveway B).

The driveway on RR 620 also requires a deceleration/turn lane by TxDOT with the taper for the new turn lane beginning just north of the intersection with Bee Cave Parkway. The total length of the lane with taper is approximately 280' and approval of this decel lane is a condition of the Pearl at Bee Cave site plan.

An internal looped private drive will provide vehicular access to the apartment units. This drive has been designed to meet Lake Travis Fire Rescue width and radius requirements. The proposed pavement section of the looped drive will generally be asphalt pavement, with some specialty pavers near the leasing office to provide a sense of arrival to the development. One central dumpster enclosure will be provided for the development.

Parking will be provided on site with a combination of private resident (tuck under) garages, surface parking spaces and a two-level parking structure which is centrally located and not readily seen from Bee Cave Parkway or RR 620 due to the residential building layout. Electric Vehicle charging space (55), ADA parking spaces (11) and visitor spaces (65) are provided throughout the site The total required parking for the Pearl multi-family is 548 spaces and the owner is proposing to provide a total of 549 spaces.

Setbacks

The proposed site plan complies with the setbacks requirements of the PDD Ordinance::

- 50' landscape buffer along Bee Cave Parkway measured from the existing right-of-way.
- 15' building setback adjacent to Lot 3.
- 10' building setback adjacent to the Balcones Canyonlands Wildlife Preserve.
- The building on Tract B parallel to Hwy 620 shall be no closer than 125 feet to 620 and limited to 3 stories and a maximum height of 50 feet.

Drainage & Water Quality

Per Ordinance No. 480, the maximum allowable impervious cover on the Pearl multi-family tract is 7.40 acres. The applicant has proposed to utilize the entire 7.40 acres by including rainwater harvesting, decking, and porous pavement for private sidewalks to gain additional credit.

On-site storm water will be conveyed to the existing water quality pond located on Lot 1 at the northeast corner of RM 620 and Bee Cave Parkway. Based on a topographic survey performed in March of 2023, the pond capacity is approximately 132,584 cf. The plans propose to excavate the existing pond to provide sufficient freeboard for the detention volume. The pond capacity at elevation 945 ft is 160,454 cf. The required volume to treat the maximum allowed impervious

cover on site, plus a portion of the Bee Cave Parkway pavement has been estimated as 56,342 cf. Therefore, the pond has excess capacity. The water quality volume will be sprayed on multiple re-irrigation fields located both on the subject site, adjacent to the pond and across Bee Cave Parkway in the "Crescent Tract". The irrigation fields were sized per City of Bee Cave criteria.

Utilities

Domestic water and fire protection water will be provided with a new 8" public water main that will loop around the site, under the drive aisles and connect to the two existing laterals that are stubbed to the site under Bee Cave Parkway. The public water main will be located in either an exclusive 15' wide easement or within a public utility easement. Each building will have its own domestic water meter. Fire hydrants will be installed throughout the site for fire protection. Wastewater service will be both public and private. All service lines shall be provided by a private 6" wastewater line. Where multiple service lines tie together at a manhole, the downstream line will be public and will be contained either in an exclusive water easement or a public utility easement.

Traffic Impact Analysis

As part of the aforementioned approval of the PDD Amendment in July 2022, a Traffic Impact Analysis (TIA) was required part of the site plan process. HDR Engineering, Inc performed the TIA on behalf of the applicant, and it has been reviewed by City Staff and Beacon Planning & Engineering, the city's consulting traffic engineer. The TIA studied the entire development included in the PDD, i.e., the 322 multi-family unit "Pearl" site being considered for approval with this TL and the 59 unit townhome development also included in the PDD, that will be considered under a separate Site Plan. The table below provides the trip generation summary for daily and peak hour trips (Table 3 of the attached TIA report) for both the multi-family and townhome development:

Table 3. Summary of Unadjusted Daily and Peak Hour Trip Generation

Site	Land Use	Land Use Code	Size	Trip Generation Method[1]	24-Hour Two-Way Volume	AM Peak Hour		PM Peak Hour	
						Enter	Exit	Enter	Exit
South Site	Multifamily Housing (Low-Rise)	220	59 DU	Fitted Curve	405	7	22	23	14
North Site	Multifamily Housing (Mid-Rise)	221	322 DU	Rate	1,752	30	86	86	55
				Total	**2,157**	**37**	**108**	**109**	**69**

[1]Trip Generation is based on the higher of the ITE's average rate and fitted curve method for all land uses.

The study area shown in Figure 1 (page 3) of the attached TIA report includes all vehicular access points within the area extending to the intersections of Falconhead Blvd/RR 620 to the north, SH71/Hamilton Pool Road to the west, and, SH 71/Bee Cave Road to the east and south. The TIA evaluated two (2) time periods (2021 and 2024) and four (4) traffic conditions to assess the traffic impacts of the proposed development:

- 2021 Existing Traffic Conditions
- 2024 Forecasted Conditions (without proposed development traffic)
- 2024 Proposed Development Traffic plus Forecasted Traffic Conditions (without mitigation improvements)
- 2024 Proposed Development Traffic plus Forecasted Traffic Conditions (with mitigation improvements)

*The TIA evaluated the traffic conditions at the study intersections utilizing the level of service (LOS) standard. LOS is a qualitative measure of the effect of a number of factors such as speed, volume of traffic, geometric features, traffic interruptions, freedom to maneuver, safety, driving comfort, convenience, and operating cost with LOS A being the best with minimal delay to LOS F being unacceptable delays for the driver.

Table 6 (page 33) of the TIA report (also shown below) summarizes the level of service (LOS) for the evaluated signalized intersections for each traffic condition with subsequent average delay at each intersection (seconds per vehicle). When comparing the 2024 forecasted traffic without the proposed development and the 2024 forecasted with the proposed development but without mitigation improvements, the various intersections experience a range of delays. In an effort to maintain and improve the "no build" LOS at the studied signalized intersections, recommended improvements ranging from signal timing optimization to construction of additional lanes to additional signals are ultimately recommended. These recommendations are outlined in Table 8 (page 36) of the TIA report. Based on the forecasted traffic, which includes a standard growth factor to the existing traffic volumes and adds the traffic created by the development, a "pro-rata share" is calculated for each recommended improvement based on the percentage the proposed development's traffic impact has on the applicable movement, approach, or overall intersection.

Table 6. Signalized Intersection Level of Service and Delay (sec/veh)

Intersection	2021 Existing		2024 Forecasted (Without Site)		2024 Site+Forecasted (No Improvements)		2024 Site+Forecasted (With Improvements)	
	AM	PM	AM	PM	AM	PM	AM	PM
SH 71 and RM 2244/Shops Parkway	F (245.9)	F (83.6)	F (263.0)	F (105.4)	F (264.2)	F (109.9)	F (202.6)	E (73.3)
SH 71 and RM 620/Shops Parkway	C (20.5)	D (45.1)	C (23.6)	E (68.7)	C (23.7)	E (70.5)	C (21.9)	E (66.4)
SH 71 and Hamilton Pool Road/Bee Cave Parkway	E (71.4)	F (134.2)	F (98.1)	F (200.7)	F (100.8)	F (206.4)	E (72.1)	F (125.9)
RM 2244 and Bee Cave Parkway	C (22.6)	C (34.8)	C (25.1)	E (57.1)	C (25.7)	E (61.3)	C (25.4)	D (41.4)
RM 620 and Bee Cave Parkway	E (57.7)	F (88.0)	F (93.8)	F (161.4)	F (101.9)	F (170.3)	E (58.3)	E (65.3)
RM 620 and Ladera Boulevard	B (18.6)	D (39.6)	C (21.2)	F (80.7)	C (21.7)	F (83.2)	B (19.6)	D (50.8)
RM 620 and Falcon Head Boulevard	D (37.2)	D (48.6)	E (59.1)	F (85.3)	E (59.7)	F (87.7)	C (31.9)	D (47.8)
Bee Cave Parkway and Galleria Parkway	A (7.4)	A (9.2)	A (7.6)	B (10.2)	A (7.7)	B (10.3)	**	**
Bee Cave Parkway and Tordera Drive	*	*	*	*	*	*	A (6.9)	A (8.0)
Bee Cave Parkway and Willie Way	*	*	B (14.1)	C (25.3)	B (14.0)	C (25.2)	B (19.0)	B (19.8)
SH 71 and Willie Way	-	-	B (13.6)	C (32.9)	B (13.6)	C (28.3)	B (19.6)	C (26.4)
Bee Cave Parkway and Galleria Oaks/Driveway B	*	*	*	*	*	*	C (28.8)	C (29.6)
Bee Cave Parkway and Market Street	*	*	*	*	*	*	B (16.2)	C (25.1)
Bee Cave Parkway and Vista Ridge	*	*	*	*	*	*	C (20.0)	B (14.8)

+ Value is excessive or exceeds Synchro limits
* See Table 7 for unsignalized intersection LOS and delay information.

This table (Table 8) indicates the applicant's pro-rata share for the various recommended improvements is $565,542; however, as part of the approval for the PPD Amendment, the applicant is required to construct, at their expense, the entirety of the following mitigations:

- An approximate 2,400 linear foot right-turn lane on westbound Bee Cave Parkway which extends the entire frontage of the proposed multi-family and townhome projects.
- A traffic signal with pedestrian crossing at the Tract A driveway at the existing Galleria Oaks office complex main entrance drive.
- Improve the existing traffic signal at Bee Cave Parkway and RR 620 to accommodate the additional right-turn lane. The addition of the turn lane will require a complete rebuild of the existing traffic signal supports and cross-bars.
- An additional hybrid pedestrian beacon/crossing in the vicinity of the full access driveway to Tract B (exact location to be designed and determined prior to issuance of the site & NPS permit).

These improvements are included in the various site plan applications up for approval on this agenda item. The total cost of these improvements is in excess of $1.5 million. Because this amount significantly exceeds the determined ~$565,000 pro-rata share requirement, the applicant is not responsible for paying any pro-rata share for the other listed recommended improvements. The City shall consider these mitigations identified in the TIA when planning future network improvements.

It is worth noting these proposed Bee Cave Parkway improvements increase (make better) the LOS of the Bee Cave Parkway and RR620 intersection from LOS F to LOS E with an average delay decrease from 93.8 sec/veh to 58.3 sec/veh in the AM Peak and 161.4 sec/veh to 65.3 sec/veh in the PM peak when forecasted traffic without the development and without the turn-lane improvement is compared to traffic with the development and the turn-lane improvement.

Due to the detailed nature of the TIA report and the difficulty in truly summarizing the data in this transmittal letter, Staff is happy to answer any specific questions leading up to and during the P&Z meeting.

3. FINANCIAL/BUDGET

N/A

4. TIMELINE CONSIDERATIONS

5. RECOMMENDATION

Staff Recommendation: Staff recommends acceptance of the Traffic Impact Analysis and approval of the four (4) site & NPS plans with the following conditions separated by site plan.

The Pearl at Bee Cave:

- Submit final structural retaining wall plans.
- Provide TxDOT approval for work in RR 620 ROW and the Cover Sheet signed by all applicable review agencies for final City signature.
- Per Ord. 22-480 Ex. C, Section II.E.8, post $322,000 with the City ($1,000 per dwelling unit on Tract B) to be used for the construction and maintenance of the pedestrian bridge.
- Post NPS fiscal security in the amount of $86,157 with the City.
- Record with Travis County Public Records the following legal documents:
    - Sidewalk and Trail Easement
    - Water Quality Controls Easement
    - Repeal and replacement of the 2008 Water Quality Restrictive Covenant:
        - Water Quality Restrictive Covenant
        - Restrictive Covenant and Termination of Prior Restrictive Covenant
    - Pedestrian Bridge Easement

Lot 3 HCG – Driveway Improvements:

- Provide the Cover Sheet signed by all applicable review agencies for final City signature.

Bee Cave Parkway Improvements:

- Provide final updated plans for the Pedestrian Signal Beacon relocated adjacent to Driveway D.
- Provide the Cover Sheet signed by all applicable review agencies for final City signature.
- Post NPS and Infrastructure fiscal security in a final amount to be determined by an engineer's estimate.
- Record with Travis County Public Records the Median Maintenance Agreement.

Crescent Tract Improvements:

- Record with Travis County Public Records the Crescent Tract Maintenance Agreement.

6. ATTACHED FILES

Crescent Tract Plans
Pearl TIA Report
TIA Technical Addendum
The Pearl Amenity Building
The Pearl Leasing Office Building
The Pearl Landscaping Plans
The Pearl Exterior Building Elevations
The Pearl Site Plan
Lot 3 Site Plan (Access Drive)

Bee Cave Parkway Striping Plan
Colorized Overall Development Map
Sidewalk and Trail Esmt
Water Quality Control Easement
Median Maintenance Agreement
Affordable Housing Restrictive Covenant
Crescent Tract Maintenance Agreement
Pedestrian Bridge Easement Backup Material
WQ Restrictive Covenant Termination

Planning and Zoning Commission Meeting
8/1/2023
Agenda Item Transmittal

Agenda Item:

Agenda Title: **Agenda Planning**

Commission Action: **Approve**

Department: **Admin Assistant**

Staff Contact: **Thomas Hatfield-Admin Coordinator**

1. INTRODUCTION/PURPOSE

2. DESCRIPTION/JUSTIFICATION

a) Background

b) Issues and Analysis

3. FINANCIAL/BUDGET

Amount Requested	Fund/Account No.
Cert. Obligation	GO Funds
Other source	Grant title
Addtl tracking info	

4. TIMELINE CONSIDERATIONS

5. RECOMMENDATION



Planning and Zoning Commission Meeting
8/1/2023
Agenda Item Transmittal