NOTICE OF A REGULAR MEETING

Pursuant to Section 54954.2 of the Government Code of the State of California, a Regular meeting of the City of Tracy Planning Commission is hereby called for:

Date/Time: Wednesday, April 12, 2017
7:00 P.M. (or as soon thereafter as possible)

Location: City of Tracy Council Chambers
333 Civic Center Plaza

Government Code Section 54954.3 states that every public meeting shall provide an opportunity for the public to address the Planning Commission on any item, before or during consideration of the item, however no action shall be taken on any item not on the agenda.

REGULAR MEETING AGENDA

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

MINUTES - 3/9/16, 2/8/17, 3/8/17, 3/22/17

DIRECTOR'S REPORT REGARDING THIS AGENDA

ITEMS FROM THE AUDIENCE - *In accordance with Procedures for Preparation, Posting and Distribution of Agendas and the Conduct of Public Meetings, adopted by Resolution 2015-052 any item not on the agenda brought up by the public at a meeting, shall be automatically referred to staff. If staff is not able to resolve the matter satisfactorily, the member of the public may request a Commission Member to sponsor the item for discussion at a future meeting.*

1. NEW BUSINESS

   A. PUBLIC HEARING TO CONSIDER A CONDITIONAL USE PERMIT AND A PLANNED UNIT DEVELOPMENT PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR AN APPROXIMATELY 3,350 SQUARE FOOT AUTOMOTIVE SERVICE FACILITY (JIFFY LUBE) WITH ASSOCIATED PARKING AND LANDSCAPING ON AN APPROXIMATELY 0.71-ACRE SITE (ASSESSOR'S PARCEL NUMBER 238-600-33 AND A PORTION OF ASSESSOR'S PARCEL NUMBER 238-600-34), LOCATED ON THE SOUTH SIDE OF WEST GRANT LINE ROAD WITHIN THE TRACY MARKETPLACE COMMERCIAL CENTER. THE APPLICANT IS BOOS DEVELOPMENT WEST, LLC AND THE PROPERTY OWNER IS LAMORINDA DEVELOPMENT & INVESTMENT – APPLICATION NUMBERS CUP16-0009 AND D16-0025

B. PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE BARCELONA INFILL PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR A 51-LOT RESIDENTIAL SUBDIVISION ON APPROXIMATELY 10.15 ACRES LOCATED AT THE NORTHWEST CORNER OF BARCELONA DRIVE AND TENNIS LANE, ASSESSOR'S PARCEL NUMBERS 252-520-44 AND 240-390-33; THE APPLICANT AND PROPERTY OWNER IS TAYLOR MORRISON OF CA, LLC; APPLICATION NUMBER PUD17-0001

C. PUBLIC HEARING TO CONSIDER A NEW 304-UNIT RESIDENTIAL MULTI-FAMILY HOUSING DEVELOPMENT ON AN 18.79-ACRE PROJECT SITE. IN ORDER FOR THE PROJECT TO BE CONSTRUCTED, THE FOLLOWING ACTIONS WOULD REQUIRE APPROVAL:
   - ADOPT A MITIGATED NEGATIVE DECLARATION;
   - AMEND THE GENERAL PLAN TO CHANGE THE LAND USE DESIGNATION OF THE SITE FROM COMMERCIAL TO RESIDENTIAL HIGH (GPA17-0001);
   - REZONE A SMALL PORTION OF THE PROJECT SITE FROM GENERAL HIGHWAY COMMERCIAL TO PLANNED UNIT DEVELOPMENT (R17-0001);
   - AMEND THE I-205 CORRIDOR SPECIFIC PLAN TO CHANGE THE LAND USE DESIGNATION OF THE SITE FROM GENERAL COMMERCIAL TO HIGH DENSITY RESIDENTIAL AND ADD A SMALL PORTION OF THE PROJECT SITE TO THE SPECIFIC PLAN (SPA17-0002);
   - APPROVE A PRELIMINARY AND FINAL DEVELOPMENT PLAN (PDP/FDP) APPLICATION FOR THE SITE PLAN, ARCHITECTURE, LANDSCAPING AND ALL ON-SITE IMPROVEMENTS (D15-0007); AND
   - APPROVE A TENTATIVE SUBDIVISION MAP TO ALLOW FOR THE FUTURE SUBDIVISION OF THE UNITS INTO CONDOMINIUMS (TSM17-0002)

2. ITEMS FROM THE AUDIENCE

3. DIRECTOR'S REPORT

4. ITEMS FROM THE COMMISSION

5. ADJOURNMENT

Posted: April 10, 2017
The City of Tracy complies with the Americans with Disabilities Act and makes all reasonable accommodations for the disabled to participate in public meetings. Persons requiring assistance or auxiliary aids in order to participate should call City Hall (209-831-6000), at least 24 hours prior to the meeting.

Any materials distributed to the majority of the Planning Commission regarding any item on this agenda will be made available for public inspection in the Development Services Department located at 333 Civic Center Plaza during normal business hours.

MINUTES
TRACY CITY PLANNING COMMISSION
WEDNESDAY, MARCH 9, 2016, 7:00 P.M.
CITY OF TRACY COUNCIL CHAMBERS
333 CIVIC CENTER PLAZA

CALL TO ORDER
Chair Mitracos called the meeting to order at 7:00 p.m., and led the pledge of allegiance.

ROLL CALL
Roll Call found Chair Mitracos, Vice Chair Tanner, Commissioners Orcutt, Sangha, and Ransom present. Also present were staff members Bill Dean, Assistant Director; Alan Bell, Senior Planner; Victoria Lombardo, Senior Planner, Kimberly Matlock, Associate Planner; Cris Mina, Senior Civil Engineer; Bill Sartor, Assistant City Attorney, and Sandra Edwards, Recording Secretary.

MINUTES APPROVAL – None.

DIRECTOR'S REPORT REGARDING THIS AGENDA – None.

ITEMS FROM THE AUDIENCE – None.

1. **NEW BUSINESS**

A. PUBLIC HEARING TO CONSIDER A 226-UNIT RESIDENTIAL SUBDIVISION OF APPROXIMATELY 59.1 ACRES LOCATED ON THE EAST SIDE OF LAMMERS ROAD, NORTH OF REDBRIDGE ROAD, ASSESSOR'S PARCEL NUMBERS 240-060-26 AND 240-060-27. THE PROJECT INCLUDES A GENERAL PLAN DESIGNATION AMENDMENT FROM URBAN RESERVE (UR-8) TO RESIDENTIAL LOW (GPA13-0006), REZONING FROM LOW DENSITY RESIDENTIAL (LDR) TO PLANNED UNIT DEVELOPMENT (PUD), A PLANNED UNIT DEVELOPMENT PRELIMINARY AND FINAL DEVELOPMENT PLAN (PUD15-0001), AND VESTING TENTATIVE MAP (TSM15-0001) FOR THE PROJECT. A MITIGATED NEGATIVE DECLARATION IS THE PROPOSED ENVIRONMENTAL DOCUMENT FOR THE PROJECT. THE APPLICANT IS BATES STRINGER TRACY II LLC, AND THE PROPERTY OWNER IS CALENDEV, LLC. – Victoria Lombardo, Senior Planner, provided the staff report. Ms. Lombardo added that the reason for bringing this item back was to clarify conditions of approval which included language changes rather than content.

The Planning Commission discussed the legal review of the conditions, the possibility of trees being cut down, and the temporary sidewalk being constructed by the developer.

Chair Mitracos opened the public hearing.

Scott Stringer introduced himself indicating he was available for questions.

A very brief discussion took place regarding the sidewalk and funding.

The public hearing was closed.

ACTION: It was moved by Commissioner Ransom and seconded by Commissioner Orcutt that the Planning Commission recommend that the City Council take the following action:

1. Adopt the project Mitigated Negative Declaration.
2. Approve the General Plan designation amendment from Urban Reserve to Residential Low Density.
3. Approve the Rezone from Low Density Residential to Planned Unit Development.
4. Approve the Vesting Tentative Subdivision Map for the Rocking Horse Project.
5. Approve the Planned Unit Development Preliminary and Final Development Plan for the Rocking Horse Project.

Voice vote found all in favor; passed and so ordered.

B. PUBLIC HEARING TO CONSIDER A RECOMMENDATION TO THE CITY COUNCIL FOR A DEVELOPMENT REVIEW APPLICATIN FOR A 252-UNIT RESIDENTIAL APARTMENT PROJECT LOCATED ON APPROXIMATELY 11.62 ACRES ON THE NORTH SIDE OF VALPICO ROAD AT GLENBRIAR DRIVE, WEST OF THE RITE AID STORE AT THE NORTHWEST CORNER OF VALPICO ROAD AND MACARTHUR DRIVE (ASSESSOR'S PARCEL NUMBERS 246-140-12, 13, AND 14). THIS PROJECT WAS PREVIOUSLY APPROVED AS TWO SEPARATE PROJECTS: THE VALPICO APARTMENTS AND MACDONALD APARTMENTS – THE APPLICANT IS REPUBLIC TRACY, LLC – APPLICATION NUMBER D15-0024 – Alan Bell, Senior Planner, provided the staff report. Mr. Bell indicated the owners were selling the property and the new owner had submitted an application for slight modifications.

The Commission discussed the connection of Glenbriar Drive and Stallsburg, other possible connections, levels of service, revised parking structures, the number of parking spaces, the look of three stories, the ultimate build out of Valpico Road, and perimeter fencing. Cris Mina, Senior Civil Engineer, stated the connection at Glenbriar and Stallsburg would be constructed with this project.

The public hearing was opened.

The Developer provided a presentation outlining their company and the project.

The Commission further discussed the possible placement of a monument, turning movements into and out of the project, and voiced their appreciation for various aspects of the project.

Alice English, 1492 Riverview, asked for clarification regarding the number of parking spaces. Mr. Bell stated that due to the modifications of this project, the applicant only needed a reduction of 7 spaces.

The public hearing was closed.

ACTION: It was moved by Commissioner Ransom and seconded by Vice Chair Tanner that the Planning Commission recommend that the City Council approve Development Review Application Number D15-0024, subject to conditions and based on the findings contained in the Planning Commission Resolution dated March 9, 2016. Voice vote found all in favor; passed and so ordered.

C. PUBLIC HEARING TO CONSIDER A DEVELOPMENT REVIEW APPLICATION FOR AN APPROXIMATELY 49,000 SQUARE FOOT BUILDING AND ASSOCIATED PARKING AREAS AT 205 GANDY DANCER DRIVE - APPLICANT IS SCHACK AND COMPANY, INC. AND PROPERTY OWNER IS OLMAR SUPPLY, INC. - APPLICATION NUMBER IS D15-0016 – Kimberly Matlock, Associate Planner, provided the staff report. Ms. Matlock indicated she had received a letter from a neighbor in opposition to the proposed construction materials.

The Commission discussed building materials of surrounding businesses, requirements of neighboring properties that had to spend additional money on a project because the materials were not acceptable, chemicals and bleed off, height of the building, and the evolution of metal building materials.

The public hearing was opened.

Dan Schack, Schack & Company, addressed the Commission and provided a background of the area, discussed metal buildings, and compatibility.

The Commission further discussed the roof pitch of the proposed building, squaring off of the roof, the letter that was submitted in opposition to the project, and additional architectural elements.

Mike Rollo, 314 Hutton Place, addressed the Commission stating the notion of a downward trend is flawed; the proposed building is nicer than anything out there, adding the company does not apply coating or painting and that no chemicals are involved. Mr. Rollo stated they do use water solvents that are recycled according to law.

The Commission further discussed architecture and perimeter fencing.

The public hearing was closed.

ACTION: It was moved by Commissioner Orcutt and seconded by Chair Mitracos to continue consideration of the development review application to a future meeting. Roll call found Commissioner Orcutt and Chair Mitracos in favor; Commissioners Ransom, Sangha, and Tanner opposed. Motion failed.

ACTION: It was moved by Commissioner Sangha and second by Vice Chair Tanner to approve Development Review of an approximately 49,000 metal shop with office and associated parking area improvements at 205 Gandy Dancer Drive, based

on the findings contained in the Planning Commission Resolution dated March 9, 2016. Roll call vote found Commissioners Ransom, Sangha and Vice Chair Tanner in favor; Chair Mitracos and Commissioner Orcutt opposed. Motion carried.

D. PUBLIC HEARING TO CONSIDER A DEVELOPMENT REVIEW APPLICATION FOR A MINI STORAGE FACILITY (STOREQUEST EXPRESS) LOCATED AT 225 GANDY DANCER DRIVE (ASSESSOR'S PARCEL NUMBER 248-470-17) – THE APPLICANT IS DAN R. SCHACK; PROPERTY OWNER ISLSC REALTY CALIFORNIA, LLC – APPLICATION NUMBER D16-0004 – Alan Bell, Senior Planner, provided the staff report.

The public hearing was opened.

Bill Hogan, President and CEO of William Warrant Group, provided a presentation regarding their business and the proposed project.

The Commissioners asked for clarification regarding temperature control, outdoor lighting, business hours, and the height of the building.

Alice English, 1492 Riverview, asked for clarification regarding a three mile radius.

The public hearing was closed.

ACTION: It was moved by Commissioner Orcutt and seconded by Vice Chair Tanner, that the Planning Commission approve Development Review Application Number D16-0004 for a mini storage facility at 225 Gandy Dancer Drive, subject to the conditions and based on the findings contained in the Planning Commission Resolution dated March 9, 2016. Voice vote found all in favor; passed and so ordered.

2. **ITEMS FROM THE AUDIENCE** – None.

3. **DIRECTOR'S REPORT** – Bill Dean thanked Mr. Mitracos for his service on the Planning Commission and for his leadership and guidance.

4. **ITEMS FROM THE COMMISSION** – Each Commissioner shared their appreciation of Pete Mitracos.

5. **ADJOURNMENT** – It was moved by Commissioner Ransom and seconded by Commissioner Orcutt to adjourn.

Time: 9:37 p.m.

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CHAIR

_____
STAFF LIAISON

MINUTES
TRACY CITY PLANNING COMMISSION
WEDNESDAY, February 8, 2017
7:00 P.M.
CITY OF TRACY COUNCIL CHAMBERS
333 CIVIC CENTER PLAZA

CALL TO ORDER

Vice Chair Tanner called the meeting to order at 7:00 p.m.

PLEDGE OF ALLEGIANCE

Vice Chair Tanner led the pledge of allegiance.

ROLL CALL

Roll Call found Vice Chair Tanner, Commissioners Hudson, Sangha, and Krogh present. Also present were Bill Dean, Assistant Director of Development Services; Kimberly Matlock, Associate Planner; Leticia Ramirez, Deputy City Attorney; and Vanessa Valencia, Recording Secretary. Commissioner Orcutt absent, away for military duty.

MINUTES APPROVAL

The meeting minutes of March 23, 2016, will be re-presented due to the lack of a majority of the Commission present.

It was moved by Commissioner Hudson and seconded by Commissioner Sangha to approve the meeting minutes of April 13, 2016, and November 16, 2016. Commissioner Krogh abstained from voting, as he was not on the Planning Commission at the time. Voice vote found Commissioner Tanner in favor; passed and so ordered. 3-0-2.

DIRECTOR'S REPORT REGARDING THIS AGENDA – Bill Dean, Assistant Director of Development Services, welcomed Commissioner Krogh. Mr. Dean also mentioned that sometime in March 2017, staff is planning a study session for the commission. Finally, Mr. Dean commented that staff is almost caught up on transcribing Planning Commission meeting minutes, with only a handful of minutes left for approval.

ITEMS FROM THE AUDIENCE – None.

1. NEW BUSINESS

   A. **PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE I-205 CORRIDOR SPECIFIC PLAN TO 1) REDESIGNATE THE PROPERTY AT 3140 W. GRANT LINE ROAD (ASSESSOR'S PARCEL NUMBER 238-600-07) FROM SERVICE COMMERCIAL TO GENERAL COMMERCIAL, AND 2) AMEND SECTION 4.1.2.3.B TO INCLUDE A PROVISION FOR THOUGHTFULLY-DESIGNED ENTRANCES TO COMMERCIAL CENTERS IN THE GENERAL COMMERCIAL DESIGNATION. APPLICANT IS PLAZA SIX GENERAL PARTNERSHIP AND PROPERTY OWNER IS F&F TRACY PROPERTIES, LLC. APPLICATION NUMBER SPA16-0007. –** Kimberly Matlock, Associate Planner, presented the staff report.

The commission briefly discussed "thoughtfully-designed" entrances and aesthetics.

Vice Chair Tanner opened the public hearing.

As no one came forward, the public hearing was closed.

Charles Fife, JSK General Construction/Plaza Six General Partnerships, addressed the commission. Mr. Fife stated that the change in zoning will provide further opportunities for the center.

ACTION 1) It was moved by Commissioner Hudson and seconded by Vice Chair Tanner that the Planning Commission recommend that the City Council to amend the I-205 Specific Plan Use designation for the property at 3140 West Grant Line Road (Assessor's Parcel Number 238-600-07) from Service Commercial to General Commercial. Voice vote found Commissioners Krogh and Sangha in favor; passed and so ordered. Commissioner Orcutt absent. 4-0-1.

ACTION 2) It was moved by Commissioner Hudson and seconded by Commissioner Krogh that the Planning Commission recommend that the City Council amend the I-205 Specific Plan by adding Section 4.1.2.3.B.3 requiring thoughtfully-designed features to create a sense of arrival at primary entrances to Commercial Centers in the General Commercial Designation areas as described in the Planning Commission resolution dated February 8, 2017. Voice vote found Vice Chair Tanner and Commissioner Sangha in favor; passed and so ordered. Commissioner Orcutt absent. 4-0-1.

2. ITEMS FROM THE AUDIENCE – Alice English congratulated Mr. Krogh on his appointment to the Planning Commission.

3. DIRECTOR'S REPORT – Bill Dean announced that the election of officers will occur when Commissioner Orcutt returns, most likely in March 2017. Bill Dean also shared that Vanessa Valencia has transferred to the City's Human Resources Department, and a new Administrative Assistant will be starting soon. Mr. Dean thanked Ms. Valencia for her help.

4. ITEMS FROM THE COMMISSION – Commissioner Hudson, Sangha, and Vice Chair Tanner expressed their gratitude to Vanessa. Vice Chair Tanner welcomed and congratulated Commissioner Krogh. Commissioner Krogh shared some personal information about himself, and expressed his excitement to be a contributing member of the Planning Commission.

5. ADJOURNMENT – It was moved by Commissioner Hudson and seconded by Commissioner Sangha to adjourn. Voice vote found all in favor; passed and so ordered.

Time: 7:27 p.m.

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CHAIR

_____
STAFF LIAISON

MINUTES
TRACY CITY PLANNING COMMISSION
Wednesday, March 8, 2017
7:00 P.M.
CITY OF TRACY COUNCIL CHAMBERS
333 CIVIC CENTER PLAZA

CALL TO ORDER
Vice Chair Tanner called the meeting to order at 7:00 p.m.

PLEDGE OF ALLEGIANCE
Vice Chair Tanner led the pledge of allegiance.

ROLL CALL
Roll Call found Vice Chair Tanner, Commissioners Hudson, Orcutt, Sangha, and Krogh present. Also present were Bill Dean, Assistant Director of Development Services; Victoria Lombardo, Senior Planner; Kimberly Matlock, Associate Planner; Leticia Ramirez, Deputy City Attorney; Peggy Abundiz, Administrative Assistant; and Gina Peace, Recording Secretary.

MINUTES APPROVAL – None.

DIRECTOR'S REPORT REGARDING THIS AGENDA – Bill Dean, Assistant Director of Development Services, notified all in attendance that the Tracy Hills Public Hearing item has been rescheduled to March 22nd, and suggested the Commission move up election of officers to earlier in the meeting, so all can retreat to Conference Room 109 for the Design Guidelines Study Session, for use of white board, and smaller quarters.

ITEMS FROM THE COMMISSION

A. ELECTION OF OFFICERS

ACTION It was moved by Commissioner Sangha and seconded by Commissioner Orcutt that that Commissioner Orcutt is appointed to Chair, and Commissioner Sangha is appointed to Vice Chair. Voice vote found all in favor; passed and so ordered.

ITEMS FROM THE AUDIENCE

Alice English asked if the Study Session was open to the public. Bill Dean affirmed. Mrs. English also congratulated Chair Orcutt and Vice Chair Sangha on their appointments.

1. NEW BUSINESS

A. PUBLIC HEARING TO CONSIDER A RECOMMENDATION TO THE CITY COUNCIL REGARDING AN AMENDMENT TO THE CONDITIONS OF APPROVAL FOR THE VESTING TENTATIVE SUBDIVISION MAP FOR TRACY HILLS PHASE 1A, WHICH CONSISTS OF APPROXIMATELY 417 ACRES LOCATED WEST OF

CORRAL HOLLOW ROAD, SOUTH OF THE CALIFORNIA AQUEDUCT, AND NORTH OF INTERSTATE 580.

THIS ITEM WILL BE RE-NOTICED FOR A FUTURE PLANNING COMMISSION MEETING.

All in attendance retreated to Conference Room 109, adjacent to Council Chambers, for the Study Session, New Business Item 1.B on the agenda.

B. STUDY SESSION AND DISCUSSION REGARDING PROPOSED CHANGES TO THE CITY'S DEVELOPMENT REVIEW ORDINANCE, PLANNED UNIT DEVELOPMENT ORDINANCE AND REVISIONS TO THE CITYWIDE DESIGN GOALS AND STANDARDS

Bill Dean, Assistant Director of Development Services, led the discussion with Vicki Lombardo. No action was taken.

2. ITEMS FROM THE AUDIENCE – None.

3. DIRECTOR'S REPORT – None.

4. ITEMS FROM THE COMMISSION – None.

5. ADJOURNMENT – It was moved by Vice Chair Sangha and seconded by Commissioner Tanner to adjourn. Voice vote found all in favor; passed and so ordered.

Time: 9:20 p.m.

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CHAIR

_____
STAFF LIAISON

MINUTES
TRACY CITY PLANNING COMMISSION
Wednesday, March 22, 2017
7:00 P.M.
CITY OF TRACY COUNCIL CHAMBERS
333 CIVIC CENTER PLAZA

CALL TO ORDER

Chair Orcutt called the meeting to order at 7:02 p.m.

PLEDGE OF ALLEGIANCE

Chair Orcutt led the pledge of allegiance.

ROLL CALL

Roll Call found Chair Orcutt and Commissioners Hudson, Krogh, and Tanner present; Commissioner Sangha absent. Also present were: Andrew Malik, Director of Development Services; Bill Dean, Assistant Director of Development Services; Leticia Ramirez, Deputy City Attorney; Robert Armijo, City Engineer; Alan Bell, Senior Planner; Victoria Lombardo, Senior Planner; Scott Claar, Senior Planner; Cris Mina, Senior Civil Engineer; Al Gali, Associate Civil Engineer; Nanda Gottiparthy, Consulting Engineer - SNG & Associates; Sandra Edwards, Executive Assistant; and Peggy Abundiz, Recording Secretary.

MINUTES

It was moved by Chair Orcutt, and seconded by Commissioner Tanner, that approval of the March 9, 2016, Meeting Minutes be postponed until the next meeting due to lack of a voting quorum. Voice vote found all in favor; passed and so ordered.

It was moved by Commissioner Hudson, and seconded by Commissioner Tanner, that the Meeting Minutes of March 23, 2016, be approved. Voice vote found all in favor; passed and so ordered.

It was moved by Commissioner Hudson, and seconded by Commissioner Tanner, that the Meeting Minutes of January 25, 2017, be approved as corrected. Voice vote found all in favor; passed and so ordered.

DIRECTOR'S REPORT REGARDING THIS AGENDA

None.

ITEMS FROM THE AUDIENCE

None.

1. NEW BUSINESS

A. PUBLIC HEARING TO CONSIDER A RECOMMENDATION TO THE CITY COUNCIL REGARDING APPROVAL OF AN AMENDMENT TO THE CONDITIONS OF APPROVAL FOR THE SMALL-LOT VESTING TENTATIVE

SUBDIVISION MAP FOR TRACY HILLS PHASE 1A, WHICH CONSISTS OF APPROXIMATELY 417 ACRES LOCATED WEST OF CORRAL HOLLOW ROAD, SOUTH OF THE CALIFORNIA AQUEDUCT, AND NORTH OF INTERSTATE 580. THE APPLICANT IS MIKE SOUZA AND THE PROPERTY OWNER IS TRACY PHASE 1, LLC. APPLICATION NUMBER TSM17-0001.

Bill Dean and Robert Armijo presented the staff report. Following a discussion, Chair Orcutt opened the public hearing. Mike Souza was the sole person to speak.

Chair Orcutt closed the public hearing.

ACTION It was moved by Commissioner Hudson, and seconded by Commissioner Tanner, that the Planning Commission recommend that the City Council approve the modifications of the Conditions of Approval for the Tracy Hills Vesting Tentative Subdivision Map, Phase 1A, Application Number TSM17-0001. Voice vote found all in favor; passed and so ordered.

B. PUBLIC HEARING TO CONSIDER A GENERAL PLAN AMENDMENT FROM OFFICE TO COMMERCIAL (APPLICATION NUMBER GPA16-0004) AND DEVELOPMENT REVIEW (APPLICATION NUMBER D16-0029) FOR A FOUR-STORY, 94-ROOM, HOME2 SUITES HOTEL AT THE NORTHWEST CORNER OF GRANT LINE ROAD AND CORRAL HOLLOW ROAD (APNS: 214-020-34 AND 35).

Alan Bell presented the staff report, and discussed four written comment letters (copies placed on the dais) that the City had received. Chair Orcutt called a brief recess at 7:34 p.m. to allow time for the Commissioners to review the letters, then reconvened the meeting at 7:41 p.m. and opened the public hearing.

Valerie and Lou Stallbaumer, 1980 Clearbrook Court, spoke. Cris Mina discussed traffic mitigation measures. Chair Orcutt thanked Mr. and Mrs. Stallbaumer for their comments.

Chair Orcutt closed the public hearing.

ACTION It was moved by Commissioner Hudson, and seconded by Commissioner Tanner, that the Planning Commission recommend that the City Council adopt the Mitigated Negative Declaration, approve the General Plan amendment, and approve the Development Review Permit as documented in the March 22, 2017, Planning Commission resolution, subject to the following requirements: (1) the applicant shall design a decorative element that may include a low, decorative wall, trellis, artwork, landscaping, or similar feature at the Grant Line Road/Corral Hollow Road corner to enhance the appearance of the site and the intersection; (2) the element shall be incorporated into the development plan when the project is considered by the City Council; and (3) the element shall be consistent with vision clearance and other City standards. A roll call vote found all in favor; passed and so ordered.

C. REVIEW AND RECOMMEND APPROVAL OF REVISED CITY WIDE DESIGN GOALS AND STANDARDS, A REVISED PLANNED UNIT DEVELOPMENT ORDINANCE (PUD) AND A REVISED DEVELOPMENT REVIEW ORDINANCE, APPLICATION NUMBER ZA17-0002.

Victoria Lombardo presented the staff report, and referred the Commissioners to the Landscape Maintenance Agreement sample document copies at the dais. The Commissioners discussed the levels of review for Development Review permits.

ACTION It was moved by Commissioner Tanner, and seconded by Commissioner Orcutt, that the Planning Commission recommend that the City Council approve: the revised City Wide Design Goals and Standards; a revised Planned Unit Development Ordinance (Article 13, Chapter 10.08); and a revised Development Review Ordinance (Article 30, Chapter 10.08) of the Tracy Municipal Code, as amended to include provisions for General Plan Areas of Special Consideration. Voice vote found all in favor; passed and so ordered.

2. ITEMS FROM THE AUDIENCE

None.

3. DIRECTOR'S REPORT

None.

4. ITEMS FROM THE COMMISSION

Chair Orcutt instructed the Commissioners that, should they meet with any developers in the future, they state so during the Planning Commission meeting for the public's benefit.

5. ADJOURNMENT

It was moved by Commissioner Hudson, and seconded by Commissioner Tanner, to adjourn.

Time: 9:03 p.m.

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CHAIR

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STAFF LIAISON

April 12, 2017

AGENDA ITEM 1-A

REQUEST

PUBLIC HEARING TO CONSIDER A CONDITIONAL USE PERMIT AND A PLANNED UNIT DEVELOPMENT PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR AN APPROXIMATELY 3,350 SQUARE FOOT AUTOMOTIVE SERVICE FACILITY (JIFFY LUBE) WITH ASSOCIATED PARKING AND LANDSCAPING ON AN APPROXIMATELY 0.71-ACRE SITE (ASSESSOR'S PARCEL NUMBER 238-600-33 AND A PORTION OF ASSESSOR'S PARCEL NUMBER 238-600-34), LOCATED ON THE SOUTH SIDE OF WEST GRANT LINE ROAD WITHIN THE TRACY MARKETPLACE COMMERCIAL CENTER. THE APPLICANT IS BOOS DEVELOPMENT WEST, LLC AND THE PROPERTY OWNER IS LAMORINDA DEVELOPMENT & INVESTMENT – APPLICATION NUMBERS CUP16-0009 AND D16-0025

DISCUSSION

Project Description and Location

The proposed project is a vehicle service facility (Jiffy Lube) and associated parking area improvements proposed to be constructed on a vacant 0.71-acre site to the east of Fast Track Car Wash and north of Les Schwab Tire Centers within the Tracy Marketplace commercial center (Attachment A). The project location is within the I-205 Corridor Specific Plan area. The site is zoned Planned Unit Development (PUD), is designated Commercial by the General Plan, and is designated General Commercial by the I-205 Corridor Plan, within which vehicle services are conditionally permitted. In accordance with the Tracy Municipal Code, the Planning Commission shall review conditionally permitted uses and the Planning Commission and the City Council shall review all Planned Unit Development Preliminary and Final Development Plans (PDP/FDP).

Land Use Analysis

The proposed vehicle service use will be compatible with the existing vehicle service, retail, restaurant, and personal service uses in operation in the Tracy Marketplace. The business hours of operation will be during normal daytime business hours and will not result in any negative impacts to other properties in its vicinity. The vehicle service use will complement the car wash, tire shop, and gasoline service station located near the subject site.

Architecture, Circulation, Parking, and Landscaping Analysis

The proposed project meets the City's Design Goals and Standards for commercial development. The buildings incorporate design elements, materials, and colors from nearby buildings, including varying roof heights, building relief, substantial cornices, use of stone, glass, and metal accents, and application of warm colors (Attachment A). The building succeeds at architecturally complementing nearby buildings rather than focusing on corporate image that may not be architecturally consistent with nearby buildings, as is required in the City's Design Goals and Standards.

The proposed parking area will provide adequate vehicular and pedestrian circulation in accordance with the requirements established in the TMC, City Standards, and I-205 Corridor Specific Plan, including driveway alignments with existing common drive aisles, providing through circulation such that there are no dead-end drives, extending the pedestrian connection through from and to adjacent sites, and providing a vehicle stacking area for the service bays. The drive aisle that runs north-south will allow for a future vehicular connection to the site to the east. In addition to the landscaping required in the parking area, accent landscaping is proposed around the building, and a large landscape planter is proposed at the front (north) of the site that will provide additional aesthetic benefits.

The project is proposed across two lots (Assessor's Parcel Numbers 238-600-33 and 238-600-34), and an existing property line runs through the location of the proposed building. The property owner is concurrently processing a lot line adjustment (Application Number MS17-0001) to move the property line as shown in Attachment A. This lot line adjustment is conditioned to be recorded prior to building permit approval.

Environmental Document

The proposed project is categorically exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 15332, which pertains to certain in-fill development projects. Because the project is consistent with the General Plan and Zoning, occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses, has no value as a habitat for endangered, rare or threatened species, would not result in any significant effects relating to traffic, noise, air quality, or water quality, and can be adequately served by all required utilities and public services, no further environmental assessment is necessary.

RECOMMENDATION

Staff recommends that the Planning Commission do the following:

1) Approve Conditional Use Permit Application Number CUP16-0009 for vehicle service use to take effect following City Council approval of the PDP/FDP for the vehicle service facility, based on the findings contained in the Planning Commission Resolution dated April 12, 2017; and

2) Recommend that the City Council approve the PDP/FDP for the vehicle service facility, Application Number D16-0025, subject to the conditions and based on the findings contained in the Planning Commission Resolution dated April 12, 2017.

MOTION

Move that the Planning Commission do the following:

1) Approve Conditional Use Permit Application Number CUP16-0009 for vehicle service use to take effect following City Council approval of the PDP/FDP for the vehicle service facility, based on the findings contained in the Planning Commission Resolution dated April 12, 2017; and

2) Recommend that the City Council approve the PDP/FDP for the vehicle service facility, Application Number D16-0025, subject to the conditions and based on the findings contained in the Planning Commission Resolution dated April 12, 2017.

Prepared by: Kimberly Matlock, Associate Planner
Reviewed by: Bill Dean, Assistant Development Services Director
Approved by: Andrew Malik, Development Services Director

ATTACHMENTS

Attachment A – Vicinity Map, Site, Floor, Landscape, Civil, Elevation Plans and Color Rendering
Attachment B – Planning Commission Resolution for CUP
Attachment C – Planning Commission Resolution for PDP/FDP

A16013\dwg\A16013 EXH 2-8-17.dwg

COSTCO

COSTCO GAS STATION

KINDER'S

GOLDEN ONE

LANDS OF FURTADO

BANK OF AMERICA PLAZA THREE

WALMART

HOME GOODS

MICHAEL'S

BED BATH & BEYOND

MANCINI SLEEP WORLD

PLAZA TWO

MEL'S DINER

FIVE GUY'S

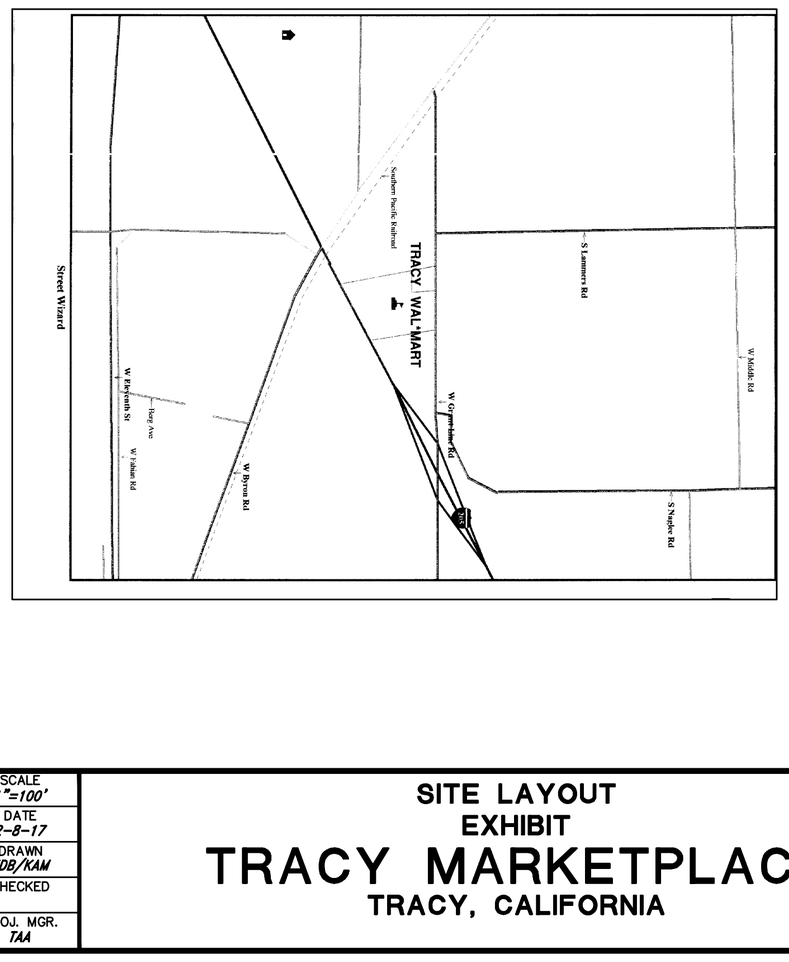
BURGER KING

TACO BELL

WIENER SCHNITZEL

BETMO

GOLDEN CORRAL



GRAPHIC SCALE
(IN FEET)
0 100 200 300

DATE	MK	SHEET REVISIONS	BY	CK

SCALE 1"=100'
DATE 2-8-17
DRAWN KDB/KAM
CHECKED
PROJ. MGR. TAA

JOB NO. A16013
SHEET NO. C0
OF 3 SHEETS

SITE LAYOUT EXHIBIT
TRACY MARKETPLACE
TRACY, CALIFORNIA

RAK CIVIL ENGINEERS
ROBERT A. KARN & ASSOCIATES, INC.
707 BECK AVENUE
FAIRFIELD, CALIFORNIA 94533
Phone: (707) 435-9999 Fax: (707) 435-9988
e-mail: rakerakengineers.com

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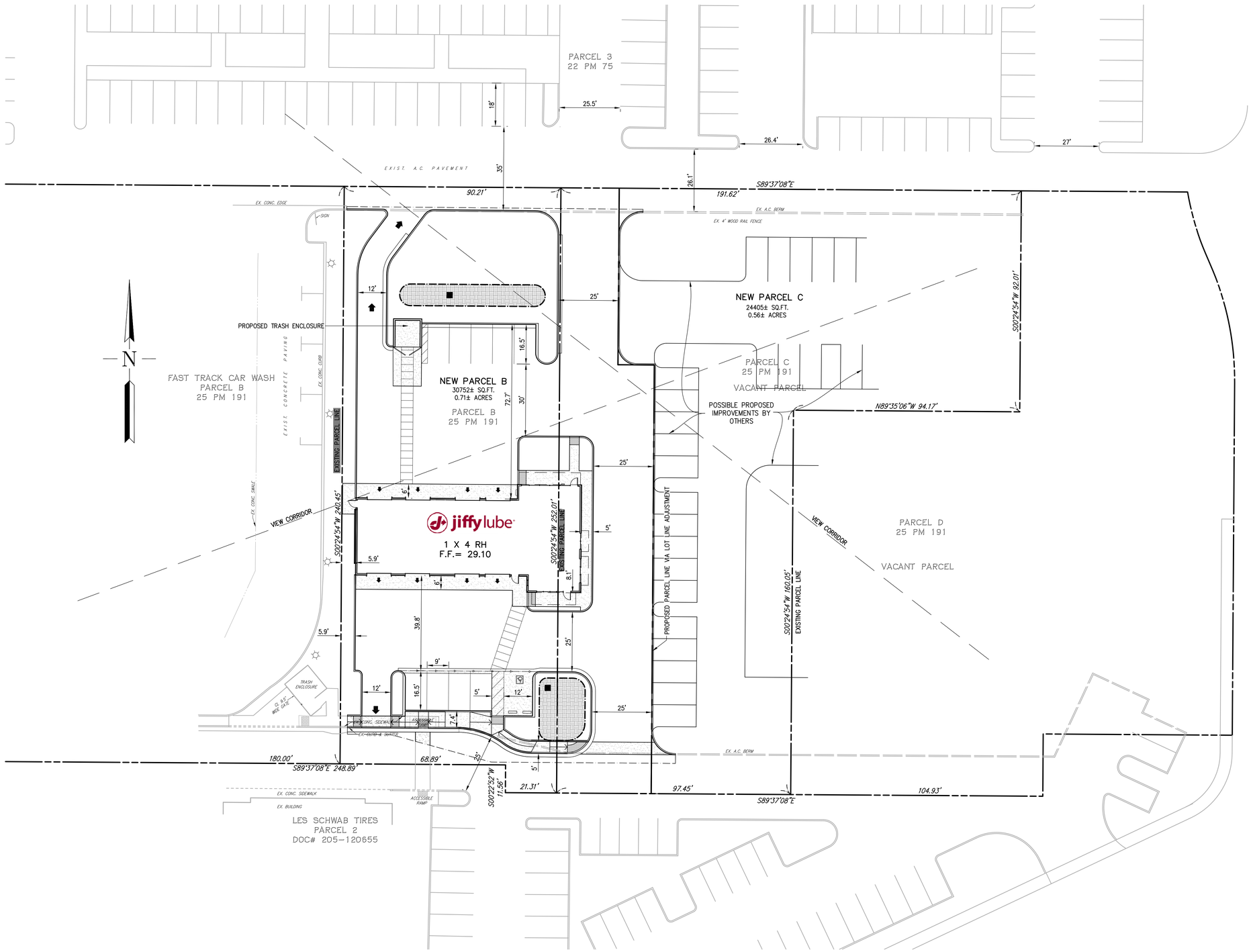

LEGEND:

	PROPOSED	EXISTING
BOUNDARY LINE		
EASEMENT LINE		
DRAINAGE INLET	■	
MANHOLE	●	○
SITE LIGHT		☼
VERTICAL CURB		
CURB AND GUTTER		
ASPHALT BERM		
PAVEMENT SAWCUT LINE		
CONCRETE SURFACE		
NEW ASPHALT PAVING		
BIO-RETENTION DRAINAGE TREATMENT AREA		

PROPERTY DESCRIPTION:

ADDRESS: W. GRANT LINE RD. AT S. LAMMER RD.
TRACY (SAN JOAQUIN COUNTY), CA

APN: 238-600-33 AND A PORTION OF 238-600-34

PROPOSED PARCEL AREA: 30,752± SQ.FT. 0.71 ACRES

BUILDING DESCRIPTION:

JIFFY LUBE 1X4 RH
3,305 SQUARE FEET
BUILDING HEIGHT 22'-2"

PARKING SUMMARY:

STANDARD	9
COMPACT	0
ACCESSIBLE	1
TOTAL	10

COVERAGE TABULATION:

BUILDING AREA & FOOTPRINT:	3,305 S.F.
LANDSCAPING:	5,665 S.F.
OPEN SPACE:	0 S.F.
PAVED AREA:	21,782 S.F.

MATURE TREES CANOPY COVERAGE: (SEE LANDSCAPE PLAN)

ROBERT A. KARN & ASSOCIATES, INC.
CIVIL ENGINEERS
707 BECK AVENUE
FAIRFIELD, CALIFORNIA 94533
Phone: (707) 425-0988 FAX: (707) 425-9988
e-mail: rakarkengineers.com

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PRELIMINARY SITE PLAN

JIFFY LUBE

CITY OF TRACY, CALIFORNIA

FOR: BOOS DEVELOPMENT GROUP INC.

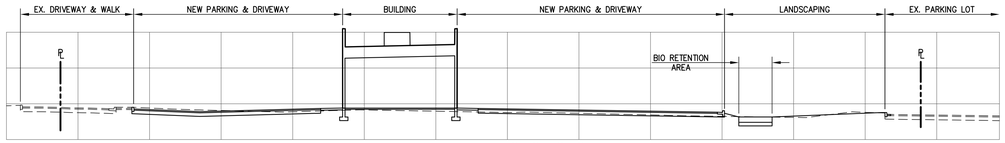
SCALE	DATE	DRAWN	CHECKED	PROJ. MGR.
1"=20'	3-21-17	A.B.L.	M.K.	I.W.P.

DATE	MK	BY	CK
SHEET REVISIONS			

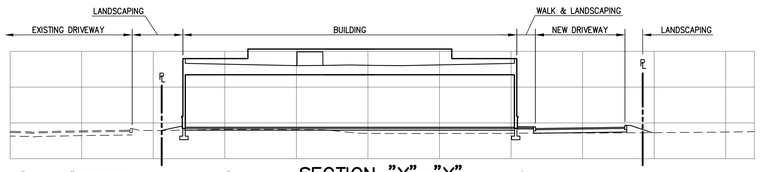
SHEET NO.
C1
OF 2 SHEETS
JOB NO.
A16013

PLOT DATE: March 21, 2017

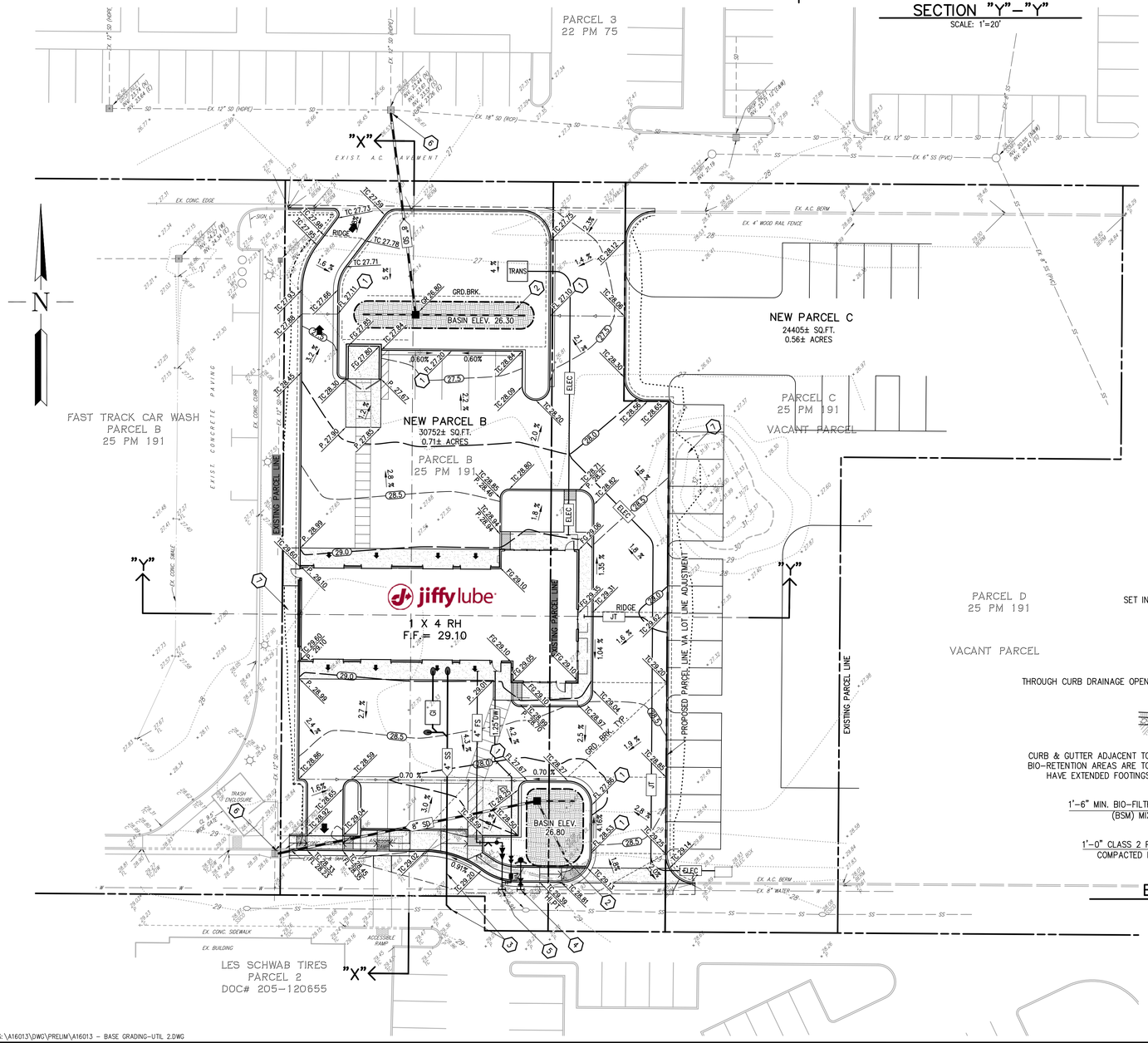
S:\A16013\DWG\PRELIM\A16013 - BASE GRADING-UTIL 2.DWG

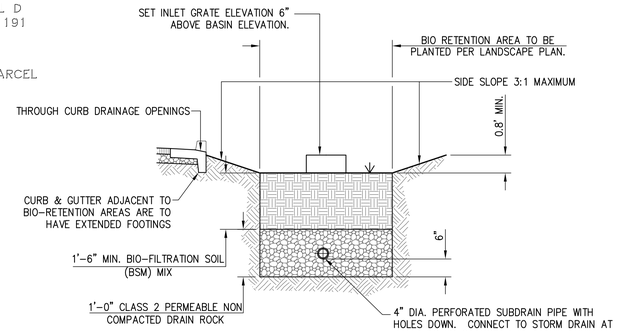


SECTION "X"–"X"
SCALE: 1"=20'



SECTION "Y"–"Y"
SCALE: 1"=20'





BIO–RETENTION AREA SECTION
NO SCALE
BIO RETENTION.DWG

LEGEND:

	PROPOSED	EXISTING
BOUNDARY LINE		
EASEMENT LINE		
WATER LINE	W	W
DOMESTIC WATER SERVICE	DW	
FIRE SERVICE	FS	FS
SANITARY SEWER LINE	6" SS	SS
STORM DRAIN PIPE	SD	SD
DRAINAGE INLET		
WATER METER	WM	
MANHOLE		
WATER VALVE		
CLEANOUT		
FIRE HYDRANT		
BACKFLOW PREVENTION DEVICE		
TRAFFIC SIGN		
SITE LIGHT		
VERTICAL CURB		
CURB AND GUTTER		
ASPHALT BERM		
ELEVATION CONTOUR	27.0	27
GRADE BREAK		
FLOW LINE SWALE		
PAVEMENT SAWCUT LINE		
GRADING DAYLITE		
SPOT ELEVATION		× 25.44
FLOW LINE ELEVATION	FL 25.44	× 25.44 FL
FINISH GRADE ELEVATION	FG 25.44	× 25.44 FG
TOP OF CURB ELEVATION	TC 25.45	× 25.44 TC
PAVEMENT ELEVATION	P. 25.45	× 25.44 P
CONCRETE SURFACE		
NEW ASPHALT PAVING		
BIO–RETENTION DRAINAGE TREATMENT AREA		

CONSTRUCTION NOTES:

1. CONSTRUCT A THRU CURB DRAINAGE OPENING TO BIO–RETENTION TREATMENT AREA. CONSTRUCT OPENINGS AT LOW POINTS AND AT 20 FOOT INTERVALS FRONTING BIO–RETENTION TREATMENT AREA.
2. CONSTRUCT BIO–RETENTION TREATMENT AREA PER DETAIL ON THIS SHEET.
3. PROPOSED SANITARY SEWER LATERAL SERVICE CONNECTION TO LOCAL MAIN.
4. PROPOSED FIRE HYDRANT. CONNECT TO ADJACENT MAIN.
5. PROPOSED DOMESTIC, FIRE AND LANDSCAPE WATER SERVICE. CONNECT TO ADJACENT MAIN.
6. NEW STORM DRAIN CONNECTION AT EXISTING INLET STRUCTURE.
7. GRADE 3:1 SLOPE FROM NEW CURB GRADE TO DAYLITE WITH EXISTING.

0 20 40 60
GRAPHIC SCALE

ROBERT A. KARN & ASSOCIATES, INC.
CIVIL ENGINEERS
707 BECK AVENUE
FAIRFIELD, CALIFORNIA 94533
Phone: (707) 425-0988 FAX: (707) 425-9988
e-mail: rakarkengineers.com

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PRELIMINARY GRADING AND UTILITY PLAN

JIFFY LUBE

CITY OF TRACY, CALIFORNIA

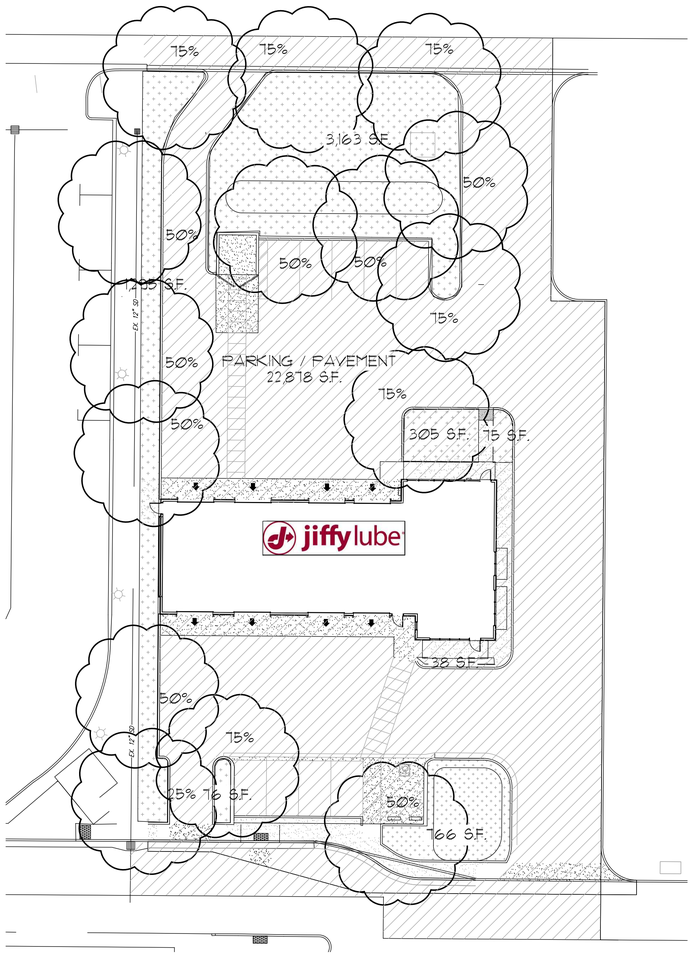
FOR: BOOS DEVELOPMENT GROUP INC.

SCALE	DATE	DRAWN	CHECKED	PROJ. MGR.
1"=20'	3-21-17	A.B.C.	T.W.P.	T.W.P.

SHEET REVISIONS	DATE	MK	BY	CK

SHEET NO.
C2
OF 2 SHEETS
JOB NO.
A16013

PLOT DATE: March 21, 2017
S:\A16013\DWG\PRELIM\A16013 – BASE GRADING–UTIL 2.DWG



LEGEND

- PARKING AND PAVEMENT AREA
- LANDSCAPE AREA ADJACENT TO PARKING / PAVING
- SHADE TREE

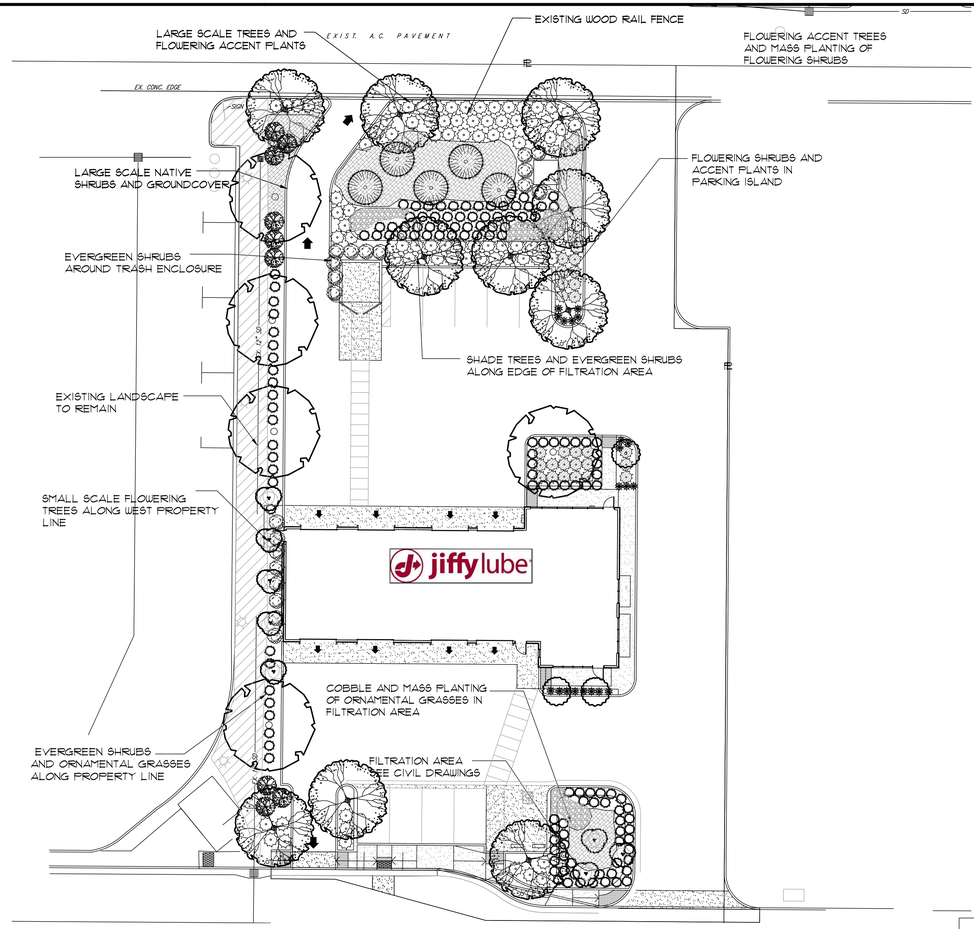
LANDSCAPE REQUIREMENTS

OVERALL PARKING PAVEMENT AREA	= 22,878 SF.
LANDSCAPE AREA REQUIRED	= 1,144 SF./ 5%
LANDSCAPE AREA PROVIDED	= 5,529.1 SF. / 24%
SHADE REQUIRED	= 9,151 SF. / 40%
SHADE PROVIDED	= 10,990 SF / 48%

10 PARKING STALLS / 2 TREES REQUIRED (1:5)
10 PARKING STALLS / 5 TREES PROVIDED (1:2)
15 SHADE TREES OVERALL

PROPOSED SHADE TREES	MATURE CANOPY	SHADE PROVIDED
QUERCUS COCCINEA	40' DIAMETER / 1,256 SF	1 TREES @ 25% = 314 SF 4 TREES @ 50% = 2,512 SF 5 TREES @ 75% = 4,710 SF
PISTACIA CHINENSIS	40' DIAMETER / 1,256 SF	4 TREES @ 50% = 2,512 SF 1 TREE @ 75% = 942 SF
	SHADE PROVIDED	= 10,990 SF

SHADE TREE EXHIBIT



CONCEPTUAL PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS WATER USE	MATURE SIZE
	COTINUS C. 'ROYAL PURPLE'	SMOKE TREE	.3 / LOW	10' x 8'
	LAGERSTROEMIA HYB.	MULTI TRUNK CRAPE MYRTLE	.3 / LOW	12' x 10'
	LAURUS N. 'SARATOGA'	GRECIAN LAUREL	.3 / LOW	20' x 12'
	PISTACIA CHINENSIS	CHINESE PISTACHE	.3 / LOW	30'- 60" x 30' - 60
	QUERCUS COCCINEA	SCARLET OAK	.3 / LOW	60' x 40'
	ABELIA 'CONFETTI'	LOW GROWING ABELIA	.5 / MED	2' x 3'
	ARCTOSTAPHYLOS DR HURD	TREE MANZANITA	.3 / LOW	12' x 12'
	BERBERIS T. 'ATROPURPUREA'	JAPANESE BARBERRY	.3 / LOW	4' x 4'
	CALLISTEMON V. 'LITTLE JOHN'	DWARF BOTTLE BRUSH	.3 / LOW	3' x 4'
	CALYLPHUS BERIANDIERI	SUNDROPS	.3 / LOW	1' x 2'
	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	.3 / LOW	30" X 30"
	HEMEROCALLIS 'STELLA D'ORA'	EVERBLOOMING DAYLILY	.5 / MED	2' x 2'
	LAGERSTROEMIA HYB.	PETITE SERIES SHRUB	.3 / LOW	4' x 3'
	LAVANDULA HYB.	LAVENDER	.3 / LOW	3' x 3'
	NERIUM 'PETITE RED'	DWARF OLEANDER	.3 / LOW	4' x 4'
	PENNISETUM SP.	FOUNTAIN GRASS	.3 / LOW	3' x 3'
	PHORMIUM TENAX	DWARF NEW ZEALAND FLAX	.3 / LOW	3' x 3'
	ROSA HYB.	ROSA HYB.	.5 / MED	3' x 3'
	SALVIA SP.	FLOWERING SAGE	.3 / LOW	3' x 3'
	TEUCRIUM F. 'COMPACTUM'	BUSH GERMANDER	.3 / LOW	3' x 3'
	CAREX DIVULSA	CAREX DIVULSA	.3 / LOW	1' x 2'
	CISTUS SP.	ROCKROSE	.3 / LOW	2' X 4'
	LEYMUS 'CANYON PRINCE'	LEYMUS 'CANYON PRINCE'	.3 / LOW	3' x 3'
	COTONEASTER 'LOW FAST'	COTONEASTER	.3 / LOW	1' x 5'
	MUHLENBERGIA RIGENS	DEER GRASS	.3 / LOW	3' X 4'
	LOMANDRA LONGIFOLIA	DWARF MAT RUSH	.3 / LOW	3' x 3'

GENERAL LANDSCAPE NOTES

ALL LANDSCAPE AREA SHALL BE WATERED WITH A BURIED, AUTOMATICALLY CONTROLLED IRRIGATION SYSTEM. LOW VOLUME , MPR NOZZLES AND DRIP WILL BE USED WHERE APPROPRIATE FOR WATER CONSERVATION.

ALL LANDSCAPE AREAS SHALL BE COVERED WITH A 4" LAYER OF BARK MULCH TOP DRESSING.

ALL TREES SHALL BE INSTALLED AT A MINIMUM OF 15 GAL. SIZE. ALL SHRUBS SHALL BE INSTALLED AT A 5 GAL. SIZE, EXCEPT ACCENT AND GROUNDCOVER SHRUBS.

LANDSCAPE PLANS COMPLY WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AB1881 AND HAVE APPLIED SUCH CRITERIA FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN. WATER USE CALCULATIONS SHALL E PROVIDED WITH CONSTRUCTION DOCUMENTS.

N
(REFERENCE)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

CONCEPTUAL LANDSCAPE PLAN

DISCLAIMER: ALL VELLUM, BOND, TRACE, BLUEPRINT, ETC. DRAWINGS PROVIDED WITH BORRECCO/KILIAN & ASSOCIATES, INC. (BK&A) LANDSCAPE ARCHITECTS, TITLE BLOCK AND/OR SIGNATURE STAMP, IS CONSIDERED TO BE A COPY OF THE ORIGINAL DESIGN RETAINED BY BK&A IN ELECTRONIC FORMAT. BK&A WILL ONLY ACKNOWLEDGE SIGNED AND STAMPED PLANS AND DRAWINGS AFTER COMPARISON AND WRITTEN VERIFICATION WITH THE ORIGINAL ELECTRONIC FILES RETAINED BY BK&A. NO RESPONSIBILITY OR LIABILITY IS EXPRESSED OR IMPLIED FOR ELECTRONIC DATA AND/OR REPRODUCED PLANS AND DRAWINGS USED WITHOUT BK&A'S SIGNATURE.

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BORRECCO/KILIAN & ASSOCIATES, INC.
LANDSCAPE ARCHITECTS
1241 Pine Street
Martinez, California 94553
Phone: 925/372-5306
FAX: 925/372-5308

REGISTERED LANDSCAPE ARCHITECT
Brian F. Kilian
No. 3359
Signature
Date
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION

TITLE OF PROJECT
JIFFY LUBE
TRACY, CA

DATE: 3/20/17
DRAWN BY: KDF

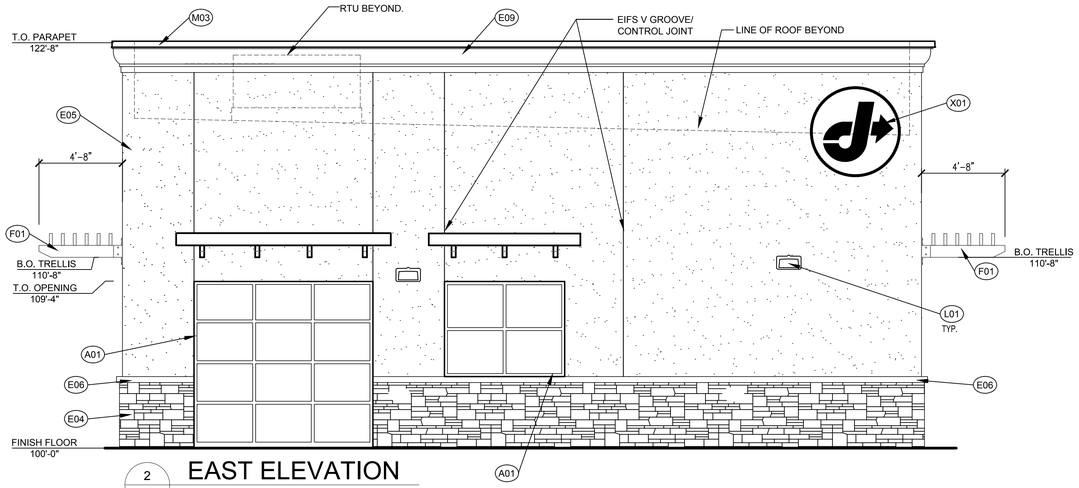
THIS PLAN IS:

SHEET NUMBER
L-1

TITLE OF DRAWING:

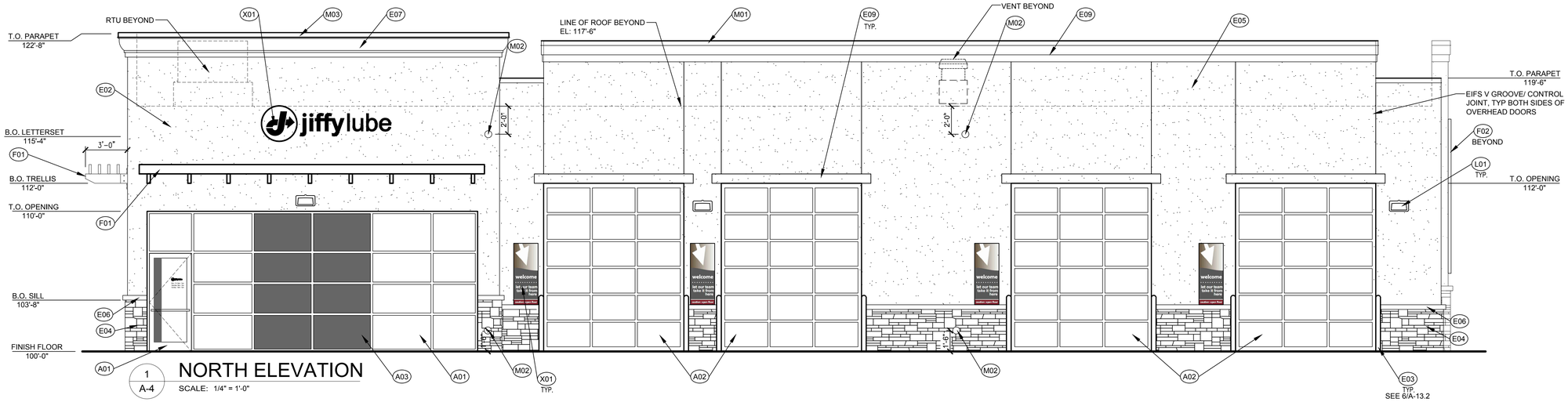
M:\Jiffy Lube Tracy\MARCH 2017\Jiffy Lube CLP 5.dwg Mar. 21, 2017 - 11:41am Administrator

MARK	EXTERIOR FINISH SCHEDULE:	MATERIAL	MFR #	COLOR
A01	STOREFRONT WITH 1" INSULATED CLEAR GLAZING	ANODIZED ALUMINUM	KAWNEER	CLEAR ANODIZED
A02	OVERHEAD DOORS. SEE DOOR SCHEDULE FOR FINISHES	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
A03	STOREFRONT WITH 1" INSULATED SPANDREL GLAZING	ANODIZED ALUMINUM	KAWNEER	- -
E01	SIGN POLES / FENCES	PAINT (SATIN / SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
E02	EXT. WALLS ABOVE WAINSCOT. EIFS. SAND-PEBBLE FINE FINISH	EIFS	STO	SUEDE
E03	TRAFFIC BOLLARDS	PAINT (SEMI-GLOSS)	SW2905	CARMINE
E04	EXT. WALLS: STONE VENEER WAINSCOT.	STONE VENEER	HARRISTONE	CHIEF JOSEPH BROWN
E05	EXT. WALLS: EIFS	EIFS	STO	SANDALWOOD BEIGE
E06	EXT. WALLS: EIFS WAINSCOT CAP. SEE DETAIL 9/A-7	EIFS	STO	SUEDE
E07	EXT. WALLS: EIFS ACCENT	EIFS	STO	PECOS
E08	EXT. DOORS AND TRIM	PAINT (SATIN/SEMI-GLOSS)	SW6113 SW2827	INTERACTIVE CREAM COLONIAL REVIVAL STONE
E09	EXT. WALLS: EIFS ACCENT	EIFS	STO	SUEDE
F01	TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
F02	WALL TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
L01	EXTERIOR LIGHTING. SEE ELECTRICAL	- -	- -	CLEAR ANODIZED
M01	METAL PARAPET CAP	PRE-FINISHED METAL	SW2827	COLONIAL REVIVAL STONE
M02	METAL DISCHARGE NOZZLE. PAINT TO MATCH E02 ABOVE.	PAINT (SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
M03	METAL PARAPET CAP	PRE-FINISHED METAL	SW6103	TEA CHEST LRV
X01	SIGNAGE. PROVIDED AND INSTALLED BY SIGN VENDOR	- -	- -	- -



2 A-4 EAST ELEVATION

SCALE: 1/4" = 1'-0"



1 A-4 NORTH ELEVATION

SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

design west | architects

255 SOUTH 300 WEST LOGAN UT 84321

795 NORTH 400 WEST SALT LAKE CITY UT 84103

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jiffy lube®

STANDARD BRAKES AND SERVICES

CRITERIA V2016.1-1X4 -SM

TRACY, CA

W GRANT LINE RD & S LAMMERS RD

ISSUED DATES
PROGRESS SET:
PERMIT:
BID:
CONSTRUCTION:
REVISIONS

PROFESSIONAL OF RECORD
PHONE: 314-821-1100

DRAWN BY
PALMER

CHECKED BY
PIENEZZA

STORE NUMBER

PROJECT NO.
416231

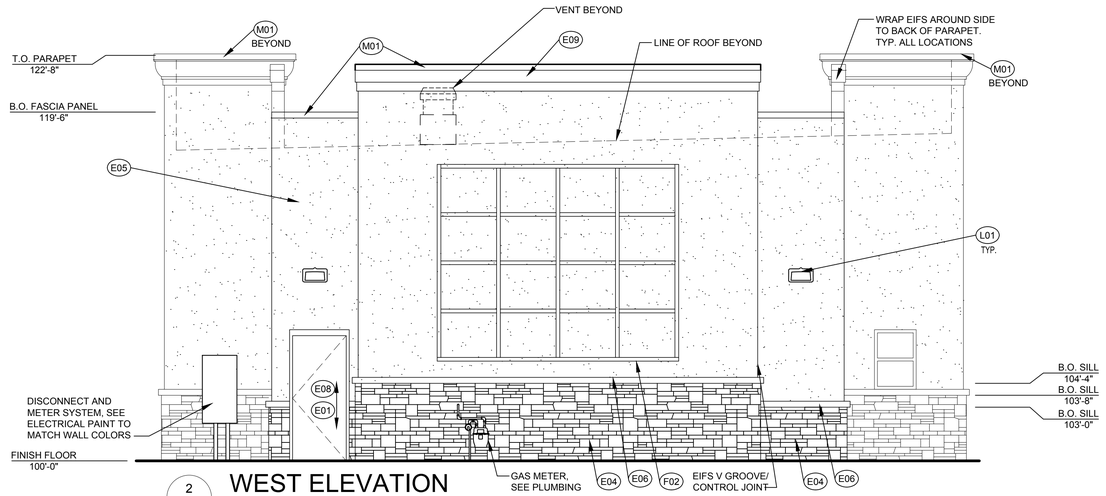
ISSUE DATE
04/04/2017

SCALE
1/4" = 1'-0"

SHEET NUMBER

A-4

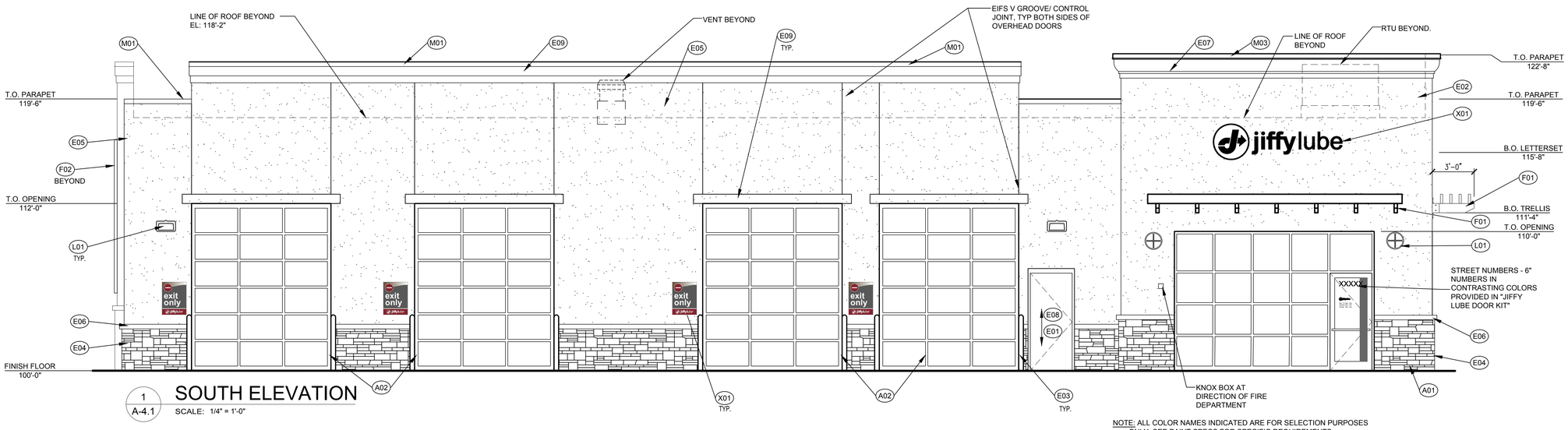
MARK	EXTERIOR FINISH SCHEDULE:	MATERIAL	MFR #	COLOR
A01	STOREFRONT WITH 1" INSULATED CLEAR GLAZING	ANODIZED ALUMINUM	KAWNEER	CLEAR ANODIZED
A02	OVERHEAD DOORS. SEE DOOR SCHEDULE FOR FINISHES	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
A03	STOREFRONT WITH 1" INSULATED SPANDREL GLAZING	ANODIZED ALUMINUM	KAWNEER	- -
E01	SIGN POLES / FENCES	PAINT (SATIN / SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
E02	EXT. WALLS ABOVE WAINSCOT. EIFS. SAND-PEBBLE FINE FINISH	EIFS	STO	SUEDE
E03	TRAFFIC BOLLARDS	PAINT (SEMI-GLOSS)	SW2905	CARMINE
E04	EXT. WALLS: STONE VENEER WAINSCOT.	STONE VENEER	HARRISTONE	CHIEF JOSEPH BROWN
E05	EXT. WALLS: EIFS	EIFS	STO	SANDALWOOD BEIGE
E06	EXT. WALLS: EIFS WAINSCOT CAP. SEE DETAIL 9/A-7	EIFS	STO	SUEDE
E07	EXT. WALLS: EIFS ACCENT	EIFS	STO	PECOS
E08	EXT. DOORS AND TRIM	PAINT (SATIN/SEMI-GLOSS)	SW6113 SW2827	INTERACTIVE CREAM COLONIAL REVIVAL STONE
E09	EXT. WALLS: EIFS ACCENT	EIFS	STO	SUEDE
F01	TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
F02	WALL TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
L01	EXTERIOR LIGHTING. SEE ELECTRICAL	- -	- -	CLEAR ANODIZED
M01	METAL PARAPET CAP	PRE-FINISHED METAL	SW2827	COLONIAL REVIVAL STONE
M02	METAL DISCHARGE NOZZLE. PAINT TO MATCH E02 ABOVE.	PAINT (SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
M03	METAL PARAPET CAP	PRE-FINISHED METAL	SW6103	TEA CHEST LRV
X01	SIGNAGE. PROVIDED AND INSTALLED BY SIGN VENDOR	- -	- -	- -



2 A-4.1

WEST ELEVATION

SCALE: 1/4" = 1'-0"



1 A-4.1

SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

NOTE: ALL COLOR NAMES INDICATED ARE FOR SELECTION PURPOSES ONLY. SEE PAINT SPECS FOR SPECIFIC REQUIREMENTS
.DESCRIPTION: (ALL "SHERWIN / WILLIAMS" NUMBERS 'SW' COLORS)
-APPLY CLEAR COAT (E-04) OVER CARMINE (E-03) ON EXTERIOR APPLICATIONS.

EXTERIOR ELEVATIONS

design west | architects

255 SOUTH 300 WEST LOGAN UT 84321

795 NORTH 400 WEST SALT LAKE CITY UT 84103

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STANDARD BRAKES AND SERVICES
CRITERIA V2016.1-1X4 -SM

TRACY, CA

W GRANT LINE RD & S LAMMERS RD

ISSUED DATES
PROGRESS SET:
PERMIT:
BID:
CONSTRUCTION:
REVISIONS

PROFESSIONAL OF RECORD
PHONE: 314-821-1100

DRAWN BY
PALMER

CHECKED BY
PIENEZZA

STORE NUMBER

PROJECT NO.
416231

ISSUE DATE
04/04/2017

SCALE
1/4" = 1'-0"

SHEET NUMBER

A-4.1

design west | architects
255 SOUTH 300 WEST LOGAN UT 84321
795 NORTH 400 WEST SALT LAKE CITY UT 84103

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GENERAL NOTES

1. ALL INTERIOR DIMENSIONS ARE TO FACE STUD. UNLESS NOTED OTHERWISE.
2. COORDINATE CONCRETE WALKS AND STOOPS WITH CIVIL PLANS.
3. PROVIDE JUNCTION BOX WITH ACCESS FOR SIGN INSTALLATION AT EACH LOCATION. COORDINATE WITH NATIONAL SIGN VENDORS (AGI - JODY MUNSEY, PHONE: 865-692-1242 OR ICON - JON LUCAS, PHONE: 281-693-7646) FOR SIGN SPECIFICATIONS. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
4. ALL INTERIOR PARTITIONS IN THE CUSTOMER/ CASHIER AREA BETWEEN GRID LINES '3' AND '4' SHOULD BE 11'-0" TALL, **UNLESS NOTED OTHERWISE**.

(#) SYMBOL PLAN KEY NOTES

1. PAINTED ARROW BOTH SIDES (F-07 SAFETY YELLOW) (12"W x 24"L), TYP OF (8)
2. DOWNSPOUT - SEE SHEET A-3 FOR MORE INFORMATION.
3. SLAB OPENINGS FOR DUCT, COORDINATE WITH MECHANICAL DRAWINGS.
4. PIPE BOLLARD - SEE DETAIL 6/A-13.2 FOR MORE INFORMATION.
5. 2-1/2" SLEEVE OPENING FOR AIR BELOW.
6. GC TO PROVIDE BLOCKING IN WALL FOR MOUNTING OF FLAT SCREEN TV & MONITORS
7. 4" DIA. PVC SLEEVE OPENING FOR VACUUM.
8. CHAIR RAIL/CORNER GUARDS- INPRO- 2500 CHAIR RAIL- (TAUPE 0113) GC TO CONFIRM MOUNTING HEIGHT IS ADJUSTED TO PREVENT BACK OF CHAIR FROM HITTING WALL.
9. DIAMOND PLATE, TYP OF (2). SEE DETAIL1/A-13.2.
10. RECESSED SLAB FOR ALIGNMENT LIFT, SEE STRUCT. AND DETAIL 3/A-13.2.
11. WHEEL GUARD, TYP OF (2). SEE DETAIL1/A-13.2.
12. BLOCKOUT FOR PRODUCT DISPENSE CONSOLE, VERIFY WITH OWNER'S REP
13. EYEWASH STATION- SEE PLUMBING DRAWINGS FOR MORE INFORMATION.
14. NOT USED
15. WATER HEATER LOCATED 9'-6" A.F.F. - SEE PLUMBING DRAWINGS FOR MORE INFORMATION.
16. EXPOSED STEEL PLATE TOE KICK ALONG BASE OF GUARDRAIL AND PIT OPENING, SEE STRUCTURAL.
17. RECESSED VEHICLE LIFT - PROVIDE BLOCKOUT FOR LIFT. SEE DETAIL 5/A13.2.
18. MOP SINK, REFER TO PLUMBING DRAWINGS.
19. STAIR, SEE 6/A-5 FOR DETAILS.
20. SLAB OPENING FOR SERVICE, TYP OF (2)
21. DISCONNECT AND METER SYSTEM, SEE ELECTRICAL.
22. ARCHITECTURAL ACM WALL PANEL, REFER TO BRAND GUIDELINES AND EXTERIOR ELEVATIONS.
23. ACM CANOPY OVERHANG BY SIGN VENDOR.
24. STEEL POST SUPPORTS IN LOW WALL, TYP. OF (4) SEE DETAIL 9/A-7.1.
25. FLOOR ACCESS HATCH AND LADDER FROM LOWER BAY AREA, SEE DETAIL 8/A-7.1.
26. CONCRETE APRON, FINISH TO BE BLACK. SEE STRUCTURAL FOR REINFORCEMENT
27. SIDEWALK, SEE CIVIL
28. FIRE EXTINGUISHER, (BY GC) VERIFY EXACT LOCATION WITH FIRE MARSHAL.
29. WOOD COLUMNS, SEE STRUCTURAL SHEETS.
30. GAS METER, SEE PLUMBING DRAWINGS.
31. DOMESTIC WATER SERVICE, SEE PLUMBING DWGS.
32. NOT USED
33. PROVIDE SOUND BATTS IN THIS WALL.
34. PROVIDE YELLOW SAFETY GATE SKU # AGNA036PC BY SIMPLIFIED SAFETY (866) 527-2275 OUT OF ROCHESTER NY.
35. PROVIDE 1 1/2" 60" TALL STAINLESS STEEL CORNER GUARDS AT LOCATIONS NOTED. SECURE WITH PAN HEAD SCREWS @ 6" OC. MIN. MODIFY AT SHORT WALL.
36. KEY DROP BOX REFER TO EXTERIOR ELEVATIONS A4.
37. ROOF DRAIN PIPE

PARTITION LEGEND

P1	2 X 6 WOOD STUDS WITH R21 BATT INSULATION IN CAVITIES, WITH 1/2" PLYWOOD & 2" EIFS ON EXTERIOR SIDE, 1/2" PLYWOOD W/ FRP TO 48" A.F.F. & GYP ABOVE INSIDE. (SEE STRUCT. FOR STUD SPACING)
P2	2 X 6 WOOD STUDS WITH R21 BATT INSULATION IN CAVITIES, WITH 1/2" PLYWOOD AND 2" EIFS ON EXTERIOR SIDE, 5/8" GYP BD. ON INTERIOR SIDE. (SEE STRUCT. FOR STUD SPACING)
P3	2 X 4 WOOD STUDS @ 16" O.C., WITH 5/8" GYP BD. EA. SIDE. REFER TO GENERAL NOTE #4.
P4	2 X 6 WOOD STUDS @ 16" O.C., WITH R21 BATT INSULATION IN CAVITIES, WITH 5/8" GYP BD. EA. SIDE. PROVIDE M.R. GYP BOARD IN WET AREAS. ON DEMISING WALL BETWEEN CUSTOMER SALES ROOM AND OIL SERVICE BAYS, PROVIDE 1/2" PLYWOOD W/ FRP TO 48" A.F.F. **ON SERVICE BAY SIDE ONLY**.
P5	(2) 2 X 4 WOOD STUDS @ 16" O.C., WITH 5/8" GYP BD. EA. SIDE.
P6	2 X 4 WOOD STUDS @ 16" O.C., FRP OVER 5/8" PLYWOOD. EA. SIDE. LOW WALL 42" HIGH (48" @ STAIRS), CAP WITH PAINTED 2x6. SEE DETAIL 9/A7.1 FOR STEEL POST WALL REINFORCEMENT.

UPPER BAY FLOOR PLAN

1 / A-2

SCALE: 1/4" = 1'-0"

FLOOR PLAN - UPPER BAY

design west | architects

255 SOUTH 300 WEST LOGAN UT 84321

795 NORTH 400 WEST SALT LAKE CITY UT 84103

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jiffy lube®

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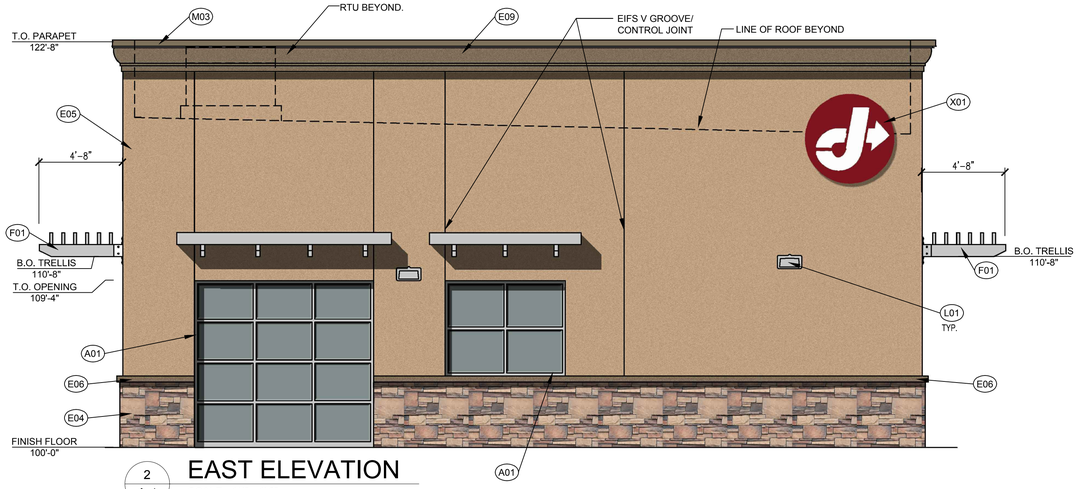
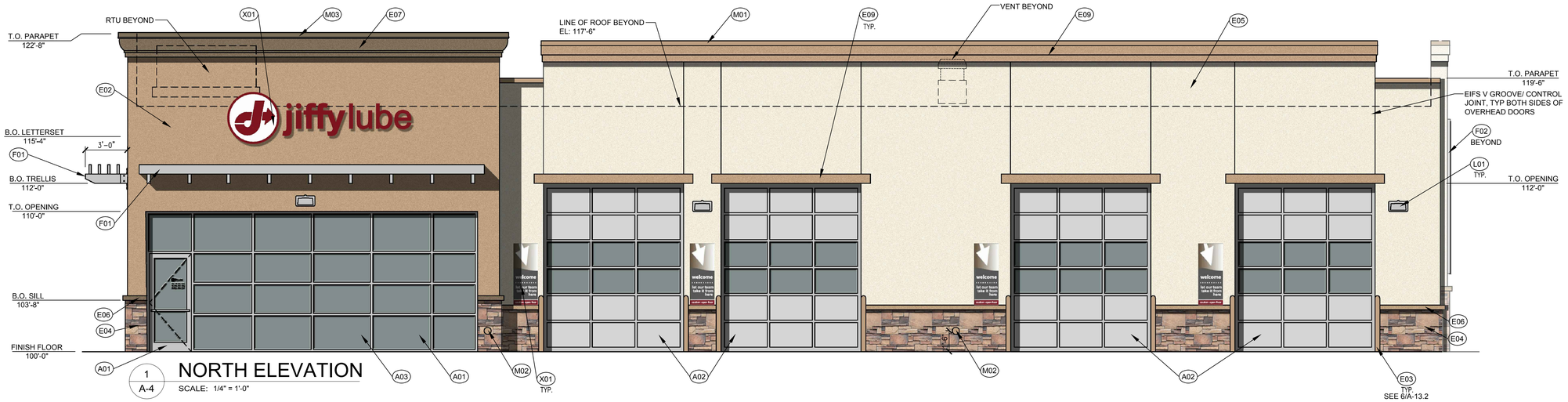
SHEET NUMBER
A-2

MARK	EXTERIOR FINISH SCHEDULE:	MATERIAL	MFR #	COLOR
A01	STOREFRONT WITH 1" INSULATED CLEAR GLAZING	ANODIZED ALUMINUM	KAWNEER	CLEAR ANODIZED
A02	OVERHEAD DOORS. SEE DOOR SCHEDULE FOR FINISHES	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
A03	STOREFRONT WITH 1" INSULATED SPANDREL GLAZING	ANODIZED ALUMINUM	KAWNEER	- -
E01	SIGN POLES / FENCES	PAINT (SATIN / SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
E02	EXT. WALLS ABOVE WAINSCOT. EIFS. SAND-PEBBLE FINE FINISH	EIFS	STO	SUEDE
E03	TRAFFIC BOLLARDS	PAINT (SEMI-GLOSS)	SW2905	CARMINE
E04	EXT. WALLS: STONE VENEER WAINSCOT.	STONE VENEER	HARRISTONE	CHIEF JOSEPH BROWN
E05	EXT. WALLS: EIFS	EIFS	STO	SANDALWOOD BEIGE
E06	EXT. WALLS: EIFS WAINSCOT CAP. SEE DETAIL 9/A-7	EIFS	STO	SUEDE
E07	EXT. WALLS: EIFS ACCENT	EIFS	STO	PECOS
E08	EXT. DOORS AND TRIM	PAINT (SATIN/SEMI-GLOSS)	SW6113 SW2827	INTERACTIVE CREAM COLONIAL REVIVAL STONE
E09	EXT. WALLS: EIFS ACCENT	EIFS	STO	SUEDE
F01	TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
F02	WALL TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
L01	EXTERIOR LIGHTING. SEE ELECTRICAL	- -	- -	CLEAR ANODIZED
M01	METAL PARAPET CAP	PRE-FINISHED METAL	SW2827	COLONIAL REVIVAL STONE
M02	METAL DISCHARGE NOZZLE. PAINT TO MATCH E02 ABOVE.	PAINT (SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
M03	METAL PARAPET CAP	PRE-FINISHED METAL	SW6103	TEA CHEST LRV
X01	SIGNAGE. PROVIDED AND INSTALLED BY SIGN VENDOR	- -	- -	- -



2 A-4 EAST ELEVATION

SCALE: 1/4" = 1'-0"



1 A-4 NORTH ELEVATION

SCALE: 1/4" = 1'-0"

EXTERIOR ELEVATIONS

design west | architects

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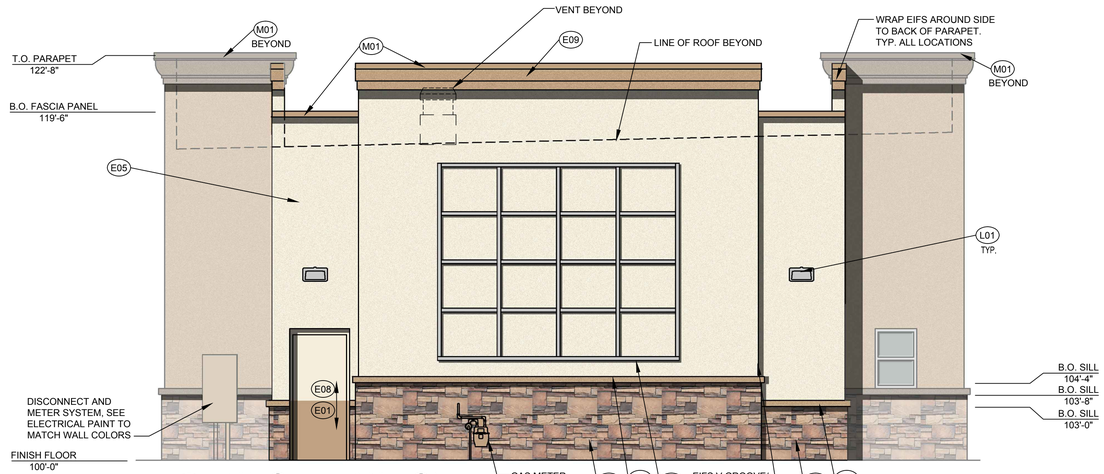
1/4" = 1'-0"

SHEET NUMBER

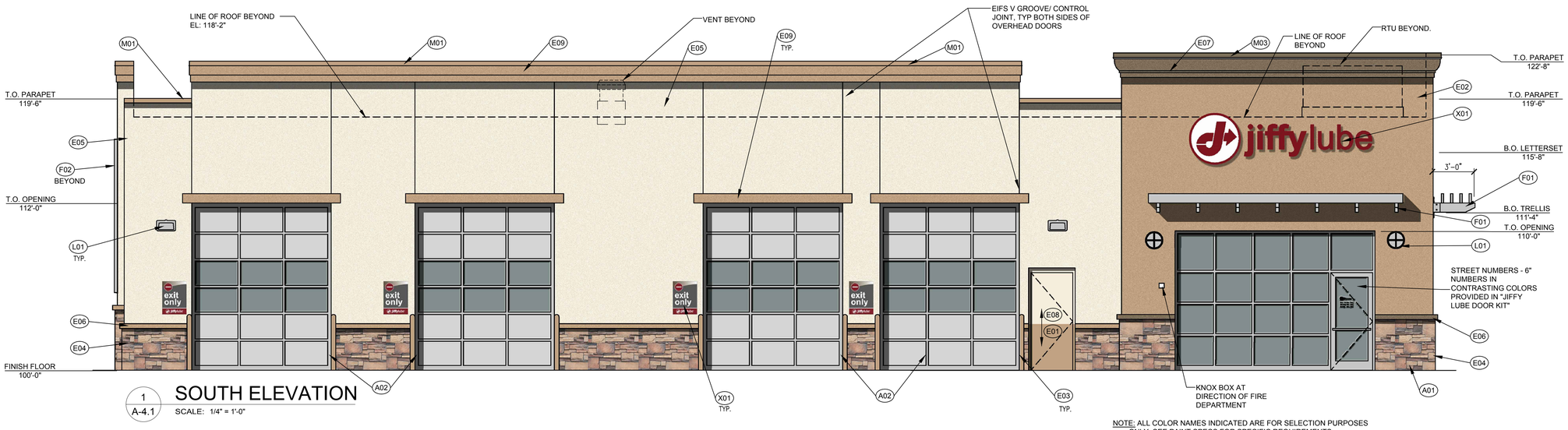
A-4

MARK	EXTERIOR FINISH SCHEDULE:	MATERIAL	MFR #	COLOR
A01	STOREFRONT WITH 1" INSULATED CLEAR GLAZING	ANODIZED ALUMINUM	KAWNEER	CLEAR ANODIZED
A02	OVERHEAD DOORS. SEE DOOR SCHEDULE FOR FINISHES	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
A03	STOREFRONT WITH 1" INSULATED SPANDREL GLAZING	ANODIZED ALUMINUM	KAWNEER	- -
E01	SIGN POLES / FENCES	PAINT (SATIN / SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
E02	EXT. WALLS ABOVE WAINSCOT. EIFS. SAND-PEBBLE FINE FINISH	EIFS	STO	SUEDE
E03	TRAFFIC BOLLARDS	PAINT (SEMI-GLOSS)	SW2905	CARMINE
E04	EXT. WALLS: STONE VENEER WAINSCOT.	STONE VENEER	HARRISTONE	CHIEF JOSEPH BROWN
E05	EXT. WALLS: EIFS	EIFS	STO	SANDALWOOD BEIGE
E06	EXT. WALLS: EIFS WAINSCOT CAP. SEE DETAIL 9/A-7	EIFS	STO	SUEDE
E07	EXT. WALLS: EIFS ACCENT	EIFS	STO	PECOS
E08	EXT. DOORS AND TRIM	PAINT (SATIN/SEMI-GLOSS)	SW6113 SW2827	INTERACTIVE CREAM COLONIAL REVIVAL STONE
E09	EXT. WALLS: EIFS ACCENT	EIFS	STO	SUEDE
F01	TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
F02	WALL TRELLIS	ANODIZED ALUMINUM	- -	CLEAR ANODIZED
L01	EXTERIOR LIGHTING. SEE ELECTRICAL	- -	- -	CLEAR ANODIZED
M01	METAL PARAPET CAP	PRE-FINISHED METAL	SW2827	COLONIAL REVIVAL STONE
M02	METAL DISCHARGE NOZZLE. PAINT TO MATCH E02 ABOVE.	PAINT (SEMI-GLOSS)	SW2827	COLONIAL REVIVAL STONE
M03	METAL PARAPET CAP	PRE-FINISHED METAL	SW6103	TEA CHEST LRV
X01	SIGNAGE. PROVIDED AND INSTALLED BY SIGN VENDOR	- -	- -	- -



2 A-4.1 **WEST ELEVATION**

SCALE: 1/4" = 1'-0"



1 A-4.1 **SOUTH ELEVATION**

SCALE: 1/4" = 1'-0"

NOTE: ALL COLOR NAMES INDICATED ARE FOR SELECTION PURPOSES ONLY. SEE PAINT SPECS FOR SPECIFIC REQUIREMENTS
.DESCRIPTION: (ALL "SHERWIN / WILLIAMS" NUMBERS 'SW' COLORS)
-APPLY CLEAR COAT (E-04) OVER CARMINE (E-03) ON EXTERIOR APPLICATIONS.

EXTERIOR ELEVATIONS

design west | architects

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SHEET NUMBER

A-4.1

Attachment B

RESOLUTION 2017-_____

APPROVING A CONDITIONAL USE PERMIT FOR AN APPROXIMATELY 3,350 SQUARE FOOT AUTOMOTIVE SERVICE FACILITY (JIFFY LUBE) ON AN APPROXIMATELY 0.71-ACRE SITE (ASSESSOR'S PARCEL NUMBER 238-600-33 AND A PORTION OF ASSESSOR'S PARCEL NUMBER 238-600-34), LOCATED ON THE SOUTH SIDE OF WEST GRANT LINE ROAD WITHIN THE TRACY MARKETPLACE COMMERCIAL CENTER. THE APPLICANT IS BOOS DEVELOPMENT WEST, LLC AND THE PROPERTY OWNER IS LAMORINDA DEVELOPMENT & INVESTMENT – APPLICATION NUMBER CUP16-0009

WHEREAS, On October 4, 2016, a development application was submitted for Jiffy Lube, an approximately 3,350 square foot automotive service facility on an approximately 0.71 acre site within the Tracy Marketplace commercial center. The application consists of a Planned Unit Development (PUD) Preliminary and Final Development Plan (D16-0025) and a Conditional Use Permit (CUP16-0009) (the "project"); and

WHEREAS, The project is consistent with the City of Tracy General Plan, in that the site is designated Commercial by the General Plan and automotive service is among the allowed uses in the Commercial land use designation; and

WHEREAS, The subject property is located within the General Commercial designation of the I-205 Corridor Specific Plan, which requires a Conditional Use Permit approval for a vehicle service land use (such as an automotive service facility); and

WHEREAS, In accordance with Tracy Municipal Code (TMC) Section 10.08.1830, the Planning Commission shall review and make a recommendation to the City Council regarding a PUD Preliminary and Final Development Plan, and TMC Section 10.08.4250 et seq. authorizes the Planning Commission to take final action on a Conditional Use Permit application; and

WHEREAS, The project is categorically exempt from CEQA based on Guidelines Section 15332, which applies to in-fill projects that are consistent with the General Plan and zoning regulations, and other specified characteristics, all of which apply to this project; and

WHEREAS, The Planning Commission conducted a public hearing to consider the project on April 12, 2017;

NOW, THEREFORE, BE IT RESOLVED, That the Planning Commission approve the Conditional Use Permit (CUP16-0009), subject to (1) the conditions contained in Exhibit 1 and (2) that it will not take effect until and unless the City Council approves the PUD Preliminary and Final Development Plan (D16-0025) for the project, based on the following findings:

1. There are circumstances or conditions applicable to the land, structure, or use which make the granting of a use permit necessary for the preservation and enjoyment of a substantial property right. The proposed automotive service facility is a compatible land use with the existing commercial neighborhood, comprised of other consumer-oriented businesses, including the adjacent car wash, tire store, and other commercial businesses within the commercial center.

2. The proposed location of the use and the conditions under which it would be operated or maintained will not be detrimental to public health, safety, or welfare, or materially injurious to or inharmonious with properties or improvements in the vicinity. All vehicle servicing will be conducted inside the facility, thereby minimizing noise, visual impacts, or other potential disturbances to nearby land uses.

3. The proposed use will comply with each of the applicable provisions of the zoning regulations and the I-205 Corridor Specific Plan. The project is consistent with City standards in all respects, including, but not limited to: siting, off-street parking and through circulation, landscaping, and building design.

* * * * * * * * * * * *

The foregoing Resolution 2017-_____was adopted by the Planning Commission on the 12th day of April, 2017, by the following vote:

AYES: COMMISSION MEMBERS:
NOES: COMMISSION MEMBERS:
ABSENT: COMMISSION MEMBERS:
ABSTAIN: COMMISSION MEMBERS:

_____
CHAIR

ATTEST:

_____
STAFF LIAISON

City of Tracy
Conditions of Approval
Jiffy Lube CUP
Application Number CUP16-0009
April 12, 2017

A. General Provisions and Definitions.

A.1. General. These Conditions of Approval apply to:

The Project: An approximately 3,350 square foot automotive service facility and associated parking and landscape areas (Jiffy Lube)

The Property: An approximately 0.71-acre site located on the south side of West Grant Line Road within the Tracy Marketplace commercial center (Assessor’s Parcel Numbers 238-600-33 and a portion of 238-600-34)

A.2. Definitions.

a. “Applicant” means any person, or other legal entity, defined as a “Developer.”

b. “City Engineer” means the City Engineer of the City of Tracy, or any other duly licensed Engineer designated by the City Manager, or the Development Services Director, or the City Engineer to perform the duties set forth herein.

c. “City Regulations” means all written laws, rules, and policies established by the City, including those set forth in the City of Tracy General Plan, the Tracy Municipal Code ordinances, resolutions, policies, procedures, the I-205 Corridor Specific Plan, and the City’s Design Documents (including the Standard Plans, Standard Specifications, and relevant Public Facility Master Plans).

d. “Development Services Director” means the Development Services Director of the City of Tracy, or any other person designated by the City Manager or the Development Services Director, to perform the duties set forth herein.

e. “Conditions of Approval” shall mean the conditions of approval applicable to the Project, Application Number CUP16-0009. The Conditions of Approval shall specifically include all conditions set forth herein.

f. “Developer” means any person, or other legal entity, who applies to the City to divide, or cause to be divided, real property within the Project boundaries, or who applies to the City to develop or improve any portion of the real property within the Project boundaries. The term “Developer” shall include all successors in interest.

A.3. Compliance with submitted plans. Except as otherwise modified herein, the project shall be constructed in substantial compliance with the plans received by the Development Services Department on March 21, 2017, which include the site plan, civil plans, landscape plan, floor plan, and elevations.

A.4. Payment of applicable fees. The applicant shall pay all applicable fees for the project, including, but not limited to: development impact fees, building permit fees, plan check

fees, grading permit fees, encroachment permit fees, inspection fees, school fees, and/or or any other City or other agency fees or deposits that may be applicable to the project.

A.5. Compliance with laws. The Developer shall comply with all laws (federal, state, and local) related to the development of real property within the Project, including, but not limited to:

- the Planning and Zoning Law (Government Code sections 65000, et seq.),
- the California Environmental Quality Act (Public Resources Code sections 21000, et seq., "CEQA"), and
- the Guidelines for California Environmental Quality Act (California Administrative Code, title 14, sections 1500, et seq., "CEQA Guidelines").

A.6. Compliance with City regulations. Unless specifically modified by these Conditions of Approval, the Developer shall comply with all City regulations, including, but not limited to: the Tracy Municipal Code (TMC), I-205 Corridor Specific Plan, Standard Plans, and Design Goals and Standards.

RESOLUTION 2017-_____

RECOMMENDING APPROVAL OF A PLANNED UNIT DEVELOPMENT PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR AN APPROXIMATELY 3,350 SQUARE FOOT AUTOMOTIVE SERVICE FACILITY (JIFFY LUBE) WITH ASSOCIATED PARKING AND LANDSCAPING ON AN APPROXIMATELY 0.71-ACRE SITE (ASSESSOR'S PARCEL NUMBER 238-600-33 AND A PORTION OF ASSESSOR'S PARCEL NUMBER 238-600-34), LOCATED ON THE SOUTH SIDE OF WEST GRANT LINE ROAD WITHIN THE TRACY MARKETPLACE COMMERCIAL CENTER. THE APPLICANT IS BOOS DEVELOPMENT WEST, LLC AND THE PROPERTY OWNER IS LAMORINDA DEVELOPMENT & INVESTMENT – APPLICATION NUMBER D16-0025

WHEREAS, On October 4, 2016, a development application was submitted for Jiffy Lube, an approximately 3,350 square foot automotive service facility on an approximately 0.71 acre site within the Tracy Marketplace commercial center. The application consists of a Planned Unit Development (PUD) Preliminary and Final Development Plan (D16-0025) and a Conditional Use Permit (CUP16-0009) (the "project"); and

WHEREAS, The subject property is located within the I-205 Corridor Specific Plan, which requires PUD Preliminary and Final Development Plan for new building and site development; and

WHEREAS, In accordance with Tracy Municipal Code (TMC) Section 10.08.1830, the Planning Commission shall review and make a recommendation to the City Council regarding a PUD Preliminary and Final Development Plan, and TMC Section 10.08.4250 et seq. authorizes the Planning Commission to take final action on a Conditional Use Permit application; and

WHEREAS, The project is consistent with the City of Tracy General Plan, in that the site is designated Commercial by the General Plan and automotive service is among the allowed uses in the Commercial land use designation, the project will pay all applicable development impact fees to mitigate its proportionate impact on public facilities, and the project is consistent with the goals and policies of the General Plan, including economic development, circulation, noise, and air quality; and

WHEREAS, The project is consistent with the I-205 Corridor Specific Plan and the City Wide Design Goals and Standards, including public utilities, site design, architecture, off-street parking and circulation, land use, and landscaping; and

WHEREAS, The project is categorically exempt from CEQA based on Guidelines Section 15332, which applies to in-fill projects that are consistent with the General Plan and zoning regulations, and other specified characteristics, all of which apply to this project; and

WHEREAS, The Planning Commission conducted a public hearing to consider the project on June 8, 2016;

NOW, THEREFORE, BE IT RESOLVED, That the Planning Commission recommend that the City Council approve the PUD Preliminary and Final Development Plan (D16-0025), subject to the conditions contained in Exhibit 1 to this Resolution and based on the following findings:

1. The establishment, maintenance, and operation of the proposed vehicle service station and parking area improvements are compatible with the land use, design, and operational characteristics of the neighboring properties, including the car wash, tire shop, and

gasoline service station located near the subject site. The use and circulation will be wholly on site, and will not impose negative impacts on the common drive aisles or other properties in the vicinity because vehicular connection to the common drive aisles is aligned for efficient circulation and a sidewalk will be provided along the south end of the site to continue pedestrian connectivity through the commercial center.

2. The project will not, under the circumstances of the particular case or as conditioned, be injurious or detrimental to the health, safety, or general welfare of persons or property in the vicinity of the proposed use and its associated structure, or to the general welfare of the City because the project, as conditioned, is consistent with the land use, design, and other elements of the I-205 Corridor Specific Plan, the Tracy Municipal Code, the City of Tracy General Plan, the Design Goals and Standards, City Standards, California Building Codes, and California Fire Codes.

3. The project will not adversely affect or impair the benefits of occupancy, most appropriate development, property value stability, or the desirability of property in the vicinity and will not adversely visually impair the benefits of the properties in the vicinity. The building incorporates varying roof heights, building relief, substantial cornices, use of stone, glass, and metal accents, and application of warm colors that will complement other buildings in the immediate vicinity. Rooftop equipment will be screened from general view by a parapet. The site will have adequate onsite vehicular and pedestrian circulation by providing through circulation, such that there will be no dead-end drives, and a vehicle stacking area for the service bays.

* * * * * * * * * * * *

The foregoing Resolution 2017-_____was adopted by the Planning Commission on the 12th day of April, 2017, by the following vote:

AYES: COMMISSION MEMBERS:
NOES: COMMISSION MEMBERS:
ABSENT: COMMISSION MEMBERS:
ABSTAIN: COMMISSION MEMBERS:

_____
CHAIR

ATTEST:

_____
STAFF LIAISON

City of Tracy
Conditions of Approval
Jiffy Lube PDP/FDP
Application Number D16-0025
April 12, 2017

A. General Provisions and Definitions.

A.1. General. These Conditions of Approval apply to:

The Project: An approximately 3,350 square foot automotive service facility building and associated parking and landscape areas (Jiffy Lube)

The Property: An approximately 0.71-acre site located on the south side of West Grant Line Road within the Tracy Marketplace commercial center (Assessor’s Parcel Numbers 238-600-33 and a portion of 238-600-34)

A.2. Definitions.

a. “Applicant” means any person, or other legal entity, defined as a “Developer.”

b. “City Engineer” means the City Engineer of the City of Tracy, or any other duly licensed Engineer designated by the City Manager, or the Development Services Director, or the City Engineer, to perform the duties set forth herein.

c. “City Regulations” means all written laws, rules, and policies established by the City, including those set forth in the City of Tracy General Plan, the Tracy Municipal Code ordinances, resolutions, policies, procedures, the I-205 Corridor Specific Plan, and the City’s Design Documents (including the Standard Plans, Standard Specifications, and relevant Public Facility Master Plans).

d. “Development Services Director” means the Development Services Director of the City of Tracy, or any other person designated by the City Manager or the Development Services Director to perform the duties set forth herein.

e. “Conditions of Approval” shall mean the conditions of approval applicable to the Project, Application Number D16-0025. The Conditions of Approval shall specifically include all conditions set forth herein.

f. “Developer” means any person, or other legal entity, who applies to the City to divide, or cause to be divided, real property within the Project boundaries, or who applies to the City to develop or improve any portion of the real property within the Project boundaries. The term “Developer” shall include all successors in interest.

A.3. Compliance with submitted plans. Except as otherwise modified herein, the project shall be constructed in substantial compliance with the plans received by the Development Services Department on March 21, 2017, which include the site, civil, landscape, floor, and elevation plans.

A.4. Payment of applicable fees. The applicant shall pay all applicable fees for the project, including, but not limited to: development impact fees, building permit fees, plan check

fees, grading permit fees, encroachment permit fees, inspection fees, school fees, and/or any other City or other agency fees or deposits that may be applicable to the project.

A.5. Compliance with laws. The Developer shall comply with all laws (federal, state, and local) related to the development of real property within the Project, including, but not limited to:

- the Planning and Zoning Law (Government Code sections 65000, et seq.)
- the California Environmental Quality Act (Public Resources Code sections 21000, et seq., "CEQA"), and
- the Guidelines for California Environmental Quality Act (California Administrative Code, title 14, sections 1500, et seq., "CEQA Guidelines").
- California State Title 24 and Title 19

A.6. Compliance with City regulations. Unless specifically modified by these Conditions of Approval, the Developer shall comply with all City regulations, including, but not limited to: the Tracy Municipal Code (TMC), Standard Plans, the I-205 Corridor Specific Plan, and Design Goals and Standards.

A.7. Protest of fees, dedications, reservations, or other exactions. Pursuant to Government Code section 66020, including section 66020(d)(1), the City HEREBY NOTIFIES the Developer that the 90-day approval period (in which the Developer may protest the imposition of any fees, dedications, reservations, or other exactions imposed on this Project by these Conditions of Approval) has begun on the date of the conditional approval of this Project. If the Developer fails to file a protest within this 90-day period, complying with all of the requirements of Government Code section 66020, the Developer will be legally barred from later challenging any such fees, dedications, reservations or other exactions.

B. Development Services Department, Planning Division Conditions

Contact: Kimberly Matlock (209) 831-6430 kimberly.matlock@cityoftracy.org

B.1. Recordings. Prior to the approval of a building permit, the developer shall obtain a record of the following and provide a copy of such recordings to the Development Services Department:

B.1.1. A lot line adjustment to relocate the property line between Assessor's Parcel Numbers 238-600-33 and 238-600-34, as shown in the plans dated March 21, 2017.

B.1.2. A reciprocal access easement for the entirety of the 25-foot wide drive aisle that runs north-south along the eastern edge of the site for the benefit of Assessor's Parcel Numbers 238-600-34 (subject site) and 238-600-35 (adjacent site to the east). Said recordation shall provide for reciprocal pedestrian and vehicular traffic to travel unimpeded throughout the drive aisle. Said recordation shall be reviewed by the City prior to recordation with the

County Recorder, and shall contain measures to prevent its change or removal without prior written City approval.

B.2. Parking area. Before the approval of a building permit, the applicant shall submit the following to the satisfaction of the Development Services Director:

B.2.1 Site plans and construction details that demonstrate 12-inch wide concrete curbs along the perimeter of landscape planters, where such planters are parallel and adjacent to vehicular parking spaces to provide access to vehicles without stepping into the landscape planters.

B.2.2 Detailed plans that demonstrate the parking stalls are striped in accordance with Standard Plan 154.

B.2.3 Detailed plans that demonstrate sidewalk, landscape planters, and bio-retention areas perpendicular to parking stalls overhang up to 24 inches into the parking stall in place of wheel stops where feasible. Any landscape planter overhang may not be double-counted toward the required amount of parking area landscaping.

B.2.4 Bicycle parking spaces shall be provided in accordance with Tracy Municipal Code Section 10.08.3510.

B.3. Landscaping & irrigation. Before the approval of a building permit, the applicant shall provide detailed landscape and irrigation plans consistent with the following, to the satisfaction of the Development Services Director:

B.3.1. Said plans shall demonstrate compliance with Tracy Municipal Code Section 10.08.3560 and the I-205 Corridor Specific Plan for parking area landscaping. Said plans shall include a planting legend indicating, at minimum, the quantity, planting size, and height and width at maturity.

B.3.2. Each planter shall contain a combination of trees, shrubs, and groundcover. No planter area shall be comprised solely of mulch and/or rock.

B.3.3. Trees shall be a minimum of 24" box size, shrubs shall be a minimum size of 5 gallon, and groundcover shall be a minimum size of 1 gallon at planting.

B.3.4. Where trees are planted 10 feet or less from a sidewalk or curb, root barriers dimensioned 8 feet long by 24 inches deep shall be provided adjacent to such sidewalk and curb, centered on the tree.

B.3.5. Landscape & Irrigation Maintenance. Prior to the issuance of a building permit, the Developer shall execute a two-year landscape and irrigation maintenance agreement and submit financial security, such as a performance bond, to ensure the success of all on-site landscaping for the term of the agreement. The security amount shall be equal to $2.50 per square foot of the landscaped area, or equal to the actual labor and material installation cost of all on-site landscaping and irrigation.

B.4. Architecture. Before final inspection or certificate of occupancy, the applicant shall do the following to the satisfaction of the Development Services Director:

B.4.1. The parapet on the office portion of the building shall be extended at least sixteen inches in height, such that the top of parapet is at least two feet higher than the top of the parapet on the remainder of the building.

B.4.2. The back of parapets and towers that are readily visible shall be fully finished to match the front of the parapets and towers, which may include cornices, materials, textures, and paints.

B.5. Lighting. Before the issuance of a building permit, the applicant shall submit detailed plans that demonstrate a minimum one-foot candle throughout the parking area, as defined in TMC Section 10.08.3450.

B.6. Screening utilities and equipment. Before the approval of a building permit, the applicant shall submit detailed plans that demonstrate the following:

B.6.1. The trash and recycling enclosure shall be designed and appropriately sized for this project, including allowance for recycling collection, to the satisfaction of the Development Services Director. The trash and recycling collection enclosure shall include a solid roof structure and solid doors. The enclosure, including the roof, shall be architecturally compatible with the commercial building, which includes but is not limited to, design, materials, and colors. If bollards are desired for additional protection, they shall be constructed internal to the enclosure.

B.6.2. No roof mounted equipment, including, but not limited to, HVAC units, vents, fans, antennas, sky lights and dishes, whether proposed as part of this application, potential future equipment, or any portion thereof, shall be readily visible. Such equipment shall be fully screened from view behind parapet walls to the satisfaction of the Development Services Director.

B.6.3. All vents, gutters, downspouts, flashing, and electrical conduits shall be internal to the structures; and other ground-mounted, wall-mounted, or building-attached utilities, including bollards, shall be painted to match the color of the adjacent surfaces, or otherwise designed in harmony with the building exterior, to the satisfaction of the Development Services Director.

B.6.4. All PG&E transformers, phone company boxes, Fire Department connections, backflow preventers, irrigation controllers, and other on-site utilities shall be vaulted or substantially screened from view behind structures or landscaping, to the satisfaction of the Development Services Director.

B.7. Signs. No signs are approved as a part of this application. Prior to the installation of signage, the applicant shall obtain applicable sign and building permits in accordance with the I-205 Corridor Specific Plan and TMC standards, to the satisfaction of the Development Services Director.

B.8. Habitat conservation. Prior to issuance of any permits for ground disturbance, the applicant shall comply with the San Joaquin County Habitat Conservation Division, and a signed copy of the Incidental Take Minimization Measures shall be submitted to the City as verification of compliance.

B.9. Conditions of Approval in Construction Plans. Prior to the approval of a building permit, these Conditions of Approval shall be included in the construction plan set for the building permit.

C. Development Services Department, Engineering Division Conditions

Contact:	Al Gali	(209) 831-6436	al.gali@cityoftracy.org
	Cris Mina, P.E.	(209) 831-6425	cris.mina@cityoftracy.org

C.1 Grading
No applications for grading permits within the Project boundaries will be accepted by the City as complete until the Developer provides all documents required by City Regulations and these Conditions of Approval, to the satisfaction of the City Engineer, including, but not limited to, the following:

C.1.1 The Developer has completed all requirements set forth in this section.

C.1.2 The Developer has obtained the approval of all other public agencies with jurisdiction over the required public facilities.

C.1.3 The Improvement Plans, including the Grading and Drainage Plans, prepared in accordance with the City's Subdivision Ordinance (TMC Chapter 12.36) and Design Documents. The improvement plans for all improvements (in-tract and off-site) required to serve the Project in accordance with the City Design Documents, and these Conditions of Approval. The improvement plans shall be prepared to specifically include, but not be limited to, the following items:

C.1.3.1 All existing and proposed utilities such as domestic water line, irrigation service, fire service line, storm drain, and sanitary sewer, including the size and location of the pipes.

C.1.3.2 All supporting engineering calculations, materials information or technical specifications, cost estimate, and technical reports related to the design of streets and utilities improvements.

C.1.3.3 The Project's on-site drainage connections to the City's storm drainage system as approved by the City Engineer. Improvement Plans to be submitted with the hydrology and storm drainage calculations for the sizing of the on-site storm drainage system.

C.1.3.4 Improvement Plans prepared on a 24" x 36" size polyester film (mylar) with the City Engineer and Fire Safety Officer approval and signature blocks. Improvement Plans shall be prepared under the supervision of, and stamped and signed by, a

Registered Civil, Traffic, Electrical, Mechanical Engineer, and Registered Landscape Architect for the relevant work.

C.1.3.5 Joint Trench Plans and Composite Utility Plans, prepared on a 24" x 36" size mylar, and signed and stamped by a Registered Civil Engineer, for the installation of dry utilities such as electric, gas, TV cable, and telephone.

C.1.4 Three (3) copies of the Project's Geo-technical /Soils Report, prepared or signed and stamped by a Geo-technical Engineer and copy of recorded slope easements (if applicable), as required in Condition C.4.2, below.

C.1.5 Payment of applicable fees required by these Conditions of Approval and City Regulations, including but not limited to: plan checking, grading and encroachment permits and agreement processing, construction inspection, and testing fees.

C.1.6 Tracy's Fire Marshall's signature on the Improvement Plans indicating approval of the location and construction detail of the Project's fire service connection(s), and the location and spacing of fire hydrants, as required in Condition C.7.3, below.

C.1.7 All streets and utilities improvements within the City right-of-way shall be designed and constructed in accordance with City Regulations and City's Design documents, including the City's Facilities Master Plan for storm drainage, roadway, wastewater and water adopted by the City, or as otherwise specifically approved by the City.

C.1.8 All existing on-site wells, if any, shall be abandoned or removed in accordance with the City and San Joaquin County requirements. The Developer shall be responsible for all costs associated with the abandonment or removal of the existing well(s), including the cost of permit(s) and inspection. The Developer shall submit a copy of written approval(s) or permit(s) obtained from San Joaquin County regarding the removal and abandonment of any existing well(s) prior to the issuance of the Grading Permit.

C.1.9 The Developer is required to record with San Joaquin County an access easement benefiting the parcel along the Project's eastern boundary. All costs associated with the access easement shall be the responsibility of the Developer and no reimbursement will be due from the City.

C.2 Building Permit

No building permit within the Project boundaries will be approved by the City until the Developer demonstrates, to the satisfaction of the City Engineer, compliance with all required Conditions of Approval, including, but not limited to, the following:

C.2.1 The Developer has completed all requirements set forth in Condition C.1, above.

C.2.2 Recordation of a Lot Line Adjustment (LLA) along with Certificate of Compliance modifying Parcel C and Parcel D of the Parcel Map filed with San Joaquin County in Book 25, Page 191 of the Parcel Maps.

C.2.3 Payment of the I-205 Corridor Specific Plan Development Impact Fees that are applicable to I-205 Parcel GL-17B(1B) – CFD 93-1, as required by the these Conditions of Approval and City Regulations.

C.2.4 Payment of San Joaquin County Facilities Fees (CFF), Regional Traffic Impact Fees (RTIF), and School Mitigation Fees, as required in the Tracy Municipal Code, these Conditions of Approval, and City Regulations.

C.3 NOT USED

C.4 Site Grading

The Developer shall prepare improvement plans, and design and construct the required improvements, in accordance with the following requirements:

C.4.1 All grading work (on-site and off-site) shall require a Grading Permit. Erosion control measures shall be implemented in accordance with the Grading Plans approved by the City Engineer for all grading work not completed before October 15. Improvement Plans shall specify all erosion control methods to be employed and materials to be used during and after construction.

C.4.2 Submit a Grading and Drainage Plan prepared by a Registered Civil Engineer and accompanied by a Soils Engineering report. The technical report shall provide recommendations regarding adequacy of the site relative to the stability of soils, such as: soil types and classification, percolation rate, soil bearing capacity, and others, including the highest observed ground water elevation.

C.5 Storm Drainage

The Developer shall prepare improvement plans, and design and construct the required improvements, in accordance with the following requirements:

C.5.1 Storm drainage release point is located at the boundary of the Project, adjacent private property, where storm water leaves the Property in a storm event should the Property's on-site storm drainage system fail to function or is clogged. Site grading shall be designed such that the Project's storm drainage overland release point will be directly to an adjacent private property with a functional storm drainage system and the existing storm drainage line has adequate capacity to drain storm water from the Property. The storm drainage release point is recommended to be at least 0.70-foot lower than the building finish floor elevation and shall be designed and improved to the satisfaction of the City Engineer.

C.5.2 The Project's permanent storm drainage connection(s) shall be designed and constructed in accordance with City Regulations. The design of the

permanent storm drainage connection shall be shown on the Grading and Drainage Plans with calculations for the sizing of the storm drain pipe(s), and shall comply with the applicable requirements of the City's storm water regulations adopted by the City Council in 2008 and any subsequent amendments.

C.6 Sanitary Sewer

The Developer shall prepare improvement plans and design and construct the required improvements in accordance with the following requirements:

C.6.1 It is the Developer's responsibility to design and construct the Project's permanent sanitary sewer connection in accordance with City Regulations. The Developer shall submit improvement plans that include the design of the sanitary sewer line from the Property to the point of connection. The Developer is responsible for the cost of installing the Project's permanent sanitary sewer connection, including but not limited to: replacing asphalt concrete pavement, reconstructing curb, gutter and sidewalk, restoring pavement marking and striping, and other improvements that are disturbed as a result of installing the Project's permanent sanitary sewer connection.

C.6.2 The Developer is hereby notified that the City will not provide maintenance of the sewer lateral within the public right-of-way unless the sewer cleanout is located and constructed in conformance with Standard Plan No. 203. The City's responsibility to maintain the sewer lateral is from the wye fitting to the point of connection with the sewer main.

C.7 Water System

The Developer shall prepare improvement plans and design and construct the required improvements in accordance with the following requirements:

C.7.1 Domestic water service with a remote read (radio-read) water meter shall be installed in accordance with City Regulations and at a location approved by the City Engineer. The City's responsibility to maintain water lines shall be from the water main on the street to the back of the water meter (inclusive) only. Repair and maintenance of all on-site water lines, laterals, valves, and fittings shall be the responsibility of the Developer or the individual lot owner(s).

C.7.2 All costs associated with the installation of the Project's permanent water connection(s), including the cost of removing and replacing asphalt concrete pavement, pavement marking and striping such as crosswalk lines and lane line markings on existing street or parking area(s) that may be disturbed with the installation of the permanent water connection(s) or domestic water service, and other improvements, shall be paid by the Developer.

C.7.3 The Developer shall design and install fire hydrants at the locations approved by the City's Building Division and Fire Department. Location and construction details of the fire service line shall be approved by the Chief Building Official and Fire Safety Officer. Prior to the approval of the

Improvement Plans by the City Engineer, the Developer shall obtain written approval from the Chief Building Official and Fire Safety Officer for the design, location and construction details of the individual lot fire service, and for the location and spacing of fire hydrants that are to be installed to serve the Project.

C.8 Final Building Inspection
No final building inspection will be performed by the City until after the Developer provides documentation which demonstrates, to the satisfaction of the City Engineer, that:

C.8.1 The Developer has completed all requirements set forth in this section, and Conditions C.1, C.2, C.3, C.4, C.5, C.6, and C.7, above.

C.8.2 The Developer has completed construction of all facilities required to serve the building for which a certificate of occupancy is requested. Unless specifically provided in these Conditions of Approval, or some other City Regulation, the Developer shall take all actions necessary to construct all facilities required to serve the Project, and the Developer shall bear all costs related to construction of the facilities (including all costs of design, construction, construction management, plan check, inspection, land acquisition, program implementation, and contingency).

C.9 Special Conditions
The Developer shall comply with the following requirements to the satisfaction of the City Engineer:

C.9.1 The Developer shall obtain written authorization to enter adjacent parcels to construct the proposed improvements.

C.9.2 Nothing contained herein shall be construed to permit any violation of relevant ordinances and regulations of the City of Tracy, or other public agency having jurisdiction. This Condition of Approval does not preclude the City from requiring pertinent revisions and additional requirements to the improvement plans, prior to the City Engineer's signature on the improvement plans, if the City Engineer finds it necessary due to public health and safety reasons, and it is in the best interest of the City. The Developer shall bear all costs for the inclusion, design, and implementations of such additions and requirements, without reimbursement or any payment from the City.

D. Utilities Department, Water Resources Division Conditions

Contact: Stephanie Hiestand (209) 831-6333 stephanie.hiestand@cityoftracy.org

D.1. Stormwater Quality. Before the approval of a grading or building permit, the applicant shall demonstrate compliance with the Multi-Agency Post-Construction Stormwater Standards (Manual) adopted July 1, 2015, obtain approval of the submitted Project Stormwater Plan by the Utilities Director, and provide a maintenance agreement in accordance with the Manual.

D.2. Compliance with Codes. Before the approval of a grading or building permit, the applicant shall demonstrate compliance with Tracy Municipal Code Chapter 11.28 Water Management and California Green Building Standards Code Chapter 5 for Non-Residential occupancies. A Stormwater Pollution Prevention Plan (SWPPP) and WDID number will be required prior to grading permit issuance.

D.3. Landscape plans. Before the approval of a building permit, the applicant shall submit detailed landscape and irrigation plans that demonstrate compliance with the Department of Water Resources' 2015 Water Efficient Landscape Ordinance, to the satisfaction of the Utilities Director.

E. Development Services Department, Building & Fire Safety Conditions

Contact: Kevin Jorgensen (209) 831-6415 kevin.jorgensen@cityoftracy.org

E.1. Conditions of Approval in Construction Plans. Prior to the approval of a building permit, these Conditions of Approval shall be included in the construction plan set for the building permit.

E.2. Oil and Flammable Liquid Interceptor. Prior to the approval of a building permit, the applicant shall demonstrate an Oil and Flammable Liquid Interceptor on the grading and utility plans and provide a corresponding legend to the satisfaction of the Building Official.

April 12, 2017

AGENDA ITEM 1-B

REQUEST

PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE BARCELONA INFILL PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR A 51-LOT RESIDENTIAL SUBDIVISION ON APPROXIMATELY 10.15 ACRES LOCATED AT THE NORTHWEST CORNER OF BARCELONA DRIVE AND TENNIS LANE, ASSESSOR'S PARCEL NUMBERS 252-520-44 AND 240-390-33; THE APPLICANT AND PROPERTY OWNER IS TAYLOR MORRISON OF CA, LLC; APPLICATION NUMBER PUD17-0001

BACKGROUND

On October 21, 2014, the City Council approved the Barcelona Infill project, which included amending the General Plan and the Concept Development Plan for the Sterling Park and San Marco Planned Unit Developments from a school site to a residential subdivision on approximately 10.15 acres located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33. The City Council also approved a Concept, Preliminary and Final Development Plan, and approved a Vesting Tentative Subdivision Map to create 51 residential lots for single-family homes (Application Numbers GPA1-0003, PUD14-0002 and TSM 14-0002). The Final Map for Tract 3083, Barcelona Infill was approved by the City Council on March 7, 2017.

Taylor Morrison of California, LLC has now purchased the Barcelona Infill property (Attachment A: Location Map). On March 27, 2017, Taylor Morrison submitted an application to amend the Barcelona Infill Preliminary and Final Development Plan regarding the architecture and design of the proposed houses.

DISCUSSION

Final Development Plan Amendment

The proposed minor amendment to the Barcelona Infill Final Development Plan involves a change to the approved architecture, because Taylor Morrison desires to build houses with different architecture than previously approved in an effort to improve upon the interior floor plans and provide more single-story options (Attachment B: Architectural Packet and Attachment C: Conceptual House Plotting Plan).

The new proposed architecture consists of five plan types (all single-family detached homes) with four different elevation types per plan (a total of 20 different house designs). The proposed homes range in size from approximately 1,930 square feet to 3,071 square feet, with two single-story plan types, one single-story with a "pop-up" and two two-story plans. The introduction of an additional single-story plan and the single-story "pop-up" plan provide for a more varied street-scene and will reduce the architectural massing within the neighborhood. The proposed architecture is comparable in style and character to that which was previously approved, and includes a variety of building materials and interesting details, including under-gable treatments, rich accent materials,

shutters, and elements appropriate to each architectural style. The architectural details are generally carried around to all four sides of the houses. The proposal includes setting back the garages a minimum of 30 feet from the front property line on at least 20% of the lots. The proposed amendment is consistent with the City's Design Goals and Standards.

Environmental Document

As documented in the City Council approvals on October 21, 2014, the Barcelona Infill Preliminary and Final Development Plan and the Vesting Tentative Subdivision Map are consistent with the Residential Low designation and density requirements of the General Plan, for which an Environmental Impact Report (EIR) was certified on February 1, 2011. All cumulative and offsite impacts associated with development and buildout of the project were fully addressed in the General Plan EIR, and there are no site specific or peculiar impacts associated with the project that cannot be substantially mitigated to a less-than-significant level through the application of uniformly applied standards and policies that would be applied to the project. The proposed amendment to the Barcelona Infill Preliminary and Final Development Plan, which involves a change only to the architecture, would not affect the previous findings. Therefore, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15183, no further environmental assessment is required.

RECOMMENDATION

Staff recommends that the Planning Commission recommend that the City Council approve a minor amendment to the Barcelona Infill Final Development Plan for revised architecture for the 51-lot residential subdivision on approximately 10.15 acres located at the northwest corner of Barcelona Drive and Tennis Lane, Application Number PUD17-0001, subject to the conditions and based on the findings contained in the Planning Commission Resolution dated April 12, 2017 (Attachment D: Planning Commission Resolution).

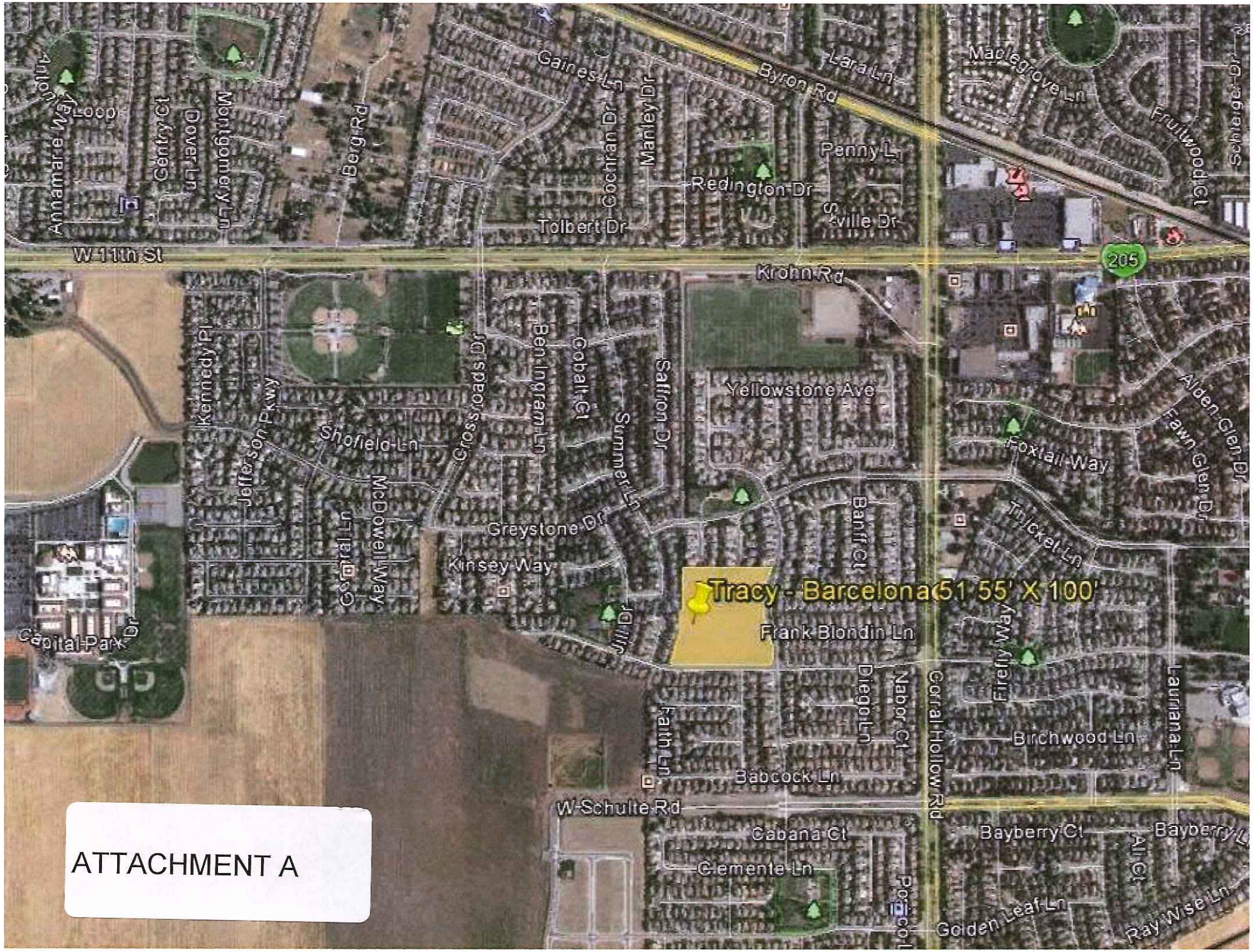
MOTION

Move that the Planning Commission recommendthe City Council approve a minor amendment to the Barcelona Infill Final Development Plan for revised architecture for the 51-lot residential subdivision on approximately 10.15 acres located at the northwest corner of Barcelona Drive and Tennis Lane, Application Number PUD17-0001, subject to the conditions and based on the findings contained in the Planning Commission Resolution dated April 12, 2017.

Prepared by: Victoria Lombardo, Senior Planner
Reviewed by: Bill Dean, Assistant Development Services Director
Approved by: Andrew Malik, Development Services Director

ATTACHMENTS

A: Location Map
B: Preliminary and Final Development Plan/Architectural Packet (oversized)
C: Conceptual House Plotting Plan (oversized)
D: Planning Commission Resolution


Tracy - Barcelona 51 55' X 100'
ATTACHMENT A
W-11th St
Krohn Rd
Byron Rd
Tolbert Dr
Redington Dr
Penny Ln
Yellowstone Ave
Foxtail Way
Frank Blondin Ln
Firefly Way
Coral Hollow Rd
Birchwood Ln
Babcock Ln
W-Schulte Rd
Cabana Ct
Clemente Ln
Bayberry Ct
Golden Leaf Ln
Capital Park Dr
Kinsey Way
Greystone Dr
Shoreline Dr
Cobalt Ct
Saffron Dr
Banff Ct
Diego Ln
Nabor Ct
Lauriana Ln
Alden Glen Dr
Fawn Glen Dr
Truckee Ln
Kennedy Pl
Jefferson Pkwy
Coral Ln
McDowell Way
Ben Ingram Ln
Cross Roads Dr
Gaines Ln
Cochran Dr
Manley Dr
Lara Ln
Maplegrove Ln
Fruitwood Ct
Berg Rd
Montgomery Ln
Century Ct
Annamare Way
Loop
Skyle Dr
205

Attachment D

RESOLUTION 2017-_____

RECOMMENDING CITY COUNCIL APPROVAL OF AN AMENDMENT TO THE BARCELONA INFILL PRELIMINARY AND FINAL DEVELOPMENT PLAN FOR A 51-LOT RESIDENTIAL SUBDIVISION ON APPROXIMATELY 10.15 ACRES LOCATED AT THE NORTHWEST CORNER OF BARCELONA DRIVE AND TENNIS LANE, ASSESSOR'S PARCEL NUMBERS 252-520-44 AND 240-390-33; THE APPLICANT AND PROPERTY OWNER IS TAYLOR MORRISON OF CA, LLC
APPLICATION NUMBER PUD17-0001

WHEREAS, The subject property is the approximately 10.15 Barcelona Infill property that was annexed to the City of Tracy in 1994 and was once a portion of the Sterling Park and San Marco Planned Unit Developments; and

WHEREAS, On October 21, 2014, the City Council approved the Barcelona Infill project, which included amending the General Plan and the Concept Development Plan for the Sterling Park and San Marco Planned Unit Developments from a school site to a residential subdivision on approximately 10.15 acres located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33). The City Council also approved a Concept, Preliminary and Final Development Plan, and approved a Vesting Tentative Subdivision Map to create 51 residential lots for single-family homes (Application Numbers GPA1-0003, PUD14-0002 and TSM 14-0002); and

WHEREAS, On March 7, 2017, the City Council approved the Final Map for Tract 3803, Barcelona Infill, creating 51 residential lots in substantial conformance with the Vesting Tentative Map; and

WHEREAS, On March 27, 2017, Taylor Morrison of California, LLC, submitted an application to amend the Barcelona Infill Final Development Plan; and

WHEREAS, The proposed amendment to the Barcelona Infill Final Development Plan involves a change to the approved architecture for a 51-lot residential subdivision because Taylor Morrison desires to build houses with different architecture than previously approved; and

WHEREAS, The proposed amendment to the Barcelona Infill Preliminary and Final Development Plan, including architectural renderings, is in compliance with the City's Design Goals and Standards because: it incorporates significant variation between floor plans and elevations, deemphasizes the garages, uses architectural features on all four sides of each house, and provides sufficient mix and frequency of each house type; and

WHEREAS, As documented in City Council approvals on October 21, 2014, the Barcelona Infill Preliminary and Final Development Plan and the Vesting Tentative Subdivision Map are consistent with the Residential Low designation and density requirements of the General Plan, for which an Environmental Impact Report (EIR) was certified on February 1, 2011. All cumulative and offsite impacts associated with development and buildout of the project were fully addressed in the General Plan EIR, and there are no site specific or peculiar impacts associated with the project that cannot be substantially mitigated to a less-than-significant level

through the application of uniformly applied standards and policies that would be applied to the project. The proposed amendment to the Barcelona Infill Final Development Plan, which involves a change only to the architecture, would not affect the previous findings. Therefore, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15183, no further environmental assessment is required; and

WHEREAS, The Planning Commission conducted a public hearing to review and consider the project on April 12, 2017;

NOW, THEREFORE, BE IT RESOLVED, That the Planning Commission hereby recommends that the City Council approve a minor amendment to the Barcelona Infill Final Development Plan for revised architecture for the 51-lot residential subdivision on approximately 10.15 acres located at the northwest corner of Barcelona Drive and Tennis Lane, Application Number PUD17-0001, subject to the conditions stated in Exhibit “1” attached and made a part hereof.

* * * * * * * * * * * * * * * * *

The foregoing Resolution ____ was adopted by the Planning Commission on the 12th day of April, 2017, by the following vote:

AYES: COMMISSION MEMBERS:
NOES: COMMISSION MEMBERS:
ABSENT: COMMISSION MEMBERS:
ABSTAIN: COMMISSION MEMBERS:

_____
CHAIR

ATTEST:

_____
STAFF LIAISON

Conditions of Approval for a Minor Amendment to the Barcelona Infill Final Development Plan Application Number PUD17-0001

These Conditions of Approval shall apply to the minor amendment to the Barcelona Infill Final Development Plan, approximately 10.15 acres, for a 51-lot residential subdivision located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33), Application Number PUD17-0001.

A. The following definitions shall apply to these Conditions of Approval:

1. "Applicant" means any person, or other legal entity, defined as a "Developer".

2. "City Engineer" means the City Engineer of the City of Tracy, or any other duly licensed engineer designated by the City Manager, or the Public Works Director, or the City Engineer to perform the duties set forth herein.

3. "City Regulations" means all written laws, rules, and policies established by the City, including those set forth in the City of Tracy General Plan, the Tracy Municipal Code, ordinances, resolutions, policies, procedures, and the City's Design Documents (including the Standard Plans, Standard Specifications, Design Standards, and relevant Public Facility Master Plans).

4. "Development Services Director" means the Development Services Director of the City of Tracy, or any other person designated by the City Manager or the Development Services Director to perform the duties set forth herein.

5. "Conditions of Approval" shall mean the conditions of approval applicable to the minor amendment to the Barcelona Infill Final Development Plan, approximately 10.15 acres, for a 51-lot residential subdivision located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33), Application Number PUD17-0001. The Conditions of Approval shall specifically include all Development Services Department Conditions set forth herein.

6. "Project" means the minor amendment to the Barcelona Infill Final Development Plan for a 51-lot residential subdivision, consisting of approximately 10.15 acres of real property, located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33), Application Number PUD17-0001.

7. "Property" means the approximately 10.15 acres of real property located at the northwest corner of Barcelona Drive and Tennis Lane (Assessor's Parcel Number 252-520-44 and 240-390-33).

8. "Subdivider" means any person, or other legal entity, who applies to the City to divide or cause to be divided real property within the Project boundaries, or who applies to the City to develop or improve any portion of the real property within

the Project boundaries. “Subdivider” also means the Developer. The term “Subdivider” shall include all successors in interest.

B. Planning Division Conditions of Approval

1. The Developer shall comply with all laws (federal, state, and local) related to the development of real property within the Project, including, but not limited to: the Planning and Zoning Law (Government Code sections 65000, et seq.), the Subdivision Map Act (Government Code sections 66410, et seq.), the California Environmental Quality Act (Public Resources Code sections 21000, et seq., “CEQA”), and the Guidelines for California Environmental Quality Act (California Administrative Code, title 14, sections 15000, et seq., “CEQA Guidelines”).

2. Unless specifically modified by these Conditions of Approval, the Project shall comply with all City Regulations.

3. The Project shall be consistent with the amendment to the Barcelona Infill Final Development Plan architectural packet, received by the Development Services Department on April 5, 2017, Application Number PUD17-0001 to the satisfaction of the Development Services Director.

4. To ensure adequate variety within the 51-lot project area, no two identical houses (same floor plan and same elevation) shall be used on adjacent lots, and no floor plan may be used on more than 30 percent of the lots. A variety of the floor plans shall be spread throughout the project site to the satisfaction of the Development Services Director.

5. Except as modified herein, the Developer shall comply with all conditions of approval of the Barcelona Infill Vesting Tentative Subdivision Map and the Preliminary and Final Development Plan, Application Numbers PUD14-0002 and TSM 14-0002, as approved by City Council on October 21, 2014, to the satisfaction of the Development Services Director.

April 12, 2017

AGENDA ITEM 1-C

REQUEST

PUBLIC HEARING TO CONSIDER A NEW 304-UNIT RESIDENTIAL MULTI-FAMILY HOUSING DEVELOPMENT ON AN 18.79-ACRE PROJECT SITE. IN ORDER FOR THE PROJECT TO BE CONSTRUCTED, THE FOLLOWING ACTIONS WOULD REQUIRE APPROVAL:

- **ADOPT A MITIGATED NEGATIVE DECLARATION;**
- **AMEND THE GENERAL PLAN TO CHANGE THE LAND USE DESIGNATION OF THE SITE FROM COMMERCIAL TO RESIDENTIAL HIGH (GPA17-0001);**
- **REZONE A SMALL PORTION OF THE PROJECT SITE FROM GENERAL HIGHWAY COMMERCIAL TO PLANNED UNIT DEVELOPMENT (R17-0001);**
- **AMEND THE I-205 CORRIDOR SPECIFIC PLAN TO CHANGE THE LAND USE DESIGNATION OF THE SITE FROM GENERAL COMMERCIAL TO HIGH DENSITY RESIDENTIAL, AND ADD A SMALL PORTION OF THE PROJECT SITE TO THE SPECIFIC PLAN (SPA17-0002);**
- **APPROVE A PRELIMINARY AND FINAL DEVELOPMENT PLAN (PDP/FDP) APPLICATION FOR THE SITE PLAN, ARCHITECTURE, LANDSCAPING AND ALL ON-SITE IMPROVEMENTS (D15-0007); AND**
- **APPROVE A TENTATIVE SUBDIVISION MAP TO ALLOW FOR THE FUTURE SUBDIVISION OF THE UNITS INTO CONDOMINIUMS (TSM17-0002)**

DISCUSSION

Project Description

The Harvest in Tracy rental community would include 304 residences (a combination of stacked, two-story flats and two-story, duplex townhomes) and a central 6,233 square-foot leasing and recreation center. The recreation center would include a fitness center, entertainment room, swimming pool, and spa. The gated complex would also include a community garden, orchard grove, double half basketball court, a dog park, and a central thematic loop road that provides shade, edible landscaping elements, and walking connectivity for project residents to on-site gathering areas.

The complex would be managed by the applicant, LTMT Tracy, LLC. There would be 120 one-bedroom units, 133 two-bedroom units, and 51 three-bedroom units. One-bedroom units range in size from 765 square feet (sf) to 874 sf. Two-bedroom units range in size from 1,106 sf to 1,343 sf. Three-bedroom units would be 1,534 sf. The project also includes 653 parking spaces, 432 spaces in garages and 221 on-site spaces, exceeding Tracy Municipal Code (TMC) requirements for on-site parking by 4 spaces.

The applicant is applying for approval, mapping, and development of a condominium project that they would operate as a market rate multi-family rental community. This will include establishment of a proposed dormant homeowners association for the operation and maintenance of the condominiums, and the applicant will file the necessary

condominium reporting forms with the State Department of Real Estate should the project activate and function as a condominium project.

Project Site

The project site consists of 18.79 acres located west of downtown Tracy, on the southeast corner of West Grant Line Road and Interstate 205. The site is located in the block bounded by West Grant Line Road to the north and east, Henley Parkway to the south and east, I-205 to the northwest, and Lowell Ave to the southwest. The project site is a subset of Assessor Parcel Numbers (APN) 238-600-25, 238-600-26, and 238-600-27.

Historically, the project site was used for agriculture (row crops), as were the adjoining parcels to the north. The undeveloped portion of the site was last planted in row crops.

Surrounding Land Uses

Just east of the project site is a self-storage company (JT Storage) with a building and fenced areas, containing crushed rock ground cover used for recreational vehicle (RV) and boat storage. Farther east is Delta RV (an RV dealer), as well as several fast food restaurants. Other surrounding land uses include the I-205 freeway to the north, and residential developments to the south and west.

Actions for Approval

This application for the Harvest in Tracy project includes the following actions:

- adoption of the Mitigated Negative Declaration (MND);
- adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- approval of a General Plan Amendment, from Commercial to Residential High;
- amendment to the I-205 Corridor Specific Plan, from General Commercial to High Density Residential;
- rezone from General Commercial to High Density Residential;
- approval of a Preliminary Development Plan;
- approval of a Final Development Plan; and
- approval of a Tentative Subdivision Map.

Building Design

The project proposes the construction of 304 multi-family residential units, to be located in a series of buildings located on the project site. The proposed design consists of a combination of two-story stacked apartment units, and two-story townhouses.

The design of the buildings are generally consistent with City design goals and standards for multi-family residential development, which call for building façade elements to be emphasized by the use of color, layout, and variety of materials, and with very long façades designed with sufficient building articulation, reveals, mass variations, window treatments and rooflines.

The buildings would be designed in the Spanish and Italianate styles, using concrete S-tile roofs and stucco exteriors in neutral browns, beige and off-white colors. Additional elements of the design would include foam trim and shutters around windows, decorative eave vents, decorative chimney caps, and corbels, helping to frame views and create focal points across elevations. Building heights for the residential units is 29'-6" to the roof peaks.

Site Design

The subject property is designed with buildings scattered across the site, connected via a loop driveway and a series of driveway lanes and courts leading to building clusters. The loop driveway in turn connects to a single main, gated entry along Henley Parkway. A gated emergency access (EVA) is provided at the southwest corner of the site, connecting to Henley Parkway.

The building location on the site is consistent with City design goals and standards, which call for designs to have a relationship with public streets. This can be achieved, in part, by distributing parking areas evenly on the site, preventing mazes of parking areas. The site plan calls for parking distributed evenly around the buildings, through use of garage spaces, as well as uncovered spaces near the main entrance to the site and at various locations across the complex, with use of landscape planters along all property boundaries. The south side of the site, adjoining Henley Parkway, includes proposed use of a masonry wall and open, decorative metal fencing, allowing partial visibility of the buildings and related site features from the public street. Gated pedestrian access to the site is also provided along Henley Parkway. A sound wall will be included along the north edge of the site, along I-205, at an anticipated height of 8 to 10 feet, as discussed in the Initial Study.

Proposed on-site landscaping consists of a mix of decorative trees across the site, including a proposed row of orchard-style fruit trees along the west edge of the site, 24-inch box size camphor and locust trees, and other decorative trees and shrubs. The landscape plan calls out a theme of use of edible crops and flowers that can be harvested by residents of the project.

Trash enclosures, designed to match the general building architecture of the residences, are located at several locations on the site.

On-site utility improvements, including water, storm drainage and sanitary sewer lines, will connect to public lines located along Henley Parkway and by I-205.

Land Use Compatibility

The site's proximity to commercial and office land uses could have potentially negative effects on the proposed residential project, such as noise or traffic. However, the nearby commercial land uses can also benefit the proposed project by providing, for the residents, retail and commercial services, recreational opportunities, or employment within walking distance. The site's location also benefits from relatively close freeway access for residents seeking shorter commute distances to I-205.

In order to help mitigate noise and visual effects from less compatible, adjacent land uses, the project will include a six-foot tall masonry wall adjacent to the commercial uses to the east and single-family residential uses to the west.

Utilities and Services

Utility extensions would be installed to provide services to project residents. Utility lines within the project site would be located in easements, allowing for access as needed in the future. The water, sewer, and drainage lines would be connected to existing lines along Henley Parkway and northeast of the site.

Water, sewer, and residential garbage and recycling collection service would be provided by the City of Tracy. Maintenance of the on-site driveways, landscaping and related site features would be performed by management of the apartment units; or, if the project is activated as a condominium project, by a homeowners association (HOA). Related covenants, conditions and restrictions (CCRs) are required to be established prior to the occupancy of the units for the purpose of managing and maintaining the private lanes, courts, communal buildings and common area landscaping, as well as governing the CCRs.

Project Construction

The project would be developed over approximately two years, and is anticipated to begin construction in 2017 and achieve full buildout in spring 2019. It is anticipated that there would be a maximum of 200 construction workers on-site during construction. Balanced grading of the site is proposed, and no import or export of earth materials is planned. Construction equipment would include dozers, water trucks, excavators, backhoes, loaders, concrete trucks, transfer trucks, scrapers, rollers, etc., which would be in use for up to eight hours a day within the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday. All construction equipment and truck deliveries would occur during daytime hours.

Public Schools

Implementation of the project would result in population growth within the City of Tracy, which would likely increase enrollment at schools within the Tracy Unified School District (TUSD). The project would be expected to generate an additional 153 elementary school students, 71 middle school students, and 73 high school students. The addition of these students would exceed the current capacity at Art Freiler School and at West High School. According to the Facilities Master Plan, the build-out projections of residential units currently planned within the School District boundaries (including the project), future school facilities, or expansion of existing facilities may be required.

TUSD performs needs analysis and adopts an annual budget, allocating resources for new school facilities as they are warranted. The project does not trigger the need for a new school directly; however, it would contribute to existing capacity deficiencies within the TUSD service area. TUSD collects impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services.

General Plan/Specific Plan Amendments

The project consists of four separate development application requests: (1) General Plan designation amendment from Commercial to Residential High; (2) I-205 Corridor Specific Plan amendment from General Commercial to High
Density Residential; (3) Amendment to the I-205 Specific Plan allowable density within the High Density Residential designation; and (4) Planned Unit Development Preliminary and Final Development Plan approval for the proposed apartment project.

Although the Commercial General Plan designation provides for high density residential development (in addition to a variety of commercial uses), the General Plan amendment is included with the project in order for the General Plan map to more specifically reflect the proposed residential land use of the site.

The second application is to amend the I-205 Corridor Specific Plan designation from General Commercial to High Density Residential (HDR). The Specific Plan amendment is necessary to accommodate the proposed high density residential development of this site.

This project would contribute to the total number of residential dwelling units that were planned for within the I-205 Specific Plan. The proposed density of the project, 16.2 dwelling units per acre, is consistent with the proposed General Plan and Specific Plan changes. With the proposed changes to the land use designations, the project proposal would be consistent with applicable goals and objectives of the General Plan and I-205 Corridor Specific Plan.

Finally, the project includes a request to approve the project Planned Unit Development Preliminary and Final Development Plan, which serves as the permit for the City's approval of the 304-unit Harvest in Tracy project.

CEQA DOCUMENTATION

The City's environmental consultant prepared a project-level Initial Study (Exhibit 1 to the Planning Commission Resolution, attached). The analysis included a traffic study, air quality analysis, noise analysis, and water and sewer studies. Various potentially significant environmental impacts were identified as stemming from development of the proposed 304-unit project, including the areas of: aesthetics (light and glare generation), air quality, biology, cultural resources, geology, hazards, hydrology, noise and mandatory findings of significance. However, mitigation measures were identified for each of the potentially significant impacts that would, upon implementation, reduce the impacts to less than significant levels. Therefore, in accordance with California Environmental Quality Act regulations, a Mitigated Negative Declaration is proposed.

The public review period for the Mitigated Negative Declaration/Initial Study commenced on February 14, 2017, and ended on March 16, 2017. Comments were received from eight different parties, and none of those comments were of a significant nature that would affect the conclusions of the Initial Study analysis or its mitigation measures.

RECOMMENDATION

Staff recommends that the Planning Commission recommend that the City Council take the following actions:

1. Adopt the project Mitigated Negative Declaration.
2. Amend the General Plan to change the land use designation of the site from Commercial to Residential High (GPA17-0001).
3. Amend the I-205 Corridor Specific Plan to change the land use designation of the site from General Commercial to High Density Residential, and add a small portion of the project site to the Specific Plan (SPA17-0002).
4. Rezone a portion of the project site from General Highway Commercial to Planned Unit Development (R17-0001).
5. Approve a development application (preliminary and final development plan) for the overall project, including the site plan, architecture, landscaping and all on-site improvements (D15-0007).
6. Approve a Tentative Subdivision Map to allow for the future subdivision of the units into condominiums (TSM17-0002).

MOTION

Move that the Planning Commission recommend that the City Council take the following actions, as documented in the April 12, 2017 Planning Commission Resolution:

1. Adopt the project Mitigated Negative Declaration.
2. Amend the General Plan to change the land use designation of the site from Commercial to Residential High (GPA17-0001).
3. Amend the I-205 Corridor Specific Plan to change the land use designation of the site from General Commercial to High Density Residential, and add a small portion of the project site to the Specific Plan (SPA17-0002).
4. Rezone a portion of the project site from General Highway Commercial to Planned Unit Development (R17-0001).
5. Approve a development application (preliminary and final development plan) for the overall project, including the site plan, architecture, landscaping and all on-site improvements (D15-0007).
6. Approve a Tentative Subdivision Map to allow for the future subdivision of the units into condominiums (TSM17-0002).

Prepared by: Brian Millar, AICP, Planning Consultant
Reviewed by: Bill Dean, Assistant Development Services Director
Approved by: Andrew Malik, Development Services Director

ATTACHMENTS

Attachment A – Project Plans (Oversized)
Attachment B – Applicant's Project Statement
Attachment C – Resolution, Conditions of Approval, and Initial Study/Mitigated Negative Declaration

Item 6-Written Statement

Harvest in Tracy will be a multifamily rental community that provides a living experience distinct to both Tracy and the broader region, developed by a joint venture between long-term Tracy residents, The Toste Family, and a member of The Lewis Group of Companies. The Harvest theme will reference Tracy's and the site's agricultural heritage by providing a landscaping palette, amenities, and event programming that incorporate edible orchard groves, community gardens, and healthy, sustainable living. The community's heart will be the 6,000 SF leasing and recreation center, offering a spacious indoor/outdoor entertainment room for our staff to host community events (as well as for our residents to reserve for private functions), a large fitness facility providing state-of-the-art equipment that rivals membership gyms, business centers and conference rooms to support the independent business owners among our residents, and direct adjacency to the key pool, spa, and outdoor kitchen amenities. Other major best-in-class amenities include a double ½ basketball court, a dog park, and a central Harvest thematic loop road that encourages walking by providing shade, edible landscaping elements, and connectivity to communal gathering areas.

The 304 residences will also distinguish Harvest from other apartment communities in Tracy and surrounding cities. The homes are truly residential in character, with two story elevations, a combination of direct access and detached garages, and even completely detached apartments. The floorplans have undergone an extensive design process based on our portfolio of over 9,000 multifamily homes constructed over the last several decades, including using virtual reality walkthroughs to incorporating findings from numerous focus groups with residents actually living in the units, in order to ensure a timeless layout that provides contemporary in-demand amenities, like great room spaces, spa-like bathrooms, and spacious gourmet kitchens. Another distinguishing characteristic is the generous private open spaces, which create indoor/outdoor entertainment opportunities and add another dimension to the residents' experience.

The project will create a variety of benefits for the city:

- Harvest in Tracy will be a showcase multifamily community and project for both our company and the city, setting a high standard of quality for future developments.

- Our community will be operated by Lewis Apartment Communities, which has won the CEL customer service award for the past nine years for a portfolio of the company's size (9,000 existing apartments, with another 600 currently under construction). With a long-term owner/operator investment philosophy, we are vested in the project's success and that of the broader city and civic organizations (such as schools, Chamber of Commerce, other nonprofits) that our residents engage in.

- The proposed development will attract affluent new residents who will support Tracy businesses while also participating in the community at large. In past cities where these floorplans have been built, we have attracted renters-by-choice with average household incomes well above the averages of the cities themselves; this presumably also carries over to their discretionary spending and support of existing local retailers and other services.

- Harvest in Tracy will provide a housing alternative that appeals to renters-by-choice, temporary transfer executives, and new residents of Tracy: all of which are groups that are already currently underserved and likely to be increasing in size in Tracy due to the Cordes Ranch development and the other economic development activity taking place. Combined with existing Tracy residents who will rent at our community after having sold their homes, these are just four groups of renters that we have historically observed large proportions of which establish roots in a city while living in our rental communities, and then purchas their own homes in the city and staying as long-term residents.

- The community will be a $70M-plus economic investment that generates construction jobs and city fees in the short-term and creates ongoing property management jobs and property tax payments to the city in the long-term. There will also be economic multiplier effects that amplify these benefits; all of these generate increased sales tax receipts within Tracy.

Attachment C

RESOLUTION 2017-_____

RECOMMENDING APPROVAL OF A GENERAL PLAN AMENDMENT (GPA17-0001), SPECIFIC PLAN AMENDMENT (SPA17-0002), REZONING (R17-0001), PRELIMINARY AND FINAL DEVELOPMENT PLAN (D15-0007), TENTATIVE MAP (TSM17-0002) AND ADOPTION OF A MITIGATED NEGATIVE DECLARATION FOR THE HARVEST IN TRACY RESIDENTIAL DEVELOPMENT

WHEREAS, Applications have been filed or initiated for a General Plan Amendment to: re-designate approximately 18.79 acres from Commercial to Residential High; amend the I-205 Corridor Specific Plan designation from General Commercial to High Density Residential (HDR); Rezone lands from General Highway Commercial to Planned Unit Development (PUD), and approve a Planned Unit Development Preliminary and Final Development Plan for the 304-unit residential complex, collectively, the "Project;" and

WHEREAS, The subject property is located on the north side of Henley Parkway, at the southeast corner of West Grant Line Road and Interstate 205, and is a subset of Assessor Parcel Numbers (APN) 238-600-25, 238-600-26, and 238-600-27; and

WHEREAS, In addition to retail, office, and other commercial land uses, the Commercial land use designation provides for residential development in the density ranges permitted in the Residential High designation (12.1 to 25 dwelling units per gross acre); and

WHEREAS, The Project includes a request to amend the General Plan designation of the site to Residential High in order for the General Plan Land Use Diagram to more specifically reflect the high-density residential land use of this Project; and

WHEREAS, The subject property is well suited for high density residential development because of its close proximity to residential, retail and consumer services, recreational opportunities, employment, and convenient access to I-205; and

WHEREAS, The Project represents an infill site in the City, promotes a compact development pattern, minimizes consumption of open space lands and resources, and provides for high-density housing opportunities which assist the City in achieving housing goals established in the City's General Plan Housing Element; and

WHEREAS, The Project is consistent with General Plan Housing Element Goals and Policies, including Policy 3.1 ("Provide for a range of residential densities and products, including … higher-density apartments."); and

WHEREAS, The Project has been evaluated in accordance with California Environmental Quality Act (CEQA) Guidelines, and a Mitigated Negative Declaration, which would reduce any potentially significant environmental impacts to less than significant levels,is proposed for approval; and

WHEREAS, The Planning Commission conducted a public hearing to receive public input and review the Project on April 12, 2017;

NOW, THEREFORE, BE IT RESOLVED By the Planning Commission as follows:

1. Mitigated Negative Declaration

   The project was evaluated under an Initial Study which evaluated potential environmental impacts associated with project development. Based on the analysis contained in the Initial Study, mitigation measures were identified which would reduce potentially significant impacts to levels of insignificance. Therefore, a Mitigated Negative Declaration has been prepared for the project.

   The Planning Commission recommends that the City Council adopt the Mitigated Negative Declaration, Exhibit 1.

2. General Plan Amendment (Application Number GPA17-0001)

   The Planning Commission recommends that the City Council approve the General Plan Amendment to re-designate the site from Commercial to Residential High.

3. I-205 Corridor Specific Plan Amendment (Application Number SPA17-0002)

   a. The Specific Plan amendment is consistent with the General Plan, because the permitted uses of the Specific Plan's High Density Residential designation are allowed within the General Plan designation of Residential High and are consistent with the goals and policies of the Housing Element. Also, the Specific Plan's Design Standards and Guidelines, particularly related to siting requirements (site planning, architecture, and parking) and design standards (transitions/edges, commercial interface, auxiliary site features, fencing and walls) are consistent with Land Use and Community Character Element goals and policies.

   b. The General Plan identifies apartments, specifically, among the "characteristic housing" for property designated Residential High, in the density range from 12.1 to 25 units per gross acre. The Specific Plan is consistent with the General Plan in that it, too, identifies apartments (and other similar uses as the General Plan) as permitted uses in the High Density Residential Designation. The proposed project would result in a residential density of 16.2 dwelling units per acre.

   c. The project site is part of the I-205 Corridor Specific Plan Finance and Implementation Plan (FIP), originally adopted in 1990 and subsequently amended. The project site is subject to the FIP's development impact fees and other infrastructure mitigation requirements to mitigate the Project's fair share of infrastructure costs required by the City's infrastructure master plans.

      The Planning Commission recommends that the City Council approve the Specific Plan amendment to change the designation of the site from General Commercial to High Density Residential.

4. Rezone (R17-0001)

   The Planning Commission recommends that the City Council approve the Rezoning (R17-0001) of the subject property from General Highway Commercial to Planned Unit

Development, consistent with the General Plan Amendment and Specific Plan Amendment actions for the project.

5. Planned Unit Development Preliminary and Final Development Plan (Application Number D15-007).

   a. The Project includes site plan and design elements consistent with City design goals and standards, such as placement of buildings close to the public street to create an inviting, pedestrian-oriented environment; and compliance with all City standards, including number and design of parking spaces, circulation, land use, and landscaping.

   b. The Project is consistent with Specific Plan architecture Design Standards and Guidelines. The architecture incorporates elements such as variation in texture and materials, and the building facades include relief to avoid a monotonous appearance. Building elevations facing streets include windows, decorative trim and other architectural features. Stairwells are integrated into overall building design, and private spaces (patios and balconies) are included for each unit.

      The Planning Commission recommends that the City Council approve the Project Planned Unit Development Preliminary and Final Development Plan.

6. Tentative Subdivision Map (TSM17-0002).

   The Planning Commission recommends that the City Council approve the Tentative Subdivision Map (TSM17-0002) for the project, finding that the subdivision is consistent with applicable City Codes and design criteria.

* * * * * * * * * * * * *

The foregoing Resolution 2017-_____was passed and adopted by the Planning Commission on the12th day of April, 2017, by the following vote:

AYES: COMMISSION MEMBERS:
NOES: COMMISSION MEMBERS:
ABSENT: COMMISSION MEMBERS:
ABSTAIN: COMMISSION MEMBERS:

_____
CHAIR

ATTEST:

_____
STAFF LIAISON

ASCENT ENVIRONMENTAL

Public Draft

Initial Study/Mitigated Negative Declaration

Harvest In Tracy Development Project

February 2017

TRACY

PREPARED FOR:
City of Tracy

Initial Study/Mitigated Negative Declaration

Harvest in Tracy Development Project

Tracy, CA

PREPARED FOR:

City of Tracy
Development Services Department
333 Civic Center Plaza, Tracy, CA 95376
Tracy, CA 95376

CONTACT:

Victoria Lombardo, AICP, Senior Planner
(209) 831-6428

PREPARED BY:

Ascent Environmental, Inc.
455 Capitol Mall, Suite 300
Sacramento, CA 95814

CONTACT:

Amanda Olekszulin
916.444.7301

February 2017

NOTICE OF PUBLIC REVIEW AND NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

The City of Tracy proposes to adopt a Mitigated Negative Declaration (MND) pursuant to the California Environmental Quality Act of (Section 15000 et seq., Title 14, California Code of Regulations) (CEQA) for the Harvest in Tracy Subdivision Project (Project),

The applicant proposes to construct an 18.79-acre residential subdivision within the City of Tracy. The project would consist of 304 multi-family residential units and a central 6,000 square-foot leasing and recreation center and other community amenities. The project would be developed on an undeveloped site west of downtown Tracy which was formerly in agricultural use. The project site is bordered to the north by Interstate 205 (I-205), and residential to the south and west. Self-storage and recreational vehicle/boat storage is located to the east.

Discretionary approvals by the City are required for a proposed General Plan Amendment, Specific Plan Amendment, rezone, preliminary development plan, final development plan; and Vesting Tentative Subdivision Map.

The 30-day period for public review and comment on the proposed MND begins February 14, 2017. All comments must be submitted by March 16, 2017. Please address comments on the proposed MND as follows:

Harvest In Tracy Subdivision Project
Attn: Victoria Lombardo, AICP, Senior Planner
City of Tracy, Development Services Department, 333 Civic Center Plaza, Tracy, CA 95376

Or email: Victoria.Lombardo@ci.tracy.ca.us

A copy of the proposed MND and supporting documents can be reviewed at the City's Development Services Department office at the above address. For further information regarding the proposed MND and the City's schedule to consider adoption of the document, please contact Victoria Lombardo at (209) 831-6428.

TABLE OF CONTENTS

Section		Page
ACRONYMS AND ABBREVIATIONS		III
1	INTRODUCTION	1-1
2	PROJECT DESCRIPTION	2-1
	2.1 Project Location	2-1
	2.2 Existing Uses on site and surrounding	2-1
	2.3 Project Description	2-1
	2.4 Project Goals and Objectives	2-7
3	ENVIRONMENTAL CHECKLIST	3-1
	3.1 Aesthetics	3-3
	3.2 Agriculture and Forest Resources	3-6
	3.3 Air Quality	3-9
	3.4 Biological Resources	3-17
	3.5 Cultural Resources	3-24
	3.6 Geology and Soils	3-29
	3.3 Greenhouse Gas Emissions	3-34
	3.4 Hazards and Hazardous Materials	3-39
	3.5 Hydrology and Water Quality	3-44
	3.6 Land Use and Planning	3-49
	3.7 Mineral Resources	3-51
	3.8 Noise and Vibration	3-52
	3.9 Population and Housing	3-61
	3.10 Public Services	3-63
	3.11 Recreation	3-68
	3.12 Transportation/Traffic	3-70
	3.13 Utilities and Service Systems	3-77
	3.14 Mandatory Findings of Significance	3-82
4	REFERENCES	4-1

Appendices (included on CD at back of report)

A AQ/GHG Calculations
B Transportation Impact Study
C Species Information Tables
D Noise Calculations
E Health Risk Assessment

Exhibits

Exhibit 2-1 Project Vicinity 2-2
Exhibit 2-2 Project Area 2-3
Exhibit 2-3 General Plan Land Use Designations 2-4
Exhibit 2-4 City Zoning Designations 2-5
Exhibit 2-5 Site Plan 2-6
Exhibit 3.2-1 FMMP 3-7
Exhibit 3.6-1 Faults 3-31
Exhibit 3.14-1 Schools 3-65
Exhibit 3.14-2 Parks 3-66

Tables

Table 3.3-1 Screening Levels for Potential Odor Sources 3-10
Table 3.7-1 Estimated Greenhouse Gas Emissions Associated with Project Construction Activities by Construction Group 3-37
Table 3.7-2 Summary of Annual Greenhouse Gas Emissions Associated with the Project at Full Buildout in 2019 3-37
Table 3.12-1 Land Use Compatibility for Community Noise Environment 3-54
Table 3.12-2 Noise Emission Levels from Construction Equipment 3-54
Table 3.12-3 Modeled Traffic Noise Levels along Local Roadways under Existing and Existing-Plus-Project Conditions 3-57
Table 3.12-4 Modeled Traffic Noise Exposures from Henley Parkway and I-205 3-57
Table 3.12-5 Representative Groundborne Vibration and Noise Levels for Construction Equipment 3-59
Table 3.16-1 Intersection Level of Service – Existing Conditions 3-72
Table 3.16-2 Project Trip Generation Estimates 3-73
Table 3.16-3 Intersection Level of Service – Existing Plus Project Conditions 3-74

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACM	asbestos-containing material
ADWF	average dry weather flow
afy	acre feet per year
APN	Assessor Parcel Numbers
ARB	California Air Resources Board
BMP	best management practices
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CCRs	covenants, conditions and restrictions
CEQA	California Environmental Quality Act
City	City of Tracy
CO	carbon monoxide
CO_2	carbon dioxide
CPRR	Central Pacific Railroad
District or SJVAPCD	San Joaquin Valley Air Pollution Control District
DMC	Delta Mendota Canal
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
GHC	General Highway Commercial
GHG	greenhouse gas
GPCD	gallons per capita per day
HOA	homeowners' association
I-205	Interstate 205
JJWTP	John Jones Water Treatment Plant
mg/kg	milligrams per kilogram
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MND	mitigated negative declaration
MRF	Material Recovery Facility
MRZ	mineral resource zone
MT CO_2e	metric tons of carbon dioxide-equivalent

NAAQS	National Ambient Air Quality Standards
NO_X	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
NRCS	National Resources Conservation Service
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PM_{10}	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PPD	pounds per day
PUD	Planned Unit Development
ROG	reactive organic gases
RSL	Regional Screening Level
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
sf	square feet
SJCOG	San Joaquin Council of Governments
SJMSC	San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan
SJRWQCB	San Joaquin Regional Water Quality Control Board
SJVAB	San Joaquin Valley Air Basin
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_X	oxides of sulfur
SPRR	Southern Pacific Railroad Company
SWPPP	stormwater pollution prevention plan
TAC	Technical Advisory Committee
tpy	tons per year
UST	underground storage tank
VOC	volatile organic compound
WSID	West Side Irrigation District
WWTP	wastewater treatment plant

1 INTRODUCTION

This initial study has been prepared by the City of Tracy (City) to evaluate the potential environmental effects of approving the Harvest in Tracy subdivision, a residential development off of Henley Parkway in Tracy, CA (project site).

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 *et seq*.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). An initial study is prepared by a lead agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. In accordance with State CEQA Guidelines Section 15070, a "public agency shall prepare…a proposed negative declaration or mitigated negative declaration…when: (a) The [initial study] shows that there is no substantial evidence in light of the whole record before the agency, that the project may have a significant impact on the environment, or (b) The initial study identifies potentially significant effects but (1) revisions in the project plans or proposal made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effect or mitigate the effects to a point where clearly no significant effects would occur, and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the project would not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report (EIR). By contrast, an EIR is required when the project may have a significant environmental impact that cannot clearly be reduced to a less-than-significant effect by adoption of mitigation or by revisions in the project design.

As described in the environmental checklist, the project would not result in significant environmental impacts. Therefore, a mitigated negative declaration (MND), supported by analysis prepared in an initial study, is the appropriate document for compliance with the requirements of CEQA. This initial study conforms to the content requirements of State CEQA Guidelines Section 15063 and an MND will be subsequently prepared that will conform to the content requirements of Section 15071.

The Project Description section of this Initial Study provides a description of the Harvest in Tracy project components.

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2 PROJECT DESCRIPTION

This initial study has been prepared by the City of Tracy (City) to evaluate the potential environmental effects of approving the Harvest in Tracy subdivision (project), a residential development off of Henley Parkway in Tracy, California (project site).

2.1 PROJECT LOCATION

The project site consists of 18.79 acres located west of downtown Tracy, on the southeast corner of West Grant Line Road and Interstate 205.The site is located in the block bounded by West Grant Line Road to the north and east, Henley Parkway to the south and east, I-205 to the northwest, and Lowell Ave to the southwest.

The project site is a subset of Assessor Parcel Numbers (APN) 238-600-25, 238-600-26, and, 238-600-27. The project's regional location is shown in Exhibit 2-1 and the project vicinity is shown in Exhibit 2-2.

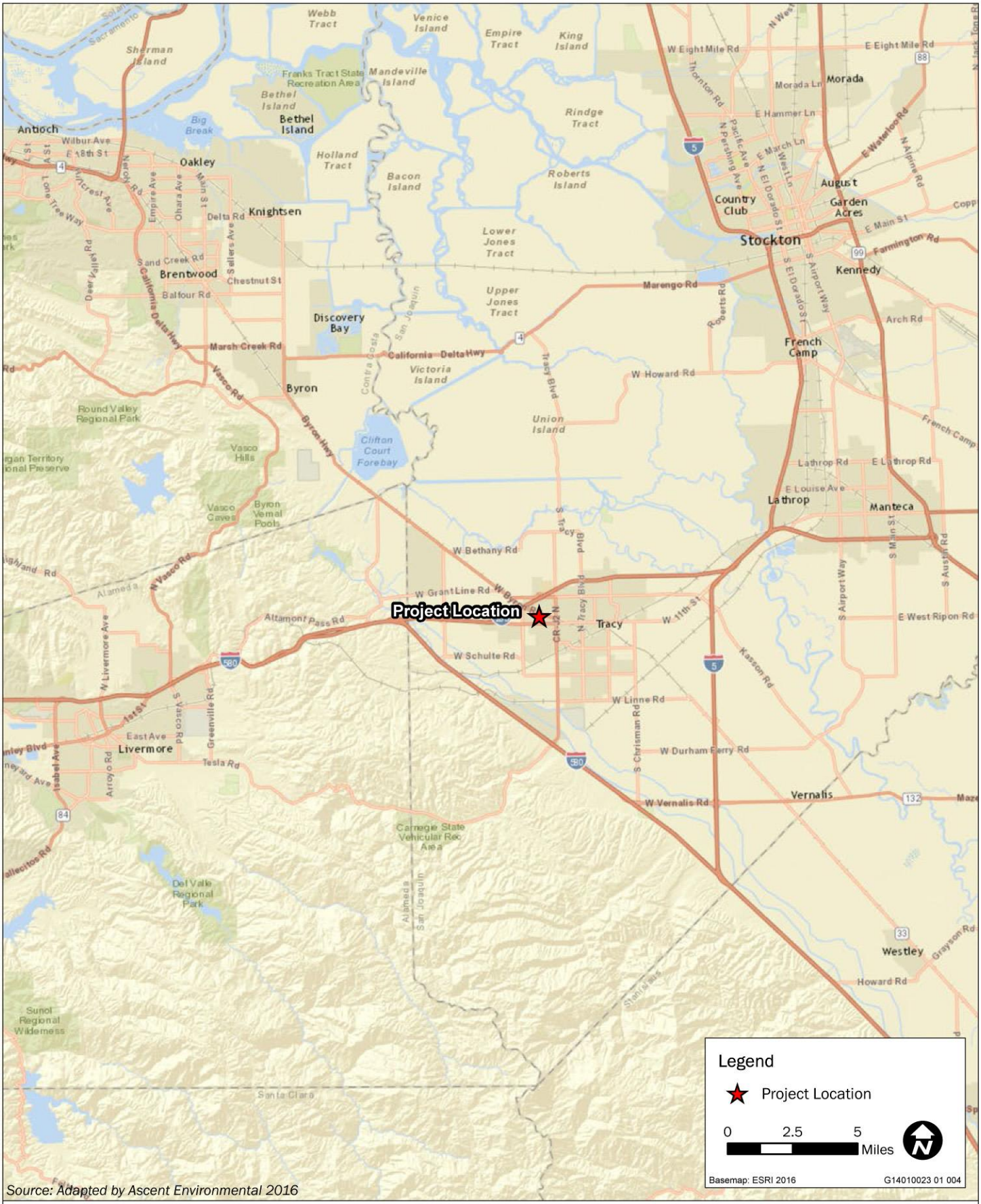
2.2 EXISTING USES ON SITE AND SURROUNDING

From at least 1937 through 1975, the project site was used exclusively for agriculture (row crops), as were the adjoining parcels to the north. The undeveloped portion of the site was last planted in row crops. The project site is owned by the Toste family. In the early 1980s Toste Road and a residence at 2480Toste Road were constructed. Just east of the project site is a self-storage company (JT Storage) with a building and fenced areas with crushed rock ground cover used for recreational vehicle (RV) and boat storage. Farther east is Delta RV, an RV dealer and several fast food restaurants. Other surrounding land uses include the freeway to the north, and residential developments to the south and west. The project site itself is undeveloped except for the residence and parking areas which would be demolished with implementation of project. The project site is currently designated Commercial in the City's General Plan (Exhibit 2-3) and zoned as Planned Unit Development (PUD) and General Highway Commercial (GHC) (Exhibit 2-4).

2.3 PROJECT DESCRIPTION

The project is a joint venture between the Toste Family and the applicant to develop, own, and operate a market-rate multifamily rental community. The applicant is applying for entitlement, mapping, and development of a condominium project that they would operate as a market rate multifamily rental community. This will include establishment of a proposed dormant homeowner's association for the operation and maintenance of the condominiums. The Harvest in Tracy rental community (Exhibit 2-5) would include 304 residences (stacked, two-story flats and two-story, duplex townhomes) and a central 6,000 square-foot leasing and recreation center. The recreation center would include a fitness center, entertainment room, swimming pool, and spa. The gated complex would also include a community garden, orchard grove, double half basketball court, a dog park, and a central Harvest thematic loop road that encourages walking by providing shade, edible landscaping elements, and connectivity to communal gathering areas.

The complex would be managed by the applicant. There would be 120 one-bedroom units, 133 two-bedroom units, and 51 three-bedroom units. One-bedroom units range in size from 765 square feet (sf) to 874 sf. Two-bedroom units range in size from 1,106 sf to 1,343 sf. Three-bedroom units would be 1,534 sf. The project includes 653 parking spaces; 432 spaces in garages and 221 on-site spaces. While not a CEQA issue, adequate on-site parking is addressed in the Transportation Impact Study (Appendix B). The project applicant estimates the project parking would accommodate 670 residents and six employees.



Source: Adapted by Ascent Environmental 2016

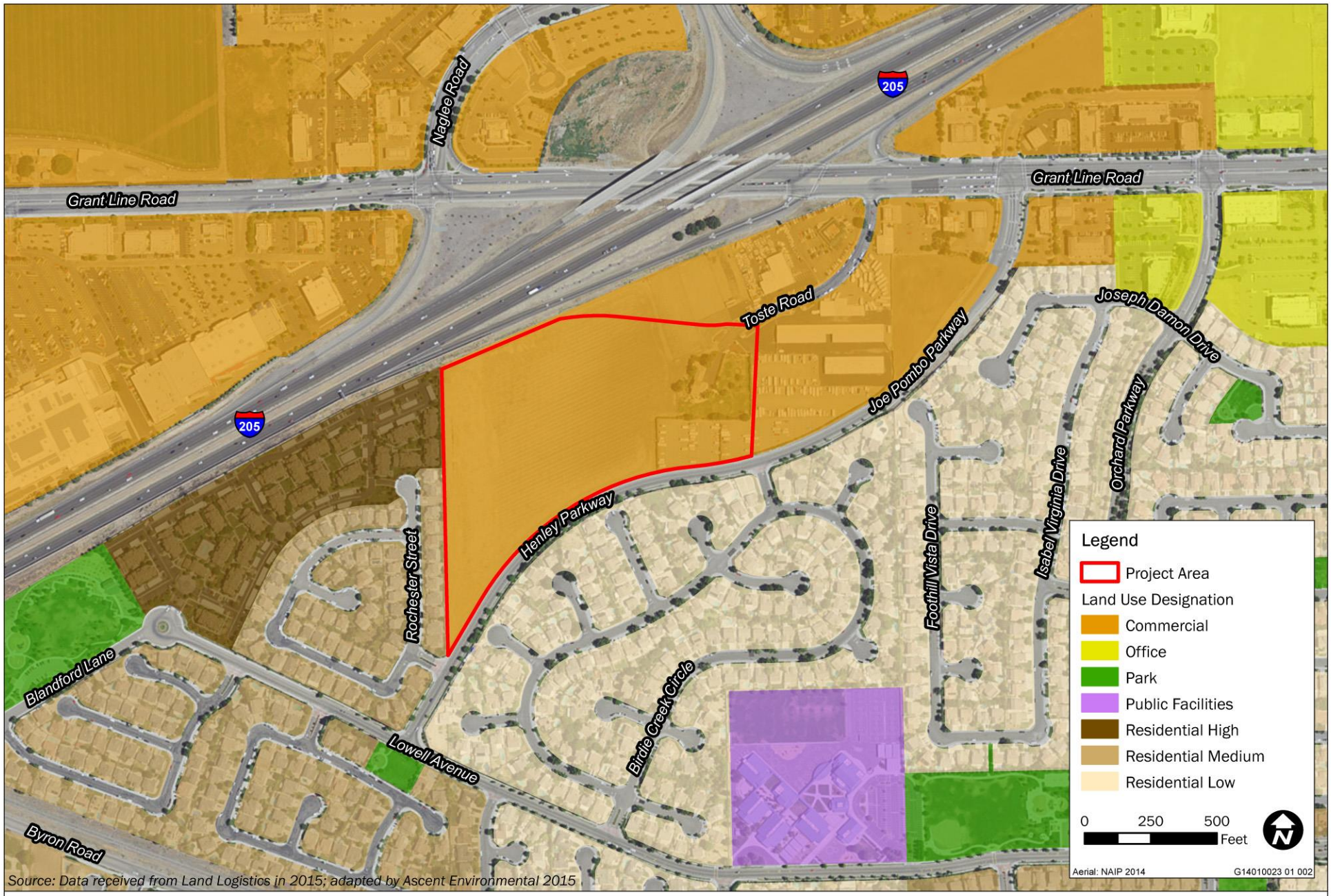
Exhibit 2-1 **Project Vicinity**

Source: Adapted by Ascent Environmental 2015

Exhibit 2-2

Project Area

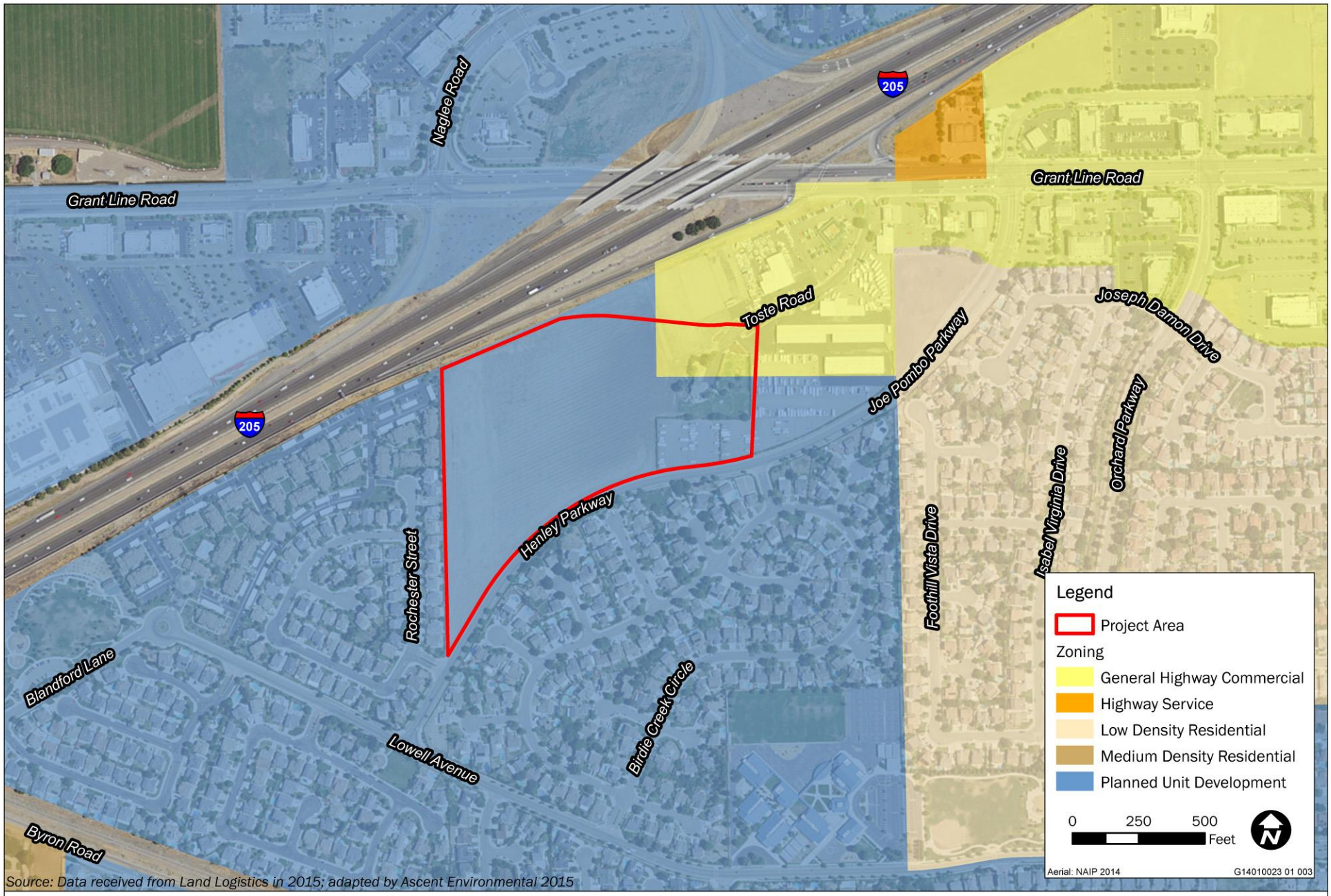
ASCENT ENVIRONMENTAL



Source: Data received from Land Logistics in 2015; adapted by Ascent Environmental 2015

Exhibit 2-3

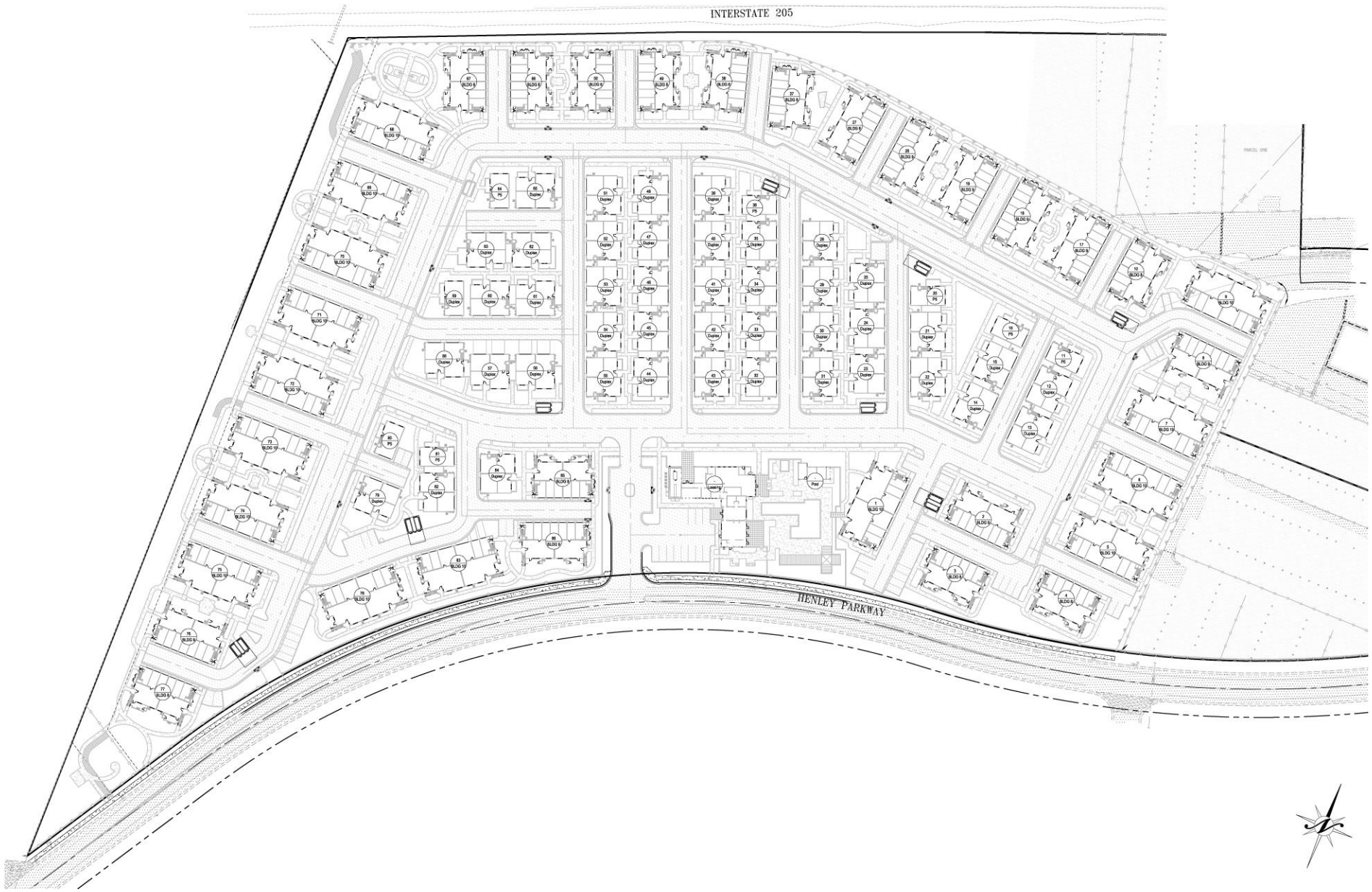
General Plan Land Use Designations



Source: Data received from Land Logistics in 2015; adapted by Ascent Environmental 2015

Exhibit 2-4

City Zoning Designations



Source: North Star Engineering Group, Inc. 2017

X14010023 01 001

Exhibit 2-5

Site Plan

Ground-disturbing activities for the project would include grading and compaction; connection to utilities and public storm main; construction of roadways, buildings, garages, parking areas, pathways, and amenities; and landscaping of common areas. Access to the development would be from the south via a central driveway connection to Henley Parkway.

The project would be served by the following service providers:

- City of Tracy for water, wastewater collection and treatment, and stormwater collection, and
- Pacific Gas and Electric Company for natural gas and electricity.

The project applicant is requesting a General Plan Amendment to change land use designation on the project site from Commercial to Residential High, a rezone for the part of the site currently zoned as General Highway Commercial to High Density Residential, preliminary development plan, final development plan, and Vesting Tentative Subdivision Map.

2.4 PROJECT GOALS AND OBJECTIVES

The project applicant has identified the following goals and objectives for the project:

- expand the available supply of residential housing options in the City of Tracy, consistent with the City's General Plan;
- develop a project that is consistent and compatible with the surrounding land uses, and follows a logical development pattern;
- increase the supply of market-rate housing units within the City of Tracy; and
- provide residential housing opportunities that are visually attractive and accommodate the future housing demand in the City of Tracy.

2.4.1 Utilities and Services

Utility extensions would be installed to provide services to project residents. Utility lines within the project site would be run through the rights-of-way created by the project's internal street network. The water, sewer, and drainage lines would be connected to existing lines on the northwest corner of the project site. A preliminary draft of the proposed utility plan for the project has been submitted to the City and is currently being reviewed for approval.

Water, sewer, and residential garbage and recycling collection service would be provided by the City of Tracy. A homeowners' association (HOA), and covenants, conditions and restrictions (CCRs) would be established prior to the occupancy of any homes for the purpose of managing and maintaining the private lanes, courts, and common area landscaping, as well as governing the CCRs.

2.4.2 Project Construction

The project would be developed over approximately two years and is anticipated to begin construction in summer 2017 with achieve full buildout in spring 2019. It is anticipated that there would be a maximum of 200 construction workers on-site during construction. Balanced grading of the site is proposed and no import or export of earth materials is planned. The Toste Residence and the parking areas associated with the recreational vehicle (RV) dealership would be demolished in preparation of construction.

Construction equipment would include dozers, water trucks, excavators, backhoes, loaders, concrete trucks, transfer trucks, scrapers, rollers, etc. which would be in use for up to eight hours a day within the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday. All construction equipment and truck deliveries would occur during the daytime hours. No pile driving or blasting would occur.

2.4.3 Entitlements

This document will be used by the City of Tracy to take the following actions:

- adoption of the Mitigated Negative Declaration (MND);
- adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- approval of a General Plan Amendment, from Commercial to Residential High;
- amendment to the I-205 Corridor Specific Plan, from General Commercial to High Density Residential;
- rezone from General Commercial to High Density Residential;
- approval of a preliminary development plan;
- approval of a final development plan; and
- approval of the Vesting Tentative Subdivision Map.

The following agencies may be required to issue permits or approve certain aspects of the project:

- Central Valley Regional Water Quality Control Board– Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities.

- San Joaquin Council of Governments (SJCOG) - Review of project application to determine consistency with regional plans, including the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

- San Joaquin Valley Air Pollution Control District (District) – Review of project application and accompanying Air Impact Assessment required by District Rule 9510 (Indirect Source Review).

3 ENVIRONMENTAL CHECKLIST

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance
		☒ None With Mitigation

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the project could not have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Victoria Lombardo
Signature

February 14, 2017
Date

Victoria Lombardo
Printed Name

Senior Planner
Title

City of Tracy
Agency

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

The project site is located in an area of the City of Tracy that has been developed with a mix of high-, medium-, and low-density residential subdivisions to the south with small parks interspersed. Commercial developments lie to the north with office parks to the northeast. Structures in the area include one- and two-story single-family dwellings, single-story commercial buildings (e.g., Black Bear Diner), and Interstate 205 (I-205). The project site is bounded by I-205 to the north, Henley Parkway to the south, and Rochester Street to the west. Art Freiler School and Galli Park are located to the south of the project site; Bland Park and the Chesapeake Bay Apartments are located to the East; and JT Storage, Delta RV, and residential subdivisions are located in the immediate vicinity of the project site.

The project site topography is moderately flat (one to five percent slopes) and is mostly undeveloped except for a storage yard for recreation vehicles and the existing Toste residence. The majority of the site is composed of loose soils and practically empty with the exception of intermittent signage for adjacent businesses. Small patches of grass are interspersed amongst the dirt, which bears the appearance of past agricultural activity.

Public views of the project site are available from Henley Parkway, Toste Road, and I-205. Residents of Rochester Street may view the project site from the perspective of their back yards. The viewing groups are drivers and pedestrians within and adjacent to the existing residential and commercial developments.

Views across the project site for southwest bound motorists and pedestrians on Henley Parkway near JT Storage include rows of recreational vehicles housed by the storage facility behind a short wall of vegetation. As viewers continue along Henley Parkway, views open up to an empty, dirt parcel encompassed by fencing in the foreground with views of I-205 and the residences of Rochester Street in the background. This view is of a minimally intact open space area with agricultural landscape elements. Intrusive man-made elements (e.g., recreation vehicles) detract from the view; however, minimal foreground elements such as fencing and landscaping block views of the project site. Within the context of the surrounding suburban and commercial landscape, the quality of this view is moderately low.

Under existing conditions, views of the project site for drivers going northeast along I-205, are obstructed by an approximately 10- to 12-foot wall that steps down and ends adjacent to the freeway exit, close to the western boundary of the site. Drivers going southwest along I-205 have open and unobstructed views

coming down a short hill and looking south towards the site. Similar to the views from Henley Parkway, the foreground is composed of short fencing and some signage for nearby businesses. Once past the wall, viewers traveling northeast along I-205 can see the residences across Henley Parkway, the residence of the Toste family, and automobiles in a parking lot in the background, which encompass the open, agricultural project site producing a view of limited intactness. The landscape contrasts with the surrounding built environment and provides a moderately low quality view.

Views of the site are also available from the end of Toste Road directly to the east of the project site. Views of the site are blocked by the existing Toste residence, which includes a private fence and hedges in the foreground. The residence contains landscaping which supports a lawn, several trees, and a variety of types of vegetation. Views of the site are also detracted by a parking lot containing passenger vehicles in the foreground. These man-made elements conflict with the open space, agricultural character of the project site producing views that are low quality in the context of the suburban and commercial environment.

The site is mostly undeveloped and does not contain any night lighting or sources of night or daytime glare. The project site contains the existing Toste residence and a portion of the JT Storage facilities. Nighttime lighting from the Toste residence is characteristic of residential use and includes indoor and porch lighting. JT Storage utilizes lighting for security purposes. Adjacent and nearby developed uses, including residential development on Henley Parkway and Rochester Street and commercial development to the east of the project site are the primary sources of night lighting in the area.

3.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than significant. A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views, including panoramic views of great breadth and depth, often from elevated vantage points. Neither the site nor the surrounding area are considered a scenic vista because of the suburban and commercial environment, which is typical of many areas in the City. Although the surrounding residential development supports landscaping that includes hedges, trees, and other vegetation that is aesthetically pleasing, these elements are common and not unique to the area. The project area can be characterized as flat and lacking in ridgelines or elevated vantage points. Because of the flat topography of the site, residents of Henley Parkway and Rochester Street have views of I-205. The project site can be easily viewed from the surrounding environment; however, the site is currently graded and empty of grassland or trees. The project would involve the construction of a multi-family community composed of stacked flats and duplexes that would not exceed two stories, and a recreation center. While the project would introduce new structures on a formerly agricultural property, the project site and surrounding areas do not constitute a scenic vista. Therefore, the project would not have an adverse effect on a scenic vista and this impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. San Joaquin County contains a portion of Interstate 580 (I-580), which is an Officially Designated State Scenic Highway under the California Department of Transportation's (Caltrans') California Scenic Highway Mapping System. However, viewers cannot see the project site from I-580, which is more than four miles west of the project site. There are no other scenic roadways close to the project site; therefore, project implementation would have no impact on scenic resources within a state scenic highway (Caltrans 2011).

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than significant. The visual character of the project site is defined by open space and rural/agricultural elements. The site is mostly undeveloped (except for the Toste residence and still maintains the appearance of an agricultural parcel, although the site is not currently farmed). The character of the surrounding areas is

of suburban residential development and low-density commercial development. The agricultural landscape features of the project site contrast with the surrounding suburban and commercial environment. In combination with the freeway to the north and surrounding suburban and commercial uses, the view of the site is not of high scenic value.

Due to the flat topography of the project site, minimal grading would be required and, therefore, would not substantially alter the existing visual character of the site. There are no trees and vegetation on-site that would need to be removed. Upon completion, the project would alter views of the site from the south towards I-205, across the site, and from the direction of travelers along I-205. The project would include installation of a roadway entrance on Henley Parkway with additional landscaping and vegetation along the border of Henley Parkway. The buildings would be designed in the Spanish Colonial style, using S-tile roofs and sand finish stucco. Each building would include decorative ironwork and shutters for enhancements. Accent colors would add pops to the elevations while brown trims and white/beige tone bodies of the buildings would create thematic unity within the neighborhood. Additional elements of the design would include shed roofs over entries, chimneys, arched openings, and decorative corbels, helping to frame views and create focal points across all elevations. A sound wall would likely be included along the northern boundary to reduce the vehicle noise from I-205 (as described in Section 3.8, Noise). While the height and look may vary depending on the final combination of noise mitigation actions, it would likely be similar to the existing wall dividing the existing residences to the west from I-205.

While the visual character of the site would be altered, implementation of the project would create a view that is consistent with the visual character of the surrounding commercial and residential areas. As a result, the quality of the visual character would not be substantially degraded. The proposed residential subdivision would be of similar type, form, and design as surrounding developments. Therefore, this would be a less-than-significant impact.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant. The project site is mostly undeveloped and contains few sources of night lighting or night or daytime glare. The existing Toste residence and adjacent developed areas, including JT Storage on Toste Road, Black Bear Diner on Grant Line Road, I-205, and residential development to the south and west are the primary sources of nighttime lighting in the area. The project would result in the installation of lighting on the site in the form of standard, pole-mounted street lights and wall-mounted lights on dwellings, which would be similar in style and character to lighting that exists in adjacent residential developments. Lighting on the site would comply with the City of Tracy Building Code Section 9.04.030, which adopts the California Energy Code Part 6, Title 24, CCR. Section 147 of the California Energy Code Title 24, Part 6 addresses requirements for outdoor lighting. Compliance with these requirements would ensure that lighting intensity levels, types of lighting fixtures, standard heights, and other lighting features would avoid excessive lighting, uplighting and spill over lighting, or light trespass onto adjacent properties. This would be a less-than-significant impact.

3.2 AGRICULTURE AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

3.2.1 Environmental Setting

The project site is shown as "Farmland of Local Importance" on the Department of Conservation Farmland Mapping and Monitoring Program map dated 2014 (U.S. Department of Conservation 2014) (Exhibit 3.2-1). These lands are defined as land not meeting the definitions of "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland." Farmland of Local Importance includes land that is or has been used for irrigated pasture, dryland farming, confined livestock or dairy facilities, aquaculture, poultry facilities, and dry grazing. It also includes soils previously designated by soil characteristics as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland that has since become idle.

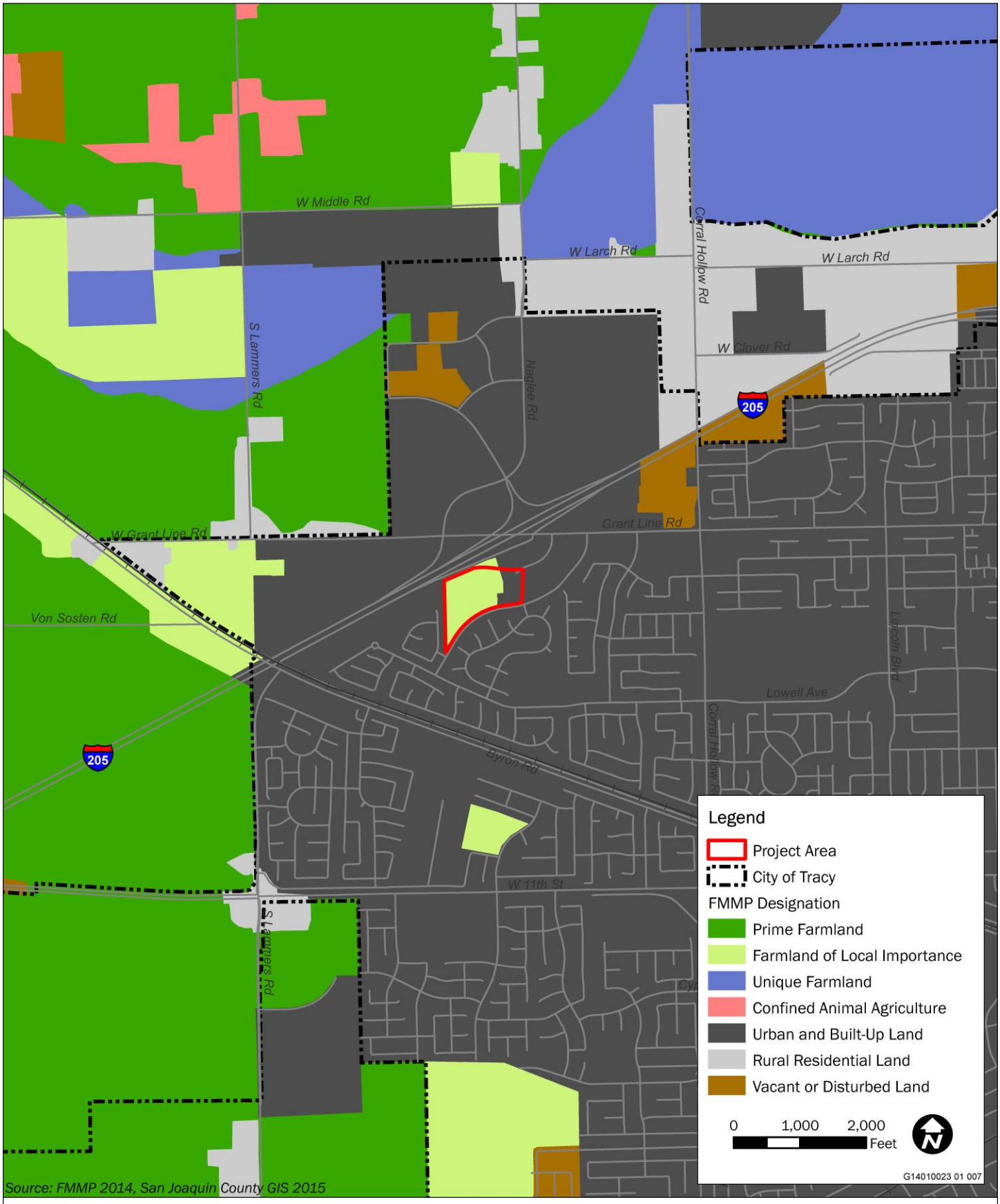


Exhibit 3.2-1

FMMP

ASCENT ENVIRONMENTAL

3.2.2 Discussion

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The project site is designated as Farmland of Local Importance. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. No impact would occur.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. The project site contains two zoning designations: Planned Unit Development (PUD), which allows projects under single ownership greater flexibility for residential, commercial, and industrial uses; and General Highway Commercial (GHC), which permits commercial activities on areas that are automobile-oriented. The project site is not zoned for agricultural use and is located adjacent to suburban land uses. The project site is not currently under a Williamson Act contract and is not presently used for agriculture. The existing zoning is consistent with project objectives. Therefore, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The project site is not currently zoned for forest land or timberland. Nor does the site contain any forest land or timberland. Therefore, there would be no impact.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site does not contain forest land or timberland. Therefore, there would be no impact related to conversion of these resources.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Less than significant. The project site is not irrigated and is not currently used for agricultural production. The site is surrounded by residential and commercial land uses (I-205, residences, and a storage facility). While the project would convert farmland to a non-agricultural use, this would be compatible with other uses in the area and has been planned for by the City through its General Plan and Zoning Code. This site is an isolated area of agricultural land in an otherwise developed part of the City. Therefore, this would be a less-than-significant impact.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The project site is located in the City of Tracy, which lies within San Joaquin County and the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality within the county is regulated by such agencies as the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) at the federal and state levels, respectively, and SJVAPCD at the local level. SJVAPCD strives to improve air quality conditions in the county through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the SJVAPCD, which is designed to accomplish the overarching goal of improving air quality conditions, includes the development of programs for the attainment of the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS), adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. SJVAPCD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the federal Clean Air Act, federal Clean Air Act Amendments of 1990, and the California Clean Air Act.

SJVAPCD has developed plans to meet state and national standards for ozone and particulate matter. SJVAPCD's air quality plans include emissions inventories to measure the sources of air pollutants, evaluate the effectiveness of different control methods, and demonstrate how air quality would improve due to these plans. The plans employ computer modeling to estimate future levels of pollution and ensure that the SJVAB would meet air quality goals.

San Joaquin County is currently designated as a nonattainment area for the 1-hour CAAQS and the 8-hour CAAQS and NAAQS for ozone (ARB 2013a). The county is designated as nonattainment for the CAAQS for respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and attainment for the NAAQS for PM_{10}; and the county is designated as nonattainment for the CAAQS and NAAQS for respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$) (ARB 2013b).

The thresholds of significance listed below were adopted by SJVAPCD for evaluating emissions generated during the construction and operational phase of a proposed (SJVAPCD 2015).

Ozone Precursors

- Reactive organic gases (ROG): 10 tons per year (tpy);
- Oxides of nitrogen (NO_X): 10 tpy;

Particulate Matter

- Particulate matter (PM_{10} and $PM_{2.5}$): 15 tpy;

Carbon Monoxide

- Carbon monoxide (CO): 100 tpy;

Hazardous Air Pollutants

- Oxides of sulfur (SO_X): 27 tpy;

- Exposure of sensitive receptors to TAC emissions that would exceed 20 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) or a noncarcinogenic (acute and chronic) Hazard Index of 1 for the maximally exposed individual; and

Odor Impacts

- If the project would result in sensitive receptors being located closer than the screening level distances listed in Table 3-3.1, a more detailed analysis should be provided.

Table 3.3-1 Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2016

The SJVAPCD thresholds of significance for criteria pollutant emissions detailed above are based on SJVAPCD New Source Review (NSR) offset requirements for stationary sources. Emission reductions achieved through implementation of SJVAPCD offset requirements are a major component of the SJVAPCD's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of the SJVAPCD's air quality plan.

Construction of the project would result in the placement of 304 new residential units as close as 50 feet from I-205. Based on Table 4.15-8 of the City of Tracy General Plan Draft Recirculated Supplemental EIR (2010), residences located within 400 feet of I-205 could be exposed to diesel PM concentrations that would contribute to increased cancer risk. In accordance with City of Tracy General Plan Policy 11 of the Air Quality Element (2011a), a Health Risk Assessment (HRA) was conducted to disclose risk levels associated with freeway traffic on I-205 adjacent to the project site. The HRA was conducted in accordance with SJVAPCD recommendations. For complete details and HRA results, refer to Appendix D. Consistent with City policy, a number of best available risk reduction measures will be incorporated into the project's Conditions of Approval. The preparation of the HRA and disclosure of project specific health risks has been provided for public disclosure and General Plan consistency purposes. Consistent with recent case law (California Building Industry Association [CBIA] v. Bay Area Air Quality Management District [BAAQMD] [2013 and 2016]), CEQA does not require a lead agency to evaluate the effects of existing environmental conditions on a proposed project's future users or residents except to the degree a project would exacerbate those environmental conditions. Consistent with this guidance, the City has disclosed the existing environment's health risks and has provided an evaluation of whether the project would exacerbate those risks.

3.3.2 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than significant with mitigation. The project would include the construction and operation of 304 multifamily residential rental units and supportive land uses (i.e., clubhouse, dog park, community garden). Based on the responses to checklist questions b) and c) below, the project would not exceed the thresholds of significance for criteria pollutants and precursors. Thus, the project would not conflict with or obstruct implementation of the SJVAPCD's air quality plan. This would be a less-than-significant impact with mitigation (as described in b) and c) below).

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

<u>Short-Term Construction-Related Criteria Air Pollutants and Precursors</u>

Less than significant with mitigation. Initial project construction activities would consist of demolition of the one existing on-site residence, site preparation, and grading. All construction phases would occur sequentially. Construction of housing could begin in the summer of 2017 and is estimated to continue for 24 months.

Construction-related emissions would be temporary in nature. Construction-related activities would include site preparation, grading, paving, building construction, application of architectural coatings. Emissions of NO_X would be primarily associated with off-road (e.g., gas and diesel) construction equipment exhaust; additional sources would include on-road trucks for import and export of materials and worker vehicles for commuting. Worker commute trips in gasoline-fueled vehicles, off-gassing from asphalt application, and application of architectural coatings would be the principal sources of ROG, with additional ROG coming from off- and on-road construction equipment. Emissions of fugitive PM or dust (PM_{10} and $PM_{2.5}$) are associated primarily with ground-disturbance activities during site preparation, demolition, trenching, and grading, and may vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled on-site and off-site. Exhaust emissions from diesel equipment and worker commute trips also contribute to short-term increases in PM_{10} and $PM_{2.5}$ emissions, but to a much lesser extent.

Construction-related emissions were estimated using the California Emissions Estimator Model (CalEEMod) computer program as recommended by SJVAPCD (SCAQMD 2013). CalEEMod is designed to model construction emissions for land use development projects using emission factors developed by ARB, and allows for the input of project-specific information.

Table 3.3-2 summarizes the modeled construction-related emissions of criteria air pollutants and criteria air pollutants and precursors for the project. Refer to Appendix A for detailed modeling input parameters and results.

Table 3.3-2 Summary of Construction-Generated Emissions of Criteria Air Pollutants and Precursors

Year	Emissions (tons/year)					
	ROG	NO_X[1]	PM_{10}[1]	$PM_{2.5}$	CO	SO_X
2016	<1	2	<1	<1	2	<1
2017	1	4	<1	<1	4	<1
2018	4	2	<1	<1	2	<1
Threshold of Significance	*10*	*10*	*15*	*15*	*100*	*27*

Notes: Tons/year = tons per year; CO =carbon monoxide; NO_X = oxides of nitrogen; ROG = reactive organic gases; SO_X = oxides of sulfur; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less;
[1] Emissions estimates do not account for reductions that would result from compliance with SJVAPCD Rule 9510, Indirect Source Review.
Refer to Appendix A for detailed assumptions and modeling output files.
Source: Data modeled by Ascent Environmental in 2016.

As shown in Table 3.3-2, emissions of CO, NO_X, ROG, SO_X, PM_{10} or $PM_{2.5}$ would not exceed the applicable thresholds adopted by SJVAPCD during any of the years of construction. Moreover, none of SJVAPCD's mass emission thresholds would be exceeded if all of the construction was performed during a single year. Thus, mass emissions of criteria air pollutants and precursors generated by project construction would not contribute to the nonattainment status of the SJVAB for any criteria air pollutants.

Nonetheless, grading and other earth movement performed during construction would generate fugitive dust that has the potential to contribute to localized concentrations of PM_{10} and $PM_{2.5}$ that exceed applicable CAAQS and NAAQS. Such exceedances could occur at nearby sensitive receptors, including residents of the neighborhoods west and south of the project site. This would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-1: Implementation Dust Control Measures.

Prior to the commencement of construction activities that would generate fugitive PM_{10} dust emissions, the City shall require that a construction emissions reduction plan be prepared that meets the requirements of SJVAPCD Regulation VIII. The construction emissions reduction plan shall be submitted by the applicant to SJVAPCD for review and approval. The project applicant shall comply with all applicable SJVAPCD requirements for construction activities.

Regulation VIII requires that the following measures be implemented during construction to control fugitive dust:

- apply water to unpaved surfaces and areas,
- use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas,
- limit or reduce vehicle speed on unpaved roads and traffic areas,
- maintain areas in a stabilized condition by restricting vehicle access,
- install wind barriers,

- during high winds, cease outdoor activities that disturb the soil,
- keep bulk materials sufficiently wet when handling,
- store and handle materials in a three-sided structure,
- when storing bulk materials, apply water to the surface or cover the storage pile with a tarp,
- prevent overloaded haul trucks,
- cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions,
- clean the interior of cargo compartments on emptied haul trucks prior to leaving a site,
- prevent trackout by installing a trackout control device,
- cleanup trackout at least once a day. If along a busy road or highway, clean up trackout immediately, and
- monitor dust-generating activities and implement appropriate measures for maximum dust control.

In addition, all construction equipment shall be staged as distant as possible from existing off-site receptors including the residential land uses across Rochester Street and Henley Parkway.

As a condition of project approval, the City shall require the applicant to demonstrate receipt of a SJVAPCD-approved Dust Control Plan or Construction Notification form (before issuance of the first grading permit) prior to any construction activity.

Significance after Mitigation

Implementation of Mitigation Measure AQ-1 would ensure compliance with SJVAPCD Regulation VIII and minimize the potential for fugitive dust emissions generated during project construction to contribute to a localized exceedance of the CAAQS and NAAQS for of PM_{10} and $PM_{2.5}$. As a result, this impact would be reduced to a less-than-significant level.

Long-Term Operational-Related Regional Criteria Air Pollutant and Precursor Emissions

Less than significant. Regional area- and mobile-source emissions of criteria air pollutants and precursors (i.e., CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$) generated by operation of the project were modeled using CalEEMod. CalEEMod allows land use selections that include location specific information and trip generation rates. CalEEMod calculates area-source emissions from the usage of natural gas, landscape maintenance equipment, and consumer products and calculates mobile-source emissions associated with vehicle trip generation.

Regional area-, energy-, and mobile-source emissions were modeled based on the proposed land use types and sizes as described in Chapter 2, "Project Description," trip generation data presented in the *Harvest in Tracy Transportation Impact Study* (Transportation Study) prepared by Fehr and Peers and dated August 2016[1], and default CalEEMod settings to estimate reasonable maximum emission conditions. As reported in the Transportation Study, the project is estimated to generate 1,995 daily trips. The Transportation Study can be found in Appendix B. Refer to Appendix A for detailed modeling input parameters and results.

[1] The Transportation Impact Study was originally drafted in March 2016 using a project description with 300 multi-family dwelling units. The most recent project description has 304 multi-family dwelling units. This change in dwelling units would correspond to two (2) net new outbound AM peak hour and three (3) net new (1 outbound and 2 inbound) PM peak hour trips. This minor increase in the project's trip generating characteristics would not change the results documented in the Existing + Project Conditions and Cumulative + Project Conditions analysis.

Table 3.3-3 summarizes the modeled operation-related emissions of criteria air pollutants and precursors under buildout conditions in 2019, the earliest possible year of full operation.

Table 3.3-3 Summary of Operational Emissions of Criteria Air Pollutants and Precursors

Source	Emissions (tons/year)					
	CO	NO_X[1]	ROG	SO_X	PM_{10}[1]	$PM_{2.5}$
Area	2	<1	2	<1	<1	<1
Mobile	10	6	2	<1	2	1
Total Emissions	**12**	**6**	**4**	**<1**	**2**	**1**
Threshold of Significance (tons/year)	*100*	*10*	*10*	*27*	*15*	*15*

Notes: Tons/year = tons per year; CO =carbon monoxide; NO_X = oxides of nitrogen; ROG = reactive organic gases; SO_X = oxides of sulfur; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less;
[1] Emissions estimates do not account for reductions that would result from compliance with SJVAPCD Rule 9510, Indirect Source Review.
Refer to Appendix B for detailed assumptions and modeling output files.

Source: Data modeled by Ascent Environmental in 2016

As shown in Table 3.3-3, the project's operational emissions would not exceed any of SJVAPCD's applicable mass emission thresholds. Moreover, the mass of NO_X and PM_{10} generated by the operation of the project would be less than the estimates shown in Table 3.3-3 because the project would be required to comply with SJVAPCD Rule 9510 (ISR). This rule requires developers of residential projects greater than 50 units to achieve a 33 percent reduction of operational emissions of NO_X and 50 percent reduction in operational emissions of PM_{10} over 10 years. Therefore, the mass emissions of criteria air pollutants and precursors associated with operation of the project would not contribute considerably to the nonattainment status of the SJVAP with respect to the applicable CAAQS and NAAQS.

Nonetheless, localized concentrations of CO may increase due to the additional vehicle trips on the surrounding roadway network generated by the project. Localized concentrations of CO at high-volume of congested intersections are of particular concern because these are locations where CO-emitting vehicles could idle for extended periods of time. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain specific meteorological conditions, CO concentrations near intersections may reach unhealthy levels at nearby sensitive land uses—referred to as CO hot spots—, such as residential units, schools, and childcare facilities. Thus, high local CO concentrations are considered to have a direct influence on the receptors they affect.

The SJVAPCD has established two tiers of screening criteria for determining whether increased traffic congestion could potentially result in a CO hotspot at a local intersection (SJVAPCD 2015:98).

If neither of the following first tier criteria would be experienced at project-affected intersections, the project would not result in an exceedance of the CAAQS and NAAQS for CO:

- traffic generated by the project would result in deterioration of level of service (LOS) on one or more streets or at one or more intersections in the project vicinity to LOS E or F; and
- the project would substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity.

As described in Section 3.16, Transportation/Traffic, neither of the first-tier criteria would occur on project-affected streets or intersections. Therefore, the first-tier criteria would be met and the project would not contribute to a localized exceedance of the CAAQS or NAAQS at any intersections in the roadway network.

In summary, the project would not generate mass emissions of criteria air pollutants and precursors that exceed applicable mass emission thresholds, and project-generated vehicle trips would not result in localized exceedances of the CAAQS or NAAQS for CO. Therefore, the emissions associated with operation of the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than significant. As mentioned above, San Joaquin County is designated as nonattainment with respect to the CAAQS and NAAQS for ozone and $PM_{2.5}$ and with respect to the CAAQS for PM_{10}. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. A project's individual emissions can contribute to existing cumulatively significant adverse air quality impacts. As explained in SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (2015), and consistent with CEQA, if a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, SJVAPCD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If project-related emissions do not exceed the identified significance thresholds, including SJVAPCD's mass emission thresholds of 10 tpy for ROG or NO_X, 15 tpy for PM_{10} and $PM_{2.5}$, 100 tpy for CO, and 27 tpy for SO_X, its emissions would not be cumulatively considerable, and would not result in significant adverse air quality impacts. Therefore, analysis in addition to the analysis performed under item b) is not necessary for the evaluation of potential cumulative impacts.

Thus, as discussed in the analysis under item b) above, project-generated emissions would not exceed applicable thresholds, and therefore would not violate or contribute substantially to an existing or projected air quality violation. As a result, project-generated emissions of criteria air pollutants and precursors would not be cumulatively considerable. This would be a less-than-significant impact.

d) Expose sensitive receptors to substantial pollutant concentrations?

Criteria Air Pollutants and Precursors

Less than significant. The closest sensitive receptors to the project site are residences located adjacent to and east of the project site as well as the residences directly across Henley Parkway to the south of the project site. Other nearby land uses consist of commercial and retail uses. As discussed in "b" above, project implementation would not result in regional (e.g., ROG, NO_X, PM_{10}) or local (e.g., CO) emissions of criteria air pollutant or precursors from construction or operational activities that would exceed applicable SJVAPCD thresholds of significance. Thus, project-generated criteria air pollutant and precursor emissions would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

Toxic Air Contaminants

Particulate exhaust emissions from diesel-fueled engines (i.e., diesel PM) was identified as a toxic air contaminant (TAC) by ARB in 1998. The potential cancer risk from the inhalation of diesel PM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs (ARB 2005). Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations, which are not a part of the project. Thus, the TAC of primary concern for purposes of this analysis is diesel PM. Emissions of diesel PM from construction and operation of the project are discussed separately below.

Construction-related activities would result in temporary, short-term project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., demolition, clearing,

grading); paving; application of architectural coatings; on-road truck travel; and other miscellaneous activities. However, construction activities would be relatively minor and short in duration (i.e., up to 24 months). As discussed above construction-related emissions of $PM_{2.5}$, used as a surrogate for diesel PM, would be minor and would not exceed applicable thresholds of significance. Further, the dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to guidance from the California Air Pollution Control Officers Association recommended by SJVAPCD, health risk for a residential project from TACs should be based on a 70-year exposure period (CAPCOA 2009). Thus, considering the relatively low amount of estimated emissions (i.e., less than 1 ton per year) and the short duration of project construction, short-term emissions of diesel PM would not result in substantial pollution concentrations at existing nearby sensitive receptors and would not exacerbate the existing health risks from TAC emissions.

With respect to long-term operational increases in mobile-source TACs from implementation of the project, construction of the 304 residences would result in an additional 1,995 daily trips per day. Due to the residential nature of the project, additional trips would be associated with passenger vehicles, rather than diesel trucks, which is a primary source of mobile TACs on roadways. Further, and in accordance with SJVAPCD and ARB guidance (2005), roadways with average daily traffic (ADT) exceeding 100,000 generally pose the greatest health risks. Thus, considering that the project would not generate diesel truck trips and project-generated ADT would be minimal in comparison to ADT levels known to generate the highest risk, the project would not result in operational mobile-source emissions that could expose existing sensitive receptors to substantial pollution concentrations or exacerbate existing health risks from TAC emissions. This impact would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less than significant. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause physical harm, they may still be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

No existing major sources of objectionable odors (e.g., landfill, composting facility, food processing facility, feedlot/dairy) are located within the screening level distances identified by SJVAPCD (and listed in Table 3.1-1 above). Development of the multi-family rental condominiums and supportive land uses (i.e., clubhouse, dog park, community garden) would not introduce new, permanent sources of objectionable odors.

Construction associated with the project could expose existing nearby residents to odorous emissions from diesel equipment, asphalt paving, and the application of architectural coatings. However, such emissions would be short-term in nature and would dissipate rapidly with increasing distance from the source.

Implementation of the project would not involve the construction or operation of any major odor sources, and no existing sources of objectionable odors are located within one mile of the project. Thus, the project would not result in the exposure of residences or other sensitive receptors to objectionable odors. As a result, this impact would be less than significant.

3.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

3.4.1 Environmental Setting

A biological resources survey of the project site was conducted by Ascent Environmental on January 11, 2016. The project site consists of an undeveloped lot, a gravel vehicle storage facility, a residence with adjacent putting green and ornamental vegetation including trees, and a recreational vehicle (RV) storage facility. The vacant lot supports very little vegetation due to ongoing weed management abatement and vegetation consists of ruderal weeds that include red stem filaree (*Erodium cicutarium*), prickly lettuce (*Lactuca serriola*), bristly oxtongue (*Picris echioides*), everlasting cudweed (*Pseudognaphalium luteoalbum*), milk thistle (*Silybum marianum*), Russian thistle (*Salsola tragus*), squirrel-tail grass (*Elymus elymoides*), rabbitsfoot grass (*Polypogon monspeliensis*), and ripgut brome (*Bromus diandrus*). Trees surrounding the residence include cypress (*Cupressaceae* spp.), olive (*Olea* spp.), privet (*Ligustrum* spp.), fruit trees (*Prunus* spp.) and weeping willow (*Salix babylonica*).Vacant lots within city limits support common birds and mammals that have adapted to this habitat type; observed wildlife species include black phoebe (*Sayornish nigricans*), Say's phoebe (*Sayornis saya*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), Eurasian collared dove (*Streptopelia decaocto*), Anna's hummingbird (*Calypte anna*), dark-eyed

junco (*Junco hyemalis*), white-crowned sparrow (*Zonotrichia leucophyrys*), northern mockingbird (*Mimus polyglottos*), American pipit (*Anthus rubescens*), California ground squirrel (*Otospermophilus beecheyi*), and black-tailed jackrabbit (*Lepus californicus*).

A query of the California Department of Fish and Wildlife (CDFW) – California Natural Diversity Database (CNDDB) contained recorded occurrences of four plants: big tarplant (*Blepharizonia plumosa*), round-leaved filaree (*California mycrophylla*), Mason's lilaeopsis (*Lilaeopsis masonii*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*); 15 wildlife species: Crotch bumble bee (*Bombus crotchii*), California red-legged frog (*Rana draytonii*), western pond turtle (*Emys marmorata*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), coast horned lizard (*Phrynosoma blainvillii*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), song sparrow ["Modesto" population] (*Melospiza melodia*), San Joaquin pocket mouse (*Perognathus inornatus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), San Joaquin kit fox (*Vulpes macrotis mutica*), and American badger (*Taxidea taxus*); the CNDDB also contains records of Great Valley-Valley Oak Riparian Forest, a sensitive natural community.

The project site is located within the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) and is located within the Central Zone of the SJMSCP. The San Joaquin Council of Governments (SJCOG), prepared the SJMSCP pursuant to a Memorandum of Understanding adopted by SJCOG, San Joaquin County, United States Fish and Wildlife Service (USFWS), CDFW, Caltrans, and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. The key purpose of the SJMSCP is to provide a strategy for balancing the need to conserve open space and converting open space to accommodate a growing population while minimizing costs to project proponents and society at large.

Participation in the SJMSCP is voluntary for both local jurisdictions and project applicants. Only agencies adopting the SJMSCP would be covered by the SJMSCP. Individual project applicants have two options if their project is located in a jurisdiction participating in the SJMSCP: mitigating under the SJMSCP or negotiating directly with the state and/or federal permitting agencies. If a project applicant opts for SJMSCP coverage in a jurisdiction that is participating under the SJMSCP, the following options are available, unless their activities are otherwise exempted: pay the appropriate fee; dedicate, as conservation easements or fee title, habitat lands; purchase approved mitigation bank credits; or, propose an alternative mitigation plan. If the project applicant decides to opt for coverage under the SJMSCP, SJCOG will need to be contacted to start the review process that includes a site visit by a SJCOG biologist to the project site.

3.4.2 Discussion

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated. The potential occurrence of special-status species at the project site is summarized in Tables 1-1 and 1-2 in Appendix C.

Special-status plants: Numerous special-status plant species are known to occur in the San Joaquin valley region. Many of these special-status plant species require specialized habitats such as serpentine soils, rocky outcrops, slopes, vernal pools, marshes, swamps, riparian habitat, alkali soils, and chaparral, which are not present on the project site. The project site is located in an area that was likely valley grassland prior to human settlement, and there are several plant species that are found in valley and foothills grasslands areas that are covered under the SJMCSP. These species include large-flowered fiddleneck, bent-flowered fiddleneck, big balsamroot, big tarplant, round-leaved filaree, Lemmon's jewelflower, showy golden madia, Mason's lilaeopsis, and caper-fruited tropidocarpum. Human settlement has involved a high frequency of

ground disturbance associated with the historical farming activities in the region, including the project site. The project site does not contain suitable habitat for special-status plant species. Implementation of the project would have a less-than-significant impact on these species.

Special-status invertebrates: Although not on the CNDDB query list, but under the SJMSCP jurisdiction, special-status invertebrate species that occur within the San Joaquin County region include: longhorn fairy shrimp, vernal pool fairy shrimp, and mid valley fairy shrimp, which require vernal pools and swale areas within grasslands; the valley elderberry longhorn beetle, which is dependent on its host plant blue elderberry, that are oftentimes found in riparian areas or on lands in vicinity of riparian areas, and Crotch bumble bee which is typically associated with Phacelia, Clarkia, tree poppy, poppies, and buckwheat plants. The project site does not contain essential, or suitable habitat for these special-status invertebrates. Implementation of the project would have a less-than-significant impact on these species.

Special-status amphibians and reptiles: Special-status amphibians and reptiles that occur within the San Joaquin valley region include: the western pond turtle, which requires aquatic environments located along ponds, marshes, rivers, and ditches; the California tiger salamander, which is found is grassland habitats where there are nearby seasonal wetlands for breeding; the silvery legless lizard, which is found in sandy or loose loamy soils under sparse vegetation with high moisture content; San Joaquin whipsnake, which requires open, dry habitats with little or no tree cover with mammal burrows for refuge; the Alameda whipsnake, which is restricted to valley-foothill hardwood habitat on south-facing slopes; the California horned lizard, which occurs in a variety of habitats including, woodland, forest, riparian, and annual grasslands, usually in open sandy areas; the foothill yellow-legged frog, which occurs in partly shaded and shallow streams with rocky substrates; the California red legged frog, which occurs in stream pools and ponds with riparian or emergent marsh vegetation; and the western spadefoot toad, which requires grassland habitats associated with vernal pools. The project site does not contain essential habitat for these special-status reptiles and amphibians. Implementation of the project would have a less-than-significant impact on these species.

Special-status mammals: Special-status mammals that occur within the San Joaquin County region include: San Joaquin kit fox, riparian brush rabbit, San Joaquin pocket mouse, and American badger. The San Joaquin kit fox inhabits annual grasslands or grassy open stages with scattered shrubby vegetation and requires loose textured soils for burrowing; the riparian brush rabbit is typically found in riparian oak forest with a dense understory of wild roses, grapes, and blackberries; the San Joaquin pocket mouse typically occurs in dry, open grasslands or scrub areas on fine-textured soils; the American badger occurs in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub, the principal habitat requirement for the species appears to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground. Due to historical disturbance from farming practices, the lack of suitable vegetation, limited prey species and surrounding land uses, the project site does not support essential habitat for these special-status mammal species. Implementation of the project would have a less-than-significant impact on these species.

Special-status birds: Special-status bird species that occur in the region include: California horned lark, northern harrier, loggerhead shrike, burrowing owl, tricolored blackbird, Swainson's hawk, white-tailed kite, and bald eagle. The tricolored blackbird, Swainson's hawk, northern harrier, white-tailed kite, and bald eagle are typically found in proximity to or within streams, rivers, lakes, wetlands, marshes, and other wet environments; and California horned lark, loggerhead shrike, and burrowing owl, are typically found in open habitat areas, usually grasslands, with scattered trees and brush. Based on available habitat, the only species with likelihood of occurring at the project site include the Swainson's hawk, burrowing owl, song sparrow ("Modesto" population), California horned lark, white-tailed kite, and loggerhead shrike.

Swainson's Hawk. The Swainson's hawk is state-listed as threatened and is protected under the California Department of Fish and Game Code, the Migratory Bird Treaty Act (MBTA), and is a covered species under the SJMSCP. CDFW also protects Swainson's hawk foraging habitat. Swainson's hawk typically forage over open grasslands, agricultural fields (i.e., alfalfa, disked and fallow fields) and commonly nest in solitary trees and riparian areas in close proximity to foraging habitat. CDFW considers the foraging range of Swainson's

hawks to be 10 miles from its nest location. Because of the lack of vegetation, low number of prey species (i.e., ground squirrels or small mammals) as evident by the lack of burrows on-site, and the small size of the undeveloped lot, the site provides low quality foraging habitat for the Swainson's hawk. There are 121 recorded occurrences of Swainson's hawk within 10 miles of the project site but none have been reported from within the project site. No nest structures were observed on the existing trees at the project site. The project site supports at least four large ornamental trees that could provide suitable nesting habitat for the Swainson's hawk.

Burrowing Owl. The burrowing owl is a California Species of Special Concern and is protected under the DFG Code and MBTA. Burrowing owls nest in old California ground squirrel burrows or other small mammal burrows of sufficient size, and forage in open grasslands, agricultural fields, shrublands, and ruderal fields. Insects and small size rodents found in agricultural areas could be present in the project site; however, the lack of vegetation would limit their numbers. Furthermore, the site does not support a large population of ground squirrels and, thus, the site has limited ground squirrel burrows. No other burrows were observed that could provide suitable nesting habitat for the burrowing owl.

The project site contains low quality foraging habitat and only a handful of small mammal burrows that could serve as nesting sites. The project site is surrounded by residential and commercial development and no evidence of burrowing owls within the project site was observed during the reconnaissance field survey. However, a pair of burrowing owls was observed, approximately one-quarter mile northeast of the project site, in an open lot along Henley Parkway, just south of the 7-Eleven. Although no owl sign was observed in the project site, there is a possibility that these owls may move from their current location to the project site.

Loggerhead Shrike, California Horned Lark, Song Sparrow ("Modesto" population), White-tailed kite. The loggerhead shrike and the California horned lark are California species of special concern and both are covered species under the SJMSCP; the song sparrow ("Modesto" population) is a California species of special concern; and the white-tailed kite is a Fully Protected species as is also a covered species under the SJMSCP. The project site contains low quality foraging habitat for white-tailed kite, loggerhead shrike, California horned lark, and song sparrow ("Modesto" population) due to the lack of vegetation, seed, and insect prey. Although the project site bare ground may provide suitable nesting habitat for the California horned lark, the fact that the site provides low quality foraging habitat may preclude nesting at the site. The loggerhead shrike and song sparrow are known to nest in shrubs. The shrubbery along the vehicle/RV storage yard may provide suitable nesting habitat for these species. Some of the trees may provide suitable nesting habitat for the white-tailed kite but the lack of small mammal prey likely precludes the presence of this species. No nest structures or known occurrences of nesting white-tailed kites have been documented on the site or in the immediate vicinity.

The project would result in the grading of the site and removal of trees and shrubs. If the grading and vegetation removal would occur during the bird nesting season (usually February 1 – September 31), these actions could result in the loss of active bird nests/burrows which would be a violation of the MBTA and California Fish and Game Code (CFGC), which would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1

Prior to commencement of any grading activities, the project applicant shall obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special-status species. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of open space lands that may provide habitat for covered special-status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the project. There are a wide variety of incidental take avoidance and minimization measures contained in the SJMSCP that were developed in consultation with the USFWS, CDFW, and local agencies. The applicability of incidental take avoidance and minimization measures are determined by SJCOG on a project basis. The process of obtaining coverage for a project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a) and

California Fish and Game Code Section 2081. The Section 10(a) permit also serves as a special-purpose permit for the incidental take of those species that are also protected under the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. The SJMSCP includes the implementation of an ongoing monitoring plan to ensure success in mitigating the habitat impacts that are covered. The SJMSCP monitoring plan includes an annual report process, biological monitoring plan, SJMSCP Compliance Monitoring Program, and the SJMSCP Adaptive Management Plan.

Mitigation Measure BIO-2

The following measures are consistent with the SJMSCP as applicable to the project.

A) If initial grading and or vegetation removal is scheduled between October 1 and January 31 in order to avoid the potential disturbance/take of nesting birds, a pre-construction survey for wintering burrowing owls shall be implemented no more than 15 days prior to the start of grading, Because burrowing owls are known to occur in proximity of the project site and there is potential for them to move into the project site during the non-breeding season, If no burrowing owls are found during the pre-construction survey, then no further mitigation is required and grading and vegetation removal can take place.

   If wintering burrowing owls are found, burrowing owls shall be encouraged to leave the project site by implementing the following action as described in the SJMSCP:

   - The Project Proponent or its contractor shall plant new vegetation or allow/retain existing vegetation entirely covering the site at a height of approximately 36 inches above the ground. Vegetation will discourage both ground squirrel and owl use of the site.

   If this measure is implemented and do not work or the owls return, then the project applicant shall implement the following measures as described in the SJMSCP.

   - During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site shall be evicted from the project site by passive relocation measures as described in the California Department of Fish and Wildlife's Staff Report on Burrowing Owl (Oct 1995).

If initial grading and/or vegetation removal during the non-breeding season is not feasible. The applicant shall implement Mitigation Measure BIO-2B.

B) If construction activities, including grading, need to occur during the avian breeding season (February 1 – September 31) then the project applicant shall retain a wildlife biologist through the SJMSCP process to conduct pre-construction surveys to prevent impacts to nesting birds. No more than 15 days prior to the start of construction a bird survey shall be conducted by a qualified biologist to identify any active nests within the project site or visible from the project site. If construction stops for a period of 15 days or more during the avian breeding season then an additional bird survey shall be conducted for all special-status birds protected by the federal and state ESA, MBTA, CFGC and SJMSCP, including but not limited to those that are documented within a 10-mile radius of the project site and are known to nest in the region. The biologist shall map all nests that are within, and visible from the project site. If nests are identified, the biologist shall develop buffer zones around active nests as described in the SJMSCP (i.e., species setbacks: burrowing owl – 75 m (246 feet); horned lark – 500 feet; white-tailed kite, loggerhead shrike, song sparrow – 100 feet; and Swainson's hawk – depends if the nest was initiated after construction started [see SJMSCP Section 5.2.4.11]). Construction activity shall be prohibited within the buffer zones/setbacks until the young have fledged or the nest is no longer in use. The setbacks apply whenever construction or other ground disturbing activities must begin during the nesting season in the presence of nests which are known to be occupied.

   Swainson's Hawk – The mature large ornamental trees could provide suitable nesting habitat for the Swainson's hawk. A preconstruction nesting survey for Swainson's hawk shall be conducted no more than 15-days prior to start of construction. If no nesting Swainson's hawks or other nesting birds are using the

trees, no further mitigation is required and the trees may be removed if required for the project. The project applicant has the option of retaining potential or known Swainson's hawk nests trees (i.e., trees that hawks are known to have nested in within the past three years or trees, such as large oaks, which the hawks prefer for nesting) or removing the nest trees. If the project applicant elects to retain large trees, and in order to encourage tree retention, the following Incidental Take Minimization Measure shall be implemented during construction activities:

- If a nest tree (or large tree retained) becomes occupied during construction activities, then all construction activities shall main a distance of two times the dripline of the tree, measured from the nest.

- If the nest tree is then needed to be removed, then the nest tree(s) may be removed between September 1 and February 15, when the nests are unoccupied.

Burrowing Owl - During the breeding season (February 1 through September 1) occupied burrowing owl burrows shall not be disturbed and shall be provided with a 75 meter protective buffer until and unless the SJCOG Technical Advisory Committee (TAC), with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. The burrows should only be destroyed by a qualified biologist using passive one-way eviction doors to ensure that owls are not harmed during burrow destruction. Methods for removal of burrows are described in the California Department of Fish and Game's Staff Report on Burrowing Owls (October 1995).

Significance after Mitigation

Implementation of mitigation measures BIO-1 would require the project applicant to obtain coverage under the SJMSCP. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species and includes the implementation of an ongoing monitoring plan to ensure success in mitigating the habitat impacts that are covered. In addition, implementation of mitigation measure BIO-2 would reduce impacts to nesting birds including: Swainson's hawk, burrowing owl, loggerhead shrike, California horned lark, and song sparrow ("Modesto" population) and white-tailed kite by requiring removal of vegetation during the non-nesting season by requiring pre-construction nesting bird surveys, and implementation of setbacks around occupied nests during the nesting season if they cannot be avoided. Implementation of mitigation measures BIO-1 and BIO-2 would reduce the impact to a less-than-significant level.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

No Impact. The project site is located on agricultural disturbed land. The CNDDB query contained two records of Great Valley-Valley Oak Riparian Forest in the vicinity of the project site, which is approximately 2.9 miles north and 3.4 miles northeast of the project site along the Old River. No riparian vegetation or sensitive natural communities occur on the project site. Although substantial vegetation clearing would be required around the existent residence, the vegetation to be removed includes decaying fruit trees, ornamental, nonnative, and landscaping plants. The project would result in no impact on riparian habitat or other sensitive natural communities.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. Wetlands or other jurisdictional waters do not exist on the project site. Therefore, the project would not remove, fill, or hydrologically interrupt federally protected wetlands. The project would result in no impact to protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Wildlife corridors are features that provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Often drainages, creeks, or riparian areas are used by wildlife as movement corridors as these features can provide cover and access across a landscape. The project site does not support wildlife corridors as it is surrounded by urban development and it does not connect two suitable habitat areas. Furthermore, due to the urban location of the project site and limited vegetation, the project site does not support native wildlife nursery sites. Implementation of the project would have no impact on wildlife corridors or wildlife nursery sites.

e) & f) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less Than Significant with Mitigation Incorporated. Mitigation Measure BIO-1 as described under the project is seeking to participate in the SJMSCP. The City of Tracy and the project applicant shall consult with SJCOG and determine coverage of the project pursuant to the SJMSCP. Implementation of Mitigation Measure BIO-1 would ensure that the project complies with the requirements of the SJMSCP, and would therefore not be in conflict with local policies or ordinances protection biological resources or the habitat conservation plan. With implementation of the Mitigation Measure BIO-1, this impact would be considered less than significant.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
e) Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☐	☐	☐	☒

3.5.1 Environmental Setting

Setting information and impact conclusions are derived from the *Cultural and Paleontological Resources Inventory for the Harvest at Tracy Project, City of Tracy, San Joaquin County, California* (Natural Investigations Company 2016).

PREHISTORIC SETTING

The prehistoric timeframes in the Sacramento Valley, Sacramento-San Joaquin Delta, and San Joaquin Valley include Paleo-Indian (11,500–8550 B.C.), Lower Archaic (8550–5550 B.C.), Middle Archaic (5550–550 B.C.), Upper Archaic (550 B.C.– A.D. 1100), and Emergent or Late Prehistoric Period (A.D. 1100–Historic Contact)There is little evidence of the Paleo-Indian and Lower Archaic periods in the Central Valley and studies have estimated that Paleo-Indian and Lower Archaic sites along the lower stretch of the San Joaquin River and Sacramento River drainage systems were buried by Holocene alluvium up to 33 feet thick. Evidence shows changes in distinct artifact types, subsistence orientation, and settlement patterns, which began circa 5550 B.C. and lasted until historic contact in the early 1800s (Natural Investigations Company 2016).

ETHNOGRAPHIC SETTING

The Northern Valley Yokuts, a Penutian-speaking central California group historically occupied the project vicinity (Kroeber 1925; Wallace 1978). Two Yokuts tribes occupied the land near present-day Tracy: the *Chulamni* (or *Cholbumne*) to the north and the *Hoyumne*to the southeast. The *Chulamni* built their villages near Tracy along the banks of the Old River and San Joaquin River, and along creeks in the Diablo Range. The largest *Chulamni* village site near Tracy, *Pescadero* ("fisherman"), was named by the Spanish because they viewed native peoples catching fish at this Union Island village during their 1810 and 1811 expeditions (Hoover et al. 2002:369; Wallace1978, cited in Natural Investigations Company 2016).

HISTORIC SETTING

One of California's original 27 counties, San Joaquin County was created at the time of statehood in 1850 (Hoover et al. 2002:369). Although a portion of the City north of Grant Line Road is located within the 35,546-acre Rancho el Pescadero (Pico and Naglee), which was granted by Mexican Governor Manual Micheltorena to Antonio Maria Pico in 1843 and patented by the U.S. government to Pico and Henry Morris Naglee in 1865, permanent settlement in the present-day City limits did not begin until 1869 following construction of the Central Pacific Railroad (CPRR) through Altamont Pass between San Joaquin County and the Bay Area. A second rail line was constructed in 1878, which connected the county with Martinez, and a third rail line constructed in 1887 extended south to Los Angeles (City of Tracy 2015; EIP Associates 2002:4.10-1, cited in Natural Investigations Company 2016).

The town of Tracy was established at the junction of two rail lines soon after the construction of the second rail line in 1878. Named after Lathrop J. Tracy, an Ohio grain merchant and friend of a CPRR superintendent, the town soon became an important commercial and service center. A town grid was created along symmetrical arc shaped streets on either side of the railroad junction. An increase in rail traffic through Tracy resulted from the merger of CPRR into Southern Pacific Railroad Company (SPRR) in 1885. SPRR completed a third rail line transecting Tracy and in 1894 SPRR relocated its headquarters from Lathrop to Tracy. The town was incorporated in 1910 because of its strategic location, the same year it became a SPRR division point, and enjoyed its related economic prosperity and population growth (EIP Associates2002:4.10-1; Rianka and Miller 2010, cited in Natural Investigations Company 2016).

Continued growth of the City during the past 70 years has been influenced by the defense and agriculture industries, and by residential and commercial development. Establishment of the Tracy Defense Depot during World War II created thousands of jobs for new residents. After the war, major agricultural industries contributed to the City's growth. During the last two decades, escalating home prices and a shortage of developable land in the Bay Area has promoted additional growth, while the City's strategic proximity to major roadways and relatively inexpensive land values encouraged the development of large commercial shipping and distribution facilities (City of Tracy 2005:4.5-7; EIP Associates 2002:4.10-1, cited in Natural Investigations Company 2016).

RESULTS OF THE SITE SURVEY

An intensive pedestrian survey within the project site was conducted by Natural Investigations Company archaeologist, Dylan Stapleton, on January 11, 2016. Survey transects were spaced at intervals no greater than 15 meters. The project site was carefully examined for the presence of cultural resources and geologic outcrops that may contain paleontological resources.

All visible ground surface within the project site was examined for cultural material (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics).

No prehistoric or historic-era archaeological sites, ethnographic sites, or historic-era built environment resources were identified during the survey of the project site. No paleontological resources were exposed on the surface within the project site, and no unique geologic features or outcrops were identified (Natural Investigations Company 2016).

NATIVE AMERICAN OUTREACH AND CONSULTATION

In 2015, the Legislature passed Assembly Bill (AB) 52 and the Governor signed it into law. The statute amended CEQA to establish tribal consultation procedures for evaluation of potential effects to tribal cultural resources. To initiate the AB 52 consultation process, tribes must submit a written request to a lead agency to be informed through formal notification of proposed projects in the geographic area that is traditionally

and culturally affiliated with the tribe (PRC Section 21080.3.1[b]). The City, in response to requests for consultation under the requirements of AB 52, mailed certified letters to Wilton Rancheria on December 22, 2015. No requests for consultation regarding the potential of the project to impact tribal cultural resources were received.

Senate Bill 18 (SB 18) (Chapter 904, Statutes of 2004; Government Code Sections 65352.3-5) requires that, prior to the adoption or amendment of a city or county's general plan or specific plans, the city or county shall consult with California Native American tribes that are on the contact list maintained by the Native American Heritage Commission (NAHC). The intent of this law is to preserve or mitigate impacts on Native American places, features, and objects, as defined in PRC Sections 5097.9 and 5097.993, which are located within the city or county's jurisdiction. The law also states that the city or county shall protect the confidentiality of information concerning the specific identity, location, character, and use of those places, features, and objects identified by Native American consultation. Government Code Sections 65362.3 to 65362.5 apply to all general and specific plans adopted and/or amended after March 1, 2005. Natural Investigations requested from the NAHC the contact list for Native American tribes in the project region for SB 18 consultation. The City then sent letters on December 22, 2015 to all tribes on the list provided by the NAHC describing the proposed project and inviting consultation pursuant to SB 18 and no requests for consultation were received.

3.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Less than significant with mitigation incorporated. No historic-era archaeological sites or historic-era built environment resources were identified during the survey of the project site (Natural Investigations Company 2016). However, it is possible that previously unknown historical resources could be discovered during grading and excavation work associated with construction of the project. Inadvertent discovery or damage to historical resources would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-1: Inadvertent discovery of historical and archaeological resources.

While it is unlikely that any resources of historical or archaeological significance would be found on the site, before commencement of construction (site clearance, grading), construction crews shall be trained in the recognition of historical and archaeological resources that could potentially occur. In the unlikely event that buried cultural deposits (e.g., prehistoric stone tools, grinding stones, historic glass, bottles, foundations, cellars, privy pits) are encountered during project implementation, all ground-disturbing activity within 100 feet of the resources shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.

Significance after Mitigation

Implementation of Mitigation Measure CUL-1 would ensure that the project would not result in adverse change to historical or archaeological resources, by requiring cessation of work and implementation of proper data recovery and/or preservation procedures upon discovery of previously unknown resources. Therefore, this impact would be reduced to a less-than-significant level.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than significant with mitigation incorporated: No prehistoric archaeological sites or ethnographic sites, were identified during the survey of the project site (Natural Investigations Company 2016). However, it is possible that buried or concealed archaeological resources could be present that may be detected during ground-disturbing and other construction activities. Inadvertent discovery or damage of archaeological resources would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-1: Inadvertent discovery of historical and archaeological resources.

Significance after Mitigation

Implementation of Mitigation Measure CUL-1 would ensure that the project would not result in adverse change to archeological resources, by requiring cessation of work and implementation of proper recovery and/or preservation procedures upon discovery of previously unknown resources. Therefore, this impact would be reduced to a less-than-significant level.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant. No paleontological resources were observed exposed on the surface within the project site, and no unique geologic features or outcrops were identified during the survey of the project site (Natural Investigations Company 2016). In addition, Holocene-age deposits (less than 11,700 years old), like the alluvial fan deposits underlying the project site, are considered to have a low potential for paleontological resources because they are geologically immature and are unlikely to have fossilized the remains of organisms (the fossilization processes take place over millions of years). The project site has also been used extensively for agricultural purposes, and agricultural lands where the native soils have been greatly reworked through plowing, crop ripping, and irrigation practices are also considered to have a low paleontological potential. Therefore, the potential for discovery of paleontological resources within the project site is very low. This impact would be less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant with mitigation incorporated. Based on the documentary research described above, no evidence suggests that any prehistoric or historic-era marked or un-marked human interments are present within or in the immediate vicinity of the project site (Natural Investigations Company 2016). However, there is the potential for unmarked, previously unknown Native American or other graves to be present and be uncovered during construction activities. California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and grave-associated items from vandalism and inadvertent destruction and any substantial change to or destruction of these resources would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-2: Inadvertent discovery of human remains.

In accordance with the California Health and Safety Code (CHSC), Section 7050.5, and the Public Resources Code (PRC) 5097.98, regarding the discovery of human remains, if any such finds are encountered during project construction, all work within the vicinity of the find shall cease immediately, a 50-foot-wide buffer surrounding the discovery shall be established, and the City shall be immediately notified. The County coroner shall be contacted immediately to examine and evaluate the find. If the coroner determines that the remains are not recent and are of Native American descent, the applicant shall contact the Native American Heritage Commission in accordance with CHSC Section 7050.5, and PRC 5097.98. All construction personnel shall be instructed that any human remains encountered should always be treated with sensitivity and respect, and their discovery and location kept confidential. Construction personnel shall be briefed before construction activities regarding procedures to follow in the event buried human remains are encountered.

Significance after Mitigation

Implementation of Mitigation Measure CUL-2 would ensure that proper procedures would be followed in the event of the discovery of previously unknown human remains. Therefore, this impact would be reduced to a less-than-significant level.

e) Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?

No impact. No requests, in writing pursuant to AB 52, from geographically affiliated tribes for consultation regarding the potential of the project to impact tribal cultural resources have been received prior to the date of this report. Therefore, no tribal cultural resources have been identified on the project site and the project would have no impact.

3.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

3.6.1 Environmental Setting

Setting information and impact conclusions are derived from the *Preliminary Geotechnical Investigation for Tracy Apartments Southwest of I-205 and Grant Line Road* (RMA GeoScience 2015).

The project site is situated within the central portion of the Great Valley geomorphic province, which is commonly known as the California Central Valley. The Great Valley is an alluvial plain that is about 50 miles wide and 400 miles long that is situated between the Coasts Ranges and Sierra Nevada Mountains. According to the California Department of Water Resources (1967), the site is underlain by about 75 feet of Quaternary age alluvium within the Tulare formation which consists of several hundred feet of Plio-Pleistocene continental deposits composed of the discontinuous, semi-consolidated sand, gravel, and clay (RMA GeoScience 2015).

The Seismic Hazards Mapping Act (SHMA) of 1990 (PRC Chapter 7.8, Section 2690-2699.6) directs the U.S. Department of Conservation (DOC), California Geological Survey (CGS) to identify and map areas prone to

liquefaction, earthquake-induced landslides, and amplified ground shaking. The CGS has not yet prepared a Seismic Hazard Zone Map of potential liquefaction hazards for the project vicinity. However, the Preliminary Geotechnical Investigation concluded that the site is not located within an Alquist-Priolo Fault Zone (Figure 3.6-1). The nearest earthquake fault zone is located approximately 12 miles southwest of the site along the Greenville fault. No active or potentially active faults are known to underlie the site. The nearest fault is the Stockton Fault, which is approximately 1-mile northwest of the site, but is not considered active. The nearest active fault is the Great Valley Fault, which is located approximately 3 miles from the site (RMA GeoScience 2015).

According to the Preliminary Geotechnical Report, the site is underlain by a highly plastic/expansive clay surface layer approximately three feet thick, which is generally underlain by alternating layers of silty clay and sand with varying amounts of gravel and silt. There is a potential for liquefaction to occur at the site during a design seismic event; however, the estimated differential ground settlement due to a design seismic event is well below the threshold that would require deep ground improvements or deep foundations (RMA GeoScience 2015).

The topography of the project site and surrounding area is relatively flat, and the potential for landslides is considered very low (RMA GeoScience 2015).

Soils on the site have a high runoff potential (National Resources Conservation Service [NRCS] 2013). Vegetation removal, grading, and other soil disturbance during construction would expose soils to increased erosion potential from wind and stormwater water runoff. The Preliminary Geotechnical Report investigated potential for soil expansion, and indicated that near surface soils have a high expansion potential (RMA GeoScience 2015).

3.6.2 Discussion

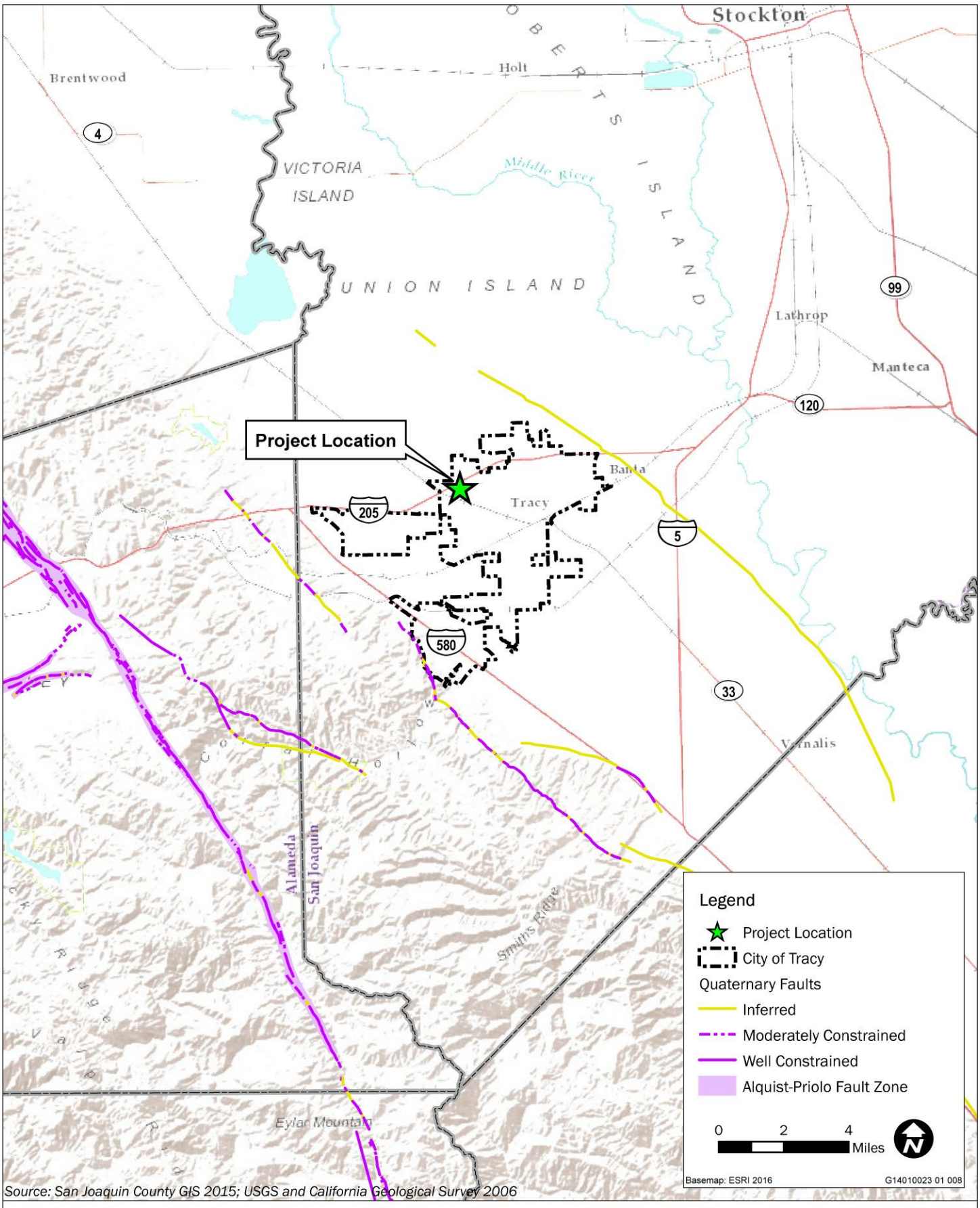
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

Less than significant. No active or potentially active faults are known to underlie the site, and the site is not located in an Alquist-Priolo Earthquake Fault Zone (RMA GeoScience 2015). No surface evidence of faulting was observed on the site during the geotechnical field exploration. Therefore, this impact would be less than significant.

ii) Strong seismic ground shaking?

Less than significant. The project site is located within an area of moderate seismic activity; however, design of the structures in conformance with the latest edition of the California Building Code (CBC) (Title 24 of the California Code of Regulations, Chapter 16), would be sufficient to prevent significant damage from ground shaking during seismic events resulting from movement on any of the faults or fault systems known to exist at the time of the preparation of the Preliminary Geotechnical Report (RMA GeoScience 2015). This impact would be less than significant.



Source: San Joaquin County GIS 2015; USGS and California Geological Survey 2006

Exhibit 3.6-1 **Faults**

ASCENT ENVIRONMENTAL

iii) Seismic-related ground failure, including liquefaction?

Less than significant. The Preliminary Geotechnical report noted that the CGS has not yet prepared a Seismic Hazard Zone Map of potential liquefaction hazards for the quadrangle in which the site is located. However, based on the research and field exploration conducted for the Preliminary Geotechnical Report, conditions at the site could lead to the occurrence of liquefaction. The total thickness of potentially liquefiable soils varies from approximately 10 feet to 14.5 feet. However, the estimated settlement due to a seismic event is well below the threshold that would require deep ground improvements or deep foundations. In addition, all building foundations would be designed in accordance with the latest edition of the CBC, which would be sufficient to prevent damage related to liquefaction. Therefore, this impact would be less than significant.

iv) Landslides?

Less than significant. The Preliminary Geotechnical Report concluded that the topography of the project site and surrounding area is relatively flat, and the potential for landslides is considered very low. Therefore, a landslide affecting the project site is unlikely, and this impact would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant. Soils on the site have a high runoff potential (NRCS2013). Vegetation removal, grading, and other soil disturbance during construction would expose soils to increased erosion potential from wind and stormwater water runoff. Upon completion of the construction phase landscaping, and impervious surfaces would cover soils, decreasing the potential for erosion.

Existing measures are in place for new construction projects that require the applicant to prevent or control erosion on construction sites. The City has established requirements for controlling pollution from construction and post-construction development activities, including pollution that occurs as a result of erosion that can contribute excess sediments to the storm drainage system and local creeks. The project, which involves earth moving (e.g., grading, excavation), would be required as a standard condition to obtain a grading permit and comply with the provisions of the City's Grading Ordinance (Tracy Municipal Code 12.36.090).

In addition to complying with the City's requirements, construction projects disturbing one acre or more need to obtain coverage under the State Water Resources Control Board's General Construction Stormwater Permit. The general construction permit requires preparation of a detailed stormwater pollution prevention plan (SWPPP) for the construction site that includes measures to prevent and control erosion. The general construction permit also requires the developer to conduct regular inspections of their best management practices (BMPs) before, during, and after storm events.

Compliance with City requirements for controlling construction-related pollution and preparation and implementation of a SWPPP and associated BMPs would ensure that project-related erosion impacts would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than significant with mitigation incorporated. The Preliminary Geotechnical Report concluded that unstable geologic or soil conditions could occur within the project site. The report notes that the presence of shallow groundwater may create unstable soil conditions for excavations extending more than approximately three to four feet below existing grade. In addition, excavations that extend more than five or six feet below existing grade may require the installation of a dewatering system to facilitate construction. The Preliminary Geotechnical Report further states that unstable soils in areas where improvements that require deep excavations, such as the swimming pool, are needed should be over-excavated to allow for the placement of at least six inches of Class 2 Aggregate Base (AB) or the placement of a suitable geotextile in combination with at least six inches of Class 2 AB. In addition, the project would comply with the latest edition of the CBC

and would be reviewed by the City Engineering Department. However, design-level geotechnical investigations are required to verify the specific soil conditions on-site. Pending completion of the design-level geotechnical investigation, this would be a potentially significant impact. The design-level geotechnical investigation must comply with the CBC. The CBC reduces risk related to lateral spreading, subsidence, liquefaction, or collapse. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure GEO-1: Complete design-level geotechnical investigation before final design.

Before final design and the commencement of construction, a design-level geotechnical investigation shall be prepared and submitted to the City for review that includes additional subsurface exploration and soil sampling, laboratory testing, and engineering evaluation of conditions on-site. The final report shall present geotechnical engineering conclusions and specific recommendations for site preparation, foundation design, floor support, sound-wall foundations, site drainage, addressing expansive soils, and pavement design to achieve compliance with the CBC which would reduce risk associated with lateral spreading, subsidence, liquefaction, or collapse.

Significance Conclusion

Implementation of Mitigation Measure GEO-1, compliance with the latest edition of the CBC, and review by the City Engineering Department would ensure that the project design would address geologic conditions on the site. Therefore, this impact would be reduced to a less-than-significant level.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

Less than significant with mitigation incorporated. The Preliminary Geotechnical Report investigated potential for soil expansion. The report noted that the site is underlain by highly plastic/expansive clay surface layer approximately three feet thick. The Preliminary Geotechnical Report recommends the use of reinforced foundations and slabs at the project site to mitigate the effects of expansive soils. However, design-level geotechnical investigations are required to verify the specific soil conditions on-site. Pending completion of the design-level geotechnical investigation, this would be a potentially significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure GEO-1: Complete design-level geotechnical investigation before final design.

Significance Conclusion

Implementation of Mitigation Measure GEO-1, compliance with the latest edition of the CBC, and review by the City Engineering Department would ensure that the project design would address geologic conditions on the site. Therefore, this impact would be reduced to a less-than-significant level.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project would be connected to the City's wastewater collection system that connects to the City of Tracy Wastewater Treatment Plant (see 3.17, Utilities and Service Systems). No septic tanks or alternative waste disposal systems are proposed. Therefore, no impact to such systems would occur.

3.3 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.3.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as greenhouse gasses (GHGs), play a critical role in determining the earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (IPCC 2014:3, 5). By adoption of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 97, the State of California has acknowledged that the effects of GHG emissions cause adverse environmental impacts. AB 32 mandates that emissions of GHGs must be capped at 1990 levels by the year 2020 (California Air Resources Board 2007).

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of one single project, would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change.

Governor's Office of Planning and Research's (OPR's) Guidance does not include a quantitative threshold of significance to use for assessing a project's GHG emissions under CEQA. Moreover, ARB has not established such a threshold or recommended a method for setting a threshold for project-level analysis. In the absence of a consistent statewide threshold, a threshold of significance for analyzing the project's GHG emissions was developed. The issue of setting a GHG threshold is complex and dynamic, especially in light of the California Supreme Court decision in *Center for Biological Diversity v. California Department of Fish and Wildlife* (referred to as the Newhall Ranch decision hereafter). The California Supreme Court ruling also highlighted the need for the threshold to be tailored to the specific project type, its location, and the surrounding setting. Therefore, the threshold used to analyze the project is specific to the analysis herein and the City retains the ability to develop and/or use different thresholds of significance for other projects in its capacity as lead agency and recognizing the need for the individual threshold to be tailored and specific to individual projects.

The SJVAPCD provides a tiered approach in assessing significance of project specific GHG emission increases. Projects implementing Best Performance Standards (BPS) would be determined to have a less

than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual (BAU), is required to determine that a project would have a less than cumulatively significant impact. The BAU approach was developed consistent with the GHG emission reduction targets established in the Scoping Plan. However, the BAU portion of the tiered approach is problematic based on the Newhall Ranch decision.

It is recommended that mass emission thresholds of significance developed by Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Bay Area Air Quality Management District (BAAQMD) be used for evaluating construction- and operation-related GHG emissions. These thresholds are available in the SMAQMD CEQA Guide, last updated in February 2016 (SMAQMD 2016), and the 2010 BAAQMD CEQA Air Quality Guidelines, respectively.

The SMAQMD recommends a two-tiered approach for assessing a project's operational emissions. The two-tier framework is recommended by all air districts in the Sacramento region and is retained in this analysis. The second tier is replaced with a more appropriate threshold based on issues raised in the Newhall Ranch decision.

The first tier consists of comparing a project's annual operational emissions to SMAQMD's recommended mass emission threshold. The first tier gives lead agencies the ability to assess smaller projects and conclude that each development proposal would not necessarily make a considerable contribution to the cumulative impact of climate change.

The second tier consists of evaluating a project's consistency with California's GHG reduction targets. In light of the Newhall Ranch decision, efficiency metrics were developed to assess the project's consistency with California's adopted GHG reduction target for 2020 under AB 32.

Based on the discussion above, the following thresholds are applied to this analysis:

- For the evaluation of construction-related emissions, if the mass emissions associated with construction of the project would exceed of 1,100 metric tons of carbon dioxide-equivalent per year ($MTCO_2e$/year) then they would be cumulatively considerable.

- For the evaluation of operational emissions, a two-tiered approach is used:

  - (Tier I) Operational emissions of a project would not have a significant impact on the environment if they are less than 1,100 $MTCO_2e$/year, and

  - (Tier II) Projects that would become fully operational on or before 2020 with operational emissions that exceed 1,100 $MTCO_2e$/year, but are able to demonstrate consistency with a GHG efficiency metric of 4.9 metric tons of carbon dioxide equivalents per service population per year($MTCO_2e$/SP/year) by 2020, would not conflict with AB 32 and California's envisioned post-2020 GHG reduction goals.

For the evaluation of this project in relation to the SMAQMD approach for assessing a project's operational emissions, an impact would be significant if both Tier I and Tier II thresholds are exceeded.

On June 2, 2010, the BAAQMD adopted new CEQA significance thresholds including the thresholds for GHGs of 1,100 metric tons MT CO_2e/yr or 4.6 MT CO_2e/SP/yr for evaluating operation-related emissions (BAAQMD 2010). These thresholds were developed based on overall projections of development in the region, and how the region would come into compliance with the goals established by AB 32.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted these thresholds. The court did not determine whether the thresholds were valid on the merits, but rather found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease their dissemination until the BAAQMD had complied with CEQA.

Although the Alameda County Superior Court has ordered the BAAQMD to cease dissemination of the previously adopted thresholds, the court has made no finding on the applicability or the merits of the quantitative threshold. BAAQMD states that lead agencies will need to determine appropriate air quality thresholds to use for each project they review based on substantial evidence that they should include in the administrative record for the project. One resource BAAQMD provides as a reference for determining appropriate thresholds is the CEQA Thresholds Options and Justification Report developed by staff in 2009 (BAAQMD 2009). The CEQA Thresholds Options and Justification Report outlines substantial evidence supporting a variety of thresholds of significance.

Therefore, because the project would result in operational-related emissions of GHGs from mobile and indirect sources (i.e., energy consumption), and is located adjacent to the BAAQMD's jurisdiction for which these thresholds were determined to be applicable, the thresholds of 1,100 MT CO_2e/yr and 4.6 MT CO_2e/SP/yr were determined to be acceptable thresholds for CEQA significance with regards to operational GHG emissions for this project.

Based on the discussion above, the following thresholds are applied to this analysis:

- generate greenhouse gas emissions that exceed 1,100 MT CO_2e/yr); or
- generate greenhouse gas emissions that exceed 4.6 MT CO_2e/SP/yr.

For the evaluation of this project in relation to the BAAQMD approach for assessing a project's operational emissions, an impact would be significant if both thresholds are exceeded.

The approach of applying both the SMAQMD and BAAQMD thresholds replaces the BPS and BAU approach previously recommended by the SJVAPCD.

3.3.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Short-term construction-generated and long-term operational GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod) Version 2013.2 computer program (SCAQMD 2013). Model assumptions were based on project-specific information (i.e., number and type of units, date of construction, transportation trips generated, and year of operation); and default values in CalEEMod that are based on the project's location and land use types. Construction GHG emissions were estimated using the same assumptions as outlined in Checklist Section 3.3, "Air Quality."

Short-Term Construction-Related Greenhouse Gas Emissions

Less than significant. Construction-related activities that would generate GHGs include worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Construction of the land uses proposed under the project would occur over approximately a two-year period. Project construction is anticipated to start in summer of 2017 and continue until the middle of 2019.

Total construction emissions for each set of unit construction and estimated amortized construction emissions are summarized in Table 3.7-1. Additional details on the modeling assumptions, inputs, and outputs are provided in Appendix A.

As shown above in Table 3.7-1, construction activities would result in maximum annual emissions of 669 MT CO_2e/year and would not exceed the recommended mass emission threshold for GHG emissions. Therefore, GHG emissions from project-related construction would not be cumulatively considerable. This impact would be less than significant.

Table 3.7-1 Estimated Greenhouse Gas Emissions Associated with Project Construction Activities by Construction Group

Construction Year	GHG Emissions (MT CO_2e/year)
Year 1 (Estimated for 2016)	187
Year 2 (Estimated for 2017)	669
Year 3 (Estimated for 2018)	302
SJVAPCD Threshold of Significance (MT CO_2e/year)	1,100
Significant Impact?	No

Notes: MT CO_2e = metric tons of carbon dioxide-equivalent
Source: Data modeled by Ascent Environmental in 2016.

Long-Term Operational-Related Greenhouse Gas Emissions

Less than significant. Operation of the project would result in GHG emissions associated with motor vehicle trips to and from the project area, the combustion of natural gas for space and water heating, the consumption of electricity and water, the generation of wastewater and solid waste, and equipment used for landscaping.

The project's operational GHG emissions were estimated for 2019, which is the year when the proposed land uses would become fully operational. This provides a conservative estimate of the operational GHG emissions due to the fact that operational emissions would decline over time due to cleaner-running new vehicles replacing older vehicles and implementation of additional GHG-reducing regulations at the state level.

Table 3.7-2 summarizes all the direct and indirect annual GHG emissions level associated with the project upon full buildout in 2019. These emissions estimates account for existing regulations pertaining to vehicle emissions, building standards, and electricity.

As shown in Table 3.7-2, operation of the project would result in annual emissions of 2,828 MT CO_2e/year, exceeding the recommended SMAQMD Tier I and BAAQMD mass emission GHG threshold of 1,100 MT CO_2e per year. Therefore, this analysis compares the GHG efficiency in which the project would operate to the SMAQMD and BAAQMD GHG efficiency thresholds (MT CO_2e/SP/year). Based on population projections it is estimated that the project would provide housing for an estimated 662 individuals, but no offices, retail stores, or other commercial land uses that serve as employment centers.

Table 3.7-2 Summary of Annual Greenhouse Gas Emissions Associated with the Project at Full Buildout in 2019

Emissions Activity	2019 (MT CO_2e/year)
Vehicle Trips (Mobile Sources) [1]	2,164
Electricity Consumption [2]	199
Natural Gas (assuming no fireplaces to be provided in dwelling units)	338
Landscaping	4
Water Consumption and Wastewater Treatment	46
Solid Waste Generation	77
Total Annual Emissions	**2,828**
SMAQMD and BAAQMD Threshold of Significance (MTCO_2e/year)	*1,100*
Project Population [3]	662
Project GHG Efficiency (MT CO_2e/SP/year)	**4.3**

Table 3.7-2 Summary of Annual Greenhouse Gas Emissions Associated with the Project at Full Buildout in 2019

Emissions Activity	2019 (MT CO_2e/year)
	2020
SMAQMD GHG Efficiency Target (MT CO_2e/SP/year)	4.9
BAAQMD GHG Efficiency Target (MT CO_2e/SP/year)	4.6
Exceeds SMAQMD or BAAQMD Threshold?	No

Notes: See Appendix A for detail on model inputs, assumptions, and project-specific modeling parameters.

MT CO_2e/year = metric tons of carbon dioxide equivalents per year; SP = service population

[1]Vehicle fleet mix based on SJVAPCD Accepted URBEMIS default values (see Appendix A)

[2]IndirectGHG emissions associated with electricity consumption were estimated based on compliance with the 33 percent Renewables Portfolio Standard (RPS). This is considered conservative for post-2020 because ARB is working on regulations to increase the RPS requirements to 50 percent by 2030.

[3] Based on population projection in Section 3.13, Population and Housing.

Source: Modeling performed by Ascent Environmental in 2016.

GHG emissions per service population for the project would be 4.3 MT CO_2e/SP/year, which is less than the SMAQMD and BAAQMD target efficiencies of 4.9 MT CO_2e/SP/year and 4.6 MT CO_2e/SP/year, respectively, for 2020. Because project-related construction emissions of GHGs would be less than the SMAQMD Tier I and BAAQMD mass emission threshold of 1,100 MT CO_2e/year, and because the project's operational GHG efficiency would be consistent with statewide GHG reduction goals, the project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. This impact would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than significant. As discussed in (a) above, the project would demonstrate compliance with proposed thresholds for GHG emissions. The recommended thresholds were developed to show consistency with AB 32 and the Scoping Plan. Therefore, the project would not conflict with or obstruct implementation of ARB's Scoping Plan for achieving GHG reductions consistent with AB 32. This impact would be less than significant.

3.4 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

3.4.1 Environmental Setting

The setting and impact conclusions are based on the findings of the *Phase I & Phase II Environmental Site Assessment* (ESA) *Toste Assemblage* (Avocet Environmental, Inc. 2015), and the *Preliminary Geotechnical Investigation for Tracy Apartments Southwest of I-205 and Grant Line Road* (RMA GeoScience 2015).

HAZARDOUS MATERIALS

The project site consists of approximately 18 acres of land that was historically used for agriculture. The project site and the adjoining parcels to the north were used exclusively for agriculture until 1975. In the early 1980s Toste Road and a residence at 2480 Toste Road were constructed. Development of the remainder of the eastern portion of the project site was complete or largely complete by 1993 and included a self-storage building and fenced areas with crushed rock ground cover used for recreational vehicle and boat storage.

The Phase I ESA noted that no underground storage tanks (USTs), aboveground storage tanks, wastewater clarifiers, sumps, pits, or other subsurface feature often associated with hazardous substance releases were identified on the project site. However, some discoloration of exposed soil was observed around the inlet structure on-site during the Phase I investigation. In addition, two of the adjoining parcels to the north had USTs that leaked and affected soil and groundwater. In this area groundwater flows north, and as such, contamination from the leaking tanks migrated away from the project site. Furthermore, both of the adjoining leaking UST sites (and other leaking UST sites further north) have been investigated, remediated where necessary, and granted closure or "no further action" status by the appropriate regulatory agencies (Avocet Environmental, Inc. 2015).

No asbestos-containing materials (ACMs) and/or lead-based paint materials were observed at the structures on-site; however, based on the age of the structures, there is the potential for these materials to be present (Avocet Environmental, Inc. 2015).

The Limited Phase II investigation assessed surface soil for pesticides and total metals (including arsenic and lead) and soil vapor samples for volatile organic compounds (VOCs) at the project site as a result of the site's proximity to the leaking USTs at the adjoining former Tracy Marine facility to the north. A total of 35surfacesoilsamples were taken at the site for pesticides and total metals. Four additional samples were taken, two along the boundary of the project site to test for VOCs, and two to assess the discolored soil observed around the storm drain inlet. The findings of the limited Phase II investigation are as follows (Avocet Environmental, Inc. 2015):

Arsenic concentrations in surface soil samples ranged from 3.71 to 7.71 milligrams per kilogram (mg/kg). While these concentrations are above U.S. Environmental Protection Agency's (EPA's) residential and industrial Regional Screening Levels(RSLs) of 0.67 and 3.0 mg/kg, respectively, naturally occurring arsenic concentrations in soil throughout much of the western United States exceed industrial RSLs. Therefore, arsenic is typically evaluated in the context of site-specific or regional background concentrations. In this context, all but one of the reported arsenic concentrations was below the 6.0 mg/kg screening level used by California Department of Toxic Substances Control (DTSC) to evaluate school sites (DTSC2005, cited in Avocet Environmental, Inc. 2015) and all of the reported concentrations were well below the southern California area background concentration of 12 mg/kg (DTSC2009, cited in Avocet Environmental, Inc. 2015).

The reported lead concentrations in surface soil samples ranged from 6.74 to 9.26 mg/kg, which was well below EPA's RSLs of 400 and 800 mg/kg for residential and commercial soil, respectively.

Hexavalent chromium, which does not occur naturally, was not detected in any of the surface soil samples.

All of the reported VOC concentrations in soil vapors were orders of magnitude lower than the corresponding California Human Health Screening levels developed by EPA's Office of Environmental Health Hazard Assessment OEHHA (2010, cited in Avocet Environmental, Inc. 2015). The presence of ethyl benzene, toluene, and xylenes is consistent with a release of gasoline; however, the samples did not contain detectable concentrations of benzene or any fuel oxygenates.

Neither of the two samples from the discolored soil contained detectable concentrations of total petroleum hydrocarbons or any VOCs.

Metals concentrations were within commonly accepted background ranges, including arsenic (3.84 and 4.47 mg/kg) and lead (8.09 and 8.08 mg/kg).

FLOODING

According to Federal Emergency Management Agency (2009), the site is located within Flood Zone X, which is defined as an "area determined to be outside the 0.2 percent annual chance floodplain" (RMA GeoScience 2015).

WILDFIRE

The California Department of Forestry and Fire Protection (CAL FIRE) has designated the southwestern edge of the City as having a moderate wildland fire potential. However, the project site is not within this area and is not designated as having a moderate or high fire hazard potential (City of Tracy 2005:4.13-5).

SCHOOLS AND AIRPORTS

The nearest airport to the project site is Tracy Municipal Airport, which is located approximately five miles southeast of the site. The nearest school is Art Freiler School, which is located approximately 0.28 mile southeast of the site. This school serves kindergarten through 8th grade.

EMERGENCY ACCESS

The *City of Tracy General Plan* includes the following goal and policy that require the City to maintain emergency access routes that are free of traffic impediments:

Goal SA-6: Preparation for emergencies

- **Policy P1:** Emergency access routes shall be kept free of traffic impediments.

3.4.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant. Project construction may involve the routine transport, use, or disposal of hazardous materials (gasoline, diesel, lubricants); however, compliance with local, state, and federal standards regarding their disposal, removal, and/or relocation would reduce the risks associated with these actions and a substantial hazard to the public or the environment is not anticipated. This impact would be **less than significant.**

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than significant with mitigation incorporated. The Phase I and Limited Phase II ESA prepared for the project did not identify any significant hazards on the project site. However, historic uses of the site entailed use of pesticides for agricultural purposes and there is the potential for the occurrence of ACMs and/or lead-based paint within the structures on the site. Construction on the project site, including demolition and removal of existing structures and excavation of soils, could potentially result in disturbance of previously unknown contaminants. These actions could result in the exposure of construction workers or the public at adjacent businesses and residences to hazardous materials. Therefore, this impact would be potentially significant. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure HAZ-1: Prepare and implement a health and safety plan.

The project applicant shall prepare a Health and Safety Plan, which shall be reviewed and approved by the City before initiating any demolition, grading, or other earthmoving activities. This plan shall require measures that will be employed during all demolition and construction activities to protect construction workers and the public from exposure to hazardous materials. These measures could include, but would not be limited to, posting notices, limiting access to the site, air monitoring, watering, and installation of wind fences. Contractors will be required to comply with state health and safety standards for all demolition work. If necessary, this shall include compliance with Occupational Safety and Health Administration (OSHA) and Cal/OSHA requirements regarding exposure to lead-based paint and asbestos.

In addition, the plan shall include procedures to follow in the event that contaminated soil and/or groundwater or other hazardous materials are generated or encountered during construction. Such procedures could include, but would not be limited to, the following:

- All work shall be halted in the affected area and the type and extent of the contamination shall be determined.
- The project contractor shall notify the project applicant if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during excavation.
- Any contaminated areas shall be remediated in accordance with recommendations made by the Regional Water Quality Control Board (RWQCB) and DTSC.
- Remediation activities could include but would not be limited to the excavation of contaminated soil areas and hauling of contaminated soil materials to an appropriate off-site disposal facility, mixing of on-site soils, and capping (i.e., paving or sealing) of contaminated areas.

Before demolition of any structure, or removal of building materials, lead-based paint or ACMs shall be removed by a California licensed contractor who will be monitored by an accredited State inspector in accordance with EPA and Cal/OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos worker construction standards. The lead-based paint or ACMs shall be disposed of properly at an appropriate off-site disposal facility.

Significance Conclusion

Implementation of Mitigation Measure HAZ-1 would ensure that the project would not create hazards to people or the environment by requiring remediation upon discovery of unknown contaminates on the site. Therefore, this impact would be reduced to a less-than-significant level.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than significant. Art Freiler School is located 0.28 mile from the project site. As noted above under (a), construction on the site may involve the routine transport, use, or disposal of hazardous materials such as gasoline, diesel, and lubricants; however, compliance with local, state, and federal standards regarding their disposal, removal, and/or relocation would reduce the risks associated with these actions and a substantial hazard to the public or the environment is not anticipated.

As noted above under (b), no significant hazards were identified on-site; however, there is the potential for construction to result in disturbance of previously unknown contaminants. Implementation of Mitigation Measure HAZ-1 would ensure that any contaminants encountered during construction are properly remediated. Therefore, the project would not emit hazardous emissions or expose any nearby schools to hazardous materials. This impact would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. The Phase I ESA prepared for the site included a search of the regulatory agency databases. Results of the search indicate that the site is not listed on any of the EDR® databases (Avocet Environmental, Inc. 2015). No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No impact. The nearest airport is Tracy Municipal Airport, located five miles to the southeast of the project site. Therefore, the project site is not located within an airport land use plan or within two miles of a public airport or public use airport. No impact would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No impact. The project site is not located within the vicinity of a private airstrip. No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant. The project would not make physical alterations to existing travel routes or access or entry to existing development in the vicinity. The project would not interfere with adopted emergency response plans or emergency evacuation plans. The project would involve the development of residential land uses near similar residential uses, and would be consistent with goals and policies in the City General Plan related to emergency access. Therefore, this impact would be less than significant.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less than significant. The project is not located in a moderate or high fire hazard zone (City of Tracy 2005:4.13-5). In addition, there are no wildlands on or adjacent to the site; therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be less than significant.

3.5 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

3.5.1 Environmental Setting

The setting and impact conclusions are based on the findings of the *Phase I & Phase II Environmental Site Assessment* (ESA) *Toste Assemblage* (Avocet Environmental, Inc. 2015).

The project site is currently fallow agricultural land with one residence. There are no surface water features at the site or in the immediate vicinity. The closest surface water feature is an unlined drainage channel on the north side of Grant Line Road, approximately 0.2-mile northwest of the project site (Avocet Environmental, Inc. 2015). Old River and Tom Paine Slough, are both located less than 3.5 miles to the north and northeast, respectively.

Storm water runoff from the project site sheet flows to the adjoining surface streets or into the storm drain system via inlet structures at the site. In the early 1960s, "tile drains" were installed to drain the near-surface soils of the property. The tile drain system conveyed flow from Byron Road to the south to a drainage channel on the south side of Grant Line Road. The natural drainage of the site was further disrupted when I-205 was constructed in the late 1960s and early 1970s. At that time, storm drain infrastructure was installed to convey runoff to a drainage channel on the north side of Grant Line Road via gravity flow. This infrastructure included at least one inlet structure along the northern boundary of the project site and others on or near Toste Road. Flow from the tile drain system was then rerouted to this storm drain system, and much of the tile drain system was removed when the area to the south of the project site was developed (Avocet Environmental, Inc. 2015).

Under existing conditions, 14.33 acres of vacant land within the project site area drains north to the inlet of an existing 24-inch concrete pipe culvert (SD) that is located roughly midway along the north property boundary. The 24-inch SD extends north from the project site and underneath I-205, discharging to WSID's 72-inch SD in Grant Line Road. The additional 4.40 acres of partially developed land is contiguous to the east of the vacant parcel and part of it drains to the existing 24-inch SD and part of it drains to the northeast, entering Grant Line Road near Toste Drive. The existing 24-inch SD predominantly resides within highway right-of-way to the north of the project, and its inlet is located within the project site. At the northwest corner of the project site, there is an existing City 42-inch SD. This 42-inch SD also crosses underneath I-205 but connects with other City storm drains to the north and discharges runoff to the City's existing detention basin on the west side of Naglee Road north of Tracy Mall and does not discharge to WSID facilities.

The project site is within the San Joaquin Valley groundwater basin, which is utilized for a variety of beneficial uses, including municipal, domestic, agricultural, and industrial processes. The General Soil Map of NRCS indicates that the site is located in an area of primarily Capay clay soil, which generally consists of deep, moderately well-drained clay. Based on the findings of subsurface environmental investigations at adjoining and nearby properties to the north, near-surface soils beneath the project site have been characterized as interbedded and intermixed sand, silt, and clay. The investigations to the north have typically encountered groundwater at between 6 and 10 feet below ground surface, with groundwater flow consistently to the north (Avocet Environmental, Inc. 2015).

According to Federal Emergency Management Agency (2009), the site is located within Flood Zone X, which is defined as an "area determined to be outside the 0.2 percent annual chance floodplain" (RMA GeoScience, Inc. 2015).

3.5.2 Discussion

a) Violate any water quality standards or waste discharge requirements?

Less than significant. As described above under Section 3.6, Geology and Soils, soils on the project site have a high runoff potential (NRCS 2013). Vegetation removal, grading, and other soil disturbance during construction would expose soils to increased erosion potential and potentially result in adverse impacts on water quality downstream of the site. Upon completion of the construction phase landscaping, and impervious surfaces would cover soils, decreasing the potential for erosion.

Existing measures are in place for new construction projects that require the developer to prevent or control erosion on construction sites. The City has established requirements for controlling pollution from construction and post-construction development activities, including pollution that occurs as a result of

erosion that can contribute excess sediments to the storm drainage system and local creeks. The project would be required as a standard condition to obtain a grading permit and comply with the provisions of the City's Grading Ordinance (Tracy Municipal Code 12.36.090).

In addition to complying with the City's requirements, construction projects disturbing one acre or more need to obtain coverage under the State Water Resources Control Board's General Construction Stormwater Permit. The general construction permit requires preparation of a detailed SWPPP for the construction site that includes measures to prevent and control erosion. The general construction permit also requires the developer to conduct regular inspections of their BMPs before, during, and after storm events.

Compliance with City requirements for controlling construction-related pollution and preparation and implementation of a SWPPP and associated BMPs would ensure that project-related effects to water quality would be **less than significant.**

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Less than significant. The project would be served by the City of Tracy municipal water supply and would not include construction of or use of any groundwater wells. The City of Tracy uses several water sources, including the U.S. Bureau of Reclamation, the South County Water Supply Project, and groundwater. As described in greater detail in 3.17, Utilities and Service Systems, the City has adequate water supplies to serve the project without increasing the current rate of groundwater extraction.

Groundwater recharge occurs primarily through percolation of surface waters through the soil and into the groundwater basin. The addition of significant areas of impervious surfaces (e.g., roads, parking lots, buildings) can interfere with this natural groundwater recharge process. Upon full project buildout, portions of the project site would be covered with impervious surfaces, which would limit the potential for groundwater percolation to occur on the project site. However, given the relatively large size of the groundwater basin in the Tracy area, the areas of impervious surfaces added as a result of project implementation would not substantially affect the recharge capabilities of the local groundwater basin. The project would result in a **less-than-significant** impact related to depletion of groundwater supplies and interference with groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?

Less than significant with mitigation incorporated. As development occurs, much of the vegetated area on the site would be replaced by impervious surfaces such as roofs, roads, driveways, and sidewalks. This increase in impervious area typically results in a corresponding increase in the volume, velocity, and peak flow rate of runoff discharged from the site. Such artificially created changes to runoff characteristics are known as hydromodification and can result in accelerated erosion or sediment deposition within downstream natural channels. The project site would discharge to the public main drain connection, and the drainage lines would be connected to existing lines on the northwest corner of the project site.

New development projects in the City of Tracy are required to provide site-specific storm drainage solutions and improvements that are consistent with the overall storm drainage infrastructure approach presented in the *2012 City of Tracy Citywide Storm Drainage Master Plan*.

Prior to approval of the Final Map, the project applicant is required to submit a detailed storm drainage infrastructure plan to the City of Tracy Development Services Department for review and approval. The City

of Tracy hired Storm Water Consulting Inc. to review the storm water drainage plan and summarize the applicant's draft approach (Storm Water Consulting 2016). As discussed in this report, the entire project area was planned to be developed for a commercial land use per the City's General Plan. The proposed land use would be high density residential. High density residential development would produce less storm runoff than commercial development.

There are 4.40 acres of partially developed land which resides within the roughly 2-square mile area of the City that is authorized to discharge to WSID's facilities (and the existing 72-inch SD in Grant Line Road) per the 2010 Drainage Agreement Between the City of Tracy and the West Side Irrigation District. It is proposed that this portion of the development would discharge to the existing 24-inch SD. There are 14.33 acres of vacant land located contiguous to but outside of the designated roughly 2-square mile area covered by the 2010 Drainage Agreement. Because this portion of the overall project area is not located within the roughly 2-square mile area covered by the 2010 Drainage Agreement, the City has stipulated that, at a minimum, enough of this portion of the project needs to be regraded to drain to the City's 42-inch SD at the northwest corner of the project site to keep its peak rate of runoff contributing to the 24-inch SD at or below the peak rate of runoff generated by the entire vacant portion of the property that currently discharges to the 24-inch SD. Because existing condition runoff volumes are significantly less in the pre-development condition than the post-development condition, the threshold that the report writers determined would meet this condition is a maximum of 4.75 acres discharging to the 24-inch SD for this portion of the project site. The surcharge condition for WSID's 72-inch SD in Grant Line Road will prevent downstream flow rates from ever exceeding the City discharge limitations for same that are cited in the 2010 Drainage Agreement (Storm Water Consulting 2016). No new physical connections to WSID's 72-inch SD would be needed to accomplish the proposed drainage plan for this project.

The project's storm drainage infrastructure plans must demonstrate adequate infrastructure capacity to collect and direct all stormwater generated on the project site within on-site retention/detention facilities to the City's and WSID's existing stormwater conveyance system, and demonstrate that the project would not result in on- or off-site flooding impacts. The project is also required to pay all applicable development impact fees, which would include funding for off-site Citywide storm drainage infrastructure improvements identified in the *2012 City of Tracy Citywide Storm Drainage Master Plan*.

Because final design of the on-site drainage facilities is not currently available, it is possible that the project could result in adverse changes to on-site or off-site hydrology. This would be a potentially significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level.

Mitigation Measure HYDRO-1: Provide final design of stormwater facilities.

The project applicant shall coordinate with the City to prepare the final design requirements in accordance with the *2012 City of Tracy Citywide Storm Drainage Master Plan* to ensure that:

- The project will not create adverse conditions with regards to floodplain storage, channel erosion, or floodwater discharge characteristics at the project boundaries or areas upstream and downstream of the project site;
- The project's stormwater facilities shall provide adequate stormwater storage and peak flow attenuation with regards to stormwater quality provisions, hydromodification management, and flood control; and
- The project shall provide surface roadway improvements, storm drain improvements, detention basins, and emergency overflow provisions meeting the minimum requirements of the City of Tracy.

The final design shall be approved by the City prior to initiating any grading or other ground disturbing activities.

Significance Conclusion

Implementation of Mitigation Measure HYDRO-1 would ensure that the project would not adversely affect on- or off-site hydrology by providing proper design of stormwater facilities based on final project plans, in

accordance with the *2012 City of Tracy Citywide Storm Drainage Master Plan*. Therefore, this impact would be reduced to a less-than-significant level.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?

Less than significant with mitigation incorporated. Refer to discussion and mitigation measures provided under (c) above.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than significant with mitigation incorporated. Refer to discussion and mitigation measures provided under (a) and (c) above.

f) Otherwise substantially degrade water quality?

Less than significant. Refer to discussion under (a) above.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No impact. Although the project would include construction of new housing, the project site is not located within the 100-year flood zone. Therefore, project implementation would not place housing in a 100-year flood hazard area that would redirect flood flows. No impact would occur.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No impact. Refer to discussion under (g) above.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than significant. The project site is not located within a dam inundation risk area. The nearest inundation areas are at the northernmost portion of the city (approximately 0.75 mile north of the project site) and are subject to inundation by the San Luis Reservoir and New Melones Dams (San Joaquin County OES 2003). The safety of dams in California is stringently monitored by DWR, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring dams in perpetuity. The project would not result in actions that would result in a higher likelihood of dam failure at San Luis Reservoir and New Melones Dams. While there is the remote chance of dam failure that could result in flooding of the northern portion of the city, the project site lies outside of this risk area. Given the regulations provided in the California Dam Safety Act, and the ongoing monitoring performed by the DSD, the risk of loss, injury, or death to people or structures from dam failure would be less than significant.

j) Result in inundation by seiche, tsunami, or mudflow?

No impact. The project site is not located near any significant bodies that could be subject to a seiche or tsunami. Additionally, the project site and the surrounding areas are essentially flat, which precludes the possibility of mudflows occurring on the project site. Therefore, the project would not be located in an area that is subject to seiche, tsunami, or mudflow. No impact would occur related to these events.

3.6 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

3.6.1 Environmental Setting

The project site itself is undeveloped except for one residence. The project site is currently designated Commercial in the City's General Plan (see Exhibit 2-3 in Section 2, Project Description) and zoned as PUD and GHC (see Exhibit 2-4 in Section 2, "Project Description"). A portion of the project site is also within the I-205 Corridor Specific Plan (Specific Plan) and is designated as General Commercial. The Commercial land use designation allows for sites with one or more types of retail and office facilities (City of Tracy 2011:2-6). The PUD zoning allows for flexibility and creativity in site planning for residential, commercial, or industrial uses, and the GHC zoning designation allows for commercial activities which are automobile-oriented. The General Commercial designation under the I-205 Specific Plan allows for most retail commercial uses (City of Tracy 1999:3-8).

Just east of the project site is a self-storage building and fenced areas with crushed rock ground cover used for recreational vehicle and boat storage. Other surrounding land uses include I-205 to the north, and residential to the south and west.

3.6.2 Discussion

a) Physically divide an established community?

No impact. The project site is surrounded by existing residential development and, to the north, I-205. The project would be an infill development within the established community, and would not affect access or divide the community. No impact would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than significant. The project would result in a General Plan Amendment to change the land use designation of the project site from Commercial to Residential High, and an amendment to the I-205 Specific Plan to change the designation of the project site from General Commercial to High Density Residential. This project would contribute to the total residential dwelling units that were planned for within the I-205 Specific Plan. With the proposed changes to the land use designations, and as the project proposal would be

generally consistent with applicable goals and objectives of the General Plan and I-205 Corridor Specific Plan, the project would not conflict with any applicable land use plans. This impact would be **less than significant.**

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less than significant. The City of Tracy, including the project site, is within the area covered by the SJMSCP. The City adopted the SJMSCP in 2001, and participation in the SJMSCP by project applicants is optional. However, as described in Section 3.4, Biological Resources, in order to reduce the potential impact to biological resources to less than significant, a Mitigation Measure (BIO-1) is included above that would require the applicant to obtain coverage under the SJMSCP to mitigate for habitat impacts to covered special-status species. The project would be reviewed by the San Joaquin Council of Governments to determine consistency with regional plans, including the SJMSCP. The project's consistency with this habitat conservation plan is discussed in more detail in 3.4, Biological Resources, above. This impact would be less than significant.

3.7 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.7.1 Environmental Setting

The main mineral resources within San Joaquin County, and the City of Tracy, are sand and gravel (aggregate), which are primarily used for construction materials like asphalt and concrete. The project site does not contain any mining features, and no mining operations are present on the site or near the site. In addition, the project site and surrounding vicinity is designated as mineral resource zone (MRZ)-1 by the *City of Tracy General Plan*. Lands designated as MRZ-1, are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for the presence of mineral deposits (City of Tracy 2005:4.8-5).

3.7.2 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No impact. The project site is designated as MRZ-1 by the *City of Tracy General Plan*, which is an area considered unlikely to contain mineral resources. In addition, the project site does not contain any mining features, and no mining operations are present on the site or near the site. Therefore, the project would not result in the loss of a known mineral resource. No impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No impact. The project site is designated as commercial land use in the current *City of Tracy General Plan* and is not designated as a locally important mineral recovery site. Therefore, no impact would occur.

3.8 NOISE AND VIBRATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise and Vibration. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.8.1 Environmental Setting

Existing nearby noise-sensitive receptors include the residential neighborhood west of the project site, including the single-family and multifamily dwelling units along Rochester Street, and the single-family homes south of the project site across Henley Parkway. These residences are considered to be noise-sensitive because they are land use types where noise exposure could result in health-related risks to individuals, as well as places where a quiet setting is an essential element for their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Residential land uses are also considered to be sensitive to noticeable levels of ground vibration.

Existing noise- and vibration sensitive land uses in the project vicinity primarily include off-site residences as close as 50 feet to the south and west of the project site. Most residences are located 450 feet from the center of the project site.

The existing noise environment in the project area is primarily influenced by vehicles traveling on I-205). Other sources of noise in the project area include vehicles travelling on Henley Parkway, which runs adjacent to the south side of the project site and to a much lesser extent the RV dealership, Delta RV, which is located near the southeast corner of the project site.

Various private and public agencies have established noise guidelines and standards to protect citizens from potential hearing damage and other adverse physiological and social effects from noise exposure. Applicable polices and regulations are contained in Title 4-Public Welfare, Morals and Conduct section of the City of Tracy Municipal Code and the Health, Safety, and Noise Element of *the City of Tracy General Plan* (2011), described below.

City of Tracy Municipal Code

Title 4 – Public Welfare, Morals and Conduct

Article 9, Noise Control

4.12.820 – Specific Noises Prohibited

The following act is declared to cause disturbing, excessive, or offensive noises in violation of this article although such enumeration shall not be deemed to be exclusive:

(h) Pile drivers, hammers, etc. The operation between the hours of 10:00 p.m. and 7:00 a.m. of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam, or electric hoist, parking lot cleaning equipment or other appliance, the use of which is attended by loud or unusual noise.

City of Tracy General Plan

The Health, Safety, and Noise Element of the *City of Tracy General Plan* (2011) contains objectives and policies to ensure that county residents are not subjected to noise beyond acceptable levels. General Plan policies applicable to the project are included below.

Objective N-1.1: Ensure appropriate exterior and interior noise levels for new land uses

- **Policy 4:** New residential uses exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in the operative California Building Code or other operative code.
- **Policy 5:** For new residential land uses, noise from external sources shall not cause building interiors to exceed 45L_{dn}.
- **Policy 6:** For new multi-family residential land uses, noise from external sources shall not cause the community outdoor recreation areas to exceed 65 L_{dn}. This policy shall not apply to balconies.
- **Policy 8:** Measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all development projects. Acceptable, conditionally acceptable and unacceptable noise levels are presented below in Table 3.12-1 (GP Figure 9-3).

Objective N-1.2: Control Sources of Excessive Noise

- **Policy 1:** The City's Noise Ordinance, as revised from time to time, shall prohibit the generation of excessive noise.
- **Policy 2:** Mitigation measures shall be required for new development projects that exceed the following criteria:
  - cause the L_{dn} at noise-sensitive uses to increase by 3 decibels (dB) or more and exceed the "normally acceptable" level as shown in Table 3.12-2 below (GP Figure 9-3),
  - cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable," and
  - cause new noise levels to exceed the City of Tracy Noise Ordinance limits.

Table 3.12-1 Land Use Compatibility for Community Noise Environment

Land Use	Exterior Noise Exposure (L_{dn})		
	Normally Acceptable[1]	Conditionally Acceptable[2]	Unacceptable[3]
Single-Family Residential	60	61-75	>76
Multi-Family Residential, Hotels, and Motels	65[4]	66-75	>76
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	65	66-80	>81
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	60	61-75	>81
Office Buildings, Business Commercial, and Professional	70	71-80	>81
Auditoriums, Concert Halls, Amphitheaters	N/A	<70	>71

Notes: N/A = Not Applicable; L_{dn} = Day-Night Sound Level. The 24-hour L_{eq} with a 10-dBA penalty applied during the hours from 10 p.m. to 7 a.m., which are typically reserved for sleeping.

[1] Normally Acceptable exterior noise exposure indicates that the specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

[2] Conditionally Acceptable exterior noise exposure indicates that the specified land use may be permitted after detailed analysis of the noise reduction requirements and needed noise insulation features are included in the design.

[3] Unacceptable exterior noise exposure indicates that new construction or development should generally not be undertaken because mitigation is usually not feasible to comply with City of Tracy General Plan Noise Element policies.

[4] Residential development sites exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmissions Control, California Building Code.

Source: City of Tracy 2011

Table 3.12-2 Noise Emission Levels from Construction Equipment

Equipment Type	Typical Noise Level (dB) at 50 feet[1]
Backhoe	80
Dozer	85
Dump Truck	84
Excavator	85
Front End Loader	80
Scraper	85

Notes: dB = decibels

[1]Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment.

Source: FTA 2006

- **Policy 4:** All construction in the vicinity of noise-sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction control measures shall be included as requirements at construction sites to minimize construction noise impacts:

  - equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment,

- locate stationary-noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area, and
- utilize "quiet" air compression and other stationary noise sources where technology exists.

Objective N-1.3: Consider Noise Issues in the Development Review Process

- **Policy 1:** Development projects shall be evaluated for potential noise impacts and conflicts as part of the Development Review process.
- **Policy 2:** Significant noise impacts shall be mitigated as a condition of project approval.
- **Policy 3:** New development projects shall have an acoustical specialist prepare a noise analysis with recommendations for design mitigation if a noise-producing project is proposed near existing or planned noise-sensitive uses.
- **Policy 4:** Proposed noise-sensitive projects within noise-impacted areas shall submit acoustical studies and provide necessary mitigation from noise.
- **Policy 5:** Site design techniques shall be considered as the primary means to minimize noise impacts as long as they do not conflict with the goals of the Community Character Element. Techniques include:
  - designing landscaped building setbacks to serve as a buffer between the noise source and receptor;
  - placing noise-tolerant land uses, such as parking lots, maintenance facilities, and utility areas between the noise source, such as highways and railroad tracks, and receptor. Utilize "quiet" air compression and other stationary noise sources where technology exists;
  - orienting buildings to shield noise-sensitive outdoor spaces from a noise source;
  - locating bedrooms or balconies on the sides of buildings facing away from noise sources; and
  - utilizing noise barriers (e.g., fences, walls, or landscaped berms) to reduce adverse noise levels in noise-sensitive outdoor activity areas.

3.8.2 Discussion

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Separate discussions are provided below concerning whether project-related construction activity would expose existing off-site, noise-sensitive receptors to excessive noise levels, whether traffic noise increases along local roadways due to project-generated vehicle trips would expose existing receptors to substantial noise increases, and whether the residential units proposed for the project site would be exposed to highway noise levels that exceed applicable standards.

Short-term Construction Noise

Less than significant. The project would include the construction of 304 residences and a 6,000-square-foot leasing and recreation area. The construction period would last approximately two years and would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday. Truck deliveries would take place during daytime hours. Balanced grading of the site would be performed and no earthen materials would be exported. Some gravel may be imported to line waterline trenches. No pile driving or blasting would take place.

Construction noise levels in the vicinity of the project would fluctuate depending on the particular type, number, and duration in which various equipment types of would be used. The effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment at nearby receptors.

Table 3.12-2 lists the noise levels generated by the types of equipment that would be used during project construction. Site preparation and grading typically generates the highest noise levels because these activities involve the use of heavy, off-road equipment operating at full power (e.g., graders, scrapers, dozers).

Noise-sensitive receptors near the construction site would, at times, experience elevated noise levels from construction activities. The closest off-site receptors to project-related construction activity would be the residential land uses located along Rochester Street west of the project site. These receptors would be exposed to the highest levels of construction noise when grading or trenching is taking place just across the property line; however, the existing approximately eight-foot masonry wall located along the western side of the project site would reduce construction-generated noise by approximately 5 to 8 dB. Grading and scrubbing tend to involve the operation of scrapers and/or dozers moving about at a steady speed, while trenching can involve the operation of a backhoe/front loader in a small area for more than a few hours. Other off-site noise-sensitive receptors that would be exposed to construction-generated noise include the neighborhood of single-family homes south of the project site and south of Henley Drive. The closest of these residences are approximately 55 feet from the site boundary and would also experience 5 to 8 dB of noise protection from an existing vegetated masonry wall that runs along the south side of Henley Drive.

Noise-generating construction activity would occur during the less noise-sensitive daytime hours. The City of Tracy Municipal Code prohibits the operation of excessively loud equipment between the hours of 10:00pm and 7:00 a.m. Additionally, Policy 4, under Objective N-1.2 of the *City of Tracy General Plan* (City of Tracy 2011:9-20) establishes that "construction in the vicinity of noise-sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours of 7:00 am to 7:00 pm" and requires implementation of noise-reduction measures including engine muffling, staging of construction equipment and building materials away from noise-sensitive land uses. Thus, compliance with the City of Tracy Municipal Code Title 4.12, Article 9 (Noise Control Ordinance) would further minimize noise exposure to off-site noise-sensitive receptors. Requirements outlined in the Noise Control Ordinance are adopted by the City of Tracy as Conditions of Approval for all new development. Therefore, short-term on-site construction would not result in the exposure of persons to or generation of noise levels in excess of applicable standards, or a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project. This impact would be less than significant.

Long-term Operational Noise Exposure to Existing Receptors

Less than significant. Project-generated vehicle trips could result in traffic noise increases along affected roadways. A doubling of a noise source results in an increase of 3 dB, which is perceived as barely noticeable by people (Egan 2007: 21). Policy 2 under Objective N-1.2 of the *City of Tracy General Plan* (City of Tracy 2011: 9-20) considers a noise level increase to be substantial if (1) it exceeds 3 dB and the resultant noise level exceeds the "normally acceptable" exterior noise level for the applicable land use identified in Table 3.12-1, or (2) if the resultant noise level is less than the "normally acceptable" level for the applicable land use but the noise level increases 5 dB or more compared to existing conditions.

To assess this impact, traffic noise levels along affected local roadway segments were modeled with and without project-generated trips using the U.S. Department of Transportation Federal Highway Administration Traffic Noise Model (FHWA 2006) and project-specific traffic data provided by the traffic analysis prepared for this project (Fehr and Peers 2016). Table 3.12-3 below summarizes the modeled traffic noise levels along local roadways under existing and existing-plus-project conditions. For further details on traffic-noise modeling inputs and parameters, refer to Appendix D.

Table 3.12-3 Modeled Traffic Noise Levels along Local Roadways under Existing and Existing-Plus-Project Conditions

Roadway	Segment	L_{dn} (dB) at 100 feet from Roadway Centerline		Change (dB)
		Existing Conditions	Existing +Project Conditions	
Henley Parkway	Grant Line Road and Bridle Creek Circle	54.4	55.7	+1.3
Henley Parkway	W Giovanna Lane and Lowell Avenue	51.1	51.5	+0.4
Grant Line Road	Byron Road and Lammers Road	61.5	61.5	+0.0
Grant Line Road	Naglee Road and I-205 WB ramps	64.3	64.4	+0.1
Grant Line Road	Orchard Parkway and Corral Hollow Road	63.1	63.2	+0.1
Corral Hollow Road	W Kavanagh Avenue and Grant Line Road	57.9	57.9	+0.0
Corral Hollow Road	Lowell Avenue and Fieldview Drive	64.2	64.2	+0.1
Lowell Avenue	Corral Hollow Road and Promenade Circle	56.4	56.4	+0.0

Notes: dB=decibels; L_{dn}=day-night average noise level; Numbers are approximate due to rounding

Source: Modeled by Ascent Environmental, 2016

As shown in Table 3.12-3, none of the project-affected local roadway segments would experience traffic noise increases equal to or more than 3 dBA. Therefore, the project would not result in traffic noise levels that exceed the significance criteria established by Policy 2 under Objective N-1.2 of the City of Tracy General Plan (City of Tracy 2011: 9-20). This would be a less-than-significant impact.

Noise-Land Use Compatibility of Proposed Noise-Sensitive Receptors with Off-site Noise Sources

Less than significant with mitigation incorporated. The types of noise-generating activity in the residential neighborhood adjacent to the west of the project site would be consistent with the types of noise generated by the proposed residential land uses on the project site. Activity at the recreational vehicle storage yard adjacent to the east side of the project site only occurs during less noise-sensitive daytime hours (i.e., 9:00 a.m. to 5:00 p.m.) Therefore, it is not anticipated that activity at these adjacent land uses would adversely affect the residential land uses proposed on the project site.

Noise levels on the southern portion of the project site would be affected by traffic traveling along Henley Parkway and Noise levels at the residential land uses proposed along the northern side of the project site would predominantly be influenced by traffic traveling on I-205. Table 3.12-4 below summarizes the level of traffic noise exposure on the project site from these Henley Parkway and I-205. See Appendix D for detailed modeling parameters.

Table 3.12-4 Modeled Traffic Noise Exposures from Henley Parkway and I-205

Roadway	Segment	L_{dn} at Property Line(dB)	Extent of Noise Contours onto the Project Site (feet)		
			70 dB	65 dB	60 dB
Henley Parkway	Grant Line Road and Bridle Creek Circle	60.6	11	25	53
Henley Parkway	W Giovanna Lane and Lowell Avenue	51.5	6	12	27
I-205	11th Street to Grant Line Road	73.2	253	545	1173
I-205	Grant Line Road to Tracy Boulevard	73.6	268	576	1242

Notes: dB=decibels; L_{dn}=day-night average noise level; Numbers are approximate due to rounding

[1]Source: Modeled by Ascent Environmental, 2016

As shown in Table 3.12-4, highway traffic noise levels are expected to remain the same with the project. Therefore, the project would not expose any sensitive receptors to a substantial increase in traffic noise; this impact would be less than significant.

As shown in Table 3.12-4, the 65 L_{dn} traffic noise along Henley Parkway would extend approximately 25 feet onto the project site. None of the multifamily residential land uses would be located within this distance and, therefore, would not be exposed to noise levels that exceed the City's "normally acceptable" exterior noise standard of 65 L_{dn}. Assuming an exterior-to-interior noise reduction of 25 dB typical of new residential buildings (Caltrans 2013:7-17), interior noise levels at these dwelling units would not exceed the City's interior noise standard of 45 L_{dn}.

The 65 L_{dn} contour of noise generated by traffic on I-205 would extend approximately 576 feet onto the project site. Thus, the outdoor activity areas of any multifamily residential buildings located within this distance would be exposed to traffic noise levels that exceed the City's "normally acceptable" exterior noise standard of 65 L_{dn}. The 70 L_{dn} contour would extend approximately 268 feet onto the project site. This is important because, assuming a typical exterior-to-interior noise reduction of 25 dB typical of new residential buildings (Caltrans 2013:7-17), interior noise levels of any dwelling units located within this contour would exceed the City's interior noise standard of 45 L_{dn}. Thus, residential units located on the north end of the project site would be exposed to noise levels that exceed applicable noise exposure criteria. The project's traffic would contribute to/exacerbate traffic noise levels from I-205 and that would exceed interior noise standards. This would be a potentially significant impact.

Mitigation Measure 3.12-1: Implement Measures to Reduce Exposure to Freeway Noise from Project.

Noise reduction measures shall be implemented to ensure that traffic noise generated by vehicles travelling on I-205 do not exceed the City's exterior noise standard of 65 L_{dn} at any common outdoor activity areas of proposed multi-family residential dwelling units and the City's interior noise standard of 45 L_{dn} inside the proposed residences. This measure does not apply to any private outdoor patios or balconies that may be included as part of individual multifamily residential units, which is consistent with Policy 6 under Objective N-1.1 of the *City of Tracy General Plan* (City of Tracy 2011:9-18). This performance standard shall be achieved through implementation of some or all of the noise reduction measures listed below.

- Install a sound barrier between the nearest proposed residential land uses and the northern boundary of the project site. The sound barrier must be constructed of solid material (e.g., masonry). The height may be between 8 and 10 feet tall, but the exact height would depend on engineering design. The barrier and surrounding landscaping shall blend into the overall landscape and have an aesthetically pleasing appearance that agrees with the color and architectural character of the buildings and the general area, and not become the dominant visual element of the community. Set back all common outdoor activity areas of the residential land uses as far as feasible from I-205;

- Locate a row of multifamily residential buildings between I-205 and any common outdoor activity areas such that the buildings serve as a sound barrier that reduces the level of freeway noise exposure at common outdoor activity areas;

- Plant a dense stand of trees between I-205 and the common outdoor activity areas of the residential land uses; and/or

- Incorporate additional noise attenuate features to the residential buildings to ensure that the interior noise standard of 45 L_{dn} is achieved pursuant to both the California Building Code and Policy 5 of Objective N-1.1 of the *City of Tracy General Plan* (City of Tracy 2011:9-18). This measure may include the use of increased noise insulation on exterior walls of the affected residences to improve the Sound Transmission Class (STC) of those walls, including but not limited to added insulation, upgrades to drywall, acoustical sound absorption panels, new windows, and new exterior siding. All residential units shall include centralized air

conditioning systems so that windows and doors can remain closed to protect them from noise generated by exterior noise sources.

To ensure compliance with applicable noise standards, the applicant shall prepare and submit a site-specific noise study with the building permit application to ensure the effectiveness of the selected noise reduction measures. Additionally, following completion of the project noise monitoring shall be performed to ensure the noise reduction measures have achieved the desired noise attenuation. The applicant shall be responsible for all costs incurred by the implementation of this mitigation measure. Residential units shall not be inhabited prior to confirmation that the 45 CNEL interior noise standard will be achieved.

Significance after Mitigation

Implementation of Mitigation Measure 3.12-1 includes multiple possible options for reducing the levels of noise exposure at common outdoor activity areas of the residential land uses, as well as the interior noise levels of the residential units. For instance, a noise barrier that is just tall enough to break the line of sight between vehicles traveling on I-205 and ground level receptors in common outdoor activity areas would result in at least 5dB of noise reduction and it can achieve an approximate 1 dB additional noise level reduction for each 2 feet of height above where it breaks the line of sight (with a maximum theoretical total reduction of 20 dB (FHWA 2011:56). Additional reduction could also be achieved by setting back common outdoor activity areas of the multifamily residential buildings further from I-205, locating a row of residential buildings between the I-205 and the common outdoor activity areas, or planting a dense stand of trees between I-205 and the nearest common outdoor activity areas. Therefore, some combination of the noise reduction measures listed under Mitigation Measure 3.12-1 which would effectively ensure that freeway noise levels at common outdoor activity areas would not exceed the City's exterior noise standard of 65 L_{dn} and the interior noise standard of 45 L_{dn}. Based on the site conditions and the menu of noise mitigation options available including setbacks, berming, and noise walls, it is anticipated that noise performance standards could be achieved with a wall of 8 to 10 feet in height depending on the level and degree to which other noise mitigation options are implemented. This would need to be confirmed through project-specific performance modeling at the final design plan stage, as required by Mitigation Measure 3.12-1. Thus, implementation of Mitigation Measure 3.12-1 would reduce this impact to a less-than-significant level.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than significant. Groundborne vibration and noise levels generated by the types of construction equipment and activities that could take place on the project site are summarized in Table 3.12-5. No pile driving or rock blasting would be performed. Based on the information provided in the project description and on the types of construction activities that would take place (e.g., site preparation and building erection) it is expected that maximum groundborne vibration and noise levels would be generated by dozers operating on the site.

Table 3.12-5 Representative Groundborne Vibration and Noise Levels for Construction Equipment

Equipment	PPVat25feet(inches/second)[1]	Approximate L_v(VdB) at 25 feet[2]
Large Dozer	0.089	87
Caisson Drilling	0.089	87
Trucks	0.076	86
Jackhammer	0.035	79
Small Dozer	0.003	58

Notes:

[1] Where PPV is the peak particle velocity.

[2] Where Lv is the root mean square velocity expressed in vibration decibels (VdB), assuming a crest factor of 4.

Source: FTA 2006

According to the Federal Transit Administration (FTA), levels of ground vibration generated by dozers are 0.089 inches per second (in/sec) and 87 vibration decibels (VdB) at a distance of 25 feet. Applying FTA's recommended propagation adjustment to these reference levels, construction activities would not expose the nearest sensitive receptors, (i.e., residences located 50 feet away) to ground vibration levels that exceed Caltrans's recommended exposure level of 0.2 in/sec peak particle velocity (PPV) with respect to the prevention of structural damage for normal buildings or FTA's maximum acceptable exposure level of 80 VdB with respect to human response for residential uses (i.e., annoyance). The use of a large dozer would result in ground vibration levels of 0.031 in/sec PPV and 78.0 VdB at a distance of 50 feet. Long-term operation of the project would not result in any major sources of vibration. Thus, implementation of the project would not result in the exposure of existing off-site sensitive receptors to excessive groundborne vibration levels. This impact would be **less than significant**.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant with mitigation incorporated. As discussed under item "a," the project would not expose existing off-site noise-sensitive receptors to a substantial increase in traffic noise. This impact would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant. The only potential source of substantial temporary or periodic increase in ambient noise levels in the project vicinity would be construction generated. As discussed under item "a," short-term project-related construction activity would not result in the exposure of persons to or generation of noise levels in excess of applicable standards because it would only occur during less noise-sensitive times of day (i.e., 7:00 a.m. to 7:00 p.m.) and therefore be consistent with Policy 4, under Objective N-1.2 of the City of Tracy General Plan Noise Element Policy (City of Tracy 2011:9-20). Thus, construction generated noise would not result in a substantial temporary increase in ambient noise levels in the project vicinity above existing levels without the project. This impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

and

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No impact. The nearest publicly owned airport is the Tracy Municipal Airport, approximately 4.5 miles southeast of the project site. The City of Tracy adopted an *Airport Master Plan* in 1998, analyzing the impacts to safety on surrounding development from the Tracy Municipal Airport (City of Tracy 1998). The San Joaquin County *Airport Land Use Compatibility Plan* (San Joaquin Council of Government 2009) establishes noise contours surrounding the Tracy Municipal Airport and the project is located outside of those contours. There are no private airstrips located within the vicinity of the project. Because of the distance of the project site from the nearest airport, the project would not expose people residing or working in the area to excessive noise levels from aircraft operations and no impact would occur.

3.9 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

3.9.1 Environmental Setting

Tracy is one of the most rapidly growing cities in the California Central Valley. Between 1990 and 2010, the population increased by 147 percent from 33,558 to 82, 922 (City of Tracy 2013). According to the California Department of Finance, the City's population as of January 1, 2015, was 85,296 (DOF 2015). In January 2009, the City population was estimated to be 81,714, an increase of around 44 percent since the 2000 Census (City of Tracy 2012). The San Joaquin Council of Governments (SJCOG) projects that by the year 2035, the Tracy population will be 126,500 (SJCOG 2009).

The household population in the most recent U.S. Census in 2010 was 68,641 (U.S. Census Bureau 2015). The DOF estimates that, as of January 2012, there were 25,983 housing units in Tracy, of which approximately 6.3 percent were vacant (City of Tracy 2013). Currently, there is one residence within the project site inhabited by the Toste Family.

3.9.2 Discussion

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than significant. The project would entail the construction of 304 new residences and a 6,000 square-foot leasing and recreation area. Of the 304 residences, 120 would be one-bedroom units, 133 would be two-bedroom units, and 51 would be three-bedroom units. The project would provide housing for an estimated 670 persons. The project would result in a minor increase (i.e., less than one percent) in population in the City. Further, this growth would occur within an existing urbanized area that supports residential land use and where services and infrastructure are available to serve the proposed development and its residents. The project would not induce substantial growth in the City; therefore, this impact would be less than significant.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

Less than significant. The project site contains one residence at 2480 Toste Road. Implementation of the project would result in the demolition of the residence; however, displacement of one residence would not be considered substantial such that construction of replacement housing would be necessary. Therefore, this impact would be less than significant.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Less than significant. As discussed above, the project site contains one residence at 2480 Toste Road. Implementation of project would result in the demolition of the residence; however, removal of the residence would not displace a substantial number of people such that construction of replacement housing would be required. Therefore, this impact is less than significant.

3.10 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

3.10.1 Environmental Setting

FIRE

The South County Fire Authority (SCFA) operates seven fire stations. The existing stations are:

- Station #91 at 1701 West Eleventh Street, in western Tracy
- Station #92 at 22484 South 7th Street, in northeast Tracy
- Station #93 at 1400 West Durham Ferry Road, in new Jerusalem
- Station #94 at 16502 West Schulte Road, in Lammersville
- Station #96 at 301 West Grant Line Road, in northwest Tracy
- Station #97 at 595 West Central Avenue, in southern Tracy

The SCFA is staffed by 60 professional firefighters, 12 reserve firefighters, a fire chief, three division chiefs, ems manager, two civilian fire inspectors, and a two-person administrative support staff (TFD 2016).

POLICE

The project would be served by the Tracy Police Department (TPD) located at 1000 Civic Center Drive in Tracy, approximately 2.5 miles from the project site. In 2014, the TPD was staffed by 122 sworn and non-sworn personnel. With 83 sworn officers, the ratio of police per thousand residents in 2010 was 0.98 officers per 1,000 population (TPD 2014).

The TPD divides calls for service into four categories:

- Priority 1: Critical “In-Progress” crime against persons and property
- Priority 2: Serious crime again persons and property without imminent threat
- Priority 3: Non-emergency call
- Priority 4: Low priority non-emergency call

SCHOOLS

According to TUSD boundary maps (TUSD 2015), new elementary and middle school students residing at the project site are expected to attend Art Freiler Elementary School, and high school students would attend Merrill F. West High School (see Exhibit 3.14-1).

Art Freiler School is located at 2421 W. Lowell Ave and serves students in grades K through 8th. According to the Tracy Unified School District School Facilities Needs Analysis (August 7, 2015), Art Freiler School has a current capacity of 1,025 students. According to the California Department of Education, Education Demographics Unit, enrollment at Art Freiler School in the 2014 to 2015 school year was 967 students (CDE 2015).

Merrill F. West High School is located at 1775 W. Lowell Ave and serves students in grades 9th through 12th. West High School has a current capacity of 1,377 students (TUSD 2015b) and enrollment at West High School is at 2,102 students (CDE 2015).

PARKS

The closest public neighborhood parks to the project site are Bland (Clyde) Park, Galli Park, and Eagan Park (Exhibit 3.14-2). The parks are 8.65, 4.67, and 0.53 acres, respectively. Recreational facilities at Blank (Clyde) Park include restrooms, barbeques, walking paths, soccer and ball fields, basketball courts, and play areas. Galli Park contains restrooms, soccer and ball fields, play areas, and a bocce ball court. Eagan Park contains a play area and shade structure (City of Tracy 2012).

3.10.2 Discussion

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Less than significant. The project site is located approximately 0.5-mile from Station #96 on West Grantline Road. The close proximity of the fire station combined with roads of high accessibility indicates that project implementation would not affect the response times or service ratios of SFCA. Additional facilities would not be required following project implementation which includes payment of a Public Safety Development Impact Fee. This would be a less-than-significant impact.

Police protection?

Less than significant. The project would introduce approximately 670 residents to the City. With a population of 84,691 at the last 2010 census count, the addition of new project-related residents would increase this total to 85,361 persons. Assuming the number of sworn officers would remain the same, this addition of population would lower the service ratio of police per thousand residents from 0.98 to 0.97 officers per 1,000 population. While project implementation would reduce the service ratio of police to residents, the reduction would not be substantial such that police resources would be adversely affected. Further, the introduction of new residents associated with the project would be consistent with anticipated population growth; therefore, it is reasonable to assume that the TPD would increase its capacity to provide adequate services to the City and its future residents. This would be a less-than-significant impact.

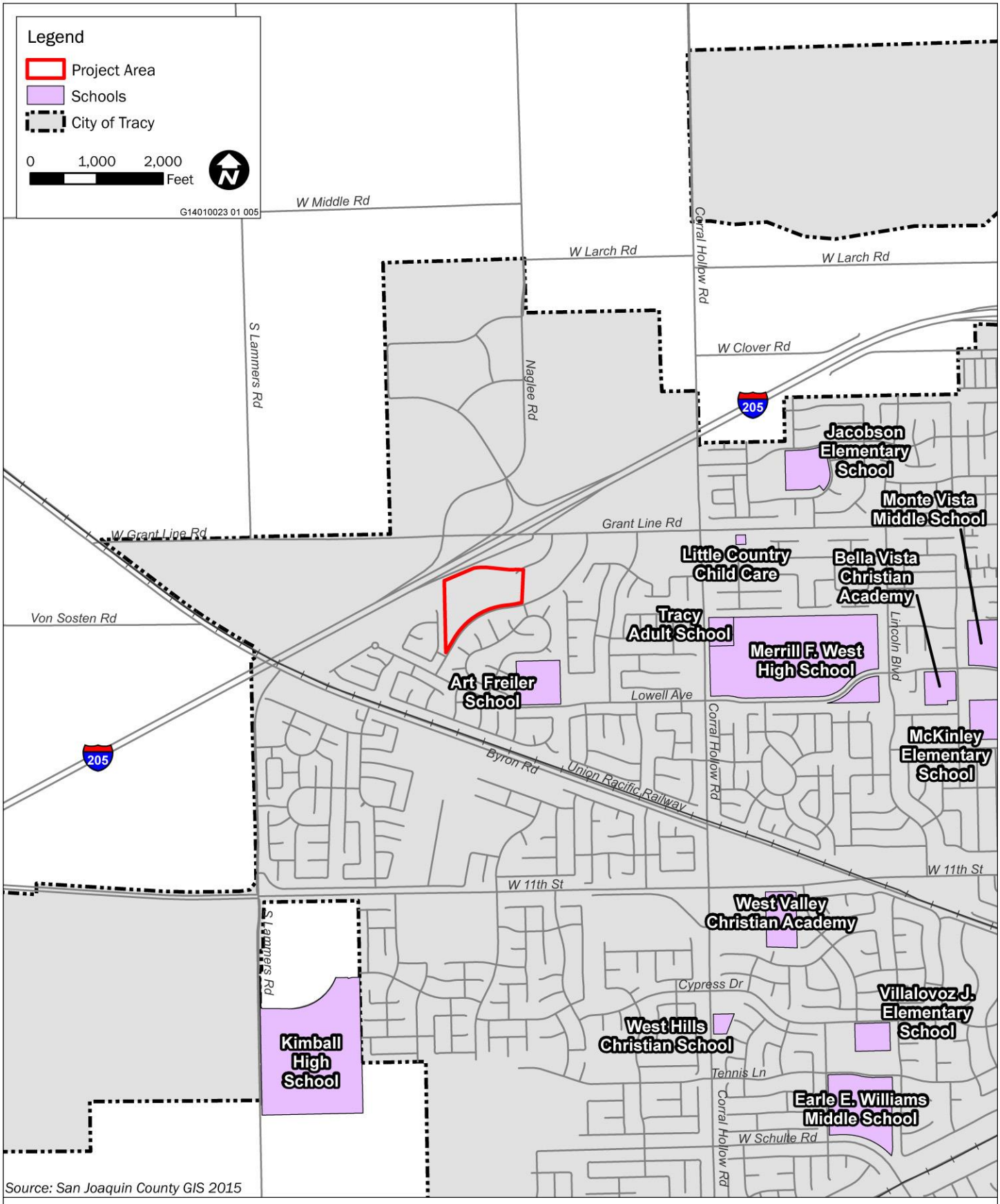


Exhibit 3.14-1 **Schools**

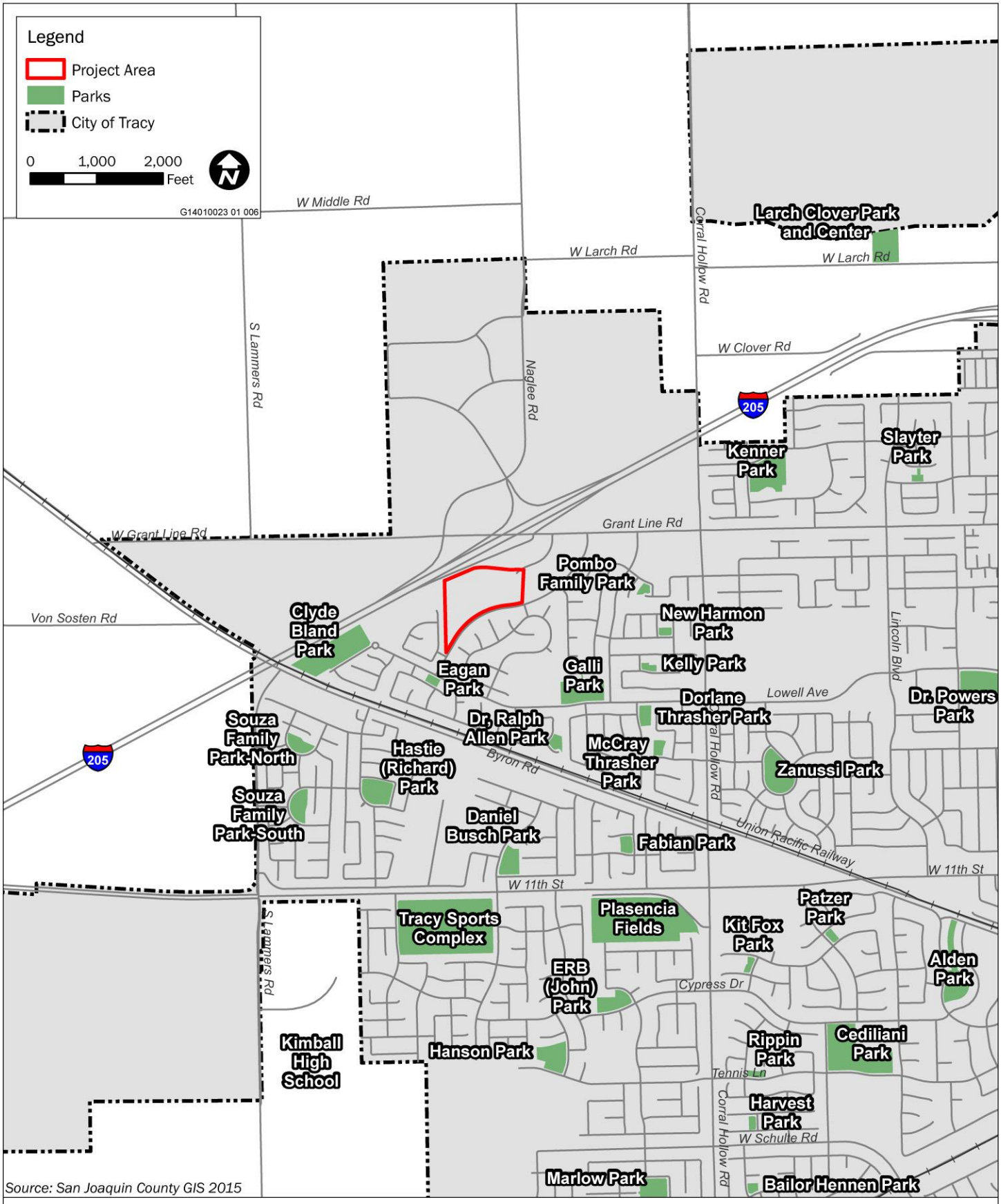


Exhibit 3.14-2 **Parks**

Schools?

Less than significant. Implementation of the project would result in population growth within the City of Tracy, which would likely increase enrollment at schools within the Tracy Unified School District (TUSD). TUSD estimates that 0.2289 elementary school students, 0.1060 middle school students, and 0.1089 high school students will be generated from each new multifamily attached ("MFA") residential unit constructed within the School District (TUSD 2015c). Using this generation factor, the project would be expected to generate an additional 153 elementary school students, 71 middle school students, and 73 high school students. The addition of these students would exceed the current capacity at Art Freiler School and at West High School.

According to the Facilities Master Plan the build-out projections of residential units currently planned within the School District boundaries (including the project), future school facilities, or expansion of existing facilities may be required.

TUSD performs needs analysis and adopts an annual budget allocating resources for new school facilities as they are warranted. The project does not trigger the need for a new school directly; however, it would contribute to existing capacity deficiencies within the TUSD service area. Any new school would require environmental review when it is proposed. The environmental review will determine if there would be an adverse physical impact associated with its construction.

TUSD collects impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service.

Under the provisions of SB 50, a project's impacts on school facilities are fully mitigated via the payment of the requisite new school construction fees established pursuant to Government Code Section 65995. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund improvements associated with school services. As such, the project's impacts to school services would be less than significant.

Parks?

Less than significant. While the project does not entail the construction of a consolidated public park, it would include park amenities including a 6,000 square-foot leasing and recreation center with a fitness center and entertainment room. Other recreational amenities include project design including a swimming pool and spa, community gardens, a tot lot play are, a dog park, a basketball court, and barbeque areas. Due to the availability of these resources, project implementation would not produce substantial demand on park facilities such that new or altered facilities would be required beyond payment of a Parks Development Impact Fee. The addition of project-related residents to the City would not adversely affect the service ratios for the City's park system. This impact would be less than significant. (See also Section 3.15, Recreation)

Other public facilities?

No impact. The project would not affect other public facilities. No impact would occur.

3.11 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

3.11.1 Environmental Setting

The City of Tracy has 335 acres of park land at 73 sites of three classifications: mini parks, neighborhood parks, and community parks. In addition to these parks, the City owns 228.5 acres at Holly Sugar that is not yet classified or designated for a specific type of park development. Current park service level is an average of 4.1 acres per 1,000 residents. The City has established the goal of maintaining a 4.0 acres per 1,000 residents service level. To achieve this ratio, approximately 154 acres of new park land will be needed (City of Tracy 2013). The City is in the process of constructing the Holly Sugar Sports Park (Legacy Fields) at the northern edge of the City, which will provide an additional 166 acres of sports parks, 86 acres of passive recreation area, and a 46-acre future expansion area for additional park facilities.

In addition to green spaces for active and passive recreation, the City operates several built facilities for the purpose of specialized recreation and education opportunities. These include the Tracy Community Center and Lolly Hansen Senior Center. The City does not operate a large-scale, multi-purpose indoor recreation facility.

3.11.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than significant. The project includes several recreational opportunities. The project would entail the construction of 304 new residences and a 6,000 square-foot leasing and recreation center with a fitness center and entertainment room. Other recreational amenities have been included in project design including a swimming pool and spa, community gardens, a tot lot play are, a dog park, a basketball court, and barbeque areas. Although the project design does not entail the construction of a public park, recreational features typically provided by a public park would be available. The project site's 670 residents (see Population and Housing) would potentially use existing neighborhood parks and regional parks. The General Plan has a parkland standard of four acres per 1,000 residents. In order to maintain this standard, the City requires new development projects to either include land dedicated for park uses, or to pay in-lieu fees towards the City's parks program. Chapter 13.12 of the Tracy Municipal Code states that, "all development projects shall be required to maintain the City standard of four (4) acres of park land per 1,000 population. All development projects, as a condition of approval of any tentative parcel map or tentative subdivision map, or as a condition of approval of any building permit, shall dedicate land to the City or pay a fee in lieu thereof, or a combination of both, in order to maintain this City standard. The precise obligation of any

development project to dedicate land or pay a fee pursuant to this section shall be incorporated in the implementing resolution for the park fee applicable to the development project."

The City of Tracy requires the payment of the project's fair share in-lieu parks fees, as required by the City's General Plan. The collection of fees and determined fair share fee amounts are adopted by the City as Conditions of Approval (COAs) for all new development projects prior to project approval. Fees paid aid in the development of new park-space and maintenance as required, to ensure continued high quality park facilities for all city residents. Given that the City maintains an ample and diverse range of park sites and park facilities, and collects fees from new development to fund the construction of new parks and the maintenance of existing parks, the additional demand for parks generated by the project would not result in the physical deterioration of existing parks and facilities within Tracy. As such, this is a less than significant impact and no mitigation is required

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than significant. As noted above, the project includes the construction of a clubhouse equipped with a fitness center and entertainment room, community gardens, a pool and spa, barbeque areas, a dog park, a tot lot play area, and a basketball court. Potential impacts associated with construction of the proposed on-site recreational facilities are addressed throughout this Initial Study and included in the project description. With the mitigation proposed in other sections, the impact related to recreational facilities is less than significant.

3.12 TRANSPORTATION/TRAFFIC

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

3.12.1 Environmental Setting

The following discussion and conclusions are based on the Harvest in Tracy *Transportation Impact Study* (Transportation Study) prepared by Fehr and Peers and dated August 2016 (Fehr and Peers 2016). This study is provided in Appendix B of this checklist. The Transportation Study was originally drafted in March 2016 using a project description with 300 multi-family dwelling units. The most recent project description has 304 multi-family dwelling units. This change in dwelling units would correspond to two (2) net new outbound AM peak hour and three (3) net new (1 outbound and 2 inbound) PM peak hour trips. This minor increase in the project's trip generating characteristics would not change the results documented in the Existing + Project Conditions and Cumulative + Project Conditions analysis.

The project site itself is undeveloped except for one residence that will be demolished with implementation of project. The site is located on the southeast corner of West Grant Line Road and I-205 in the City of Tracy, and is accessed via Toste Road and Henley Parkway. The intersection of Henley Parkway and Grant Line Road has an existing traffic signal. The access point closest to the regional freeway system (I-205) is located approximately 0.1-mile northeast of the site at West Grant Line Road. Detailed descriptions of these roadway facilities as well as transit, bicycle, and pedestrian facilities that provide access to the project site are provided below.

ROADWAY SYSTEM

The existing transportation system serving the project site includes the following roadways:

- **I-205** runs east west, connecting I-5 with I-580 in the San Joaquin Valley. I-205 lines the north side of the triangle around Tracy. In the study area, westbound I-205 has an off-ramp at Naglee Road, an on-ramp at Naglee Road, and an on-ramp at Grant Line Road. Eastbound I-205 has a tight diamond interchange at Grant Line Road. In the future, an additional loop ramp will be added to the eastbound diamond interchange. Throughout Tracy, I-205 has six lanes and a 65 mile per hour speed limit. In the future, I-205 will be expanded to eight lanes.

- **Grant Line Road** is an east-west road through the northern part of Tracy. Between Corral Hollow Road and the westbound I-205 on-ramp, Grant Line Road is six lanes, and then reduces to two lanes as it reaches Byron Road. There are sidewalks on both sides of Grant Line, except for west of Naglee Road, which only has sidewalks on the south side of the roadway. There are also bike lanes on each side of Grant Line Road east of Henley Parkway.

- **Corral Hollow Road** serves as a major arterial for north-south traffic. In the study area, Corral Hollow Road has sidewalks and bike lanes on both sides. There is also a wide median in the middle. Corral Hollow road is a four-lane road.

- **Henley Parkway** is a north-south road that provides access to a large residential neighborhood from Grant Line Road. Henley Parkway is a two-lane road, and would provide direct access to the project site with implementation of the project. There are Class II bike lanes on both sides of the street, but sidewalks are only on the east side of the street.

- **Lowell Avenue** traverses the south part of the study area as a two-lane, residential road. There are sidewalks and bike lanes on both sides of the road.

- **Byron Road** runs northwest and southeast as a two-lane, rural road. Currently, there are no sidewalks or bike lanes on this street. In the future, the intersection of Grant Line Road/Byron Road will have four legs.

EXISTING TRAFFIC VOLUMES

Traffic conditions were evaluated for the morning (6:30 a.m. to 8:30 a.m.) and evening (4:30 p.m. to 6:30 p.m.) mid-week peak periods. Intersection traffic counts were collected on January 26, 2016.A second set of counts was performed on July 20, 2016 to include the Bridle Creek Circle / Henley Parkway intersection. To study the differences between turning movements during the summer and turning movements during the school year, the Grant Line Road / Henley Parkway intersection was also counted July 20, 2016. The Bridle Creek Circle / Henley Parkway counts were scaled up based on these differences to reflect school year conditions. Existing peak hour traffic volumes, representing the highest one-hour volumes at each study intersection revealed that the morning peak hour in this area generally occurs between 7:30 a.m. and 8:30 a.m., and the afternoon peak hour generally occurs between 4:45 p.m. and 5:45 p.m.

EXISTING INTERSECTION OPERATIONS

Existing intersection delay and level of service (LOS) calculated for the study area are shown in Table 3.16-1. These data show the existing delay and LOS results at the study intersections. The intersection LOS criteria are described in Table 1 of the Transportation Study. The technical calculations are provided in Appendix A of the Transportation Study (Appendix B of this checklist).

Table 3.16-1 Intersection Level of Service – Existing Conditions

Intersection	Control	Minimum Acceptable LOS	AM Peak Hour		PM Peak Hour	
			Delay[1]	LOS	Delay[1]	LOS
1. Naglee Road / Pavilion Pkwy / I-205 WB Ramps	Signal	E	49.9	D	31.9	C
2. Grant Line Road / Byron Road	Signal	E	63.7	E	72.9	E
3. Grant Line Road / Naglee Road / I-205 WB On-Ramp	Signal	E	25.7	C	42.2	D
4. Grant Line Road / I-205 EB Ramps	Signal	E	33.9	C	39.7	D
5. Grant Line Road / Henley Pkwy	Signal	E	47.4	D	37.1	D
6. Grant Line Road / Corral Hollow Road	Signal	E	43.0	D	43.1	D
7. Lowell Ave / Henley Pkwy	SSSC[2]	E	2.9 (SB 11.8)	A (B)	5.6 (SB 10.9)	A (B)
8. Corral Hollow Road / Lowell Ave	Signal	E	50.6	D	26.4	C

Note: 1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for the overall intersection.

2. SSSC = Side-street stop-controlled intersection.

Source: Fehr & Peers 2016

As shown in Table 3.16-1, the Grant Line Road and Byron Road intersection has the highest levels of delay under existing conditions, and operates at LOS E during both the AM peak hour and the PM peak hour. Under the current General Plan, the City's LOS threshold is LOS D (i.e., LOS A through D are considered acceptable; LOS E and F are considered unacceptable); however, LOS E or lower is allowed on streets and at intersections within one-quarter mile of any freeway. The City also considers the addition of project trips to be significant if they would cause a delay increase of more than 5 seconds to an intersection already operating at an unacceptable level.

TRANSIT SYSTEM

The City of Tracy operates fixed-route bus and paratransit services with the TRACER bus system. In addition, San Joaquin Regional Transit District (SJRTD) operates several routes that pick up passengers in Tracy. The fixed routes all operate in central Tracy, and do not extend to the project site. However, TRACER operates two fixed route service adjacent to the study area. All routes operate Monday through Friday from 7:00 a.m.to 8:00 p.m., and Saturday from 9:00 a.m.to 7:00 p.m. TRACER does not offer service on Sundays.

TRACER currently operates the following routes near the project site:

- *Route A* – runs on Grant Line Road and heads north on Coral Hollow to go up to the West Valley Mall and Tracy Pavilion;
- *Route B* – connects West Valley Mall and Tracy Pavilion to residential neighborhoods in central Tracy; and
- *Commuter Route E* – runs by the Kaiser Medical Center by the Grant Line Road/Corral Hollow Road intersection, connecting Clyde Bland Park, Freiler Elementary School, West High School, Monte Vista Middle School, Duncan Russell High School, North Elementary School, and Jacobsen Elementary School.

The Transit Service Area incorporates most of the City of Tracy and is generally bounded by Lammers Road to the west, Larch Road and Arbor Avenue to the north, and Chrisman Road to the east.

SJRTD also provides intercity fixed route service between Tracy and Stockton. SJRTD operates the following route in Tracy:

- *Route 90* – runs from Stockton's Downtown Transit Center along 1-5 to Tracy, where it runs east-west along Grant Line Road, ending at the Wal-Mart just west of I-205. Route 90 operates on weekdays from 5:30 a.m. to 11:00 p.m. with eight trips staggered with 1-3 hour headways. Through the study area, Route 90 runs on Grant Line Road.

- Altamont Commuter Express (ACE) operates also commuter trains from San Jose to Stockton, stopping in Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara before researching San Jose. The ACE in Tracy is located on the northeast corner of the intersection of West Linne Road and Tracy Boulevard. It is in service Monday through Friday, and has three trains in the AM peak period, operating from 4:20 a.m. - 8:50 a.m., and three trains during the PM peak period, operating from 3:35 p.m. to 7:45 p.m. ACE does not run on the weekends.

BICYCLE/PEDESTRIAN SYSTEM

There are many bike lanes throughout the study area. Bike lanes are located on both sides of Grant Line Road east of Henley Parkway, and on Lowell Avenue, and Corral Hollow Road. In addition, Henley Parkway has Class II bike lanes on either side of the road.

Sidewalks are present throughout the study area, except for Byron Road and the west side of Henley Parkway. There are sidewalks on both sides of Grant Line Road west of the Tracy Pavilion, and just on the south side of the Grant Line Road west of the Costco shopping center.

3.12.2 Traffic Projections for the Project

PROJECT TRIP GENERATION

Table 3.16-2 details the trip generation rates used to estimate daily and peak hour trips for the project. Details regarding the derivation of assumptions used in the trip generation calculations are in Appendix B, Transportation Study.

The following trip generation rates were used:

- Average AM peak hour trip rate: 0.51 trips per dwelling unit
- Average PM peak hour trip rate: 0.62 trips per dwelling unit

PROJECT TRIP DISTRIBUTION & ASSIGNMENT

Project trips were distributed over the surrounding roadway network based on existing travel patterns and the locations of nearby complementary land uses. Existing traffic volumes at the study intersections were used to inform the trip distribution, as well as analysis of the project land uses, travel patterns, and nearby subdivisions with similar characteristics. Refer to Figure 4 in Appendix B, Transportation Study for details of assignment of project trips to the study intersections.

The project would construct two new driveways off of Henley Parkway into the project site, providing primary access and emergency access to the proposed development.

Table 3.16-2 Project Trip Generation Estimates

Land Use	Quantity[1]	Trip Generation Rates		Trips					
		AM Peak Hour	PM Peak Hour	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Multi-Family Housing	304 DU	0.51	0.62	31	124	155	123	66	189

Notes: [1] DU = dwelling units

Source: Fehr & Peers 2016

3.12.3 Discussion

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than significant. Under the current General Plan, the City's LOS threshold is LOS D; however, when a road segment is within one-quarter mile of a freeway, LOS E is allowed. Existing Plus Project intersection delay and LOS were calculated for the study intersections and compared to the existing operating conditions. The Grant Line Road/Byron Road intersection is operating at LOS E during the AM and PM peak hours under existing conditions, which is considered unacceptable by the City (Table 3.16-3).

Table 3.16-3 Intersection Level of Service – Existing Plus Project Conditions

Intersection	Control	Minimum Acceptable LOS	Existing Conditions				Existing plus Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Naglee Road / Pavilion Pkwy / I-205 WB Ramps	Signal	E	49.9	D	31.9	C	50.0	D	32.1	C
2. Grant Line Road / Byron Road [a]	Signal	E	**63.7**	**E**	**72.9**	**E**	**63.8**	**E**	**74.1**	**E**
2a. Grant Line Rd / Byron Rd [ac]	Signal	E	19.2	B	35.2	D	19.4	B	41.3	D
3. Grant Line Road / Naglee Road / I-205 WB On-Ramp	Signal	E	25.7	C	42.2	D	25.6	C	42.3	D
4. Grant Line Road / I-205 EB Ramps	Signal	E	33.9	C	39.7	D	35.5	D	41.6	D
5. Grant Line Road / Henley Pkwy	Signal	E	47.4	D	37.1	D	52.1	D	38.5	D
6. Grant Line Road / Corral Hollow Road	Signal	E	43.0	D	43.1	D	44.1	D	41.2	D
7. Lowell Ave / Henley Pkwy	SSSC[b]	E	2.9 (SB 11.8)	A (B)	5.6 (SB 10.9)	A (B)	3.2 (SB 12.2)	A (B)	5.7 (SB 11.3)	A (B)
7a. Lowell Ave / Henley Pkwy [c]	AWSC	E	8.6	A	8.3	A	8.7	A	8.4	A
8. Corral Hollow Road / Lowell Ave	Signal	E	50.6	D	26.4	C	51.7	D	28.3	C
9. Henley Pkwy/ Project Dwy	SSSC[b]	E	NA	NA	NA	NA	3.4 (SB 11.6)	A (B)	2.0 (SB 11.4)	A (B)
10. Bridle Creek Cir / Henley Pkwy	SSSC[b]	E	1.8 (NB 9.5	A (A)	1.7 (NB 9.0)	A (A)	1.3 (NB 10.3)	A (B)	1.3 (NB 9.1)	A (A)
10a. Bridle Creek Cir / Henley Pkwy [c]	AWSC	E	8.0	A	8.4	A	9.0	A	9.4	A

Source: Fehr & Peers 2017

Notes:

Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.

Bold, underlined text indicates unacceptable LOS

LOS Criteria: Within ¼ of mile of a freeway, LOS E shall be allowed.

[a] Shows the result when a second westbound right-turn lane is added to the intersection

[b] For side-street stop-controlled intersections, average delay is listed first followed by the delay for the worst approach.

[c] The City requested that these intersections be analyzed using an additional lane (2a) or different control types (7a and 10a).

The calculations show that all study area intersections would be at LOS D or better, except for the Grant Line Road/Byron Road intersection, which would continue to operate at LOS E during the AM and PM peak hours with and without the project. The City considers the addition of project trips to be significant if they would cause a delay increase of more than 5 seconds to an intersection already operating at an unacceptable level. The project would add 0.1 second of delay to the Grant Line Road/Byron Road intersection during the AM peak hour and 1.2 seconds of delay during the PM peak hour. Both would be well below the City's threshold of 5 seconds of delay. Therefore, the potential impacts related to intersection operations would be less than significant.

In addition, the project would construct pedestrian facilities within the development and along Henley Parkway, and would not conflict with or adversely affect performance standards of other transportation modes. Therefore, the project would not result in any significant impacts regarding the performance of the circulation system in the vicinity of the project site. This would be a less-than-significant impact.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than significant. The calculations for Existing Plus Project conditions in Table 3.16-3 show that all but one of the intersections would operate at LOS D or better. The Grant Line Road/Byron Road intersection is operating at LOS E during the AM and PM peak hours under existing conditions and would continue to operate at LOS E in the AM and PM peak hours with the project. The project would add 0.1 second of delay to the Grant Line Road/Byron Road intersection during the AM peak hour and 1.2 seconds of delay during the PM peak hour. Both would be well below the City's threshold of 5 seconds of delay. Based on the City's criteria for determination of significant impacts, the project would result in a less-than-significant impact.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No impact. The nearest airport is Tracy Municipal Airport, located 5 miles southeast of the project site. The project would have no effect on air traffic patterns, because no structures of substantial height would be constructed. There would be no impact.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant. The project would create two new driveways on Henley Parkway that would serve as access points for the subdivision. The new main driveway off of Henley Parkway would allow full access entering and egressing the project site. An additional emergency access would be created to the project site, approximately 460 feet southwest of the main access point (measured from center to center). Adequate sight distance must be ensured so that vehicles may safely enter and exit the site through both driveways. Assuming a design speed of 40 miles per hour on Henley Parkway, the sight distance required for all maneuvers in and out of both new driveways is 440 feet, according to the Caltrans *Highway Design Manual* (2015). Currently, there are no obstructions within this distance of either the main driveway or emergency access driveway. Each driveway provides more than the required 440 feet of sight distance for vehicles exiting the project driveways. The sight distance analysis for the project site is provided in Appendix E to the Transportation Study (Appendix B to this checklist).

Because the project generates a relatively small number of peak hour trips (155 trips in the AM peak hour and 196 in the PM peak hour), the Transportation Study, provided in Appendix B concludes that no operational issues are anticipated at the project driveways under normal conditions. Therefore, the proposed site plan for vehicular access is sufficient. This would be a less-than-significant impact.

e) Result in inadequate emergency access?

Less than significant. The Transportation Study used AutoTURN software to ensure there would be adequate emergency access to and throughout the project site. The Transportation Study concluded that there would adequate area for ingress and egress of an emergency vehicle within the project site and at the emergency access driveway. Therefore, the project would provide adequate emergency access on-site and to the project site. This impact would be **less than significant**.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less than significant. The project would expand the existing residential community that exists in this area of Tracy. Currently there are sidewalks opposite of the project site on Henley Parkway, and bicycle lanes on both sides of Henley Parkway. The project would include pedestrian facilities along Henley Parkway, and within the project site. The pedestrian network would encourage residents to walk to the nearby destinations like the commercial developments on Grant Line Road. In addition, the project would not interfere with any transit services. Therefore, the project would not conflict with any adopted policies or programs for transit or pedestrian facilities. This would be a less-than-significant impact.

3.13 UTILITIES AND SERVICE SYSTEMS

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**Utilities and Service Systems. Would the project:**				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☒	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

3.13.1 Environmental Setting

Unless otherwise noted, the following setting information is summarized from the City of Tracy General Plan, Chapter 8, Public Facilities and Services, February 1, 2011 (City of Tracy 2011a).

WASTEWATER

The project would be serviced by the City wastewater collection system, which consists of gravity sewer lines, pump stations, force mains, and a wastewater treatment plant (WWTP). Wastewater flows toward the northern part of the City where it is treated at the WWTP and discharged into the Old River in the southern Sacramento-San Joaquin Delta. The WWTP is located north of I-205 and between MacArthur Drive and Holly Drive. The WWTP was constructed in 1930 and has undergone several major expansions. In 2004, the WWTP had a design capacity of 9.0 million gallons per day (mgd). The WWTP is currently under phased expansion to increase capacity to 16.0 mgd and provide tertiary treatment meeting Title 22 Requirements (City of Tracy 2011a: 7-30).

According to the City of Tracy Citywide Water System Master Plan/Tracy Wastewater Master Plan, the project site exists within the I-205 Corridor Specific Plan (City of Tracy 2012). The development generates approximately 1.20 mgd of sewage.

The City WWTP has a National Pollution Discharge Elimination System (NPDES) permit that allows the City to discharge up to 10.8 mgd average dry weather flow (ADWF) of treated effluent to the Old River. The permit, which was administered by the San Joaquin Regional Water Quality Control Board (SJRWQCB) prescribes the maximum allowable discharge rate, effluent quality requirements, discharge prohibitions, receiving water limitations, pretreatment program requirements, bio-solids disposal requirements, and self-monitoring requirements (CRWQCB 2012).

The WWTP provides secondary-level treatment followed by disinfections. It contains a system of primary clarifiers, bio-towers, and trickling filters, coupled with an activated sludge process, which treats the wastewater. After treatment, wastewater is disinfected and dechlorinated and then conveyed by a 3.5-mile 33-inch outfall pipeline to a submerged diffuser for discharge into the Old River. The outfall is designed to carry a peak flow of about 22.0 mgd (City of Tracy 2011a: 7-31).

Waste solids from the wastewater treatment processes are collected and conveyed to the solids handling facilities so that biosolids can be conditioned for disposal. The treatment process for solids includes thickening, digestion, and dewatering to remove organics and inactive pathogens and reduce the volume of solids to be disposed. Dried bio-solids are hauled off-site and used for land application for disposal as alternative daily cover at landfills. This off-site hauling and disposal practice is expect to continue (City of Tracy 2011a: 7-32).

The City also engages in non-potable water recycling for industrial use and landscape irrigation (e.g., medians, parks). The City has developed multiple water supplies identified in the City's Urban Water Management Plan and is developing a recycled/non-potable supply system in order to increase the availability of potable water for potable demand needs (City of Tracy 2011a: 7-24).

WATER

The project site is located within the service area for the City, where the City provides potable water to residents and businesses. The City maintains approximately 23,000 metered service connections for single-family and multi-family residential users, commercial or industrial users, and landscaping. The City obtains its drinking water from both surface and groundwater sources. Groundwater is sourced by the Tracy Aquifer in the San Joaquin Valley groundwater basin, and surface water is provided by the Stanislaus River and the Delta-Mendota Canal (City of Tracy 2011a: 7-21, 7-22).

The City's existing waste system facilities include a water treatment plant, pump stations, wells, water mains, and storage reservoirs. The John Jones Water Treatment Plant (JJWTP) processes water from the Delta Mendota Canal (DMC) and distributes it to the City. The JJWTP has the capacity to treat 30 mgd. The City also operates nine groundwater wells that pump from the groundwater aquifer with a total reliable capacity of 15 mgd. The City water service is provided over an area with significant changes in elevation; therefore, the City has established three pressure zones for its treated water distribution systems. The three zones total over 390 miles of water mains. The pipes vary in diameter up to 36 inches. The age of the pipes also varies, dating back to between 1910 and the present (City of Tracy 2011a: 7-23).

The City also supports five storage reservoirs. Three are adjacent to the JJWTP with a total storage capacity of approximately six million gallons (mg). An additional reservoir is located at the Northeast Industrial reservoir with a capacity of 2.2 mg. Another storage reservoir is located on Linne Road and has a capacity of 7.2 mg (City of Tracy 2011a: 7-24).

According to the 2010 Urban Water Management Plan prepared pursuant to the Urban Water Management Planning Act (Water Code Section 10610-10656), the City's annual water demand in 2010 was 17,900 acre

feet per year (afy) with an average of 212 gallons per capita per day (GPCD) in 2007. The plan estimates that by the year 2035, the City will have a future demand of 33,600 afy (City of Tracy 2011b). Although water demand is projected to increase due to population growth, efficient practices (e.g., recycled water) are expected to be incorporated into City water management. Further, the City is working to reduce per capita water usage in accordance with the Water Conservation Act of 2009 and the 20X2020 Water Conservation Plan (State Senate Bill x7-7).

STORM DRAINAGE

The City's drainage system is managed by the City's Public Works Department. Stormwater drains through open channels, storm drains, and closed conduits that are owned, operated, and maintained by the City and the West Side Irrigation District (WSID). These systems drain into three outfalls: the WSID Main Drain, the Westside Channel Outfall System (discharges into Old River via a force main), and the Sugar Cut Outfall. The Sugar Cut Outfall system serves two areas, Central Tracy and the eastside industrial area. Both areas have their own outfall systems. These three outfalls discharge storm runoff into Old River which is part of the Sacramento-San Joaquin Delta. Pump stations are used to move water over grades; however, the majority of the system is gravity operated. The City utilizes detention basins at many locations to store and meter discharges before they are released into outfall facilities (City of Tracy 2011a: 7-36).

SOLID WASTE

The City contracts with Tracy Disposal Service, a private company, for solid waste collection and disposal. Solid waste is conveyed to the Tracy Material Recovery Facility (MRF) and Transfer Station on South MacArthur Drive before it is sent to the Foothill Sanitary Landfill on Shelton Road. The MRF is operated by Tracy Material Recovery and Solid Waste Transfer, Inc., and has a daily intake capacity of 1,000 tons. On average, the MRF takes in 354 tons per day, 304 tons, of which, originate in the City. The transfer site is approximately 40 acres. In 2001, the total amount of solid waste generated by the City was 70,777 tons (or 15,358 cubic yards). The average residential solid waste generation rate that year was 4.32 pounds per person per day (PPD). Currently, the permitted capacity of the Foothill Landfill is 102 million cubic yards. The remaining capacity of the facility is approximately 95 million cubic yards. Using California Department of Resources Recycling and Recovery (CalRecycle 2017) factors (0.22 tons equals 1 cubic yard of mixed solid waste), the estimated population of Tracy in 2035 (126,500) would generate about 21,600 cubic yards of solid waste per year. At this rate, the landfill would still have capacity to serve the City of Tracy well beyond 2035. Assuming that this larger rate was used for the 34 years between 2001 and 2035, the total waste generated during that time would be approximately 735,800 cubic feet, leaving plenty of remaining capacity until the facility is expected to close in 2054 (City of Tracy 2011a: 7-17).

The City also provides recycling services to its residents and businesses. In coordination with Tracy Disposal Service, the City provides curbside residential collection if recyclable materials. Acceptable materials include glass containers, tin and aluminum cans, all plastics, plastic milk cartons, newsprint, boxboard, corrugated cardboard, bond paper, and magazines. The City also sustains supplemental recycling programs such as an electronics waste program, a tire recycling program, and a twice-per-year residential clean-up programs for large items and debris (City of Tracy 2011a: 7-18).

The City runs a bi-weekly leaf and yard waste collection program. In 2001, total curbside composting was reported at 10,292 tons per year (City of Tracy 2011a: 7-19).

3.13.2 Discussion

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than significant. As noted above, the City wastewater is treated at the City WWTP. The City is in the process of upgrading the WWTP to increase treatment capacity and meet the standards of Title 22 for aboveground landscape irrigation and should be completed phases beginning in 2017.The WWTP currently meets the wastewater treatment requirements of the SJRWQCB, and project implementation would not produce a new source of wastewater such that the WWTP would exceed these requirements. This would be a less-than-significant impact.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant. *Potable water treatment:* According to a technical memo prepared by Black Water Consulting Engineers, the existing potable water system is adequate to deliver average day, maximum day demands, maximum day plus fire flow, and peak hour demands for the Project (Blackwater 2016). The City has adequate water treatment capacity to serve to projected water demand. The project is estimated to use 91 afy based on a unit water demand factor of 220 gpd. The JJWTP has the capacity to treat approximately 30 mgd. While the project would contribute to the overall demand for treated water, under present water use demand rates, the project would not require construction of new water treatment facilities or expansion of existing facilities. Additionally, potable water demand is projected to decrease because of water conservation efforts.

The project site is located in an area of the City where water supply infrastructure has been installed. The project would be connected to the existing City water distribution system by four existing connections. Overall, impacts would be **less than significant**.

Wastewater treatment:

As of January 2015, the City had an unused capacity of approximately 4,200 EDU's (Equivalent Dwelling Units, equal the wastewater demand generated by a single-family residence) within its wastewater treatment plant (WWTP), available to new development within the City on a first-come, first-served basis. These EDU's are currently available to serve the proposed project, which would generate a wastewater demand of approximately 204 EDU's (53,808 gallons per day).

As described above, the project site is located within an established wastewater service area. The project would extend service onto the project site. As other development projects within the City come forward, and building permits are issued, the remaining capacity will be reduced. Accordingly, as noted above and to ensure that capacity at the WWTP is available and sufficient to respond to planned future development demands, the City is proceeding with the next phase of expansion of the WWTP, which has been approved by the City.

The project developer would be required to pay sewer impact fees at time of building permit issuance, ensuring fair-share contribution towards the future WWTP expansion project. With this condition of approval, impacts related to City sewer services will be less than significant.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant with mitigation incorporated. The project would construct post-construction stormwater controls including detention basins to reduce the volume or improve the quality of runoff. Treatment controls are required by the City's NPDES permit for residential subdivisions of 10 housing units or more. The

environmental effects of and mitigation measures required for construction of storm water drainage facilities are addressed under Section 3.9, Hydrology, of this initial study. Mitigation Measure Hydro-1 (described previously) would reduce the potential impact to less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than significant. The project has an estimated annual potable water demand of 91 acre-feet per year. According to the 2010 UWMP (Table 23), the City was estimated to have as little as 1,350 acre-feet of water supply remaining in 2015 and 700 acre-feet of available potable water supply remaining in 2020. This provides enough capacity to serve this project. While the population in the City of Tracy is expected to continue to increase, the City is also working to incorporate water efficiency measures that will allow them to reduce per-capita water usage. Because there is adequate water supply and treatment capacity to serve projected demand under present per capita demand rates (212 GPCD in 2010), the project would not require new water supply contracts to be secured. While the project would contribute to overall demand for treated water, the project would not require new or expanded water supply entitlements. This would be a less-than-significant impact.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

See discussion above, under b)

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than significant. The project would have a population of approximately 670 (see discussion under population and housing). Using estimates from the above discussion, an average of 4.32 PPD per capita of solid waste would be approximately 1.45 tons per day for the whole of the project, or less than one percent of the daily solid waste generated by the City.

Foothill Landfill is estimated to have adequate capacity to serve the City until the year 2054. Therefore, while the project would contribute to the overall volume of solid waste take to the landfill, it would have sufficient capacity to accommodate the project's solid waste disposal needs. This would be a less-than-significant impact.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than significant. The project would not generate hazardous waste or waste other than common household solid waste. As described above, there is adequate landfill capacity to serve the project, and the project will comply with all applicable statutes and regulations related to solid waste. This is a less-than-significant impact.

3.14 MANDATORY FINDINGS OF SIGNIFICANCE

	ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	**Mandatory Findings of Significance.**				
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.
Public Resources Code Sections 21080, 21083.5, 21095; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

3.14.1 Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Less than significant with mitigation incorporated. As described throughout the analysis above, the project would not result in any significant impacts that would substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal to the environment. All potentially significant impacts related to plant and animal species would be mitigated to a less than significant level. The project would be required to implement mitigation measures aimed at protecting special status species (Mitigation Measures BIO-1 and BIO-2), which require the applicant to seek coverage under the SJMSCP and to avoid or mitigate for the disturbance of nesting birds. Through the full

mitigation of biological impacts, the project would not result in any cumulative impacts, related to biological resources. These are less than significant impacts.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than significant with mitigation incorporated. As described throughout the analysis above, the project would not result in any significant individual or cumulative impacts that would not be mitigated to less-than-significant levels. Biological resources are addressed in a), above. Some topics are intrinsically site-specific. In the case of these topics, by showing that an impact is less than significant with or without mitigation, the analysis shows that the project would not provide a substantial contribution to a cumulatively considerable impact. These topics include aesthetics, agriculture and forest resources, cultural resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, noise and vibration, and population and housing.

Other topics address potential contributions to a cumulatively considerable impact through their analysis. The topics which addressed whether the project would have a cumulatively considerable impact on a significant impact include air quality, greenhouse gas emissions, hydrology and water quality, public services, recreation, transportation/traffic, and utilities and services systems. The above analyses found that potential contribution to a cumulatively considerable impact was either less than significant or could be reduced to less than significant with mitigation.

Therefore, these are less-than-significant impacts.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Less than significant with mitigation incorporated. As described throughout the analysis above, the project would not result in any significant impacts that would have environmental effects which will cause substantial adverse effects on humans. The analysis in the relevant sections above provides standards and mitigation measures to reduce any potentially significant impacts on humans to less than significant levels. A variety of mitigation measures including those related to air quality, cultural resources, geotechnical hazards, hazardous materials, stormwater, and noise, ensure any adverse effects on humans are reduce to an acceptable standard. Therefore, these are less-than-significant impacts.

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Appendix A

AQ/GHG Calculations

Harvest in Tracy Project IS/MND

San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	217.00	Space	1.95	86,800.00	0
Health Club	5.50	1000sqft	0.13	5,500.00	0
Condo/Townhouse	300.00	Dwelling Unit	18.75	346,587.00	662

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	307	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE emissions factor based on operational year of 2019

Land Use - Input from site plan

Construction Phase -

Demolition -

Grading - 18 acre project site

Architectural Coating - See Architectural Coating Assumptions and Calculations excel sheet

Vehicle Trips - 6.65 daily trip rate from Fehr and Peers; Health Club is part of development and for use by residents only, not trip generating

Vechicle Emission Factors - Updated emissions factors based on EMFAC modeling

Vechicle Emission Factors -

Woodstoves - No fireplaces

Area Coating - See Architectural Coating Assumptions and Calculations excel spreadsheet

Energy Use - Reduced based on Title 24 Standards (2013) Residential reductions: 36.4% electric, 6.5% gas; Other Land Use Reductions: 22% electric, 17% gas

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	4,052.00	7,784.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	12,156.00	8,250.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	233,946.00	240,022.00
tblAreaCoating	Area_Nonresidential_Interior	12156	8250
tblAreaCoating	Area_Residential_Exterior	233946	240022
tblConstructionPhase	PhaseEndDate	11/11/2016	11/10/2016
tblConstructionPhase	PhaseStartDate	10/29/2016	10/28/2016
tblEnergyUse	T24E	301.15	192.13
tblEnergyUse	T24E	2.02	1.58
tblEnergyUse	T24NG	18,960.80	17,728.35
tblEnergyUse	T24NG	19.55	16.23
tblFireplaces	NumberGas	165.00	0.00
tblFireplaces	NumberNoFireplace	135.00	0.00
tblGrading	AcresOfGrading	87.50	17.91

tblGrading	AcresOfGrading	0.00	17.91
tblLandUse	LandUseSquareFeet	300,000.00	346,587.00
tblLandUse	Population	952.00	662.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	307
tblProjectCharacteristics	OperationalYear	2014	2019
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tblVehicleEF	HHD	1.22	0.75
tblVehicleEF	HHD	65.15	0.19
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tblVehicleEF	HHD	52.55	0.58
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tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDT2	3.4600e-003	3.3470e-003
tblVehicleEF	LDT2	1.5270e-003	1.5390e-003
tblVehicleEF	LDT2	3.2070e-003	3.0950e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.14	0.15
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.54	0.58
tblVehicleEF	LDT2	0.22	0.25
tblVehicleEF	LDT2	4.5250e-003	4.5270e-003
tblVehicleEF	LDT2	1.0610e-003	1.0670e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.14	0.15
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.54	0.58
tblVehicleEF	LDT2	0.23	0.27
tblVehicleEF	LHD1	1.1130e-003	1.1170e-003
tblVehicleEF	LHD1	0.02	0.02

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.16	1.93
tblVehicleEF	LHD1	1.51	1.54
tblVehicleEF	LHD1	3.90	2.52
tblVehicleEF	LHD1	8.36	129.22
tblVehicleEF	LHD1	723.43	706.98
tblVehicleEF	LHD1	34.06	26.12
tblVehicleEF	LHD1	0.04	2.0000e-003
tblVehicleEF	LHD1	0.08	1.38
tblVehicleEF	LHD1	1.40	2.48
tblVehicleEF	LHD1	1.04	0.88
tblVehicleEF	LHD1	8.3400e-004	0.02
tblVehicleEF	LHD1	0.05	0.08
tblVehicleEF	LHD1	9.6350e-003	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	8.4700e-004	9.3500e-004
tblVehicleEF	LHD1	7.6700e-004	0.01
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.4090e-003	2.5380e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8100e-004	8.6200e-004
tblVehicleEF	LHD1	2.5090e-003	0.04
tblVehicleEF	LHD1	0.07	0.09
tblVehicleEF	LHD1	0.03	0.23
tblVehicleEF	LHD1	1.1240e-003	0.02
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.49	0.60
tblVehicleEF	LHD1	0.32	0.26

tblVehicleEF	LHD1	9.2000e-005	1.2870e-003
tblVehicleEF	LHD1	7.7760e-003	6.9380e-003
tblVehicleEF	LHD1	4.4100e-004	3.0900e-004
tblVehicleEF	LHD1	2.5090e-003	0.04
tblVehicleEF	LHD1	0.07	0.09
tblVehicleEF	LHD1	0.03	0.31
tblVehicleEF	LHD1	1.1240e-003	0.02
tblVehicleEF	LHD1	0.18	0.21
tblVehicleEF	LHD1	0.49	0.60
tblVehicleEF	LHD1	0.34	0.29
tblVehicleEF	LHD1	1.1130e-003	1.1170e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	1.55	1.70
tblVehicleEF	LHD1	2.75	2.89
tblVehicleEF	LHD1	8.36	8.49
tblVehicleEF	LHD1	723.43	735.34
tblVehicleEF	LHD1	34.06	34.52
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.32	1.43
tblVehicleEF	LHD1	0.98	1.00
tblVehicleEF	LHD1	8.3400e-004	8.4100e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	8.4700e-004	9.2800e-004
tblVehicleEF	LHD1	7.6700e-004	7.7300e-004

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tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8100e-004	8.5400e-004
tblVehicleEF	LHD1	6.2210e-003	6.4480e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.3950e-003	2.4570e-003
tblVehicleEF	LHD1	0.15	0.17
tblVehicleEF	LHD1	0.48	0.49
tblVehicleEF	LHD1	0.26	0.28
tblVehicleEF	LHD1	7.7770e-003	7.7810e-003
tblVehicleEF	LHD1	4.2100e-004	4.2300e-004
tblVehicleEF	LHD1	6.2210e-003	6.4480e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.3950e-003	2.4570e-003
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.48	0.49
tblVehicleEF	LHD1	0.28	0.30
tblVehicleEF	LHD1	1.1130e-003	1.1170e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	1.48	1.63
tblVehicleEF	LHD1	5.13	5.40
tblVehicleEF	LHD1	8.36	8.49
tblVehicleEF	LHD1	723.43	735.34
tblVehicleEF	LHD1	34.06	34.52

tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.44	1.56
tblVehicleEF	LHD1	1.10	1.13
tblVehicleEF	LHD1	8.3400e-004	8.4100e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	8.4700e-004	9.2800e-004
tblVehicleEF	LHD1	7.6700e-004	7.7300e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8100e-004	8.5400e-004
tblVehicleEF	LHD1	8.2300e-004	8.3700e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.15	0.16
tblVehicleEF	LHD1	0.54	0.55
tblVehicleEF	LHD1	0.38	0.40
tblVehicleEF	LHD1	7.7760e-003	7.7790e-003
tblVehicleEF	LHD1	4.6200e-004	4.6600e-004
tblVehicleEF	LHD1	8.2300e-004	8.3700e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.17	0.19
tblVehicleEF	LHD1	0.54	0.55
tblVehicleEF	LHD1	0.41	0.43
tblVehicleEF	LHD2	7.9400e-004	7.9600e-004
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	8.4080e-003	9.0780e-003
tblVehicleEF	LHD2	0.12	1.59
tblVehicleEF	LHD2	1.03	0.95
tblVehicleEF	LHD2	1.83	1.32
tblVehicleEF	LHD2	9.27	196.77
tblVehicleEF	LHD2	608.14	734.83
tblVehicleEF	LHD2	18.72	19.96
tblVehicleEF	LHD2	5.9310e-003	1.0000e-003
tblVehicleEF	LHD2	0.14	1.74
tblVehicleEF	LHD2	1.97	1.99
tblVehicleEF	LHD2	0.52	0.48
tblVehicleEF	LHD2	1.4670e-003	0.02
tblVehicleEF	LHD2	0.07	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	LHD2	3.6800e-004	4.6700e-004
tblVehicleEF	LHD2	1.3500e-003	0.02
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	2.6880e-003	2.7010e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3900e-004	4.3000e-004
tblVehicleEF	LHD2	1.1250e-003	0.02
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.19
tblVehicleEF	LHD2	5.1600e-004	8.3010e-003
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tblVehicleEF	LHD2	0.21	0.27
tblVehicleEF	LHD2	0.15	0.13

tblVehicleEF	LHD2	9.9000e-005	1.9160e-003
tblVehicleEF	LHD2	6.4490e-003	7.1440e-003
tblVehicleEF	LHD2	2.3600e-004	2.2400e-004
tblVehicleEF	LHD2	1.1250e-003	0.02
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.25
tblVehicleEF	LHD2	5.1600e-004	8.3010e-003
tblVehicleEF	LHD2	0.16	0.17
tblVehicleEF	LHD2	0.21	0.27
tblVehicleEF	LHD2	0.16	0.14
tblVehicleEF	LHD2	7.9400e-004	7.9600e-004
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.4080e-003	9.0780e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	1.05	1.14
tblVehicleEF	LHD2	1.30	1.39
tblVehicleEF	LHD2	9.27	9.42
tblVehicleEF	LHD2	608.14	618.38
tblVehicleEF	LHD2	18.72	18.97
tblVehicleEF	LHD2	5.9310e-003	5.9380e-003
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	1.87	2.03
tblVehicleEF	LHD2	0.49	0.50
tblVehicleEF	LHD2	1.4670e-003	1.4750e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	3.6800e-004	4.1700e-004

tblVehicleEF	LHD2	1.3500e-003	1.3570e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	3.3900e-004	3.8300e-004
tblVehicleEF	LHD2	2.7860e-003	2.9840e-003
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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0980e-003	1.1540e-003
tblVehicleEF	LHD2	0.14	0.15
tblVehicleEF	LHD2	0.21	0.22
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	6.4490e-003	6.4540e-003
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tblVehicleEF	LHD2	2.7860e-003	2.9840e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.0980e-003	1.1540e-003
tblVehicleEF	LHD2	0.16	0.17
tblVehicleEF	LHD2	0.21	0.22
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	7.9400e-004	7.9600e-004
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.4080e-003	9.0780e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	1.03	1.12
tblVehicleEF	LHD2	2.39	2.57
tblVehicleEF	LHD2	9.27	9.42
tblVehicleEF	LHD2	608.14	618.38

tblVehicleEF	LHD2	18.72	18.97
tblVehicleEF	LHD2	5.9310e-003	5.9380e-003
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tblVehicleEF	LHD2	2.01	2.18
tblVehicleEF	LHD2	0.55	0.57
tblVehicleEF	LHD2	1.4670e-003	1.4750e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	3.6800e-004	4.1700e-004
tblVehicleEF	LHD2	1.3500e-003	1.3570e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	3.3900e-004	3.8300e-004
tblVehicleEF	LHD2	3.7500e-004	3.9100e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	2.3000e-004	2.3500e-004
tblVehicleEF	LHD2	0.14	0.15
tblVehicleEF	LHD2	0.24	0.25
tblVehicleEF	LHD2	0.18	0.19
tblVehicleEF	LHD2	6.4490e-003	6.4530e-003
tblVehicleEF	LHD2	2.4600e-004	2.4900e-004
tblVehicleEF	LHD2	3.7500e-004	3.9100e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	2.3000e-004	2.3500e-004
tblVehicleEF	LHD2	0.16	0.17

tblVehicleEF	LHD2	0.24	0.25
tblVehicleEF	LHD2	0.19	0.20
tblVehicleEF	MCY	32.18	23.73
tblVehicleEF	MCY	10.73	10.05
tblVehicleEF	MCY	159.95	167.76
tblVehicleEF	MCY	39.78	48.51
tblVehicleEF	MCY	6.3500e-003	0.01
tblVehicleEF	MCY	1.28	1.20
tblVehicleEF	MCY	0.31	0.32
tblVehicleEF	MCY	0.04	0.01
tblVehicleEF	MCY	8.0000e-003	4.0000e-003
tblVehicleEF	MCY	4.5000e-004	1.7510e-003
tblVehicleEF	MCY	1.1010e-003	4.0330e-003
tblVehicleEF	MCY	0.02	5.0400e-003
tblVehicleEF	MCY	2.0000e-003	1.0000e-003
tblVehicleEF	MCY	3.7400e-004	1.6460e-003
tblVehicleEF	MCY	9.0500e-004	3.8200e-003
tblVehicleEF	MCY	0.95	2.61
tblVehicleEF	MCY	0.43	0.91
tblVehicleEF	MCY	0.46	1.36
tblVehicleEF	MCY	3.11	2.38
tblVehicleEF	MCY	1.35	2.50
tblVehicleEF	MCY	2.21	2.29
tblVehicleEF	MCY	2.3410e-003	2.1310e-003
tblVehicleEF	MCY	6.7000e-004	7.1700e-004
tblVehicleEF	MCY	0.95	2.61
tblVehicleEF	MCY	0.43	0.91
tblVehicleEF	MCY	0.46	1.36

tblVehicleEF	MCY	3.39	2.88
tblVehicleEF	MCY	1.35	2.50
tblVehicleEF	MCY	2.37	2.49
tblVehicleEF	MCY	31.65	32.57
tblVehicleEF	MCY	8.88	8.87
tblVehicleEF	MCY	159.95	160.76
tblVehicleEF	MCY	39.78	40.98
tblVehicleEF	MCY	6.3500e-003	6.3050e-003
tblVehicleEF	MCY	1.11	1.11
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	4.5000e-004	5.0600e-004
tblVehicleEF	MCY	1.1010e-003	1.2360e-003
tblVehicleEF	MCY	3.7400e-004	4.1700e-004
tblVehicleEF	MCY	9.0500e-004	1.0060e-003
tblVehicleEF	MCY	2.55	2.57
tblVehicleEF	MCY	0.69	0.70
tblVehicleEF	MCY	1.34	1.35
tblVehicleEF	MCY	3.02	3.04
tblVehicleEF	MCY	1.28	1.34
tblVehicleEF	MCY	1.82	1.83
tblVehicleEF	MCY	2.3300e-003	2.3260e-003
tblVehicleEF	MCY	6.2900e-004	6.3500e-004
tblVehicleEF	MCY	2.55	2.57
tblVehicleEF	MCY	0.69	0.70
tblVehicleEF	MCY	1.34	1.35
tblVehicleEF	MCY	3.29	3.32
tblVehicleEF	MCY	1.28	1.34
tblVehicleEF	MCY	1.96	1.97

tblVehicleEF	MCY	35.18	36.25
tblVehicleEF	MCY	12.89	12.80
tblVehicleEF	MCY	159.95	160.76
tblVehicleEF	MCY	39.78	40.98
tblVehicleEF	MCY	6.3500e-003	6.3050e-003
tblVehicleEF	MCY	1.39	1.40
tblVehicleEF	MCY	0.34	0.34
tblVehicleEF	MCY	4.5000e-004	5.0600e-004
tblVehicleEF	MCY	1.1010e-003	1.2360e-003
tblVehicleEF	MCY	3.7400e-004	4.1700e-004
tblVehicleEF	MCY	9.0500e-004	1.0060e-003
tblVehicleEF	MCY	0.23	0.23
tblVehicleEF	MCY	0.45	0.47
tblVehicleEF	MCY	0.12	0.12
tblVehicleEF	MCY	3.25	3.29
tblVehicleEF	MCY	1.66	1.72
tblVehicleEF	MCY	2.64	2.66
tblVehicleEF	MCY	2.3930e-003	2.3910e-003
tblVehicleEF	MCY	7.1800e-004	7.2300e-004
tblVehicleEF	MCY	0.23	0.23
tblVehicleEF	MCY	0.45	0.47
tblVehicleEF	MCY	0.12	0.12
tblVehicleEF	MCY	3.54	3.58
tblVehicleEF	MCY	1.66	1.72
tblVehicleEF	MCY	2.83	2.86
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	1.79	1.74

tblVehicleEF	MDV	4.72	4.60
tblVehicleEF	MDV	478.24	532.34
tblVehicleEF	MDV	104.98	116.81
tblVehicleEF	MDV	0.17	0.06
tblVehicleEF	MDV	0.26	0.24
tblVehicleEF	MDV	0.43	0.44
tblVehicleEF	MDV	1.9980e-003	1.8200e-003
tblVehicleEF	MDV	3.8470e-003	2.7390e-003
tblVehicleEF	MDV	1.8440e-003	1.6810e-003
tblVehicleEF	MDV	3.5590e-003	2.5230e-003
tblVehicleEF	MDV	0.10	0.61
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.08	0.49
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.67	0.71
tblVehicleEF	MDV	0.40	0.37
tblVehicleEF	MDV	5.9370e-003	5.3400e-003
tblVehicleEF	MDV	1.3540e-003	1.2510e-003
tblVehicleEF	MDV	0.10	0.61
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.08	0.49
tblVehicleEF	MDV	0.07	0.06
tblVehicleEF	MDV	0.67	0.71
tblVehicleEF	MDV	0.43	0.41
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.13	2.31
tblVehicleEF	MDV	3.37	3.64

tblVehicleEF	MDV	520.50	536.45
tblVehicleEF	MDV	104.98	108.02
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.24	0.26
tblVehicleEF	MDV	0.39	0.42
tblVehicleEF	MDV	1.9980e-003	2.0370e-003
tblVehicleEF	MDV	3.8470e-003	3.7970e-003
tblVehicleEF	MDV	1.8440e-003	1.8780e-003
tblVehicleEF	MDV	3.5590e-003	3.5080e-003
tblVehicleEF	MDV	0.24	0.24
tblVehicleEF	MDV	0.25	0.26
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.64	0.66
tblVehicleEF	MDV	0.32	0.34
tblVehicleEF	MDV	6.4680e-003	6.4650e-003
tblVehicleEF	MDV	1.3300e-003	1.3320e-003
tblVehicleEF	MDV	0.24	0.24
tblVehicleEF	MDV	0.25	0.26
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.64	0.66
tblVehicleEF	MDV	0.34	0.37
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	1.72	1.88
tblVehicleEF	MDV	6.04	6.51
tblVehicleEF	MDV	464.92	479.25

tblVehicleEF	MDV	104.98	108.02
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.29	0.31
tblVehicleEF	MDV	0.47	0.51
tblVehicleEF	MDV	1.9980e-003	2.0370e-003
tblVehicleEF	MDV	3.8470e-003	3.7970e-003
tblVehicleEF	MDV	1.8440e-003	1.8780e-003
tblVehicleEF	MDV	3.5590e-003	3.5080e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.80	0.82
tblVehicleEF	MDV	0.49	0.53
tblVehicleEF	MDV	5.7710e-003	5.7680e-003
tblVehicleEF	MDV	1.3770e-003	1.3830e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.80	0.82
tblVehicleEF	MDV	0.52	0.56
tblVehicleEF	MH	2.30	4.69
tblVehicleEF	MH	7.44	7.92
tblVehicleEF	MH	710.02	1,243.87
tblVehicleEF	MH	28.05	62.52
tblVehicleEF	MH	2.3130e-003	7.0000e-003
tblVehicleEF	MH	1.64	2.09

tblVehicleEF	MH	0.75	1.01
tblVehicleEF	MH	0.05	0.13
tblVehicleEF	MH	8.6620e-003	0.01
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	8.1200e-004	1.8400e-003
tblVehicleEF	MH	0.02	0.06
tblVehicleEF	MH	2.1660e-003	3.2270e-003
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	7.3800e-004	1.7100e-003
tblVehicleEF	MH	1.05	0.15
tblVehicleEF	MH	0.07	0.10
tblVehicleEF	MH	0.31	0.04
tblVehicleEF	MH	0.11	0.20
tblVehicleEF	MH	1.79	2.20
tblVehicleEF	MH	0.40	0.50
tblVehicleEF	MH	7.6540e-003	0.01
tblVehicleEF	MH	4.3400e-004	7.6500e-004
tblVehicleEF	MH	1.05	0.15
tblVehicleEF	MH	0.07	0.10
tblVehicleEF	MH	0.31	0.04
tblVehicleEF	MH	0.14	0.26
tblVehicleEF	MH	1.79	2.20
tblVehicleEF	MH	0.43	0.55
tblVehicleEF	MH	2.38	2.97
tblVehicleEF	MH	5.16	5.61
tblVehicleEF	MH	710.02	721.75
tblVehicleEF	MH	28.05	28.69
tblVehicleEF	MH	2.3130e-003	2.3090e-003

tblVehicleEF	MH	1.52	1.62
tblVehicleEF	MH	0.70	0.74
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.6620e-003	8.6650e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	8.1200e-004	9.6900e-004
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	7.3800e-004	8.7400e-004
tblVehicleEF	MH	2.63	2.86
tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MH	0.61	0.66
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	1.76	1.87
tblVehicleEF	MH	0.32	0.35
tblVehicleEF	MH	7.6550e-003	7.6660e-003
tblVehicleEF	MH	3.9600e-004	4.0500e-004
tblVehicleEF	MH	2.63	2.86
tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MH	0.61	0.66
tblVehicleEF	MH	0.14	0.16
tblVehicleEF	MH	1.76	1.87
tblVehicleEF	MH	0.34	0.38
tblVehicleEF	MH	2.25	2.82
tblVehicleEF	MH	9.92	10.86
tblVehicleEF	MH	710.02	721.75
tblVehicleEF	MH	28.05	28.69
tblVehicleEF	MH	2.3130e-003	2.3090e-003

tblVehicleEF	MH	1.70	1.81
tblVehicleEF	MH	0.80	0.84
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.6620e-003	8.6650e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	8.1200e-004	9.6900e-004
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	7.3800e-004	8.7400e-004
tblVehicleEF	MH	0.33	0.35
tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MH	0.16	0.17
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	1.92	2.04
tblVehicleEF	MH	0.49	0.55
tblVehicleEF	MH	7.6530e-003	7.6640e-003
tblVehicleEF	MH	4.7500e-004	4.9400e-004
tblVehicleEF	MH	0.33	0.35
tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MH	0.16	0.17
tblVehicleEF	MH	0.13	0.15
tblVehicleEF	MH	1.92	2.04
tblVehicleEF	MH	0.52	0.58
tblVehicleEF	MHD	8.5650e-003	8.7370e-003
tblVehicleEF	MHD	7.1870e-003	7.8690e-003
tblVehicleEF	MHD	1.93	2.26
tblVehicleEF	MHD	0.83	0.95
tblVehicleEF	MHD	18.11	1.68

tblVehicleEF	MHD	577.48	669.17
tblVehicleEF	MHD	1,034.59	1,222.97
tblVehicleEF	MHD	53.16	10.78
tblVehicleEF	MHD	0.02	7.0000e-003
tblVehicleEF	MHD	5.74	5.46
tblVehicleEF	MHD	2.91	3.29
tblVehicleEF	MHD	1.58	0.22
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.12	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.07	0.09
tblVehicleEF	MHD	2.4580e-003	2.3900e-004
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	2.8730e-003	3.0000e-003
tblVehicleEF	MHD	0.07	0.09
tblVehicleEF	MHD	2.1250e-003	2.2000e-004
tblVehicleEF	MHD	3.1450e-003	7.5080e-003
tblVehicleEF	MHD	0.11	0.01
tblVehicleEF	MHD	0.18	0.22
tblVehicleEF	MHD	1.4200e-003	3.1290e-003
tblVehicleEF	MHD	0.17	0.23
tblVehicleEF	MHD	0.47	0.07
tblVehicleEF	MHD	1.11	0.10
tblVehicleEF	MHD	5.9880e-003	6.4280e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	8.9600e-004	1.3700e-004
tblVehicleEF	MHD	3.1450e-003	7.5080e-003

tblVehicleEF	MHD	0.11	0.01
tblVehicleEF	MHD	0.21	0.28
tblVehicleEF	MHD	1.4200e-003	3.1290e-003
tblVehicleEF	MHD	0.20	0.26
tblVehicleEF	MHD	0.47	0.07
tblVehicleEF	MHD	1.19	0.11
tblVehicleEF	MHD	8.0720e-003	8.2340e-003
tblVehicleEF	MHD	7.1870e-003	7.8690e-003
tblVehicleEF	MHD	1.41	1.41
tblVehicleEF	MHD	0.84	0.97
tblVehicleEF	MHD	12.90	14.56
tblVehicleEF	MHD	611.79	619.73
tblVehicleEF	MHD	1,034.59	1,052.81
tblVehicleEF	MHD	53.16	56.27
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	5.92	6.26
tblVehicleEF	MHD	2.77	3.17
tblVehicleEF	MHD	1.48	1.58
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.12	0.12
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	2.4580e-003	3.3290e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	2.8730e-003	2.8720e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	2.1250e-003	2.8080e-003
tblVehicleEF	MHD	8.1210e-003	9.5230e-003

tblVehicleEF	MHD	0.13	0.16
tblVehicleEF	MHD	0.17	0.18
tblVehicleEF	MHD	3.2330e-003	3.7670e-003
tblVehicleEF	MHD	0.17	0.19
tblVehicleEF	MHD	0.47	0.53
tblVehicleEF	MHD	0.88	1.04
tblVehicleEF	MHD	6.3440e-003	6.3240e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	8.0700e-004	8.6200e-004
tblVehicleEF	MHD	8.1210e-003	9.5230e-003
tblVehicleEF	MHD	0.13	0.16
tblVehicleEF	MHD	0.20	0.20
tblVehicleEF	MHD	3.2330e-003	3.7670e-003
tblVehicleEF	MHD	0.20	0.22
tblVehicleEF	MHD	0.47	0.53
tblVehicleEF	MHD	0.94	1.11
tblVehicleEF	MHD	9.2460e-003	9.4320e-003
tblVehicleEF	MHD	7.1870e-003	7.8690e-003
tblVehicleEF	MHD	2.66	2.67
tblVehicleEF	MHD	0.83	0.97
tblVehicleEF	MHD	23.83	26.20
tblVehicleEF	MHD	530.10	536.98
tblVehicleEF	MHD	1,034.59	1,052.81
tblVehicleEF	MHD	53.16	56.27
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	5.48	5.80
tblVehicleEF	MHD	2.97	3.41
tblVehicleEF	MHD	1.67	1.78

tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.12	0.12
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	2.4580e-003	3.3290e-003
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	2.8730e-003	2.8720e-003
tblVehicleEF	MHD	0.07	0.08
tblVehicleEF	MHD	2.1250e-003	2.8080e-003
tblVehicleEF	MHD	9.3900e-004	1.0730e-003
tblVehicleEF	MHD	0.12	0.16
tblVehicleEF	MHD	0.20	0.20
tblVehicleEF	MHD	5.6400e-004	6.3800e-004
tblVehicleEF	MHD	0.17	0.19
tblVehicleEF	MHD	0.52	0.58
tblVehicleEF	MHD	1.36	1.62
tblVehicleEF	MHD	5.4970e-003	5.4790e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	9.9400e-004	1.0630e-003
tblVehicleEF	MHD	9.3900e-004	1.0730e-003
tblVehicleEF	MHD	0.12	0.16
tblVehicleEF	MHD	0.23	0.23
tblVehicleEF	MHD	5.6400e-004	6.3800e-004
tblVehicleEF	MHD	0.20	0.22
tblVehicleEF	MHD	0.52	0.58
tblVehicleEF	MHD	1.46	1.73
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.3450e-003	2.3740e-003

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tblVehicleEF	OBUS	33.46	50.26
tblVehicleEF	OBUS	1.1130e-003	0.00
tblVehicleEF	OBUS	5.14	7.46
tblVehicleEF	OBUS	2.63	1.89
tblVehicleEF	OBUS	1.69	0.94
tblVehicleEF	OBUS	0.01	4.1480e-003
tblVehicleEF	OBUS	0.08	0.13
tblVehicleEF	OBUS	9.9560e-003	0.01
tblVehicleEF	OBUS	0.03	8.4590e-003
tblVehicleEF	OBUS	7.1600e-004	5.9900e-004
tblVehicleEF	OBUS	9.3200e-003	3.9690e-003
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	2.4890e-003	3.0000e-003
tblVehicleEF	OBUS	0.03	8.0680e-003
tblVehicleEF	OBUS	6.6500e-004	5.5100e-004
tblVehicleEF	OBUS	9.1100e-004	0.03
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.44	0.56
tblVehicleEF	OBUS	3.5400e-004	9.6800e-003
tblVehicleEF	OBUS	0.16	0.10
tblVehicleEF	OBUS	0.24	0.16
tblVehicleEF	OBUS	0.74	0.35
tblVehicleEF	OBUS	5.6610e-003	0.01

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	5.8600e-004	6.0100e-004
tblVehicleEF	OBUS	9.1100e-004	0.03
tblVehicleEF	OBUS	0.03	0.02
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tblVehicleEF	OBUS	3.5400e-004	9.6800e-003
tblVehicleEF	OBUS	0.19	0.13
tblVehicleEF	OBUS	0.24	0.16
tblVehicleEF	OBUS	0.79	0.38
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.3450e-003	2.3740e-003
tblVehicleEF	OBUS	1.85	1.80
tblVehicleEF	OBUS	1.83	2.12
tblVehicleEF	OBUS	9.08	9.84
tblVehicleEF	OBUS	578.31	587.81
tblVehicleEF	OBUS	980.08	997.72
tblVehicleEF	OBUS	33.46	34.62
tblVehicleEF	OBUS	1.1130e-003	1.1120e-003
tblVehicleEF	OBUS	5.30	5.47
tblVehicleEF	OBUS	2.47	2.76
tblVehicleEF	OBUS	1.59	1.69
tblVehicleEF	OBUS	8.5400e-003	8.6440e-003
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	9.9560e-003	9.9580e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	7.1600e-004	9.6500e-004
tblVehicleEF	OBUS	7.8570e-003	7.9520e-003
tblVehicleEF	OBUS	0.04	0.04

tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	6.6500e-004	8.6200e-004
tblVehicleEF	OBUS	2.2460e-003	2.4470e-003
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tblVehicleEF	OBUS	0.41	0.40
tblVehicleEF	OBUS	6.8700e-004	7.3400e-004
tblVehicleEF	OBUS	0.17	0.18
tblVehicleEF	OBUS	0.24	0.25
tblVehicleEF	OBUS	0.61	0.67
tblVehicleEF	OBUS	5.9970e-003	5.9980e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	5.2500e-004	5.4500e-004
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tblVehicleEF	OBUS	0.03	0.03
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tblVehicleEF	OBUS	0.24	0.25
tblVehicleEF	OBUS	0.65	0.72
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	2.3450e-003	2.3740e-003
tblVehicleEF	OBUS	3.51	3.41
tblVehicleEF	OBUS	1.74	2.02
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tblVehicleEF	OBUS	501.09	509.32
tblVehicleEF	OBUS	980.08	997.72
tblVehicleEF	OBUS	33.46	34.62
tblVehicleEF	OBUS	1.1130e-003	1.1120e-003

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tblVehicleEF	OBUS	2.71	3.03
tblVehicleEF	OBUS	1.80	1.91
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tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	OBUS	9.9560e-003	9.9580e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	7.1600e-004	9.6500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	6.6500e-004	8.6200e-004
tblVehicleEF	OBUS	3.3600e-004	3.5200e-004
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.47	0.46
tblVehicleEF	OBUS	1.8400e-004	1.9100e-004
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tblVehicleEF	OBUS	0.87	0.97
tblVehicleEF	OBUS	5.1960e-003	5.1970e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.5300e-004	6.8100e-004
tblVehicleEF	OBUS	3.3600e-004	3.5200e-004
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.54	0.52
tblVehicleEF	OBUS	1.8400e-004	1.9100e-004
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tblVehicleEF	OBUS	0.26	0.27

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tblVehicleEF	SBUS	4.3860e-003	4.3220e-003
tblVehicleEF	SBUS	5.8020e-003	5.7280e-003
tblVehicleEF	SBUS	1.02	19.76
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tblVehicleEF	SBUS	1,083.44	1,137.05
tblVehicleEF	SBUS	119.60	32.35
tblVehicleEF	SBUS	6.2600e-004	1.0000e-003
tblVehicleEF	SBUS	7.66	34.69
tblVehicleEF	SBUS	7.74	5.78
tblVehicleEF	SBUS	2.66	0.47
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.60	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	7.5970e-003	5.7000e-004
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tblVehicleEF	SBUS	0.26	0.32
tblVehicleEF	SBUS	2.7910e-003	2.7420e-003
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	6.8800e-003	5.2400e-004
tblVehicleEF	SBUS	0.06	0.01
tblVehicleEF	SBUS	0.27	0.03
tblVehicleEF	SBUS	0.09	2.38
tblVehicleEF	SBUS	0.02	4.4620e-003
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tblVehicleEF	SBUS	5.8020e-003	5.7280e-003
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tblVehicleEF	SBUS	4.96	5.12
tblVehicleEF	SBUS	34.11	35.52
tblVehicleEF	SBUS	589.86	596.75
tblVehicleEF	SBUS	1,083.44	1,103.80
tblVehicleEF	SBUS	119.60	121.63
tblVehicleEF	SBUS	6.2600e-004	6.3400e-004
tblVehicleEF	SBUS	7.91	8.00
tblVehicleEF	SBUS	7.31	7.49
tblVehicleEF	SBUS	2.45	2.54
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.60	0.60
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.05

tblVehicleEF	SBUS	7.5970e-003	7.9570e-003
tblVehicleEF	SBUS	0.01	0.01
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tblVehicleEF	SBUS	2.7910e-003	2.7940e-003
tblVehicleEF	SBUS	0.05	0.05
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tblVehicleEF	SBUS	0.09	0.09
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.48	0.49
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tblVehicleEF	SBUS	2.38	2.48
tblVehicleEF	SBUS	6.1170e-003	6.0890e-003
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tblVehicleEF	SBUS	1.9080e-003	1.9340e-003
tblVehicleEF	SBUS	0.14	0.14
tblVehicleEF	SBUS	0.28	0.29
tblVehicleEF	SBUS	0.10	0.10
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.52	0.53
tblVehicleEF	SBUS	1.94	1.98
tblVehicleEF	SBUS	2.54	2.65
tblVehicleEF	SBUS	4.7350e-003	4.6660e-003
tblVehicleEF	SBUS	5.8020e-003	5.7280e-003
tblVehicleEF	SBUS	1.41	1.37
tblVehicleEF	SBUS	4.72	4.87
tblVehicleEF	SBUS	55.95	58.26

tblVehicleEF	SBUS	511.10	517.07
tblVehicleEF	SBUS	1,083.44	1,103.80
tblVehicleEF	SBUS	119.60	121.63
tblVehicleEF	SBUS	6.2600e-004	6.3400e-004
tblVehicleEF	SBUS	7.32	7.40
tblVehicleEF	SBUS	7.91	8.11
tblVehicleEF	SBUS	2.85	2.96
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.60	0.60
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	7.5970e-003	7.9570e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.26	0.26
tblVehicleEF	SBUS	2.7910e-003	2.7940e-003
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	6.8800e-003	7.2070e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.31	0.31
tblVehicleEF	SBUS	0.10	0.10
tblVehicleEF	SBUS	8.2380e-003	8.4270e-003
tblVehicleEF	SBUS	0.45	0.45
tblVehicleEF	SBUS	2.56	2.63
tblVehicleEF	SBUS	3.35	3.49
tblVehicleEF	SBUS	5.3000e-003	5.2760e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2820e-003	2.3230e-003
tblVehicleEF	SBUS	0.02	0.02

tblVehicleEF	SBUS	0.31	0.31
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	8.2380e-003	8.4270e-003
tblVehicleEF	SBUS	0.49	0.50
tblVehicleEF	SBUS	2.56	2.63
tblVehicleEF	SBUS	3.58	3.73
tblVehicleEF	UBUS	7.03	11.42
tblVehicleEF	UBUS	15.80	15.18
tblVehicleEF	UBUS	1,998.05	2,042.49
tblVehicleEF	UBUS	24.30	96.63
tblVehicleEF	UBUS	1.4690e-003	1.0000e-003
tblVehicleEF	UBUS	12.37	11.78
tblVehicleEF	UBUS	1.81	1.87
tblVehicleEF	UBUS	0.71	0.62
tblVehicleEF	UBUS	8.0000e-003	0.01
tblVehicleEF	UBUS	0.20	0.21
tblVehicleEF	UBUS	1.0080e-003	1.3160e-003
tblVehicleEF	UBUS	0.30	0.27
tblVehicleEF	UBUS	2.0000e-003	3.0000e-003
tblVehicleEF	UBUS	0.19	0.20
tblVehicleEF	UBUS	8.3800e-004	1.2230e-003
tblVehicleEF	UBUS	5.8820e-003	0.03
tblVehicleEF	UBUS	0.10	0.10
tblVehicleEF	UBUS	2.4450e-003	9.7990e-003
tblVehicleEF	UBUS	0.87	0.93
tblVehicleEF	UBUS	0.52	0.60
tblVehicleEF	UBUS	1.11	1.05
tblVehicleEF	UBUS	0.02	0.01

tblVehicleEF	UBUS	5.4700e-004	1.2380e-003
tblVehicleEF	UBUS	5.8820e-003	0.03
tblVehicleEF	UBUS	0.10	0.10
tblVehicleEF	UBUS	2.4450e-003	9.7990e-003
tblVehicleEF	UBUS	0.96	2.70
tblVehicleEF	UBUS	0.52	0.60
tblVehicleEF	UBUS	1.19	1.15
tblVehicleEF	UBUS	7.09	7.31
tblVehicleEF	UBUS	12.39	12.90
tblVehicleEF	UBUS	1,998.05	2,036.82
tblVehicleEF	UBUS	24.30	24.72
tblVehicleEF	UBUS	1.4690e-003	1.4680e-003
tblVehicleEF	UBUS	11.69	12.01
tblVehicleEF	UBUS	1.69	1.75
tblVehicleEF	UBUS	0.20	0.21
tblVehicleEF	UBUS	1.0080e-003	1.0390e-003
tblVehicleEF	UBUS	0.19	0.19
tblVehicleEF	UBUS	8.3800e-004	8.6500e-004
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.13	0.13
tblVehicleEF	UBUS	5.5440e-003	5.7450e-003
tblVehicleEF	UBUS	0.87	0.90
tblVehicleEF	UBUS	0.49	0.50
tblVehicleEF	UBUS	0.95	0.98
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	4.8800e-004	4.9700e-004
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.13	0.13

tblVehicleEF	UBUS	5.5440e-003	5.7450e-003
tblVehicleEF	UBUS	0.97	1.00
tblVehicleEF	UBUS	0.49	0.50
tblVehicleEF	UBUS	1.02	1.05
tblVehicleEF	UBUS	7.15	7.37
tblVehicleEF	UBUS	19.41	20.22
tblVehicleEF	UBUS	1,998.05	2,036.82
tblVehicleEF	UBUS	24.30	24.72
tblVehicleEF	UBUS	1.4690e-003	1.4680e-003
tblVehicleEF	UBUS	12.64	13.00
tblVehicleEF	UBUS	1.93	1.99
tblVehicleEF	UBUS	0.20	0.21
tblVehicleEF	UBUS	1.0080e-003	1.0390e-003
tblVehicleEF	UBUS	0.19	0.19
tblVehicleEF	UBUS	8.3800e-004	8.6500e-004
tblVehicleEF	UBUS	1.9430e-003	2.0040e-003
tblVehicleEF	UBUS	0.12	0.12
tblVehicleEF	UBUS	1.0710e-003	1.1060e-003
tblVehicleEF	UBUS	0.86	0.89
tblVehicleEF	UBUS	0.64	0.64
tblVehicleEF	UBUS	1.28	1.32
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	6.0900e-004	6.2300e-004
tblVehicleEF	UBUS	1.9430e-003	2.0040e-003
tblVehicleEF	UBUS	0.12	0.12
tblVehicleEF	UBUS	1.0710e-003	1.1060e-003
tblVehicleEF	UBUS	0.96	0.98
tblVehicleEF	UBUS	0.64	0.64

tblVehicleEF	UBUS	1.37	1.41
tblVehicleTrips	ST_TR	7.16	6.65
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	6.07	6.65
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	32.93	0.00
tblWoodstoves	NumberCatalytic	18.75	0.00
tblWoodstoves	NumberNoncatalytic	18.75	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.1925	2.1444	1.5312	2.0000e-003	0.2261	0.1027	0.3288	0.1127	0.0948	0.2075	0.0000	186.1220	186.1220	0.0471	0.0000	187.1111
2017	0.5695	4.1090	4.3842	8.1000e-003	0.3038	0.2426	0.5464	0.0816	0.2276	0.3092	0.0000	666.9157	666.9157	0.0886	0.0000	668.7765
2018	3.5614	1.7161	1.9177	3.7000e-003	0.1326	0.0966	0.2293	0.0356	0.0907	0.1263	0.0000	300.5533	300.5533	0.0430	0.0000	301.4560
Total	**4.3233**	**7.9696**	**7.8331**	**0.0138**	**0.6625**	**0.4419**	**1.1044**	**0.2299**	**0.4131**	**0.6430**	**0.0000**	**1,153.5910**	**1,153.5910**	**0.1787**	**0.0000**	**1,157.3436**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.1925	2.1444	1.5312	2.0000e-003	0.2261	0.1027	0.3288	0.1127	0.0948	0.2075	0.0000	186.1218	186.1218	0.0471	0.0000	187.1109
2017	0.5695	4.1090	4.3842	8.1000e-003	0.3038	0.2426	0.5464	0.0816	0.2276	0.3092	0.0000	666.9153	666.9153	0.0886	0.0000	668.7762
2018	3.5614	1.7161	1.9177	3.7000e-003	0.1326	0.0966	0.2293	0.0356	0.0907	0.1263	0.0000	300.5531	300.5531	0.0430	0.0000	301.4558
Total	**4.3233**	**7.9696**	**7.8331**	**0.0138**	**0.6625**	**0.4419**	**1.1044**	**0.2299**	**0.4131**	**0.6430**	**0.0000**	**1,153.5902**	**1,153.5902**	**0.1787**	**0.0000**	**1,157.3429**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1145	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178
Energy	0.0339	0.2903	0.1253	1.8500e-003		0.0235	0.0235		0.0235	0.0235	0.0000	533.6419	533.6419	0.0251	0.0100	537.2766
Mobile	2.0693	1.8774	11.3309	0.0239	2.1466	0.0244	2.1710	0.5730	0.0228	0.5958	0.0000	2,162.1278	2,162.1278	0.0835	0.0000	2,163.8817
Waste						0.0000	0.0000		0.0000	0.0000	34.3765	0.0000	34.3765	2.0316	0.0000	77.0400
Water						0.0000	0.0000		0.0000	0.0000	6.3043	21.0761	27.3805	0.6495	0.0157	45.8874
Total	**4.2177**	**2.1936**	**13.6969**	**0.0258**	**2.1466**	**0.0601**	**2.2067**	**0.5730**	**0.0585**	**0.6315**	**40.6808**	**2,720.4885**	**2,761.1693**	**2.7933**	**0.0257**	**2,827.8035**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1145	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178
Energy	0.0339	0.2903	0.1253	1.8500e-003		0.0235	0.0235		0.0235	0.0235	0.0000	533.6419	533.6419	0.0251	0.0100	537.2766
Mobile	2.0693	1.8774	11.3309	0.0239	2.1466	0.0244	2.1710	0.5730	0.0228	0.5958	0.0000	2,162.1278	2,162.1278	0.0835	0.0000	2,163.8817
Waste						0.0000	0.0000		0.0000	0.0000	34.3765	0.0000	34.3765	2.0316	0.0000	77.0400
Water						0.0000	0.0000		0.0000	0.0000	6.3043	21.0761	27.3805	0.6494	0.0157	45.8773
Total	**4.2177**	**2.1936**	**13.6969**	**0.0258**	**2.1466**	**0.0601**	**2.2067**	**0.5730**	**0.0585**	**0.6315**	**40.6808**	**2,720.4885**	**2,761.1693**	**2.7932**	**0.0257**	**2,827.7934**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2016	10/28/2016	5	20	
2	Site Preparation	Site Preparation	10/28/2016	11/10/2016	5	10	
3	Grading	Grading	11/11/2016	12/29/2016	5	35	
4	Building Construction	Building Construction	12/30/2016	5/31/2018	5	370	
5	Paving	Paving	6/1/2018	6/28/2018	5	20	
6	Architectural Coating	Architectural Coating	6/29/2018	7/26/2018	5	20	

Acres of Grading (Site Preparation Phase): 17.91

Acres of Grading (Grading Phase): 17.91

Acres of Paving: 0

Residential Indoor: 701,839; Residential Outdoor: 240,022; Non-Residential Indoor: 8,250; Non-Residential Outdoor: 7,784 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	643.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	255.00	47.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	51.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0974	37.0974	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**		**0.0229**	**0.0229**		**0.0214**	**0.0214**	**0.0000**	**37.0974**	**37.0974**	**0.0101**	**0.0000**	**37.3092**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2600e-003	0.0856	0.0717	2.4000e-004	5.4800e-003	1.3200e-003	6.8000e-003	1.5100e-003	1.2200e-003	2.7200e-003	0.0000	21.9429	21.9429	1.6000e-004	0.0000	21.9464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	6.8000e-004	6.5700e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0621	1.0621	5.0000e-005	0.0000	1.0632
Total	**6.8000e-003**	**0.0863**	**0.0782**	**2.5000e-004**	**6.6700e-003**	**1.3300e-003**	**8.0000e-003**	**1.8300e-003**	**1.2300e-003**	**3.0500e-003**	**0.0000**	**23.0050**	**23.0050**	**2.1000e-004**	**0.0000**	**23.0096**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.4566	0.3503	4.0000e-004		0.0229	0.0229		0.0214	0.0214	0.0000	37.0973	37.0973	0.0101	0.0000	37.3092
Total	**0.0429**	**0.4566**	**0.3503**	**4.0000e-004**		**0.0229**	**0.0229**		**0.0214**	**0.0214**	**0.0000**	**37.0973**	**37.0973**	**0.0101**	**0.0000**	**37.3092**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2600e-003	0.0856	0.0717	2.4000e-004	5.4800e-003	1.3200e-003	6.8000e-003	1.5100e-003	1.2200e-003	2.7200e-003	0.0000	21.9429	21.9429	1.6000e-004	0.0000	21.9464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	6.8000e-004	6.5700e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0621	1.0621	5.0000e-005	0.0000	1.0632
Total	**6.8000e-003**	**0.0863**	**0.0782**	**2.5000e-004**	**6.6700e-003**	**1.3300e-003**	**8.0000e-003**	**1.8300e-003**	**1.2300e-003**	**3.0500e-003**	**0.0000**	**23.0050**	**23.0050**	**2.1000e-004**	**0.0000**	**23.0096**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0998	0.0000	0.0998	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4386	18.4386	5.5600e-003	0.0000	18.5554
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0998**	**0.0147**	**0.1145**	**0.0507**	**0.0135**	**0.0642**	**0.0000**	**18.4386**	**18.4386**	**5.5600e-003**	**0.0000**	**18.5554**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.1000e-004	3.9400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6373	0.6373	3.0000e-005	0.0000	0.6380
Total	**3.2000e-004**	**4.1000e-004**	**3.9400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6373**	**0.6373**	**3.0000e-005**	**0.0000**	**0.6380**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0998	0.0000	0.0998	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2732	0.2055	2.0000e-004		0.0147	0.0147		0.0135	0.0135	0.0000	18.4385	18.4385	5.5600e-003	0.0000	18.5553
Total	**0.0254**	**0.2732**	**0.2055**	**2.0000e-004**	**0.0998**	**0.0147**	**0.1145**	**0.0507**	**0.0135**	**0.0642**	**0.0000**	**18.4385**	**18.4385**	**5.5600e-003**	**0.0000**	**18.5553**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.1000e-004	3.9400e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6373	0.6373	3.0000e-005	0.0000	0.6380
Total	**3.2000e-004**	**4.1000e-004**	**3.9400e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6373**	**0.6373**	**3.0000e-005**	**0.0000**	**0.6380**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1149	0.0000	0.1149	0.0590	0.0000	0.0590	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1134	1.3092	0.8599	1.0800e-003		0.0627	0.0627		0.0577	0.0577	0.0000	101.8425	101.8425	0.0307	0.0000	102.4876
Total	**0.1134**	**1.3092**	**0.8599**	**1.0800e-003**	**0.1149**	**0.0627**	**0.1776**	**0.0590**	**0.0577**	**0.1167**	**0.0000**	**101.8425**	**101.8425**	**0.0307**	**0.0000**	**102.4876**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	1.5900e-003	0.0153	3.0000e-005	2.7900e-003	2.0000e-005	2.8100e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.4782	2.4782	1.3000e-004	0.0000	2.4809
Total	**1.2600e-003**	**1.5900e-003**	**0.0153**	**3.0000e-005**	**2.7900e-003**	**2.0000e-005**	**2.8100e-003**	**7.4000e-004**	**2.0000e-005**	**7.6000e-004**	**0.0000**	**2.4782**	**2.4782**	**1.3000e-004**	**0.0000**	**2.4809**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1149	0.0000	0.1149	0.0590	0.0000	0.0590	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1134	1.3092	0.8599	1.0800e-003		0.0627	0.0627		0.0577	0.0577	0.0000	101.8424	101.8424	0.0307	0.0000	102.4875
Total	**0.1134**	**1.3092**	**0.8599**	**1.0800e-003**	**0.1149**	**0.0627**	**0.1776**	**0.0590**	**0.0577**	**0.1167**	**0.0000**	**101.8424**	**101.8424**	**0.0307**	**0.0000**	**102.4875**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	1.5900e-003	0.0153	3.0000e-005	2.7900e-003	2.0000e-005	2.8100e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.4782	2.4782	1.3000e-004	0.0000	2.4809
Total	**1.2600e-003**	**1.5900e-003**	**0.0153**	**3.0000e-005**	**2.7900e-003**	**2.0000e-005**	**2.8100e-003**	**7.4000e-004**	**2.0000e-005**	**7.6000e-004**	**0.0000**	**2.4782**	**2.4782**	**1.3000e-004**	**0.0000**	**2.4809**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-003	0.0143	9.2500e-003	1.0000e-005		9.8000e-004	9.8000e-004		9.2000e-004	9.2000e-004	0.0000	1.2108	1.2108	3.0000e-004	0.0000	1.2171
Total	**1.7000e-003**	**0.0143**	**9.2500e-003**	**1.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**1.2108**	**1.2108**	**3.0000e-004**	**0.0000**	**1.2171**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	2.3700e-003	3.1400e-003	1.0000e-005	1.5000e-004	4.0000e-005	1.9000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.5095	0.5095	0.0000	0.0000	0.5096
Worker	4.6000e-004	5.8000e-004	5.5900e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9028	0.9028	5.0000e-005	0.0000	0.9038
Total	**7.3000e-004**	**2.9500e-003**	**8.7300e-003**	**2.0000e-005**	**1.1700e-003**	**5.0000e-005**	**1.2100e-003**	**3.1000e-004**	**5.0000e-005**	**3.6000e-004**	**0.0000**	**1.4123**	**1.4123**	**5.0000e-005**	**0.0000**	**1.4134**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-003	0.0143	9.2500e-003	1.0000e-005		9.8000e-004	9.8000e-004		9.2000e-004	9.2000e-004	0.0000	1.2108	1.2108	3.0000e-004	0.0000	1.2171
Total	**1.7000e-003**	**0.0143**	**9.2500e-003**	**1.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**1.2108**	**1.2108**	**3.0000e-004**	**0.0000**	**1.2171**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	2.3700e-003	3.1400e-003	1.0000e-005	1.5000e-004	4.0000e-005	1.9000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.5095	0.5095	0.0000	0.0000	0.5096
Worker	4.6000e-004	5.8000e-004	5.5900e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9028	0.9028	5.0000e-005	0.0000	0.9038
Total	**7.3000e-004**	**2.9500e-003**	**8.7300e-003**	**2.0000e-005**	**1.1700e-003**	**5.0000e-005**	**1.2100e-003**	**3.1000e-004**	**5.0000e-005**	**3.6000e-004**	**0.0000**	**1.4123**	**1.4123**	**5.0000e-005**	**0.0000**	**1.4134**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	0.5432	0.7586	1.4500e-003	0.0398	9.0900e-003	0.0489	0.0114	8.3600e-003	0.0198	0.0000	130.2217	130.2217	1.0800e-003	0.0000	130.2444
Worker	0.1043	0.1331	1.2688	3.1600e-003	0.2641	1.9000e-003	0.2660	0.0702	1.7500e-003	0.0720	0.0000	225.3712	225.3712	0.0109	0.0000	225.6002
Total	**0.1661**	**0.6763**	**2.0274**	**4.6100e-003**	**0.3038**	**0.0110**	**0.3148**	**0.0816**	**0.0101**	**0.0917**	**0.0000**	**355.5928**	**355.5928**	**0.0120**	**0.0000**	**355.8446**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3225**	**311.3225**	**0.0766**	**0.0000**	**312.9315**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0618	0.5432	0.7586	1.4500e-003	0.0398	9.0900e-003	0.0489	0.0114	8.3600e-003	0.0198	0.0000	130.2217	130.2217	1.0800e-003	0.0000	130.2444
Worker	0.1043	0.1331	1.2688	3.1600e-003	0.2641	1.9000e-003	0.2660	0.0702	1.7500e-003	0.0720	0.0000	225.3712	225.3712	0.0109	0.0000	225.6002
Total	**0.1661**	**0.6763**	**2.0274**	**4.6100e-003**	**0.3038**	**0.0110**	**0.3148**	**0.0816**	**0.0101**	**0.0917**	**0.0000**	**355.5928**	**355.5928**	**0.0120**	**0.0000**	**355.8446**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1454	1.2677	0.9555	1.4600e-003		0.0814	0.0814		0.0766	0.0766	0.0000	129.0395	129.0395	0.0316	0.0000	129.7026
Total	**0.1454**	**1.2677**	**0.9555**	**1.4600e-003**		**0.0814**	**0.0814**		**0.0766**	**0.0766**	**0.0000**	**129.0395**	**129.0395**	**0.0316**	**0.0000**	**129.7026**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0239	0.2045	0.3043	6.1000e-004	0.0167	3.4900e-003	0.0202	4.7800e-003	3.2100e-003	7.9900e-003	0.0000	53.6446	53.6446	4.4000e-004	0.0000	53.6539
Worker	0.0387	0.0498	0.4720	1.3200e-003	0.1107	7.7000e-004	0.1115	0.0294	7.1000e-004	0.0302	0.0000	90.6426	90.6426	4.1800e-003	0.0000	90.7304
Total	**0.0626**	**0.2544**	**0.7762**	**1.9300e-003**	**0.1274**	**4.2600e-003**	**0.1316**	**0.0342**	**3.9200e-003**	**0.0381**	**0.0000**	**144.2871**	**144.2871**	**4.6200e-003**	**0.0000**	**144.3843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1454	1.2677	0.9555	1.4600e-003		0.0814	0.0814		0.0766	0.0766	0.0000	129.0393	129.0393	0.0316	0.0000	129.7025
Total	**0.1454**	**1.2677**	**0.9555**	**1.4600e-003**		**0.0814**	**0.0814**		**0.0766**	**0.0766**	**0.0000**	**129.0393**	**129.0393**	**0.0316**	**0.0000**	**129.7025**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0239	0.2045	0.3043	6.1000e-004	0.0167	3.4900e-003	0.0202	4.7800e-003	3.2100e-003	7.9900e-003	0.0000	53.6446	53.6446	4.4000e-004	0.0000	53.6539
Worker	0.0387	0.0498	0.4720	1.3200e-003	0.1107	7.7000e-004	0.1115	0.0294	7.1000e-004	0.0302	0.0000	90.6426	90.6426	4.1800e-003	0.0000	90.7304
Total	**0.0626**	**0.2544**	**0.7762**	**1.9300e-003**	**0.1274**	**4.2600e-003**	**0.1316**	**0.0342**	**3.9200e-003**	**0.0381**	**0.0000**	**144.2871**	**144.2871**	**4.6200e-003**	**0.0000**	**144.3843**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0187**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	5.4000e-004	5.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9783	0.9783	5.0000e-005	0.0000	0.9793
Total	**4.2000e-004**	**5.4000e-004**	**5.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9783**	**0.9783**	**5.0000e-005**	**0.0000**	**0.9793**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	2.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0187**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	5.4000e-004	5.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9783	0.9783	5.0000e-005	0.0000	0.9793
Total	**4.2000e-004**	**5.4000e-004**	**5.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9783**	**0.9783**	**5.0000e-005**	**0.0000**	**0.9793**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.3299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.3329**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.8300e-003	0.0173	5.0000e-005	4.0600e-003	3.0000e-005	4.0900e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.3263	3.3263	1.5000e-004	0.0000	3.3296
Total	**1.4200e-003**	**1.8300e-003**	**0.0173**	**5.0000e-005**	**4.0600e-003**	**3.0000e-005**	**4.0900e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.3263**	**3.3263**	**1.5000e-004**	**0.0000**	**3.3296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.3299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**3.3329**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.8300e-003	0.0173	5.0000e-005	4.0600e-003	3.0000e-005	4.0900e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.3263	3.3263	1.5000e-004	0.0000	3.3296
Total	**1.4200e-003**	**1.8300e-003**	**0.0173**	**5.0000e-005**	**4.0600e-003**	**3.0000e-005**	**4.0900e-003**	**1.0800e-003**	**3.0000e-005**	**1.1100e-003**	**0.0000**	**3.3263**	**3.3263**	**1.5000e-004**	**0.0000**	**3.3296**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0693	1.8774	11.3309	0.0239	2.1466	0.0244	2.1710	0.5730	0.0228	0.5958	0.0000	2,162.1278	2,162.1278	0.0835	0.0000	2,163.8817
Unmitigated	2.0693	1.8774	11.3309	0.0239	2.1466	0.0244	2.1710	0.5730	0.0228	0.5958	0.0000	2,162.1278	2,162.1278	0.0835	0.0000	2,163.8817

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,995.00	1,995.00	1995.00	5,781,144	5,781,144
Health Club	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,995.00	1,995.00	1,995.00	5,781,144	5,781,144

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511000	0.225000	0.164000	0.064000	0.002000	0.001000	0.007000	0.005000	0.000000	0.001000	0.012000	0.001000	0.007000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	197.8021	197.8021	0.0187	3.8700e-003	199.3929
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	197.8021	197.8021	0.0187	3.8700e-003	199.3929
NaturalGas Mitigated	0.0339	0.2903	0.1253	1.8500e-003		0.0235	0.0235		0.0235	0.0235	0.0000	335.8398	335.8398	6.4400e-003	6.1600e-003	337.8837
NaturalGas Unmitigated	0.0339	0.2903	0.1253	1.8500e-003		0.0235	0.0235		0.0235	0.0235	0.0000	335.8398	335.8398	6.4400e-003	6.1600e-003	337.8837

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	6.20381e+006	0.0335	0.2859	0.1216	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	331.0587	331.0587	6.3500e-003	6.0700e-003	333.0734
Health Club	89595	4.8000e-004	4.3900e-003	3.6900e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7811	4.7811	9.0000e-005	9.0000e-005	4.8102
Total		**0.0339**	**0.2903**	**0.1253**	**1.8500e-003**		**0.0234**	**0.0234**		**0.0234**	**0.0234**	**0.0000**	**335.8398**	**335.8398**	**6.4400e-003**	**6.1600e-003**	**337.8837**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	6.20381e+006	0.0335	0.2859	0.1216	1.8200e-003		0.0231	0.0231		0.0231	0.0231	0.0000	331.0587	331.0587	6.3500e-003	6.0700e-003	333.0734
Health Club	89595	4.8000e-004	4.3900e-003	3.6900e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7811	4.7811	9.0000e-005	9.0000e-005	4.8102
Total		**0.0339**	**0.2903**	**0.1253**	**1.8500e-003**		**0.0234**	**0.0234**		**0.0234**	**0.0234**	**0.0000**	**335.8398**	**335.8398**	**6.4400e-003**	**6.1600e-003**	**337.8837**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	1.29572e+006	180.4333	0.0170	3.5300e-003	181.8844
Health Club	48345	6.7322	6.4000e-004	1.3000e-004	6.7863
Parking Lot	76384	10.6367	1.0000e-003	2.1000e-004	10.7222
Total		**197.8021**	**0.0187**	**3.8700e-003**	**199.3929**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	1.29572e+006	180.4333	0.0170	3.5300e-003	181.8844
Health Club	48345	6.7322	6.4000e-004	1.3000e-004	6.7863
Parking Lot	76384	10.6367	1.0000e-003	2.1000e-004	10.7222
Total		**197.8021**	**0.0187**	**3.8700e-003**	**199.3929**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1145	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178
Unmitigated	2.1145	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3317					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0687	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178
Total	**2.1145**	**0.0260**	**2.2406**	**1.2000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**3.6426**	**3.6426**	**3.5800e-003**	**0.0000**	**3.7178**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3317					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0687	0.0260	2.2406	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6426	3.6426	3.5800e-003	0.0000	3.7178
Total	**2.1145**	**0.0260**	**2.2406**	**1.2000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**3.6426**	**3.6426**	**3.5800e-003**	**0.0000**	**3.7178**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.3805	0.6494	0.0157	45.8773
Unmitigated	27.3805	0.6495	0.0157	45.8874

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	19.5462 / 12.3226	26.9350	0.6389	0.0154	45.1390
Health Club	0.325287 / 0.19937	0.4455	0.0106	2.6000e-004	0.7484
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.3805**	**0.6495**	**0.0157**	**45.8874**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	19.5462 / 12.3226	26.9350	0.6388	0.0154	45.1291
Health Club	0.325287 / 0.19937	0.4455	0.0106	2.6000e-004	0.7482
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.3805**	**0.6494**	**0.0157**	**45.8773**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	34.3765	2.0316	0.0000	77.0400
Unmitigated	34.3765	2.0316	0.0000	77.0400

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	138	28.0128	1.6555	0.0000	62.7784
Health Club	31.35	6.3638	0.3761	0.0000	14.2616
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**34.3765**	**2.0316**	**0.0000**	**77.0400**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	138	28.0128	1.6555	0.0000	62.7784
Health Club	31.35	6.3638	0.3761	0.0000	14.2616
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**34.3765**	**2.0316**	**0.0000**	**77.0400**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Kimley»Horn

MEMORANDUM

To:	Bill Dean, City of Tracy
From:	Frederik Venter, Kimley-Horn and Associates
Date:	April 4, 2017
Subject:	**ERRATA: Harvest in Tracy Development Project TIA - Cumulative Conditions Analysis**

This memorandum summarizes the revised analysis for the Cumulative conditions for the Harvest Study in the City of Tracy. The TIA included in the March 2017 MND was conducted by Fehr and Peers. An error occurred in the development of the Cumulative volumes for the analysis. Kimley-Horn prepared this Errata Memorandum for the findings of the Cumulative without and Cumulative Plus Project analysis for the Harvest Development Project. The text replaces the TIA Cumulative analysis section prepared by Fehr and Peers. The project continues to have no significant impact to the study intersections, which is consistent with the findings of the March 2017 MND.

REVISED ANALYSIS FOR CUMULATIVE CONDITIONS CONDUCTED BY KIMLEY-HORN

Table 9 below presents the revised results of the intersection operations analysis for the Cumulative scenarios based on traffic volumes provided by Kimley Horn & Associates on Monday April 3, 2017. Similar to the analysis documented in the March 2017 IS/MND, the project does not cause any significant impacts in Cumulative Conditions. The Project would pay the City of Tracy Traffic Impact Fees to offset incremental cumulative impacts.

The Tracy TMP was evaluated to determine applicable intersection improvements planned by the City of Tracy. TIAs for approved projects were also reviewed and improvements to be implemented by each project in Cumulative Conditions were evaluated to determine if they were applicable to the Project study intersections. Where applicable, approved project and/or roadway/intersection improvements were incorporated into the Cumulative and Cumulative Plus Project Conditions analysis illustrated in the following sections. TMP Intersections – All intersections included in the TMP may also be improved in Cumulative Conditions, either through signal timing or by changing geometries. Additional intersections could be included in updates on the TMP and the developers would pay proportional fair share payments. Synchro output sheets are provided in the **Appendix**.

I**mpacts and Mitigations**

All of the intersections would operate at acceptable LOS in the Cumulative conditions with and without the Project accept for the intersection of Corral Hollow Road and Lowell Avenue, which would operate at LOS F in the PM peak hour. However, the addition of the project traffic does not cause a significant impact based on the City criteria for adding 5 seconds or more to the delay. Because the Project has no significant impacts between Cumulative No Project and Cumulative Plus Project conditions, the addition of the Harvest in Tracy Project is ***less-than-cumulatively considerable***.

Kimley»Horn

Revised Table 9 - Cumulative Plus Project Intersection Level of Service

Intersection	Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay	LOS	Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM PM	**75.8** **70.0**	**E** **E**	**76.2** **70.3**	**E** **E**
2. Grant Line Rd / Byron Rd	Signal	AM PM	Does Not Exist Does Not Exist		Does Not Exist Does Not Exist	
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM PM	8.8 **77.9**	A **E**	8.8 **78.0**	A **E**
4. Grant Line Rd / I-205 EB Ramps	Signal	AM PM	11.1 27.1	B C	11.1 28.1	B C
5. Grant Line Rd / Henley Pkwy	Signal	AM PM	22.3 20.6	C C	25.6 24.2	C C
6. Grant Line Rd / Corral Hollow Rd	Signal	AM PM	32.7 51.3	C D	33.1 52.8	C D
7. Lowell Ave / Henley Pkwy	SSSC[1]	AM PM	9.9 10.5	A B	10.6 10.5	B B
8. Corral Hollow Rd / Lowell Ave	Signal	AM PM	50.4 **84.2**	D **F**	53.5 **84.7**	D **F**
9. Henley Pkwy/ Project Dwy 1[3]	SSSC[1]	AM PM	Does Not Exist Does Not Exist		3.7 (10.4) 2.1 (10.9)	A (B) A (B)
10. Bridle Creek Cir / Henley Pkwy[3]	SSSC[1]	AM PM	4.5 (10.3) 4.2 (9.9)	A (B) A (A)	3.7 (11.3) 3.1 (10.5)	A (B) A (B)
10a. Bridle Creek Cir / Henley Pkwy[3]	AWSC	AM PM	8.5 8.2	A A	9.4 9.2	A A

Notes:
1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).
2. Bold text indicates unacceptable LOS.
3. No changes from the Harvest in Tracy TIA (Appendix B)

Source: Kimley-Horn, 2017

APPENDIX

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	260	375	250	112	10	1711	304	128	10	40	97
Future Volume (veh/h)	122	260	375	250	112	10	1711	304	128	10	40	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	126	268	387	258	115	10	1764	313	132	10	41	100
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1240	968	432	284	349	30	1623	826	702	26	249	212
Arrive On Green	0.36	0.27	0.27	0.16	0.07	0.07	0.32	0.44	0.44	0.01	0.13	0.13
Sat Flow, veh/h	3442	3539	1580	1774	4769	404	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	126	268	387	258	81	44	1764	313	132	10	41	100
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1783	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	3.6	8.8	34.9	21.2	3.4	3.5	48.0	16.6	7.5	0.8	2.9	4.4
Cycle Q Clear(g_c), s	3.6	8.8	34.9	21.2	3.4	3.5	48.0	16.6	7.5	0.8	2.9	4.4
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1240	968	432	284	248	131	1623	826	702	26	249	212
V/C Ratio(X)	0.10	0.28	0.89	0.91	0.33	0.34	1.09	0.38	0.19	0.38	0.16	0.47
Avail Cap(c_a), veh/h	1240	1160	518	288	1317	693	1623	826	702	108	249	212
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	42.2	51.7	61.1	65.1	65.2	50.0	27.5	25.0	72.2	56.8	15.6
Incr Delay (d2), s/veh	0.0	0.2	16.0	30.4	0.8	1.5	50.1	1.3	0.6	8.9	0.3	1.6
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(50%),veh/ln	1.7	4.3	17.1	12.8	1.6	1.8	29.6	8.8	3.4	0.5	1.5	2.0
LnGrp Delay(d),s/veh	31.5	42.4	67.7	91.5	65.9	66.7	100.1	28.9	25.6	81.1	57.1	17.3
LnGrp LOS	C	D	E	F	E	E	F	C	C	F	E	B
Approach Vol, veh/h		781			383			2209			151	
Approach Delay, s/veh		53.2			83.2			85.5			32.3	
Approach LOS		D			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	69.6	27.7	44.5	52.0	23.8	57.3	14.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	50.0	23.5	48.0	47.5	9.5	8.0	57.0
Max Q Clear Time (g_c+I1), s	2.8	18.6	23.2	36.9	50.0	6.4	5.6	5.5
Green Ext Time (p_c), s	0.0	3.1	0.0	2.4	0.0	0.2	0.9	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	75.8
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

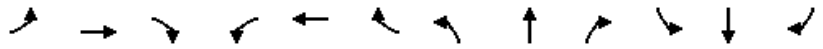
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1703	534	0	1319	338	0	0	0	161	67	1327
Future Volume (veh/h)	152	1703	534	0	1319	338	0	0	0	161	67	1327
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	157	1756	0	0	1360	0				118	137	0
Adj No. of Lanes	1	3	1	0	2	1				1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	192	4249	1323	0	2461	1260				178	187	330
Arrive On Green	0.11	0.84	0.00	0.00	1.00	0.00				0.10	0.10	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				1774	1863	1583
Grp Volume(v), veh/h	157	1756	0	0	1360	0				118	137	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	1863	1583
Q Serve(g_s), s	10.8	10.8	0.0	0.0	0.0	0.0				8.0	8.9	0.0
Cycle Q Clear(g_c), s	10.8	10.8	0.0	0.0	0.0	0.0				8.0	8.9	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	192	4249	1323	0	2461	1260				178	187	330
V/C Ratio(X)	0.82	0.41	0.00	0.00	0.55	0.00				0.66	0.73	0.00
Avail Cap(c_a), veh/h	326	4249	1323	0	2461	1260				632	663	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.87	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	54.5	2.6	0.0	0.0	0.0	0.0				54.2	54.6	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.0	0.0	0.8	0.0				4.2	5.4	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
%ile BackOfQ(50%),veh/ln	5.8	5.0	0.0	0.0	0.3	0.0				4.1	4.9	0.0
LnGrp Delay(d),s/veh	62.8	2.9	0.0	0.0	0.8	0.0				58.4	60.0	0.0
LnGrp LOS	E	A			A					E	E	
Approach Vol, veh/h		1913			1360						255	
Approach Delay, s/veh		7.8			0.8						59.3	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		108.5		16.5	17.5	90.9		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.0		44.0	22.5	45.0		
Max Q Clear Time (g_c+I1), s		12.8		10.9	12.8	2.0		
Green Ext Time (p_c), s		46.8		1.1	0.3	36.0		

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Notes

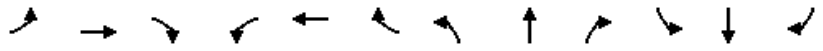
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1126	746	0	1276	231	375	0	181	0	0	0
Future Volume (veh/h)	0	1126	746	0	1276	231	375	0	181	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1161	0	0	1315	0	387	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2458	1469	0	3532	1100	428	0	382			
Arrive On Green	0.00	1.00	0.00	0.00	0.69	0.00	0.24	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1161	0	0	1315	0	387	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	13.3	0.0	26.5	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	13.3	0.0	26.5	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2458	1469	0	3532	1100	428	0	382			
V/C Ratio(X)	0.00	0.47	0.00	0.00	0.37	0.00	0.90	0.00	0.00			
Avail Cap(c_a), veh/h	0	2458	1469	0	3532	1100	809	0	722			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.80	0.00	0.00	0.70	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	7.9	0.0	46.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.2	0.0	7.3	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	6.3	0.0	13.9	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	8.1	0.0	53.3	0.0	0.0			
LnGrp LOS		A			A		D					
Approach Vol, veh/h		1161			1315			387				
Approach Delay, s/veh		0.5			8.1			53.3				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		90.8				90.8		34.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		59.5				59.5		56.5
Max Q Clear Time (g_c+I1), s		2.0				15.3		28.5
Green Ext Time (p_c), s		34.3				29.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B



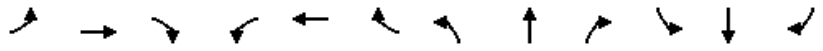
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1307	5	120	1355	10	60	20	130	10	10	80
Future Volume (veh/h)	140	1307	5	120	1355	10	60	20	130	10	10	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	144	1347	5	124	1397	10	62	21	134	10	10	82
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	675	3216	994	128	1688	12	141	33	212	28	22	178
Arrive On Green	0.38	0.63	0.63	0.14	0.65	0.64	0.04	0.15	0.15	0.02	0.13	0.12
Sat Flow, veh/h	1774	5085	1582	1774	5209	37	3442	219	1395	1774	171	1403
Grp Volume(v), veh/h	144	1347	5	124	909	498	62	0	155	10	0	92
Grp Sat Flow(s),veh/h/ln	1774	1695	1582	1774	1695	1856	1721	0	1613	1774	0	1574
Q Serve(g_s), s	6.8	16.6	0.1	8.7	25.5	25.5	2.2	0.0	11.3	0.7	0.0	6.8
Cycle Q Clear(g_c), s	6.8	16.6	0.1	8.7	25.5	25.5	2.2	0.0	11.3	0.7	0.0	6.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.86	1.00		0.89
Lane Grp Cap(c), veh/h	675	3216	994	128	1098	601	141	0	245	28	0	199
V/C Ratio(X)	0.21	0.42	0.01	0.97	0.83	0.83	0.44	0.00	0.63	0.36	0.00	0.46
Avail Cap(c_a), veh/h	675	3216	994	128	1098	601	220	0	639	114	0	623
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	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.1	11.5	4.3	53.4	19.4	19.4	58.5	0.0	49.9	60.9	0.0	50.9
Incr Delay (d2), s/veh	0.1	0.4	0.0	17.3	0.7	1.3	2.1	0.0	2.7	7.6	0.0	1.7
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(50%),veh/ln	3.4	7.8	0.0	4.9	11.6	12.8	1.1	0.0	5.2	0.4	0.0	3.0
LnGrp Delay(d),s/veh	26.3	11.9	4.3	70.7	20.1	20.6	60.7	0.0	52.6	68.5	0.0	52.5
LnGrp LOS	C	B	A	E	C	C	E		D	E		D
Approach Vol, veh/h		1496			1531			217			102	
Approach Delay, s/veh		13.2			24.3			54.9			54.1	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	83.0	9.1	19.8	51.5	44.5	6.0	23.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	42.0	7.5	49.0	10.5	40.0	7.5	49.0
Max Q Clear Time (g_c+I1), s	10.7	18.6	4.2	8.8	8.8	27.5	2.7	13.3
Green Ext Time (p_c), s	0.0	11.4	0.0	0.6	1.3	7.0	0.1	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	359	399	342	688	136	681	849	398	434	507	93
Future Volume (veh/h)	72	359	399	342	688	136	681	849	398	434	507	93
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	74	370	0	353	709	140	702	875	410	447	523	0
Adj No. of Lanes	1	3	1	2	2	0	3	2	1	3	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	675	210	803	903	178	1232	1199	536	598	750	336
Arrive On Green	0.06	0.13	0.00	0.23	0.31	0.30	0.25	0.34	0.34	0.12	0.21	0.00
Sat Flow, veh/h	1774	5085	1583	3442	2940	580	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	74	370	0	353	427	422	702	875	410	447	523	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1770	1751	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	3.7	6.2	0.0	8.0	20.0	20.1	11.2	19.8	21.1	7.9	12.4	0.0
Cycle Q Clear(g_c), s	3.7	6.2	0.0	8.0	20.0	20.1	11.2	19.8	21.1	7.9	12.4	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	675	210	803	544	538	1232	1199	536	598	750	336
V/C Ratio(X)	0.71	0.55	0.00	0.44	0.78	0.79	0.57	0.73	0.76	0.75	0.70	0.00
Avail Cap(c_a), veh/h	156	2316	721	803	825	817	1232	1573	703	714	1651	739
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.1	37.0	0.0	29.8	28.8	28.9	30.1	26.5	26.9	38.8	33.2	0.0
Incr Delay (d2), s/veh	8.5	0.7	0.0	0.4	2.8	2.9	0.6	1.2	3.7	3.6	1.2	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(50%),veh/ln	2.1	3.0	0.0	3.8	10.1	10.1	5.2	9.8	9.7	3.8	6.2	0.0
LnGrp Delay(d),s/veh	50.7	37.7	0.0	30.2	31.6	31.8	30.7	27.7	30.5	42.4	34.4	0.0
LnGrp LOS	D	D		C	C	C	C	C	C	D	C	
Approach Vol, veh/h		444			1202			1987			970	
Approach Delay, s/veh		39.8			31.3			29.3			38.1	
Approach LOS		D			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	16.1	26.4	23.3	9.4	32.0	14.9	34.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	41.0	10.5	42.0	7.5	42.0	12.5	40.0
Max Q Clear Time (g_c+I1), s	10.0	8.2	13.2	14.4	5.7	22.1	9.9	23.1
Green Ext Time (p_c), s	0.0	2.7	0.0	3.8	0.1	5.1	0.5	7.3

Intersection Summary		
HCM 2010 Ctrl Delay	32.7	
HCM 2010 LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	120	80	150	10	20
Future Vol, veh/h	20	120	80	150	10	20
Conflicting Peds, #/hr	13	0	0	13	1	1
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	124	82	155	10	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	250	0	-	0	339	174
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1316	-	-	-	657	869
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1315	-	-	-	630	857
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1315	-	-	-	765
HCM Lane V/C Ratio	0.016	-	-	-	0.04
HCM Control Delay (s)	7.8	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	120	125	120	150	245	1748	410	150	1058	40
Future Volume (veh/h)	30	170	120	125	120	150	245	1748	410	150	1058	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.92	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	31	175	124	129	124	155	253	1802	423	155	1091	41
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	198	140	130	448	351	284	1858	809	156	1576	59
Arrive On Green	0.03	0.20	0.19	0.07	0.24	0.24	0.16	0.52	0.52	0.09	0.45	0.45
Sat Flow, veh/h	1774	1009	715	1774	1863	1461	1774	3539	1541	1774	3478	131
Grp Volume(v), veh/h	31	0	299	129	124	155	253	1802	423	155	555	577
Grp Sat Flow(s),veh/h/ln	1774	0	1724	1774	1863	1461	1774	1770	1541	1774	1770	1839
Q Serve(g_s), s	2.4	0.0	23.0	9.9	7.4	12.3	19.0	67.1	24.5	11.9	34.0	34.1
Cycle Q Clear(g_c), s	2.4	0.0	23.0	9.9	7.4	12.3	19.0	67.1	24.5	11.9	34.0	34.1
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	51	0	338	130	448	351	284	1858	809	156	802	833
V/C Ratio(X)	0.60	0.00	0.88	0.99	0.28	0.44	0.89	0.97	0.52	0.99	0.69	0.69
Avail Cap(c_a), veh/h	104	0	386	130	448	351	326	1858	809	156	802	833
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.3	0.0	53.4	63.1	42.1	44.0	56.1	31.3	21.2	62.1	29.7	29.7
Incr Delay (d2), s/veh	10.8	0.0	19.2	75.8	0.3	0.9	23.1	14.9	2.4	69.4	4.9	4.7
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(50%),veh/ln	1.3	0.0	12.8	7.6	3.8	5.1	11.2	36.4	11.0	8.8	17.7	18.4
LnGrp Delay(d),s/veh	76.1	0.0	72.6	138.8	42.4	44.8	79.1	46.2	23.6	131.4	34.5	34.4
LnGrp LOS	E		E	F	D	D	E	D	C	F	C	C
Approach Vol, veh/h		330			408			2478			1287	
Approach Delay, s/veh		72.9			73.8			45.7			46.1	
Approach LOS		E			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	75.5	14.0	30.7	25.8	65.7	8.0	36.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	71.0	9.5	30.0	24.5	58.0	7.5	32.0
Max Q Clear Time (g_c+I1), s	13.9	69.1	11.9	25.0	21.0	36.1	4.4	14.3
Green Ext Time (p_c), s	0.0	1.9	0.0	1.2	0.2	20.3	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.4
HCM 2010 LOS	D

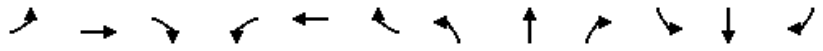
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	664	124	250	592	75	1888	225	355	70	90	365
Future Volume (veh/h)	122	664	124	250	592	75	1888	225	355	70	90	365
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	122	664	102	250	592	73	1888	225	339	70	90	279
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	849	379	267	1545	188	1807	757	635	147	238	203
Arrive On Green	0.05	0.24	0.24	0.15	0.34	0.33	0.36	0.41	0.41	0.08	0.13	0.13
Sat Flow, veh/h	3442	3539	1580	1774	4593	560	5003	1863	1562	1774	1863	1583
Grp Volume(v), veh/h	122	664	102	250	435	230	1888	225	339	70	90	279
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1763	1668	1863	1562	1774	1863	1583
Q Serve(g_s), s	4.6	23.3	7.0	18.5	13.0	13.2	48.0	10.8	21.9	5.0	5.9	14.6
Cycle Q Clear(g_c), s	4.6	23.3	7.0	18.5	13.0	13.2	48.0	10.8	21.9	5.0	5.9	14.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	849	379	267	1140	593	1807	757	635	147	238	203
V/C Ratio(X)	0.66	0.78	0.27	0.94	0.38	0.39	1.04	0.30	0.53	0.48	0.38	1.38
Avail Cap(c_a), veh/h	311	1305	583	267	1454	756	1807	757	635	147	238	203
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	47.3	41.0	55.8	33.6	33.7	42.4	26.6	29.9	58.2	53.1	42.9
Incr Delay (d2), s/veh	3.9	1.7	0.4	38.2	0.2	0.4	33.9	1.0	3.2	2.4	1.0	197.6
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(50%),veh/ln	2.3	11.6	3.1	11.9	6.1	6.5	27.6	5.8	10.0	2.5	3.1	17.6
LnGrp Delay(d),s/veh	65.5	49.0	41.4	94.0	33.8	34.1	76.3	27.6	33.1	60.6	54.1	240.5
LnGrp LOS	E	D	D	F	C	C	F	C	C	E	D	F
Approach Vol, veh/h		888			915			2452			439	
Approach Delay, s/veh		50.4			50.3			65.9			173.6	
Approach LOS		D			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	58.0	24.0	35.9	52.0	21.0	11.2	48.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	53.5	19.5	48.5	47.5	16.5	11.5	56.5
Max Q Clear Time (g_c+I1), s	7.0	23.9	20.5	25.3	50.0	16.6	6.6	15.2
Green Ext Time (p_c), s	2.6	2.7	0.0	5.1	0.0	0.0	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	70.0
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	2380	936	0	1851	433	0	0	0	767	37	1371
Future Volume (veh/h)	315	2380	936	0	1851	433	0	0	0	767	37	1371
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	315	2380	0	0	1851	0				793	0	1240
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	348	3305	1029	0	2171	1146				1053	0	779
Arrive On Green	0.20	0.65	0.00	0.00	0.85	0.00				0.30	0.00	0.30
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1579
Grp Volume(v), veh/h	315	2380	0	0	1851	0				793	0	1240
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1579
Q Serve(g_s), s	26.0	46.2	0.0	0.0	29.3	0.0				30.4	0.0	44.5
Cycle Q Clear(g_c), s	26.0	46.2	0.0	0.0	29.3	0.0				30.4	0.0	44.5
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	348	3305	1029	0	2171	1146				1053	0	779
V/C Ratio(X)	0.90	0.72	0.00	0.00	0.85	0.00				0.75	0.00	1.59
Avail Cap(c_a), veh/h	603	3305	1029	0	2171	1146				1053	0	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	58.9	17.3	0.0	0.0	8.4	0.0				47.8	0.0	38.1
Incr Delay (d2), s/veh	10.0	1.4	0.0	0.0	3.1	0.0				3.1	0.0	272.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.7	21.8	0.0	0.0	13.3	0.0				15.3	0.0	107.6
LnGrp Delay(d),s/veh	68.9	18.7	0.0	0.0	11.6	0.0				50.9	0.0	310.3
LnGrp LOS	E	B			B					D		F
Approach Vol, veh/h		2695			1851						2033	
Approach Delay, s/veh		24.5			11.6						209.1	
Approach LOS		C			B						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		101.5		48.5	33.5	68.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		97.0		44.0	50.5	42.0		
Max Q Clear Time (g_c+I1), s		48.2		46.5	28.0	31.3		
Green Ext Time (p_c), s		46.9		0.0	0.9	10.6		

Intersection Summary	
HCM 2010 Ctrl Delay	77.9
HCM 2010 LOS	E

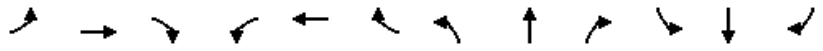
Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1619	1521	0	1698	315	584	0	744	0	0	0
Future Volume (veh/h)	0	1619	1521	0	1698	315	584	0	744	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1619	0	0	1698	0	584	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2113	940	0	3037	945	620	0	553			
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.00	0.35	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1619	0	0	1698	0	584	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	50.9	0.0	0.0	30.3	0.0	47.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	50.9	0.0	0.0	30.3	0.0	47.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2113	940	0	3037	945	620	0	553			
V/C Ratio(X)	0.00	0.77	0.00	0.00	0.56	0.00	0.94	0.00	0.00			
Avail Cap(c_a), veh/h	0	2113	940	0	3037	945	946	0	844			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.61	0.00	0.00	0.54	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	22.4	0.0	0.0	18.3	0.0	47.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.4	0.0	12.7	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	25.2	0.0	0.0	14.3	0.0	25.7	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	24.1	0.0	0.0	18.7	0.0	60.0	0.0	0.0			
LnGrp LOS		C			B		E					
Approach Vol, veh/h		1619			1698			584				
Approach Delay, s/veh		24.1			18.7			60.0				
Approach LOS		C			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		93.6				93.6		56.4
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		61.5				61.5		79.5
Max Q Clear Time (g_c+I1), s		52.9				32.3		49.9
Green Ext Time (p_c), s		8.3				26.6		2.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C



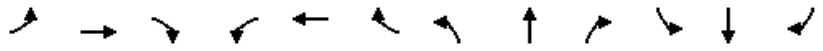
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	2363	5	110	1854	10	145	10	110	30	20	120
Future Volume (veh/h)	185	2363	5	110	1854	10	145	10	110	30	20	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	185	2363	1	110	1854	10	145	10	93	30	20	83
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	3332	1008	106	3176	17	184	18	171	107	39	161
Arrive On Green	0.11	0.66	0.65	0.12	1.00	1.00	0.05	0.12	0.11	0.06	0.12	0.12
Sat Flow, veh/h	1774	5085	1546	1774	5220	28	3442	156	1447	1774	310	1287
Grp Volume(v), veh/h	185	2363	1	110	1204	660	145	0	103	30	0	103
Grp Sat Flow(s),veh/h/ln	1774	1695	1546	1774	1695	1858	1721	0	1603	1774	0	1597
Q Serve(g_s), s	15.6	44.9	0.0	9.0	0.0	0.0	6.2	0.0	9.1	2.4	0.0	9.1
Cycle Q Clear(g_c), s	15.6	44.9	0.0	9.0	0.0	0.0	6.2	0.0	9.1	2.4	0.0	9.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.90	1.00		0.81
Lane Grp Cap(c), veh/h	189	3332	1008	106	2063	1130	184	0	189	107	0	199
V/C Ratio(X)	0.98	0.71	0.00	1.03	0.58	0.58	0.79	0.00	0.54	0.28	0.00	0.52
Avail Cap(c_a), veh/h	189	3332	1008	106	2063	1130	184	0	529	107	0	527
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	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.8	16.7	4.3	66.0	0.0	0.0	70.2	0.0	62.6	67.4	0.0	61.6
Incr Delay (d2), s/veh	41.3	0.7	0.0	35.2	0.1	0.2	20.4	0.0	2.4	1.4	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	21.0	0.0	5.4	0.0	0.1	3.5	0.0	4.2	1.2	0.0	4.1
LnGrp Delay(d),s/veh	108.1	17.3	4.3	101.7	0.1	0.2	90.5	0.0	65.0	68.8	0.0	63.7
LnGrp LOS	F	B	A	F	A	A	F		E	E		E
Approach Vol, veh/h		2549			1974			248			133	
Approach Delay, s/veh		23.9			5.8			79.9			64.8	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	102.3	12.0	22.7	20.0	95.3	13.0	21.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	67.0	7.5	49.0	15.5	60.0	7.5	49.0
Max Q Clear Time (g_c+I1), s	11.6	46.9	8.2	11.1	17.6	2.0	4.4	11.1
Green Ext Time (p_c), s	0.0	19.7	0.0	0.6	0.0	55.0	0.1	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1061	1167	169	1041	148	611	754	147	458	733	283
Future Volume (veh/h)	166	1061	1167	169	1041	148	611	754	147	458	733	283
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	166	1061	0	169	1041	139	611	754	88	458	733	0
Adj No. of Lanes	1	3	1	2	2	0	3	2	1	2	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	1433	446	599	1076	144	714	915	409	499	923	413
Arrive On Green	0.11	0.28	0.00	0.17	0.34	0.34	0.14	0.26	0.26	0.15	0.26	0.00
Sat Flow, veh/h	1774	5085	1583	3442	3139	419	5003	3539	1581	3442	3539	1583
Grp Volume(v), veh/h	166	1061	0	169	586	594	611	754	88	458	733	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1770	1788	1668	1770	1581	1721	1770	1583
Q Serve(g_s), s	10.4	21.5	0.0	4.9	37.1	37.2	13.6	22.8	3.3	14.9	22.0	0.0
Cycle Q Clear(g_c), s	10.4	21.5	0.0	4.9	37.1	37.2	13.6	22.8	3.3	14.9	22.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	200	1433	446	599	607	613	714	915	409	499	923	413
V/C Ratio(X)	0.83	0.74	0.00	0.28	0.97	0.97	0.86	0.82	0.22	0.92	0.79	0.00
Avail Cap(c_a), veh/h	203	1967	612	599	607	613	714	1198	535	499	1307	584
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.4	37.1	0.0	40.8	36.7	36.8	47.6	39.7	14.4	48.0	39.2	0.0
Incr Delay (d2), s/veh	23.7	1.0	0.0	0.3	28.3	28.5	10.0	3.7	0.3	22.0	2.3	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(50%),veh/ln	6.4	10.2	0.0	2.3	22.8	23.2	6.9	11.6	2.1	8.6	11.0	0.0
LnGrp Delay(d),s/veh	73.1	38.1	0.0	41.1	65.0	65.3	57.6	43.4	14.6	69.9	41.5	0.0
LnGrp LOS	E	D		D	E	E	E	D	B	E	D	
Approach Vol, veh/h		1227			1349			1453			1191	
Approach Delay, s/veh		42.8			62.1			47.6			52.4	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.8	36.1	20.2	33.7	16.9	43.0	20.5	33.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	43.5	11.5	41.5	12.5	38.5	16.0	38.0
Max Q Clear Time (g_c+I1), s	16.9	23.5	15.6	24.0	12.4	39.2	16.9	24.8
Green Ext Time (p_c), s	0.5	7.7	0.0	4.8	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	51.3
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	60	80	80	50	40
Future Vol, veh/h	60	60	80	80	50	40
Conflicting Peds, #/hr	4	0	0	4	1	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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	60	80	80	50	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	164	0	-	0	305	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	181	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1414	-	-	-	687	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	850	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1414	-	-	-	652	923
Mov Cap-2 Maneuver	-	-	-	-	652	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	750
HCM Lane V/C Ratio	0.042	-	-	-	0.12
HCM Control Delay (s)	7.7	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	110	40	145	130	280	170	1092	610	780	1209	80
Future Volume (veh/h)	140	110	40	145	130	280	170	1092	610	780	1209	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.98	1.00		0.94	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	140	110	26	145	130	200	170	1092	411	780	1209	78
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	226	53	125	302	251	202	1088	458	627	1845	119
Arrive On Green	0.06	0.16	0.15	0.07	0.16	0.16	0.11	0.31	0.31	0.35	0.55	0.54
Sat Flow, veh/h	1774	1457	344	1774	1863	1544	1774	3539	1490	1774	3371	217
Grp Volume(v), veh/h	140	0	136	145	130	200	170	1092	411	780	634	653
Grp Sat Flow(s),veh/h/ln	1774	0	1801	1774	1863	1544	1774	1770	1490	1774	1770	1819
Q Serve(g_s), s	9.0	0.0	9.8	10.0	8.9	17.6	13.3	43.5	37.3	50.0	35.7	35.9
Cycle Q Clear(g_c), s	9.0	0.0	9.8	10.0	8.9	17.6	13.3	43.5	37.3	50.0	35.7	35.9
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	113	0	280	125	302	251	202	1088	458	627	969	995
V/C Ratio(X)	1.24	0.00	0.49	1.16	0.43	0.80	0.84	1.00	0.90	1.24	0.65	0.66
Avail Cap(c_a), veh/h	113	0	388	125	415	344	326	1088	458	627	969	995
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	0.0	54.6	65.7	53.4	57.0	61.5	49.0	46.8	45.7	22.6	22.6
Incr Delay (d2), s/veh	162.8	0.0	1.3	128.4	1.0	8.9	10.4	28.1	22.9	122.8	3.4	3.4
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(50%),veh/ln	9.5	0.0	5.0	9.4	4.7	8.1	7.1	25.4	18.2	45.8	18.4	18.9
LnGrp Delay(d),s/veh	229.1	0.0	56.0	194.2	54.3	65.9	71.9	77.1	69.7	168.6	26.0	26.0
LnGrp LOS	F		E	F	D	E	E	F	E	F	C	C
Approach Vol, veh/h		276			475			1673			2067	
Approach Delay, s/veh		143.8			101.9			74.7			79.8	
Approach LOS		F			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	54.0	47.5	14.0	26.0	20.1	81.4	13.0	27.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	49.5	43.0	9.5	30.0	25.5	67.0	8.5	31.0
Max Q Clear Time (g_c+I1), s	52.0	45.5	12.0	11.8	15.3	37.9	11.0	19.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.3	23.0	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	84.2
HCM 2010 LOS	F

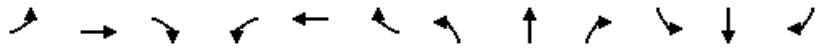
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	264	375	250	113	10	1711	304	128	10	40	97
Future Volume (veh/h)	123	264	375	250	113	10	1711	304	128	10	40	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	127	272	387	258	116	10	1764	313	132	10	41	100
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1226	970	433	276	351	29	1623	834	708	26	257	218
Arrive On Green	0.36	0.27	0.27	0.16	0.07	0.07	0.32	0.45	0.45	0.01	0.14	0.14
Sat Flow, veh/h	3442	3539	1580	1774	4773	401	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	127	272	387	258	82	44	1764	313	132	10	41	100
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1784	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	3.7	8.9	34.8	21.3	3.4	3.5	48.0	16.5	7.4	0.8	2.9	4.4
Cycle Q Clear(g_c), s	3.7	8.9	34.8	21.3	3.4	3.5	48.0	16.5	7.4	0.8	2.9	4.4
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1226	970	433	276	249	131	1623	834	708	26	257	218
V/C Ratio(X)	0.10	0.28	0.89	0.94	0.33	0.34	1.09	0.38	0.19	0.38	0.16	0.46
Avail Cap(c_a), veh/h	1226	1184	529	276	1317	693	1623	834	708	108	257	218
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	42.2	51.6	61.8	65.1	65.2	50.0	27.1	24.6	72.2	56.2	15.6
Incr Delay (d2), s/veh	0.0	0.2	15.3	37.3	0.8	1.5	50.1	1.3	0.6	8.9	0.3	1.5
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(50%),veh/ln	1.7	4.4	17.0	13.3	1.6	1.8	29.6	8.8	3.4	0.5	1.5	2.0
LnGrp Delay(d),s/veh	31.9	42.4	66.9	99.1	65.8	66.7	100.1	28.4	25.2	81.1	56.5	17.1
LnGrp LOS	C	D	E	F	E	E	F	C	C	F	E	B
Approach Vol, veh/h		786			384			2209			151	
Approach Delay, s/veh		52.8			88.3			85.5			32.1	
Approach LOS		D			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	70.2	27.0	44.6	52.0	24.4	56.7	14.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	50.0	22.5	49.0	47.5	9.5	8.0	57.0
Max Q Clear Time (g_c+I1), s	2.8	18.5	23.3	36.8	50.0	6.4	5.7	5.5
Green Ext Time (p_c), s	0.0	3.1	0.0	2.5	0.0	0.2	0.9	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	76.2
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.



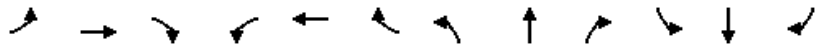
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1706	534	0	1353	343	0	0	0	162	67	1327
Future Volume (veh/h)	152	1706	534	0	1353	343	0	0	0	162	67	1327
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	157	1759	0	0	1395	0				118	138	0
Adj No. of Lanes	1	3	1	0	2	1				1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	192	4246	1322	0	2459	1260				179	188	331
Arrive On Green	0.11	0.84	0.00	0.00	1.00	0.00				0.10	0.10	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				1774	1863	1583
Grp Volume(v), veh/h	157	1759	0	0	1395	0				118	138	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	1863	1583
Q Serve(g_s), s	10.8	10.9	0.0	0.0	0.0	0.0				8.0	9.0	0.0
Cycle Q Clear(g_c), s	10.8	10.9	0.0	0.0	0.0	0.0				8.0	9.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	192	4246	1322	0	2459	1260				179	188	331
V/C Ratio(X)	0.82	0.41	0.00	0.00	0.57	0.00				0.66	0.73	0.00
Avail Cap(c_a), veh/h	326	4246	1322	0	2459	1260				632	663	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.87	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	54.5	2.6	0.0	0.0	0.0	0.0				54.1	54.6	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.0	0.0	0.8	0.0				4.1	5.5	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
%ile BackOfQ(50%),veh/ln	5.8	5.2	0.0	0.0	0.3	0.0				4.1	4.9	0.0
LnGrp Delay(d),s/veh	62.8	2.9	0.0	0.0	0.8	0.0				58.2	60.0	0.0
LnGrp LOS	E	A			A					E	E	
Approach Vol, veh/h		1916			1395						256	
Approach Delay, s/veh		7.8			0.8						59.2	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		108.4		16.6	17.5	90.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.0		44.0	22.5	45.0		
Max Q Clear Time (g_c+I1), s		12.9		11.0	12.8	2.0		
Green Ext Time (p_c), s		47.3		1.1	0.3	36.4		

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Notes

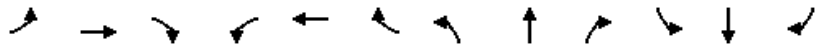
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1130	746	0	1315	253	375	0	187	0	0	0
Future Volume (veh/h)	0	1130	746	0	1315	253	375	0	187	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1165	0	0	1356	0	387	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2458	1469	0	3532	1100	428	0	382			
Arrive On Green	0.00	1.00	0.00	0.00	0.69	0.00	0.24	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1165	0	0	1356	0	387	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	13.9	0.0	26.5	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	13.9	0.0	26.5	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2458	1469	0	3532	1100	428	0	382			
V/C Ratio(X)	0.00	0.47	0.00	0.00	0.38	0.00	0.90	0.00	0.00			
Avail Cap(c_a), veh/h	0	2458	1469	0	3532	1100	809	0	722			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.80	0.00	0.00	0.70	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	7.9	0.0	46.0	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.2	0.0	7.3	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.0	0.0	6.5	0.0	13.9	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	8.2	0.0	53.3	0.0	0.0			
LnGrp LOS		A			A		D					
Approach Vol, veh/h		1165			1356			387				
Approach Delay, s/veh		0.5			8.2			53.3				
Approach LOS		A			A			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		90.8				90.8		34.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		59.5				59.5		56.5
Max Q Clear Time (g_c+I1), s		2.0				15.9		28.5
Green Ext Time (p_c), s		35.2				29.6		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B



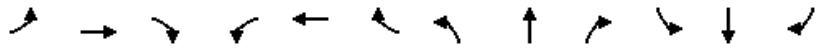
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1307	55	134	1355	10	121	20	167	10	10	80
Future Volume (veh/h)	140	1307	55	134	1355	10	121	20	167	10	10	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	144	1347	57	138	1397	10	125	21	172	10	10	82
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	652	3111	961	128	1646	12	212	30	247	28	22	178
Arrive On Green	0.37	0.61	0.61	0.14	0.63	0.62	0.06	0.17	0.17	0.02	0.13	0.12
Sat Flow, veh/h	1774	5085	1582	1774	5209	37	3442	175	1432	1774	171	1403
Grp Volume(v), veh/h	144	1347	57	138	909	498	125	0	193	10	0	92
Grp Sat Flow(s),veh/h/ln	1774	1695	1582	1774	1695	1856	1721	0	1607	1774	0	1574
Q Serve(g_s), s	7.0	17.5	1.2	9.0	26.6	26.6	4.4	0.0	14.1	0.7	0.0	6.8
Cycle Q Clear(g_c), s	7.0	17.5	1.2	9.0	26.6	26.6	4.4	0.0	14.1	0.7	0.0	6.8
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.89	1.00		0.89
Lane Grp Cap(c), veh/h	652	3111	961	128	1071	587	212	0	277	28	0	199
V/C Ratio(X)	0.22	0.43	0.06	1.08	0.85	0.85	0.59	0.00	0.70	0.36	0.00	0.46
Avail Cap(c_a), veh/h	652	3111	961	128	1071	587	220	0	636	114	0	623
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	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	12.8	4.5	53.5	20.6	20.6	57.1	0.0	48.9	60.9	0.0	50.9
Incr Delay (d2), s/veh	0.2	0.4	0.1	48.8	0.8	1.5	3.8	0.0	3.1	7.6	0.0	1.7
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(50%),veh/ln	3.4	8.2	0.6	6.1	12.1	13.4	2.2	0.0	6.5	0.4	0.0	3.0
LnGrp Delay(d),s/veh	27.3	13.2	4.6	102.3	21.5	22.2	60.9	0.0	52.0	68.5	0.0	52.5
LnGrp LOS	C	B	A	F	C	C	E		D	E		D
Approach Vol, veh/h		1548			1545			318			102	
Approach Delay, s/veh		14.2			28.9			55.5			54.1	
Approach LOS		B			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	80.5	11.7	19.8	50.0	43.5	6.0	25.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	42.0	7.5	49.0	11.5	39.0	7.5	49.0
Max Q Clear Time (g_c+I1), s	11.0	19.5	6.4	8.8	9.0	28.6	2.7	16.1
Green Ext Time (p_c), s	0.0	11.4	0.0	0.6	2.0	6.1	0.1	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	382	410	342	695	136	681	849	398	434	507	100
Future Volume (veh/h)	75	382	410	342	695	136	681	849	398	434	507	100
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	394	0	353	716	140	702	875	410	447	523	0
Adj No. of Lanes	1	3	1	2	2	0	3	2	1	3	2	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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	703	219	795	909	178	1227	1195	534	596	748	335
Arrive On Green	0.06	0.14	0.00	0.23	0.31	0.30	0.25	0.34	0.34	0.12	0.21	0.00
Sat Flow, veh/h	1774	5085	1583	3442	2946	576	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	77	394	0	353	430	426	702	875	410	447	523	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1770	1752	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	3.9	6.7	0.0	8.1	20.4	20.5	11.3	20.0	21.3	8.0	12.6	0.0
Cycle Q Clear(g_c), s	3.9	6.7	0.0	8.1	20.4	20.5	11.3	20.0	21.3	8.0	12.6	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	703	219	795	546	540	1227	1195	534	596	748	335
V/C Ratio(X)	0.71	0.56	0.00	0.44	0.79	0.79	0.57	0.73	0.77	0.75	0.70	0.00
Avail Cap(c_a), veh/h	154	2294	714	795	818	809	1227	1558	696	707	1635	731
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.4	37.0	0.0	30.3	29.1	29.1	30.5	26.8	27.2	39.2	33.6	0.0
Incr Delay (d2), s/veh	8.4	0.7	0.0	0.4	3.0	3.1	0.6	1.3	3.8	3.7	1.2	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(50%),veh/ln	2.2	3.1	0.0	3.9	10.4	10.3	5.3	9.9	9.8	3.8	6.3	0.0
LnGrp Delay(d),s/veh	50.8	37.7	0.0	30.7	32.1	32.2	31.1	28.1	31.0	42.9	34.8	0.0
LnGrp LOS	D	D		C	C	C	C	C	C	D	C	
Approach Vol, veh/h		471			1209			1987			970	
Approach Delay, s/veh		39.9			31.7			29.8			38.5	
Approach LOS		D			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	16.7	26.6	23.4	9.6	32.4	15.0	35.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	41.0	10.5	42.0	7.5	42.0	12.5	40.0
Max Q Clear Time (g_c+I1), s	10.1	8.7	13.3	14.6	5.9	22.5	10.0	23.3
Green Ext Time (p_c), s	0.0	2.9	0.0	3.8	0.0	5.1	0.5	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	33.1
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	120	80	157	34	20
Future Vol, veh/h	20	120	80	157	34	20
Conflicting Peds, #/hr	13	0	0	13	1	1
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	124	82	162	35	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	342	177
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	654	866
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1307	-	-	-	627	854
Mov Cap-2 Maneuver	-	-	-	-	627	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1307	-	-	-	695
HCM Lane V/C Ratio	0.016	-	-	-	0.08
HCM Control Delay (s)	7.8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	144	125	120	150	252	1748	410	150	1069	40
Future Volume (veh/h)	30	170	144	125	120	150	252	1748	410	150	1069	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.93	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	31	175	148	129	124	155	260	1802	423	155	1102	41
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	191	162	129	466	366	290	1834	798	154	1538	57
Arrive On Green	0.03	0.21	0.20	0.07	0.25	0.25	0.16	0.52	0.52	0.09	0.44	0.44
Sat Flow, veh/h	1774	927	784	1774	1863	1466	1774	3539	1540	1774	3480	129
Grp Volume(v), veh/h	31	0	323	129	124	155	260	1802	423	155	560	583
Grp Sat Flow(s),veh/h/ln	1774	0	1711	1774	1863	1466	1774	1770	1540	1774	1770	1840
Q Serve(g_s), s	2.4	0.0	25.5	10.0	7.4	12.2	19.8	68.9	25.2	12.0	35.7	35.7
Cycle Q Clear(g_c), s	2.4	0.0	25.5	10.0	7.4	12.2	19.8	68.9	25.2	12.0	35.7	35.7
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	51	0	353	129	466	366	290	1834	798	154	782	813
V/C Ratio(X)	0.61	0.00	0.92	1.00	0.27	0.42	0.90	0.98	0.53	1.00	0.72	0.72
Avail Cap(c_a), veh/h	103	0	378	129	466	366	321	1834	798	154	782	813
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	0.0	53.7	64.0	41.6	43.4	56.6	32.6	22.1	63.0	31.4	31.5
Incr Delay (d2), s/veh	11.0	0.0	25.4	80.2	0.3	0.8	24.8	17.2	2.5	73.6	5.6	5.4
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(50%),veh/ln	1.3	0.0	14.5	7.8	3.8	5.1	11.7	37.9	11.2	9.0	18.6	19.3
LnGrp Delay(d),s/veh	77.3	0.0	79.1	144.2	41.9	44.2	81.4	49.9	24.6	136.6	37.0	36.8
LnGrp LOS	E		E	F	D	D	F	D	C	F	D	D
Approach Vol, veh/h		354			408			2485			1298	
Approach Delay, s/veh		79.0			75.1			48.9			48.8	
Approach LOS		E			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	75.5	14.0	32.5	26.5	65.0	8.0	38.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	71.0	9.5	30.0	24.5	58.0	7.5	32.0
Max Q Clear Time (g_c+I1), s	14.0	70.9	12.0	27.5	21.8	37.7	4.4	14.2
Green Ext Time (p_c), s	0.0	0.1	0.0	0.5	0.2	18.9	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	53.5
HCM 2010 LOS	D

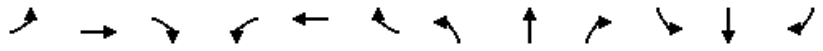
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	666	124	250	592	75	1888	225	355	70	90	366
Future Volume (veh/h)	122	666	124	250	592	75	1888	225	355	70	90	366
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	122	666	102	250	592	73	1888	225	339	70	90	280
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	851	380	267	1547	189	1806	757	635	147	238	202
Arrive On Green	0.05	0.24	0.24	0.15	0.34	0.33	0.36	0.41	0.41	0.08	0.13	0.13
Sat Flow, veh/h	3442	3539	1580	1774	4593	560	5003	1863	1562	1774	1863	1583
Grp Volume(v), veh/h	122	666	102	250	435	230	1888	225	339	70	90	280
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1763	1668	1863	1562	1774	1863	1583
Q Serve(g_s), s	4.6	23.4	7.0	18.5	13.0	13.2	48.0	10.8	21.9	5.0	5.9	14.6
Cycle Q Clear(g_c), s	4.6	23.4	7.0	18.5	13.0	13.2	48.0	10.8	21.9	5.0	5.9	14.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	851	380	267	1142	594	1806	757	635	147	238	202
V/C Ratio(X)	0.66	0.78	0.27	0.94	0.38	0.39	1.05	0.30	0.53	0.48	0.38	1.38
Avail Cap(c_a), veh/h	311	1304	582	267	1453	756	1806	757	635	147	238	202
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	47.3	41.0	55.9	33.5	33.7	42.5	26.7	29.9	58.2	53.1	42.9
Incr Delay (d2), s/veh	3.9	1.7	0.4	38.3	0.2	0.4	34.1	1.0	3.2	2.4	1.0	200.0
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(50%),veh/ln	2.3	11.7	3.1	11.9	6.1	6.5	27.8	5.8	10.0	2.5	3.1	17.6
LnGrp Delay(d),s/veh	65.6	49.0	41.4	94.2	33.8	34.1	76.6	27.7	33.1	60.6	54.1	243.0
LnGrp LOS	E	D	D	F	C	C	F	C	C	E	D	F
Approach Vol, veh/h		890			915			2452			440	
Approach Delay, s/veh		50.4			50.4			66.1			175.3	
Approach LOS		D			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	58.0	24.0	36.0	52.0	21.0	11.2	48.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	53.5	19.5	48.5	47.5	16.5	11.5	56.5
Max Q Clear Time (g_c+I1), s	7.0	23.9	20.5	25.4	50.0	16.6	6.6	15.2
Green Ext Time (p_c), s	2.6	2.7	0.0	5.1	0.0	0.0	0.1	5.9

Intersection Summary	
HCM 2010 Ctrl Delay	70.3
HCM 2010 LOS	E

Notes

User approved ignoring U-Turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	2394	936	0	1868	436	0	0	0	768	37	1371
Future Volume (veh/h)	315	2394	936	0	1868	436	0	0	0	768	37	1371
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	315	2394	0	0	1868	0				794	0	1240
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	348	3305	1029	0	2173	1146				1053	0	779
Arrive On Green	0.20	0.65	0.00	0.00	0.85	0.00				0.30	0.00	0.30
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1579
Grp Volume(v), veh/h	315	2394	0	0	1868	0				794	0	1240
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1579
Q Serve(g_s), s	26.0	46.7	0.0	0.0	30.2	0.0				30.4	0.0	44.5
Cycle Q Clear(g_c), s	26.0	46.7	0.0	0.0	30.2	0.0				30.4	0.0	44.5
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	348	3305	1029	0	2173	1146				1053	0	779
V/C Ratio(X)	0.91	0.72	0.00	0.00	0.86	0.00				0.75	0.00	1.59
Avail Cap(c_a), veh/h	532	3305	1029	0	2173	1146				1053	0	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.68	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	59.0	17.4	0.0	0.0	8.4	0.0				47.8	0.0	38.1
Incr Delay (d2), s/veh	13.6	1.4	0.0	0.0	3.3	0.0				3.1	0.0	272.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	22.2	0.0	0.0	13.8	0.0				15.3	0.0	107.7
LnGrp Delay(d),s/veh	72.6	18.8	0.0	0.0	11.7	0.0				50.9	0.0	310.9
LnGrp LOS	E	B			B					D		F
Approach Vol, veh/h		2709			1868						2034	
Approach Delay, s/veh		25.0			11.7						209.4	
Approach LOS		C			B						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		101.5		48.5	33.4	68.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		97.0		44.0	44.5	48.0		
Max Q Clear Time (g_c+I1), s		48.7		46.5	28.0	32.2		
Green Ext Time (p_c), s		46.5		0.0	0.9	15.6		

Intersection Summary	
HCM 2010 Ctrl Delay	78.0
HCM 2010 LOS	E

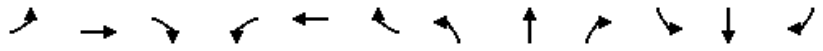
Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑↑	↱	↰		↱			
Traffic Volume (veh/h)	0	1634	1521	0	1718	322	584	0	772	0	0	0
Future Volume (veh/h)	0	1634	1521	0	1718	322	584	0	772	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1634	0	0	1718	0	584	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	2120	943	0	3046	948	617	0	551			
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.00	0.35	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1634	0	0	1718	0	584	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	51.6	0.0	0.0	30.7	0.0	48.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	51.6	0.0	0.0	30.7	0.0	48.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2120	943	0	3046	948	617	0	551			
V/C Ratio(X)	0.00	0.77	0.00	0.00	0.56	0.00	0.95	0.00	0.00			
Avail Cap(c_a), veh/h	0	2120	943	0	3046	948	733	0	654			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.60	0.00	0.00	0.54	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	22.4	0.0	0.0	18.2	0.0	47.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.4	0.0	19.5	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	25.5	0.0	0.0	14.4	0.0	26.9	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	24.1	0.0	0.0	18.6	0.0	67.1	0.0	0.0			
LnGrp LOS		C			B		E					
Approach Vol, veh/h		1634			1718			584				
Approach Delay, s/veh		24.1			18.6			67.1				
Approach LOS		C			B			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		93.8				93.8		56.2
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		79.5				79.5		61.5
Max Q Clear Time (g_c+I1), s		53.6				32.7		50.0
Green Ext Time (p_c), s		23.9				40.8		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C



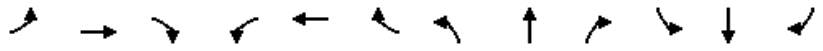
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	2363	58	156	1854	10	172	10	133	30	20	120
Future Volume (veh/h)	185	2363	58	156	1854	10	172	10	133	30	20	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	185	2363	54	156	1854	10	172	10	116	30	20	83
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	3230	977	142	3176	17	184	16	191	86	39	161
Arrive On Green	0.11	0.64	0.63	0.16	1.00	1.00	0.05	0.13	0.13	0.05	0.12	0.12
Sat Flow, veh/h	1774	5085	1546	1774	5220	28	3442	127	1472	1774	310	1287
Grp Volume(v), veh/h	185	2363	54	156	1204	660	172	0	126	30	0	103
Grp Sat Flow(s),veh/h/ln	1774	1695	1546	1774	1695	1858	1721	0	1599	1774	0	1597
Q Serve(g_s), s	15.6	47.5	1.4	12.0	0.0	0.0	7.5	0.0	11.2	2.5	0.0	9.1
Cycle Q Clear(g_c), s	15.6	47.5	1.4	12.0	0.0	0.0	7.5	0.0	11.2	2.5	0.0	9.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.92	1.00		0.81
Lane Grp Cap(c), veh/h	189	3230	977	142	2063	1130	184	0	208	86	0	199
V/C Ratio(X)	0.98	0.73	0.06	1.10	0.58	0.58	0.94	0.00	0.61	0.35	0.00	0.52
Avail Cap(c_a), veh/h	189	3230	977	142	2063	1130	184	0	528	95	0	527
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	1.00
Upstream Filter(I)	0.52	0.52	0.52	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.8	18.7	5.2	63.0	0.0	0.0	70.7	0.0	61.9	69.1	0.0	61.6
Incr Delay (d2), s/veh	41.3	0.8	0.1	54.9	0.1	0.2	48.5	0.0	2.8	2.4	0.0	2.1
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(50%),veh/ln	9.8	22.3	0.6	8.0	0.0	0.1	4.8	0.0	5.1	1.3	0.0	4.1
LnGrp Delay(d),s/veh	108.1	19.4	5.2	117.9	0.1	0.2	119.3	0.0	64.7	71.5	0.0	63.7
LnGrp LOS	F	B	A	F	A	A	F		E	E		E
Approach Vol, veh/h		2602			2020			298			133	
Approach Delay, s/veh		25.5			9.2			96.2			65.4	
Approach LOS		C			A			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	99.3	12.0	22.7	20.0	95.3	11.2	23.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	64.0	7.5	49.0	15.5	60.0	7.5	49.0
Max Q Clear Time (g_c+I1), s	11.6	49.5	9.5	11.1	17.6	2.0	4.5	13.2
Green Ext Time (p_c), s	0.0	14.3	0.0	0.6	0.0	55.1	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	1069	1178	169	1065	148	611	754	147	458	733	303
Future Volume (veh/h)	170	1069	1178	169	1065	148	611	754	147	458	733	303
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	170	1069	0	169	1065	139	611	754	88	458	733	0
Adj No. of Lanes	1	3	1	2	2	0	3	2	1	2	2	1
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1440	448	596	1078	140	713	915	409	498	923	413
Arrive On Green	0.11	0.28	0.00	0.17	0.34	0.34	0.14	0.26	0.26	0.14	0.26	0.00
Sat Flow, veh/h	1774	5085	1583	3442	3149	410	5003	3539	1581	3442	3539	1583
Grp Volume(v), veh/h	170	1069	0	169	598	606	611	754	88	458	733	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1770	1790	1668	1770	1581	1721	1770	1583
Q Serve(g_s), s	10.7	21.7	0.0	4.9	38.2	38.4	13.6	22.9	3.3	15.0	22.0	0.0
Cycle Q Clear(g_c), s	10.7	21.7	0.0	4.9	38.2	38.4	13.6	22.9	3.3	15.0	22.0	0.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	1440	448	596	606	613	713	915	409	498	923	413
V/C Ratio(X)	0.84	0.74	0.00	0.28	0.99	0.99	0.86	0.82	0.22	0.92	0.79	0.00
Avail Cap(c_a), veh/h	202	1964	611	596	606	613	713	1196	534	498	1304	584
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.5	37.1	0.0	41.0	37.2	37.3	47.7	39.8	14.5	48.1	39.3	0.0
Incr Delay (d2), s/veh	25.8	1.0	0.0	0.3	33.2	33.6	10.1	3.7	0.3	22.2	2.3	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(50%),veh/ln	6.7	10.3	0.0	2.3	24.2	24.6	6.9	11.7	2.1	8.7	11.1	0.0
LnGrp Delay(d),s/veh	75.2	38.1	0.0	41.2	70.4	70.9	57.8	43.5	14.7	70.3	41.6	0.0
LnGrp LOS	E	D		D	E	E	E	D	B	E	D	
Approach Vol, veh/h		1239			1373			1453			1191	
Approach Delay, s/veh		43.2			67.0			47.8			52.6	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.7	36.3	20.2	33.7	17.0	43.0	20.5	33.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	43.5	11.5	41.5	12.5	38.5	16.0	38.0
Max Q Clear Time (g_c+I1), s	16.9	23.7	15.6	24.0	12.7	40.4	17.0	24.9
Green Ext Time (p_c), s	0.5	7.7	0.0	4.8	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	52.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	60	80	112	50	55
Future Vol, veh/h	60	60	80	112	50	55
Conflicting Peds, #/hr	4	0	0	4	1	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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	60	80	112	50	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	196	0	-	0	321	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	181	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1377	-	-	-	673	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	850	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1377	-	-	-	638	905
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	755
HCM Lane V/C Ratio	0.044	-	-	-	0.139
HCM Control Delay (s)	7.7	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	116	40	145	137	280	196	1092	610	780	1220	80
Future Volume (veh/h)	140	116	40	145	137	280	196	1092	610	780	1220	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.98	1.00		0.94	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	140	116	26	145	137	200	196	1092	411	780	1220	78
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	229	51	125	303	251	227	1088	458	627	1796	115
Arrive On Green	0.06	0.16	0.15	0.07	0.16	0.16	0.13	0.31	0.31	0.35	0.53	0.53
Sat Flow, veh/h	1774	1473	330	1774	1863	1544	1774	3539	1490	1774	3373	215
Grp Volume(v), veh/h	140	0	142	145	137	200	196	1092	411	780	639	659
Grp Sat Flow(s),veh/h/ln	1774	0	1804	1774	1863	1544	1774	1770	1490	1774	1770	1819
Q Serve(g_s), s	9.0	0.0	10.2	10.0	9.4	17.6	15.3	43.5	37.3	50.0	37.4	37.6
Cycle Q Clear(g_c), s	9.0	0.0	10.2	10.0	9.4	17.6	15.3	43.5	37.3	50.0	37.4	37.6
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	113	0	281	125	303	251	227	1088	458	627	942	969
V/C Ratio(X)	1.24	0.00	0.51	1.16	0.45	0.80	0.86	1.00	0.90	1.24	0.68	0.68
Avail Cap(c_a), veh/h	113	0	389	125	415	344	326	1088	458	627	942	969
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	0.0	54.8	65.8	53.6	57.0	60.5	49.0	46.9	45.8	24.2	24.3
Incr Delay (d2), s/veh	163.0	0.0	1.4	128.6	1.1	8.8	14.9	28.2	23.0	123.0	3.9	3.8
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(50%),veh/ln	9.5	0.0	5.2	9.4	4.9	8.1	8.5	25.4	18.2	45.8	19.3	19.9
LnGrp Delay(d),s/veh	229.3	0.0	56.2	194.3	54.6	65.8	75.4	77.2	69.8	168.8	28.1	28.1
LnGrp LOS	F		E	F	D	E	E	F	E	F	C	C
Approach Vol, veh/h		282			482			1699			2078	
Approach Delay, s/veh		142.1			101.3			75.2			80.9	
Approach LOS		F			F			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	54.0	47.5	14.0	26.0	22.1	79.4	13.0	27.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	49.5	43.0	9.5	30.0	25.5	67.0	8.5	31.0
Max Q Clear Time (g_c+I1), s	52.0	45.5	12.0	12.2	17.3	39.6	11.0	19.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.3	22.0	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	84.7
HCM 2010 LOS	F

Appendix B

Transportation Impact Study

EXISTING CONDITIONS

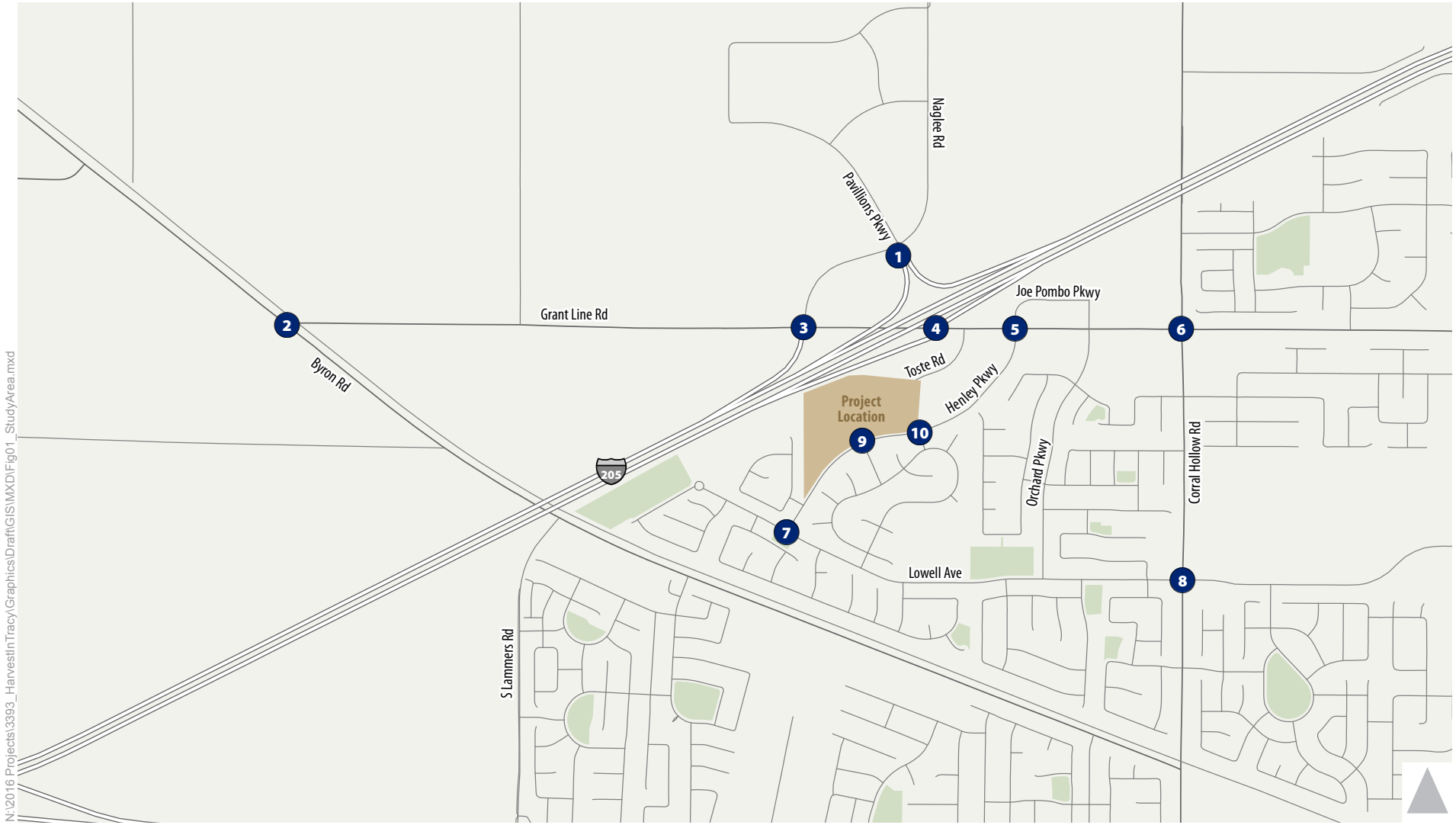
The following section describes the physical and operational characteristics of the transportation system within the project area, including the surrounding roadway system, common traffic analysis terms, existing traffic volumes and operations, pedestrian and bicycle facilities, and the transit and rail system.

Study Facilities and Methodology

The following roadways provide primary circulation within the City of Tracy and the vicinity of the proposed project.

- *Interstate (I-) 205* runs east west, connecting I-5 with I-580 in the San Joaquin Valley. I-205 lines the north side of the triangle around Tracy. In the study area, westbound I-205 has an off-ramp at Naglee Road, an on-ramp at Naglee Road, and an on-ramp at Grant Line Road. Eastbound I-205 has a tight diamond interchange at Grant Line Road. In the future, an additional loop ramp will be added to the eastbound diamond interchange. Throughout Tracy, I-205 has six lanes and a 65-mile-per-hour speed limit. In the future, I-205 will be expanded to eight lanes.
- *Grant Line Road* is an east-west road through the northern part of Tracy. Between Corral Hollow Road and the westbound I-205 on-ramp, Grant Line Road is six lanes, and then reduces to two lanes as it reaches Byron Road. There are sidewalks on both sides of Grant Line, except for west of Naglee Road, in which there is just a sidewalk on the south side. There are also bike lanes on each side of Grant Line Road east of Henley Parkway.
- *Corral Hollow Road* serves north-south traffic as a major arterial. In the study area, Corral Hollow Road has sidewalks and bike lanes on both sides. There is also a wide median in the middle. Corral Hollow road is a four-lane road.
- *Henley Parkway* is a north-south road that provides access to a large residential neighborhood from Grant Line Road. Henley Parkway is a two-lane road, and will have project driveways in the future. There is only a sidewalk on the east side of the street and Class II bike lanes on both sides of the street.
- *Lowell Avenue* traverses the south part of the study area as a two-lane, residential road. There are sidewalks and bike lanes on both sides of the road.
- *Byron Road* runs northwest and southeast as a two-lane, rural road. Currently, there are no sidewalks and bike lanes on the street. In the future, the intersection of Grant Line Road / Byron Road will have four legs.

Study intersections and roadways were selected for analysis in consultation with the City of Tracy staff based on the proposed project's expected travel characteristics (i.e.; project location and amount of project trips), as well as facilities susceptible to being affected by the project. The following nine intersections and four highway segments were selected for analysis. **Figure 1** displays the study intersections included in the transportation analysis, which encompasses the study area for the project's transportation and circulation.



1 Study Intersections

Project Location

Figure 1

Study Area

Intersections

1. Naglee Road / Pavilion Parkway / I-205 Westbound Ramps
2. Grant Line Road / Byron Road
3. Grant Line Road / Naglee Road / I-205 Westbound On-Ramp
4. Grant Line Road / I-205 Eastbound Ramps
5. Grant Line Road / Henley Parkway
6. Grant Line Road / Corral Hollow Road
7. Lowell Avenue / Henley Parkway[1]
8. Corral Hollow Road / Lowell Avenue
9. Henley Parkway / Project Driveway (future intersection)
10. Bridle Creek Circle / Henley Parkway[2]

Freeway Segments

1. I-205 Eastbound between Tracy Boulevard and Grant Line Road
2. I-205 Eastbound between Grant Line Road and 11th Street
3. I-205 Westbound between 11th Street and Grant Line Road
4. I-205 Westbound between Grant Line Road and Tracy Boulevard

Study Periods

This analysis evaluates traffic conditions during the following analysis periods:

- Weekday AM Peak Hour – the consecutive 60-minute period that has the highest traffic volume within the 6:30 AM to 8:30 AM peak period. For this study, this occurred between 7:30 and 8:30 AM.
- Weekday PM Peak Hour – the consecutive 60-minute period that has the greatest traffic volume within the 4:30 PM to 6:30 PM peak period. For this study, this occurred between 4:45 and 5:45 PM.

Traffic Data Collection

Intersection counts were performed at Study Intersections 1 through 9 on January 26, 2016. A second set of counts was performed on July 20, 2016 to include the Bridle Creek Circle / Henley Parkway intersection. To study the differences between turning movements during the summer and turning movements during the school year, the Grant Line Road /

[1] Because of the existing curvature of Henley Parkway and goal to enhance pedestrian and bicycle safety, the City of Tracy has recommended that the intersection of Lowell Avenue / Henley Parkway be converted from a side-street to an all-way stop control intersection as Intersection "7a"

[2] Because of the existing curvature of Henley Parkway and goal to enhance pedestrian and bicycle safety, the City of Tracy has recommended that the intersection of Henley Parkway / Bridle Creek Circle also be converted from a side-street to an all-way stop control intersection as Intersection "10a"

Henley Parkway intersection was also counted July 20, 2016. The Bridle Creek Circle / Henley Parkway counts were scaled up based on these differences to reflect school year conditions.

Caltrans Performance Measurement System (PeMs) data was used for freeway analysis. This data was collected from detectors between 11th Street and Grant Line Road in both directions for the last week in January 2014 (100 percent observed rate). A peak month factor was determined from *2014 Traffic Volumes on California State Highways* at the location, and was applied to the freeway volumes.

Common Traffic Analysis Terms

The operational performance of a roadway network is commonly described with the term level of service (LOS). LOS is a qualitative description of operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the *Highway Capacity Manual* (Transportation Research Board, 2010) were used in this study. The *Highway Capacity Manual* is considered the state of the art methodology for assessing intersection operations and defining impacts, and allows for the accurate definition of mitigation measures, such as lengthening or adding turning lanes, modifying the signal phasing or timing, and other options. The 2000 HCM was used for this analysis rather than the recently released 2010 HCM, to provide consistency with the analysis in the recently adopted Tracy Roadway and Transportation Master Plan. It is noted that the 2010 and 2000 methodologies for intersection traffic operations are substantially the same; however, the 2010 HCM is not yet in wide use by jurisdictions.

The HCM methods for calculating LOS for signalized and unsignalized intersections are described below.

Signalized Intersections – Methodology

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the 2000 Highway Capacity Manual. A signalized intersection's LOS is based on the weighted average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. **Table 1** summarizes the relationship between the control delay and LOS for signalized intersections.

Table 1: Signalized Intersection LOS Definitions

Level of Service	Description	Average Control Delay (Seconds)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Unsignalized Intersections – Methodology

In Chapter 17 of the Transportation Research Board's 2010 *Highway Capacity Manual*, the LOS for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street. The delay and LOS for the intersection as a whole and for the worst movement are reported for side-street stop intersections. The intersection average delay is reported for all-way stop intersections. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 2: Unsignalized Intersection LOS Definitions

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delays	< 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0
Source: Highway Capacity Manual, Transportation Research Board, 2000.		

Freeway Facilities – Methodology

The level of service for a freeway section is based on measures of density (passenger cars/ lane/ mile). Freeway LOS is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver. There are six levels, ranging from LOS A (i.e., the best operating conditions) to LOS F (i.e., the worst). LOS E represents "at-capacity" operation. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F. Caltrans' policy is to maintain LOS D operations or better on State Route 99. **Table 3** presents a summary of the relationship between LOS and density for freeway sections and ramp junctions

Table 3: Freeway Mainline Segment LOS Definitions

Level of Service	Freeway Maximum Density (Passenger cars / mile / lane)
A	11
B	18
C	26
D	35
E	45
F	> 45
Notes: Freeway mainline LOS based on a 65 MPH free-flow speed. Source: *Highway Capacity Manual*, Chapter 23 (Basic Freeway Sections) and Chapter 25 (Ramps and Ramp Junctions Methodology), Transportation Research Board, 2010.	

Existing Facilities and Operations

Intersections

The technical calculations for the existing conditions of intersection operations are in Appendix A. **Figure 2** shows the peak hour intersection turning movements for existing conditions. **Table 4** displays the delay and LOS results under existing conditions.

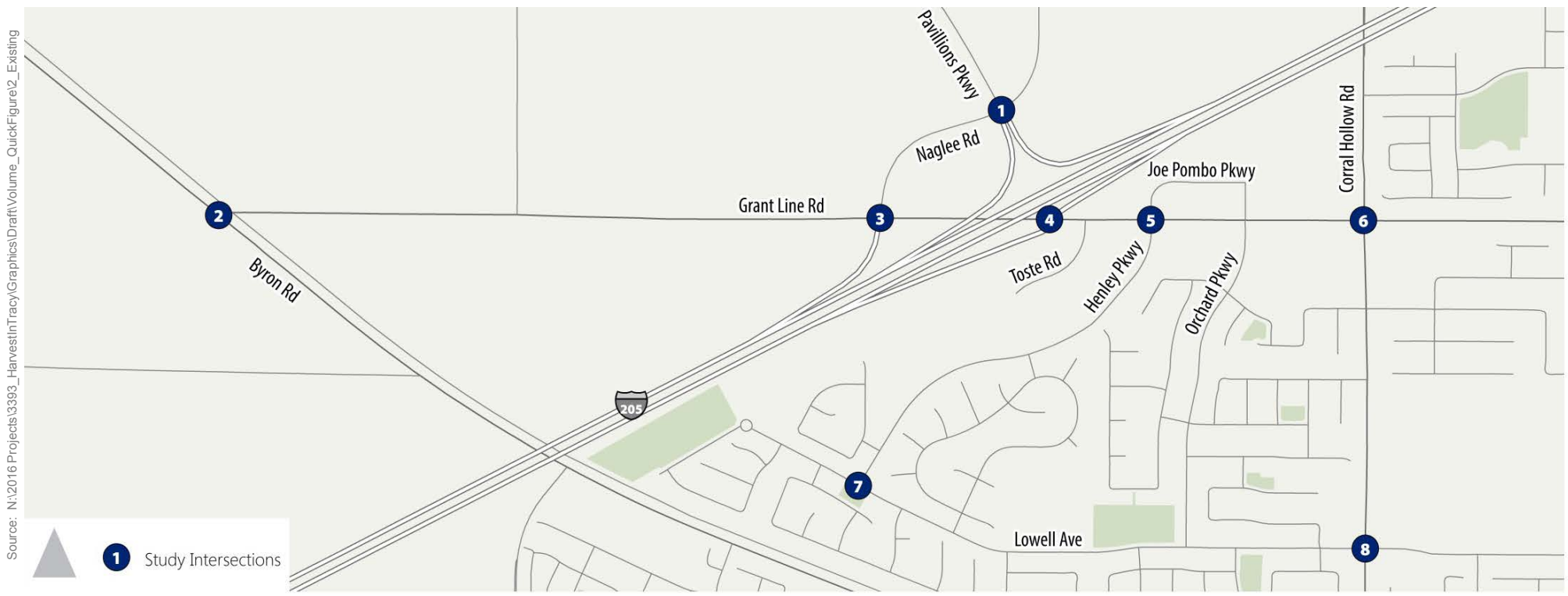


Figure 2

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

Table 4: Existing (2016) Intersection Levels of Service

Intersection	Control	Peak Hour	Existing	
			Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM PM	49.9 31.9	D C
2. Grant Line Rd / Byron Rd	Signal	AM PM	**63.7** **72.9**	**E** **E**
2a. Grant Line Rd / Byron Rd [a]	Signal	AM PM	19.2 35.2	B D
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM PM	25.7 42.2	C D
4. Grant Line Rd / I-205 EB Ramps	Signal	AM PM	33.9 39.7	C D
5. Grant Line Rd / Henley Pkwy	Signal	AM PM	47.4 37.1	D D
6. Grant Line Rd / Corral Hollow Rd	Signal	AM PM	43.0 43.1	D D
7. Lowell Ave / Henley Pkwy	SSSC[b]	AM PM	2.9 (SB 11.8) 5.6 (SB 10.9)	A (B) A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM PM	8.6 8.3	A A
8. Corral Hollow Rd / Lowell Ave	Signal	AM PM	50.6 26.4	D C
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM PM	1.8 (NB 9.5) 1.7 (NB 9.0)	A (A) A (A)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM PM	8.0 8.4	A A

Notes:
Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
Bold, underlined text indicates unacceptable LOS
[a] Shows the result when a second westbound right-turn lane is added to the intersection
[b] For side-street stop-controlled intersections, average delay is listed first followed by the delay for the worst approach.

[c] LOS Criteria: Within ¼ of mile of a freeway, LOS E shall be allowed.
Source: Fehr & Peers, 2017.

Existing traffic operations were analyzed at the eight existing study intersections for the two study hours. Seven of the eight study intersections operate at acceptable LOS D conditions during AM and PM peak hours except for the following:

- Grant Line Road / Byron Road – operations at this intersection are LOS E during both Existing AM and PM peak hours. During the morning peak hour, the heavy westbound right-turn movement results in long vehicle queues and an average vehicle delay exceeding 60 seconds per vehicle, as vehicles divert off of I-205 and use Grant Line Road to bypass congestion on westbound I-205. During the evening peak hour, the heavy southbound left-turn and westbound right-turn volumes results in long vehicle queues and an average vehicle delay exceeding 70 seconds per vehicle. The addition of a second westbound right-turn lane reduces average delays to acceptable LOS D conditions during both Existing AM and PM peak hour conditions.

Freeway

The technical calculations for the existing conditions of the freeway study segments are in Appendix A. **Table 5** presents existing traffic operations on I-205. All four freeway mainline segments operate at acceptable LOS C conditions or better during the AM peak hour. During the PM peak hour, three (3) of the four (4) freeway mainline segments operate at acceptable LOS D conditions or better.

Table 5: Existing (2016) Freeway Levels of Service

Segment	Direction	Volume (Density) [Level of Service]	
		Existing AM	Existing PM
Between Tracy Blvd and Grant Line Rd	EB	2,470 (15) [B]	5,150 (30) [D]
	WB	3,980 (23) [C]	2,960 (17) [B]
Between Grant Line Blvd and 11th St	EB	2,020 (12) [B]	4,900 (28) [D]
	WB	3,540 (20) [C]	2,420 (14) [B]

Notes:
I-205 volumes from Caltrans 2014 PeMS database (latest available complete set of data; matches more recent spot counts).
Analysis completed using HCM basic segment freeway operations method. Density is given in passenger cars/hour/lane.
Source: Fehr & Peers, 2017.

Transit Service

The City of Tracy operates fixed-route bus and paratransit services with the TRACER bus system. Additionally, San Joaquin Regional Transit District (SJRTD) operates several routes that pick up passengers in Tracy. The service is described below. The fixed routes all operate in central Tracy, and do not extend into the study area.

TRACER Fixed-Route Bus Service

As the study area is primarily agricultural in character in its present form, no service currently exists on the site. However, TRACER operates two fixed route service adjacent to the study area. All routes operate Monday through Friday from 7:00AM to 8:00PM, and Saturday from 9:00AM to 7:00PM. TRACER does not offer service on Sundays.

The one-way cash fare for the TRACER fixed route service is $1.25 for adults, discounted to $1.00 for students and $0.50 for seniors and the disabled. Additionally, day passes offering unlimited trips in a single day are available for $3.00 for adults ($2.50 for students, $1.25 for seniors and the disabled), as are 10-ride tickets and weekly passes for $12.50 ($10.00 for students, $5.00 for seniors and the disabled).

TRACER currently operates the following routes near to the study area:

- *Route A* – runs on Grant Line Road and heads north on Coral Hollow to go up to the West Valley Mall and Tracy Pavilion;
- *Route B* – connects West Valley Mall and Tracy Pavilion to residential neighborhoods in central Tracy; and
- *Commuter Route E* – runs by the Kaiser Medical Center by the Grant Line Road / Corral Hollow Road intersection, connecting Clyde Bland Park, Freiler Elementary School, West High School, Monte Vista Middle School, Duncan Russell High School, North Elementary School, and Jacobsen Elementary School.

TRACER Paratransit Service

The Transit Service Area incorporates most of the City of Tracy and is generally bounded by Lammers Road to the west, Larch Road and Arbor Avenue to the north, and Chrisman Road to the east. Service is available during the fixed route TRACER service. One-way rides are $1.50 for seniors, disabled individuals, and those on Medicare, and the cash fare increases to $1.75 for the general public living in unincorporated areas and guests and companions of paratransit users. The Paratransit Subsidized Taxi Service is available to TRACER Paratransit users during non-operating hours.

San Joaquin Regional Transit District (SJRTD)

SJRTD provides intercity fixed route service between Tracy and Stockton. A one-way fare on an RTD costs $1.50 ($0.75 discounted for seniors or Medicare card-holders). One-day passes are available for $4.00 ($2.00 discounted), and 31-day passes are available for $65.00 ($40.00 for students, $30.00 discounted). Additionally, the RTD-BART Commuter service costs $7.00 each way with monthly fares ranging from $132.00 to $144.00 depending on destination and origin. SJRTD operates the following three routes in Tracy:

- *Route 90* – runs from Stockton's Downtown Transit Center along 1-5 to Tracy, where it runs east-west along Grant Line Road, ending at the Wal-Mart just west of I-205. Route 90 operates on weekdays from 5:30AM to 11:00PM with eight trips staggered with one to three hour headways. Through the study area, Route 90 runs on Grant Line Road.

Altamont Commuter Express (ACE)

Altamont Commuter Express (ACE) operates commuter trains from San Jose to Stockton, stopping in Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, and Santa Clara before researching San Jose. The ACE in Tracy is located on the northeast corner of the intersection of West Linne Road and Tracy Boulevard. In service Monday through Friday, ACE offers three trains in the AM peak period, operating from 4:20AM-8:50AM, and three trains during the PM peak period, operating from 3:35PM to 7:45PM. ACE does not run on the weekends.

Monthly, weekly, 20-trip, and one-way passes are available and vary in price based on distance traveled. Adult fares range from $11.75 for a one-way trip ($300 monthly pass) from Stockton to San Jose to $3.50 for a one-way trip ($72.75) from Santa Clara to San Jose.

Bicycle and Pedestrian Facilities

There are many bike lanes throughout the study area. Bike lanes are located on both sides of Grant Line Road east of Henley Parkway, and on Lowell Avenue, Henley Parkway, and Corral Hollow Road.

Sidewalks are present throughout the study area, except for Byron Road and the west side of Henley Parkway. There are sidewalks on both sides of Grant Line Road west of the Tracy Pavilion, and just on the south side of the Grant Line Road west of the Costco shopping center.

The site plan for the project includes the construction of sidewalks on the west side of Henley Parkway as well as throughout the development. This will provide better connectivity for pedestrians, encouraging residents to walk to the commercial developments on Grant Line Road, nearby transit stops, the small parks throughout the residential neighborhood south of Grant Line Road, and the Art Freiler School or Merrill F. West High School. In addition, Henley Parkway has two Class II bike lanes, one on each side of the road, which will encourage residents to bike to nearby destinations.

LEVEL OF SERVICE STANDARDS

Regulatory Framework

This section summarizes existing policies and regulations relevant to transportation and traffic in the Specific Plan area.

State Laws and Regulations

Caltrans has jurisdiction over state highway facilities, including I-205 and related ramps, of relevance here. Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities; however, the agency acknowledges that this may not always be feasible, particularly in urban environments where right-

of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing LOS when assessing the impact of new development.

Regional Regulations

San Joaquin Council of Governments

Regional Transportation Plan

The San Joaquin Regional Transportation Plan (RTP), administered by the San Joaquin Council of Governments (SJCOG), was most recently updated in 2011. The RTP outlines transportation priorities along with associated goals, objectives, and performance indicators for the coming 25 years in the County. The 2011 RTP goals are listed below:

A) Enhance the Environment/Quality of Life/ & Conserve Energy
B) Increase Regional Roadway System Performance
C) Increase Safety & Security
D) Preserve the Existing Regional Transportation System & Promote Efficient Roadway System Management & Operations
E) Support Economic Vitality
F) Promote Interagency Coordination & Public Participation for Transportation Decision-Making & Planning Efforts
G) Maximize Cost Effectiveness

The RTP rates proposed infrastructure projects with regional significance against these goals and associated performance indicators as part of the planning process. Project costs and potential financing sources are also estimated and tracked in the RTP. Planned projects of regional significance from the 2011 document in the study area include the widening I-205 from 6 to 8 lanes between I-5 and I-580.

Capital Improvement Program

The SJCOG Capital Improvement Program (CIP) is a seven-year list of transportation projects. These projects are developed as part of the Congestion Management Program and are intended to maintain or improve transportation system operational performance and safety.

CIP projects in the study area include the construction of eastbound and westbound auxiliary lanes on I-205 between Tracy Boulevard and Mountain House Parkway. These projects are fully funded in the RTIP Tier 1 projects list and are scheduled for completion in 2013 and 2017, respectively.

Travel Demand Management Plan

The San Joaquin County Travel Demand Management (TDM) Plan exists primarily for the purpose of establishing an institutional and planning framework between SJCOG and local agencies in San Joaquin County for coordination on issues of demand management and how to more efficiently make use of the existing transportation system.

The document also outlines several potential TDM strategies and their potential for effectiveness in different land use and new development contexts. Strategies include financial incentives, such as roadway pricing, parking cash-out, and employee transit subsidies; system incentives, such as expanding HOV lane, park and ride, and bicycle facilities; and demand incentives, such as expanding rideshare programs and telecommuting options for workers. All strategies are intended to reduce vehicle demand on the roadway system.

San Joaquin Congestion Management Plan

The San Joaquin County Regional Congestion Management Plan (RCMP), most recently updated in October 2012, outlines a set of strategies and performance measures to reduce congestion within the County in compliance with federal guidance, state legislation, and the County's Measure K "Traffic Relief, Safety, Transit, and Road Maintenance Program" Ordinance. The list of County CIP projects is contained within the RCMP.

The RCMP also contains a list of roadways that are considered to be part of the CMP Network. This is the list of roadways to which the RCMP's performance measures are applied. For roadways, performance criteria are dependent on traffic volume and roadway classification. Study area roadways in the RCMP network are: I-205, I-580, and Lammers Road. The LOS standard adopted for the San Joaquin county RCMP is LOS D. The *SJCOG Regional Deficiency Plan,* prepared in 2010, did not identify any deficient facilities in Tracy.

Alameda County Congestion Management Plan

The Alameda County Congestion Management Plan most recently updated in 2009, requires a LOS E standard be maintained on all CMP routes in Alameda County, except those areas designated as infill opportunity zones or those segments that were already operating at LOS F in the 1991 CMP baseline year. I-580 is an Alameda County CMP designated route. The most recent monitoring, in 2010, indicated LOS F conditions for westbound I-580 between Greenville Road and Portola Avenue, in Livermore.

City of Tracy Regulations and Policies

City of Tracy General Plan

The Circulation Element of the City of Tracy General Plan establishes the following goals, policies, objectives and action items, which apply to the study area:

- **Objective CIR-1.1: Implement a hierarchical street system in which each street serves a specific, primary function and is sensitive to the context of the land uses served.**
- Policy P1: The City should develop context-based street designs that allow for variations based on the expected function and location of the facility, and the surrounding land use context. These context-sensitive designs should have the following aims:
    - Create aesthetically attractive streetscapes.
    - Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians and bicyclists.
- Policy P2: The City shall preserve rights-of way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.
- Policy P3: The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- Policy P4: The City should continue to pursue regional, County and State funding to fund roadway projects. These potential funding sources may include Measure K sales tax revenues, a regional or countywide transportation impact fee, and other existing and future revenue sources.
- Policy P5: The City shall continue to participate in regional transportation funding decisions, including Measure K reauthorization, regional or countywide transportation fees, and prioritization of State funded projects.
- Policy P6: The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).
- Action A1: Update the Roadway Master Plan upon adoption of the General Plan. The Roadway Master Plan should contain the following information:
    - Improvement needs and ultimate right-of-way for 50 years, based on development anticipated by the General Plan and foreseeable development based on proposed projects, current absorption rates for non-residential properties and historical population growth rates.
    - Appropriate street classifications for arterial and collector roadways as well as innovative concepts such as boulevards and other roadway types not currently employed by the City of Tracy. These roadway designs should reflect context-based design principles.
    - Detailed connectivity standards for arterials, collectors, and local streets. These connectivity standards should further refine minimum and maximum spacing of facilities and traffic control devices identified in the Roadway Classification Standards in Section B of The Circulation Element.

- Action A2: Prepare Precise Plan Line studies for major new roads and widening, and consult with Caltrans for new interchanges identified in the Roadway Master Plan in order to define the rights-of-way needed to construct future facilities.
- Action A3: Coordinate with San Joaquin County and the City of Lathrop to ensure that adequate rights-of-way are preserved in the City's Sphere of Influence.
- **Objective CIR-1.2: Provide a high level of street connectivity**.
- Policy P1: The City shall ensure that the street system results in a high level of connectivity, especially between residences and common local destinations, such as schools, Village Centers, retail areas and parks. The standard for roadway (vehicular) connectivity is defined as appropriate spacing of arterials and collectors and local roads as detailed in Section of [the Circulation] Element "Roadway Classifications and Standards".
- Policy P2: The City shall implement a connected street pattern with multiple route options of vehicles, bikes and pedestrians.
- Policy P3: New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- Policy P4: The City should develop residential street alignments and designs that provide connectivity while discouraging high-speed cut-through traffic.
- Policy P5: New development shall be designed with a grid or modified grid pattern to facility traffic flows and to provide multiple connections to arterial streets.
- Policy P6: Street patterns in hillside areas may reflect existing topography and minimize grading impacts.
- **Objective CIR-1.3: Adopt and enforce LOS standards that provide a high level of mobility and accessibility, for all modes, for residents and workers.**
- Policy P1: To the extent feasible, the City shall strive for LOS D on all streets and intersections, with the LOS standard for each facility to be defined in the Transportation Master Plan in accordance with the opportunities and constraints identified through the traffic projections and analysis performed for that Plan. The following exceptions to the LOS D standard may be allowed:
    - LOS E or lower shall be allowed on streets and at intersections within one-quarter (1/4) mile of any freeway. This lower standard is intended to discourage inter-regional traffic from using Tracy streets.
    - LOS E or lower shall be allowed in the Downtown and Bowtie area of Tracy, in order to create a pedestrian-friendly urban design character and densities necessary to support transit, bicycling and walking.
- Policy P2: The City may allow individual locations to fall below the City's LOS standards in instances where the construction of physical improvements would be infeasible, prohibitively expensive, significantly impact adjacent proper-

ties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience.

- Policy P3: Intersections may be permitted to fall below their adopted LOS standard on a temporary basis when the improvements necessary to preserve the LOS standard are in the process of construction or have been designed and funded but not yet constructed.
- Policy P4: Roadways and freeways that are subject to State and regional agency oversight and/or are candidates for State-funded or federally-funded improvements should conform to the operational service requirements of the applicable agency.
- Policy P5: For long-range planning purposes, the LOS of major streets shall be determined based on an estimation of peak hour conditions using future average daily traffic forecasts and standard Tracy relationships between daily traffic and peak PM hour traffic.
- Policy P6: For project-specific development approvals, the LOS at major street intersections shall be determined based on the direct estimation of peak hour conditions and should reflect the average conditions prevailing throughout the peak hour of a typical weekday for all traffic using the intersection.
- Policy P7: Traffic studies for new developments within the City may be prepared if necessary and appropriate to determine the impacts of the project's traffic on the transportation system.
- Policy P8: Access control and minimization of median openings shall be a key consideration in the design of expressways, boulevards, arterials and major collectors.
- Policy P9: The City shall encourage the use of right-turn-in/right-turn-out only turning movements where local and collector streets intersect arterial streets with medians. The purpose is to increase the safety of the roadway and to avoid traffic signals that are spaced too close together.
- Policy P10: Exclusive right turn lanes in and out of major residential, commercial, industrial and office developments shall not reduce the width of public or private landscaping requirements.
- Actions A1: Evaluate the performance of the roadway system or portion of the roadway system on an as-needed basis based on existing traffic volumes, LOS and other traffic operational issues, and accident locations.
- Action A2: Maintain an up-to-date record of intersections exempted from the City's LOS standards.
- **Objective CIR-1.4: Protect residential areas from commercial truck traffic.**
- Policy P1: Significant new truck traffic generating uses shall be limited to locations along designated truck routes, in industrial areas or within ¼-mile of freeways.
- Policy P2: The City shall enforce designated truck routes based on the existing City ordinance.
- Action A1: Update the truck route designations periodically as needed.

- Action A2: Maintain a map of truck routes in the City.
- **Objective CIR-1.5: Protect residential areas from through traffic and high travel speeds by facilitating free flow of traffic on major streets.**
- Policy P1: Use of local residential streets by non-local and commercial traffic shall be discouraged. The City may consider techniques such as route signs and route maps. This policy should not restrict the ability of local vehicle and non-motorized transportation to utilize residential collectors as an effort to encourage higher levels of roadway connectivity.
- Policy P2: The City shall coordinate the timing of traffic signals on arterials to facilitate traffic movement.
- **Objective CIR-1.6: Maximize traffic safety for automobile, transit, bicycle users, and pedestrians.**
- Policy P1: The City shall design streets using context-sensitive design principles that enhance safety for all modes of travel.
- Policy P2: New development shall implement traffic calming measures where necessary so long as connectivity is not diminished.
- Action A1: Monitor and record accident locations and prepare a regular summary of accident locations.
- Action A2: Explore traffic calming techniques for existing areas of the city.
- **Objective CIR-1.7: Minimize traffic-related impacts such as noise and emissions on adjacent land uses.**
- Policy P1: Appropriate buffering and screening mechanisms shall be incorporated in development projects to limit the impacts associated with traffic. These buffering and screening mechanisms may include setbacks, landscaping, berms, soundwalls or other methods as appropriate.
- Policy P2: Soundwalls shall only be used next to major arterials, and other high-speed, high-volume facilities in accordance with the policies in the Community Character Element.
- **Objective CIR-1.8: Minimize transportation-related energy use and impacts on the environment.**
- Policy P1: Transportation projects shall avoid disrupting sensitive environmental resources.
- Policy P2: When possible, road construction and repair project shall use sustainable materials.
- Policy P3: The City shall encourage the use of non-motorized transportation and low-emission vehicles.
- **Objective CIR-2.1: Support regional planning and implementation efforts to improve interregional highways and interregional travel efficiency.**
- Policy P1: The city shall continue to cooperate with regional and State agencies, including Caltrans and San Joaquin Council of Governments (SJCOG) to study, plan and fund improvements to the regional transportation system. These regional transportation improvements may include freeway widening, the construction of regional roadways,

regional passenger rail expansions, additions to the existing commuter bus system and provision of the park-and-ride lots near facilities heavily used by commuters.

- Policy P2: The City should ensure that land needed for park-and-ride facilities is conserved in new development areas.
- Policy P3: The City shall work with other local jurisdictions, SJCOG, and Caltrans to identify and develop alternative routes to allow locally-generated traffic to bypass congestion on I-205 and I-580 without impacting city streets.
- Policy P4: The City shall work with the City of Lathrop and San Joaquin County to preserve a right-of-way along the existing alignment of Middle Road/Arbor Avenue north of I-205 (a.k.a. Golden Valley Parkway) for the future construction of a regional parallel to I-205. This process should determine appropriate funding mechanisms and the design of an interchange with I-205 at Chrisman Road.
- Action A1: Prepare a plan line study that identifies and preserves necessary right-of-way north of I-205 within the City of Tracy that allows the future construction of a route parallel to I-205.
- **Objective CIR-2.2: Discourage interregional travel from diverting from freeways onto Tracy streets.**
- Policy P1: The City shall consider techniques, such as freeway ramp metering or traffic signal timing changes, to discourage the diversion of inter-regional travel from the freeways onto Tracy streets.
- Action A1: Conduct a study to quantify the level of traffic diverting from I-205 onto Tracy roadways.
- **Objective CIR-3.1: Achieve a comprehensive system of citywide bikeways and pedestrian facilities.**
- Policy P1: The City shall incorporate appropriate bicycle and pedestrian facilities on all roadways constructed by the City, Class I to the extent feasible.
- Policy P2: To the extent possible, the city shall separate vehicular from bicycle and pedestrian traffic on higher-speed and higher-volume roadways through the use of off-street bicycle and pedestrian facilities.
- Policy P3: The city may separate bicycle from pedestrian users on high usage bicycle and pedestrian paths
- Policy P4: The City's bicycle and pedestrian system shall have a high level of connectivity, especially between residences and common local destinations, such as schools, shopping, and parks. A higher level of bicycle and pedestrian connectivity is defined as a shorter or similar distance to common destinations for bicycles and pedestrians compared to distances for vehicles.
- Policy P5: The City shall establish a ½-mile walkability standard for residents to access goods, services, and recreational facilities.
- Policy P6: New development shall include pedestrian and bicycle facilities internal to the development and that connect to city-wide facilities, such as parks, school, and recreational corridors, as well as adjacent development and other services.

- Policy P7: New development sites for commercial, employment, educational, recreational and park-and-ride land uses shall provide bicycle parking and/or storage facilities.
- Action A1: Update the City of Tracy Bikeways Master Plan on an as-needed basis.
- Action A2: Update the City of Tracy Roadway Master Plan to include bicycle routes.
- Action A3: Maintain a map of existing bicycle facilities in the city.
- Action A4: Incorporate bicycle and pedestrian facilities into the roadway design standards of the Roadway Master Plan.
- Action A5: Seek local, State, and federal funding for bicycle improvements identified in updates to the Bikeways Master Plan.
- Action A6: Improve city-wide pedestrian access as funding becomes available.
- **Objective CIR-4.1: Promote public transit as an alternative to the automobile.**
- Policy P1: The City shall promote efficient and affordable public transportation that serves all users.
- Policy P2: The City shall continue to partner with SJCOG, SJRTD, and Caltrans in efforts to locate park-and-ride lots and other transit-related facilities in the City of Tracy.
- Policy P3: The City shall continue to operate the Tracer fixed-route and paratransit transit service and expand service to new residential and non-residential areas if funding for additional service is available and is warranted by ridership demand.
- Policy P4: The City shall seek funding from regional and State and federal agencies to fund additional transit service expansions and improvements.
- Policy P5: The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit center through the development and environmental review processes, if appropriate.
- Policy P6: The City shall encourage efforts for additional regional transit service, including expansion of the existing commuter bus service, and new commuter rail serve from Tracy to other areas in the region.
- Action A1: Maintain transit facility design guidelines that clearly specify expectations for all types of development.
- Action A2: Maintain a map of existing transit facilities in the city.
- **Objective CIR-421: Work to achieve connectivity between all modes of transportation.**
- Policy P1: The City shall complete the Multi Modal Transit Center at Central Avenue and 6th Street.

- Policy P2: The City shall preserve the necessary rights-of-way by continuing the implementation of current arterial street standards and ensuring the preservation of existing rail corridors to facilitate the development of an expanded transit program in the future.
- Policy P3: The City shall encourage the expansion of transit services through consultation and cooperation with the Bay Area Rapid Transit District (BART), San Joaquin Regional Rail Commission, San Joaquin Regional Transit District, the Altamont Commuter Express (ACE), on services that expand the mobility and accessibility of transporting people, goods and services in and through Tracy and the region.
- Policy P4: The City shall develop a fully integrated multi-modal transportation system that takes into account access to employment, education, shops, medical services and that facilitates participation in social and recreational opportunities.
- Policy P5: The City shall provide efficient, effective and coordinated transit system that maximizes use of regional, state, and federal funds.
- Policy P6: The City shall pursue economical, long term solutions to transportation problems by encouraging community designs which encourage transit use, and walking, bicycling, and other non-motorized forms of transportation.
- Action A1: Create a Multi-Modal Transportation Master Plan that addresses the movement of people, goods and services within the City and from the City to the surrounding region. Modes of travel that should be included in this Master Plan include: automobile, transit, freight, air, bicycle, and pedestrian transportation. The plan shall consider short-term and long-term actions to preserve rights-of-way for future transportation options, such as light rail.

Citywide Roadway and Transportation Master Plan

Over the past two years, the City of Tracy has prepared a comprehensive update to the citywide infrastructure master plans. The Citywide Roadway and Transportation Master Plan (TMP), adopted in December 2012, describes the transportation network and systems required to serve the City of Tracy. The TMP describes the citywide roadway network needed to serve local and regional trips, including anticipated intersection lane configurations at 68 intersections, bicycle and pedestrian facilities, truck routes, park and ride lot locations, and other related topics. The project has been designed to be consistent with the TMP's roadway network.

Overview of City and Regional Transportation Funding

City of Tracy Finance and Implementation Plans

Within the City of Tracy, there are multiple specific financing plans, otherwise known as "Finance and Implementation Plans" (FIPs), to find required roadway improvements. The purpose of an FIP is to provide estimates of the funds required to mitigate each impact and to update the City's Capital Improvement Program Construction Schedule. An FIP also identifies an estimated obligation for roadway improvements. FIPs are periodically updated to keep pace with construction cost increases.

The FIP calculates the Project's proportional share contribution to required improvements. Future traffic growth throughout the City will cumulatively fund the required improvements. As fees are collected, the City will use the fees to implement the improvements. If the City has not collected enough of the fees to fund an improvement at the time an impact is caused, the Project Applicant will have to fund the required improvement upfront and enter into a reimbursement agreement with the City for the portion of fair-share payments that are attributed to other cumulative traffic growth.

San Joaquin COG Regional Transportation Impact Fee (RTIF)

The City is a member agency of the San Joaquin Council of Governments (SJCOG), a joint powers agency consisting of the County of San Joaquin and the seven cities situated in San Joaquin County. Acting in concert, the member agencies of SJCOG developed the RTIF Program whereby the shortfall in funds needed to expand the capacity of the Regional Transportation Network could be made up in part by a Regional Transportation Impact Fee (RTIF Program Fee) on future residential and non-residential development. The RTIF Program Fee will augment other funding sources and help ensure that needed improvements to the Regional Transportation Network are completed. The City adopted this fee on January 3, 2006. The latest RTIF update was completed in December 2011. In the study area, the I-580/Lammers Interchange and the Lammers Road widening from two to four lanes between I-205 and Old Schulte Road are RTIF projects.

Sustainability Action Plan

As part of the General Plan update, the City of Tracy prepared a Sustainability Action Plan to respond to recent state legislation on climate change and greenhouse gas reduction, and integration of transportation and land use planning. The SAP includes policies and programs designed to reduce greenhouse gas emissions generated by a range of activities, including transportation. The transportation targets include:

- Target #5a: 20 percent increase in the percentage of non-City employees who participate in travel demand management programs from 2006 baseline levels
- Target #5b: 20 percent increase in the percentage of City employees who participate in travel demand management programs from 2006 baseline levels
- Target #6a: 20 percent reduction in the community vehicle miles travelled (VMT) per capita from current (2006) levels
- Target #6b: 20 percent reduction in the municipal VMT from 2006 baseline levels

The SAP presents 21 sustainability measures within the Transportation and Land Use category, which have quantifiable effects, based on available research, on greenhouse gas production – mostly through VMT reduction, including the following measures:

Measure T-2: Reduced parking requirements

Measure T-3: Support for bicycling
Measure T-4: Support for transit
Measure T-5: Smart growth, urban design and planning
Measure T-13: Reduce commute trips
Measure T-14: Parking cash-out for employees
Measure T-16: Transit passes for residents and employees of new developments

Significance Thresholds

City of Tracy

As described in General Plan Objective CIR 1.3, Policy P1, the City of Tracy strives for an intersection level of service standard of LOS D to the extent feasible. LOS E or lower is allowed on streets and at intersections within one-quarter mile of a freeway and in the downtown and bowtie areas. Objective CIR 1.3, Policy P2 allows the City to allow individual locations to fall below the City's LOS standards in instances where the construction of physical improvements would be infeasible, prohibitively expensive, significantly impact adjacent properties or the environment, or have a significant adverse effect on the character of the community, including pedestrian mobility, crossing times, and comfort/convenience.

Caltrans

Caltrans endeavors to maintain a target Level of Service at the transition between LOS C and LOS D on State highway facilities; however, the agency acknowledges that this may not always be feasible, particularly in urban environments where right-of-way is constrained. Where maintaining LOS C/D is not feasible, Caltrans attempts to maintain the existing LOS when assessing the impact of new development.

San Joaquin County Congestion Management Agency

The San Joaquin County CMP LOS standard for I-205 is LOS D.

Significance Criteria

The proposed project would have a significant impact with regard to transportation and traffic if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel, and all relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. For the purposes of this EIR, the project will have a significant impact on traffic operations if it will:

- Cause an intersection LOS at an intersection under the City of Tracy's jurisdiction to fall from acceptable (LOS D, or LOS E within one quarter-mile of a freeway) to unacceptable;[3]
- Cause an intersection under the City of Tracy's jurisdiction that is already operating at an unacceptable LOS in the Existing case (or in the Cumulative No Project case for the Cumulative impact assessment) to worsen by 5 seconds of delay due to Project traffic;
- For roadways within Tracy's jurisdiction, cause a roadway segment volume to exceed the planning-level capacity (LOS D, V/C=0.89), for analyses conducted on a roadway segment basis.
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. For the purposes of this EIR, the following CMP network standards apply:
    - For I-205 segments in San Joaquin County, an impact is significant if the Project causes a segment to fall from LOS D to LOS E or F, or if it adds 5 percent to the total future traffic volume on a segment already operating at LOS F;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

[3] Note that for the purposes of this EIR, City's LOS criteria are applied to the I-205/Mountain House Parkway intersections. Caltrans does not provide LOS standards for these intersections.

EXISTING PLUS PROJECT CONDITIONS

Project Description

The Harvest development will be located on the west side of Henley Parkway just south of Grant Line Road. This project consists of 304 multi-family dwelling units. Project access at buildout would be located on one main driveway intersecting with Henley Parkway. With construction of the project, Henley Parkway will be re-striped to include an eastbound left-turn lane into the project, and the main project driveway will include one inbound and two outbound (left-turn only and right-turn only) lanes. There is also an emergency exit, providing an egress point southwest of the main driveway on Henley Parkway. The site plan for the Harvest development is shown in **Figure 3.**

Project Traffic Characteristics

Traffic generated by the proposed project is assigned to the roadway network using the following three-step process:

1. Trip Generation – estimates the amount of traffic generated by the proposed plans based on the planned land uses;
2. Trip Distribution – distributes project trips based on origins and destinations in the region; and
3. Trip Assignment – assigns project trips to the roadway networks based on the project's trip generation and distribution.

This study uses the San Joaquin Travel Demand Forecasting (TDF) model for this three-step process. This TDF model uses land use inputs, trip rates, and other traffic engineering inputs to estimate travel demand. The model's roadway network includes major roadways.

Trip Generation

Traffic generated by the proposed project was estimated using the Institute of Transportation Engineer's (ITE) standard rates for project-specific land uses. These rates are typical for suburban development similar in nature to the Harvest development. **Table 6** displays the number of new vehicle trips generated by the project for the AM and PM peak hour conditions.

Compared to the March 2016 Transportation Impact Study the Harvest development project description increased from 300 multi-family dwelling units to 304 multi-family dwelling units. This change in dwelling units would correspond to two (2) net new A outbound M peak hour and three (3) net new (1 outbound and 2 inbound) PM peak hour trips. This minor increase in the project's trip generating characteristics would not change the results documented in the Existing + Project Conditions and Cumulative + Project Conditions analysis. Therefore, based on comments received from City of Tracy residents, the primary purpose of this updated report to evaluate potential impacts of the Harvest development at the side-street stop controlled Bridle Creek Circle / Henley Parkway intersection.

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Figure 3

Site Plan

Table 6 – Harvest Trip Generation

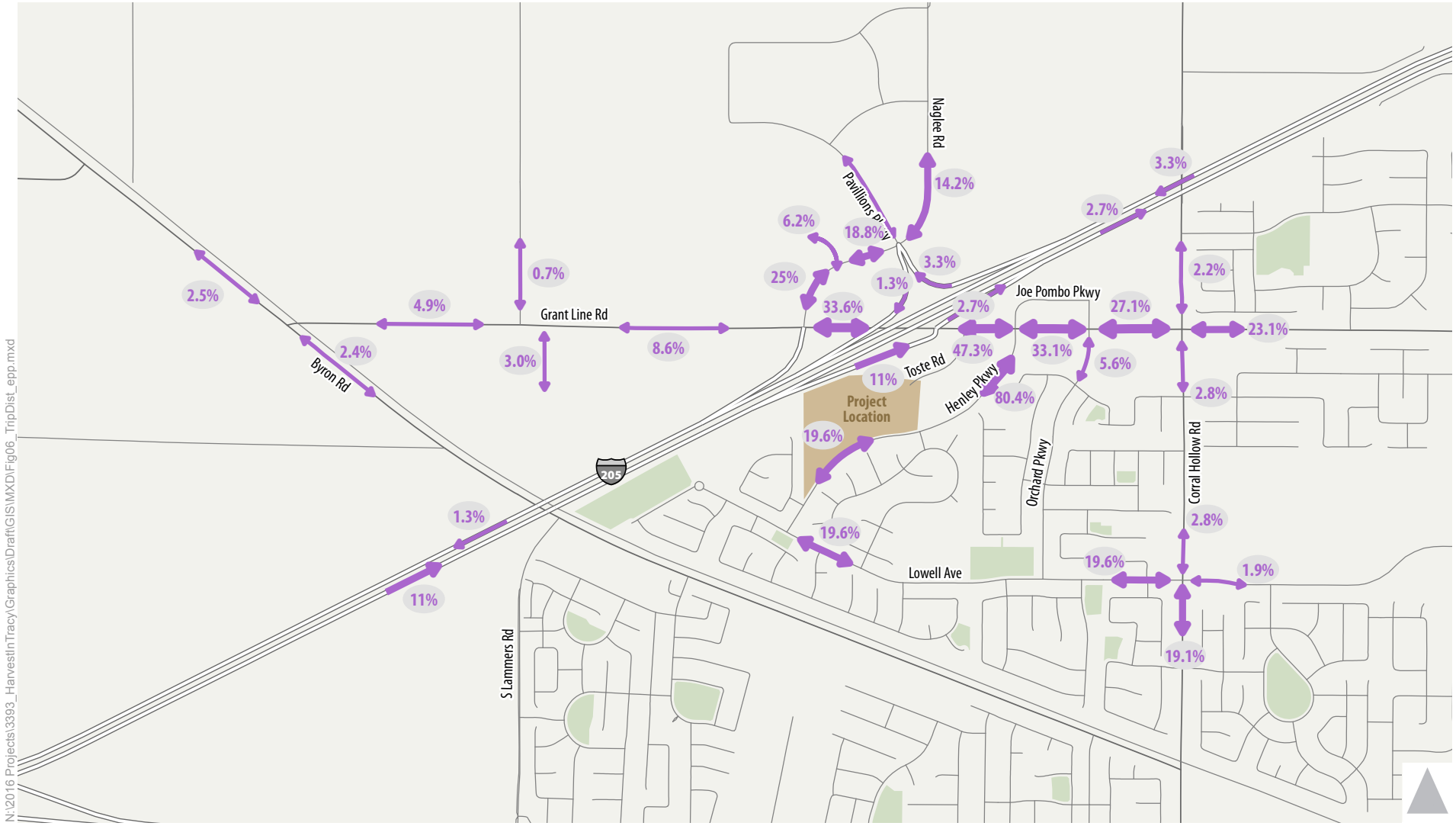
Land Use	Quantity	Units	Trip Rate						Trip Generation					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Rate	In	Out	Rate	In	Out	In	Out	Total	In	Out	Total
Apartments	304	DU	0.51	20%	80%	0.62	65%	35%	31	124	155	123	66	189
							Gross Trips		**31**	**124**	**155**	**123**	**66**	**189**

Notes:
Trip Generation, 9th Editions (Institute of Transportation Engineers, 2012)
Source: Fehr & Peers, 2017

As shown in Table 6, the project would generation 155 new vehicle trips during the morning peak hour, with 124 outbound and 31 inbound. During the evening peak hour, the project would generate 189 new vehicle trips, with 123 inbound and 66 outbound.

Trip Distribution

This traffic impact study uses the San Joaquin County TDF model to estimate the distribution of the proposed project trips to complimentary land uses located within the City of Tracy, surrounding San Joaquin County and the San Francisco Bay Area. The TDF model estimates the distribution of the project trips based on how these new uses may interact with existing future land uses and roadway improvements. This distribution takes into account complimentary land uses and the proximity in which they are located. **Figure 4** displays the project trip distribution for the existing plus project scenario.



11% Trip Distribution

Project Location

Figure 4

Project Trip Distribution - Existing

Trip Assignment

Using the trip generation and distribution data described previously, the project trips were assigned to the surrounding transportation network for existing plus project and cumulative plus project conditions. This trip assignment is based on the routes that would most likely be used to travel between origins and destinations.

Existing Plus Project Conditions

Intersections

The technical calculations for the intersection operation analysis for Existing Plus Project is in Appendix B. **Figure 5** displays the existing plus project traffic forecasts at the study intersections. **Table 7** presents the anticipated AM and PM peak hour LOS at each study intersection under existing plus project conditions (refer to Appendix B for technical calculations). This study uses existing lane configurations, traffic control, and signal timings for analysis.

Nine of the ten study intersections operate at acceptable LOS D conditions during the AM and PM peak hours for Existing Plus Project conditions. The proposed project adds traffic to the following City of Tracy intersection currently operating at an unacceptable LOS under existing conditions:

- Grant Line Road / Byron Road – Signalized
    - Operates at LOS E during the AM and PM peak hours under Existing and Existing Plus Project Conditions.
    - The project adds 15 vehicles during the AM peak hour and 5 vehicles during the PM peak to the westbound approach, which operates at unacceptable conditions due to the heavy westbound right-turn movement. Additionally, the project adds 2 vehicles to the northbound right-turn volume during the PM peak hour, and 1 vehicle during the AM peak hour and 3 vehicles during the PM peak hour to the southbound left-turn. This causes the average vehicle delay at the intersection to increase by 0.1 seconds during the AM peak hour and 1.2 seconds during the PM peak hour.
    - Adding a second westbound right turn lane alleviates these conditions during the AM and PM peak hour for both Existing and Existing Plus Project Conditions to acceptable LOS D operations. The project shall pay its fair share towards the construction of this improvement.
    - The Existing AM peak hour volume using this intersection is 1,655 vehicles and the proposed Harvest in Tracy project adds 15 vehicles during the morning peak hour. Therefore, the fair share calculation is equal to 1.0 percent.
    - The Existing PM peak hour volume that uses this intersection is 2,043 vehicles and the proposed Harvest in Tracy project adds 5 vehicles during the evening peak hour. Therefore, the fair share calculation is equal to 0.5 percent.

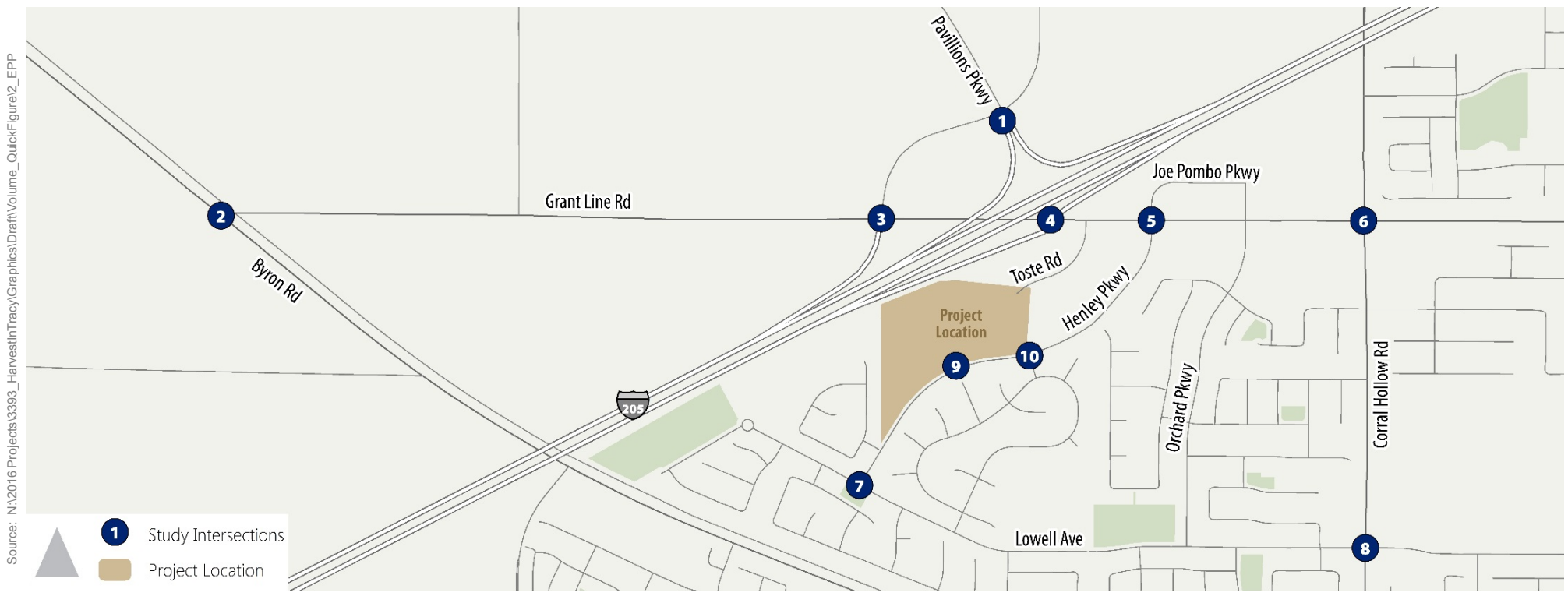


Figure 5

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

Although this intersection operates at an unacceptable LOS E Conditions, the addition of project generated traffic will result in **no significant impact** under Existing Plus Project Conditions. The delay added to the intersection (0.1 AM and 1.2 PM) does not exceed the second threshold.

Table 7 – Existing Plus Project Intersection Level of Service

Intersection	Control	Peak Hour	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM	49.9	D	50.0	D
		PM	31.9	C	32.1	C
2. Grant Line Rd / Byron Rd	Signal	AM	**63.7**	**E**	**63.8**	**E**
		PM	**72.9**	**E**	**74.1**	**E**
2a. Grant Line Rd / Byron Rd [a]	Signal	AM	19.2	B	19.4	B
		PM	35.2	D	41.3	D
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM	25.7	C	25.6	C
		PM	42.2	D	42.3	D
4. Grant Line Rd / I-205 EB Ramps	Signal	AM	33.9	C	35.5	D
		PM	39.7	D	41.6	D
5. Grant Line Rd / Henley Pkwy	Signal	AM	47.4	D	52.1	D
		PM	37.1	D	38.5	D
6. Grant Line Rd / Corral Hollow Rd	Signal	AM	43.0	D	44.1	D
		PM	43.1	D	41.2	D
7. Lowell Ave / Henley Pkwy	SSSC[a]	AM	2.9 (SB 11.8)	A (B)	3.2 (SB 12.2)	A (B)
		PM	5.6 (SB 10.9)	A (B)	5.7 (SB 11.3)	A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM	8.6	A	8.7	A
		PM	8.3	A	8.4	A
8. Corral Hollow Rd / Lowell Ave	Signal	AM	50.6	D	51.7	D
		PM	26.4	C	28.3	C
9. Henley Pkwy/ Project Dwy	SSSC	AM	Intersection created as part of the project		3.3 (SB 11.4)	A (B)
		PM			2.0 (SB 11.2)	A (B)
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM	1.8 (NB 9.5)	A (A)	1.3 (NB 10.3)	A (B)
		PM	1.7 (NB 9.0)	A (A)	1.3 (NB 9.1)	A (A)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM	8.0	A	9.0	A
		PM	8.4	A	9.4	A

Notes:
1. Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
2. Bold, underlined text indicates unacceptable LOS
[a] Shows the result when a second westbound right-turn lane is added to the intersection
[b] For side-street stop-controlled intersections, average delay is listed first followed by the delay for the worst approach.
[c] LOS Criteria: Within ¼ of mile of a freeway, LOS E shall be allowed.
Source: Fehr & Peers, 2017

The side-street stop control operations of the intersections of Lowell Avenue / Henley Parkway and Bridle Creek Circle / Henley Parkway are acceptable LOS A for both AM and PM peak hours under Existing and Existing Plus Project conditions. When these intersections are converted to all-way stop control, they will continue to operate at acceptable LOS A for both AM and PM peak hours for Existing and Existing Plus Project scenarios.

With side-street stop control operation, all approaches of both all-way stop controlled intersections do not experience a 95th Percentile Queue greater than two (2) vehicles. It is important to note that while the project does not result in a significant impact on the study intersections in terms of delay, it does increase the 95th Percentile queue lengths for the northbound left-turns at Grant Line Road / Henley Parkway and at Corral Hollow Road / Lowell Avenue. Based on the signalized intersection queuing analysis, it is recommended that the storage length for the northbound left-turn lane be extended from 260 feet to 575-feet[4] plus a 600-foot taper at the intersection of Grant Line Road / Henley Parkway and from 250 feet to 300-feet plus a 60-foot taper at the intersection of Corral Hollow Road / Lowell Avenue. This is shown in Table 8.

[4] This will ensure that the Cumulative Plus Project PM Peak Hour 95th Percentile Queue is accommodated by the storage length

Table 8: 95th Percentile Queue Lengths

Intersection	Movement	Storage Length (ft)	Existing 95th Percentile Queue (ft)		Existing Plus Project 95th Percentile Queue (ft)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
5. Grant Line Rd / Henley Pkwy	NBL	260	150	125	225	150
8. Corral Hollow Rd / Lowell Ave	NBL	250	275	200	300	250

Notes:
95th Percentile queues are rounded up to the nearest 25-feet
Source: Fehr & Peers, 2017

Freeway

Tables 9a and **9b** present the Existing Plus Project peak hour freeway volumes on I-205. Based on the results, the project causes a less than significant increase in density along the study segments. All study highway segments continue to operate acceptable at LOS D conditions or better during the AM and PM peak hours.

Table 9a: Freeway Volumes and LOS – Existing Plus Project AM

Segment	Direction	Volume (Density) [Level of Service]	
		Existing	Existing Plus Project
Between Tracy Blvd and Grant Line Rd	EB	2,470 (15) [B]	2,481(15) [B]
	WB	3,980 (23) [C]	3,982 (23) [C]
Between Grant Line Rd and 11th St	EB	2,020 (12) [B]	2,028 (12) [B]
	WB	3,540 (20) [C]	3,557 (20) [C]

Notes:
Analysis completed using HCM basic segment freeway operations method.
Source: Fehr & Peers, February 2017.

Table 9b: Freeway Volumes and LOS – Existing Plus Project PM

Segment	Direction	Volume (Density) [Level of Service]	
		Existing	Existing Plus Project
Between Tracy Blvd and Grant Line Rd	EB	5,150 (30) [D]	5,157 (30) [D]
	WB	2,960 (17) [B]	3,964 (17) [B]
Between Grant Line Rd and 11th St	EB	4,900 (28) [D]	4,926 (29) [D]
	WB	2,420 (14) [B]	2,425 (14) [B]

Notes:
Analysis completed using HCM basic segment freeway operations method.
Source: Fehr & Peers, 2017.

Transit

Currently, no expansion of the existing transit service is planned within the project study area under existing plus project conditions. Less than a quarter mile is typically considered preferable walking distance to transit. The nearest transit stop to the project is at the Grant Line Road /Orchard Parkway intersection, which is nearly a mile away from the project site. Therefore, due to the location of the closest transit stop to the proposed project, the ability for residents to use fixed transit route is limited under Existing Plus Project Conditions. However, residents may use TRACER paratransit service for seniors and persons with disabilities.

Bicycle and Pedestrian Network

Currently, there are sidewalks opposite of the project on Henley Parkway, and bicycle lanes on both sides of Henley Parkway. The Harvest development would construct pedestrian facilities both external of the project, on Henley Parkway, and within the project. The pedestrian network will enable residents to walk to the nearby destinations like the commercial developments on Grant Line Road.

CUMULATIVE CONDITIONS

Traffic Forecasts

This section describes the anticipated travel conditions under cumulative conditions for the roadway, transit, and bicycle / pedestrian systems. The San Joaquin County TDF model is used to forecast cumulative traffic volumes within the study area. To identify the proposed project's cumulative effect, the cumulative conditions analysis includes the following two scenarios:

- Cumulative No Project Conditions; and
- Cumulative Plus Project Conditions.

Both scenarios include the land use and transportation system inputs described below. The Cumulative No Project scenario only includes cumulative land use and transportation system inputs and does not include any development proposed by the Harvest development. The Cumulative Plus Project scenario includes the proposed project in addition to the cumulative land use and transportation system inputs. The difference in traffic conditions between these two scenarios is assumed

to be the proposed project's incremental effect when viewed in connection with the effects of other current and probable future projects.

Cumulative No Project Traffic Forecasts

To account for model error, this study adjusts the cumulative traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from existing conditions using the following formula:

Cumulative Forecasts = Existing Traffic Count +
(Cumulative Raw Model Volume – Base Year Raw Model Volume)

This study uses the difference method to process cumulative no project traffic forecasts at the study intersections and freeway facilities. **Figure 6** displays the cumulative no project peak hour intersection turning movements that were developed using the aforementioned methodology. Horizon year intersection improvements laid out in the City of Tracy Roadway Master Plan (2012) are assumed in the intersection analysis. These future lane configurations are also displayed in **Figure 6**.

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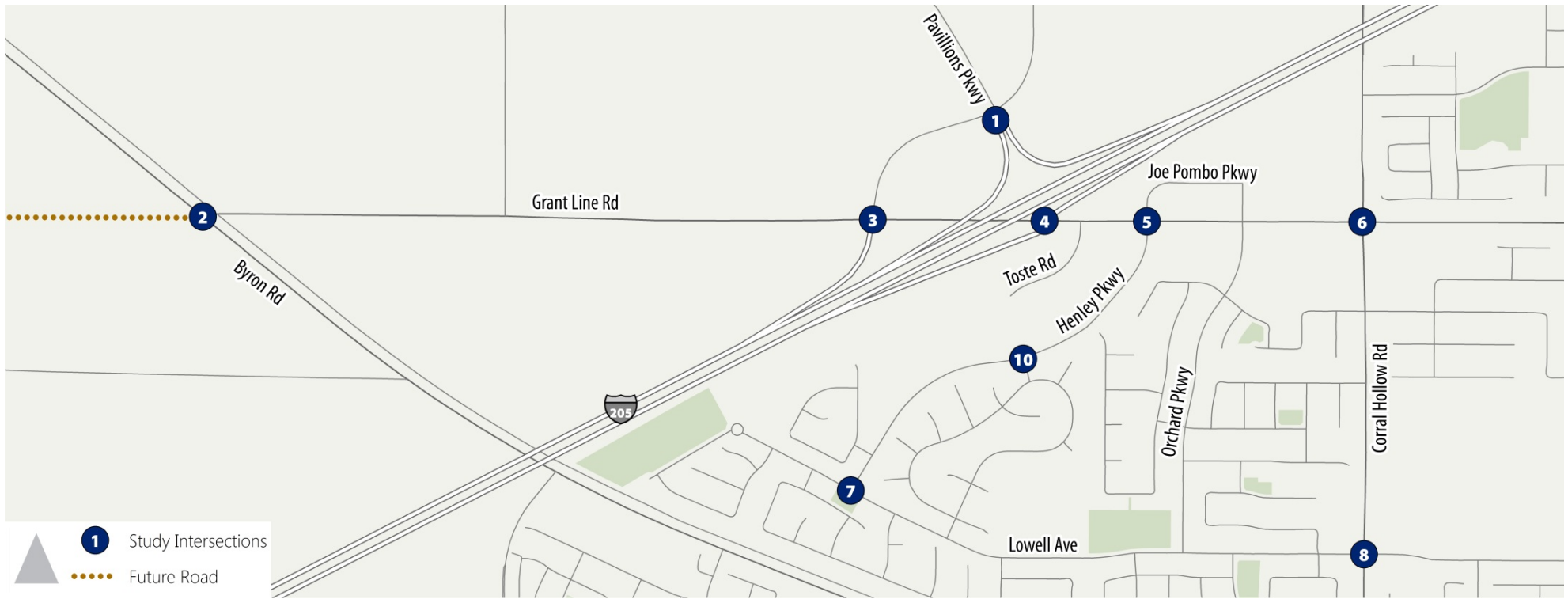


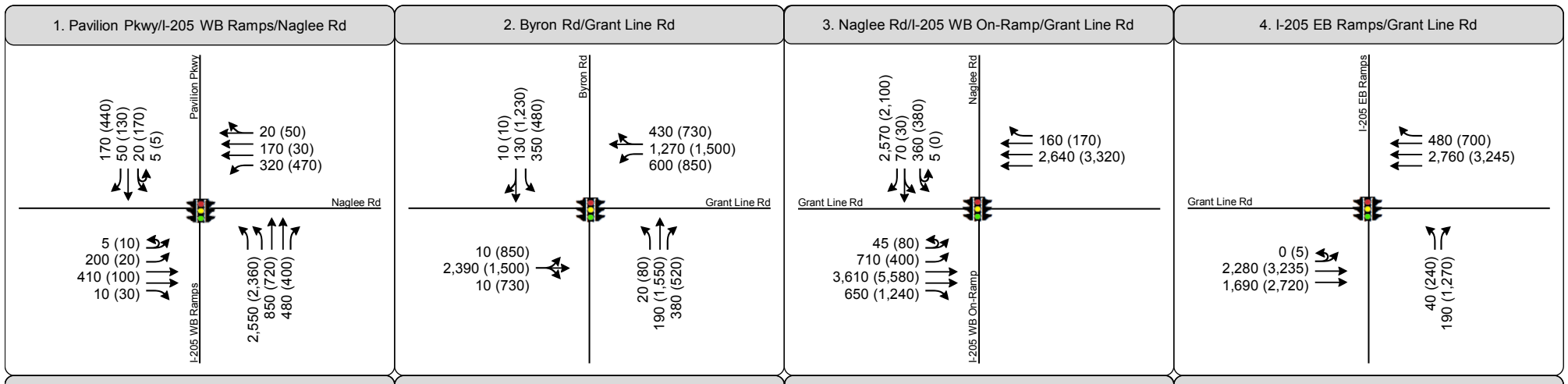


Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

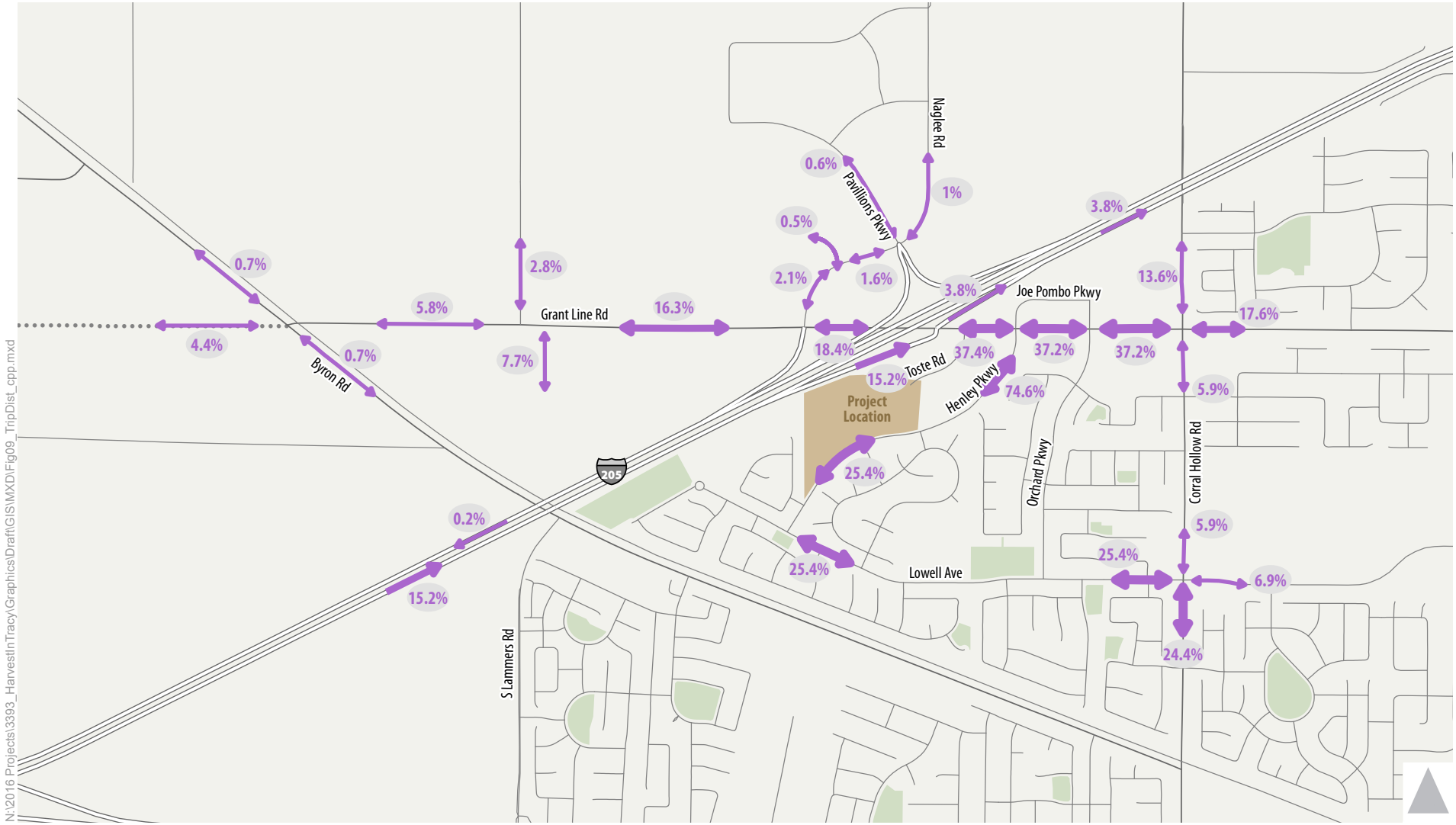
Cumulative Plus Project Traffic Forecasts

The methodology for analyzing the project's traffic characteristics in the cumulative scenario follows the same three-step process as in existing conditions discussed previously.

1. Trip Generation
2. Trip Distribution
3. Trip Assignment

The outcome of trip generation remains the same as in existing plus project conditions. To reflect the changes to the roadway network and land use inputs, the San Joaquin County TDF model was used to determine the cumulative trip distribution, which is shown in **Figure 7**. Following the development of cumulative no project forecasts, cumulative plus project forecasts were developed manually by adding project trips assigned to the network.

The peak hour intersection turning movements, as well as the assumed lane configurations for the Cumulative Plus Project scenario, are displayed in **Figure 8.**



11% Trip Distribution

Project Location

Future Road

Figure 7

Project Trip Distribution - Cumulative

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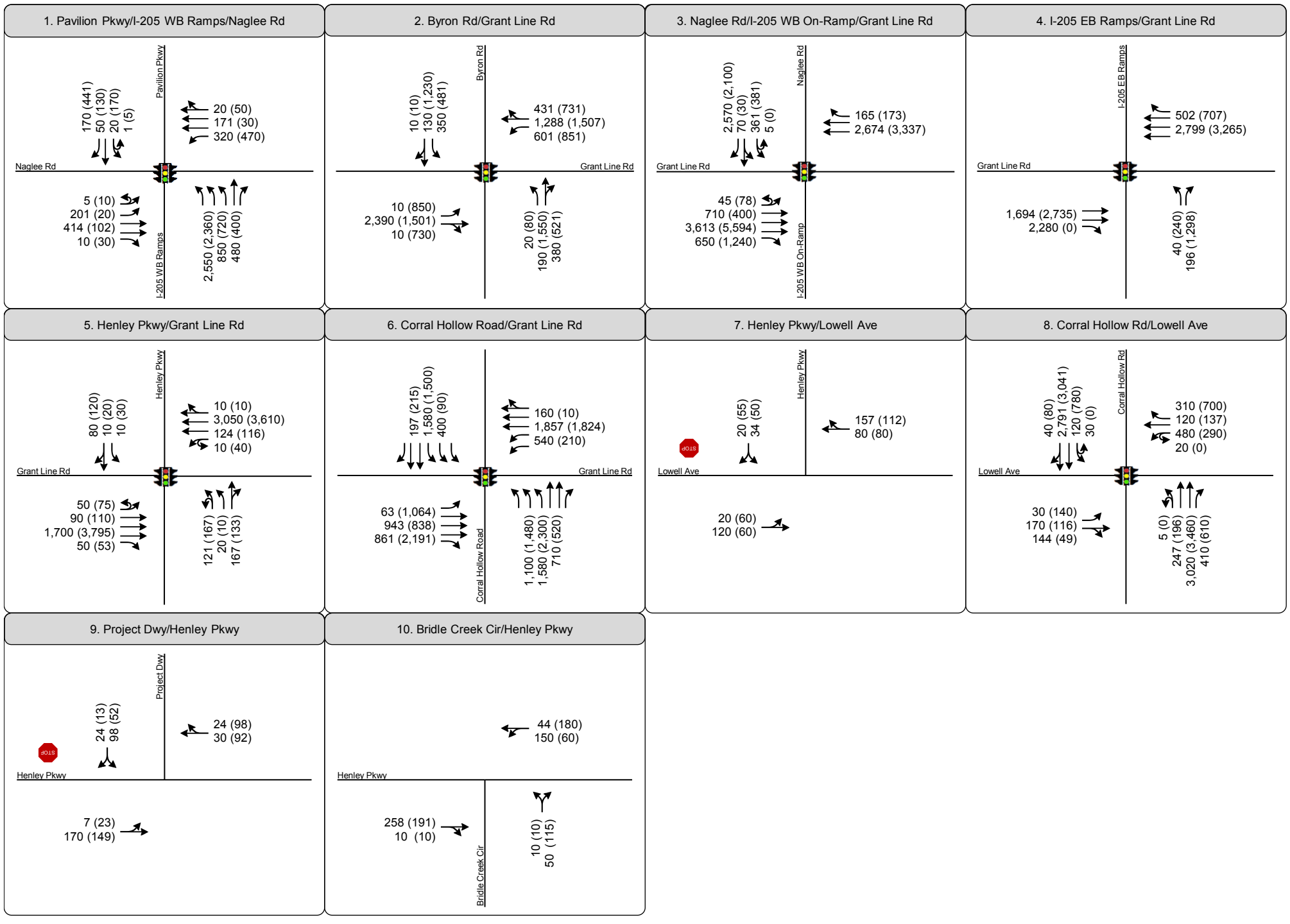


Figure 8

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

Intersections

Table 10 shows the results of the intersection operations analysis for the Cumulative scenarios. The technical calculations for this analysis are in Appendices C and D. The following six signalized study intersections in the City of Tracy are projected to operate unacceptably under no project conditions and plus project conditions:

- Intersection #1 (Naglee Road / Pavilion Parkway / I-205 Westbound Ramps)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #2 (Grant Line Road / Byron Road)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #3 (Grant Line Road / Naglee Road / I-205 Westbound On-Ramp)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #4 (Grant Line Road / I-205 Eastbound Ramps)
    - Operates at LOS E during the AM peak hour and LOS F during the PM peak hour
- Intersection #5 (Grant Line Road / Henley Parkway)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #6 (Grant Line Road / Corral Hollow Road)
    - Operates at LOS F during both the AM and PM peak hours
- Intersection #8 (Corral Hollow Road / Lowell Ave)
    - Operates at LOS F during both the AM and PM peak hour

Table 10 – Cumulative Plus Project Intersection Level of Service

Intersection	Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay	LOS	Delay	LOS
1. Naglee Rd / Pavilion Pkwy / I-205 WB Ramps	Signal	AM	**276.8**	**F**	**276.9**	**F**
		PM	**209.1**	**F**	**209.5**	**F**
2. Grant Line Rd / Byron Rd	Signal	AM	**680.6**	**F**	**682.3**	**F**
		PM	**1,424.6**	**F**	**1,426.2**	**F**
3. Grant Line Rd / Naglee Rd / I-205 WB On-Ramp	Signal	AM	**201.1**	**F**	**204.2**	**F**
		PM	**533.3**	**F**	**536.0**	**F**
4. Grant Line Rd / I-205 EB Ramps	Signal	AM	55.1	E	59.4	E
		PM	**278.2**	**F**	**282.1**	**F**
5. Grant Line Rd / Henley Pkwy	Signal	AM	**229.9**	**F**	**234.5**	**F**
		PM	**320.0**	**F**	**322.4**	**F**
6. Grant Line Rd / Corral Hollow Rd	Signal	AM	**229.1**	**F**	**231.6**	**F**
		PM	**517.4**	**F**	**518.1**	**F**
7. Lowell Ave / Henley Pkwy	SSSC[a]	AM	1.1 (SB 10.0)	A (B)	1.7 (SB 10.7)	A (B)
		PM	3.8 (SB 10.6)	A (B)	3.8 (SB 10.8)	A (B)
7a. Lowell Ave / Henley Pkwy	AWSC	AM	8.1	A	8.3	A
		PM	8.0	A	8.3	A
8. Corral Hollow Rd / Lowell Ave	Signal	AM	**219.2**	**F**	**220.4**	**F**
		PM	**448.5**	**F**	**450.6**	**F**
9. Henley Pkwy/ Project Dwy 1	SSSC	AM	Intersection created as part of the project		3.7 (SB 10.4)	A (B)
		PM			2.1 (SB 10.9)	A (B)
10. Bridle Creek Cir / Henley Pkwy	SSSC	AM	4.5 (NB 10.3)	A (B)	3.7 (NB 11.3)	A (B)
		PM	4.2 (NB 9.9)	A (A)	3.1 (NB 10.5)	A (B)
10a. Bridle Creek Cir / Henley Pkwy	AWSC	AM	8.5	A	9.4	A
		PM	8.2	A	9.2	A

Notes:
1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches. For side-street stop controlled intersections, the delay and LOS is reported for the most-delayed individual movement and for the entire intersection (shown in parentheses).
2. Bold text indicates unacceptable LOS.

Source: Fehr & Peers, 2017

Impacts and Mitigations

Although six (6) of ten (10) intersections are projected to operate at an unacceptable LOS conditions, the addition of project generated traffic results in **no significant impact** under Cumulative Plus Project Conditions. When comparing the results of Cumulative No Project and Cumulative Plus Project Conditions, the minor increase in average control delay to the study intersections does not exceed the five second threshold criteria. The technical calculations for the mitigated intersection operations for Cumulative No Project and Cumulative Plus Project are in Appendix C and Appendix D, respectively.

Freeway

Tables 11a and **11b** present the Cumulative No Project and Cumulative Plus Project peak hour freeway volumes on I-205. The technical calculations for the freeway analysis for these scenarios are in Appendices C and D, respectively. Based on the results, the project causes a less than significant increase in density along the study segments. The following study intersections operate at less than acceptable LOS in the AM or PM peak hours:

- 11th Street to Grant Line Road (Eastbound) - Operates at LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- 11th Street to Grant Line Road (Westbound) - Operates at LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- Grant Line Road to Tracy Boulevard (Eastbound) - Operates at LOS E during the AM peak hour and LOS F during the PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions.
- Grant Line Road to Tracy Boulevard (Westbound) - Operates at LOS F during the AM and PM peak hours under Cumulative No Project and Cumulative Plus Project Conditions.

Although these roadway segments operate at an unacceptable LOS, the project generates **no significant impact** under Cumulative Plus Project Conditions. The project does not cause a segment to fall from LOS D to LOS E or F, or add five percent to the total future traffic volume on a segment already operating at LOS F.

Table 11a – Freeway Volumes and LOS – Cumulative Plus Project (AM)

Segment	Direction	Volume (Density) [Level of Service] Cumulative No Project	Cumulative Plus Project
11th Street to Grant Line Road	EB	5,400 (24) [C]	5,410 (24) [C]
	WB	5,800 (25) [C]	5,800 (25) [C]
Grant Line Road to Tracy Boulevard	EB	**7,930 (43) [E]**	**7,950 (44) [E]**
	WB	**8,580 (47) [F]**	**8,580 (47) [F]**

Notes:
Bold indicates a segment operating below the applicable standard.
Analysis completed using HCS basic segment freeway operations method.
Source: Fehr & Peers, 2017.

Table 11b – Freeway Volumes and LOS – Cumulative Plus Project (PM)

Segment	Direction	Volume (Density) [Level of Service] Cumulative No Project	Cumulative Plus Project
11th Street to Grant Line Road	EB	**9,410 (56) [F]**	**9,440 (57) [F]**
	WB	**7,830 (37) [F]**	**7,830 (37) [E]**
Grant Line Road to Tracy Boulevard	EB	**11,840 (186) [F]**	**11,840 (188) [F]**
	WB	**9,410 (56) [F]**	**9,410 (56) [F]**

Notes:
Bold indicates a segment operating below the applicable standard.
Analysis completed using HCS basic segment freeway operations method.
Source: Fehr & Peers, 2017.

PROJECT SITE ACCESS AND CIRCULATION ANALYSIS

The project has a main driveway on Henley Parkway that allows full access entering and exiting the Harvest in Tracy Project site. There is also an emergency exit located 458 feet southwest of the main access point (measured from center to center). Adequate sight distance must be ensured so that vehicles may safely enter and exit the site through the driveways. Assuming a design speed of 40 miles per hour on Henley Parkway, the sight distance required for all maneuvers in and out of the driveway is 440 feet, according to the Caltrans *Highway Design Manual* (2015). Currently, there are no obstructions within this distance of both the main driveway and

emergency exit driveway. Each driveway provides more than the required 440 feet of sight distance for vehicles exiting the project driveways. This analysis is in Appendix E.

EMERGENCY ACCESS AND PARKING ANALYSIS

Emergency Access

As previously mentioned, the proposed project driveway would include two outbound lanes (left-turn only and right-turn only) and one inbound lane. In addition, the proposed Harvest in Tracy Project would modify Henley Parkway to include an eastbound left-turn pocket comprised of 150-feet of storage and a 90-foot taper. This will allow left-turning vehicles traveling eastbound on Henley Parkway to wait in the dedicated left-turn pocket as they wait for gaps in westbound traffic.

Transoft Solutions' AutoTURN software was used to verify that emergency vehicles are able to access the site based on the proposed design of the Harvest in Tracy Project. The geometric layout of the main Harvest development driveway was evaluated with a Pumper Fire Truck and Passenger Car (representing police vehicles). The results of the emergency access analysis are presented in Appendix E.

Exhibit 1 in Appendix E shows the Pumper Fire Truck making a right turn movement into the project site from westbound Henley Parkway. The site plan geometries can accommodate this movement with only a minor encroachment into the opposing outbound driveway traffic lane. Therefore, no modifications of the site plan are required for this inbound movement.

Exhibit 2 shows the right-turn movement out of the project site for the Pumper Fire Truck onto westbound / southbound Henley Parkway. In order to complete the maneuver, the Pumper Fire Truck vehicle must encroach into the inbound travel lane and also the left-turn pocket. Therefore, it is recommended that the center median for the Henley Parkway left-turn be constructed as a striped versus raised median for this outbound movement.

Exhibit 3 shows the Passenger Car making a right turn to enter and exit the Harvest in Tracy project site. The Passenger Car can make both inbound and outbound movements with no encroachments to adjacent travel lanes and has no issues with the medians along Henley Parkway.

Exhibit 4 displays a Pumper Fire Truck exiting the site with a right-turn movement from the emergency exit driveway. With the addition of a median along Henley Parkway, the truck will have to drive over the divider to make this movement. Therefore, the median should be constructed as a striped versus raised media for clearance of this outbound movement. Furthermore, based on the location of the closest fire station on Grant Line Road, fire trucks will likely want to make a turn-left movement onto eastbound Henley Parkway. Therefore, this provides additional justification for a striped versus raised median.

Exhibit 5 presents a Passenger Car making a right-turn movement out of the emergency exit driveway, which it is able to do with no encroachments on the median.

Exhibit 6 shows the sight distance of an outbound vehicle exiting the site. The posted speed limit on Henley Parkway is 35-miles per hour, so the design speed used for this analysis is 40-miles per hour. The recommended corner sight distance is 440-feet. Vehicles exiting the site from the main driveway have 440-feet sight distance to the east (oncoming westbound vehicles traveling on Henley Parkway), but when vehicles queue in the northbound left-turn pocket, their view of the oncoming eastbound traffic is obstructed. However, vehicles making a left turn movement out of the Harvest in Tracy project site are required to wait for the eastbound left-turn vehicles to complete their movement before exiting the project site. Therefore, vehicles making the left-turn movement would also have 440-feet site distance to the west.

Exhibit 7 shows the sight distance for a Passenger Car making a right-turn movement out of the emergency exit driveway. The recommended corner sight distance is also 440-feet. For emergency situations, the restricted sight distance of 350 feet can be improved to the recommended 440 feet by prohibiting non-emergency vehicles from entering the Harvest in Tracy project.

Parking Analysis

The Housing Element of the City of Tracy General Plan (2011) dictates that one-bedroom multi-family dwelling units are allotted 1.5 parking spaces per unit and that two- or more- bedroom multi-family dwelling units are allotted two spaces per unit. In addition, the Housing Element calls for an additional "Guest" space for every five multi-family dwelling units. This means that the Harvest development requires 609 parking spaces. The Harvest in Tracy Project provides 654 parking

spaces, therefore providing 45 additional parking spaces than required by the City of Tracy parking requirements.

APPENDIX A

EXISTING CONDITIONS TECHNICAL CALCULATIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	93	192	17	75	3	587	93	70	3	5	48
Future Volume (veh/h)	55	93	192	17	75	3	587	93	70	3	5	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	61	103	213	19	83	3	652	103	78	3	6	53
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	632	282	40	828	30	738	2380	1064	14	868	738
Arrive On Green	0.04	0.18	0.18	0.02	0.16	0.16	0.21	0.67	0.67	0.01	0.47	0.47
Sat Flow, veh/h	3442	3539	1579	1774	5039	180	3442	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	61	103	213	19	56	30	652	103	78	3	6	53
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1829	1721	1770	1583	1774	1863	1583
Q Serve(g_s), s	2.3	3.3	17.3	1.4	1.9	1.9	24.8	1.3	2.3	0.2	0.2	2.5
Cycle Q Clear(g_c), s	2.3	3.3	17.3	1.4	1.9	1.9	24.8	1.3	2.3	0.2	0.2	2.5
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	632	282	40	557	301	738	2380	1064	14	868	738
V/C Ratio(X)	0.48	0.16	0.75	0.47	0.10	0.10	0.88	0.04	0.07	0.22	0.01	0.07
Avail Cap(c_a), veh/h	178	1460	651	76	1369	739	892	2380	1064	72	868	738
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	46.9	52.6	65.2	47.9	48.0	51.4	7.5	7.6	66.6	19.3	19.9
Incr Delay (d2), s/veh	2.8	0.1	4.1	8.5	0.1	0.1	9.1	0.0	0.1	8.0	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.6	7.9	0.8	0.9	1.0	12.7	0.7	1.0	0.1	0.1	1.1
LnGrp Delay(d),s/veh	66.5	47.0	56.7	73.6	48.0	48.1	60.5	7.5	7.7	74.5	19.3	20.0
LnGrp LOS	E	D	E	E	D	D	E	A	A	E	B	B
Approach Vol, veh/h		377			105			833			62	
Approach Delay, s/veh		55.7			52.7			49.0			22.5	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	94.8	7.0	28.1	32.9	66.9	9.0	26.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	51.5	5.3	55.2	34.5	22.0	6.5	54.0
Max Q Clear Time (g_c+I1), s	2.2	4.3	3.4	19.3	26.8	4.5	4.3	3.9
Green Ext Time (p_c), s	0.0	1.2	0.0	2.0	1.6	0.9	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	158	471	256	234	383	153
Future Volume (veh/h)	158	471	256	234	383	153
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	523	284	260	426	170
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	469	418	546	464	481	1158
Arrive On Green	0.26	0.26	0.29	0.29	0.27	0.62
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	176	523	284	260	426	170
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	5.7	18.5	8.9	9.7	16.1	2.7
Cycle Q Clear(g_c), s	5.7	18.5	8.9	9.7	16.1	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	469	418	546	464	481	1158
V/C Ratio(X)	0.38	1.25	0.52	0.56	0.89	0.15
Avail Cap(c_a), veh/h	469	418	546	464	532	1158
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	21.0	25.8	20.6	20.9	24.5	5.5
Incr Delay (d2), s/veh	0.5	130.9	3.5	4.8	15.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	23.3	5.1	4.9	9.9	1.5
LnGrp Delay(d),s/veh	21.5	156.7	24.2	25.8	39.7	5.8
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	699		544			596
Approach Delay, s/veh	122.6		24.9			30.1
Approach LOS	F		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.0	24.5				47.5		22.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	18.1	11.7				4.7		20.5
Green Ext Time (p_c), s	0.4	2.0				4.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.7
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	536	57	0	573	323	0	0	0	302	38	401
Future Volume (veh/h)	132	536	57	0	573	323	0	0	0	302	38	401
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	147	596	63	0	637	0				366	0	446
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	805	2216	991	0	1839	572				1108	0	494
Arrive On Green	0.23	0.63	0.63	0.00	0.72	0.00				0.31	0.00	0.31
Sat Flow, veh/h	3442	3539	1582	0	5253	1583				3548	0	1582
Grp Volume(v), veh/h	147	596	63	0	637	0				366	0	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1582	0	1695	1583				1774	0	1582
Q Serve(g_s), s	4.4	9.8	2.0	0.0	6.0	0.0				10.3	0.0	35.1
Cycle Q Clear(g_c), s	4.4	9.8	2.0	0.0	6.0	0.0				10.3	0.0	35.1
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	805	2216	991	0	1839	572				1108	0	494
V/C Ratio(X)	0.18	0.27	0.06	0.00	0.35	0.00				0.33	0.00	0.90
Avail Cap(c_a), veh/h	805	2216	991	0	1839	572				1583	0	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	10.9	9.5	0.0	12.3	0.0				34.3	0.0	42.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.0	0.3	0.0				0.2	0.0	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.9	0.9	0.0	2.8	0.0				5.1	0.0	28.6
LnGrp Delay(d),s/veh	40.0	11.2	9.6	0.0	12.6	0.0				34.4	0.0	54.2
LnGrp LOS	D	B	A		B					C		D
Approach Vol, veh/h		806			637						812	
Approach Delay, s/veh		16.3			12.6						45.3	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.4		44.6	34.4	51.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		63.5		57.5	12.5	46.5		
Max Q Clear Time (g_c+I1), s		11.8		37.1	6.4	8.0		
Green Ext Time (p_c), s		5.6		3.0	2.4	4.6		

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	456	0	0	828	258	68	0	127	0	0	0
Future Volume (veh/h)	380	456	0	0	828	258	68	0	127	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	422	507	0	0	920	0	76	0	141			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	502	1919	0	0	1162	362	703	0	627			
Arrive On Green	0.57	1.00	0.00	0.00	0.23	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	422	507	0	0	920	0	76	0	141			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	25.6	0.0	0.0	0.0	22.2	0.0	3.5	0.0	7.7			
Cycle Q Clear(g_c), s	25.6	0.0	0.0	0.0	22.2	0.0	3.5	0.0	7.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	502	1919	0	0	1162	362	703	0	627			
V/C Ratio(X)	0.84	0.26	0.00	0.00	0.79	0.00	0.11	0.00	0.22			
Avail Cap(c_a), veh/h	502	1919	0	0	1162	362	703	0	627			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.98	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.8	0.0	0.0	0.0	47.2	0.0	24.8	0.0	26.0			
Incr Delay (d2), s/veh	11.6	0.3	0.0	0.0	5.5	0.0	0.3	0.0	0.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.1	0.0	0.0	11.0	0.0	1.8	0.0	3.5			
LnGrp Delay(d),s/veh	37.4	0.3	0.0	0.0	52.7	0.0	25.1	0.0	26.8			
LnGrp LOS	D	A			D		C		C			
Approach Vol, veh/h		929			920			217				
Approach Delay, s/veh		17.2			52.7			26.2				
Approach LOS		B			D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		74.5			40.8	33.7		55.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		70.0			36.3	29.2		51.0
Max Q Clear Time (g_c+I1), s		2.0			27.6	24.2		9.7
Green Ext Time (p_c), s		5.5			3.2	2.5		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	402	54	59	779	9	193	12	69	7	7	67
Future Volume (veh/h)	127	402	54	59	779	9	193	12	69	7	7	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	447	60	66	866	10	214	13	77	8	8	74
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1702	523	142	1643	19	280	105	621	24	59	548
Arrive On Green	0.10	0.33	0.33	0.03	0.10	0.10	0.08	0.45	0.44	0.01	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5182	60	3442	234	1384	1774	156	1440
Grp Volume(v), veh/h	141	447	60	66	566	310	214	0	90	8	0	82
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1852	1721	0	1617	1774	0	1595
Q Serve(g_s), s	10.1	8.3	3.4	4.8	20.6	20.6	7.9	0.0	4.2	0.6	0.0	4.4
Cycle Q Clear(g_c), s	10.1	8.3	3.4	4.8	20.6	20.6	7.9	0.0	4.2	0.6	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.86	1.00		0.90
Lane Grp Cap(c), veh/h	173	1702	523	142	1075	587	280	0	725	24	0	607
V/C Ratio(X)	0.81	0.26	0.11	0.46	0.53	0.53	0.77	0.00	0.12	0.33	0.00	0.14
Avail Cap(c_a), veh/h	252	1702	523	142	1075	587	318	0	725	75	0	607
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.5	31.6	30.3	60.5	49.0	49.0	58.5	0.0	21.1	63.5	0.0	26.4
Incr Delay (d2), s/veh	12.1	0.4	0.4	2.0	1.6	2.9	9.4	0.0	0.4	7.9	0.0	0.5
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(50%),veh/ln	5.6	3.9	1.6	2.4	9.9	11.1	4.1	0.0	2.0	0.3	0.0	2.0
LnGrp Delay(d),s/veh	69.6	31.9	30.7	62.5	50.5	51.9	67.9	0.0	21.4	71.5	0.0	26.9
LnGrp LOS	E	C	C	E	D	D	E		C	E		C
Approach Vol, veh/h		648			942			304			90	
Approach Delay, s/veh		40.0			51.8			54.1			30.9	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	47.5	14.6	53.5	16.7	45.2	5.8	62.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	43.0	11.5	49.0	18.0	33.5	5.0	55.5
Max Q Clear Time (g_c+I1), s	6.8	10.3	9.9	6.4	12.1	22.6	2.6	6.2
Green Ext Time (p_c), s	0.1	3.5	0.1	0.5	0.2	4.1	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	47.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	255	182	332	408	53	454	263	395	46	182	64
Future Volume (veh/h)	38	255	182	332	408	53	454	263	395	46	182	64
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	283	0	369	453	59	504	292	439	51	202	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	1252	390	1019	1367	175	1209	1084	484	98	330	148
Arrive On Green	0.32	0.33	0.00	0.30	0.30	0.30	0.24	0.31	0.31	0.03	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4558	582	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	42	283	0	369	335	177	504	292	439	51	202	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1750	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	2.2	5.3	0.0	11.0	10.0	10.3	11.0	8.1	34.6	1.9	7.1	0.0
Cycle Q Clear(g_c), s	2.2	5.3	0.0	11.0	10.0	10.3	11.0	8.1	34.6	1.9	7.1	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	1252	390	1019	1017	525	1209	1084	484	98	330	148
V/C Ratio(X)	0.10	0.23	0.00	0.36	0.33	0.34	0.42	0.27	0.91	0.52	0.61	0.00
Avail Cap(c_a), veh/h	430	1252	390	1019	1017	525	1209	1293	578	265	1157	518
HCM Platoon Ratio	1.33	1.33	1.33	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.1	34.7	0.0	36.1	35.3	35.5	41.6	34.1	43.3	62.3	56.7	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.2	0.9	1.7	0.2	0.1	16.2	4.2	1.8	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(50%),veh/ln	1.1	2.5	0.0	5.3	4.8	5.2	5.1	4.0	17.3	1.0	3.6	0.0
LnGrp Delay(d),s/veh	34.2	35.1	0.0	36.3	36.2	37.2	41.8	34.2	59.5	66.5	58.5	0.0
LnGrp LOS	C	D		D	D	D	D	C	E	E	E	
Approach Vol, veh/h		325			881			1235			253	
Approach Delay, s/veh		35.0			36.5			46.3			60.1	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	36.0	35.4	16.1	35.5	43.0	7.7	43.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	31.5	14.5	42.0	17.0	38.5	9.5	47.0
Max Q Clear Time (g_c+I1), s	13.0	7.3	13.0	9.1	4.2	12.3	3.9	36.6
Green Ext Time (p_c), s	1.1	1.9	0.4	1.3	1.2	3.1	0.1	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	50	117	78	145	63	19
Future Vol, veh/h	50	117	78	145	63	19
Conflicting Peds, #/hr	13	0	0	13	1	1
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	130	87	161	70	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	409	181
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1317	-	-	-	599	862
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1301	-	-	-	570	851
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	11.8
HCM LOS			B

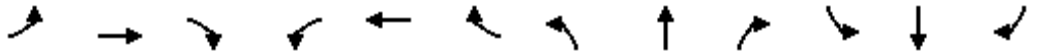
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1301	-	-	-	617
HCM Lane V/C Ratio	0.043	-	-	-	0.148
HCM Control Delay (s)	7.9	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	50	117	0	78	145	0	63	19
Future Vol, veh/h	0	50	117	0	78	145	0	63	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	130	0	87	161	0	70	21
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.8	8.5	8.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	0%	77%
Vol Thru, %	70%	35%	0%
Vol Right, %	0%	65%	23%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	167	223	82
LT Vol	50	0	63
Through Vol	117	78	0
RT Vol	0	145	19
Lane Flow Rate	186	248	91
Geometry Grp	1	1	1
Degree of Util (X)	0.23	0.273	0.123
Departure Headway (Hd)	4.461	3.973	4.863
Convergence, Y/N	Yes	Yes	Yes
Cap	807	907	738
Service Time	2.478	1.988	2.889
HCM Lane V/C Ratio	0.23	0.273	0.123
HCM Control Delay	8.8	8.5	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	1.1	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	168	195	264	118	239	209	816	361	144	519	33
Future Volume (veh/h)	29	168	195	264	118	239	209	816	361	144	519	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.95	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	187	217	293	131	266	232	907	401	160	577	37
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	212	246	277	734	595	272	1159	502	156	886	57
Arrive On Green	0.03	0.27	0.27	0.16	0.39	0.39	0.15	0.33	0.33	0.09	0.26	0.26
Sat Flow, veh/h	1774	781	907	1774	1863	1509	1774	3539	1534	1774	3377	216
Grp Volume(v), veh/h	32	0	404	293	131	266	232	907	401	160	302	312
Grp Sat Flow(s),veh/h/ln	1774	0	1688	1774	1863	1509	1774	1770	1534	1774	1770	1824
Q Serve(g_s), s	1.8	0.0	23.5	16.0	4.7	13.3	13.0	23.7	24.4	9.0	15.5	15.6
Cycle Q Clear(g_c), s	1.8	0.0	23.5	16.0	4.7	13.3	13.0	23.7	24.4	9.0	15.5	15.6
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	60	0	459	277	734	595	272	1159	502	156	464	478
V/C Ratio(X)	0.53	0.00	0.88	1.06	0.18	0.45	0.85	0.78	0.80	1.03	0.65	0.65
Avail Cap(c_a), veh/h	108	0	503	277	734	595	310	1159	502	156	464	478
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	35.8	43.2	20.2	22.8	42.2	31.1	31.3	46.7	33.6	33.6
Incr Delay (d2), s/veh	7.0	0.0	15.5	69.6	0.1	0.5	18.3	5.3	12.5	78.8	6.9	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	12.9	13.1	2.4	5.6	7.8	12.4	12.1	7.8	8.4	8.7
LnGrp Delay(d),s/veh	55.6	0.0	51.3	112.7	20.3	23.3	60.5	36.4	43.8	125.8	40.5	40.4
LnGrp LOS	E		D	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		436			690			1540			774	
Approach Delay, s/veh		51.6			60.7			42.0			58.1	
Approach LOS		D			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	37.5	20.0	31.8	19.7	30.8	7.5	44.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	33.0	15.5	30.0	17.4	24.1	5.7	39.8
Max Q Clear Time (g_c+I1), s	11.0	26.4	18.0	25.5	15.0	17.6	3.8	15.3
Green Ext Time (p_c), s	0.0	5.2	0.0	1.8	0.2	5.1	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	169	0	15	80	0	45
Future Vol, veh/h	169	0	15	80	0	45
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	188	0	17	89	0	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	310	188
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1386	-	682	854
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1386	-	673	854
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	854	-	-	1386	-
HCM Lane V/C Ratio	0.059	-	-	0.012	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	169	0	0	15	80	0	0	45
Future Vol, veh/h	0	169	0	0	15	80	0	0	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	188	0	0	17	89	0	0	50
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	7.9	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	16%
Vol Thru, %	0%	100%	84%
Vol Right, %	100%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	45	169	95
LT Vol	0	0	15
Through Vol	0	169	80
RT Vol	45	0	0
Lane Flow Rate	50	188	106
Geometry Grp	1	1	1
Degree of Util (X)	0.055	0.214	0.123
Departure Headway (Hd)	3.971	4.101	4.195
Convergence, Y/N	Yes	Yes	Yes
Cap	908	871	848
Service Time	1.971	2.148	2.257
HCM Lane V/C Ratio	0.055	0.216	0.125
HCM Control Delay	7.2	8.3	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.8	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	325	106	31	405	13	571	66	153	37	19	205
Future Volume (veh/h)	94	325	106	31	405	13	571	66	153	37	19	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	349	114	33	435	14	614	71	165	40	20	220
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	729	326	64	947	30	750	1929	852	71	684	581
Arrive On Green	0.06	0.21	0.21	0.04	0.19	0.18	0.22	0.54	0.54	0.04	0.37	0.37
Sat Flow, veh/h	3442	3539	1579	1774	5062	162	3442	3539	1563	1774	1863	1583
Grp Volume(v), veh/h	101	349	114	33	291	158	614	71	165	40	20	220
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1834	1721	1770	1563	1774	1863	1583
Q Serve(g_s), s	2.6	8.0	5.7	1.7	7.1	7.1	15.7	0.9	5.0	2.1	0.6	9.5
Cycle Q Clear(g_c), s	2.6	8.0	5.7	1.7	7.1	7.1	15.7	0.9	5.0	2.1	0.6	9.5
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	729	326	64	634	343	750	1929	852	71	684	581
V/C Ratio(X)	0.53	0.48	0.35	0.51	0.46	0.46	0.82	0.04	0.19	0.56	0.03	0.38
Avail Cap(c_a), veh/h	204	1814	810	105	1738	940	1155	1929	852	105	684	581
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	32.4	31.5	43.9	33.5	33.5	34.5	9.8	10.7	43.7	18.8	21.6
Incr Delay (d2), s/veh	2.3	0.5	0.6	6.2	0.5	1.0	2.8	0.0	0.5	6.8	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(50%),veh/ln	1.3	4.0	2.5	0.9	3.4	3.7	7.8	0.4	2.2	1.1	0.3	4.2
LnGrp Delay(d),s/veh	44.9	32.9	32.1	50.0	34.0	34.5	37.3	9.8	11.2	50.5	18.8	22.0
LnGrp LOS	D	C	C	D	C	C	D	A	B	D	B	C
Approach Vol, veh/h		564			482			850			280	
Approach Delay, s/veh		34.9			35.3			29.9			25.8	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	54.5	7.4	23.1	24.2	38.0	9.1	21.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	30.6	24.4	5.0	47.0
Max Q Clear Time (g_c+I1), s	4.1	7.0	3.7	10.0	17.7	11.5	4.6	9.1
Green Ext Time (p_c), s	0.0	2.0	0.0	6.5	2.0	1.6	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	379	487	129	354	517	177
Future Volume (veh/h)	379	487	129	354	517	177
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	408	524	139	381	556	190
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	416	466	396	599	1188
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	408	524	139	381	556	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	17.6	21.0	4.8	19.0	24.2	3.3
Cycle Q Clear(g_c), s	17.6	21.0	4.8	19.0	24.2	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	466	416	466	396	599	1188
V/C Ratio(X)	0.88	1.26	0.30	0.96	0.93	0.16
Avail Cap(c_a), veh/h	466	416	466	396	621	1188
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	28.3	29.5	24.3	29.6	25.6	5.9
Incr Delay (d2), s/veh	16.9	135.5	1.6	36.8	20.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	24.8	2.7	12.3	15.1	1.8
LnGrp Delay(d),s/veh	45.2	165.0	26.0	66.4	45.6	6.1
LnGrp LOS	D	F	C	E	D	A
Approach Vol, veh/h	932		520			746
Approach Delay, s/veh	112.5		55.6			35.6
Approach LOS	F		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.0	24.0				55.0		25.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.2	21.0				5.3		23.0
Green Ext Time (p_c), s	0.3	0.0				3.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	72.9
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	942	77	0	748	524	0	0	0	913	22	556
Future Volume (veh/h)	324	942	77	0	748	524	0	0	0	913	22	556
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	348	1013	83	0	804	0				999	0	598
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	415	1892	824	0	1969	613				1462	0	651
Arrive On Green	0.12	0.53	0.53	0.00	0.13	0.00				0.41	0.00	0.41
Sat Flow, veh/h	3442	3539	1542	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	348	1013	83	0	804	0				999	0	598
Grp Sat Flow(s),veh/h/ln	1721	1770	1542	0	1695	1583				1774	0	1580
Q Serve(g_s), s	14.8	28.0	4.0	0.0	21.8	0.0				34.6	0.0	53.7
Cycle Q Clear(g_c), s	14.8	28.0	4.0	0.0	21.8	0.0				34.6	0.0	53.7
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	415	1892	824	0	1969	613				1462	0	651
V/C Ratio(X)	0.84	0.54	0.10	0.00	0.41	0.00				0.68	0.00	0.92
Avail Cap(c_a), veh/h	574	1892	824	0	1969	613				1632	0	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	64.5	22.8	17.2	0.0	49.6	0.0				36.1	0.0	41.7
Incr Delay (d2), s/veh	7.8	1.1	0.2	0.0	0.3	0.0				1.0	0.0	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	13.9	1.7	0.0	10.3	0.0				17.1	0.0	42.2
LnGrp Delay(d),s/veh	72.3	23.9	17.4	0.0	49.9	0.0				37.1	0.0	57.4
LnGrp LOS	E	C	B		D					D		E
Approach Vol, veh/h		1444			804						1597	
Approach Delay, s/veh		35.2			49.9						44.7	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		84.2		65.8	22.1	62.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.5		68.5	24.5	43.5		
Max Q Clear Time (g_c+I1), s		30.0		55.7	16.8	23.8		
Green Ext Time (p_c), s		19.7		5.6	0.8	12.7		

Intersection Summary	
HCM 2010 Ctrl Delay	42.2
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	601	1254	0	0	1014	339	257	0	436	0	0	0
Future Volume (veh/h)	601	1254	0	0	1014	339	257	0	436	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	646	1348	0	0	1090	0	276	0	469			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	656	2277	0	0	1256	391	538	0	480			
Arrive On Green	0.74	1.00	0.00	0.00	0.25	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	646	1348	0	0	1090	0	276	0	469			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	52.4	0.0	0.0	0.0	30.8	0.0	19.3	0.0	44.0			
Cycle Q Clear(g_c), s	52.4	0.0	0.0	0.0	30.8	0.0	19.3	0.0	44.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	656	2277	0	0	1256	391	538	0	480			
V/C Ratio(X)	0.98	0.59	0.00	0.00	0.87	0.00	0.51	0.00	0.98			
Avail Cap(c_a), veh/h	674	2277	0	0	1256	391	538	0	480			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	0.97	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	19.1	0.0	0.0	0.0	54.1	0.0	43.1	0.0	51.7			
Incr Delay (d2), s/veh	26.2	0.9	0.0	0.0	8.1	0.0	3.5	0.0	35.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	29.5	0.3	0.0	0.0	15.4	0.0	9.9	0.0	24.0			
LnGrp Delay(d),s/veh	45.3	0.9	0.0	0.0	62.2	0.0	46.6	0.0	87.4			
LnGrp LOS	D	A			E		D		F			
Approach Vol, veh/h		1994			1090			745				
Approach Delay, s/veh		15.3			62.2			72.3				
Approach LOS		B			E			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.5			59.5	41.0		49.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		96.0			56.5	35.0		45.0
Max Q Clear Time (g_c+I1), s		2.0			54.4	32.8		46.0
Green Ext Time (p_c), s		43.1			0.6	2.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1320	187	85	1034	3	135	5	62	23	11	114
Future Volume (veh/h)	183	1320	187	85	1034	3	135	5	62	23	11	114
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	197	1419	201	91	1112	3	145	5	67	25	12	123
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1915	576	220	1950	5	216	41	547	44	47	478
Arrive On Green	0.13	0.38	0.37	0.25	0.74	0.74	0.06	0.37	0.36	0.02	0.33	0.33
Sat Flow, veh/h	1774	5085	1542	1774	5236	14	3442	111	1488	1774	141	1450
Grp Volume(v), veh/h	197	1419	201	91	720	395	145	0	72	25	0	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1542	1774	1695	1860	1721	0	1599	1774	0	1591
Q Serve(g_s), s	16.3	36.2	14.1	6.5	14.1	14.1	6.2	0.0	4.5	2.1	0.0	9.4
Cycle Q Clear(g_c), s	16.3	36.2	14.1	6.5	14.1	14.1	6.2	0.0	4.5	2.1	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.93	1.00		0.91
Lane Grp Cap(c), veh/h	227	1915	576	220	1263	693	216	0	588	44	0	525
V/C Ratio(X)	0.87	0.74	0.35	0.41	0.57	0.57	0.67	0.00	0.12	0.57	0.00	0.26
Avail Cap(c_a), veh/h	331	1915	576	220	1263	693	275	0	588	75	0	525
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	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	40.4	33.9	51.9	13.8	13.8	68.8	0.0	31.5	72.3	0.0	37.0
Incr Delay (d2), s/veh	14.4	2.5	1.6	1.0	1.5	2.8	4.2	0.0	0.4	10.9	0.0	1.2
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(50%),veh/ln	9.0	17.4	6.2	3.2	6.7	7.5	3.1	0.0	2.1	1.2	0.0	4.3
LnGrp Delay(d),s/veh	78.6	42.9	35.4	52.9	15.3	16.6	73.0	0.0	32.0	83.2	0.0	38.1
LnGrp LOS	E	D	D	D	B	B	E		C	F		D
Approach Vol, veh/h		1817			1206			217			160	
Approach Delay, s/veh		45.9			18.6			59.4			45.2	
Approach LOS		D			B			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	60.5	13.4	53.5	23.2	59.9	7.7	59.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	56.0	11.5	49.0	27.5	44.0	5.8	54.7
Max Q Clear Time (g_c+I1), s	18.3	38.2	8.2	11.4	18.3	16.1	4.1	6.5
Green Ext Time (p_c), s	0.3	10.5	0.2	0.9	0.4	8.3	0.1	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	37.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	731	572	167	475	95	460	263	205	154	293	73
Future Volume (veh/h)	160	731	572	167	475	95	460	263	205	154	293	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	172	786	0	180	511	102	495	283	220	166	315	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	2136	665	238	1315	257	621	1200	537	224	991	443
Arrive On Green	0.30	0.70	0.00	0.07	0.31	0.30	0.12	0.34	0.34	0.06	0.28	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4270	834	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	172	786	0	180	403	210	495	283	220	166	315	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1715	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	12.1	9.3	0.0	7.7	14.0	14.5	14.4	8.6	16.0	7.1	10.6	0.0
Cycle Q Clear(g_c), s	12.1	9.3	0.0	7.7	14.0	14.5	14.4	8.6	16.0	7.1	10.6	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	2136	665	238	1044	528	621	1200	537	224	991	443
V/C Ratio(X)	0.54	0.37	0.00	0.76	0.39	0.40	0.80	0.24	0.41	0.74	0.32	0.00
Avail Cap(c_a), veh/h	321	2136	665	321	1044	528	714	1200	537	294	991	443
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.0	14.4	0.0	68.6	40.8	41.0	63.9	35.6	38.0	68.9	42.7	0.0
Incr Delay (d2), s/veh	1.7	0.5	0.0	6.8	1.1	2.2	5.6	0.5	2.3	7.0	0.8	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(50%),veh/ln	6.0	4.3	0.0	3.9	6.7	7.2	7.0	4.3	7.3	3.6	5.3	0.0
LnGrp Delay(d),s/veh	48.8	14.9	0.0	75.4	41.8	43.2	69.4	36.1	40.4	75.9	43.5	0.0
LnGrp LOS	D	B		E	D	D	E	D	D	E	D	
Approach Vol, veh/h		958			793			998			481	
Approach Delay, s/veh		21.0			49.8			53.6			54.7	
Approach LOS		C			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	67.0	22.6	46.0	31.2	50.2	13.7	54.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	56.1	20.9	41.5	23.9	45.7	12.3	50.1
Max Q Clear Time (g_c+I1), s	9.7	11.3	16.4	12.6	14.1	16.5	9.1	18.0
Green Ext Time (p_c), s	0.2	7.2	1.7	2.1	4.2	4.0	0.1	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	54	52	69	51	90	73
Future Vol, veh/h	54	52	69	51	90	73
Conflicting Peds, #/hr	4	0	0	4	1	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	56	74	55	97	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	130	0	-	0	275	107
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1455	-	-	-	715	947
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1449	-	-	-	684	942
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	822	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	10.9
HCM LOS			B

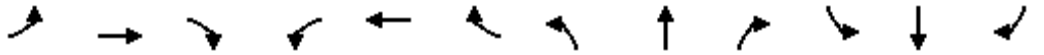
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1449	-	-	-	780
HCM Lane V/C Ratio	0.04	-	-	-	0.225
HCM Control Delay (s)	7.6	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	54	52	0	69	51	0	90	73
Future Vol, veh/h	0	54	52	0	69	51	0	90	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	56	0	74	55	0	97	78
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.4	8	8.5
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	51%	0%	55%
Vol Thru, %	49%	57%	0%
Vol Right, %	0%	42%	45%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	106	120	163
LT Vol	54	0	90
Through Vol	52	69	0
RT Vol	0	51	73
Lane Flow Rate	114	129	175
Geometry Grp	1	1	1
Degree of Util (X)	0.145	0.151	0.21
Departure Headway (Hd)	4.573	4.21	4.322
Convergence, Y/N	Yes	Yes	Yes
Cap	786	854	833
Service Time	2.59	2.226	2.338
HCM Lane V/C Ratio	0.145	0.151	0.21
HCM Control Delay	8.4	8	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.5	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	62	136	131	67	75	144	839	160	67	944	21
Future Volume (veh/h)	14	62	136	131	67	75	144	839	160	67	944	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	1.00		0.95	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	67	146	141	72	81	155	902	172	72	1015	23
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	100	218	186	507	424	202	1552	661	103	1354	31
Arrive On Green	0.02	0.19	0.19	0.10	0.27	0.27	0.11	0.44	0.44	0.06	0.38	0.38
Sat Flow, veh/h	1774	522	1138	1774	1863	1560	1774	3539	1508	1774	3536	80
Grp Volume(v), veh/h	15	0	213	141	72	81	155	902	172	72	508	530
Grp Sat Flow(s),veh/h/ln	1774	0	1660	1774	1863	1560	1774	1770	1508	1774	1770	1846
Q Serve(g_s), s	0.6	0.0	9.2	6.0	2.3	3.1	6.6	14.8	5.6	3.1	19.2	19.2
Cycle Q Clear(g_c), s	0.6	0.0	9.2	6.0	2.3	3.1	6.6	14.8	5.6	3.1	19.2	19.2
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	43	0	318	186	507	424	202	1552	661	103	678	707
V/C Ratio(X)	0.35	0.00	0.67	0.76	0.14	0.19	0.77	0.58	0.26	0.70	0.75	0.75
Avail Cap(c_a), veh/h	126	0	655	207	819	686	229	1552	661	129	678	707
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	0.0	29.2	33.6	21.3	21.6	33.3	16.4	13.8	35.7	20.6	20.7
Incr Delay (d2), s/veh	4.7	0.0	2.4	13.5	0.1	0.2	13.0	1.6	1.0	11.5	7.5	7.2
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(50%),veh/ln	0.4	0.0	4.4	3.6	1.2	1.4	4.0	7.6	2.5	1.8	10.7	11.1
LnGrp Delay(d),s/veh	41.9	0.0	31.6	47.2	21.4	21.8	46.2	18.0	14.7	47.3	28.1	27.8
LnGrp LOS	D		C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		228			294			1229			1110	
Approach Delay, s/veh		32.3			33.9			21.1			29.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	37.9	12.1	18.8	12.8	33.6	5.9	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.4	8.5	30.0	9.5	29.0	5.0	33.5
Max Q Clear Time (g_c+I1), s	5.1	16.8	8.0	11.2	8.6	21.2	2.6	5.1
Green Ext Time (p_c), s	0.0	12.0	0.0	1.9	0.0	6.4	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	108	3	49	183	0	29
Future Vol, veh/h	108	3	49	183	0	29
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	3	53	197	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	420	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1469	-	590	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1469	-	566	934
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9
HCM LOS			A

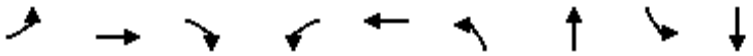
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	934	-	-	1469	-
HCM Lane V/C Ratio	0.033	-	-	0.036	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	108	3	0	49	183	0	0	29
Future Vol, veh/h	0	108	3	0	49	183	0	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	116	3	0	53	197	0	0	31
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	8.8	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	21%
Vol Thru, %	0%	97%	79%
Vol Right, %	100%	3%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	29	111	232
LT Vol	0	0	49
Through Vol	0	108	183
RT Vol	29	3	0
Lane Flow Rate	31	119	249
Geometry Grp	1	1	1
Degree of Util (X)	0.036	0.138	0.286
Departure Headway (Hd)	4.131	4.16	4.121
Convergence, Y/N	Yes	Yes	Yes
Cap	872	852	868
Service Time	2.131	2.231	2.164
HCM Lane V/C Ratio	0.036	0.14	0.287
HCM Control Delay	7.3	7.9	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.5	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	447	60	66	876	214	90	8	82
v/c Ratio	0.67	0.25	0.10	0.57	0.60	0.68	0.11	0.11	0.13
Control Delay	70.5	30.2	0.3	82.1	49.8	68.6	11.2	72.6	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	30.2	0.3	82.1	49.8	68.6	11.2	72.6	30.9
Queue Length 50th (ft)	115	98	0	60	287	91	20	7	37
Queue Length 95th (ft)	184	128	0	110	336	135	57	m17	82
Internal Link Dist (ft)		260			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	251	1809	624	122	1448	316	807	74	630
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	0.56	0.25	0.10	0.54	0.60	0.68	0.11	0.11	0.13

Intersection Summary

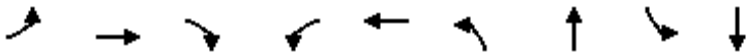
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	404	293	131	266	232	907	401	160	614
v/c Ratio	0.30	0.86	1.04	0.18	0.40	0.80	0.77	0.58	1.01	0.67
Control Delay	54.3	50.6	108.1	21.4	12.8	62.3	36.0	13.3	123.1	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	50.6	108.1	21.4	12.8	62.3	36.0	13.3	123.1	38.8
Queue Length 50th (ft)	21	224	~213	57	58	146	282	64	~113	195
Queue Length 95th (ft)	52	#368	#389	100	127	#267	370	169	#250	265
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	109	544	281	760	675	315	1180	689	158	911
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	0.29	0.74	1.04	0.17	0.39	0.74	0.77	0.58	1.01	0.67

Intersection Summary

~ 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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	197	1419	201	91	1115	145	72	25	135
v/c Ratio	0.76	0.73	0.29	0.48	0.64	0.57	0.11	0.34	0.24
Control Delay	79.3	42.2	8.7	38.1	12.4	76.1	14.9	71.5	5.7
Queue Delay	0.0	48.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	90.8	9.3	38.1	12.4	76.1	14.9	71.5	5.7
Queue Length 50th (ft)	187	435	24	87	86	71	18	25	12
Queue Length 95th (ft)	267	494	82	m143	333	109	54	m56	47
Internal Link Dist (ft)		330			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	330	1949	684	188	1738	274	642	74	574
Starvation Cap Reductn	0	690	223	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	0.60	1.13	0.44	0.48	0.64	0.53	0.11	0.34	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	213	141	72	81	155	902	172	72	1038
v/c Ratio	0.12	0.60	0.68	0.12	0.16	0.68	0.55	0.23	0.56	0.77
Control Delay	39.5	23.0	53.7	20.1	9.4	51.5	18.5	8.6	56.0	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	23.0	53.7	20.1	9.4	51.5	18.5	8.6	56.0	27.3
Queue Length 50th (ft)	7	50	65	24	7	71	158	20	33	216
Queue Length 95th (ft)	28	111	#182	60	40	#192	294	74	#108	#422
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	126	714	206	821	707	229	1647	744	128	1350
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	0.12	0.30	0.68	0.09	0.11	0.68	0.55	0.23	0.56	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2023	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	556	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	785	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	785	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON / Tracy OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2466	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	677	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	957	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	957	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	14.7	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3535	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	930	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1315	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1315	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3976	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1046	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1479	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1479	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	4906	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1264	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1787	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1787	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.9	mi/h
Number of lanes, N	3	
Density, D	28.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5152	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1328	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1877	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1877	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.8	mi/h
Number of lanes, N	3	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2423	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	624	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	883	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	883	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Existing
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2958	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	762	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1077	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

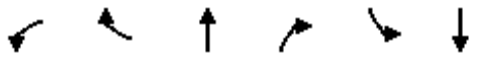
Flow rate, vp	1077	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	158	471	256	234	383	153
Future Volume (veh/h)	158	471	256	234	383	153
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	176	523	284	260	426	170
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	340	1304	640	544	491	1272
Arrive On Green	0.19	0.19	0.34	0.34	0.28	0.68
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	176	523	284	260	426	170
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	5.7	7.8	7.5	8.2	14.6	2.0
Cycle Q Clear(g_c), s	5.7	7.8	7.5	8.2	14.6	2.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	340	1304	640	544	491	1272
V/C Ratio(X)	0.52	0.40	0.44	0.48	0.87	0.13
Avail Cap(c_a), veh/h	515	1580	640	544	585	1272
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	23.1	11.1	16.2	16.4	21.9	3.5
Incr Delay (d2), s/veh	1.2	0.2	2.2	3.0	11.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.0	4.3	4.0	8.7	1.1
LnGrp Delay(d),s/veh	24.3	11.3	18.4	19.4	33.5	3.7
LnGrp LOS	C	B	B	B	C	A
Approach Vol, veh/h	699		544			596
Approach Delay, s/veh	14.6		18.9			25.0
Approach LOS	B		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	21.6	25.9				47.5		16.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	16.6	10.2				4.0		9.8
Green Ext Time (p_c), s	0.6	2.3				4.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B



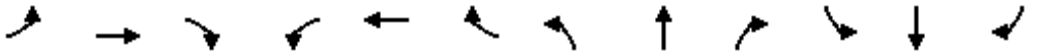
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	379	487	129	354	517	177
Future Volume (veh/h)	379	487	129	354	517	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	408	524	139	381	556	190
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	458	1661	471	401	600	1195
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	408	524	139	381	556	190
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	17.6	7.4	4.8	18.8	24.0	3.2
Cycle Q Clear(g_c), s	17.6	7.4	4.8	18.8	24.0	3.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	458	1661	471	401	600	1195
V/C Ratio(X)	0.89	0.32	0.29	0.95	0.93	0.16
Avail Cap(c_a), veh/h	468	1678	471	401	625	1195
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	28.4	8.0	24.0	29.2	25.4	5.7
Incr Delay (d2), s/veh	18.6	0.1	1.6	34.2	19.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	2.9	2.7	12.1	15.0	1.7
LnGrp Delay(d),s/veh	47.0	8.1	25.6	63.4	45.1	6.0
LnGrp LOS	D	A	C	E	D	A
Approach Vol, veh/h	932		520			746
Approach Delay, s/veh	25.1		53.3			35.2
Approach LOS	C		D			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	30.9	24.1				55.0		24.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.0	20.8				5.2		19.6
Green Ext Time (p_c), s	0.4	0.0				3.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.2
HCM 2010 LOS	D

APPENDIX B

EXISTING PLUS PROJECT CONDITIONS TECHNICAL CALCULATIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	105	214	17	78	3	593	93	70	3	5	49
Future Volume (veh/h)	55	105	214	17	78	3	593	93	70	3	5	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	61	117	238	19	87	3	659	103	78	3	6	54
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	675	302	40	890	30	744	2338	1045	14	842	716
Arrive On Green	0.04	0.19	0.19	0.02	0.18	0.17	0.22	0.66	0.66	0.01	0.45	0.45
Sat Flow, veh/h	3442	3539	1583	1774	5049	172	3442	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	61	117	238	19	58	32	659	103	78	3	6	54
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1774	1695	1831	1721	1770	1583	1774	1863	1583
Q Serve(g_s), s	2.3	3.7	19.3	1.4	1.9	2.0	25.1	1.4	2.4	0.2	0.2	2.6
Cycle Q Clear(g_c), s	2.3	3.7	19.3	1.4	1.9	2.0	25.1	1.4	2.4	0.2	0.2	2.6
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	675	302	40	598	323	744	2338	1045	14	842	716
V/C Ratio(X)	0.48	0.17	0.79	0.47	0.10	0.10	0.89	0.04	0.07	0.22	0.01	0.08
Avail Cap(c_a), veh/h	178	1460	653	76	1369	739	892	2338	1045	72	842	716
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	45.7	52.0	65.2	46.6	46.6	51.3	8.0	8.2	66.6	20.3	21.0
Incr Delay (d2), s/veh	2.8	0.1	4.6	8.5	0.1	0.1	9.3	0.0	0.1	8.0	0.0	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	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.8	8.9	0.8	0.9	1.0	12.9	0.7	1.1	0.1	0.1	1.1
LnGrp Delay(d),s/veh	66.5	45.8	56.6	73.6	46.7	46.8	60.6	8.0	8.3	74.5	20.3	21.0
LnGrp LOS	E	D	E	E	D	D	E	A	A	E	C	C
Approach Vol, veh/h		416			109			840			63	
Approach Delay, s/veh		55.0			51.4			49.3			23.5	
Approach LOS		E			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	93.2	7.0	29.8	33.2	65.0	9.0	27.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	51.5	5.3	55.2	34.5	22.0	6.5	54.0
Max Q Clear Time (g_c+I1), s	2.2	4.4	3.4	21.3	27.1	4.6	4.3	4.0
Green Ext Time (p_c), s	0.0	1.2	0.0	2.2	1.6	0.9	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	50.0
HCM 2010 LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	172	472	256	234	384	153
Future Volume (veh/h)	172	472	256	234	384	153
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	191	524	284	260	427	170
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	469	418	545	463	482	1158
Arrive On Green	0.26	0.26	0.29	0.29	0.27	0.62
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	191	524	284	260	427	170
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	6.2	18.5	8.9	9.7	16.2	2.7
Cycle Q Clear(g_c), s	6.2	18.5	8.9	9.7	16.2	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	469	418	545	463	482	1158
V/C Ratio(X)	0.41	1.25	0.52	0.56	0.89	0.15
Avail Cap(c_a), veh/h	469	418	545	463	532	1158
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	21.2	25.8	20.7	21.0	24.4	5.5
Incr Delay (d2), s/veh	0.6	131.9	3.5	4.9	15.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	23.4	5.1	4.9	9.9	1.5
LnGrp Delay(d),s/veh	21.8	157.6	24.2	25.8	39.8	5.8
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	715		544			597
Approach Delay, s/veh	121.3		25.0			30.1
Approach LOS	F		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.0	24.5				47.5		22.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	18.2	11.7				4.7		20.5
Green Ext Time (p_c), s	0.4	2.0				4.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.8
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	539	57	0	596	357	0	0	0	310	38	401
Future Volume (veh/h)	132	539	57	0	596	357	0	0	0	310	38	401
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	147	599	63	0	662	0				374	0	446
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	805	2216	991	0	1839	572				1108	0	494
Arrive On Green	0.23	0.63	0.63	0.00	0.72	0.00				0.31	0.00	0.31
Sat Flow, veh/h	3442	3539	1582	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	147	599	63	0	662	0				374	0	446
Grp Sat Flow(s),veh/h/ln	1721	1770	1582	0	1695	1583				1774	0	1583
Q Serve(g_s), s	4.4	9.9	2.0	0.0	6.3	0.0				10.5	0.0	35.1
Cycle Q Clear(g_c), s	4.4	9.9	2.0	0.0	6.3	0.0				10.5	0.0	35.1
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	805	2216	991	0	1839	572				1108	0	494
V/C Ratio(X)	0.18	0.27	0.06	0.00	0.36	0.00				0.34	0.00	0.90
Avail Cap(c_a), veh/h	805	2216	991	0	1839	572				1583	0	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.51	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	10.9	9.5	0.0	12.4	0.0				34.4	0.0	42.8
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.0	0.3	0.0				0.2	0.0	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.9	0.9	0.0	2.9	0.0				5.2	0.0	28.6
LnGrp Delay(d),s/veh	40.0	11.2	9.6	0.0	12.7	0.0				34.5	0.0	54.1
LnGrp LOS	D	B	A		B					C		D
Approach Vol, veh/h		809			662						820	
Approach Delay, s/veh		16.3			12.7						45.2	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		85.4		44.6	34.4	51.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		63.5		57.5	12.5	46.5		
Max Q Clear Time (g_c+I1), s		11.9		37.1	6.4	8.3		
Green Ext Time (p_c), s		5.6		3.0	2.5	4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	469	0	0	885	273	68	0	132	0	0	0
Future Volume (veh/h)	380	469	0	0	885	273	68	0	132	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	422	521	0	0	983	0	76	0	147			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	502	1919	0	0	1162	362	703	0	627			
Arrive On Green	0.57	1.00	0.00	0.00	0.23	0.00	0.40	0.00	0.40			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	422	521	0	0	983	0	76	0	147			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	25.6	0.0	0.0	0.0	24.0	0.0	3.5	0.0	8.0			
Cycle Q Clear(g_c), s	25.6	0.0	0.0	0.0	24.0	0.0	3.5	0.0	8.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	502	1919	0	0	1162	362	703	0	627			
V/C Ratio(X)	0.84	0.27	0.00	0.00	0.85	0.00	0.11	0.00	0.23			
Avail Cap(c_a), veh/h	502	1919	0	0	1162	362	703	0	627			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.98	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.8	0.0	0.0	0.0	48.0	0.0	24.8	0.0	26.1			
Incr Delay (d2), s/veh	11.6	0.3	0.0	0.0	7.5	0.0	0.3	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.1	0.0	0.0	12.1	0.0	1.8	0.0	3.7			
LnGrp Delay(d),s/veh	37.4	0.3	0.0	0.0	55.5	0.0	25.1	0.0	27.0			
LnGrp LOS	D	A			E		C		C			
Approach Vol, veh/h		943			983			223				
Approach Delay, s/veh		16.9			55.5			26.3				
Approach LOS		B			E			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		74.5			40.8	33.7		55.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		70.0			36.3	29.2		51.0
Max Q Clear Time (g_c+I1), s		2.0			27.6	26.0		10.0
Green Ext Time (p_c), s		5.6			3.3	1.8		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	35.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	403	71	68	779	9	265	12	105	7	7	67
Future Volume (veh/h)	127	403	71	68	779	9	265	12	105	7	7	67
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	448	79	76	866	10	294	13	117	8	8	74
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	1758	541	103	1355	16	318	74	664	24	59	548
Arrive On Green	0.14	0.35	0.34	0.02	0.09	0.09	0.09	0.46	0.46	0.01	0.38	0.38
Sat Flow, veh/h	1774	5085	1583	1774	5183	60	3442	161	1446	1774	156	1440
Grp Volume(v), veh/h	141	448	79	76	566	310	294	0	130	8	0	82
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1852	1721	0	1606	1774	0	1595
Q Serve(g_s), s	9.6	8.2	3.4	5.5	21.0	21.0	11.0	0.0	6.2	0.6	0.0	4.4
Cycle Q Clear(g_c), s	9.6	8.2	3.4	5.5	21.0	21.0	11.0	0.0	6.2	0.6	0.0	4.4
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.90	1.00		0.90
Lane Grp Cap(c), veh/h	252	1758	541	103	887	484	318	0	738	24	0	607
V/C Ratio(X)	0.56	0.25	0.15	0.74	0.64	0.64	0.93	0.00	0.18	0.33	0.00	0.14
Avail Cap(c_a), veh/h	252	1758	541	123	887	484	318	0	738	75	0	607
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.9	30.5	17.1	62.8	53.5	53.5	58.6	0.0	20.8	63.5	0.0	26.4
Incr Delay (d2), s/veh	2.7	0.3	0.6	14.9	3.0	5.5	31.9	0.0	0.5	7.9	0.0	0.5
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(50%),veh/ln	4.9	3.9	1.6	3.2	10.2	11.5	6.6	0.0	2.9	0.3	0.0	2.0
LnGrp Delay(d),s/veh	54.7	30.9	17.7	77.7	56.5	58.9	90.4	0.0	21.3	71.5	0.0	26.9
LnGrp LOS	D	C	B	E	E	E	F		C	E		C
Approach Vol, veh/h		668			952			424			90	
Approach Delay, s/veh		34.3			59.0			69.2			30.9	
Approach LOS		C			E			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	48.9	16.0	53.5	22.5	38.0	5.8	63.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	43.0	11.5	49.0	18.0	33.5	5.0	55.5
Max Q Clear Time (g_c+I1), s	7.4	10.2	13.0	6.4	11.6	23.0	2.6	8.2
Green Ext Time (p_c), s	0.0	4.0	0.0	0.5	2.0	3.9	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	277	187	332	412	53	454	263	395	46	182	66
Future Volume (veh/h)	39	277	187	332	412	53	454	263	395	46	182	66
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	43	308	0	369	458	59	504	292	439	51	202	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	1252	390	1019	1369	173	1209	1084	484	98	330	148
Arrive On Green	0.16	0.16	0.00	0.30	0.30	0.30	0.24	0.31	0.31	0.03	0.09	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4565	577	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	43	308	0	369	338	179	504	292	439	51	202	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1751	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	2.7	6.9	0.0	11.0	10.1	10.4	11.0	8.1	34.6	1.9	7.1	0.0
Cycle Q Clear(g_c), s	2.7	6.9	0.0	11.0	10.1	10.4	11.0	8.1	34.6	1.9	7.1	0.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	1252	390	1019	1017	525	1209	1084	484	98	330	148
V/C Ratio(X)	0.10	0.25	0.00	0.36	0.33	0.34	0.42	0.27	0.91	0.52	0.61	0.00
Avail Cap(c_a), veh/h	430	1252	390	1019	1017	525	1209	1293	578	265	1157	518
HCM Platoon Ratio	0.67	0.67	0.67	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.4	43.8	0.0	36.1	35.4	35.5	41.6	34.1	43.3	62.3	56.7	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.2	0.9	1.8	0.2	0.1	16.2	4.2	1.8	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(50%),veh/ln	1.3	3.3	0.0	5.3	4.8	5.3	5.1	4.0	17.3	1.0	3.6	0.0
LnGrp Delay(d),s/veh	42.5	44.2	0.0	36.3	36.3	37.3	41.8	34.2	59.5	66.5	58.5	0.0
LnGrp LOS	D	D		D	D	D	D	C	E	E	E	
Approach Vol, veh/h		351			886			1235			253	
Approach Delay, s/veh		44.0			36.5			46.3			60.1	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	36.0	35.4	16.1	35.5	43.0	7.7	43.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.0	31.5	14.5	42.0	17.0	38.5	9.5	47.0
Max Q Clear Time (g_c+I1), s	13.0	8.9	13.0	9.1	4.7	12.4	3.9	36.6
Green Ext Time (p_c), s	1.1	2.0	0.4	1.3	1.1	3.2	0.1	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	44.1
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	50	117	78	150	76	19
Future Vol, veh/h	50	117	78	150	76	19
Conflicting Peds, #/hr	13	0	0	13	1	1
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	130	87	167	84	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	412	184
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1311	-	-	-	596	858
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	567	847
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	SW
HCM Control Delay, s	2.4	0	12.2
HCM LOS			B

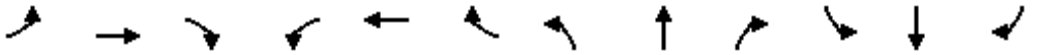
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1295	-	-	-	607
HCM Lane V/C Ratio	0.043	-	-	-	0.174
HCM Control Delay (s)	7.9	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	50	117	0	78	150	0	76	19
Future Vol, veh/h	0	50	117	0	78	150	0	76	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	130	0	87	167	0	84	21
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.9	8.6	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	30%	0%	80%
Vol Thru, %	70%	34%	0%
Vol Right, %	0%	66%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	167	228	95
LT Vol	50	0	76
Through Vol	117	78	0
RT Vol	0	150	19
Lane Flow Rate	186	253	106
Geometry Grp	1	1	1
Degree of Util (X)	0.232	0.282	0.144
Departure Headway (Hd)	4.509	4.011	4.905
Convergence, Y/N	Yes	Yes	Yes
Cap	798	897	732
Service Time	2.53	2.029	2.934
HCM Lane V/C Ratio	0.233	0.282	0.145
HCM Control Delay	8.9	8.6	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	1.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	168	208	264	118	239	214	816	361	144	524	33
Future Volume (veh/h)	29	168	208	264	118	239	214	816	361	144	524	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.95	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	187	231	293	131	266	238	907	401	160	582	37
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	207	256	276	739	598	277	1154	500	155	870	55
Arrive On Green	0.03	0.27	0.27	0.16	0.40	0.40	0.16	0.33	0.33	0.09	0.26	0.25
Sat Flow, veh/h	1774	753	930	1774	1863	1509	1774	3539	1534	1774	3379	215
Grp Volume(v), veh/h	32	0	418	293	131	266	238	907	401	160	304	315
Grp Sat Flow(s),veh/h/ln	1774	0	1683	1774	1863	1509	1774	1770	1534	1774	1770	1824
Q Serve(g_s), s	1.8	0.0	24.6	16.0	4.7	13.3	13.4	23.9	24.5	9.0	15.8	15.9
Cycle Q Clear(g_c), s	1.8	0.0	24.6	16.0	4.7	13.3	13.4	23.9	24.5	9.0	15.8	15.9
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	60	0	462	276	739	598	277	1154	500	155	456	470
V/C Ratio(X)	0.53	0.00	0.90	1.06	0.18	0.44	0.86	0.79	0.80	1.03	0.67	0.67
Avail Cap(c_a), veh/h	107	0	500	276	739	598	309	1154	500	155	456	470
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	0.0	36.1	43.4	20.1	22.7	42.2	31.4	31.6	46.9	34.2	34.3
Incr Delay (d2), s/veh	7.0	0.0	18.9	71.0	0.1	0.5	19.3	5.4	12.7	80.2	7.6	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	13.8	13.2	2.4	5.6	8.0	12.5	12.2	7.8	8.7	9.0
LnGrp Delay(d),s/veh	55.9	0.0	55.0	114.3	20.2	23.2	61.6	36.8	44.3	127.3	41.8	41.7
LnGrp LOS	E		D	F	C	C	E	D	D	F	D	D
Approach Vol, veh/h		450			690			1546			779	
Approach Delay, s/veh		55.1			61.3			42.5			59.3	
Approach LOS		E			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	37.5	20.0	32.2	20.1	30.4	7.5	44.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	33.0	15.5	30.0	17.4	24.1	5.7	39.8
Max Q Clear Time (g_c+I1), s	11.0	26.5	18.0	26.6	15.4	17.9	3.8	15.3
Green Ext Time (p_c), s	0.0	5.1	0.0	1.1	0.1	4.9	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	51.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	5	195	82	25	109	13
Future Vol, veh/h	5	195	82	25	109	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	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	217	91	28	121	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	119	0	-	0	333	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1469	-	-	-	662	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1469	-	-	-	659	949
Mov Cap-2 Maneuver	-	-	-	-	659	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1469	-	-	-	659	949
HCM Lane V/C Ratio	0.004	-	-	-	0.184	0.015
HCM Control Delay (s)	7.5	-	-	-	11.7	8.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	278	0	15	105	0	45
Future Vol, veh/h	278	0	15	105	0	45
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	309	0	17	117	0	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	309	0	459	309
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1252	-	560	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1252	-	552	731
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.3
HCM LOS			B

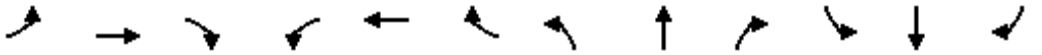
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	731	-	-	1252	-
HCM Lane V/C Ratio	0.068	-	-	0.013	-
HCM Control Delay (s)	10.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	278	0	0	15	105	0	0	45
Future Vol, veh/h	0	278	0	0	15	105	0	0	45
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	309	0	0	17	117	0	0	50
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.5	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	12%
Vol Thru, %	0%	100%	88%
Vol Right, %	100%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	45	278	120
LT Vol	0	0	15
Through Vol	0	278	105
RT Vol	45	0	0
Lane Flow Rate	50	309	133
Geometry Grp	1	1	1
Degree of Util (X)	0.06	0.354	0.159
Departure Headway (Hd)	4.293	4.122	4.381
Convergence, Y/N	Yes	Yes	Yes
Cap	840	865	824
Service Time	2.293	2.189	2.381
HCM Lane V/C Ratio	0.06	0.357	0.161
HCM Control Delay	7.6	9.5	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	1.6	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	334	108	31	422	13	577	66	153	37	19	205
Future Volume (veh/h)	94	334	108	31	422	13	577	66	153	37	19	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	359	116	33	454	14	620	71	165	40	20	220
Adj No. of Lanes	2	2	1	1	3	0	2	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	747	333	64	974	30	755	1916	846	71	674	573
Arrive On Green	0.06	0.21	0.21	0.04	0.19	0.19	0.22	0.54	0.54	0.04	0.36	0.36
Sat Flow, veh/h	3442	3539	1580	1774	5069	156	3442	3539	1563	1774	1863	1583
Grp Volume(v), veh/h	101	359	116	33	303	165	620	71	165	40	20	220
Grp Sat Flow(s),veh/h/ln	1721	1770	1580	1774	1695	1835	1721	1770	1563	1774	1863	1583
Q Serve(g_s), s	2.7	8.3	5.8	1.7	7.4	7.5	16.0	0.9	5.0	2.1	0.6	9.6
Cycle Q Clear(g_c), s	2.7	8.3	5.8	1.7	7.4	7.5	16.0	0.9	5.0	2.1	0.6	9.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	747	333	64	651	352	755	1916	846	71	674	573
V/C Ratio(X)	0.53	0.48	0.35	0.51	0.47	0.47	0.82	0.04	0.20	0.56	0.03	0.38
Avail Cap(c_a), veh/h	203	1802	804	105	1726	934	1147	1916	846	105	674	573
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	32.3	31.3	44.1	33.4	33.5	34.7	10.0	11.0	44.0	19.2	22.1
Incr Delay (d2), s/veh	2.3	0.5	0.6	6.2	0.5	1.0	2.9	0.0	0.5	6.9	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(50%),veh/ln	1.3	4.1	2.6	0.9	3.5	3.9	7.9	0.4	2.3	1.1	0.3	4.3
LnGrp Delay(d),s/veh	45.2	32.8	32.0	50.4	33.9	34.4	37.6	10.0	11.5	50.9	19.2	22.5
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	C
Approach Vol, veh/h		576			501			856			280	
Approach Delay, s/veh		34.8			35.2			30.3			26.3	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	54.5	7.4	23.7	24.5	37.8	9.1	21.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	30.6	24.4	5.0	47.0
Max Q Clear Time (g_c+I1), s	4.1	7.0	3.7	10.3	18.0	11.6	4.7	9.5
Green Ext Time (p_c), s	0.0	2.0	0.0	6.7	2.0	1.6	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	382	489	129	356	520	177
Future Volume (veh/h)	382	489	129	356	520	177
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	411	526	139	383	559	190
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	466	416	463	394	601	1188
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	1583	1863	1583	1774	1863
Grp Volume(v), veh/h	411	526	139	383	559	190
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1774	1863
Q Serve(g_s), s	17.8	21.0	4.8	19.2	24.3	3.3
Cycle Q Clear(g_c), s	17.8	21.0	4.8	19.2	24.3	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	466	416	463	394	601	1188
V/C Ratio(X)	0.88	1.27	0.30	0.97	0.93	0.16
Avail Cap(c_a), veh/h	466	416	463	394	621	1188
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	28.3	29.5	24.4	29.8	25.5	5.9
Incr Delay (d2), s/veh	17.7	137.4	1.7	39.1	20.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	25.0	2.7	12.7	15.2	1.8
LnGrp Delay(d),s/veh	46.1	166.9	26.1	68.9	45.8	6.1
LnGrp LOS	D	F	C	E	D	A
Approach Vol, veh/h	937		522			749
Approach Delay, s/veh	113.9		57.5			35.8
Approach LOS	F		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.1	23.9				55.0		25.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.3	21.2				5.3		23.0
Green Ext Time (p_c), s	0.3	0.0				3.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	74.1
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	952	77	0	755	541	0	0	0	943	22	556
Future Volume (veh/h)	324	952	77	0	755	541	0	0	0	943	22	556
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	348	1024	83	0	812	0				1031	0	598
Adj No. of Lanes	2	2	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	415	1890	823	0	1966	612				1464	0	652
Arrive On Green	0.12	0.53	0.53	0.00	0.13	0.00				0.41	0.00	0.41
Sat Flow, veh/h	3442	3539	1542	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	348	1024	83	0	812	0				1031	0	598
Grp Sat Flow(s),veh/h/ln	1721	1770	1542	0	1695	1583				1774	0	1580
Q Serve(g_s), s	14.8	28.5	4.0	0.0	22.1	0.0				36.1	0.0	53.7
Cycle Q Clear(g_c), s	14.8	28.5	4.0	0.0	22.1	0.0				36.1	0.0	53.7
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	415	1890	823	0	1966	612				1464	0	652
V/C Ratio(X)	0.84	0.54	0.10	0.00	0.41	0.00				0.70	0.00	0.92
Avail Cap(c_a), veh/h	574	1890	823	0	1966	612				1632	0	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.45	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	64.5	22.9	17.2	0.0	49.8	0.0				36.5	0.0	41.6
Incr Delay (d2), s/veh	7.8	1.1	0.2	0.0	0.3	0.0				1.2	0.0	15.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	14.2	1.7	0.0	10.4	0.0				17.9	0.0	42.2
LnGrp Delay(d),s/veh	72.3	24.0	17.5	0.0	50.0	0.0				37.7	0.0	57.2
LnGrp LOS	E	C	B		D					D		E
Approach Vol, veh/h		1455			812						1629	
Approach Delay, s/veh		35.2			50.0						44.8	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		84.1		65.9	22.1	62.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		72.5		68.5	24.5	43.5		
Max Q Clear Time (g_c+I1), s		30.5		55.7	16.8	24.1		
Green Ext Time (p_c), s		19.9		5.8	0.8	12.8		

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	601	1294	0	0	1038	344	257	0	456	0	0	0
Future Volume (veh/h)	601	1294	0	0	1038	344	257	0	456	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	646	1391	0	0	1116	0	276	0	490			
Adj No. of Lanes	1	2	0	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	656	2277	0	0	1256	391	538	0	480			
Arrive On Green	0.74	1.00	0.00	0.00	0.25	0.00	0.30	0.00	0.30			
Sat Flow, veh/h	1774	3632	0	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	646	1391	0	0	1116	0	276	0	490			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	52.4	0.0	0.0	0.0	31.8	0.0	19.3	0.0	45.5			
Cycle Q Clear(g_c), s	52.4	0.0	0.0	0.0	31.8	0.0	19.3	0.0	45.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	656	2277	0	0	1256	391	538	0	480			
V/C Ratio(X)	0.98	0.61	0.00	0.00	0.89	0.00	0.51	0.00	1.02			
Avail Cap(c_a), veh/h	674	2277	0	0	1256	391	538	0	480			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	19.1	0.0	0.0	0.0	54.5	0.0	43.1	0.0	52.3			
Incr Delay (d2), s/veh	25.9	0.9	0.0	0.0	9.6	0.0	3.5	0.0	46.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	29.5	0.3	0.0	0.0	16.0	0.0	9.9	0.0	26.1			
LnGrp Delay(d),s/veh	45.1	0.9	0.0	0.0	64.1	0.0	46.6	0.0	98.5			
LnGrp LOS	D	A			E		D		F			
Approach Vol, veh/h		2037			1116			766				
Approach Delay, s/veh		14.9			64.1			79.8				
Approach LOS		B			E			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.5			59.5	41.0		49.5
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		96.0			56.5	35.0		45.0
Max Q Clear Time (g_c+I1), s		2.0			54.4	33.8		47.5
Green Ext Time (p_c), s		45.7			0.6	1.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1320	247	124	1035	3	163	5	86	23	11	114
Future Volume (veh/h)	183	1320	247	124	1035	3	163	5	86	23	11	114
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	197	1419	266	133	1113	3	175	5	92	25	12	123
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1915	576	212	1927	5	232	30	557	52	47	478
Arrive On Green	0.13	0.38	0.37	0.24	0.74	0.73	0.07	0.37	0.36	0.03	0.33	0.33
Sat Flow, veh/h	1774	5085	1542	1774	5236	14	3442	82	1512	1774	141	1450
Grp Volume(v), veh/h	197	1419	266	133	721	395	175	0	97	25	0	135
Grp Sat Flow(s),veh/h/ln	1774	1695	1542	1774	1695	1860	1721	0	1594	1774	0	1591
Q Serve(g_s), s	16.3	36.2	19.6	10.1	14.6	14.6	7.5	0.0	6.2	2.1	0.0	9.4
Cycle Q Clear(g_c), s	16.3	36.2	19.6	10.1	14.6	14.6	7.5	0.0	6.2	2.1	0.0	9.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.95	1.00		0.91
Lane Grp Cap(c), veh/h	227	1915	576	212	1248	685	232	0	587	52	0	525
V/C Ratio(X)	0.87	0.74	0.46	0.63	0.58	0.58	0.75	0.00	0.17	0.48	0.00	0.26
Avail Cap(c_a), veh/h	331	1915	576	212	1248	685	275	0	587	75	0	525
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	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.2	40.4	35.6	54.1	14.4	14.4	68.7	0.0	32.1	71.7	0.0	37.0
Incr Delay (d2), s/veh	15.2	2.6	2.7	4.7	1.6	2.9	9.4	0.0	0.6	6.7	0.0	1.2
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(50%),veh/ln	9.0	17.4	8.8	5.2	6.9	7.8	3.9	0.0	2.8	1.1	0.0	4.3
LnGrp Delay(d),s/veh	79.3	43.0	38.3	58.8	16.0	17.3	78.1	0.0	32.7	78.3	0.0	38.1
LnGrp LOS	E	D	D	E	B	B	E		C	E		D
Approach Vol, veh/h		1882			1249			272			160	
Approach Delay, s/veh		46.2			21.0			61.9			44.4	
Approach LOS		D			C			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.9	60.5	14.1	53.5	23.2	59.2	8.4	59.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	56.0	11.5	49.0	27.5	44.0	5.8	54.7
Max Q Clear Time (g_c+I1), s	12.1	38.2	9.5	11.4	18.3	16.6	4.1	8.2
Green Ext Time (p_c), s	0.2	10.7	0.1	0.9	0.4	8.4	0.1	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	38.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	746	576	167	505	95	461	262	205	154	293	76
Future Volume (veh/h)	161	746	576	167	505	95	461	262	205	154	293	76
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	173	802	0	180	543	102	496	282	220	166	315	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	2136	665	238	1329	245	621	1201	537	224	991	443
Arrive On Green	0.36	0.84	0.00	0.07	0.31	0.30	0.12	0.34	0.34	0.06	0.28	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4316	796	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	173	802	0	180	424	221	496	282	220	166	315	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1721	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	11.6	5.5	0.0	7.7	14.9	15.3	14.5	8.6	16.0	7.1	10.6	0.0
Cycle Q Clear(g_c), s	11.6	5.5	0.0	7.7	14.9	15.3	14.5	8.6	16.0	7.1	10.6	0.0
Prop In Lane	1.00		1.00	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	2136	665	238	1044	530	621	1201	537	224	991	443
V/C Ratio(X)	0.54	0.38	0.00	0.76	0.41	0.42	0.80	0.23	0.41	0.74	0.32	0.00
Avail Cap(c_a), veh/h	321	2136	665	321	1044	530	714	1201	537	294	991	443
HCM Platoon Ratio	2.00	2.00	2.00	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.9	7.4	0.0	68.6	41.1	41.3	63.9	35.6	38.0	68.9	42.7	0.0
Incr Delay (d2), s/veh	1.8	0.5	0.0	6.8	1.2	2.4	5.6	0.5	2.3	7.0	0.8	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(50%),veh/ln	5.8	2.6	0.0	3.9	7.1	7.6	7.0	4.3	7.3	3.6	5.3	0.0
LnGrp Delay(d),s/veh	44.6	7.9	0.0	75.4	42.2	43.7	69.5	36.0	40.3	75.9	43.5	0.0
LnGrp LOS	D	A		E	D	D	E	D	D	E	D	
Approach Vol, veh/h		975			825			998			481	
Approach Delay, s/veh		14.4			49.9			53.6			54.7	
Approach LOS		B			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	67.0	22.6	46.0	31.2	50.2	13.7	54.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	56.1	20.9	41.5	23.9	45.7	12.3	50.1
Max Q Clear Time (g_c+I1), s	9.7	7.5	16.5	12.6	13.6	17.3	9.1	18.0
Green Ext Time (p_c), s	0.2	7.5	1.7	2.1	4.4	4.2	0.1	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	54	52	69	74	103	73
Future Vol, veh/h	54	52	69	74	103	73
Conflicting Peds, #/hr	4	0	0	4	1	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	56	74	80	111	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	287	119
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1425	-	-	-	703	933
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1420	-	-	-	672	929
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	SW
HCM Control Delay, s	3.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1420	-	-	-	759
HCM Lane V/C Ratio	0.041	-	-	-	0.249
HCM Control Delay (s)	7.6	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	54	52	0	69	74	0	103	73
Future Vol, veh/h	0	54	52	0	69	74	0	103	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	56	0	74	80	0	111	78
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.5	8.1	8.7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	51%	0%	59%
Vol Thru, %	49%	48%	0%
Vol Right, %	0%	52%	41%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	106	143	176
LT Vol	54	0	103
Through Vol	52	69	0
RT Vol	0	74	73
Lane Flow Rate	114	154	189
Geometry Grp	1	1	1
Degree of Util (X)	0.147	0.179	0.231
Departure Headway (Hd)	4.639	4.195	4.4
Convergence, Y/N	Yes	Yes	Yes
Cap	774	856	818
Service Time	2.659	2.214	2.42
HCM Lane V/C Ratio	0.147	0.18	0.231
HCM Control Delay	8.5	8.1	8.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	65	145	131	67	75	167	839	160	67	948	21
Future Volume (veh/h)	14	65	145	131	67	75	167	839	160	67	948	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	1.00		0.95	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	70	156	141	72	81	180	902	172	72	1019	23
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	101	224	185	514	431	224	1557	664	103	1315	30
Arrive On Green	0.02	0.20	0.19	0.10	0.28	0.28	0.13	0.44	0.44	0.06	0.37	0.37
Sat Flow, veh/h	1774	514	1146	1774	1863	1560	1774	3539	1509	1774	3536	80
Grp Volume(v), veh/h	15	0	226	141	72	81	180	902	172	72	510	532
Grp Sat Flow(s),veh/h/ln	1774	0	1660	1774	1863	1560	1774	1770	1509	1774	1770	1847
Q Serve(g_s), s	0.7	0.0	10.1	6.1	2.3	3.1	7.8	15.2	5.7	3.2	20.2	20.2
Cycle Q Clear(g_c), s	0.7	0.0	10.1	6.1	2.3	3.1	7.8	15.2	5.7	3.2	20.2	20.2
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	43	0	325	185	514	431	224	1557	664	103	658	687
V/C Ratio(X)	0.35	0.00	0.70	0.76	0.14	0.19	0.80	0.58	0.26	0.70	0.77	0.77
Avail Cap(c_a), veh/h	123	0	639	201	799	669	224	1557	664	125	658	687
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	0.0	29.9	34.6	21.6	21.9	33.7	16.7	14.0	36.7	22.0	22.0
Incr Delay (d2), s/veh	4.9	0.0	2.7	14.5	0.1	0.2	18.9	1.6	0.9	12.4	8.7	8.3
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(50%),veh/ln	0.4	0.0	4.8	3.8	1.2	1.4	5.0	7.7	2.5	1.9	11.4	11.8
LnGrp Delay(d),s/veh	43.0	0.0	32.5	49.0	21.7	22.1	52.6	18.3	15.0	49.1	30.6	30.3
LnGrp LOS	D		C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		241			294			1254			1114	
Approach Delay, s/veh		33.2			34.9			22.8			31.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	38.9	12.3	19.5	14.0	33.5	5.9	25.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.4	8.5	30.0	9.5	29.0	5.0	33.5
Max Q Clear Time (g_c+I1), s	5.2	17.2	8.1	12.1	9.8	22.2	2.7	5.1
Green Ext Time (p_c), s	0.0	11.8	0.0	1.9	0.0	5.7	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	23	105	163	98	52	13
Future Vol, veh/h	23	105	163	98	52	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	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	113	175	105	56	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	281	0	-	0	390	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1282	-	-	-	614	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1282	-	-	-	602	811
Mov Cap-2 Maneuver	-	-	-	-	602	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1282	-	-	-	602	811
HCM Lane V/C Ratio	0.019	-	-	-	0.093	0.017
HCM Control Delay (s)	7.9	-	-	-	11.6	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	131	3	49	281	0	29
Future Vol, veh/h	131	3	49	281	0	29
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	3	53	302	0	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	144	0	550	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1438	-	496	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1438	-	474	906
Mov Cap-2 Maneuver	-	-	-	-	474	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.1
HCM LOS			A

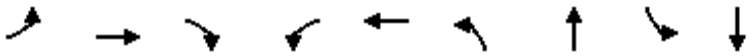
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	906	-	-	1438	-
HCM Lane V/C Ratio	0.034	-	-	0.037	-
HCM Control Delay (s)	9.1	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	131	3	0	49	281	0	0	29
Future Vol, veh/h	0	131	3	0	49	281	0	0	29
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	141	3	0	53	302	0	0	31
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	10	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	0%	0%	15%
Vol Thru, %	0%	98%	85%
Vol Right, %	100%	2%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	29	134	330
LT Vol	0	0	49
Through Vol	0	131	281
RT Vol	29	3	0
Lane Flow Rate	31	144	355
Geometry Grp	1	1	1
Degree of Util (X)	0.038	0.17	0.407
Departure Headway (Hd)	4.409	4.242	4.127
Convergence, Y/N	Yes	Yes	Yes
Cap	817	831	866
Service Time	2.409	2.341	2.183
HCM Lane V/C Ratio	0.038	0.173	0.41
HCM Control Delay	7.6	8.2	10
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.6	2



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	448	79	76	876	294	130	8	82
v/c Ratio	0.56	0.26	0.13	0.64	0.66	0.93	0.16	0.11	0.13
Control Delay	61.5	31.2	1.4	58.9	42.6	94.1	13.6	84.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	31.2	1.4	58.9	42.6	94.1	13.6	84.9	19.7
Queue Length 50th (ft)	112	98	0	64	286	128	38	7	17
Queue Length 95th (ft)	184	128	8	#132	332	#215	87	m17	39
Internal Link Dist (ft)		270			669		1463		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	251	1719	611	122	1328	316	799	74	630
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	0.56	0.26	0.13	0.62	0.66	0.93	0.16	0.11	0.13

Intersection Summary

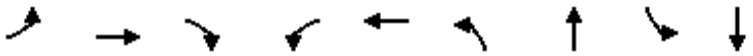
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	418	293	131	266	238	907	401	160	619
v/c Ratio	0.30	0.87	1.05	0.17	0.40	0.82	0.78	0.58	1.02	0.69
Control Delay	54.7	52.1	110.9	21.3	12.7	64.4	36.6	13.4	125.8	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	52.1	110.9	21.3	12.7	64.4	36.6	13.4	125.8	39.8
Queue Length 50th (ft)	21	236	~220	57	58	154	289	65	~117	201
Queue Length 95th (ft)	52	#391	#389	100	127	#277	370	169	#250	268
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	108	539	279	759	674	312	1170	686	157	896
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	0.30	0.78	1.05	0.17	0.39	0.76	0.78	0.58	1.02	0.69

Intersection Summary

~ 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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	197	1419	266	133	1116	175	97	25	135
v/c Ratio	0.76	0.73	0.37	0.71	0.65	0.66	0.15	0.34	0.24
Control Delay	79.3	42.6	8.9	49.9	12.3	79.8	18.3	71.4	5.6
Queue Delay	0.5	48.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	91.6	10.0	49.9	12.3	79.8	18.3	71.4	5.6
Queue Length 50th (ft)	187	435	32	134	86	87	34	25	12
Queue Length 95th (ft)	267	494	102	m#213	323	129	77	m55	47
Internal Link Dist (ft)		290			669		1449		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	330	1934	712	188	1724	274	645	74	574
Starvation Cap Reductn	18	791	250	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	0.63	1.24	0.58	0.71	0.65	0.64	0.15	0.34	0.24

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.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	226	141	72	81	180	902	172	72	1042
v/c Ratio	0.12	0.62	0.69	0.12	0.15	0.79	0.55	0.23	0.57	0.78
Control Delay	39.7	24.0	54.3	20.0	9.4	60.8	18.7	8.7	56.5	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	24.0	54.3	20.0	9.4	60.8	18.7	8.7	56.5	27.8
Queue Length 50th (ft)	7	56	65	24	7	84	161	20	34	221
Queue Length 95th (ft)	28	121	#182	60	40	#229	294	74	#108	#424
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	125	714	205	815	702	228	1640	741	127	1340
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	0.12	0.32	0.69	0.09	0.12	0.79	0.55	0.23	0.57	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2028	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	557	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	787	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	787	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON / Tracy OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2481	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	682	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	963	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	963	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	14.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3557	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	936	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1323	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1323	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	3982	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1048	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1481	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1481	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	22.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	4926	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1270	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1794	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1794	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.8	mi/h
Number of lanes, N	3	
Density, D	28.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5157	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	1329	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1878	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1878	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.8	mi/h
Number of lanes, N	3	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2425	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	625	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	883	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	883	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	13.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Existing Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	2964	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	764	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1080	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1080	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	172	472	256	234	384	153
Future Volume (veh/h)	172	472	256	234	384	153
Number	3	18	2	12	1	6
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	191	524	284	260	427	170
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	341	1307	638	542	491	1271
Arrive On Green	0.19	0.19	0.34	0.34	0.28	0.68
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	191	524	284	260	427	170
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	6.2	7.8	7.5	8.2	14.6	2.0
Cycle Q Clear(g_c), s	6.2	7.8	7.5	8.2	14.6	2.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	341	1307	638	542	491	1271
V/C Ratio(X)	0.56	0.40	0.44	0.48	0.87	0.13
Avail Cap(c_a), veh/h	515	1581	638	542	584	1271
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	23.3	11.1	16.3	16.5	21.9	3.5
Incr Delay (d2), s/veh	1.4	0.2	2.2	3.0	11.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.0	4.3	4.1	8.7	1.1
LnGrp Delay(d),s/veh	24.8	11.3	18.5	19.5	33.6	3.8
LnGrp LOS	C	B	B	B	C	A
Approach Vol, veh/h	715		544			597
Approach Delay, s/veh	14.9		19.0			25.1
Approach LOS	B		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	21.7	25.8				47.5		16.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	18.0				43.0		18.0
Max Q Clear Time (g_c+I1), s	16.6	10.2				4.0		9.8
Green Ext Time (p_c), s	0.6	2.3				4.0		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

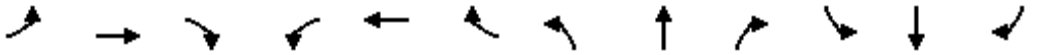
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	382	489	129	356	520	177
Future Volume (veh/h)	382	489	129	356	520	177
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	411	526	139	383	559	190
Adj No. of Lanes	1	2	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	459	722	468	397	602	1193
Arrive On Green	0.26	0.26	0.25	0.25	0.34	0.64
Sat Flow, veh/h	1774	2787	1863	1583	1774	1863
Grp Volume(v), veh/h	411	526	139	383	559	190
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1774	1863
Q Serve(g_s), s	17.8	13.7	4.8	19.0	24.2	3.3
Cycle Q Clear(g_c), s	17.8	13.7	4.8	19.0	24.2	3.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	459	722	468	397	602	1193
V/C Ratio(X)	0.89	0.73	0.30	0.96	0.93	0.16
Avail Cap(c_a), veh/h	468	735	468	397	624	1193
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	28.5	26.9	24.1	29.5	25.4	5.7
Incr Delay (d2), s/veh	19.2	3.6	1.6	36.9	20.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	5.6	2.7	12.4	15.2	1.7
LnGrp Delay(d),s/veh	47.6	30.6	25.8	66.4	45.4	6.0
LnGrp LOS	D	C	C	E	D	A
Approach Vol, veh/h	937		522			749
Approach Delay, s/veh	38.0		55.5			35.4
Approach LOS	D		E			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.0	24.0				55.0		24.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	18.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	26.2	21.0				5.3		19.8
Green Ext Time (p_c), s	0.3	0.0				3.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

APPENDIX C

CUMULATIVE NO PROJECT TECHNICAL CALCULATIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	410	10	320	170	20	2550	850	480	25	50	170
Future Volume (veh/h)	205	410	10	320	170	20	2550	850	480	25	50	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	228	456	1	356	189	10	2833	944	509	28	56	9
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	639	285	150	1094	57	1692	726	617	403	519	511
Arrive On Green	0.04	0.18	0.18	0.08	0.22	0.22	0.34	0.39	0.39	0.23	0.28	0.28
Sat Flow, veh/h	3442	3539	1579	1774	4947	258	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	228	456	1	356	129	70	2833	944	509	28	56	9
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1815	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	6.0	16.5	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.7	3.0	0.5
Cycle Q Clear(g_c), s	6.0	16.5	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.7	3.0	0.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	639	285	150	750	401	1692	726	617	403	519	511
V/C Ratio(X)	1.50	0.71	0.00	2.37	0.17	0.18	1.67	1.30	0.83	0.07	0.11	0.02
Avail Cap(c_a), veh/h	152	1275	569	150	1359	728	1692	726	617	403	519	511
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	52.4	11.7	62.3	42.9	42.9	45.0	41.5	37.3	41.2	36.5	31.3
Incr Delay (d2), s/veh	256.9	1.5	0.0	638.0	0.1	0.2	306.0	145.2	12.0	0.1	0.1	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(50%),veh/ln	8.3	8.2	0.0	32.2	2.0	2.2	69.1	56.5	19.2	0.8	1.6	0.2
LnGrp Delay(d),s/veh	321.9	53.9	11.7	700.3	43.0	43.1	351.0	186.7	49.3	41.3	36.5	31.4
LnGrp LOS	F	D	B	F	D	D	F	F	D	D	D	C
Approach Vol, veh/h		685			555			4286			93	
Approach Delay, s/veh		143.0			464.6			279.0			37.5	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.9	57.0	15.5	28.6	50.0	41.9	10.0	34.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	52.5	11.0	48.5	45.5	12.5	5.5	54.0
Max Q Clear Time (g_c+I1), s	3.7	55.0	13.5	18.5	48.0	5.0	8.0	6.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.2	0.0	2.5

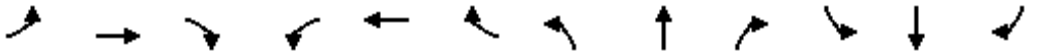
Intersection Summary	
HCM 2010 Ctrl Delay	276.8
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	2390	10	600	1270	430	20	190	380	350	130	10
Future Volume (veh/h)	10	2390	10	600	1270	430	20	190	380	350	130	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	2656	0	667	1411	457	22	211	410	389	144	11
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	891	0	248	812	263	35	102	198	165	426	33
Arrive On Green	0.01	0.48	0.00	0.14	0.60	0.61	0.02	0.18	0.18	0.09	0.25	0.25
Sat Flow, veh/h	1774	1863	0	1774	1349	437	1774	567	1101	1774	1709	131
Grp Volume(v), veh/h	11	2656	0	667	0	1868	22	0	621	389	0	155
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1786	1774	0	1668	1774	0	1840
Q Serve(g_s), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Cycle Q Clear(g_c), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.66	1.00		0.07
Lane Grp Cap(c), veh/h	22	891	0	248	0	1076	35	0	299	165	0	458
V/C Ratio(X)	0.51	2.98	0.00	2.69	0.00	1.74	0.62	0.00	2.07	2.36	0.00	0.34
Avail Cap(c_a), veh/h	59	891	0	248	0	1076	72	0	299	165	0	458
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.9	39.3	0.0	64.8	0.0	29.9	73.2	0.0	61.8	68.2	0.0	46.3
Incr Delay (d2), s/veh	17.0	894.2	0.0	773.9	0.0	335.4	16.4	0.0	495.0	629.1	0.0	2.0
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(50%),veh/ln	0.6	258.2	0.0	63.5	0.0	144.7	1.1	0.0	53.5	35.7	0.0	5.6
LnGrp Delay(d),s/veh	90.9	933.5	0.0	838.7	0.0	365.3	89.6	0.0	556.7	697.4	0.0	48.3
LnGrp LOS	F	F		F		F	F		F	F		D
Approach Vol, veh/h		2667			2535			643			544	
Approach Delay, s/veh		930.0			489.8			540.8			512.4	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	31.0	25.0	76.5	7.5	41.5	6.3	95.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	20.5	72.0	6.1	33.9	5.0	87.5
Max Q Clear Time (g_c+I1), s	16.0	29.0	23.0	74.0	3.9	12.4	2.9	92.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	680.6
HCM 2010 LOS	F

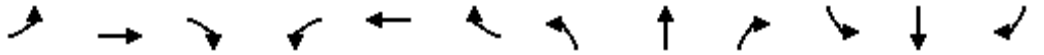


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	3610	650	0	2640	160	0	0	0	365	70	2570
Future Volume (veh/h)	755	3610	650	0	2640	160	0	0	0	365	70	2570
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	839	4011	0	0	2933	0				462	0	0
Adj No. of Lanes	1	3	1	0	2	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	259	3968	1235	0	2135	1206				562	0	482
Arrive On Green	0.15	0.78	0.00	0.00	0.40	0.00				0.16	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				3548	0	1583
Grp Volume(v), veh/h	839	4011	0	0	2933	0				462	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	0	1583
Q Serve(g_s), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Cycle Q Clear(g_c), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	259	3968	1235	0	2135	1206				562	0	482
V/C Ratio(X)	3.24	1.01	0.00	0.00	1.37	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	259	3968	1235	0	2135	1206				1215	0	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	55.5	14.3	0.0	0.0	38.7	0.0				52.9	0.0	0.0
Incr Delay (d2), s/veh	1016.1	17.0	0.0	0.0	168.4	0.0				3.1	0.0	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
%ile BackOfQ(50%),veh/ln	82.5	52.5	0.0	0.0	88.3	0.0				8.3	0.0	0.0
LnGrp Delay(d),s/veh	1071.6	31.3	0.0	0.0	207.2	0.0				56.0	0.0	0.0
LnGrp LOS	F	F			F					E		
Approach Vol, veh/h		4850			2933						462	
Approach Delay, s/veh		211.3			207.2						56.0	
Approach LOS		F			F						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.4		24.6	23.0	82.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		77.0		44.0	18.5	54.0		
Max Q Clear Time (g_c+I1), s		103.4		18.4	21.0	80.4		
Green Ext Time (p_c), s		0.0		1.7	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	201.1
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1690	2280	0	2760	480	40	0	190	0	0	0
Future Volume (veh/h)	0	1690	2280	0	2760	480	40	0	190	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1878	0	0	3067	0	44	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1919	1474	0	2758	859	703	0	627			
Arrive On Green	0.00	0.91	0.00	0.00	0.54	0.00	0.40	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1878	0	0	3067	0	44	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	57.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	57.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1919	1474	0	2758	859	703	0	627			
V/C Ratio(X)	0.00	0.98	0.00	0.00	1.11	0.00	0.06	0.00	0.00			
Avail Cap(c_a), veh/h	0	1919	1474	0	2758	859	703	0	627			
HCM Platoon Ratio	1.00	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.64	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	5.5	0.0	0.0	29.8	0.0	24.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	2.9	0.0	0.0	54.3	0.0	0.2	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	25.1	0.0	0.0	46.6	0.0	1.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	8.4	0.0	0.0	84.1	0.0	24.5	0.0	0.0			
LnGrp LOS		A			F		C					
Approach Vol, veh/h		1878			3067			44				
Approach Delay, s/veh		8.4			84.1			24.5				
Approach LOS		A			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		74.5				74.5		55.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		70.0				70.0		51.0
Max Q Clear Time (g_c+I1), s		59.2				72.5		4.0
Green Ext Time (p_c), s		10.8				0.0		0.1

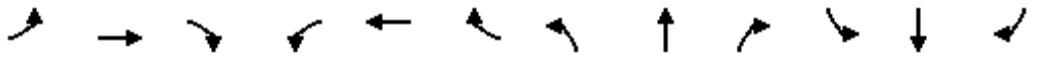
Intersection Summary	
HCM 2010 Ctrl Delay	55.1
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1700	40	120	3050	10	60	20	130	10	10	80
Future Volume (veh/h)	140	1700	40	120	3050	10	60	20	130	10	10	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	1889	40	133	3389	11	67	22	125	11	11	48
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1973	608	123	1972	6	134	88	498	103	115	501
Arrive On Green	0.08	0.39	0.38	0.09	0.50	0.50	0.04	0.36	0.36	0.06	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5233	17	3442	242	1376	1774	302	1316
Grp Volume(v), veh/h	156	1889	40	133	2194	1206	67	0	147	11	0	59
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1860	1721	0	1619	1774	0	1618
Q Serve(g_s), s	10.4	47.0	1.7	9.0	49.0	49.0	2.5	0.0	8.3	0.8	0.0	3.1
Cycle Q Clear(g_c), s	10.4	47.0	1.7	9.0	49.0	49.0	2.5	0.0	8.3	0.8	0.0	3.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.85	1.00		0.81
Lane Grp Cap(c), veh/h	143	1973	608	123	1278	701	134	0	585	103	0	616
V/C Ratio(X)	1.09	0.96	0.07	1.08	1.72	1.72	0.50	0.00	0.25	0.11	0.00	0.10
Avail Cap(c_a), veh/h	143	1973	608	123	1278	701	252	0	585	164	0	616
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	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.8	38.7	17.5	59.0	32.4	32.4	61.2	0.0	29.3	58.0	0.0	26.0
Incr Delay (d2), s/veh	99.7	11.7	0.2	50.1	323.0	324.6	2.9	0.0	1.0	0.5	0.0	0.3
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(50%),veh/ln	9.1	24.2	0.8	6.1	79.9	88.0	1.2	0.0	3.9	0.4	0.0	1.4
LnGrp Delay(d),s/veh	159.5	50.4	17.6	109.1	355.5	357.0	64.1	0.0	30.3	58.5	0.0	26.3
LnGrp LOS	F	D	B	F	F	F	E		C	E		C
Approach Vol, veh/h		2085			3533			214			70	
Approach Delay, s/veh		57.9			346.7			40.9			31.4	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	54.4	9.1	53.5	14.4	53.0	11.6	51.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	45.5	9.0	49.0	5.5	48.5	11.5	46.5
Max Q Clear Time (g_c+I1), s	11.0	49.0	4.5	5.1	12.4	51.0	2.8	10.3
Green Ext Time (p_c), s	0.0	0.0	0.1	0.3	0.0	0.0	0.1	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	229.9
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	920	850	540	1850	160	1100	1580	710	400	1580	190
Future Volume (veh/h)	60	920	850	540	1850	160	1100	1580	710	400	1580	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	67	1022	0	600	2056	171	1222	1756	557	444	1756	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	3	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1760	743	265	1766	146	616	1361	608	346	1171	609
Arrive On Green	0.11	0.69	0.00	0.08	0.37	0.37	0.12	0.38	0.38	0.07	0.33	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4782	395	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	67	1022	0	600	1453	774	1222	1756	557	444	1756	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1787	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	4.7	13.4	0.0	10.0	48.0	48.0	16.0	50.0	33.1	9.0	43.0	0.0
Cycle Q Clear(g_c), s	4.7	13.4	0.0	10.0	48.0	48.0	16.0	50.0	33.1	9.0	43.0	0.0
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
V/C Ratio(X)	0.70	0.58	0.00	2.27	1.16	1.17	1.98	1.29	0.92	1.28	1.50	0.00
Avail Cap(c_a), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
HCM Platoon Ratio	2.00	2.00	2.00	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.0	15.1	0.0	60.0	41.0	41.1	57.0	40.0	22.1	60.5	43.5	0.0
Incr Delay (d2), s/veh	20.4	1.4	0.0	581.8	81.4	93.6	448.9	136.1	18.6	147.2	229.5	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(50%),veh/ln	2.8	6.3	0.0	26.1	36.6	40.8	32.9	50.1	17.5	8.9	58.3	0.0
LnGrp Delay(d),s/veh	77.4	16.5	0.0	641.8	122.4	134.6	505.9	176.1	40.7	207.7	273.0	0.0
LnGrp LOS	E	B		F	F	F	F	F	D	F	F	
Approach Vol, veh/h		1089			2827			3535			2200	
Approach Delay, s/veh		20.3			236.0			268.8			259.8	
Approach LOS		C			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	49.0	20.0	47.0	11.0	52.0	13.0	54.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	44.5	15.5	42.5	6.5	47.5	8.5	49.5
Max Q Clear Time (g_c+I1), s	12.0	15.4	18.0	45.0	6.7	50.0	11.0	52.0
Green Ext Time (p_c), s	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	229.1
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	20	120	80	150	10	20
Future Vol, veh/h	20	120	80	150	10	20
Conflicting Peds, #/hr	13	0	0	13	1	1
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	133	89	167	11	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	257	0	-	0	351	186
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1308	-	-	-	646	856
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	633	845
Mov Cap-2 Maneuver	-	-	-	-	633	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	760
HCM Lane V/C Ratio	0.017	-	-	-	0.044
HCM Control Delay (s)	7.8	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	20	120	0	80	150	0	10	20
Future Vol, veh/h	0	20	120	0	80	150	0	10	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	133	0	89	167	0	11	22
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.2	8.1	7.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	33%
Vol Thru, %	86%	35%	0%
Vol Right, %	0%	65%	67%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	230	30
LT Vol	20	0	10
Through Vol	120	80	0
RT Vol	0	150	20
Lane Flow Rate	156	256	33
Geometry Grp	1	1	1
Degree of Util (X)	0.182	0.264	0.041
Departure Headway (Hd)	4.214	3.718	4.437
Convergence, Y/N	Yes	Yes	Yes
Cap	846	956	812
Service Time	2.268	1.777	2.437
HCM Lane V/C Ratio	0.184	0.268	0.041
HCM Control Delay	8.2	8.1	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	120	500	120	310	245	3020	410	150	2780	40
Future Volume (veh/h)	30	170	120	500	120	310	245	3020	410	150	2780	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.94	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	189	59	556	133	301	272	3356	390	167	3089	43
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	245	76	317	615	493	165	2348	711	114	2238	31
Arrive On Green	0.03	0.18	0.18	0.18	0.33	0.33	0.09	0.46	0.46	0.06	0.43	0.43
Sat Flow, veh/h	1774	1357	424	1774	1863	1494	1774	5085	1539	1774	5168	72
Grp Volume(v), veh/h	33	0	248	556	133	301	272	3356	390	167	2021	1111
Grp Sat Flow(s),veh/h/ln	1774	0	1780	1774	1863	1494	1774	1695	1539	1774	1695	1850
Q Serve(g_s), s	2.6	0.0	18.5	25.0	7.2	23.6	13.0	64.5	14.0	9.0	60.5	60.5
Cycle Q Clear(g_c), s	2.6	0.0	18.5	25.0	7.2	23.6	13.0	64.5	14.0	9.0	60.5	60.5
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	52	0	321	317	615	493	165	2348	711	114	1468	801
V/C Ratio(X)	0.63	0.00	0.77	1.75	0.22	0.61	1.65	1.43	0.55	1.46	1.38	1.39
Avail Cap(c_a), veh/h	89	0	389	317	647	519	165	2348	711	114	1468	801
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.0	0.0	54.6	57.3	33.8	39.3	63.3	37.6	8.1	65.3	39.6	39.6
Incr Delay (d2), s/veh	11.9	0.0	7.6	350.8	0.2	1.9	316.9	195.7	3.0	249.1	173.9	181.6
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(50%),veh/ln	1.4	0.0	9.8	43.1	3.7	10.0	20.9	72.6	8.6	12.3	63.6	71.1
LnGrp Delay(d),s/veh	79.0	0.0	62.2	408.2	34.0	41.2	380.3	233.3	11.2	314.4	213.5	221.2
LnGrp LOS	E		E	F	C	D	F	F	B	F	F	F
Approach Vol, veh/h		281			990			4018			3299	
Approach Delay, s/veh		64.2			246.3			221.7			221.2	
Approach LOS		E			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	68.5	29.0	29.2	17.0	64.5	8.1	50.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	64.0	24.5	30.0	12.5	60.0	6.5	48.0
Max Q Clear Time (g_c+I1), s	11.0	66.5	27.0	20.5	15.0	62.5	4.6	25.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	219.2
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	160	10	150	20	10	50
Future Vol, veh/h	160	10	150	20	10	50
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	11	167	22	11	56

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	189	0	539	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1385	-	503	859
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1385	-	442	859
Mov Cap-2 Maneuver	-	-	-	-	442	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	623	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7	10.3
HCM LOS			B

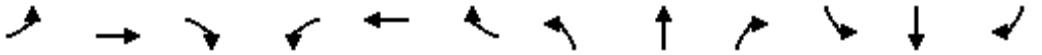
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1385	-
HCM Lane V/C Ratio	0.09	-	-	0.12	-
HCM Control Delay (s)	10.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	160	10	0	150	20	0	10	50
Future Vol, veh/h	0	160	10	0	150	20	0	10	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	178	11	0	167	22	0	11	56
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.8	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	17%	0%	88%
Vol Thru, %	0%	94%	12%
Vol Right, %	83%	6%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	170	170
LT Vol	10	0	150
Through Vol	0	160	20
RT Vol	50	10	0
Lane Flow Rate	67	189	189
Geometry Grp	1	1	1
Degree of Util (X)	0.08	0.218	0.229
Departure Headway (Hd)	4.303	4.159	4.371
Convergence, Y/N	Yes	Yes	Yes
Cap	837	848	810
Service Time	2.303	2.255	2.458
HCM Lane V/C Ratio	0.08	0.223	0.233
HCM Control Delay	7.7	8.4	8.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.8	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	100	30	470	30	50	2360	720	400	175	130	440
Future Volume (veh/h)	30	100	30	470	30	50	2360	720	400	175	130	440
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	108	8	505	32	52	2538	774	413	188	140	381
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	320	142	115	400	186	2466	1104	926	115	306	319
Arrive On Green	0.04	0.09	0.09	0.06	0.12	0.11	0.49	0.59	0.59	0.06	0.16	0.16
Sat Flow, veh/h	3442	3539	1575	1774	3390	1575	5003	1863	1563	1774	1863	1583
Grp Volume(v), veh/h	32	108	8	505	32	52	2538	774	413	188	140	381
Grp Sat Flow(s),veh/h/ln	1721	1770	1575	1774	1695	1575	1668	1863	1563	1774	1863	1583
Q Serve(g_s), s	0.8	2.4	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Cycle Q Clear(g_c), s	0.8	2.4	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	320	142	115	400	186	2466	1104	926	115	306	319
V/C Ratio(X)	0.25	0.34	0.06	4.41	0.08	0.28	1.03	0.70	0.45	1.64	0.46	1.20
Avail Cap(c_a), veh/h	222	1973	878	115	1890	878	2466	1104	926	115	306	319
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	36.4	35.4	39.9	33.5	34.5	21.6	12.1	9.6	39.9	32.2	34.0
Incr Delay (d2), s/veh	1.0	0.6	0.2	1554.6	0.1	0.8	26.1	3.7	1.6	324.6	1.1	114.4
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(50%),veh/ln	0.4	1.2	0.2	52.1	0.3	1.2	25.1	13.6	5.8	13.0	3.1	17.6
LnGrp Delay(d),s/veh	40.9	37.0	35.6	1594.5	33.5	35.3	47.7	15.8	11.2	364.4	33.2	148.4
LnGrp LOS	D	D	D	F	C	D	F	B	B	F	C	F
Approach Vol, veh/h		148			589			3725			709	
Approach Delay, s/veh		37.7			1372.0			37.0			183.0	
Approach LOS		D			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	54.5	9.5	11.7	46.0	18.0	7.2	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	41.5	13.5	5.0	47.0
Max Q Clear Time (g_c+I1), s	7.5	26.7	7.5	4.4	44.0	16.0	2.8	4.6
Green Ext Time (p_c), s	0.0	10.7	0.0	1.3	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	209.1
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1500	730	850	1500	730	80	1550	520	480	1230	10
Future Volume (veh/h)	850	1500	730	850	1500	730	80	1550	520	480	1230	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	914	1613	780	914	1613	761	86	1667	547	516	1323	10
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	305	147	390	458	216	93	373	122	130	541	4
Arrive On Green	0.09	0.26	0.26	0.22	0.38	0.39	0.05	0.28	0.28	0.07	0.29	0.29
Sat Flow, veh/h	1774	1187	574	1774	1198	565	1774	1344	441	1774	1846	14
Grp Volume(v), veh/h	914	0	2393	914	0	2374	86	0	2214	516	0	1333
Grp Sat Flow(s),veh/h/ln	1774	0	1761	1774	0	1763	1774	0	1785	1774	0	1860
Q Serve(g_s), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Cycle Q Clear(g_c), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Prop In Lane	1.00		0.33	1.00		0.32	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
V/C Ratio(X)	5.79	0.00	5.30	2.34	0.00	3.52	0.93	0.00	4.47	3.97	0.00	2.44
Avail Cap(c_a), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	35.5	37.3	0.0	29.4	45.1	0.0	34.5	44.3	0.0	33.8
Incr Delay (d2), s/veh	2168.5	0.0	1937.9	612.3	0.0	1139.2	69.4	0.0	1566.2	1353.9	0.0	655.3
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(50%),veh/ln	99.2	0.0	255.1	76.5	0.0	230.8	4.0	0.0	228.4	52.3	0.0	113.5
LnGrp Delay(d),s/veh	2212.0	0.0	1973.4	649.5	0.0	1168.6	114.5	0.0	1600.7	1398.2	0.0	689.1
LnGrp LOS	F		F	F		F	F		F	F		F
Approach Vol, veh/h		3307			3288			2300			1849	
Approach Delay, s/veh		2039.4			1024.3			1545.1			887.0	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	30.5	25.0	29.0	9.5	32.0	13.0	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	26.0	20.5	24.5	5.0	27.5	8.5	36.5
Max Q Clear Time (g_c+I1), s	9.0	28.5	23.0	26.5	6.6	30.0	10.5	38.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

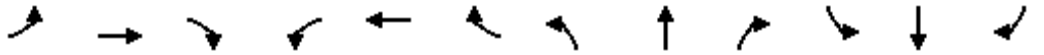
Intersection Summary	
HCM 2010 Ctrl Delay	1424.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	480	5580	1240	0	3315	170	0	0	0	380	30	2100
Future Volume (veh/h)	480	5580	1240	0	3315	170	0	0	0	380	30	2100
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	516	6000	0	0	3565	0				432	0	2117
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	319	2780	866	0	1729	1172				1419	0	917
Arrive On Green	0.18	0.55	0.00	0.00	0.34	0.00				0.40	0.00	0.40
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	516	6000	0	0	3565	0				432	0	2117
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1580
Q Serve(g_s), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Cycle Q Clear(g_c), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	319	2780	866	0	1729	1172				1419	0	917
V/C Ratio(X)	1.62	2.16	0.00	0.00	2.06	0.00				0.30	0.00	2.31
Avail Cap(c_a), veh/h	319	2780	866	0	1729	1172				1419	0	917
HCM Platoon Ratio	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	0.00	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	61.5	34.0	0.0	0.0	49.5	0.0				30.7	0.0	31.5
Incr Delay (d2), s/veh	291.2	522.4	0.0	0.0	478.0	0.0				0.1	0.0	592.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	39.0	172.6	0.0	0.0	100.4	0.0				6.1	0.0	204.9
LnGrp Delay(d),s/veh	352.7	556.4	0.0	0.0	527.5	0.0				30.9	0.0	623.9
LnGrp LOS	F	F			F					C		F
Approach Vol, veh/h		6516			3565						2549	
Approach Delay, s/veh		540.3			527.5						523.4	
Approach LOS		F			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		86.0		64.0	31.0	55.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		81.5		59.5	26.5	50.5		
Max Q Clear Time (g_c+I1), s		84.0		62.0	29.0	53.0		
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	533.3
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2720	3240	0	3245	700	240	0	1270	0	0	0
Future Volume (veh/h)	0	2720	3240	0	3245	700	240	0	1270	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	2925	0	0	3489	0	258	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1722	1488	0	2475	771	816	0	728			
Arrive On Green	0.00	0.33	0.00	0.00	0.49	0.00	0.46	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	2925	0	0	3489	0	258	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1722	1488	0	2475	771	816	0	728			
V/C Ratio(X)	0.00	1.70	0.00	0.00	1.41	0.00	0.32	0.00	0.00			
Avail Cap(c_a), veh/h	0	1722	1488	0	2475	771	816	0	728			
HCM Platoon Ratio	1.00	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.44	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	50.5	0.0	0.0	38.5	0.0	25.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	314.4	0.0	0.0	185.5	0.0	1.0	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	110.9	0.0	0.0	76.7	0.0	7.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	365.0	0.0	0.0	224.0	0.0	26.6	0.0	0.0			
LnGrp LOS		F			F		C					
Approach Vol, veh/h		2925			3489			258				
Approach Delay, s/veh		365.0			224.0			26.6				
Approach LOS		F			F			C				

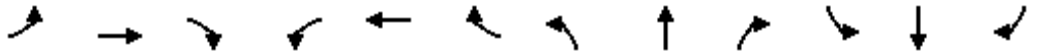
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		77.0				77.0		73.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		72.5				72.5		68.5
Max Q Clear Time (g_c+I1), s		75.0				75.0		15.8
Green Ext Time (p_c), s		0.0				0.0		0.8

Intersection Summary		
HCM 2010 Ctrl Delay		278.2
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	3795	10	110	3610	10	145	10	110	30	20	120
Future Volume (veh/h)	195	3795	10	110	3610	10	145	10	110	30	20	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	210	4081	7	118	3882	11	156	11	100	32	22	89
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	2424	731	83	2391	7	138	52	469	82	106	428
Arrive On Green	0.07	0.48	0.47	0.06	0.61	0.60	0.04	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1774	5085	1544	1774	5235	15	3442	159	1447	1774	321	1298
Grp Volume(v), veh/h	210	4081	7	118	2513	1380	156	0	111	32	0	111
Grp Sat Flow(s),veh/h/ln	1774	1695	1544	1774	1695	1860	1721	0	1606	1774	0	1619
Q Serve(g_s), s	10.0	71.5	0.4	7.0	68.5	68.5	6.0	0.0	7.6	2.6	0.0	7.4
Cycle Q Clear(g_c), s	10.0	71.5	0.4	7.0	68.5	68.5	6.0	0.0	7.6	2.6	0.0	7.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.90	1.00		0.80
Lane Grp Cap(c), veh/h	118	2424	731	83	1548	849	138	0	520	82	0	534
V/C Ratio(X)	1.78	1.68	0.01	1.43	1.62	1.63	1.13	0.00	0.21	0.39	0.00	0.21
Avail Cap(c_a), veh/h	118	2424	731	83	1548	849	138	0	520	82	0	534
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	1.00
Upstream Filter(I)	0.42	0.42	0.42	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.0	39.3	20.9	70.3	29.4	29.5	72.0	0.0	37.0	69.5	0.0	36.3
Incr Delay (d2), s/veh	363.2	308.4	0.0	197.7	280.6	281.8	116.9	0.0	0.9	3.0	0.0	0.9
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(50%),veh/ln	16.8	102.7	0.2	8.0	92.0	101.3	5.1	0.0	3.5	1.4	0.0	3.4
LnGrp Delay(d),s/veh	433.2	347.6	20.9	268.1	310.0	311.3	188.9	0.0	37.9	72.6	0.0	37.2
LnGrp LOS	F	F	C	F	F	F	F		D	E		D
Approach Vol, veh/h		4298			4011			267			143	
Approach Delay, s/veh		351.3			309.2			126.2			45.1	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	75.5	10.0	53.5	14.0	72.5	10.9	52.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	71.0	5.5	49.0	9.5	68.0	6.4	48.1
Max Q Clear Time (g_c+I1), s	9.0	73.5	8.0	9.4	12.0	70.5	4.6	9.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	320.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1060	830	2180	210	1800	10	1480	2300	520	90	1500	195
Future Volume (veh/h)	1060	830	2180	210	1800	10	1480	2300	520	90	1500	195
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1140	892	0	226	1935	1	1591	2473	498	97	1613	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	2305	866	138	1750	1	467	1286	575	126	1085	739
Arrive On Green	0.27	0.76	0.00	0.04	0.33	0.33	0.09	0.36	0.36	0.04	0.31	0.00
Sat Flow, veh/h	1774	5085	1583	3442	5250	3	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	1140	892	0	226	1250	686	1591	2473	498	97	1613	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1862	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	24.0	9.0	0.0	6.0	50.0	50.0	14.0	54.5	43.9	4.2	46.0	0.0
Cycle Q Clear(g_c), s	24.0	9.0	0.0	6.0	50.0	50.0	14.0	54.5	43.9	4.2	46.0	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	284	2305	866	138	1130	621	467	1286	575	126	1085	739
V/C Ratio(X)	4.02	0.39	0.00	1.64	1.11	1.11	3.41	1.92	0.87	0.77	1.49	0.00
Avail Cap(c_a), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	11.1	0.0	72.0	50.0	50.0	68.0	47.8	44.4	71.6	52.0	0.0
Incr Delay (d2), s/veh	1365.7	0.5	0.0	319.0	60.7	68.6	1088.7	418.3	16.0	24.5	223.7	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(50%),veh/ln	119.4	4.2	0.0	8.9	32.9	37.5	53.5	101.3	21.7	2.4	56.2	0.0
LnGrp Delay(d),s/veh	1420.7	11.6	0.0	391.0	110.7	118.6	1156.7	466.1	60.4	96.1	275.7	0.0
LnGrp LOS	F	B		F	F	F	F	F	E	F	F	
Approach Vol, veh/h		2032			2162			4562			1710	
Approach Delay, s/veh		802.1			142.5			662.7			265.5	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	72.0	18.0	50.0	28.0	54.0	9.5	58.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	67.5	13.5	45.5	23.5	49.5	5.0	54.0
Max Q Clear Time (g_c+I1), s	8.0	11.0	16.0	48.0	26.0	52.0	6.2	56.5
Green Ext Time (p_c), s	0.0	19.5	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		517.4
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	60	60	80	80	50	40
Future Vol, veh/h	60	60	80	80	50	40
Conflicting Peds, #/hr	4	0	0	4	1	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	65	86	86	54	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	173	0	-	0	324	134
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1404	-	-	-	670	915
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1399	-	-	-	637	911
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	10.6
HCM LOS			B

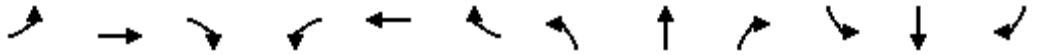
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1399	-	-	-	735
HCM Lane V/C Ratio	0.046	-	-	-	0.132
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	60	60	0	80	80	0	50	40
Future Vol, veh/h	0	60	60	0	80	80	0	50	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	65	0	86	86	0	54	43
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.2	7.9	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	0%	56%
Vol Thru, %	50%	50%	0%
Vol Right, %	0%	50%	44%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	160	90
LT Vol	60	0	50
Through Vol	60	80	0
RT Vol	0	80	40
Lane Flow Rate	129	172	97
Geometry Grp	1	1	1
Degree of Util (X)	0.155	0.187	0.119
Departure Headway (Hd)	4.337	4.005	4.426
Convergence, Y/N	Yes	Yes	Yes
Cap	814	902	815
Service Time	2.434	2.005	2.426
HCM Lane V/C Ratio	0.158	0.191	0.119
HCM Control Delay	8.2	7.9	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.7	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	110	40	290	130	700	170	3460	610	780	3030	80
Future Volume (veh/h)	140	110	40	290	130	700	170	3460	610	780	3030	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	1.00		0.95	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	151	118	28	312	140	667	183	3720	442	839	3258	84
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	430	102	118	568	479	101	1937	572	186	2184	56
Arrive On Green	0.06	0.30	0.29	0.07	0.30	0.30	0.06	0.38	0.38	0.10	0.43	0.42
Sat Flow, veh/h	1774	1456	345	1774	1863	1571	1774	5085	1502	1774	5096	130
Grp Volume(v), veh/h	151	0	146	312	140	667	183	3720	442	839	2157	1185
Grp Sat Flow(s),veh/h/ln	1774	0	1801	1774	1863	1571	1774	1695	1502	1774	1695	1836
Q Serve(g_s), s	6.0	0.0	6.5	7.0	5.9	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Cycle Q Clear(g_c), s	6.0	0.0	6.5	7.0	5.9	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	101	0	532	118	568	479	101	1937	572	186	1453	787
V/C Ratio(X)	1.49	0.00	0.27	2.64	0.25	1.39	1.81	1.92	0.77	4.51	1.48	1.51
Avail Cap(c_a), veh/h	101	0	532	118	568	479	101	1937	572	186	1453	787
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	28.4	49.0	27.4	36.5	49.5	32.5	28.5	47.0	30.0	30.0
Incr Delay (d2), s/veh	265.2	0.0	0.3	760.9	0.2	189.4	398.5	416.0	9.8	1593.8	221.8	234.3
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(50%),veh/ln	10.4	0.0	3.3	28.4	3.1	39.0	14.2	93.3	12.7	87.6	65.7	74.0
LnGrp Delay(d),s/veh	314.7	0.0	28.7	809.9	27.7	225.9	448.0	448.5	38.3	1640.8	251.8	264.3
LnGrp LOS	F		C	F	C	F	F	F	D	F	F	F
Approach Vol, veh/h		297			1119			4345			4181	
Approach Delay, s/veh		174.1			363.9			406.8			534.1	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	44.0	11.0	35.0	10.0	49.0	10.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	39.5	6.5	30.5	5.5	44.5	5.5	31.5
Max Q Clear Time (g_c+I1), s	13.0	42.0	9.0	8.5	8.0	47.0	8.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		448.5
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	130	10	60	80	10	115
Future Vol, veh/h	130	10	60	80	10	115
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	11	65	86	11	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	360	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1430	-	639	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1430	-	608	902
Mov Cap-2 Maneuver	-	-	-	-	608	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	868	-	-	1430	-
HCM Lane V/C Ratio	0.155	-	-	0.045	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	130	10	0	60	80	0	10	115
Future Vol, veh/h	0	130	10	0	60	80	0	10	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	140	11	0	65	86	0	11	124
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.5	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	8%	0%	43%
Vol Thru, %	0%	93%	57%
Vol Right, %	92%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	140	140
LT Vol	10	0	60
Through Vol	0	130	80
RT Vol	115	10	0
Lane Flow Rate	134	151	151
Geometry Grp	1	1	1
Degree of Util (X)	0.152	0.177	0.183
Departure Headway (Hd)	4.076	4.355	4.479
Convergence, Y/N	Yes	Yes	Yes
Cap	886	829	805
Service Time	2.076	2.355	2.479
HCM Lane V/C Ratio	0.151	0.182	0.188
HCM Control Delay	7.8	8.3	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.7

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5400	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	1484	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1573	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1573	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON to Tracy OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7930	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	2179	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2309	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2309	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	53.3	mi/h
Number of lanes, N	4	
Density, D	43.3	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5800	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1526	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1618	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1618	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	4	
Density, D	25.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	8580	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2258	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2393	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2393	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	51.0	mi/h
Number of lanes, N	4	
Density, D	46.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	11835	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	3050	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3233	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	3233	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	17.4	mi/h
Number of lanes, N	4	
Density, D	186.3	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7830	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2018	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2139	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2139	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.3	mi/h
Number of lanes, N	4	
Density, D	37.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative No Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

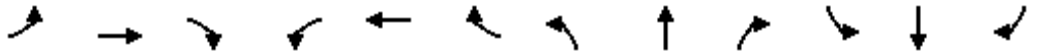
LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX D

CUMULATIVE PLUS PROJECT TECHNICAL CALCULATIONS

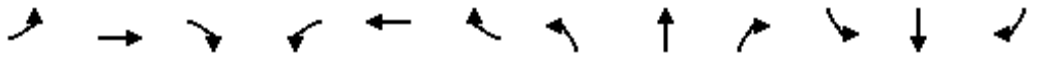


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	414	10	320	171	20	2550	850	480	21	50	170
Future Volume (veh/h)	206	414	10	320	171	20	2550	850	480	21	50	170
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	229	460	1	356	190	10	2833	944	509	23	56	9
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	644	287	150	1100	57	1692	726	617	401	517	510
Arrive On Green	0.04	0.18	0.18	0.08	0.22	0.22	0.34	0.39	0.39	0.23	0.28	0.28
Sat Flow, veh/h	3442	3539	1579	1774	4949	257	5003	1863	1582	1774	1863	1583
Grp Volume(v), veh/h	229	460	1	356	129	71	2833	944	509	23	56	9
Grp Sat Flow(s),veh/h/ln	1721	1770	1579	1774	1695	1816	1668	1863	1582	1774	1863	1583
Q Serve(g_s), s	6.0	16.6	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.4	3.0	0.5
Cycle Q Clear(g_c), s	6.0	16.6	0.0	11.5	4.2	4.3	46.0	53.0	39.4	1.4	3.0	0.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	644	287	150	754	404	1692	726	617	401	517	510
V/C Ratio(X)	1.51	0.71	0.00	2.37	0.17	0.17	1.67	1.30	0.83	0.06	0.11	0.02
Avail Cap(c_a), veh/h	152	1275	569	150	1359	728	1692	726	617	401	517	510
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	52.3	11.6	62.3	42.8	42.8	45.0	41.5	37.3	41.2	36.6	31.5
Incr Delay (d2), s/veh	259.7	1.5	0.0	638.0	0.1	0.2	306.0	145.2	12.0	0.1	0.1	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(50%),veh/ln	8.3	8.2	0.0	32.2	2.0	2.2	69.1	56.5	19.2	0.7	1.6	0.2
LnGrp Delay(d),s/veh	324.7	53.8	11.7	700.3	42.9	43.0	351.0	186.7	49.3	41.3	36.7	31.5
LnGrp LOS	F	D	B	F	D	D	F	F	D	D	D	C
Approach Vol, veh/h		690			556			4286			88	
Approach Delay, s/veh		143.6			463.8			279.0			37.3	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.8	57.0	15.5	28.7	50.0	41.8	10.0	34.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	52.5	11.0	48.5	45.5	12.5	5.5	54.0
Max Q Clear Time (g_c+I1), s	3.4	55.0	13.5	18.6	48.0	5.0	8.0	6.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.3	0.0	0.1	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	276.9
HCM 2010 LOS	F

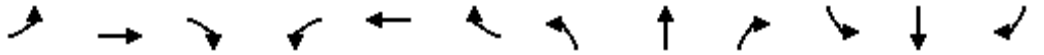
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	2390	10	601	1288	431	20	190	380	350	130	10
Future Volume (veh/h)	10	2390	10	601	1288	431	20	190	380	350	130	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	2656	0	668	1431	458	22	211	410	389	144	11
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	891	0	248	815	261	35	102	198	165	426	33
Arrive On Green	0.01	0.48	0.00	0.14	0.60	0.61	0.02	0.18	0.18	0.09	0.25	0.25
Sat Flow, veh/h	1774	1863	0	1774	1353	433	1774	567	1101	1774	1709	131
Grp Volume(v), veh/h	11	2656	0	668	0	1889	22	0	621	389	0	155
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1786	1774	0	1668	1774	0	1840
Q Serve(g_s), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Cycle Q Clear(g_c), s	0.9	72.0	0.0	21.0	0.0	90.7	1.9	0.0	27.0	14.0	0.0	10.4
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.66	1.00		0.07
Lane Grp Cap(c), veh/h	22	891	0	248	0	1076	35	0	299	165	0	458
V/C Ratio(X)	0.51	2.98	0.00	2.70	0.00	1.76	0.62	0.00	2.07	2.36	0.00	0.34
Avail Cap(c_a), veh/h	59	891	0	248	0	1076	72	0	299	165	0	458
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.9	39.3	0.0	64.8	0.0	29.9	73.2	0.0	61.8	68.2	0.0	46.3
Incr Delay (d2), s/veh	17.0	894.2	0.0	775.7	0.0	343.8	16.4	0.0	495.0	629.1	0.0	2.0
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(50%),veh/ln	0.6	258.2	0.0	63.6	0.0	147.3	1.1	0.0	53.5	35.7	0.0	5.6
LnGrp Delay(d),s/veh	90.9	933.5	0.0	840.5	0.0	373.7	89.6	0.0	556.7	697.4	0.0	48.3
LnGrp LOS	F	F		F		F	F		F	F		D
Approach Vol, veh/h		2667			2557			643			544	
Approach Delay, s/veh		930.0			495.6			540.8			512.4	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	31.0	25.0	76.5	7.5	41.5	6.3	95.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	20.5	72.0	6.1	33.9	5.0	87.5
Max Q Clear Time (g_c+I1), s	16.0	29.0	23.0	74.0	3.9	12.4	2.9	92.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	682.3
HCM 2010 LOS	F

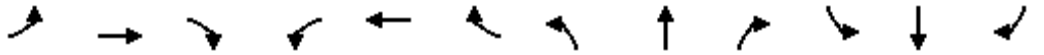


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	755	3613	650	0	2674	165	0	0	0	366	70	2570
Future Volume (veh/h)	755	3613	650	0	2674	165	0	0	0	366	70	2570
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	839	4014	0	0	2971	0				463	0	0
Adj No. of Lanes	1	3	1	0	2	1				2	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	259	3966	1235	0	2134	1206				563	0	482
Arrive On Green	0.15	0.78	0.00	0.00	0.40	0.00				0.16	0.00	0.00
Sat Flow, veh/h	1774	5085	1583	0	3632	1583				3548	0	1583
Grp Volume(v), veh/h	839	4014	0	0	2971	0				463	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1770	1583				1774	0	1583
Q Serve(g_s), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Cycle Q Clear(g_c), s	19.0	101.4	0.0	0.0	78.4	0.0				16.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	259	3966	1235	0	2134	1206				563	0	482
V/C Ratio(X)	3.24	1.01	0.00	0.00	1.39	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	259	3966	1235	0	2134	1206				1215	0	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	55.5	14.3	0.0	0.0	38.7	0.0				52.9	0.0	0.0
Incr Delay (d2), s/veh	1016.1	17.4	0.0	0.0	176.8	0.0				3.1	0.0	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
%ile BackOfQ(50%),veh/ln	82.5	52.6	0.0	0.0	90.7	0.0				8.3	0.0	0.0
LnGrp Delay(d),s/veh	1071.6	31.7	0.0	0.0	215.5	0.0				56.0	0.0	0.0
LnGrp LOS	F	F			F					E		
Approach Vol, veh/h		4853			2971						463	
Approach Delay, s/veh		211.4			215.5						56.0	
Approach LOS		F			F						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.4		24.6	23.0	82.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		77.0		44.0	18.5	54.0		
Max Q Clear Time (g_c+I1), s		103.4		18.4	21.0	80.4		
Green Ext Time (p_c), s		0.0		1.7	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	204.2
HCM 2010 LOS	F

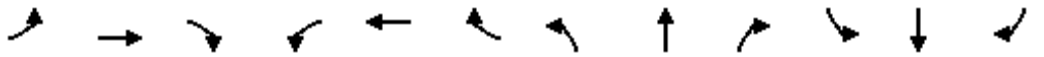
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1694	2280	0	2799	502	40	0	196	0	0	0
Future Volume (veh/h)	0	1694	2280	0	2799	502	40	0	196	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	1882	0	0	3110	0	44	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1919	853	0	2758	859	703	0	627			
Arrive On Green	0.00	0.91	0.00	0.00	0.54	0.00	0.40	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	1882	0	0	3110	0	44	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	58.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	58.2	0.0	0.0	70.5	0.0	2.0	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1919	853	0	2758	859	703	0	627			
V/C Ratio(X)	0.00	0.98	0.00	0.00	1.13	0.00	0.06	0.00	0.00			
Avail Cap(c_a), veh/h	0	1919	853	0	2758	859	703	0	627			
HCM Platoon Ratio	1.00	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.62	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	5.6	0.0	0.0	29.8	0.0	24.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	60.8	0.0	0.2	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	25.6	0.0	0.0	48.2	0.0	1.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	8.7	0.0	0.0	90.6	0.0	24.5	0.0	0.0			
LnGrp LOS		A			F		C					
Approach Vol, veh/h		1882			3110			44				
Approach Delay, s/veh		8.7			90.6			24.5				
Approach LOS		A			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		74.5				74.5		55.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		70.0				70.0		51.0
Max Q Clear Time (g_c+I1), s		60.2				72.5		4.0
Green Ext Time (p_c), s		9.7				0.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

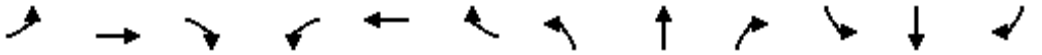


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1700	50	134	3050	10	121	20	167	10	10	80
Future Volume (veh/h)	140	1700	50	134	3050	10	121	20	167	10	10	80
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	1889	50	149	3389	11	134	22	167	11	11	48
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1878	578	123	1972	6	198	68	514	136	115	501
Arrive On Green	0.06	0.37	0.37	0.09	0.50	0.50	0.06	0.36	0.36	0.08	0.38	0.38
Sat Flow, veh/h	1774	5085	1581	1774	5233	17	3442	187	1423	1774	302	1316
Grp Volume(v), veh/h	156	1889	50	149	2194	1206	134	0	189	11	0	59
Grp Sat Flow(s),veh/h/ln	1774	1695	1581	1774	1695	1860	1721	0	1610	1774	0	1618
Q Serve(g_s), s	8.0	48.0	2.2	9.0	49.0	49.0	5.0	0.0	11.1	0.7	0.0	3.1
Cycle Q Clear(g_c), s	8.0	48.0	2.2	9.0	49.0	49.0	5.0	0.0	11.1	0.7	0.0	3.1
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.88	1.00		0.81
Lane Grp Cap(c), veh/h	109	1878	578	123	1278	701	198	0	582	136	0	616
V/C Ratio(X)	1.43	1.01	0.09	1.21	1.72	1.72	0.68	0.00	0.32	0.08	0.00	0.10
Avail Cap(c_a), veh/h	109	1878	578	123	1278	701	252	0	582	164	0	616
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	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.0	41.0	17.6	59.0	32.4	32.4	60.1	0.0	30.2	55.7	0.0	26.0
Incr Delay (d2), s/veh	233.3	21.3	0.3	102.9	323.0	324.6	4.9	0.0	1.5	0.3	0.0	0.3
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(50%),veh/ln	11.0	26.1	1.0	7.9	79.9	88.0	2.5	0.0	5.1	0.4	0.0	1.4
LnGrp Delay(d),s/veh	294.3	62.2	17.8	161.9	355.5	357.0	65.0	0.0	31.7	56.0	0.0	26.3
LnGrp LOS	F	F	B	F	F	F	E		C	E		C
Approach Vol, veh/h		2095			3549			323			70	
Approach Delay, s/veh		78.5			347.8			45.5			31.0	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	52.0	11.5	53.5	12.0	53.0	14.0	51.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	45.5	9.0	49.0	5.5	48.5	11.5	46.5
Max Q Clear Time (g_c+I1), s	11.0	50.0	7.0	5.1	10.0	51.0	2.7	13.1
Green Ext Time (p_c), s	0.0	0.0	0.1	0.3	0.0	0.0	0.3	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	234.5
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	943	861	540	1857	160	1100	1580	710	400	1580	197
Future Volume (veh/h)	63	943	861	540	1857	160	1100	1580	710	400	1580	197
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	70	1048	0	600	2063	168	1222	1756	723	444	1756	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	3	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1760	743	265	1769	143	616	1361	608	346	1171	609
Arrive On Green	0.11	0.69	0.00	0.08	0.37	0.37	0.12	0.38	0.38	0.07	0.33	0.00
Sat Flow, veh/h	1774	5085	1583	3442	4791	387	5003	3539	1582	5003	3539	1583
Grp Volume(v), veh/h	70	1048	0	600	1455	776	1222	1756	723	444	1756	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1788	1668	1770	1582	1668	1770	1583
Q Serve(g_s), s	5.0	14.0	0.0	10.0	48.0	48.0	16.0	50.0	38.1	9.0	43.0	0.0
Cycle Q Clear(g_c), s	5.0	14.0	0.0	10.0	48.0	48.0	16.0	50.0	38.1	9.0	43.0	0.0
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
V/C Ratio(X)	0.73	0.60	0.00	2.27	1.16	1.18	1.98	1.29	1.19	1.28	1.50	0.00
Avail Cap(c_a), veh/h	96	1760	743	265	1252	660	616	1361	608	346	1171	609
HCM Platoon Ratio	2.00	2.00	2.00	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	15.2	0.0	60.0	41.0	41.1	57.0	40.0	23.3	60.5	43.5	0.0
Incr Delay (d2), s/veh	24.9	1.5	0.0	581.8	82.2	94.2	448.9	136.1	100.4	147.2	229.5	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(50%),veh/ln	3.1	6.6	0.0	26.1	36.7	40.9	32.9	50.1	33.5	8.9	58.3	0.0
LnGrp Delay(d),s/veh	82.0	16.7	0.0	641.8	123.2	135.3	505.9	176.1	123.7	207.7	273.0	0.0
LnGrp LOS	F	B		F	F	F	F	F	F	F	F	
Approach Vol, veh/h		1118			2831			3701			2200	
Approach Delay, s/veh		20.8			236.4			274.8			259.8	
Approach LOS		C			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	49.0	20.0	47.0	11.0	52.0	13.0	54.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	44.5	15.5	42.5	6.5	47.5	8.5	49.5
Max Q Clear Time (g_c+I1), s	12.0	16.0	18.0	45.0	7.0	50.0	11.0	52.0
Green Ext Time (p_c), s	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	231.6
HCM 2010 LOS	F

Notes

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	20	120	80	157	34	20
Future Vol, veh/h	20	120	80	157	34	20
Conflicting Peds, #/hr	13	0	0	13	1	1
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	133	89	174	38	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	264	0	-	0	355	190
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1300	-	-	-	643	852
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1284	-	-	-	630	841
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	836	-

Approach	EB	WB	SW
HCM Control Delay, s	1.1	0	10.7
HCM LOS			B

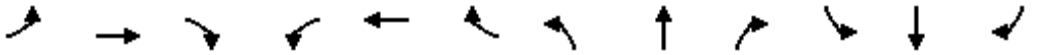
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1284	-	-	-	695
HCM Lane V/C Ratio	0.017	-	-	-	0.086
HCM Control Delay (s)	7.9	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	20	120	0	80	157	0	34	20
Future Vol, veh/h	0	20	120	0	80	157	0	34	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	22	133	0	89	174	0	38	22
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.3	8.3	8.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	14%	0%	63%
Vol Thru, %	86%	34%	0%
Vol Right, %	0%	66%	37%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	140	237	54
LT Vol	20	0	34
Through Vol	120	80	0
RT Vol	0	157	20
Lane Flow Rate	156	263	60
Geometry Grp	1	1	1
Degree of Util (X)	0.184	0.275	0.078
Departure Headway (Hd)	4.267	3.758	4.699
Convergence, Y/N	Yes	Yes	Yes
Cap	829	940	767
Service Time	2.355	1.848	2.699
HCM Lane V/C Ratio	0.188	0.28	0.078
HCM Control Delay	8.3	8.3	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	1.1	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	170	144	500	120	310	252	3020	410	150	2791	40
Future Volume (veh/h)	30	170	144	500	120	310	252	3020	410	150	2791	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.94	1.00		0.97	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	33	189	86	556	133	301	280	3356	390	167	3101	43
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	223	102	303	608	487	177	2371	718	114	2226	31
Arrive On Green	0.03	0.18	0.18	0.17	0.33	0.33	0.10	0.47	0.47	0.06	0.43	0.43
Sat Flow, veh/h	1774	1207	549	1774	1863	1493	1774	5085	1539	1774	5169	71
Grp Volume(v), veh/h	33	0	275	556	133	301	280	3356	390	167	2029	1115
Grp Sat Flow(s),veh/h/ln	1774	0	1756	1774	1863	1493	1774	1695	1539	1774	1695	1850
Q Serve(g_s), s	2.6	0.0	21.3	24.0	7.3	23.9	14.0	65.5	14.2	9.0	60.5	60.5
Cycle Q Clear(g_c), s	2.6	0.0	21.3	24.0	7.3	23.9	14.0	65.5	14.2	9.0	60.5	60.5
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	52	0	325	303	608	487	177	2371	718	114	1460	797
V/C Ratio(X)	0.63	0.00	0.85	1.83	0.22	0.62	1.58	1.42	0.54	1.47	1.39	1.40
Avail Cap(c_a), veh/h	88	0	381	303	630	505	177	2371	718	114	1460	797
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	0.0	55.4	58.2	34.3	39.9	63.2	37.5	8.4	65.7	40.0	40.0
Incr Delay (d2), s/veh	12.1	0.0	14.3	388.0	0.2	2.2	287.8	189.4	2.9	252.6	179.6	187.2
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(50%),veh/ln	1.4	0.0	11.6	44.4	3.8	10.1	21.0	72.1	8.6	12.4	64.6	72.2
LnGrp Delay(d),s/veh	79.5	0.0	69.7	446.3	34.5	42.1	351.0	226.9	11.3	318.3	219.6	227.2
LnGrp LOS	E		E	F	C	D	F	F	B	F	F	F
Approach Vol, veh/h		308			990			4026			3311	
Approach Delay, s/veh		70.8			268.1			214.6			227.1	
Approach LOS		E			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	69.5	28.0	30.0	18.0	64.5	8.1	49.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	65.0	23.5	30.0	13.5	60.0	6.5	47.0
Max Q Clear Time (g_c+I1), s	11.0	67.5	26.0	23.3	16.0	62.5	4.6	25.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	220.4
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	7	170	30	24	98	24
Future Vol, veh/h	7	170	30	24	98	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	189	33	27	109	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	60	0	-	0	251	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1544	-	-	-	738	1022
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	830	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1544	-	-	-	734	1022
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1544	-	-	-	734	1022
HCM Lane V/C Ratio	0.005	-	-	-	0.148	0.026
HCM Control Delay (s)	7.3	-	-	-	10.8	8.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	258	10	150	44	10	50
Future Vol, veh/h	258	10	150	44	10	50
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	287	11	167	49	11	56

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	674	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1263	-	420	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	690	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1263	-	363	747
Mov Cap-2 Maneuver	-	-	-	-	363	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	635	-	-	1263	-
HCM Lane V/C Ratio	0.105	-	-	0.132	-
HCM Control Delay (s)	11.3	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.5	-

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	258	10	0	150	44	0	10	50
Future Vol, veh/h	0	258	10	0	150	44	0	10	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	287	11	0	167	49	0	11	56
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.7	9.3	8.1
HCM LOS	A	A	A

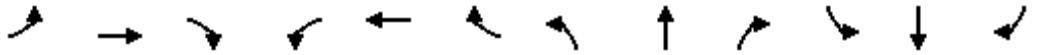
Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	17%	0%	77%
Vol Thru, %	0%	96%	23%
Vol Right, %	83%	4%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	268	194
LT Vol	10	0	150
Through Vol	0	258	44
RT Vol	50	10	0
Lane Flow Rate	67	298	216
Geometry Grp	1	1	1
Degree of Util (X)	0.085	0.356	0.272
Departure Headway (Hd)	4.596	4.299	4.548
Convergence, Y/N	Yes	Yes	Yes
Cap	780	840	791
Service Time	2.623	2.316	2.566
HCM Lane V/C Ratio	0.086	0.355	0.273
HCM Control Delay	8.1	9.7	9.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1.6	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	102	30	470	30	50	2360	720	400	175	130	441
Future Volume (veh/h)	30	102	30	470	30	50	2360	720	400	175	130	441
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	110	8	505	32	52	2538	774	413	188	140	382
Adj No. of Lanes	2	2	1	1	3	0	3	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	323	144	114	402	187	2464	1103	926	114	306	319
Arrive On Green	0.04	0.09	0.09	0.06	0.12	0.11	0.49	0.59	0.59	0.06	0.16	0.16
Sat Flow, veh/h	3442	3539	1575	1774	3390	1575	5003	1863	1563	1774	1863	1583
Grp Volume(v), veh/h	32	110	8	505	32	52	2538	774	413	188	140	382
Grp Sat Flow(s),veh/h/ln	1721	1770	1575	1774	1695	1575	1668	1863	1563	1774	1863	1583
Q Serve(g_s), s	0.8	2.5	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Cycle Q Clear(g_c), s	0.8	2.5	0.4	5.5	0.7	2.6	42.0	24.7	12.5	5.5	5.8	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	323	144	114	402	187	2464	1103	926	114	306	319
V/C Ratio(X)	0.25	0.34	0.06	4.41	0.08	0.28	1.03	0.70	0.45	1.64	0.46	1.20
Avail Cap(c_a), veh/h	222	1972	877	114	1888	877	2464	1103	926	114	306	319
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	36.3	35.4	39.9	33.4	34.5	21.6	12.1	9.6	39.9	32.2	34.1
Incr Delay (d2), s/veh	1.0	0.6	0.2	1556.1	0.1	0.8	26.3	3.7	1.6	325.1	1.1	115.9
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(50%),veh/ln	0.4	1.2	0.2	52.1	0.3	1.2	25.2	13.6	5.8	13.0	3.1	17.7
LnGrp Delay(d),s/veh	40.9	37.0	35.6	1596.0	33.5	35.3	48.0	15.9	11.2	365.0	33.3	150.0
LnGrp LOS	D	D	D	F	C	D	F	B	B	F	C	F
Approach Vol, veh/h		150			589			3725			710	
Approach Delay, s/veh		37.7			1373.3			37.2			183.9	
Approach LOS		D			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	54.5	9.5	11.8	46.0	18.0	7.2	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	50.0	5.0	47.0	41.5	13.5	5.0	47.0
Max Q Clear Time (g_c+I1), s	7.5	26.7	7.5	4.5	44.0	16.0	2.8	4.6
Green Ext Time (p_c), s	0.0	10.7	0.0	1.3	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	209.5
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1501	730	851	1507	731	80	1550	521	481	1230	10
Future Volume (veh/h)	850	1501	730	851	1507	731	80	1550	521	481	1230	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	914	1614	780	915	1620	762	86	1667	548	517	1323	10
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	305	147	390	458	216	93	373	123	130	541	4
Arrive On Green	0.09	0.26	0.26	0.22	0.38	0.39	0.05	0.28	0.28	0.07	0.29	0.29
Sat Flow, veh/h	1774	1188	574	1774	1199	564	1774	1343	442	1774	1846	14
Grp Volume(v), veh/h	914	0	2394	915	0	2382	86	0	2215	517	0	1333
Grp Sat Flow(s),veh/h/ln	1774	0	1761	1774	0	1763	1774	0	1785	1774	0	1860
Q Serve(g_s), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Cycle Q Clear(g_c), s	8.5	0.0	24.5	21.0	0.0	36.5	4.6	0.0	26.5	7.0	0.0	28.0
Prop In Lane	1.00		0.33	1.00		0.32	1.00		0.25	1.00		0.01
Lane Grp Cap(c), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
V/C Ratio(X)	5.79	0.00	5.30	2.35	0.00	3.53	0.93	0.00	4.47	3.98	0.00	2.44
Avail Cap(c_a), veh/h	158	0	452	390	0	674	93	0	495	130	0	545
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	35.5	37.3	0.0	29.4	45.1	0.0	34.5	44.3	0.0	33.8
Incr Delay (d2), s/veh	2168.5	0.0	1938.9	613.4	0.0	1144.3	69.4	0.0	1567.2	1357.4	0.0	655.3
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(50%),veh/ln	99.2	0.0	255.2	76.7	0.0	231.8	4.0	0.0	228.5	52.4	0.0	113.5
LnGrp Delay(d),s/veh	2212.0	0.0	1974.4	650.7	0.0	1173.7	114.5	0.0	1601.7	1401.6	0.0	689.1
LnGrp LOS	F		F	F		F	F		F	F		F
Approach Vol, veh/h		3308			3297			2301			1850	
Approach Delay, s/veh		2040.0			1028.6			1546.1			888.2	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	30.5	25.0	29.0	9.5	32.0	13.0	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	26.0	20.5	24.5	5.0	27.5	8.5	36.5
Max Q Clear Time (g_c+I1), s	9.0	28.5	23.0	26.5	6.6	30.0	10.5	38.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	1426.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	478	5594	1240	0	3337	173	0	0	0	381	30	2100
Future Volume (veh/h)	478	5594	1240	0	3337	173	0	0	0	381	30	2100
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	514	6015	0	0	3588	0				433	0	2117
Adj No. of Lanes	1	3	1	0	3	1				2	0	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	0	2	2				2	2	2
Cap, veh/h	319	2780	866	0	1729	1172				1419	0	917
Arrive On Green	0.18	0.55	0.00	0.00	0.34	0.00				0.40	0.00	0.40
Sat Flow, veh/h	1774	5085	1583	0	5253	1583				3548	0	1580
Grp Volume(v), veh/h	514	6015	0	0	3588	0				433	0	2117
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	0	1695	1583				1774	0	1580
Q Serve(g_s), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Cycle Q Clear(g_c), s	27.0	82.0	0.0	0.0	51.0	0.0				12.5	0.0	60.0
Prop In Lane	1.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	319	2780	866	0	1729	1172				1419	0	917
V/C Ratio(X)	1.61	2.16	0.00	0.00	2.08	0.00				0.31	0.00	2.31
Avail Cap(c_a), veh/h	319	2780	866	0	1729	1172				1419	0	917
HCM Platoon Ratio	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	0.00	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	61.5	34.0	0.0	0.0	49.5	0.0				30.8	0.0	31.5
Incr Delay (d2), s/veh	288.5	524.9	0.0	0.0	484.0	0.0				0.1	0.0	592.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.8	173.2	0.0	0.0	101.3	0.0				6.2	0.0	204.9
LnGrp Delay(d),s/veh	350.0	558.9	0.0	0.0	533.5	0.0				30.9	0.0	623.9
LnGrp LOS	F	F			F					C		F
Approach Vol, veh/h		6529			3588						2550	
Approach Delay, s/veh		542.4			533.5						523.2	
Approach LOS		F			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		86.0		64.0	31.0	55.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		81.5		59.5	26.5	50.5		
Max Q Clear Time (g_c+I1), s		84.0		62.0	29.0	53.0		
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		

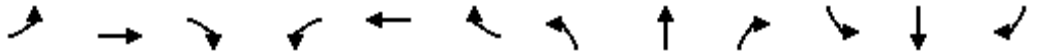
Intersection Summary	
HCM 2010 Ctrl Delay	536.0
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2735	3240	0	3265	707	240	0	1298	0	0	0
Future Volume (veh/h)	0	2735	3240	0	3265	707	240	0	1298	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863	1863	0	1863			
Adj Flow Rate, veh/h	0	2941	0	0	3511	0	258	0	0			
Adj No. of Lanes	0	2	1	0	3	1	1	0	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	0	2	2	0	2	2	2	0	2			
Cap, veh/h	0	1722	1488	0	2475	771	816	0	728			
Arrive On Green	0.00	0.33	0.00	0.00	0.49	0.00	0.46	0.00	0.00			
Sat Flow, veh/h	0	3632	1583	0	5253	1583	1774	0	1583			
Grp Volume(v), veh/h	0	2941	0	0	3511	0	258	0	0			
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	1583	1774	0	1583			
Q Serve(g_s), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	73.0	0.0	0.0	73.0	0.0	13.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1722	1488	0	2475	771	816	0	728			
V/C Ratio(X)	0.00	1.71	0.00	0.00	1.42	0.00	0.32	0.00	0.00			
Avail Cap(c_a), veh/h	0	1722	1488	0	2475	771	816	0	728			
HCM Platoon Ratio	1.00	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.43	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	50.5	0.0	0.0	38.5	0.0	25.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	318.6	0.0	0.0	189.5	0.0	1.0	0.0	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			
%ile BackOfQ(50%),veh/ln	0.0	111.9	0.0	0.0	77.6	0.0	7.0	0.0	0.0			
LnGrp Delay(d),s/veh	0.0	369.1	0.0	0.0	228.0	0.0	26.6	0.0	0.0			
LnGrp LOS		F			F		C					
Approach Vol, veh/h		2941			3511			258				
Approach Delay, s/veh		369.1			228.0			26.6				
Approach LOS		F			F			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		77.0				77.0		73.0
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		72.5				72.5		68.5
Max Q Clear Time (g_c+I1), s		75.0				75.0		15.8
Green Ext Time (p_c), s		0.0				0.0		0.8

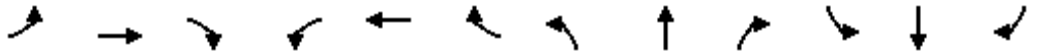
Intersection Summary		
HCM 2010 Ctrl Delay		282.1
HCM 2010 LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	3795	53	156	3610	10	168	10	133	30	20	120
Future Volume (veh/h)	185	3795	53	156	3610	10	168	10	133	30	20	120
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	199	4081	53	168	3882	11	181	11	125	32	22	89
Adj No. of Lanes	1	3	1	1	3	0	2	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	2424	731	83	2391	7	138	42	477	82	106	428
Arrive On Green	0.07	0.48	0.47	0.06	0.61	0.60	0.04	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1774	5085	1544	1774	5235	15	3442	130	1472	1774	321	1298
Grp Volume(v), veh/h	199	4081	53	168	2513	1380	181	0	136	32	0	111
Grp Sat Flow(s),veh/h/ln	1774	1695	1544	1774	1695	1860	1721	0	1601	1774	0	1619
Q Serve(g_s), s	10.0	71.5	2.8	7.0	68.5	68.5	6.0	0.0	9.4	2.6	0.0	7.4
Cycle Q Clear(g_c), s	10.0	71.5	2.8	7.0	68.5	68.5	6.0	0.0	9.4	2.6	0.0	7.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.92	1.00		0.80
Lane Grp Cap(c), veh/h	118	2424	731	83	1548	849	138	0	519	82	0	534
V/C Ratio(X)	1.68	1.68	0.07	2.03	1.62	1.63	1.31	0.00	0.26	0.39	0.00	0.21
Avail Cap(c_a), veh/h	118	2424	731	83	1548	849	138	0	519	82	0	534
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	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.0	39.3	21.5	70.3	29.4	29.5	72.0	0.0	37.6	69.5	0.0	36.3
Incr Delay (d2), s/veh	321.7	308.4	0.1	467.0	280.6	281.8	183.8	0.0	1.2	3.0	0.0	0.9
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(50%),veh/ln	15.5	102.7	1.2	14.2	92.0	101.3	6.4	0.0	4.3	1.4	0.0	3.4
LnGrp Delay(d),s/veh	391.7	347.6	21.6	537.3	310.0	311.3	255.8	0.0	38.9	72.6	0.0	37.2
LnGrp LOS	F	F	C	F	F	F	F		D	E		D
Approach Vol, veh/h		4333			4061			317			143	
Approach Delay, s/veh		345.6			319.9			162.7			45.1	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	75.5	10.0	53.5	14.0	72.5	10.9	52.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	71.0	5.5	49.0	9.5	68.0	6.4	48.1
Max Q Clear Time (g_c+I1), s	9.0	73.5	8.0	9.4	12.0	70.5	4.6	11.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.1	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	322.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1064	838	2191	210	1824	10	1480	2300	520	90	1500	215
Future Volume (veh/h)	1064	838	2191	210	1824	10	1480	2300	520	90	1500	215
Number	5	2	12	1	6	16	3	8	18	7	4	14
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	1144	901	0	226	1961	1	1591	2473	496	97	1613	0
Adj No. of Lanes	1	3	1	2	3	0	3	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	2305	866	138	1750	1	467	1286	575	126	1085	739
Arrive On Green	0.27	0.76	0.00	0.04	0.33	0.33	0.09	0.36	0.36	0.04	0.31	0.00
Sat Flow, veh/h	1774	5085	1583	3442	5250	3	5003	3539	1582	3442	3539	1583
Grp Volume(v), veh/h	1144	901	0	226	1266	696	1591	2473	496	97	1613	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1721	1695	1862	1668	1770	1582	1721	1770	1583
Q Serve(g_s), s	24.0	9.2	0.0	6.0	50.0	50.0	14.0	54.5	43.6	4.2	46.0	0.0
Cycle Q Clear(g_c), s	24.0	9.2	0.0	6.0	50.0	50.0	14.0	54.5	43.6	4.2	46.0	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	284	2305	866	138	1130	621	467	1286	575	126	1085	739
V/C Ratio(X)	4.03	0.39	0.00	1.64	1.12	1.12	3.41	1.92	0.86	0.77	1.49	0.00
Avail Cap(c_a), veh/h	284	2305	866	138	1130	621	467	1286	575	126	1085	739
HCM Platoon Ratio	1.67	1.67	1.67	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.0	11.1	0.0	72.0	50.0	50.0	68.0	47.8	44.3	71.6	52.0	0.0
Incr Delay (d2), s/veh	1372.0	0.5	0.0	319.0	66.4	74.0	1088.7	418.3	15.7	24.5	223.7	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(50%),veh/ln	119.9	4.3	0.0	8.9	33.8	38.5	53.5	101.3	21.6	2.4	56.2	0.0
LnGrp Delay(d),s/veh	1427.0	11.6	0.0	391.0	116.4	124.0	1156.7	466.1	60.0	96.1	275.7	0.0
LnGrp LOS	F	B		F	F	F	F	F	E	F	F	
Approach Vol, veh/h		2045			2188			4560			1710	
Approach Delay, s/veh		803.4			147.2			662.9			265.5	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	72.0	18.0	50.0	28.0	54.0	9.5	58.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	67.5	13.5	45.5	23.5	49.5	5.0	54.0
Max Q Clear Time (g_c+I1), s	8.0	11.2	16.0	48.0	26.0	52.0	6.2	56.5
Green Ext Time (p_c), s	0.0	19.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		518.1
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Traffic Vol, veh/h	60	60	80	112	50	55
Future Vol, veh/h	60	60	80	112	50	55
Conflicting Peds, #/hr	4	0	0	4	1	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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	65	86	120	54	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	341	151
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1364	-	-	-	655	895
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1359	-	-	-	621	891
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	796	-

Approach	EB	WB	SW
HCM Control Delay, s	3.9	0	10.8
HCM LOS			B

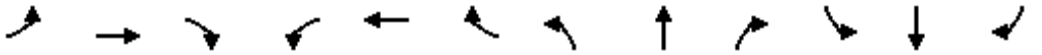
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1359	-	-	-	738
HCM Lane V/C Ratio	0.047	-	-	-	0.153
HCM Control Delay (s)	7.8	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	WBU	WBT	WBR	SWU	SWL	SWR
Traffic Vol, veh/h	0	60	60	0	80	112	0	50	55
Future Vol, veh/h	0	60	60	0	80	112	0	50	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	65	65	0	86	120	0	54	59
Number of Lanes	0	0	1	0	1	0	0	1	0

Approach	EB	WB	SW
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SW		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SW	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.4	8.2	8.2
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SWLn1
Vol Left, %	50%	0%	48%
Vol Thru, %	50%	42%	0%
Vol Right, %	0%	58%	52%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	120	192	105
LT Vol	60	0	50
Through Vol	60	80	0
RT Vol	0	112	55
Lane Flow Rate	129	206	113
Geometry Grp	1	1	1
Degree of Util (X)	0.161	0.229	0.139
Departure Headway (Hd)	4.497	3.987	4.432
Convergence, Y/N	Yes	Yes	Yes
Cap	800	902	811
Service Time	2.513	2	2.45
HCM Lane V/C Ratio	0.161	0.228	0.139
HCM Control Delay	8.4	8.2	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.9	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	116	49	290	137	700	196	3460	610	780	3041	80
Future Volume (veh/h)	140	116	49	290	137	700	196	3460	610	780	3041	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
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		0.99	1.00		0.95	1.00		0.98
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	151	125	38	312	147	667	211	3720	442	839	3270	84
Adj No. of Lanes	1	1	0	1	1	1	1	3	1	1	3	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	405	123	118	568	479	101	1937	572	186	2184	56
Arrive On Green	0.06	0.30	0.29	0.07	0.30	0.30	0.06	0.38	0.38	0.10	0.43	0.42
Sat Flow, veh/h	1774	1372	417	1774	1863	1571	1774	5085	1502	1774	5097	130
Grp Volume(v), veh/h	151	0	163	312	147	667	211	3720	442	839	2165	1189
Grp Sat Flow(s),veh/h/ln	1774	0	1789	1774	1863	1571	1774	1695	1502	1774	1695	1836
Q Serve(g_s), s	6.0	0.0	7.4	7.0	6.3	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Cycle Q Clear(g_c), s	6.0	0.0	7.4	7.0	6.3	32.0	6.0	40.0	27.1	11.0	45.0	45.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	101	0	528	118	568	479	101	1937	572	186	1453	787
V/C Ratio(X)	1.49	0.00	0.31	2.64	0.26	1.39	2.08	1.92	0.77	4.51	1.49	1.51
Avail Cap(c_a), veh/h	101	0	528	118	568	479	101	1937	572	186	1453	787
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	28.7	49.0	27.6	36.5	49.5	32.5	28.5	47.0	30.0	30.0
Incr Delay (d2), s/veh	265.2	0.0	0.3	760.9	0.2	189.4	518.7	416.0	9.8	1593.8	224.1	236.7
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(50%),veh/ln	10.4	0.0	3.7	28.4	3.3	39.0	17.5	93.3	12.7	87.6	66.2	74.5
LnGrp Delay(d),s/veh	314.7	0.0	29.1	809.9	27.8	225.9	568.2	448.5	38.3	1640.8	254.1	266.7
LnGrp LOS	F		C	F	C	F	F	F	D	F	F	F
Approach Vol, veh/h		314			1126			4373			4193	
Approach Delay, s/veh		166.4			361.8			412.8			535.2	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	44.0	11.0	35.0	10.0	49.0	10.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	39.5	6.5	30.5	5.5	44.5	5.5	31.5
Max Q Clear Time (g_c+I1), s	13.0	42.0	9.0	9.4	8.0	47.0	8.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		450.6
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	23	149	92	98	52	13
Future Vol, veh/h	23	149	92	98	52	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	200	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	160	99	105	56	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	204	0	-	0	362	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1368	-	-	-	637	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1368	-	-	-	625	894
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1368	-	-	-	625	894
HCM Lane V/C Ratio	0.018	-	-	-	0.089	0.016
HCM Control Delay (s)	7.7	-	-	-	11.3	9.1
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	191	10	60	180	10	115
Future Vol, veh/h	191	10	60	180	10	115
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	11	65	194	11	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	534	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1354	-	507	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	480	829
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10.5
HCM LOS			B

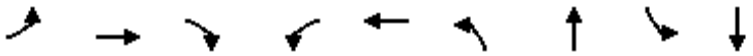
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	783	-	-	1354	-
HCM Lane V/C Ratio	0.172	-	-	0.048	-
HCM Control Delay (s)	10.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	191	10	0	60	180	0	10	115
Future Vol, veh/h	0	191	10	0	60	180	0	10	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	205	11	0	65	194	0	11	124
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.2	9.7	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	8%	0%	25%
Vol Thru, %	0%	95%	75%
Vol Right, %	92%	5%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	201	240
LT Vol	10	0	60
Through Vol	0	191	180
RT Vol	115	10	0
Lane Flow Rate	134	216	258
Geometry Grp	1	1	1
Degree of Util (X)	0.167	0.27	0.325
Departure Headway (Hd)	4.462	4.495	4.527
Convergence, Y/N	Yes	Yes	Yes
Cap	802	798	795
Service Time	2.495	2.527	2.558
HCM Lane V/C Ratio	0.167	0.271	0.325
HCM Control Delay	8.4	9.2	9.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.1	1.4



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	156	1889	56	149	3400	134	208	11	100
v/c Ratio	1.93	1.05	0.09	1.18	1.76	0.55	0.25	0.11	0.15
Control Delay	490.3	76.5	2.1	139.3	364.1	67.4	5.5	59.4	28.3
Queue Delay	0.0	21.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	490.3	98.3	2.1	139.3	364.1	67.4	5.5	59.4	28.3
Queue Length 50th (ft)	~202	~634	0	~149	~1602	57	9	7	38
Queue Length 95th (ft)	#345	#730	12	m76	m#823	92	66	m8	m45
Internal Link Dist (ft)		260			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	81	1799	599	126	1928	250	830	163	657
Starvation Cap Reductn	0	591	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	1.93	1.56	0.09	1.18	1.76	0.54	0.25	0.07	0.15

Intersection Summary

~ 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.

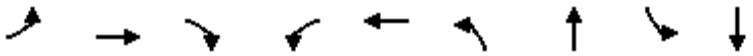
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	349	556	133	344	280	3356	456	167	3145
v/c Ratio	0.40	0.94	1.89	0.21	0.59	1.64	1.45	0.54	1.52	1.47
Control Delay	81.1	84.7	444.2	35.9	25.1	348.6	236.5	13.3	316.5	248.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.1	84.7	444.2	35.9	25.1	348.6	236.5	13.3	316.5	248.3
Queue Length 50th (ft)	31	303	~802	91	144	~381	~1584	118	~220	~1506
Queue Length 95th (ft)	69	#490	#1033	146	253	#567	#1650	223	#374	#1579
Internal Link Dist (ft)		1354		1127			593			1800
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	86	386	294	630	585	171	2314	842	110	2133
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	0.38	0.90	1.89	0.21	0.59	1.64	1.45	0.54	1.52	1.47

Intersection Summary

~ 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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	199	4081	57	168	3893	181	154	32	151
v/c Ratio	1.69	1.68	0.07	2.05	1.68	1.32	0.24	0.41	0.25
Control Delay	381.7	338.0	2.3	502.3	325.3	238.2	10.8	75.4	3.8
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.7	339.4	2.3	502.3	325.3	238.2	10.8	75.4	3.8
Queue Length 50th (ft)	~284	~2131	0	~256	~2010	~117	22	32	0
Queue Length 95th (ft)	#452	#2172	16	m#139	m#1005	#200	78	m58	m20
Internal Link Dist (ft)		330			669		1452		850
Turn Bay Length (ft)	200			210		250			
Base Capacity (vph)	118	2423	768	82	2322	137	637	81	612
Starvation Cap Reductn	0	255	0	0	19	0	0	0	0
Spillback Cap Reductn	0	953	0	0	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.69	2.78	0.07	2.05	1.69	1.32	0.25	0.40	0.25

Intersection Summary

~ 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.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	151	178	312	147	753	211	3720	656	839	3356
v/c Ratio	1.50	0.33	2.64	0.26	1.30	2.09	1.92	0.79	4.54	1.55
Control Delay	303.3	27.4	784.7	29.1	173.1	548.5	439.9	17.3	1615.8	273.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	303.3	27.4	784.7	29.1	173.1	548.5	439.9	17.3	1615.8	273.9
Queue Length 50th (ft)	~141	81	~355	74	~575	~225	~1414	133	~1047	~1178
Queue Length 95th (ft)	#269	142	#526	127	#807	#373	#1494	307	#1282	#1265
Internal Link Dist (ft)		1354		1127			593			1792
Turn Bay Length (ft)	450		140			220		380	220	
Base Capacity (vph)	101	537	118	567	580	101	1937	832	185	2172
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	1.50	0.33	2.64	0.26	1.30	2.09	1.92	0.79	4.54	1.55

Intersection Summary

~ 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.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5408	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	1486	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1575	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1575	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.6	mi/h
Number of lanes, N	4	
Density, D	24.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line ON to Tracy OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7952	veh/h
Peak-hour factor, PHF	0.91	
Peak 15-min volume, v15	2185	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2316	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2316	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	53.1	mi/h
Number of lanes, N	4	
Density, D	43.6	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	5800	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1526	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	1618	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	1618	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	4	
Density, D	25.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	AM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy ON / Naglee OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	8580	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2258	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2393	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2393	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	51.0	mi/h
Number of lanes, N	4	
Density, D	46.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	11th St OFF /Grant Line Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9438	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2432	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2578	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2578	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.3	mi/h
Number of lanes, N	4	
Density, D	56.9	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 EB
From/To:	Grant Line Rd ON /Tracy Bl OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	11842	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	3052	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	3235	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	3235	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	17.3	mi/h
Number of lanes, N	4	
Density, D	187.5	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Grant Line Rd ON / 11th St OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	7830	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2018	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2139	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

LOS and Performance Measures

Flow rate, vp	2139	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.3	mi/h
Number of lanes, N	4	
Density, D	37.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Fehr & Peers
Agency or Company:	
Date Performed:	2/24/2016
Analysis Time Period:	PM Peak Hour
Freeway/Direction:	I-205 WB
From/To:	Tracy Blvd ON / Naglee Rd OFF
Jurisdiction:	
Analysis Year:	Cumulative Plus Project
Description:	Harvest in Tracy TIS

Flow Inputs and Adjustments

Volume, V	9410	veh/h
Peak-hour factor, PHF	0.97	
Peak 15-min volume, v15	2425	v
Trucks and buses	12	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.943	
Driver population factor, fp	1.00	
Flow rate, vp	2571	pc/h/ln

Speed Inputs and Adjustments

Lane width	-	ft
Right-side lateral clearance	-	ft
Total ramp density, TRD	-	ramps/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	-	mi/h
Lateral clearance adjustment, fLC	-	mi/h
TRD adjustment	-	mi/h
Free-flow speed, FFS	65.0	mi/h

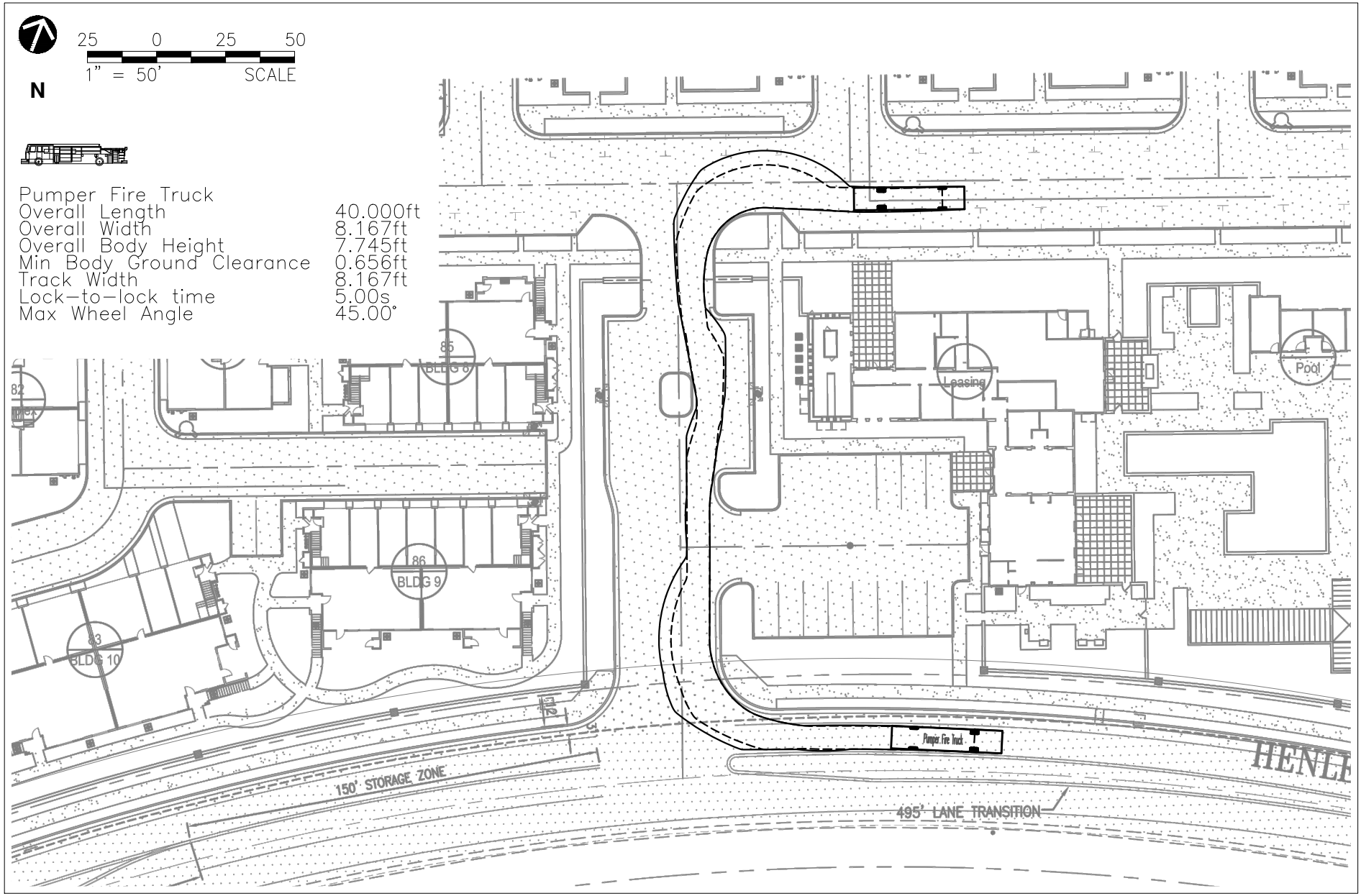
LOS and Performance Measures

Flow rate, vp	2571	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	45.6	mi/h
Number of lanes, N	4	
Density, D	56.4	pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX E

SIGHT DISTANCE AND EMERGENCY VEHICLE ACCESS



FEHR & PEERS

MAIN DRIVEWAY - FIRE TRUCK INBOUND

EXHIBIT 1

Jan 18, 2017
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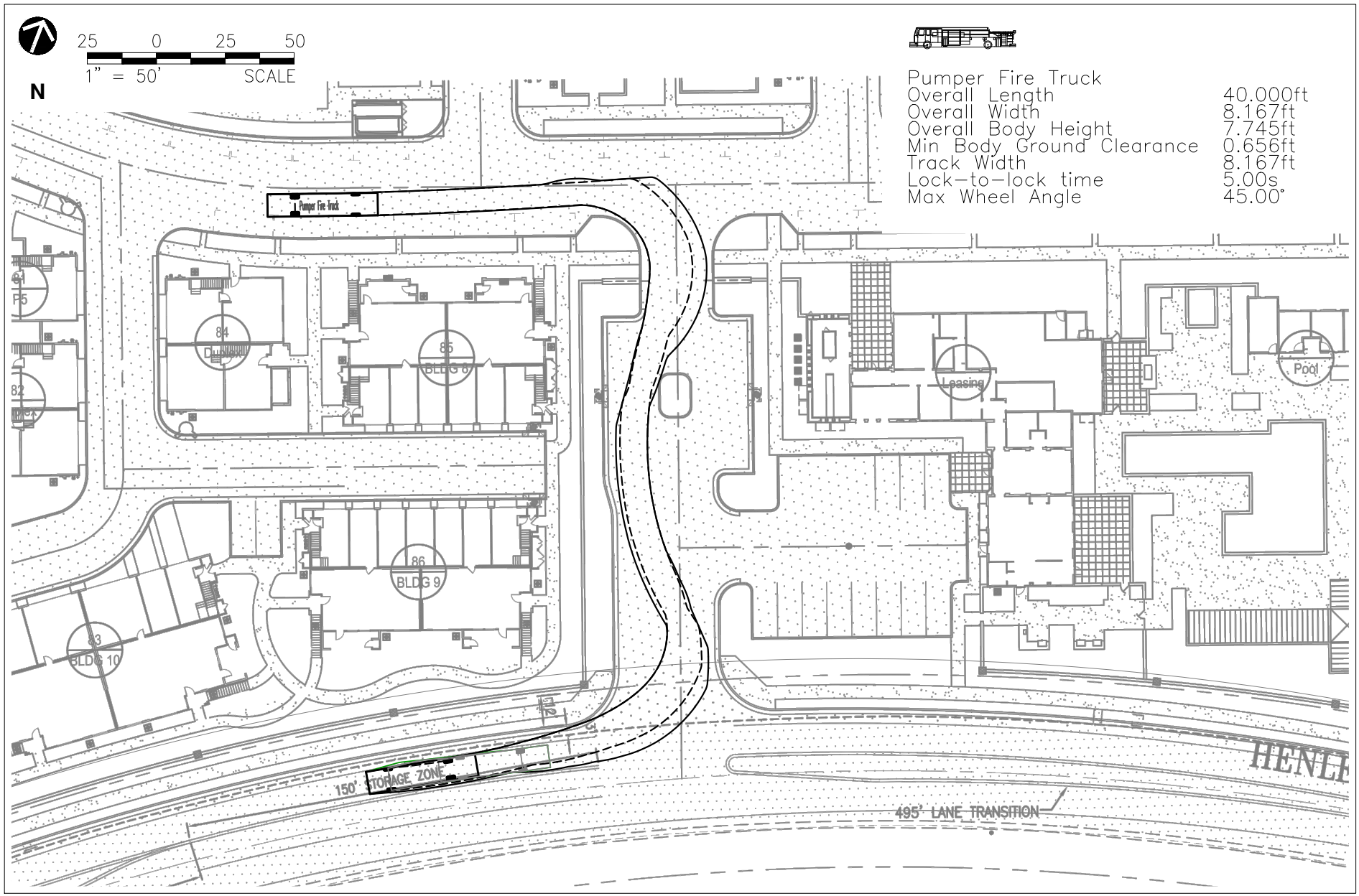

FEHR & PEERS

MAIN DRIVEWAY - FIRE TRUCK OUTBOUND

EXHIBIT 2

Jan 18, 2017
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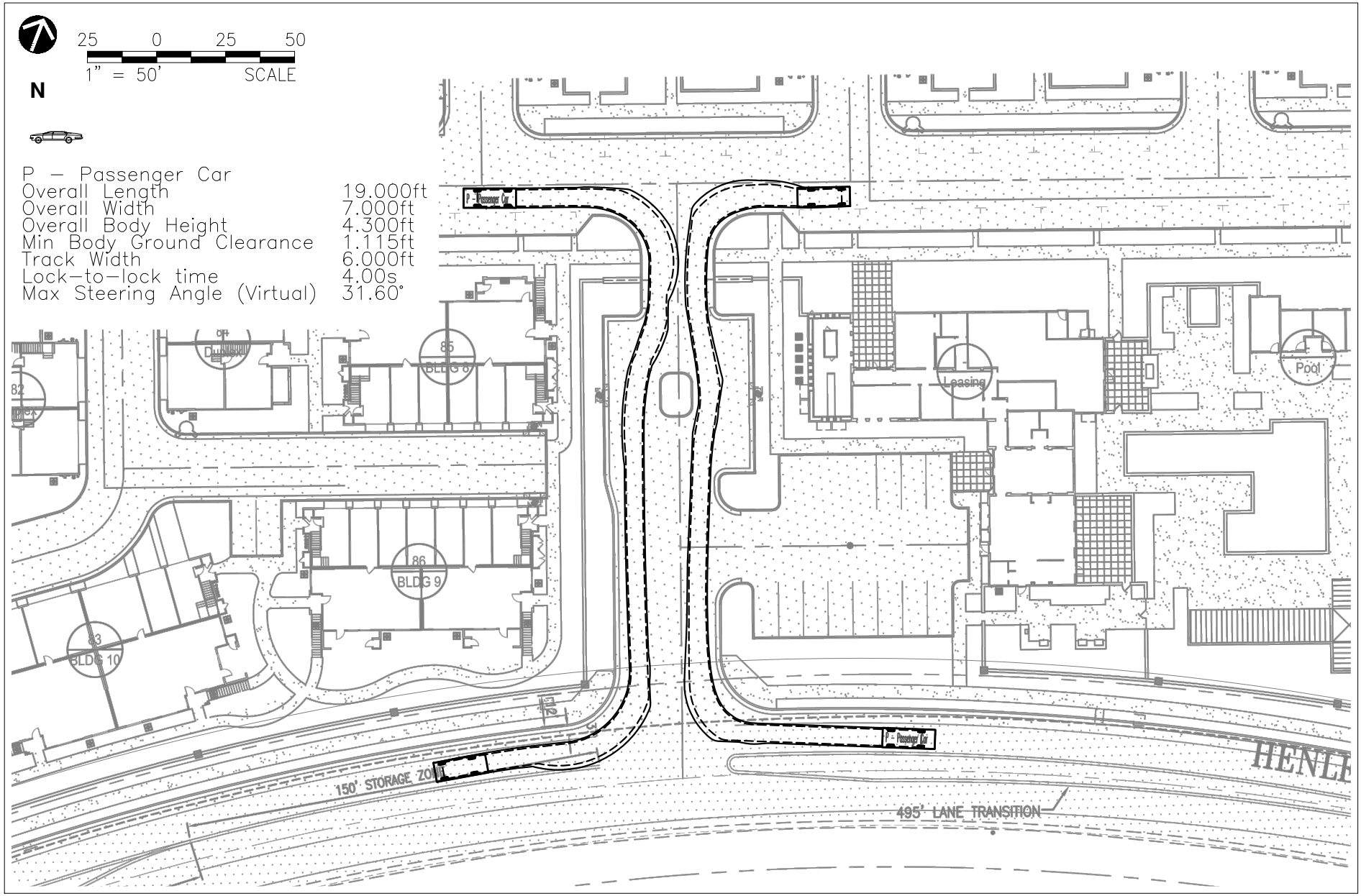

FEHR & PEERS

MAIN DRIVEWAY - POLICE INBOUND AND OUTBOUND

EXHIBIT 3

Jan 18, 2017
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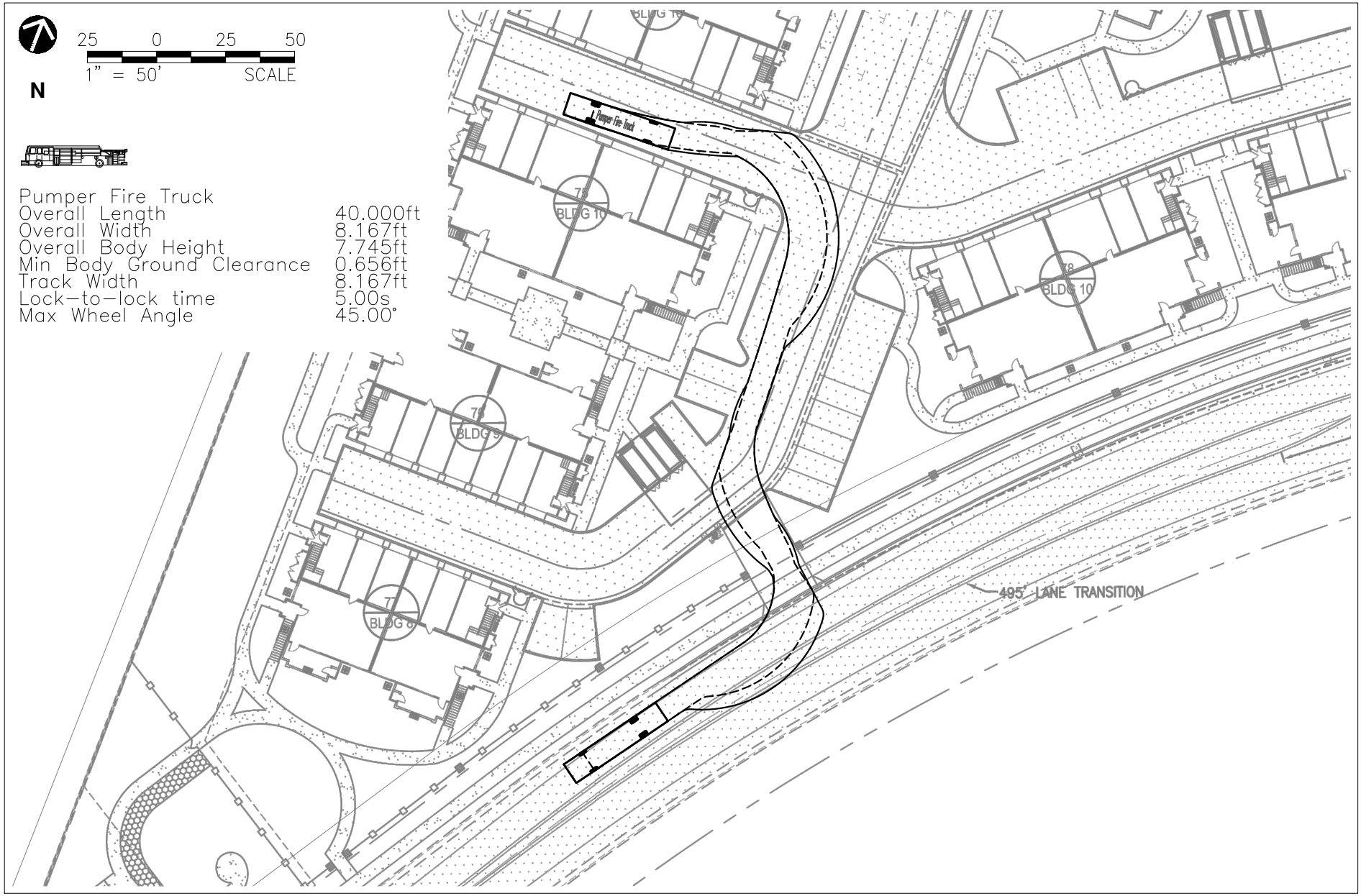

FEHR & PEERS

REAR DRIVEWAY - FIRE TRUCK OUTBOUND

EXHIBIT 4

Jan 18, 2017
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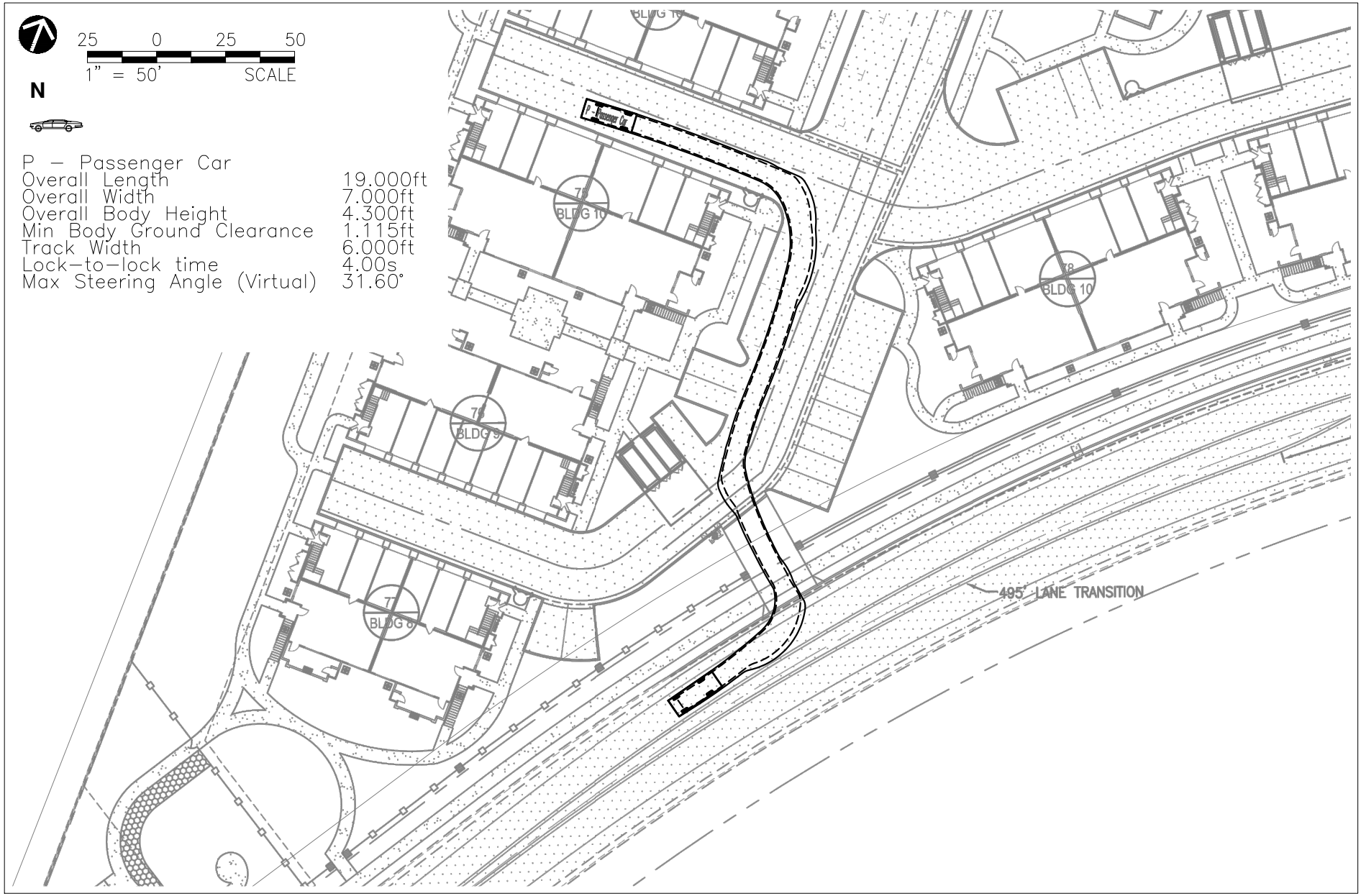
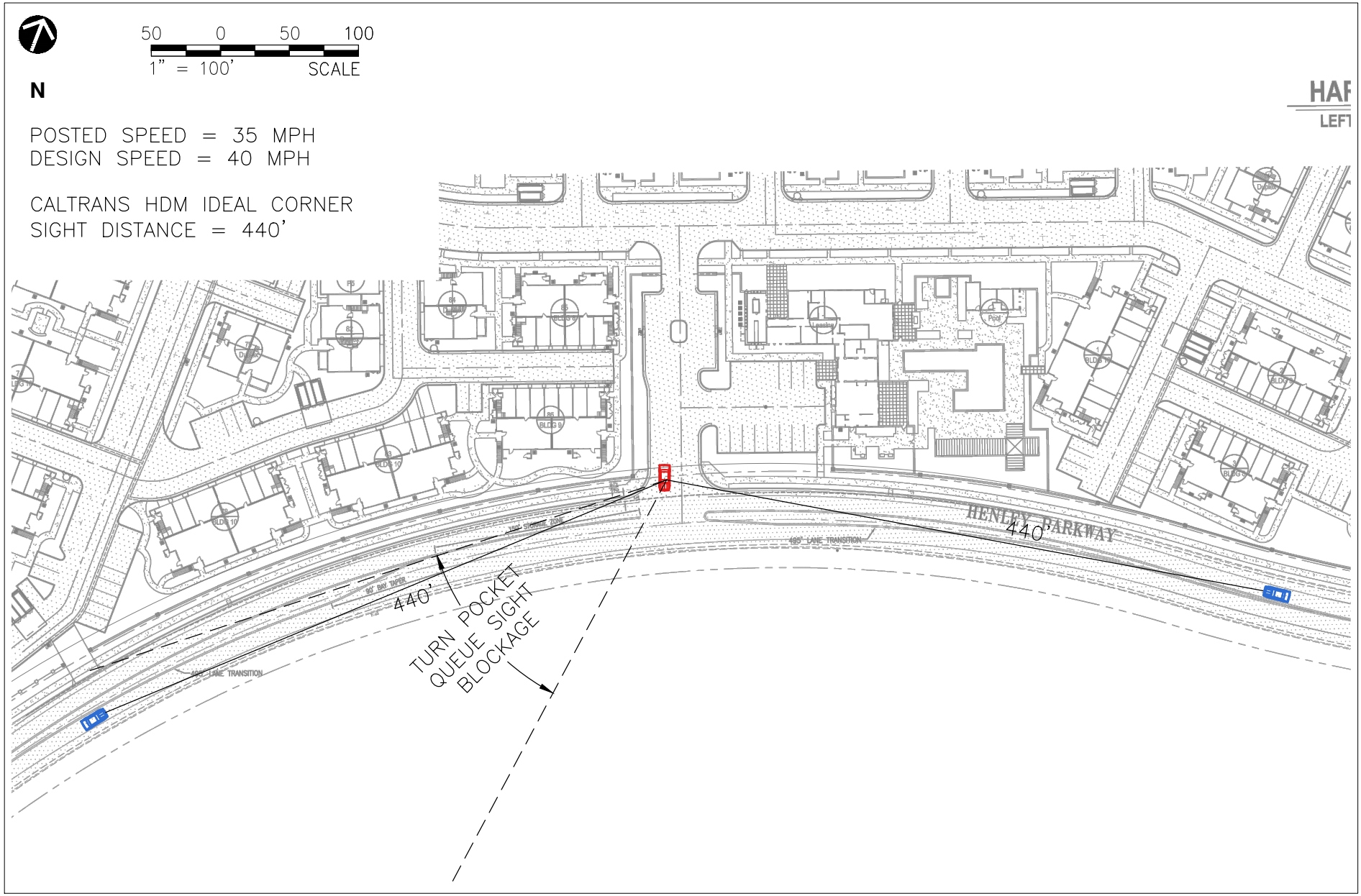


FEHR & PEERS

REAR DRIVEWAY - POLICE OUTBOUND

EXHIBIT 5

Jan 18, 2017
\\Fpsa03.fpainc.local\Data\2016 projects\3393_harvestintracy\CAD\3393_Exhibits.dwg

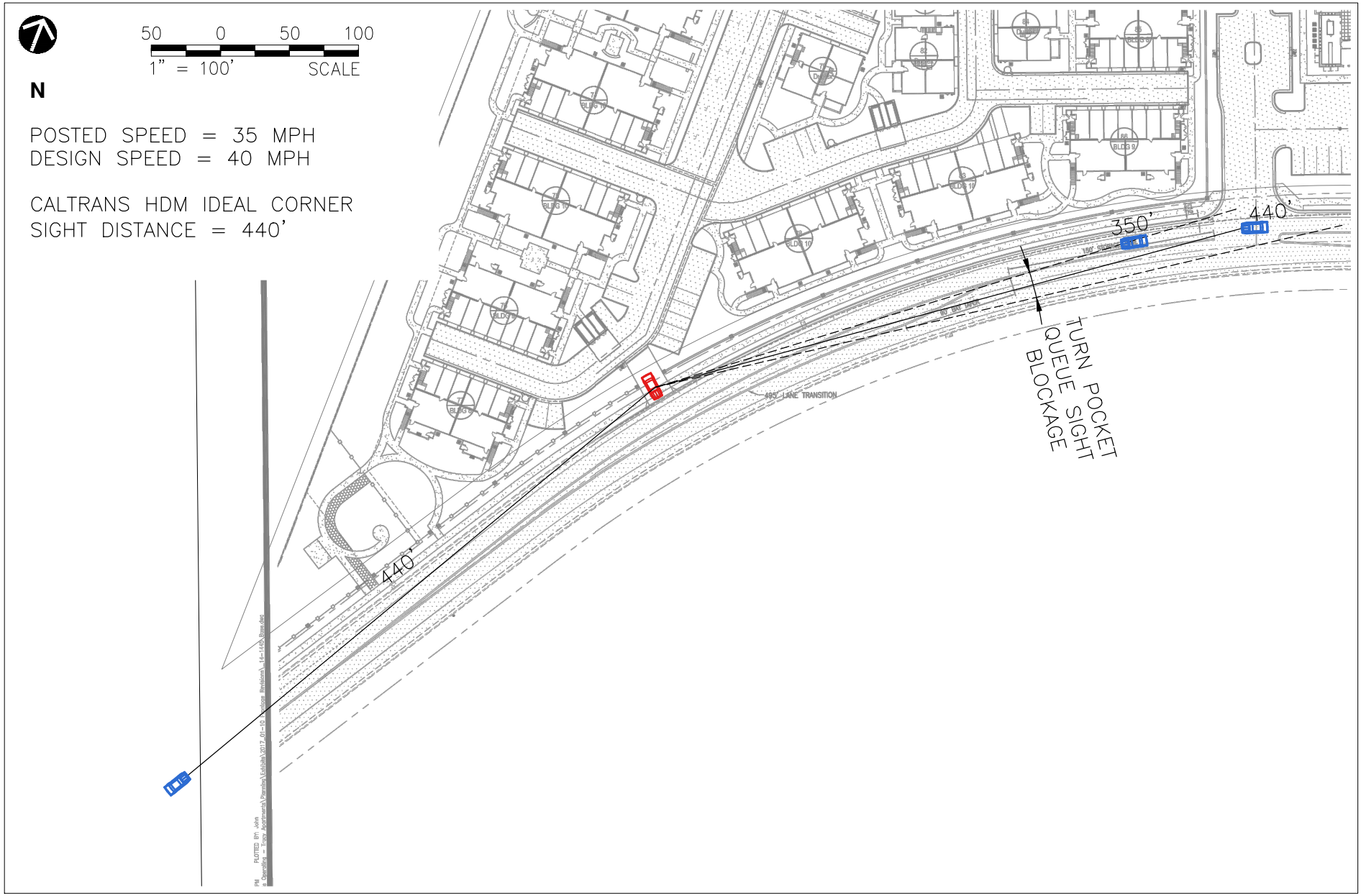


FEHR & PEERS

MAIN DRIVEWAY - SIGHT DISTANCE

EXHIBIT 6

Jan 18, 2017
\\Fpsa03.fpainc.local\Data\2016 projects\3393_harvestintracy\CAD\3393_Exhibits.dwg



FEHR & PEERS

REAR DRIVEWAY - SIGHT DISTANCE

EXHIBIT 7

Jan 18, 2017
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Appendix C

Species Information Tables

Table 1-1 Special-Status Plant Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential to Occur on the Project Site
	Federal	State		
Large-flowered fiddleneck *Amsinckia grandiflora*	FE	CE, CRPR-1B.1	Typically found in cismontane woodland, valley and foothill grassland at elevations between 275-550 m. Blooms between April – May.	**None –** the project site is below the current known elevational range of this species.
Alkali milk-vetch *Astragalus tener var. tener*	-	CRPR-1B.2	Typically found in alkaline soils within playas, valley and foothill grassland (adobe clay) and vernal pools at elevations between 1 – 60 m. Blooms between March – June.	**Low –** although the project site is within Capay Clay and the site is no longer in production, ongoing weed abatement activities likely preclude the presence of this species.
Heartscale *Atriplex cordulata var. cordulata*	-	CRPR-1B.2	Typically found in saline or alkaline soils within chenopod scrub, meadows and seeps, valley and foothill grassland (sandy) at elevations between 0 – 560 m. Blooms between April – October.	**None -** the project site does not support sandy soils, and ongoing weed abatement activities likely preclude the presence of this species.
Lost Hills crownscale *Atriplex coronate var. coronata*	-	CRPR-1B.2	Annual herb typically found within alkaline soils in chenopod scrub, valley and foothill grasslands and vernal pools at elevations between 50-635 m. Blooms between April – September.	**None –** the project site is outside of the current elevational range of this species, furthermore ongoing weed abatement activities likely preclude the presence of this species.
Brittlescale *Atriplex depressa*	-	CRPR-1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools; 1–320 m. Blooms April – October.	**Low -** although the project site is within Capay Clay and the site is no longer in production, ongoing weed abatement activities likely preclude the presence of this species.
Big tarplant *Blepharizonia plumosa*	-	CRPR-1B.1	Typically found in clay within valley and foothill grassland at elevations between 30-505 m. Blooms July – October.	**None –** the project site is outside of the current elevational range of this species, and although the project site is within Capay Clay ongoing weed abatement activities likely preclude the presence of this species.
Watershield *Brazenia schreberi*	-	CRPR-2B.3	Marshes and swamps/freshwater at elevations between 30 – 2,200 m. Blooms June – September.	**None –** the project site does not support wetland habitat.
Hoover's calycadenia *Calycadenia hooveri*	-	CRPR 1B.3 SJMSCP	Typically found in rocky soils within cismontane woodland, valley and foothill grassland between 65-300 m. Blooms July to September.	**None -** the project site does not support rocky soils and the project site is outside of the known elevation of this species.
Round-leaved filaree *California macrophylla*	-	CRPR-1B.2	Clay soils in cismontane woodland, valley and foothill grassland; 15–1,200 m. Blooms Mar – May.	**Low –** although the project site is within Capay Clay and the site is no longer in production, ongoing weed abatement activities likely preclude the presence of this species.

Table 1-1 Special-Status Plant Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential to Occur on the Project Site
	Federal	State		
Succulent owl's clover *Castilleja campestris* spp. *succulentus*	FT	CE CRPR 1B.2	Typically found in vernal pools (often acidic) between 50 -750 m in elevation. Blooms between April – May.	**None –** The project site does not support habitat (i.e. vernal pools or wetlands) suitable for this species.
Bristly sedge *Carex comosa*	-	CRPR-2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland at elevations between 0 – 625 m. Blooms May to September.	**None –** the project site does not support suitable habitat for this species.
Lemmon's jewelflower *Caulanthus lemmonii*	-	CRPR-1B.2	Pinyon and juniper woodland, valley and foothill grassland at elevations between 80 – 1,580 m. Blooms February to May.	**None –** the project site is outside of the current elevational range of this species, furthermore ongoing weed abatement activities likely preclude the presence of this species.
Palmate-bracted bird's-beak *Chloropyron plamatum*	FE	CE, CRPR-1B.1	Hemiparasitic annual herb typically found in alkaline soils within chenopod scrub, valley and foothill grassland at elevations ranging from 5 -155 m. Blooms May – October.	**None –** the project site consists of bare ground supporting sporadic weedy vegetation and ongoing weed abatement activities likely preclude the presence of this species.
Slough thistle *Cirsium crassicaule*	-	CRPR-1B.1	Typically found in chenopod scrub, marshes and swamps (sloughs), and riparian scrub at elevations between 3 – 100 m. Blooms May – August.	**None –** the project site does not support chenopod scrub, marshes and swamps (sloughs), or riparian scrub.
Mount Hamilton coreopsis *Coreopsis hamiltonii*	-	CRPR 1B.2, SJMSCP	Found in rocky cismontane woodland, only known from the Mt. Hamilton Range. Elevation ranges from 550-1,300 m. Blooms March to May	**None –** the project site is outside of the current known range of this species.
Hospital Canyon larkspur *Delphinium californicum* ssp. *interus*	-	CRPR-1B.2	Perennial herb typically found in chaparral (openings), cismontane woodland (mesic), and coastal scrub at elevations ranging from 195 -1,095 m. Blooms April – June.	**None –** the project site does not support chaparral, cismontane woodland or coastal scrub habitat.
Recurved larkspur *Delphinium recurvatum*	-	CRPR-1B.2	Perennial herb typically found in alkaline soils within chenopod scrub, cismontane woodland, valley and foothill grassland at elevations ranging from 3 -790 m. Blooms March – June.	**None –** the project site consists of bare ground supporting sporadic weedy vegetation and ongoing weed abatement activities likely preclude the presence of this species.
Delta button-celery *Eryngium racemosum*	-	CE CRPR-1B.2	Riparian scrub (vernally mesic clay depressions) at elevations ranging from 3 – 30 m. Blooms June – October.	**None –** the project site does not support riparian scrub habitat.
Diamond-petaled California poppy *Eschscholzia rhombipetala*	-	CRPR-1B.1	Valley and foothill grassland (alkaline, clay) at elevations ranging from 0 -975 m. Blooms March – April.	**None –** the project site consists of bare ground supporting sporadic weedy vegetation and ongoing weed abatement activities likely preclude the presence of this species.

Table 1-1 Special-Status Plant Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential to Occur on the Project Site
	Federal	State		
San Joaquin spearscale *Extriplex joaquinana*	-	CRPR-1B.1	Annual herb typically found in alkaline soils within chenopod scrub, meadows and seeps, playas and valley and foothill grassland at elevations between 1 – 835 m. Blooms April – October.	**None –** the project site consists of bare ground supporting sporadic weedy vegetation and ongoing weed abatement activities likely preclude the presence of this species.
Boggs Lake hedge-hyssop *Gratiola heterosepala*		CE, CRPR 1B.2 SJMSCP	Annual herb typically found in clay soils within marshes and swamps (lake margins), and vernal pools at elevations between 10-2,375 m. Blooms April – August.	**None** –the project site does not support suitable wetland habitat.
Wooly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	-	CRPR-1B.2	Freshwater marshes and swamps; below 120 m. Blooms June – September.	**None –** the project site does not support suitable wetland habitat.
Red Bluff dwarf rush *Juncus leiospermus var. leiospermus*	-	CRPR 1B.1	Annual herb typically found in vernally mesic sites within chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools at elevations ranging from 35-1,250 m. Blooms March – June	**None -** the project site does not support vernally mesic habitats.
Delta tule pea *Lathyrus jepsonii var. jepsonii*	-	CR CRPR-1B.1	Freshwater and brackish marshes and swamps; below 4 m. Blooms May – July (uncommonly September)	**None –** the project site does not support suitable wetland habitat.
Legenere *Legenere limosa*	-	CRPR 1B.1, SJMSCP	Annual herb typically found in vernal pools at elevations ranging from 1 – 880 m. Blooms between April – June.	**None –** the project site does not support vernal pools.
Mason's lilaeopsis *Lilaeopsis masonii*	-	CR CRPR-1B.1	Riparian scrub, brackish or freshwater marshes and swamps; below 10 m. Blooms April - November	**None –** the project site does not support suitable wetland habitat.
Delta mudwort *Limosella australis*	-	CRPR-1B.1	Usually found in mud banks within marshes and swamps (freshwater or brackish), and riparian scrub at elevations between 0 – 3 m. Blooms May – August.	**None –** the project site does not support marshes, swamps (freshwater or brackish), or riparian scrub

Table 1-1 Special-Status Plant Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	**Regulatory Status[1]**		**Habitat and Flowering Period**	**Potential to Occur on the Project Site**
	Federal	**State**		
Showy golden madia *Madia radiata*	-	CRPR-1B.2	Annual herb typically found in cismontane woodland, valley and foothill grassland at elevations ranging from 25 -1,215 m. Blooms March - May	**None –** the project site consists of bare ground supporting sporadic weedy vegetation, ongoing weed abatement activities likely preclude the presence of this species, furthermore the project site is outside of the elevational range of this species.
Little mousetail *Myosurus minimus ssp. apus*	-	CRPR 3.1	Annual herb typically found in valley and foothill grassland, and alkaline vernal pools at elevations ranging from 20 – 640 m. Blooms March – June.	**None –** the project site consists of bare ground supporting sporadic weedy vegetation, ongoing weed abatement activities likely preclude the presence of this species, furthermore the project site is outside of the elevational range of this species.
Shining navarretia *Navarretia nigelliformis ssp. radians*	-	CRPR-1B.2	Annual herb sometimes found in clay within cismontane woodland, valley and foothill grassland, and vernal pools at elevations ranging from 76-1,000 m. Blooms April – July.	**None –** the project site does not support vernally mesic; sinks, flats, and lake margins within chenopod scrub, meadows and seeps, valley and foothill grassland, or vernal pools
California alkali grass *Puccinellia simplex*	-	CRPR-1B.2	Annual herb typically found in alkaline, vernally mesic; sinks, flats, and lake margins within chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools at elevations ranging from 2 – 930 m. Blooms March to May.	**None –** the project site does not support vernally mesic; sinks, flats, and lake margins within chenopod scrub, meadows and seeps, valley and foothill grassland, or vernal pools
Sanford's arrowhead *Sagittaria sanfordii*	-	CRPR-1B.2	Perennial rhizomatous herb typically found in marshes and swamps (assorted shallow freshwater) at elevations ranging from 0 -650 m. Blooming from May – November.	**None –** the project site does not support wetland habitat suitable for this species.
Marsh skullcap *Scutellaria galericulata*	-	CRPR-2B.2, SJMSCP	Perennial rhizomatous herb typically found in lower montane coniferous forest, meadows and seeps (mesic), marshes and swamps at elevations ranging from 0 -2,100 m. Blooms June – September.	**None –** the project site does not support lower montane coniferous forest, meadows and seeps (mesic), marshes or swamps.
Chaparral ragwort *Senecio aphanactis*	-	CRPR-2B.2	Annual herb sometimes found in alkaline soils within chaparral, cismontane woodland and coastal scrub at elevations ranging from 15 – 800 m. Blooms January to April.	**None –** the project site does not support chaparral, cismontane woodland or coastal scrub habitat.
Suisun Marsh aster *Sumphyotrichum lentum*	-	CRPR-1B.2	Brackish and freshwater marshes and swamps; 0-3 m. Blooms April – November.	**None –** the project site does not support wetland habitat.

Table 1-1 Special-Status Plant Species Evaluated for Harvest at Tracy

Common Name and *Scientific Name*	Regulatory Status[1]		Habitat and Flowering Period	Potential to Occur on the Project Site
	Federal	State		
Green's tuctoria *Tuctoria greenei*	FE	CR, CRPR 1B.1, SJMSCP	Annual herb typically found in vernal pool habitats at elevations between 30 - 700 m. Blooms May – September.	**None** – the project site does not support vernal pools.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	-	CRPR-2B.1	Annual herb typically found in alkaline soils within meadows and seeps, marshes and swamps, riparian forest, and vernal pools at elevations ranging from 5 – 435 m. Blooms May – September.	**None –** the project site does not support meadows and seeps, marshes and swamps, riparian forest, or vernal pools.
Saline clover *Trifolium hydrophilum*	-	CRPR-1B.2	Typically found in marshes, swamps, vernal pools and valley and foothill grasslands (mesic, alkaline) at elevations ranging from 0 - 300 m. Blooms April – June.	**None –** the project site does not support mesic, alkaline grasslands, marshes, swamps or vernal pools. Nearest known occurrences are near Stockton and East Livermore.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	-	CRPR-1B.1	Annual herb typically found in valley and foothill grassland (alkaline hills) at elevations ranging from 1 – 455 m. Blooms March - April	**None –** the project site does not support alkaline hills that could support this species. The nearest presumed extant occurrences are in the coast ranges and in Fresno.

[1]Regulatory Status Codes:

Federal:

FE = Federal Endangered under the Federal Endangered Species Act

FT = Federally Threatened under the Federal Endangered Species Act

State:

CA (California Department of Fish and Wildlife)

CE = California Endangered

CT = California Endangered

CRPR = California Rare Plant Rank

- 1A = Plants presumed extinct in California
- 1B = Plants considered rare or endangered in California and elsewhere
- 2 = Plants considered rare or endangered in California, but more common elsewhere.
- 3 = Plants about which more information is needed – a review list.

Sources: CDFW 2016, CNPS 2016; compiled by Ascent Environmental in 2016

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Invertebrates				
Ciervo aegialian scarab beetle *Aegialia concinna*	-	-	Tiny, flightless beetle that lives only in loose sands such as sand dunes. Most adults tunnel and form a dung ball underground for larvae. Larvae live in soil or sand, feeding on organic materials or plant roots. The Ciervo aegialian scarab beetle has been associated with Delta and inland dune systems and sandy substrates; however, plant associations specific to this species have not been reported. Ciervo aegialian scarab beetles are only known from four localities in Contra Costa, Fresno, San Benito, and San Joaquin counties.	**None** – the project site does not support sand dune habitat.
Crotch bumblebee *Bombus crotchii*	-	-	Exclusive to coastal California east towards the Sierra-Crest; less common in western Nevada, typically associated with Phacelia, Clarkia, Dendromecon, Eschscholzia and Erigonum plants. In southern California phenology, the activity for this species is between March to mid-September.	**Moderate** – the project site is within the current known range of the species. Ornamental vegetation may not be the preferred food plant, but may provide some foraging habitat.
Conservancy fairy shrimp *Branchinecta conservatio*	FE	-	Inhabits large vernal pools, often with turbid water; known from fewer than 15 occurrences in the Delta (Jepson Prairie) and Central Valley.	**None** – the project site does not support wetlands or vernal pools.
Longhorn fairy shrimp *Branchinecta longiantenna*	FE	-	Inhabits vernal pools; known from fewer than 15 occurrences along western edge of the mid Central Valley (including Contra Costa, Alameda Counties)	**None** – the project site does not support wetlands or vernal pools.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	-	Endemic to the grasslands of the Central Valley, Central Coast Mountains and South Coast Mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swales, earthen slumps, or basaltflow depression pools.	**None** – the project site does not support wetlands or vernal pools.
Midvalley fairy shrimp *Branchinecta mesovallensis*	-	SJMSCP	Vernal pools, swales, and ephemeral freshwater habitat.	**None** – the project site does not support wetlands or vernal pools.
San Bruno Elfin butterfly *Callophrys mossii bayensis*	FE	-	Found in coastal mountains near San Francisco Bay, in the fog-belt of steep north facing slopes that receive little direct sunlight. All known locations are restricted to San Mateo County, where several populations are known from San Bruno Mountain, Milagra Ridge, the San Francisco Peninsula Watershed and Montara Mountain. Elfin butterflies feed on other flowers in addition to their host plant, stonecrop (*Sedum spathulifolium*). Stonecrop is a low growing succulent associated with rocky outcrops that occur at 274 to 328 m elevation.	**None** – project site is outside of the current known range of this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Valley elderberry longhorn beetle *Desmocerus californicus dimosphus*	FT	-	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers branches greater than 1 in (2.5 cm) in diameter.	**None –** the project site does not support elderberry shrubs.
Curved-foot diving beetle *Hygrotis curvipes*	-	SJMSCP	Inhabits small seasonal water bodies, mostly alkaline.	**None –** no suitable wetland habitat is present on the project Site.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	-	Occurs in seasonal pools (e.g., vernal pools) in unplowed grasslands with old alluvial soils underlain by hardpan or heavy clay or in sandstone depressions	**None –** no suitable wetland habitat is present on the project Site.
Moestan blister beetle *Lyta moesta*	-	SJMSCP	Occurs in central California; associated with grassland habitats and vernal pools; larvae parasitic on solitary bees.	**None -** project site located within historic range, but suitable habitat does not occur on site.
Molestan blister beetle *Lyta molesta*	-	SJMSCP	Molestan blister beetles are meloids thought to be dependent, to some degree, on dried vernal pool habitats. Adults are typically seen foraging on flowers for pollen, perianth structures, and fruit.	**None –** no suitable wetland habitat is present on the project Site.
Amphibians				
California tiger salamander *Ambystoma californiense*	FT	CT, SSC	Most commonly found in grasslands or open woodland habitats. Lives in vacant or mammaloccupied burrows (e.g., California ground squirrel, valley pocket gopher), and occasionally other underground retreats, throughout most of the year. Lays eggs on submerged stems and leaves, usually in shallow ephemeral or semi-permanent pools and ponds that fill during heavy winter rains, sometimes in permanent ponds.	**None –** although the project site is located within the historical range, the project site does not support suitable wetland habitat for this species.
Foothill yellow-legged frog *Rana boylii*	-	SSC, SJMSCP	Partly shaded shallow streams with riffles, with a rocky substrate in a variety of habitats; needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Frogs are usually found on stream banks, especially near riffles. They do not leave the immediate vicinity of their stream or pool.	**None –** the project site does not support suitable aquatic habitat for this species.
California red-legged frog *Rana draytonii*	FT	SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehema County to Fresno County. Typically found in permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation; may estivate in rodent burrows or cracks during dry periods.	**None -** although the project site is located within the historical range, the project site does not support suitable habitat for this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Western spadefoot toad *Scaphiopus hammondi*	-	SSC SJMSCP	Breeds in vernal pools/seasonal stock ponds in the Central Valley and southern coast.	**None –** the project site does not support suitable aquatic habitat for this species.
Reptiles				
Western pond turtle *Actinemis marmorata*	-	SSC	Occurs in permanent or nearly permanent water sources, ponds, marshes, rivers, streams and irrigation ditches with emergent vegetation and basking sites. Lays eggs in upland habitat consisting of sandy banks or grassy, open fields.	**None -** Project site does not support aquatic habitat for this species.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	-	SSC SJCMSP	The species occurs along the Coast Ranges from Alameda and San Joaquin Counties in the north, south to Kern County. They are found in open, dry habitats with little or no tree cover. They require mammal burrows or rocky outcrops for refuge and may use them as oviposition sites.	**None –** Due to historical disturbance and urbanization, this species is not expected to occur.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT	CT	It occurs only in a small area on the east side of the San Francisco Bay in Contra Costa and Alameda counties, and parts of San Joaquin and Santa Clara counties. The range of this subspecies has always been very restricted and limited by the extent of the East Bay coastal scrub and oak woodland communities, but is now fragmented into separate populations with little or no contact due to habitat loss. Typically found in open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses.	**None -** the project site does not support suitable habitat for this species.
Coast horned lizard *Phrynosoma blainvillii*	-	SSC	Found within the Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California. Typically found within Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging.	**None -** project site does not support suitable habitat for this species.
Giant garter snake *Thamnophis gigas*	FT	CT	Found in the Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno. Typically found within Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	**None –** the project site does not support aquatic habitat suitable for this species.
Fish				
Green sturgeon Acipenser medirostris	FT (southern DPS)	SSC, SJMSCP	The Southern DPS includes green sturgeon that spawn and live in the Sacramento River, Sacramento-San Joaquin Delta and the San Francisco Bay Estuary. The green sturgeon is the most marine species of sturgeon, coming into rivers mainly to spawn. In the Southern DPS, adult green sturgeon begin their upstream spawning migrations into the SF Bay in March and	**None –** the project site does not support suitable aquatic habitat for this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
			reach Knights Landing on the Sacramento River during April. Preferred spawning habitat are thought to be deep, cool pools with turbulent water and large cobble.	
Delta smelt *Hypomesus transpacificus*	FT	CE	Endemic to San Francisco Bay-Delta estuary. Occurs primarily in Suisun Bay and Marsh, Napa and Petaluma Rivers, and Delta. Inhabits estuarine habitat with salinities between 2 parts per thousand and 14 parts per thousand. Adults spawn in freshwater. Larvae disperse downstream to estuary after hatching	**None** – the project site does not support suitable aquatic habitat for this species.
Sacramento splittail *Pogonichthys macrolepidotus*	FT	SSC, SJMSCP	Typically they are found in estuarine environments and are commonly found in water with salinities from 10-18 ppt. They prefer slightly lower salinities but can survive short term exposures to water with a salinity as high as 29 ppt. Splittail are usually found where water temperatures range from 5-24°C. These adaptations make splittail well suited for slow moving rivers, sloughs, and alkaline lakes. Sacramento splittail feed on bottom dwelling invertebrates and detritus in low to moderate currents.	**None** – the project site does not support suitable aquatic habitat for this species.
Longfin smelt *Spirinchus thaleichthys*	FC	CT, SSC, SJMSCP	Longfin smelt in California are primarily an anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Their spatial distribution within a bay or estuary is seasonally variable. Longfin smelt are found closer to the ocean during summer whereas they move upstream in cool seasons. Longfin smelt may also make daily migrations; remaining deep during the day and rising to the surface at night. Avoiding surface waters at night helps these fish avoid predation from birds, marine mammals, and other fish. Longfin Smelt move into freshwater to spawn, with the peak breeding season occurring between February and April.	**None** – the project site does not support suitable aquatic habitat for this species.
Birds				
Western grebe *Aechmophorus occidentalis*	BCC-W	SJMSCP	Western grebes breed on freshwater lakes and marshes with extensive open water bordered by emergent vegetation. During winter they move to saltwater or brackish bays, estuaries, or sheltered sea coasts and are less frequently found on freshwater lakes or rivers.	**None** - the project site does not support suitable habitat for this species.
Cooper's hawk *Accipter cooperi*	-	SJMCSP	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms, on river floodplains; also nests in oaks.	**None** - the project site does not support suitable habitat for this species.
Sharp-shinned hawk *Accipiter striatus*	-	SJMCSP	Forages in wooded areas, including suburban areas and riparian woodland.	**None** - the project site does not support suitable habitat for this species.
Tricolored blackbird *Agelaius tricolor*	BCC-YR	CC, SSC, SJMSCP	Nests in freshwater marshes with tules or cattails, or in other dense vegetation such as thistle, blackberry thickets, etc. in close proximity to open water	**None** - the project site does not support suitable habitat for this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Bell's sage sparrow *Amphispiza belii belli*	-	SJMSCP	A common to uncommon resident and summer visitor. In summer, uncommon to common east of Cascade Range and Sierra Nevada, in foothills bounding Central Valley, and in Transverse, Peninsular, and coastal ranges from Trinity Co. south to Mexican border. Frequents low, fairly dense stands of shrubs. In transmontane California, occupies sagebrush, alkali desert scrub, desert scrub, and similar habitats. Feeds mostly on insects, spiders, and seeds while breeding, and mostly on seeds in winter; also takes green foliage. Seeks cover in fairly dense stands in chaparral and scrub habitats in breeding season. Uses more arid, open shrub habitats in winter. Breeds in fairly dense chaparral and desert scrub habitats and forages on ground beneath and between shrubs.	**None** - the project site does not support suitable nesting habitat for this species.
Golden eagle *Aquila chrysaetos*	BGEPA	FP, SJMSCP	Throughout most of the western United States golden eagles are mostly year-long residents, breeding from late January through August with peak activity in March through July. Golden eagles nest primarily on cliffs and hunt in nearby open habitats, such as grasslands, oak savannas, and open shrublands. Rugged, open habitats with canyons and escarpments are used most frequently for nesting. Trees may also be used for nesting and are more commonly used in the interior Coast Ranges where suitable cliff nesting habitat is scarce. Nest trees include several species of oak, foothill pine, California bay laurel, eucalyptus, and western sycamore. Golden eagles construct a large nest of branches, twigs, and stems of any kind. Golden eagles primarily prey on lagomorphs and rodents but will also takes other mammals, birds, reptiles, and some carrion	**None** - the project site does not support suitable nesting or foraging habitat for this species.
Great egret *Ardea alba*	-	SJMSCP	Forms rookeries in large tree stands; occurs throughout California and elsewhere.	**None** - the project site does not support suitable habitat for this species.
Great blue heron *Ardea herodia*	-	SJMSCP	Forms rookeries in large tree stands; occurs throughout California and elsewhere.	**None** - the project site does not support suitable habitat for this species.
Short-eared owl *Asio flammeus*	BCC-W	SSC, SJMSCP	Permanent resident along the coast from Del Norte County to Monterey County although very rare in summer north of San Francisco Bay, in the Sierra Nevada north of Nevada County, in the plains east of the Cascades, and in Mono County; small, isolated populations. Typically found in Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts.	**None** – the project site does not support suitable habitat for this species.
Burrowing owl *Athene cunicularia*	BCC-YR	SSC, SJMSCP	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast. Typically found in level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	**High** – the few ground squirrel burrows at the project site did not have burrowing owl sign, however, there is a burrowing owl pair along Henley

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
				Parkway approximately 0.25 mile northeast of the project site, just south of the 7-Eleven.
Oak titmouse Baeolophus inornatus	BCC-YR	-	Mostly in warm, open, dry oak or oak-pine woodlands. May use scrub oaks or other brush as long as woodlands are nearby. Cavity nester, preferring natural cavities over woodpecker-excavated ones.	**None** – common resident bird species, may use ornamental vegetation for foraging, but the site does not provide suitable nesting habitat for this species.
Cackling (=Aleutian) Canada goose *Branta canadensis leucopareia*	FD	-	Probably bred historically on islands south of the Alaska Peninsula west of Kodiak Island, throughout the Aleutian Islands, and on the Commander and Kuril islands in Russia. They probably wintered from British Columbia to northern Mexico and in Japan. During migration and on wintering grounds, the geese frequent agricultural lands such as pastures and grainfields, and roost at night on inland lakes and coastal islands.	**None** - the project site does not support suitable wintering habitat for this species.
Ferruginous hawk *Buteo regalis*	BCC-W	SJMSCP	Inhabits open country. Winters in small numbers along California coast and inland valleys.	**None** - the project site does not support large number of small mammals to constitute suitable foraging habitat during winter months.
Swainson's hawk *Buteo swainsoni*	BCC-B	CT	Nests in lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley; highest nesting densities occur near Davis and Woodland, Yolo County. Typically nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields.	**Moderate** – the project site is within the current known range of this species, however, the site does not support enough prey (small mammals) to provide suitable foraging habitat for this species, the cypresses may provide suitable nesting habitat
Lawrence's goldfinch *Carduelis lawrencei*	BBC-B	-	An uncommon small finch, breeding across a small range in the woodlands of California and Baja California. This species is associated with open woodlands, chaparral, and weedy fields.	**None** – although sometimes observed in the area, the project site does not support suitable breeding habitat for this species.
Mountain plover *Charadrius montanus*	BCC-W	SSC	Does not breed in California; in winter, found in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego Counties; parts of Imperial, Riverside, Kern, and Los Angeles Counties. Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grainfields.	**None** – ongoing weed management practices reduces the likelihood of occurrence of this species. The site does not support enough vegetation or prey to provide suitable wintering habitat for this species.
Northern harrier *Circus cyaneus*	–	SSC, SJMSCP	Found in a variety of open grassland, wetland, and agricultural habitats. Open wetland habitats used for breeding include marshy meadows, wet and lightly grazed pastures, and freshwater and brackish marshes. Breeding habitat also includes dry upland habitats, such as grassland, cropland, drained marshland, and shrub-steppe in cold deserts. Winters throughout California	**None** - due to ongoing weed abatement, there is no suitable foraging habitat as there is limited prey (rodents) habitat in the project site.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
			where suitable habitat occurs. Wintering habitat includes open areas dominated by herbaceous vegetation, such as grassland, pastures, cropland, coastal sand dunes, brackish and freshwater marshes, and estuaries (Grinnell and Miller 1944, MacWhirter and Bildstein 1996).	
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	CE, SJMSCP	Use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.	**None –** the project site does not support suitable habitat for this species.
Yellow warbler *Dendroica petechia brewsteri*	BCC-N	SSC, SJMSCP	Breeds in riparian woodlands from coastal and desert lowlands up to 2,500 m in Sierra Nevada. Also breeds in montane chaparral, and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush. Numbers of breeding pairs have declined dramatically in recent decades in many lowland areas (southern coast, Colorado River, San Joaquin and Sacramento valleys). Now rare to uncommon in many lowland areas where formerly common. Usually found in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Also breeds in montane shrubbery in open conifer forests.	**None -** the project site does not support suitable habitat for this species.
Snowy egret *Egretta thula*	-	SJMSCP	Widespread in California along shores of coastal estuaries, fresh and saline emergent wetlands, ponds, slow-moving rivers, irrigation ditches, and wet fields. Requires either dense emergent wetland or trees within daily commuting range of suitable aquatic or wetland feeding areas.	**None -** the project site does not support suitable nesting or rockery habitat for this species.
White-tailed kite Elanus leucurus	-	FP, SJMSCP	Common to uncommon, yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California. Nests in dense oaks, willows, other trees; occurs in the Central Valley and adjacent low foothills. Preys on rodents that may be harmful to agricultural crops. Nest may be robbed by scrub jays, crows, yellow-billed magpies, raccoons, and opossums. Great horned owls may prey on adults and young.	**Low –** the project site may provide low quality foraging habitat, existing trees may provide suitable nesting habitat.
California horned lark *Eremophila alpestris actia*	-	WL, SJMSCP	Year-long resident species, favors bare, dry ground and areas or short, sparse vegetation; they also avoid places where grasses grow more than a couple of inches high. Common habitats include prairies, deserts, tundra, beaches, dunes, and heavily grazed pastures. Aalso frequent areas cleared by humans, such as plowed fields and mowed expanses around airstrips. Nests on ground depression in which the female woves a basket nest.	**Low –** due to ongoing weed management practices the project site supports bare ground with minimal vegetation and thus low insect numbers. Horned larks may forage but the site is unsuitable for nesting.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Merlin *Falco columbarius*	-	WL, SJMSCP	Frequents coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitats. Occurs in most of the western half of the state below 1500 m. Merlins do not breed in California. During migration Merlins stop in grasslands, open forests, and coastal areas. They winter in similar habitat across the western United States	**None –** due to the low numbers of potential prey, this species is not expected to occur at the project site.
Prairie falcon *Falco mexicanus*	BCC-N	SJMSCP	In California, prairie falcons are uncommon year round residents. Nesting territories are established in late-February through March in most of the breeding range. Nests consist of a scrape on sheltered ledges or in a pothole of a cliff overlooking a large, open area. Prairie falcons mainly prey on small mammals, some small birds, and reptiles. Prey abundance largely determines diet composition. In some areas, birds are the principal prey, in other areas it is mammals (i.e. ground squirrles).	**None –** the project site does not provide suitable nesting habitat.
Peregrine falcon *Falco peregrinus*	BCC-YR, FD	CD, FP	Nest and roost on protected ledges of high cliffs, usually adjacent to water bodies and wetlands that support abundant avian prey.	**None**- suitable cliff nesting habitat not present on the project site. May flyby over project site while foraging in the area, but project site does not provide suitable foraging habitat.
Greater sandhill crane *Grus canadensis tabida*	-	CT, FP	Breeds in NE California. In summer, occurs in or near wet meadow, shallow lacustrine and fresh emergent wetland habitats. Winters primarily in the Sacramento and San Joaquin valleys from Tehama County south to Kern County, where it frequents grassland habitats, moist croplands, with rice or corn stubble, and open, emergent wetlands.	**None –** no suitable habitat present at the project site.
Bald eagle *Haliaeetus leucocephalus*	BCC-YR, BGEPA	CE, FP	Uses ocean shorelines, lake margins, and river courses for both nesting and wintering. Most nests are within 1 mile of water, in large trees with open branches. Roost communally in winter.	**None** - no suitable nesting or foraging habitat present.
Yellow-breasted chat *Icteria virens*	-	SSC, SJMSCP	Yellow-breasted Chats are migratory and usually arrive to California breeding grounds in April from their wintering grounds in Mexico and Guatemala. In northern and central California, yellow-breasted chats require riparian woodland or riparian shrub thickets with dense vegetation typically comprised of Himalayan blackberry, wild grape, and/or willows.	**None –** the project site does not support suitable habitat for this species.
Least bittern *Ixobrychus exilis*	BCC-B	SSC	Typically found in marshes and along pond edges, where tules and rushes can provide cover; nests are built low in the tules over the water.	**None –** the project site does not support suitable habitat for this species.
Loggerhead shrike *Lanius ludovicianus*	BCC-YR	SSC, SJMSCP	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	**Moderate** - project site is within the current range of the species, although the project site provides low quality marginal habitat.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
California black rail *Laterallus jamaicensis coturniculus*	BCC-B	CT, FP	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Typically found within tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	**None** - the project site does not support suitable habitat for this species.
Short-billed dowitcher Limnodromus griseus	BCC-W	-	Does not breed in California. Winters in California on coastal mud flats and brackish lagoons, during migration prefers saltwater tidal flats, beaches, and salt marshes. Also found in freshwater mud flats and flooded agricultural fields	**None** – the project site does not support the favored wintering habitat for this species.
Marbled godwit *Limosa fedoa*	BCC-W	-	Does not breed in California. Wintering habitat in California is identified as mudflats and beaches.	**None** – the project site does not support the favored wintering habitat for this species.
Song sparrow ("Modesto" population) *Melospiza melodia*	-	SSC	Yearlong resident in California. Song sparrows are found in an enormous variety of open habitats, including tidal marshes, desert scrub, pinyon pine forests, aspen parklands, Pacific rain forest, deciduous or mixed woodlands, chaparral, agricultural fields, overgrown pasture, freshwater marsh, lake edges, forest edges and suburbs.	**Moderate** – the project site is within the known range of this subspecies.
Lewis's woodpecker *Melanerpes lewis*	BCC-W	-	Distributed in the United States west of the Great Plains, favors open forests, ranging in altitude from low-elevation riparian areas to higher-elevation burns and pine forests during the breeding season. Like all other woodpeckers, it requires snags (standing, dead or partly dead trees) for nesting; because it is not anatomically specialized for excavating in wood, the trees it selects for nesting are generally well decayed. Winter distributions are often associated with storable mast in the form of acorns, nuts or corn.	**None** – the project site does not support suitable wintering habitat for this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
Long-billed curlew *Numenius americanus*	BCC-W	SJMSCP	Does not breed in the San Joaquin Valley. Breeds in grasslands in northeastern California, the Great Plains and Great Basin. Winters in wetlands, tidal estuaries, mudflats, flooded fields, and occasionally beaches.	**None -** the project site does not support suitable wintering habitat for this species.
Black-crowned night heron *Nycticorax nycticorax*	-	SJMSCP	Fairly common, yearlong resident in lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas, and very common locally in large nesting colonies. Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats and, rarely, on kelp beds in marine subtidal habitats. Nests and roosts in dense-foliaged trees and dense emergent wetlands.	**None –** the project site does not support suitable habitat for this species.
Osprey Pandion haliaetus	-	SJMSCP	Breeds in northern California from Cascade Ranges south to Lake Tahoe, and along the coast south to Marin Co. Regular breeding sites include Shasta Lake, Eagle Lake, Lake Almanor, other inland lakes and reservoirs, and northwest river systems. Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats.	**None –** the project site does not support suitable habitat for this species.
Fox sparrow *Passerella iliaca*	BCC-W	-	Breeds in coniferous forest and dense mountain scrub. They spend winters in scrubby habitat and forest, and suburbs when they are most likely to be seen kicking around under backyard bird feeders.	**Low -** the project site is within the wintering grounds of this species, but does not support scrubby habitat.
American white pelican Pelecanus erthrorhynchos	-	SSC, SJMSCP	Nests at large freshwater and salt water lakes, usually on small islands or remote dikes. Nest-site must be flat or gently sloping, lacking shrubs or other obstructions that would impede taking flight, free of human disturbance, and usually with loose earth suitable for nest-mounds. During breeding season, may commute as much as 306 km (184 mi) each way from breeding grounds to foraging area; thus does not require nest site and food at same lake.	**None –** the project site does not support suitable habitat for this species.
Double crested cormorant (Phalacrocorax auritus)	-	SJMSCP	A yearlong resident along the entire coast of California and on inland lakes, in fresh, salt and estuarine waters and rare to fairly common in lacustrine and riverine habitats of the Central Valley and coastal slope lowlands. Less common in summer, except locally common near nesting colonies. Requires undisturbed nest-sites beside water, on islands or mainland. Uses wide rock ledges on cliffs; rugged slopes; and live or dead trees, especially tall ones.	**None –** the project site does not support suitable habitat for this species.
Yellow-billed magpie Pica nuttalli	BCC-YR	-	Yearlong resident of the Central Valley typically found in oak savanna, open areas with large trees, and along streams. Also forages in grassland, pasture, fields, and orchards.	**Low –** the project site is within the known range of the species; no yellow-billed magpie nests were observed during the field surveys.
Nuttall's woodpecker *Picoides nuttallii*	BCC-YR	-	Year round California resident. Found primarily in oak woodlands and in riparian woods, rarely in conifers. Nests in cavities in trees.	**Present –** this species was observed foraging on the weeping willow on the project site.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
White-faced ibis *Plegadis chichi*	-	SJMSCP	Does not breed regularly in California. Winters mainly in San Joaquin Valley and Imperial Valley, but recorded widely as transient. Feeds in fresh emergent wetlands, shallow lacustrine waters and muddy ground of wet meadows or flooded pastures.	**None** – the project site does not support suitable rockery habitat for this species.
Bank swallow *Riparia riparia*	-	CT	A migrant in riparian and other lowland habitats west of the deserts. Uncommon and local summer resident, most of the breeding population in California along banks of Central Valley streams. Feeds over open riparian areas, brushland, grassland and cropland.	**None** – the project site does not support suitable sandy banks to provide nesting habitat for this species.
Lesser yellowlegs *Tringa flavipes*	BCC-W	-	Typically found in California during migration and winter time. Winters in wide variety of shallow fresh and saltwater habitats.	**None** – the project site does not support suitable wintering habitat.
Mammals				
Ringtail *Bassaricus astutus*	-	FP, SJMSCP	The range of the ringtail is north into southwest Oregon, throughout California except the agricultural portion of the Central Valley, east to Colorado, and south into Central America. They are found in dense riparian growth, montane evergreen forests, oak woodlands, pinyon juniper, chaparral, and deserts. Their territory is usually no farther than 1/2 mile away from a permanent water source and they find reproductive and resting cover in hollow trees, logs, snags, rocks, and abandoned burrows.	**None** – the project site does not support suitable habitat for this species.
Townsend's big-eared bat *Corynorhinus townsendii*	-	CT, SSC, SJMSCP	Found in desert scrub and coniferous forests. Roost in caves or abandoned mines and occasionally are found to roost in buildings.	**None** – no suitable roost/maternity habitat.
Berkeley kangaroo rat *Dipodomyus heermanni berkeleyensis*	-	SJMSCP	Typically found in open grassy hilltops and bare ridges near rocky outcrops and on thin soils with scattered chaparral species and small annual grasses	**None** – the project site does not support suitable habitat for this species.
Western mastiff bat *Eumops perotis californicus*	-	SSC, SJMSCP	Uncommon resident in Southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, high buildings, trees or tunnels are required for roosting.	**None** – no suitable roost/maternity habitat.
Western red bat *Lasiurus blossevilli*	-	SSC, SJMSCP	Locally common in some areas of California, occurring from Shasta Co. to the Mexican border, west of the Sierra Nevada/Cascade crest and deserts. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Roosts primarily in trees, less often in	**None** – no suitable roost/maternity habitat.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy				
Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
			shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands.	
Western small-footed myotis *Myotis ciliolabrum*	-	SJMSCP	Occurs in a wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water. Seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Maternity colonies of females and young are found in buildings, caves and mines. Prefers open stands in forests and woodlands as well as brushy habitats.	**None** – no suitable roost/maternity habitat.
Long-eared myotis *Myotis evotis*	-	SJMSCP	Widespread in California, but uncommon in most of its range. This species has been found in nearly all brush, woodland and forest habitats, from sea level to at least 2,700 meters, but coniferous woodlands and forests seem to be preferred. Roosts in buildings, crevices, spaces under bark and snags. Caves primarily used as night roosts. Nursery colonies found in buildings, crevices, snags and behind bark.	**None** – no suitable roost/maternity habitat.
Fringed myotis *Myotis thysanodes*	-	SJMSCP	Occurs in a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood conifer generally at 1300-2200m. Roosts in caves, mines, buildings and crevices. Maternity colonies of up to 200 individuals are located in caves, mines, buildings or crevices.	**None** – no suitable roost/maternity habitat.
Long-legged myotis *Myotis volans*	-	SJMSCP	Most common in woodland and forest habitats above 1200m. Also forages in chaparral, Coastal scrub and in early successional slopes of woodlands and forests. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves. Forms nursery colonies numbering hundreds of individuals, usually under bark or in hollow trees, but occasionally in crevices or buildings.	**None** – no suitable roost/maternity habitat.
Yuma myotis *Myotis yumanensis*	-	SJMSCP	Closely associated with water; always found near lakes, creeks or ponds. Skims over water to forage for flying insects. By day, roosts under building siding or shingles. Nursery colonies use caves, mines, buildings and under bridges.	**None** – no suitable roost/maternity habitat.
Riparian (=San Joaquin Valley) woodrat *Neotoma fucipes riparia*	FE	SSC SJMSCP	The riparian or San Joaquin Valley woodrat is one of 11 described subspecies of the dusky-footed woodrat. The only population that has been verified is the single, known extant population restricted to about 100 hectares (250 acres) of riparian forest on the Stanislaus River in Caswell Memorial State Park. Dusky- footed woodrats inhabit evergreen or live oaks and other thick-leaved trees and shrubs. Riparian woodrats are common, however, where there are deciduous valley oaks, but few live oaks. They are most numerous where shrub cover is	**None** – the project site does not support suitable habitat for this species.

Table 1-2 Special-Status Animal Species Evaluated for Harvest at Tracy

Common Name and *Scientific Name*	Regulatory Status[1]		Habitat Associations	Potential to Occur on the project site[2]
	Federal	State/Other		
			dense and least abundant in open areas. In riparian areas, highest densities of woodrats and their houses are often encountered in willow thickets with an oak overstory.	
American badger *Taxidea taxus*	-	SSC, SJMSCP	In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties. Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground.	**None** – although the project is within the historical range, the project site is surrounded by existing development and no badger sign was observed during field surveys.
San Joaquin pocket mouse *Perognathus inornatus inornatus*	-	-	Occurs in dry, open grasslands or scrub areas on fine-textured soils from sea level to about 457 m. The breeding season begins in March and lasts through July. Females produce at least two litters per year, and each litter has between four and six young.	**Low** – the project site is within the historical range of the species, but lacks the grassland or scrub area to provide suitable habitat for this species.
Riparian brush rabbit *Sylvilagus bachmani riparius*	FE	CE	Typically found in riparian oak forests with a dense understory of wild roses, grapes and blackberries. The only known native populations are at Caswell Memorial State Park on the Stanislaus River and along the overflow channel of the San Joaquin River.	**None** - the project site is within the historic range of the species, but the project site does not support suitable habitat for this species. The project site is
San Joaquin kit fox *Vulpes macrotis mutica*	FE	CT	Inhabits annual grasslands or grassy open stages with scattered shrubby vegetation. Requires loose-textured sandy soils for burrowing.	**None** – the project is within the historic range of the species. The project site does not support suitable habitat for this species.

[1] Regulatory Status Definitions:

Federal:
- FT = Threatened species under the Federal Endangered Species Act
- FE = Endangered species under the Federal Endangered Species Act
- FC = Candidate for listing under the Federal Endangered Species Act
- FD = Delisted under the Federal Endangered Species Act
- BGEPA = Protected under the Bald and Golden Eagle Protection Act
- BCC-W = Bird of conservation concern during winter
- BCC-YR = Bird of conservation concern year
- BCC-B = Bird of conservation concern during breeding

State/Other:
- CC = Candidate for listing
- CE = Endangered species under California Endangered Species Act
- CT = Threatened species under California Endangered Species Act
- FP = Fully Protected under CDFW
- SSC = Species of special concern
- SJMSCP = Covered species under San Joaquin Multispecies Conservation Plan

[2] Potential for Occurrence Definitions:

Present—Species was observed in the project area during site visit conducted for this analysis or was documented there by another reputable source.
High—All of the species' specific life history requirements can be met by habitat present in the project area, and populations are known to occur in the immediate vicinity.
Moderate—Some or all of the species life history requirements are provided by habitat in the project area; populations may not be known to occur in the immediate vicinity, but are known to occur in the Region.
Low—Species not likely to occur because of marginal habitat quality or distance from known occurrences.
None—None of the species' life history requirements are provided by habitat in the project area and/or the project area is outside of the known distribution for the species. Any occurrence would be very unlikely.
Sources: USFWS 2016, CDFW 2016, CNPS 2016; compiled by Ascent Environmental in 2016

Appendix D

Noise Calculations

Construction Source Noise Prediction Model: Harvest in Tracy

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
Threshold	5,916	50.0
Residence 1	50	91.5
Residence 2	450	72.4

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Dump Truck	84	1
Dozer	85	1
Excavator	85	1
Backhoe	80	1
Front End Loader	80	1
Scraper	85	1

Ground Type	HARD
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Dump Truck	84.0
Dozer	85.0
Excavator	85.0
Backhoe	80.0
Front End Loader	80.0
Scraper	85.0
Combined Predicted Noise Level (L_{eq} dBA at 50 feet)	
	91.5

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Traffic Noise Spreadsheet Calculator

Project: **Harvest in Tracy (Operational Noise, Roads)**

Number	Segment Description and Location Name	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	
Summary of Net Changes					
1	Henley Parkway between Grant Line Road and Bridle Creek Circle	54.4	55.7	1.3	
2	Henley Parkway between W Giovanna Lane and Lowell Avenue	51.1	51.5	0.4	
3	Grant Line Road between Byron Road and Lammers Road	61.5	61.5	0.0	
4	Grant Line Road between Naglee Road and I-205 WB ramps	64.3	64.4	0.1	
5	Grant Line Road between Orchard Parkway and Corral Hollow Road	63.1	63.2	0.1	
6	Corral Hollow Road between W Kavanagh Avenue and Grant Line Road	57.9	57.9	0.0	
7	Corral Hollow Road between Lowell Avenue and Fieldview Drive	64.2	64.2	0.1	
8	Lowell Avenue between Corral Hollow Road and Promenade Circle	56.4	56.4	0.0	

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing)

Project: Harvest in Tracy (Operational Noise, Roads)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

Number	Segment Description and Location: Name	From	To	ADT	Speed (mph)	Distance to Directional Centerline, (feet)$_4$: Near	Far	Traffic Distribution Characteristics: % Auto	% Medium	% Heavy	% Day	% Eve	% Night	Output: Ldn, (dBA)$_{5,6,7}$	Distance to Contour, (feet)$_3$: 70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	Henley Parkway between Grant Line Road and Bridle Creek Circle			4,185	35	88	112	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	54.4	9	20	42	91
2	Henley Parkway between W Giovanna Lane and Lowell Avenue			2,725	30	80	120	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	51.1	5	12	25	54
3	Grant Line Road between Byron Road and Lammers Road			14,915	40	90	110	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.5	27	58	125	270
4	Grant Line Road between Naglee Road and I-205 WB ramps			24,295	40	70	130	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.3	40	86	184	397
5	Grant Line Road between Orchard Parkway and Corral Hollow Road			19,360	40	75	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	63.1	33	72	155	334
6	Corral Hollow Road between W Kavanagh Avenue and Grant Line Road			8,420	35	75	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.9	15	32	70	151
7	Corral Hollow Road between Lowell Avenue and Fieldview Drive			23,510	40	70	130	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.2	39	84	180	389
8	Lowell Avenue between Corral Hollow Road and Promenade Circle			9,225	30	80	120	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.4	12	26	57	122

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing + Project)

Project: Harvest in Tracy (Operational Noise, Roads)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	Henley Parkway between Grant Line Road and Bridle Creek Circle			5,610	35	88	112	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	55.7	11	24	51	111
2	Henley Parkway between W Giovanna Lane and Lowell Avenue			2,995	30	80	120	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	51.5	6	12	27	58
3	Grant Line Road between Byron Road and Lammers Road			15,045	40	90	110	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.5	27	58	126	271
4	Grant Line Road between Naglee Road and I-205 WB ramps			24,965	40	70	130	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.4	40	87	188	405
5	Grant Line Road between Orchard Parkway and Corral Hollow Road			19,800	40	75	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	63.2	34	73	157	339
6	Corral Hollow Road between W Kavanagh Avenue and Grant Line Road			8,450	35	75	125	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.9	15	33	70	151
7	Corral Hollow Road between Lowell Avenue and Fieldview Drive			23,805	40	70	130	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	64.2	39	84	182	392
8	Lowell Avenue between Corral Hollow Road and Promenade Circle			9,240	30	80	120	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.4	12	26	57	122

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: **Harvest in Tracy (Operational Noise, I-205)**

Number	Segment Description and Location Name	Existing Conditions	Existing + Project Conditions	Δ Existing – Existing + Project	
Summary of Net Changes					
1	I-205: 11th Street to Grant Line Road (Eastbound and Westbound)	77.8	77.8	0.0	
2	I-205: Grant Line Road to Tracy Boulevard (Eastbound and Westbound)	78.1	78.2	0.0	

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing)

Project: Harvest in Tracy (Operational Noise, I-205)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics							Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	I-205: 11th Street to Grant Line Road (Eastbound and Westbound)			90,990	65	50	150	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	77.8	286	615	1326	2856
2	I-205: Grant Line Road to Tracy Boulevard (Eastbound and Westbound)			99,216	65	50	150	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	78.1	303	652	1404	3025

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing + Project)

Project: Harvest in Tracy (Operational Noise, I-205)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	I-205: 11th Street to Grant Line Road (Eastbound and Westbound)			91,240	65	50	150	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	77.8	286	616	1328	2861
2	I-205: Grant Line Road to Tracy Boulevard (Eastbound and Westbound)			99,315	65	50	150	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	78.2	303	652	1405	3027

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing + Project)

Project: Harvest in Tracy (Land Use Compatibility, Henley Parkway)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)$_4$		Traffic Distribution Characteristics						Ldn	Distance to Contour, (feet)$_3$			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	(dBA)$_{5,6,7}$	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	Henley Parkway between Grant Line Road and Bridle Creek Circle			5,610	35	38	62	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.6	11	25	53	114
2	Henley Parkway between W Giovanna Lane and Lowell Avenue			2,995	30	80	120	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	51.5	6	12	27	58

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator (Existing + Project)

Project: Harvest in Tracy (Land Use Compatibility, I-205)

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor:

			Input										Output				
		Segment Description and Location			Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn at Property Line, (dBA)[5,6,7]	Distance to Contour, (feet)[3]			
Number	Name	From / To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night		70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																	
1	I-205: 11th Street to Grant Line Road (Eastbound and Westbound)		91,240	65	110	215	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	73.2	253	545	1173	2528
2	I-205: Grant Line Road to Tracy Boulevard (Eastbound and Westbound)		99,315	65	110	215	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	73.6	268	576	1242	2675

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Distance Propagation Calculations for Stationary Sources of Ground Vibration: Harvest in Tracy

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Trucks	86	@	25	77.0	@	50
Large Dozer	87	@	25	78.0	@	50

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Trucks	0.076	@	25	0.027	@	50
Large Dozer	0.089	@	25	0.031	@	50

Notes:

Computation of propagated vibration levels is based on the equations presented on pg. 12-11 of FTA 2006. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Appendix E

Health Risk Assessment

sierra research

DRAFT

Human Health Risk from Freeway Traffic to Residents at Harvest in Tracy

prepared for:

Harvest in Tracy

August 2016

prepared by:

Sierra Research
1801 J Street
Sacramento, California 95811
(916) 444-6666

DRAFT REPORT

Human Health Risk from Freeway Traffic to Residents at Harvest in Tracy

prepared for:

Harvest in Tracy

August 2016

Principal author:

Steve Hill

Sierra Research
1801 J Street
Sacramento, CA 95811
(916) 444-6666

Human Health Risk from Freeway Traffic to Residents at Harvest in Tracy

Table of Contents

Page

1. Background and summary 1

   1.1 Project Description 1
   1.2 Health Risk Assessment 1

2. Risk Assessment 2

   2.1 Characterization of Emissions 5
   2.2 Dispersion Modeling 6
   2.3 Health Impact Characterization 8
   2.4 Results 8

List of Figures

Figure Page

Figure 2-1 Road Segments 3

Figure 2-2 Receptor Locations 4

List of Tables

Table Page

Table 2-1 Harvest in Tracy − Emissions from Road Segments 7

Table 2-2 Health Risk Assessment Results 8

1. BACKGROUND AND SUMMARY

1.1 Project Description

Harvest in Tracy is a proposed apartment community located in Tracy, California. The Harvest theme will reference Tracy's and the site's agricultural heritage by providing a landscaping palette, amenities, and event programming that incorporate edible orchard groves; community gardens; and healthy, sustainable living.

1.2 Health Risk Assessment

As part of the environmental review for the Harvest in Tracy project, a health risk assessment (HRA) was performed. The purpose of this health risk assessment was to evaluate the potential health risk to residents of Harvest in Tracy from emissions from vehicles on nearby Highway I-205 and West Grant Line Road.

The HRA was prepared following San Joaquin Valley Air Pollution Control District risk assessment procedures, which in turn are based on guidance from California's Office of Environmental Health Hazard Assessment (OEHHA) for health risk assessments. This guidance provides a consistent, conservative methodology for estimating the potential cancer risk, chronic health risk, and acute health risk from exposure to toxic chemicals.

Emissions from vehicles were estimated using EMFAC, the computer model developed by the California Air Resources Board (CARB) to estimate vehicle emissions for air quality planning purposes.

Dispersion of vehicle emissions was modeled using AERMOD, the preferred model for calculating ambient air quality impacts from emission sources.

Health risk was calculated using the pollutant concentrations from AERMOD and CARB's Hotspots Analysis Reporting Program (HARP).

###

2. RISK ASSESSMENT

The purpose of this HRA is evaluate the impacts that emissions of toxic air contaminants from traffic on roads close to Harvest in Tracy could have on long-term residents of the development. This process involves several steps, as outlined below.

- Characterization of emissions: The quantity of emissions of toxic air contaminants from vehicles was calculated, the spatial distribution of those emissions was determined, and the release characteristics were determined (see Figure 2-1).

- Dispersion modeling: Using an approved computer model and meteorological data from a nearby weather station, dispersion of the emissions was modeled. The result of the modeling is an estimate of the maximum and average concentration of each toxic air contaminant at receptors located around the Harvest in Tracy property (see Figure 2-2).

- Health impact characterization: The maximum lifetime cancer risk, the chronic Hazard Index, and the acute Hazard Index were calculated using a Health Risk Assessment computer tool developed by California air districts that incorporates OEHHA toxicity information.

Figure 2-1
Road Segments

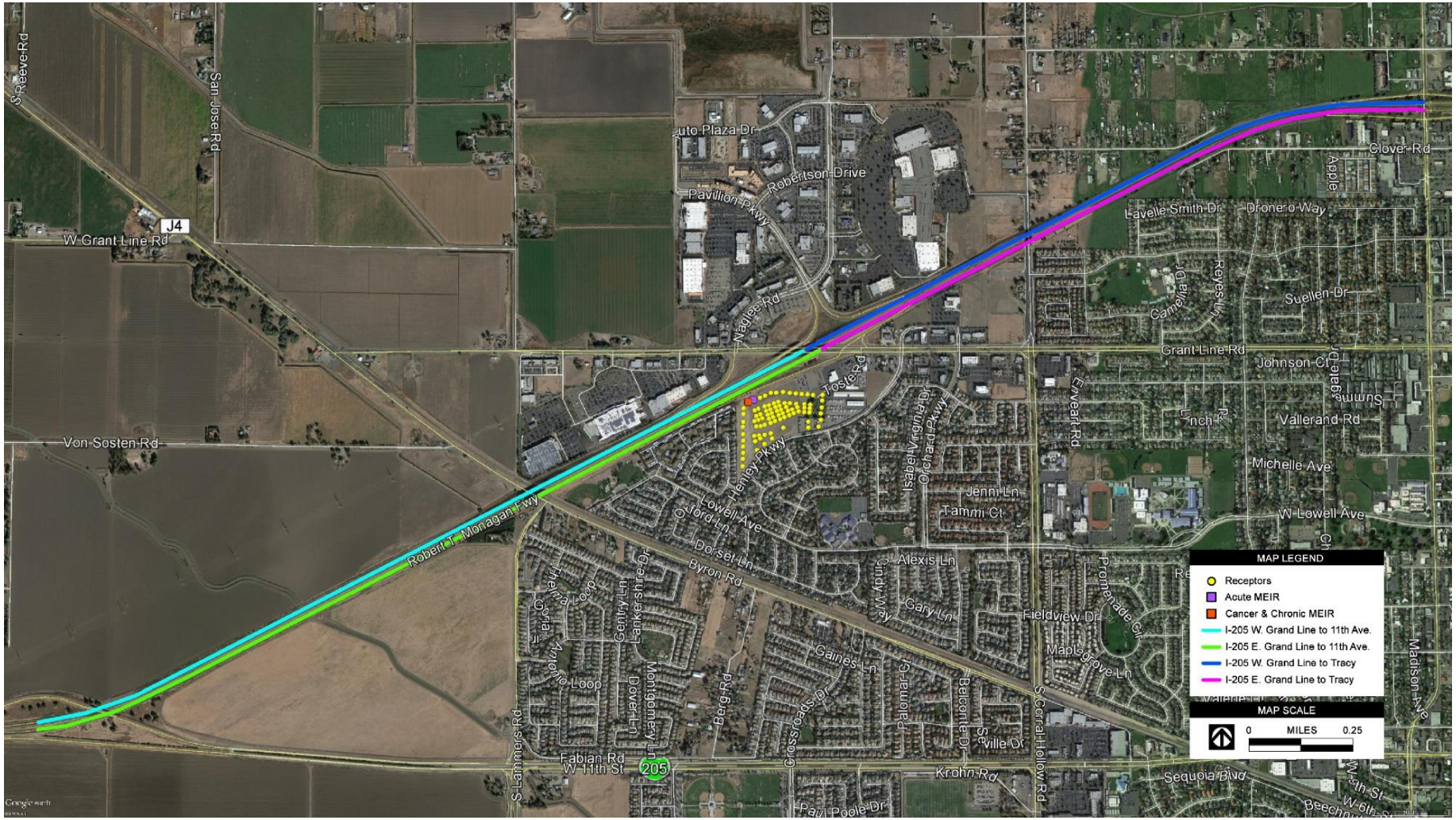
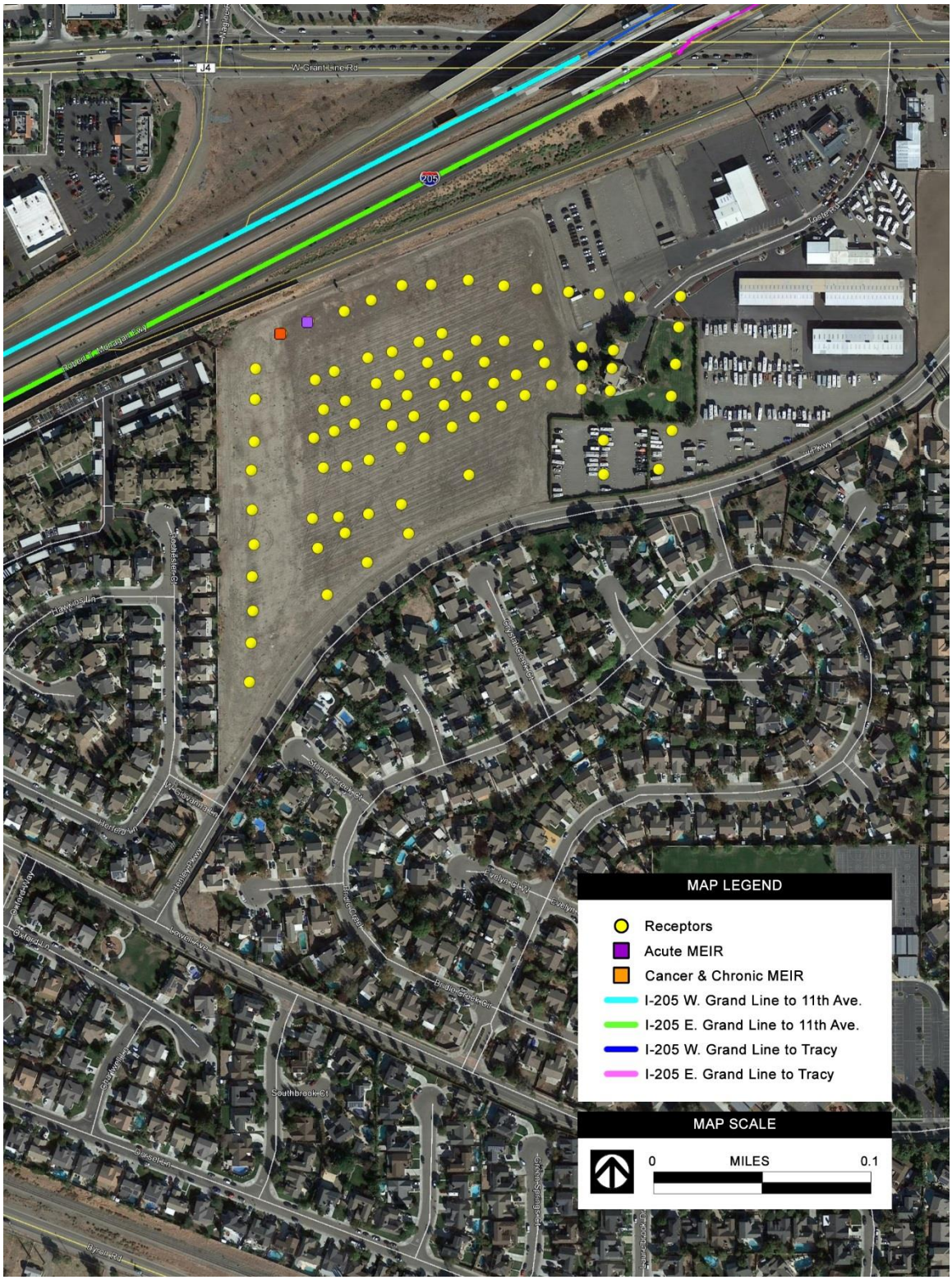


Figure 2-2
Receptor Locations



2.1 Characterization of Emissions

Emission rates for Reactive Organic Gases (ROG) and PM_{10} were obtained from CARB's EMFAC Web Database. The "emission rates" option was selected for the region of San Joaquin County to determine the annual average emission rates for all vehicle categories and all fuels (in units of grams/vehicle-mile). The option was selected to calculate emission rates based on the aggregated model year of the fleet in the analysis year of 2018, the earliest year that permanent residents will be onsite.

The emission rates generated by EMFAC for each vehicle category were then aggregated into four composite emission rates representing "cars" and "trucks" fueled by gasoline and diesel. As discussed later, the car-truck differentiation was used for establishing the source release parameters in AERMOD. The "cars" category was formed as the aggregate of light-duty automobiles (LDA), light-duty trucks (LDT1 and LDT2), and motorcycles (MCY). The "trucks" category was formed as the aggregate of medium duty vehicles (MDV), medium-heavy duty trucks (MHDT), heave heavy-duty trucks (HHDT), urban busses (UBUS), school busses (SBUS), other busses (OBUS), and motor homes (MH).

For diesel vehicles, the PM_{10} emission rates were equated to diesel particulate matter (DPM), which is a surrogate for all mobile source air toxics (MSATs)—both gaseous and particulate—contained in diesel exhaust for health risk assessment purposes. Therefore, no additional MSAT emission rates were derived for diesel vehicles.

For gasoline vehicles, MSAT emission rates were determined based on the assumptions and speciation profiles contained in the U.S. Environmental Protection Agency's (EPA's) Motor Vehicle Emissions Simulator (MOVES) model. The speciation profiles were determined by performing a MOVES run representing the aggregate model year of gasoline-fueled cars and trucks operating in San Joaquin County for the 2017 calendar year (similar to the EMFAC runs). Further information on the derivation of speciation profiles is contained in the MOVES technical documentation.

The speciation profiles were determined as (1) the ratio of MSAT-to-VOC (for organic toxics); (2) the ratio of both MSAT-to-VOC and MSAT-to-PM (for PAHs, which are partitioned in both the solid and gaseous phases); and (3) the direct emission rate of dioxins, furans, and metals. Where the MSAT emission rates were determined as ratios of VOC and PM, the respective ratios were applied to the EMFAC emission rates of gasoline cars and trucks.

The fuel-specific MSAT emission rates for cars and trucks were then aggregated to determine a unit emission rate "per car" and "per truck." This was done by multiplying the fuel-specific emission rates by the fraction of total VMT contributed by each fuel. The resulting emission rates in grams/vehicle-mile include DPM (representing the contribution from diesel vehicles), and all other MSATs (representing the contribution of gasoline vehicles).

The mass emissions of each MSAT were determined by multiplying the aggregated MSAT emission rates for cars and trucks (in gram/vehicle-mile) by the length of each roadway link (in miles) included in the model and the applicable traffic volumes provided by the project proponent. The annual average daily traffic volumes (AADT) in units of vehicles/day were multiplied by 365 to determine the annual emission rates as needed for modeling annually averaged ambient concentrations. The daily average AADT counts were divided by 24 to determine the hourly average emission rates. Diurnal profiles for the traffic volumes were determined by performing a MOVES run representing the aggregate model year of cars and trucks operating in San Joaquin County for the 2017 calendar year. The diurnal profiles were then used in the subsequent AERMOD runs, to capture the diurnal patterns of the traffic sources and quantify the peak hour emissions. The results are presented in Table 2-1.

2.2 Dispersion Modeling

The dispersion modeling analysis was performed using AERMOD (American Meteorological Society/EPA Regulatory Model, Version 15181) to compute plume dispersion characteristics. AERMOD is a steady-state Gaussian air dispersion model that can be used to calculate pollutant concentrations from a wide variety of sources associated with an industrial complex out to a distance of 50 km. The AERMOD model allows the selection of a number of options that affect model output. The regulatory default AERMOD model options were selected for this analysis.

MM5[1] derived AERMET data (e.g., hourly wind speed and direction, temperature) for Tracy during the period 2004-2008 were obtained from the District's modeling website. Both the surface data and upper air data were extracted from the MM5 data at Tracy site, which is approximately 10 miles southeast from the project site.

Exhaust emissions for cars and trucks were modeled separately as line volume sources, with a release height of 1.3 meters, and 3.4 meters for cars and trucks, respectively.[2]

[1] MM5 is short for the "Fifth-generation Penn State/NCAR Mesoscale Model."
[2] EPA Training Course: Project Level Training for Quantitative-PM Hot-Spot Analyses, Using AERMOD for PM Hot-Spot Analyses, *www3.epa.gov/otaq/stateresources/transconf/training3day.htm*

Table 2-1
Harvest in Tracy − Emissions from Road Segments

Road Name		I205 East Grant Line to Tracy Road				I205 West Grant Line to Tracy Road				I205 West Grant Line to 11 avenue				I205 East Grant Line to 11 avenue			
Sources		Trucks		Cars		Trucks		Cars		Trucks		Cars		Trucks		Cars	
ADTs (Average Daily Traffics)		8,282		41,423		8,266		41,344		7,490		37,460		7,713		38,577	
Pollutant ID	Pollutant Names	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)	Annual Average (lbs/year)	Hourly Average (lbs/hour)
75070	Acetaldehyde	5.81E+00	6.63E-04	2.18E+01	2.49E-03	5.95E+00	6.79E-04	2.24E+01	2.55E-03	6.69E+00	7.64E-04	2.52E+01	2.87E-03	7.04E+00	8.04E-04	2.65E+01	3.02E-03
107028	Acrolein	3.79E-01	4.32E-05	1.42E+00	1.62E-04	3.88E-01	4.43E-05	1.46E+00	1.66E-04	4.36E-01	4.98E-05	1.64E+00	1.87E-04	4.59E-01	5.24E-05	1.72E+00	1.97E-04
1017	Arsenic Compounds	2.35E-02	9.79E-04	1.26E-01	5.25E-03	2.41E-02	1.00E-03	1.29E-01	5.38E-03	2.71E-02	1.13E-03	1.45E-01	6.05E-03	2.85E-02	1.19E-03	1.53E-01	6.37E-03
71432	Benzene	2.17E+01	2.47E-03	8.15E+01	9.31E-03	2.22E+01	2.53E-03	8.35E+01	9.53E-03	2.49E+01	2.85E-03	9.39E+01	1.07E-02	2.63E+01	3.00E-03	9.88E+01	1.13E-02
106990	1,3-Butadiene	1.57E+00	1.79E-04	5.99E+00	6.83E-04	1.61E+00	1.83E-04	6.13E+00	7.00E-04	1.81E+00	2.06E-04	6.90E+00	7.87E-04	1.90E+00	2.17E-04	7.26E+00	8.29E-04
18540299	Chromium 6+	1.23E-04	5.11E-06	6.58E-04	2.74E-05	1.26E-04	5.23E-06	6.74E-04	2.81E-05	1.41E-04	5.88E-06	7.58E-04	3.16E-05	1.49E-04	6.19E-06	7.97E-04	3.32E-05
1086	Dioxins	5.47E-09	2.28E-10	2.94E-08	1.22E-09	5.61E-09	2.34E-10	3.01E-08	1.25E-09	6.30E-09	2.63E-10	3.38E-08	1.41E-09	6.64E-09	2.77E-10	3.56E-08	1.48E-09
1080	Furans	2.07E-08	8.64E-10	1.11E-07	4.64E-09	2.13E-08	8.85E-10	1.14E-07	4.75E-09	2.39E-08	9.95E-10	1.28E-07	5.34E-09	2.51E-08	1.05E-09	1.35E-07	5.62E-09
100414	Ethyl benzene	1.02E+01	1.17E-03	3.86E+01	4.40E-03	1.05E+01	1.20E-03	3.95E+01	4.51E-03	1.18E+01	1.34E-03	4.44E+01	5.07E-03	1.24E+01	1.41E-03	4.68E+01	5.34E-03
50000	Formaldehyde	8.87E+00	1.01E-03	3.32E+01	3.79E-03	9.09E+00	1.04E-03	3.40E+01	3.88E-03	1.02E+01	1.17E-03	3.83E+01	4.37E-03	1.08E+01	1.23E-03	4.03E+01	4.60E-03
110543	Hexane	1.12E+01	1.27E-03	4.09E+01	4.67E-03	1.14E+01	1.30E-03	4.19E+01	4.78E-03	1.28E+01	1.47E-03	4.71E+01	5.38E-03	1.35E+01	1.54E-03	4.96E+01	5.66E-03
1128	Lead Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7439965	Manganese Compounds	1.36E-02	5.66E-04	7.29E-02	3.04E-03	1.39E-02	5.80E-04	7.47E-02	3.11E-03	1.57E-02	6.52E-04	8.40E-02	3.50E-03	1.65E-02	6.87E-04	8.84E-02	3.68E-03
7439976	Mercury Compounds	4.09E-06	1.70E-07	2.19E-05	9.13E-07	4.19E-06	1.74E-07	2.25E-05	9.36E-07	4.71E-06	1.96E-07	2.53E-05	1.05E-06	4.96E-06	2.06E-07	2.66E-05	1.11E-06
1634044	MTBE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91203	Naphthalene	1.16E+00	4.85E-02	4.31E+00	1.80E-01	1.19E+00	4.97E-02	4.42E+00	1.84E-01	1.34E+00	5.58E-02	4.96E+00	2.07E-01	1.41E+00	5.88E-02	5.23E+00	2.18E-01
7440020	Nickel Compounds	1.53E-02	6.39E-04	8.22E-02	3.43E-03	1.57E-02	6.54E-04	8.42E-02	3.53E-03	1.75E-02	7.36E-04	9.47E-02	3.95E-03	1.86E-02	7.74E-04	9.97E-02	4.15E-03
56553	Benzo(a)anthracene	2.99E-03	1.25E-04	1.12E-02	4.68E-04	3.07E-03	1.28E-04	1.15E-02	4.80E-04	3.45E-03	1.44E-04	1.29E-02	5.39E-04	3.63E-03	1.51E-04	1.36E-02	5.68E-04
50328	Benzo(a)pyrene	1.23E-01	5.14E-03	4.93E-02	2.05E-03	1.26E-01	5.27E-03	5.05E-02	2.10E-03	1.42E-01	5.92E-03	5.67E-02	2.36E-03	1.50E-01	6.23E-03	5.97E-02	2.49E-03
205992	Benzo(b)fluoranthene	6.22E-02	2.59E-03	3.20E-02	1.33E-03	6.38E-02	2.66E-03	3.28E-02	1.37E-03	7.17E-02	2.99E-03	3.69E-02	1.54E-03	7.55E-02	3.14E-03	3.88E-02	1.62E-03
207089	Benzo(k)fluoranthene	6.22E-02	2.59E-03	3.20E-02	1.33E-03	6.38E-02	2.66E-03	3.28E-02	1.37E-03	7.17E-02	2.99E-03	3.69E-02	1.54E-03	7.55E-02	3.14E-03	3.88E-02	1.62E-03
218019	Chrysene	4.49E-02	1.87E-03	2.90E-02	1.21E-03	4.60E-02	1.92E-03	2.97E-02	1.24E-03	5.17E-02	2.15E-03	3.34E-02	1.39E-03	5.44E-02	2.27E-03	3.51E-02	1.46E-03
53703	Dibenzo(a,h)anthracene	2.14E-02	8.92E-04	7.07E-02	2.95E-03	2.19E-02	9.14E-04	7.25E-02	3.02E-03	2.47E-02	1.03E-03	8.15E-02	3.39E-03	2.60E-02	1.08E-03	8.58E-02	3.57E-03
193395	Indeno(1,2,3,c,d)pyrene	1.25E-01	5.22E-03	4.95E-02	2.06E-03	1.28E-01	5.35E-03	5.07E-02	2.11E-03	1.44E-01	6.01E-03	5.70E-02	2.37E-03	1.52E-01	6.33E-03	6.00E-02	2.50E-03
100425	Styrene	5.13E-01	5.85E-05	1.93E+00	2.21E-04	5.25E-01	6.00E-05	1.98E+00	2.26E-04	5.90E-01	6.74E-05	2.23E+00	2.54E-04	6.22E-01	7.10E-05	2.35E+00	2.68E-04
108883	Toluene	4.58E+01	5.23E-03	1.73E+02	1.97E-02	4.72E+01	5.39E-03	1.77E+02	2.02E-02	5.28E+01	6.02E-03	1.99E+02	2.27E-02	5.55E+01	6.34E-03	2.10E+02	2.39E-02
1330207	Xylene	3.72E+01	4.25E-03	1.40E+02	1.60E-02	3.81E+01	4.35E-03	1.44E+02	1.64E-02	4.29E+01	4.89E-03	1.62E+02	1.85E-02	4.51E+01	5.15E-03	1.70E+02	1.94E-02
9901	Diesel PM	4.28E+02	4.88E-02	6.78E+00	7.74E-04	4.38E+02	5.00E-02	6.95E+00	7.93E-04	4.92E+02	5.62E-02	7.81E+00	8.92E-04	5.18E+02	5.92E-02	8.22E+00	9.38E-04

2.3 Health Impact Characterization

The HRA modeling was conducted using CARB's Hotspots Analysis Reporting Program (HARP2, Air Dispersion & Risk Tool Version dated 16088).

The health risk assessment was conducted following the San Joaquin Valley Air Pollution Control District Health Risk Assessment Guidelines.[3] These guidelines are used by the District to evaluate the health impacts from new and existing sources of toxic air contaminants. Listed below are the risk assessment options that were used in the modeling.

- The residential cancer risk estimates are based on 70-year exposures. (OEHHA guidance recommends 30-year exposure; 70-year exposure is more conservative, and overestimates the exposure expected for a residential community comprised of rental units.)

- Deposition velocity – 0.05 m/sec. This is used to calculate the rate toxic air contaminants that are in particulate form deposit on the soil. These contaminants may then be taken up through ingestion of soil or home-grown produce.

- Pathways considered for residential exposure include inhalation, soil ingestion, dermal absorption, homegrown produce, and mother's milk.

- A "mixed" climate was assumed for the dermal exposure pathway.

2.4 Results

The results of the health risk assessment are summarized in Table 2-2.

Table 2-2
Health Risk Assessment Results

Cancer Risk at MEIR	160 in a million
Chronic Hazard Index at MEIR	0.035
Acute Hazard Index at MEIR	9.2
Note: MEIR is Maximally Exposed Individual, Residential	

[3] Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document, Final Staff Report, San Joaquin Valley Unified Air Pollution Control District. Available at *www.valleyair.org/busind/pto/staff-report-5-28-15.pdf*.

2.4.1 Cancer Risk

The increased cancer risk to the maximally exposed individual from vehicle emissions is 160 in a million. DPM is the dominant contributor to this risk and is emitted by vehicles with diesel engines. The risk is calculated based on emissions from the projected traffic volumes and fleet makeup for 2018. However, as the truck fleet turns over and old engines are replaced by newer, cleaner ones, DPM emissions are expected to decline significantly.

2.4.2 Chronic Hazard Index

The chronic hazard index for the maximally exposed individual is 0.035. DPM is the dominant contributor to this impact. As noted above, DPM is emitted by vehicles with diesel engines. The hazard index is calculated based on emissions from the projected traffic volumes and fleet makeup for 2018.

The toxicity values for DPM are based on rat studies. These studies indicate that chronic exposures to DPM may affect the respiratory system.

2.4.3 Acute Hazard Index

The chronic hazard index for the maximally exposed individual is 9.2. Nickel is the dominant contributor to this impact. Nickel is emitted by gasoline engines. The hazard index is calculated based on emissions from the projected traffic volumes and fleet makeup for 2018.

The toxicity values for nickel are based on mouse studies. These studies indicate that acute exposures to nickel may affect the immune system.

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Harvest in Tracy Conditions of Approval
Application Numbers D15-0007
and TSM17-0002
April 12, 2017

These Conditions of Approval shall apply to the real property described as the Harvest in Tracy Development Project of 304 multi-family residential units on approximately 18.79 acres located on the south side of Henley Parkway, and south of the intersection of I-205 and West Grant Line Road. Assessor's Parcel Numbers 238-600-25 through -27; Application Numbers D15-0007 and TSM17-0002.

A. The following definitions shall apply to these Conditions of Approval:

1. "Applicant" means any person, or other legal entity, defined as a "Developer."

2. "City Engineer" means the City Engineer of the City of Tracy, or any other duly licensed engineer designated by the City Manager, or the Development Services Director, or the City Engineer to perform the duties set forth herein.

3. "City Regulations" means all written laws, rules and policies established by the City, including those set forth in the City of Tracy General Plan, the Tracy Municipal Code, ordinances, resolutions, policies, procedures, and the City's Design documents (the Streets and Utilities Standard Plans, Design Standards, Parks and Streetscape Standard Plans, Standard Specifications, and Manual of Storm Water Quality Control Standards for New Development and Redevelopment, and relevant Public Facilities Master Plans).

4. "Conditions of Approval" shall mean the conditions of approval applicable to the Harvest in Tracy development project, consisting of 304 multi-family residential units on approximately 18.79 acres located on the south side of Henley Parkway, and south of the intersection of I-205 and West Grant Line Road. Assessor's Parcel Numbers 238-600-25 through -27, Application Numbers D15-0007, GPA17-0001, TSM17-0002, R17-0001, and SPA17-0002. The Conditions of Approval shall specifically include all Development Services Department conditions, including Planning Division and Engineering Division conditions set forth herein.

5. "Development Services Director" means the Development Services Director of the City of Tracy, or any other person designated by the City Manager or the Development Services Director to perform the duties set forth herein.

6. "Project" means the real property consisting of 304 multi-family residential units on approximately 18.79 acres located on the south side of Henley Parkway, and south of the intersection of I-205 and West Grant Line Road. Assessor's Parcel Numbers 238-600-25 through -27, Application Numbers D15-0007, GPA17-0001, TSM17-0002, R17-0001, and SPA17-0002.

7. "Property" means the real property generally located on the south side of Henley Parkway, and south of the intersection of I-205 and West Grant Line Road. Assessor's Parcel Numbers 238-600-25 through -27.

8. "Subdivider" means any person, or other legal entity, who applies to the City to divide or cause to be divided real property within the Project boundaries, or who applies to the City to develop or improve any portion of the real property within the Project boundaries. "Subdivider" also means Developer. The term "Developer" shall include all successors in interest.

B. Planning Division Conditions of Approval:

1. The Developer shall comply with all laws (federal, state, and local) related to the development of real property within the Project, including, but not limited to: the Planning and Zoning Law (Government Code sections 65000, *et seq*.), the Subdivision Map Act (Government Code sections 66410, *et seq*.), the California Environmental Quality Act (Public Resources Code sections 21000, *et seq*., "CEQA"), and the Guidelines for California Environmental Quality Act (California Administrative Code, title 14, sections 15000, *et seq*., "CEQA Guidelines").

2. Unless specifically modified by these Conditions of Approval, the Project shall comply with all City Regulations.

3. Unless specifically modified by these Conditions of Approval, the Developer shall comply with all mitigation measures identified in the Harvest in Tracy Development Project Mitigated Negative Declaration dated February 2017.

4. Pursuant to Government Code section 66020, including section 66020(d)(1), the City HEREBY NOTIFIES the Developer that the 90-day approval period (in which the Developer may protest the imposition of any fees, dedications, reservations, or other exactions imposed on this Project by these Conditions of Approval) will begin on the date of the conditional approval of this Project. If the Developer fails to file a protest within this 90-day period, complying with all of the requirements of Government Code section 66020, the Developer will be legally barred from later challenging any such fees, dedications, reservations or other exactions.

5. Except as otherwise modified herein, all construction shall be consistent with the plans received by the Development and Engineering Services Department on March 22, 2017 and revised entry site plan and roadway section details dated October 7, 2016.

6. No signs are approved as a part of this development application. Prior to the installation of any signs, the applicant shall submit a sign permit application and receive approval from the Development Services Director in accordance with City Regulations.

7. Prior to final inspection for any residential unit of the project, the Developer shall construct a eight- to ten-foot tall masonry wall (as measured from the taller grade on either side of the wall) along the project's north property line, consistent with requirements of the project's environmental mitigation measures related to noise attenuation. The wall design shall be subject to final approval by the Development Services Director.

8. Public Services. Before approval of the first building permit, the Developer shall do one of the following (subject to the approval of the Finance Director) to fully fund, in perpetuity,

the ongoing operational costs of providing Police services, Fire services, Public Works and other City services (collectively, the "Public Services") to the Property:

a. CFD or other funding mechanism. Enter into an agreement with the City, which shall be recorded against the Property, which stipulates that prior to final inspection or issuance of a certificate of occupancy for the first (1st) building, the Subdivider will either join a Community Facilities District (CFD) established by the City to fund the provision of Public Services for all new residential development in the City, or establish another lawful mechanism that is reasonably acceptable to the City to fund the provision of Public Services. If the Developer elects to join a City-established CFD to fund Public Services, Developer's election shall include, but not be limited to, affirmative votes and the recordation of a Notice of Special Tax Lien. Upon Developer's election, the Property shall be subject to the maximum special tax rates provided in the Rate and Method of Apportionment; provided, however, that: (i) the tax rate applicable to the Property shall be the same as the tax rate applicable to other similarly-situated residential properties in the City; (ii) at the time of formation of the CFD, the maximum special tax rate shall not exceed $325 per unit per year in 2017 dollars (subject to adjustment based on the Consumer Price Index or other established index); and (iii) the City reserves the right to provide for escalation of the adopted maximum special tax rate to a commercially reasonable rate determined by the City. Developer shall have no obligation to form its own CFD to fund the provision of Public Services to the Property, and if the City has not acted to form a CFD to fund Public Services and determined the amount of the maximum special tax under such CFD prior to the issuance of the first (1st) building permit on the Property, this Condition shall be deemed to be rescinded by the City.

Or

b. Direct funding. Enter into an agreement with the City, which shall be recorded against the Property, which stipulates that prior to issuance of a building permit, the Developer shall: (i) fund a fiscal impact study to be conducted and approved by the City to determine the long-term, ongoing operational costs of providing Public Services to the Property; and (ii) deposit with the City an amount sufficient, as reasonably determined by the City based on the approved study, to fund the full costs of providing Public Services to the Property in perpetuity.

9. Prior to the issuance of a building permit, the applicant shall provide a detailed landscape and irrigation plan consistent with City landscape and irrigation standards, including, but not limited to Tracy Municipal Code Section 10.08.3560, the City's Design Goals and Standards, and the applicable Department of Water Resources Efficient Landscape Ordinance on private property, and the Parks and Parkways Design Manual for public property, to the satisfaction of the Development Services Director. Said landscape plans shall include documentation which demonstrates there is no less than 20 percent of the parking area in landscaping, and 40 percent canopy tree coverage at tree maturity in accordance with City Regulations. Newly planted, on-site trees shall be a minimum size of 24-inch box and shrubs shall be a minimum size of five gallons.

10. Where landscape planters are parallel and adjacent to vehicular parking spaces, the planter areas shall incorporate a 12-inch wide concrete curb along their perimeter that is

adjacent to the parking space in order to allow access to vehicles without stepping into landscape planters.

11. Prior to the issuance of a building permit, an Agreement for Maintenance of Landscape and Irrigation Improvements shall be executed and financial security submitted to the Development Services Department. The Agreement shall ensure maintenance of the on-site landscape and irrigation improvements for a period of two years. Said security shall be equal to the actual material and labor costs for installation of the on-site landscape and irrigation improvements, or $2.50 per square foot of on-site landscape area.

12. Annexation is required to the Zone 3 Landscape Maintenance District prior to issuance of a building permit.

13. No roof mounted equipment, including, but not limited to, HVAC units, vents, fans, antennas, sky lights and dishes whether proposed as part of this application, potential future equipment, or any portion thereof on the community structures, shall be visible from I-205, West Grant Line Road, Henley Parkway, or any other public right-of-way. All roof-mounted equipment shall be contained within the roof well or screened from view from the public rights-of- way by the roof of the building, to the satisfaction of the Development Services Director. All vents, fans and other typical residential roof appurtenances on the residential units shall be painted to match the adjacent roof surface, to the satisfaction of the Development Services Director.

14. All vents, gutters, downspouts, flashing, electrical conduit, and other wall-mounted or building-attached utilities shall be painted to match the color of the adjacent surface or otherwise designed in harmony with the building exterior to the satisfaction of the Development Services Director.

15. All ground-mounted equipment, including, but not limited to air conditioning units, water heaters, gas meter and utility boxes shall be screened form view from common areas with decorative walls, fences or landscaping, to the satisfaction of the Development Services Director.

16. Prior to final inspection or certificate of occupancy, all exterior and parking area lighting shall be directed downward or shielded, to prevent glare or spray of light into the public rights-of-way and any adjacent properties, to the satisfaction of the Development Services Director.

17. Prior to the issuance of a building permit, bicycle parking spaces shall be provided in accordance with Tracy Municipal Code Section 10.08.3510 to the satisfaction of the Development Services Director.

18. All PG&E transformers, phone company boxes, Fire Department connections, backflow preventers, irrigation controllers, and other on-site utilities, shall be vaulted or screened from view from any public right-of-way, behind structures or landscaping, to the satisfaction of the Development Services Director.

19. Prior to the issuance of a building permit, the Developer shall submit detailed trash and recycling enclosure plans which include the following, to the satisfaction of the Development Services Director: the walls shall be of masonry construction, at least eight

feet in height, include solid metal doors, a solid roof, and an interior perimeter concrete curb. The enclosures shall include exterior color and material compatible with adjacent or nearby building exteriors of the project.

20. Prior to the issuance of a building permit, the developer shall design a recycling program consistent with State Assembly Bill 341, to the satisfaction of the Public Works Director. The program shall include or have access to enclosures with adequate space for both refuse and recycling and shall be incorporated with the trash and recycling enclosures. Each enclosure shall have signs that clearly indicate refuse and recycling locations as well as prohibition of scavenging. The program shall include recycling options or elements at the pool area and other common areas for the tenants.

21. Prior to the issuance of a building permit, the developer shall document compliance with the City of Tracy Manual of Stormwater Quality Control Standards for New Development and Redevelopment (Manual) to the satisfaction of the Public Works Director, which includes the requirement for Site Design Control Measures, Source Control Measures and Treatment Control Measures under the guidelines in a project Stormwater Quality Control Plan (SWQCP). Compliance with the Manual includes, but is not limited to, addressing outdoor storage areas, loading and unloading areas, trash enclosures, parking areas, any wash areas and maintenance areas. The SWQCP must conform to the content and format requirements indicated in Appendix D of the Manual and must be approved by the Public Works Director prior to issuance of grading or building permits.

22. The project shall comply with all applicable provisions of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan, including Incidental Take Minimization Measures applicable at the time of permit and a pre-construction survey prior to ground disturbance, to the satisfaction of San Joaquin Council of Governments.

23. The developer shall design and construct all buildings with fire sprinklers in accordance with City Regulations to the satisfaction of the Chief Building Official.

24. All usable open space area improvements shall be designed and improved consistent with City standards to the satisfaction of the Development Services Director.

25. Fences and gates identified adjacent to Henley Parkway, if constructed, shall be designed and constructed in accordance with City standards and, while providing site security, shall be of a decorative nature, such as wrought iron or tube steal construction, such that spaces in the fence elements result in the fence being predominantly “see through” and do not create a visual barrier. The color, material, and other design elements of the fence shall be compatible with the on-site building architecture, and the height shall be the minimum necessary to provide reasonable security but not over 72 inches tall, to the mutual satisfaction of the Developer and the Development Services Director. Any gates at project entries shall be designed to provide reasonable access by emergency vehicles and located such that vehicle stacking or queuing does not occur in the public right-of-way, to the satisfaction of the Development Services Director.

26. All exterior building colors shall be consistent with City standards and obtain approval by the Development Services Director prior to issuance of a building permit for the project.

27. The project plans (grading, improvement and building permit plans) shall include gated pedestrian access for use by apartment residents for connection to Henley Parkway. The gates, and pathways leading from the apartment buildings to the Henley Parkway frontage and sidewalk, shall be designed consistent with project plan wall and fence designs, City standards and applicable CCR Title 24 and Americans with Disabilities Act provisions.

28. The Emergency Vehicle Access (EVA) connecting the project to Henley Parkway shall be built subject to Fire Department and Engineering Division approval, including with respect to width, loads, turn radius, and use of gates or other barriers. The design shall be subject to review and approval of the Development Services Director, and the pathway shall be subject to maintenance by the project Homeowner's Association.

29. All common area lots and open spaces, including landscaping, shall be maintained by a Project homeowner's association (HOA). Final covenants, conditions and restrictions (CC&Rs) shall be submitted to the City for review prior to their recordation. The CC&Rs shall be recorded prior to City issuance of a grading plan or improvement plans for the Project. Any subsequent operation of the project as a residential condominium shall be subject to the operational requirements of Section 12.41 of the Municipal Code.

30. The developer shall be required to pay all applicable City impact fees, including park fees. No fee credit shall be given for the developer construction of the on-site, private recreational facilities.

C. Building Division Conditions of Approval

1. Provide access that does not disable the ability to circumnavigate the complex, to the satisfaction of the Building Official.

2. Adequate radio coverage for emergency services is required at the facility.

3. Standpipe systems are required.

4. NFPA 13-R automatic sprinkler systems and fire and smoke alarm systems are required with monitoring.

5. Project must comply with the City's Water Efficient Landscape Ordinance as well as CalGreen Building Standards.

6. All facilities need to meet access standards (Title 24 – 11A).

7. If there is any federal funding involved for the project, the project must meet ADA standards.

8. Fire hydrants and FDCs are to be set outside of collapse zones to the satisfaction of the Building Official.

9. Ensure that FDC's are remote and uniformly located for multi-family structures and that such are within 100 feet of a fire hydrant.

10. Trees planted along fire apparatus access roads shall maintained/pruned to provide the minimum 13.5 feet of clear vertical height or the variety provided shall be the type which will not naturally encroach into this right-of-way for emergency vehicle access.

11. The 2013 California Fire Code (CFC) prohibits the use of traffic calming devices in the fire apparatus access roadways.

12. Fire apparatus access roads shall not have dead ends which exceed 150 feet without a turnaround. Ensure that where turnarounds are provided, they comply with configurations provided in the 2013 CFC, Appendix D.

13. Provide man-gates with Knox Boxes or Knox Locks or other appropriate access at fences and walls as may be required by and to the satisfaction of the Fire Chief.

D. Public Works Conditions of Approval

1. Landscaping shall be provided consistent with standard details of the City Master Plan, and including provision of tree root barriers at sidewalks.

2. Any City utility lines on the project site (plans pages C.6 and C.7) must have access for City vehicles and staff, including access to water valves, and water, storm drainage, and sanitary sewer lines.

E. Engineering Division Conditions of Approval

E.1. General Conditions

The Developer shall comply with the applicable requirements of the approved documents, technical analyses/ reports prepared for the Project listed as follows:

a) "Harvest Apartment Traffic Impact Analysis in the City of Tracy", ("Traffic Study") prepared by Fehr & Peers, dated January 25, 2017 and any subsequent amendments and updates.

b) "Harvest Apartment Development Water Distribution System Hydraulic Network Analysis", prepared by Blackwater Consulting Engineers, dated February 17, 2016, and any subsequent amendments and updates. ("Water Study")

c) Technical Memorandum by Storm Water Consulting, Inc., dated September 14, 2016, and any subsequent amendments and updates. ("Storm Drainage Study")

E.2. <u>Grading Permit</u>

The City will not accept grading permit application for the Project until the Developer has provided all relevant documents related to said grading permit required by the applicable City Regulations and these Conditions of Approval, to the satisfaction of the City Engineer, including, but not limited to, the following:

E.2.1. Grading and Drainage Plans prepared on a 24" x 36" size polyester film (mylar). Grading and Drainage Plans shall be prepared under the supervision of, and stamped and signed by a Registered Civil Engineer.

a. The Developer shall obtain all applicable signatures by City departments and outside agencies (where applicable) on the mylars including signatures by Building Official and Fire Code Official prior to submitting the mylars to Engineering Division for City Engineer's approval.

b. Prior to the issuance of Grading Permit for the Project, Developer shall submit improvement plans and secure approval of plans from the City's Building Division, for the design of on-site sewer improvements and the Project's sewer connection.

E.2.2. Payment of the applicable Grading Permit fees which include grading plan checking and inspection fees, and other applicable fees as required by these Conditions of Approval.

E.2.3. Three (3) sets of the Storm Water Pollution Prevention Plan (SWPPP) for the Project with a copy of the Notice of Intent (NOI) submitted to the State Water Quality Control Board (SWQCB) and any relevant documentation or written approvals from the SWQCB, including the Wastewater Discharge Identification Number (WDID#).

a. After the completion of the Project, the Developer is responsible for filing the Notice of Termination (NOT) required by SWQCB. The Developer shall provide the City with a copy of the completed Notice of Termination.

b. The cost of preparing the SWPPP, NOI and NOT, including the filing fee of the NOI and NOT, shall be paid by the Developer.

c. The Developer shall comply with all the requirements of the SWPPP and applicable Best Management Practices (BMPs) and the applicable provisions of the City's Storm Water Management Program.

E.2.4. Two (2) sets of the Project's Geotechnical Report signed and stamped by a licensed Geotechnical Engineer licensed to practice in the State of California.

a. The technical report must include relevant information related to soil types and characteristics, soil bearing capacity, pavement design recommendations, and elevation of the highest observed groundwater level.

E.2.5. A copy of the Approved Fugitive Dust and Emissions Control Plan that meets San Joaquin Valley Air Pollution Control District (SJVAPCD) as required in Mitigation Measure AQ-1 of the Mitigation Monitoring and Reporting Program of the Mitigated Negative Declaration (MND).

E.2.6. Two (2) sets of Hydrologic and Storm Drainage Calculations for the design of the on-site storm drainage system and for determining the size of the project's storm drainage connection, as required in Conditions E.4.2.d and E.4.3.k, below.

E.3. Encroachment Permit - No applications for encroachment permit will be accepted by the City as complete until the Developer provides all relevant documents related to said encroachment permit required by the applicable City Regulations and these Conditions of Approval, to the satisfaction of the City Engineer, including, but not limited to, the following:

E.3.1. Improvement Plans prepared on a 24" x 36" size 4-mil thick polyester film (mylar), if necessary that incorporate all the requirements described in these Conditions of Approval. Improvement Plans shall be prepared under the supervision of, and stamped and signed by a Registered Civil, Traffic, Electrical, Mechanical Engineer, and Registered Landscape Architect for the relevant work.

a. The Developer shall obtain all applicable signatures by City departments and outside agencies (where applicable) on the mylars including signatures by Building Official and Fire Code Official prior to submitting the mylars to Engineering Division for City Engineer's approval.

E.3.2. Signed and stamped Engineer's Estimate that summarizes the cost of constructing all the public improvements shown on the Improvement Plans.

E.3.3. Traffic Control Plan, if necessary, shall be prepared under the supervision of, signed and stamped by a Registered Civil Engineer or Traffic Engineer licensed in the State of California, as required in Condition E.4, below.

E.3.4. Tracy's Fire Official's signature on the Improvement Plans indicating their approval for the fire service connection and fire and emergency vehicle access for the Project.

E.3.5. If required, signed and notarized Offsite Improvement Agreement (OIA) and Improvement Security, to guarantee completion of the identified public improvements that are necessary to serve the Project as required by these Conditions of Approval. The form and amount of Improvement Security shall be in accordance with Section 12.36.080 of the Tracy Municipal Code (TMC), and the OIA. The Developer's obligations in the OIA shall be deemed to be satisfied upon City Council's acceptance of the public improvements and release of the Improvement Security.

E.3.6. Check payment for the applicable of engineering review fees which include plan checking, permit and agreement processing, testing, construction inspection, and other applicable fees as required by these Conditions of Approval. The engineering review fees will be calculated based on the fee rate adopted by the City Council on May 17, 2016, per Resolution 2016-094. Check payment of the initial plan checking fee in the amount of $13,000 must be submitted with the first submittal of Improvement Plans.

E.4. Improvement Plans - Improvement Plans shall contain the design, construction details and specifications of public improvements and all subdivision improvements that are required to serve the Project. The Improvement Plans shall be drawn on a 24" x 36" size 4-mil thick polyester film (mylar) and shall be prepared under the supervision of, and stamped and signed by a Registered Civil, Traffic, Electrical, Mechanical Engineer, and Registered Landscape Architect for the relevant work. The Improvement Plans shall be completed to comply with City Regulations, these Conditions of Approval, and the following requirements:

E.4.1. The Improvement Plans including the Grading and Drainage Plans prepared in accordance with the City's Subdivision Ordinance and Design Standards. The improvement plans for all improvements (onsite and off-site) required to serve

the Project in accordance with the City Design Documents, and these Conditions of Approval.

a. The Improvement Plans shall be prepared in mylar with the standard title and signature block.

b. The Developer shall obtain all applicable signatures by City departments and outside agencies (where applicable) on the mylar including signatures by the Chief Building Official and Fire Code Official or Fire Safety Officer, prior to submitting the mylars to Engineering Division for City Engineer's approval.

E.4.2. The improvement plans shall be prepared to specifically include, but not be limited to, the following items:

a. All existing and proposed utilities such as domestic water line, irrigation service, fire service line, storm drain, and sanitary sewer, including the size and location of the pipes.

b. All supporting engineering calculations, materials information or technical specifications, cost estimate, and technical reports.

c. Two (2) copies of the Project's Geotechnical /Soils Report, prepared or signed and stamped by a Geotechnical Engineer.

d. The Project's on-site drainage connections to City's storm drainage system and on-site storm water treatment as approved by the City Engineer. Improvement Plans to be submitted with the hydrology and storm drainage calculations for the sizing of the on-site storm drainage system.

e. Three (3) sets of the Project's Storm Water Pollution Prevention Plan (SWPPP), Best Management Practices (BMPs) and a copy of the Notice of Intent (NOI) with the State-issued Wastewater Discharge Identification number (WDID#).

E.4.3. Grading and Storm Drainage Plans

Site Grading

a. Include all proposed erosion control methods and construction details to be employed and specify materials to be used.

b. All grading work shall be performed and completed in accordance with the recommendation(s) of the Project's Geotechnical Engineer. A copy of the Project's Geotechnical Report must be submitted with the Grading and Storm Drainage Plans.

c. Site grading shall be designed such that the Project's storm water can gravity drain directly to an existing storm drain system with adequate capacity to drain storm water from the Project Site in the event that the on-site storm drainage system fails or is clogged. The storm drainage release point is recommended to be at least 0.70 foot lower than the building finish floor elevation and shall be improved to the satisfaction of the City Engineer.

d. When the grade differential between the Project Site and adjacent property(s) exceeds 12 inches, a reinforced or masonry block, or engineered retaining wall is required for retaining soil. The Grading Plan shall show construction detail(s) of the retaining wall or masonry wall. The entire retaining wall and footing shall be constructed within the Project Site. A structural calculation shall be submitted with the Grading and Storm Drainage Plans.

e. An engineered fill may be accepted as a substitute of a retaining wall, if the grade differential is less than 2 feet and subject to approval by the City Engineer. The Grading and Storm Drainage Plans must show the extent of the slope easement(s). The Developer shall be responsible for obtaining permission from owner(s) of the adjacent and affected property(s). The slope easement must be recorded, prior to the issuance of the final building certificate of occupancy.

Storm Drainage

f. The Developer shall design and install the Project's storm drainage connection(s) to the City's storm drain facilities per the City of Tracy Citywide Stormwater Master Plan, the "Storm Drainage Study", the First Amendment to the 2010 WSID Drainage Agreement, and as required by the City Engineer.

g. The Developer shall pay fees required by West Side Irrigation District for annexation of approximately 4.75 acres of the project site into the "2-square mile area covered by the 2010 Drainage Agreement. Once the annexation procedure has been completed, a maximum total of 9.15 acres will be allowed to discharge to the existing 24-inch SD outfall that outlets to the WSID facilities and the existing 72-inch SD in Grant Line Road. As outlined in the Storm Drainage Study, the Developer shall verify the condition and functionality of the 24-inch SD by video monitoring and /or flow test and submit results for City Engineer's approval. Any repairs or improvements, if required, shall be completed by the Developer.

h. The remaining acreage of the project site shall be graded to drain into the City's 42-inch SD line through a junction structure to be constructed at the northwest corner of the property. The Project Storm Drainage layout shown on the Tract 3863 Tentative Subdivision Map Conceptual Storm Drainage and Sewer Plan (Sheet C6.2) shall be revised so that horizontal separation between the storm and sewer outfall pipes complies with the minimum separation requirements listed in the City of Tracy Design Standards manual.

i. All on-site SD facilities, including the proposed connection(s) to the City's public drainage facilities, shall be owned and maintained by the HOA.

j. The design and construction details of the Project's storm drainage system and treatment facilities shall meet City Regulations in affect at the time of this approval and shall comply with the applicable requirements of the City's Storm Water Quality Control Standards and storm water regulations that were adopted by the City Council in 2008.

k. Prior to the final inspection of the first building to be constructed on the Property, the Developer shall submit a signed and notarized Stormwater Treatment Facilities Maintenance Agreement (STFMA) as a guarantee for the performance of Developer's responsibility towards the repair and maintenance of on-site storm water treatment facilities. Calculations related to the design and sizing of on-site storm water treatment facilities must be submitted with the STFMA and the Grading and Storm Drainage Plans.

E.4.4. Sanitary Sewer Facilities

a. The Developer shall design and install sanitary sewer facilities including the Project's sewer connection in accordance with City Regulations and utility improvement plans approved by the City of Tracy Public Works Director and by the City Engineer.

b. The Project Sewer layout shown on the Tract 3863 Tentative Subdivision Map Conceptual Storm Drainage and Sewer Plan (Sheet C6.2) shall be revised so that the minimum horizontal separation between the onsite sewer and storm drain pipes complies with the minimum separation requirements listed in the City of Tracy Design Standards manual.

c. All onsite sewer lines shall be private, and all maintenance of onsite sewer facilities shall be the responsibility of the Developer/HOA.

d. The Developer is hereby notified that the City has limited wastewater treatment capacity in the City's Wastewater Treatment Plant until current and future expansion capital improvement projects are completed and operational. As of January 2015, the City had an unused capacity of approximately 4200 EDU's within its wastewater treatment plant available to new development within the City on a first come-first served basis. These EDU's are currently available to serve the proposed project, but as other development projects within the City come forward and building permits are issued, this remaining capacity will be reduced.

E.4.5. Water Distribution System

a. Water line sizing, layout and looping requirements for this Project shall comply with recommendations of the analysis by the City's Water Consultant.

b. All water connections that are bigger than 2 inches in diameter shall be Ductile Iron Pipe (DIP).

c. During the construction of the Project, the Developer is responsible for providing water infrastructure (temporary or permanent) capable of delivering adequate fire flows and pressure appropriate to the various stages of construction and as approved by the City of Tracy Fire Code Official.

d. All costs associated with the installation of the Project's permanent water connection(s) as identified in the Water Study including the cost of removing and replacing asphalt concrete pavement, pavement marking and striping such as crosswalk lines and lane line markings, replacing traffic detecting loops, conduits, and wires, relocating existing utilities that may be in conflict with the water connection(s), and other improvements shall be paid by the Developer.

e. Developer shall obtain an account for the water service to the Project and register the water meter with the Finance Department. Developer shall prepare and submit a map depicting the location of the water meter on an 8.5"X11" sheet to Finance Department.

f. If water main shut down is necessary, the City will allow a maximum of 4-hour water supply shutdown. The Developer shall be responsible for notifying residents or business owner(s), regarding the water main shutdown. The written notice, as approved by the City Engineer, shall be delivered to the affected residents or business owner(s) at least 72 hours before the water main shutdown. Prior to starting the work described in this section, the Developer shall submit a Water Shutdown Plan and Traffic Control Plan to be used during the installation of the offsite water mains.

g. The Developer shall design and install domestic water service connection, including a remote-read master water meter (the water meter to be located within City's right-of-way) and a Reduced Pressure Type back-flow protection device in accordance with City Regulations. The domestic and irrigation water service connection(s) must be completed before the final inspection of the building. Sub-metering will be allowed within private property. The City will not perform water consumption reading on sub-meters. The Developer/HOA will be responsible for maintenance and re-location or replacement of sub-meters.

h. The City shall maintain water lines from the master water meter to the point of connection with the water distribution main (inclusive) only. Repair and maintenance of all on-site water lines, laterals, sub-meters, valves, fittings, fire hydrant and appurtenances shall be the responsibility of the Developer/HOA.

i. The Developer shall design and install fire hydrants at the locations approved by the City's Fire Safety Officer and Chief Building Official. Prior to the approval of the Improvement Plans, the Developer shall obtain written approval from the City's Fire Safety Officer and Chief Building Official, for the design, location and construction details of the fire service connection to the Project, and for the location and spacing of fire hydrants that are to be installed to serve the Project.

E.4.6. <u>Utility Easements</u>

a. Any proposed improvements within the City's existing 30' Utility Easement along the west property line of the Project shall be subject to review and

approval by both the City Engineer and Public Works Director. Proposed Maintenance access roads or curb cuts shall be reviewed and approved by the City Engineer and Public Works Director.

b. The City Engineer and Public Works Director shall review and approve types of trees and locations of trees proposed to be planted within the City's Utility Easement.

c. The Developer shall coordinate with local service providers and dedicate necessary Public Utility Easements (PUE) along the Project's frontage on Henley Parkway for Joint Trench Utilities to serve the Project. The proposed Project fence/wall along Henley Parkway shall be located behind the PUE.

E.4.7. Project Access and Traffic Circulation

a. To obtain project access from Henley Parkway, the Project will construct new driveways per the recommendations in the Traffic Report. Project access driveways and traffic circulation shall comply with the findings of the traffic analysis by Fehr & Peers.

b. The Developer shall install a main entrance driveway with one inbound lane (left-in and right-in) and two outbound lanes (left out and right out) on Henley Parkway.

c. The Developer shall install a secondary Emergency Vehicle Access driveway approximately 420 feet west of the project entrance along Henley Parkway. This driveway will be 20 feet wide and will have a sliding gate. Automatic gate controls meeting fire department requirements will be provided.

d. The Developer shall construct complete street improvements for the Private internal streets and alleys as generally shown in the Conceptual Site Plan of the Tentative Subdivision Map Tract No. 3863. Developer shall comply with the requirements of Fire Department and Public Works Department for access and design of structural pavement for Maintenance Access roads and Fire Lane access Roads within the Development.

   i) Private Streets and alleys will be maintained by the HOA.

   ii) The Developer shall prepare a Signing and Striping Plan for the on-site private streets and alleys. The Signing and Striping Plan shall include all stop bar, stop legend, stop signs, right-turn or left turn arrows, centerline stripes, traffic control signage, etc. as necessary for internal traffic circulation.

   iii) Striping and signage for on-street parking on the internal private streets and for designated parking lots for resident, guest, employees, and visitor parking shall comply with City's standards for Off Street Parking.

E.4.8. Frontage Improvements

a. The Developer shall remove and replace existing curb and gutter and install new frontage improvements along the full frontage of the Project on Henley Parkway consistent with Henley Parkway Cross Section exhibit prepared by NorthStar Engineering Group, Inc. (dated 1/10/2017).

i) Prior to the issuance of a Building Permit for the project, the Developer shall dedicate a Public Utility Easement (PUE) along the full frontage of the Project on Henley Parkway. Final determination of width of the PUE dedication shall be based on review of the Joint Trench plans prepared for the project as required per Condition E4.10.

ii) The roadway improvements to be constructed with this Project shall include, but are not limited to, driveways, concrete curb, gutter and sidewalk, accessible ramps, asphalt concrete pavement, signing and striping, storm drains, catch basins, fire hydrants, LED street lights (if needed), landscaping and street trees with automatic irrigation system, and other improvements as determined by the City Engineer that are necessary for a safe transition from an existing two-lane divided collector street section on the east and west ends of the project to a two-lane collector with a median island/left turn lane at the Project's entrance driveway.

iii) The sidewalk along the frontage of the project shall conform to and connect to the existing sidewalk at the curb return at the intersection of Giovanna Lane and Henley Parkway.

iv) The Developer shall install a curb ramp and pedestrian crosswalk at the intersection of Henley Pkwy and Bridle Creek Circle.

v) The decorative fence and CMU wall that is proposed to be constructed along the frontage of the project as shown on Sheet L-2 Fence and Wall Plan shall be located behind the PUE along Henley Parkway. Maintenance of these walls and fences shall be the responsibility of the HOA.

b. Signing and Striping Plan - The Developer shall submit a Signing and Striping plan to show the addition of a median island/left lane on eastbound Henley Parkway at the Project's main entrance driveway location and to show the transition back to the existing two-lane collector street section. Between Giovanna Lane to Bridle Creek Drive, existing pavement delineation shall be removed, the entire roadway shall be slurry sealed, and new lane markings will be installed to restripe Henley Parkway to provide 5' wide bike lanes, 11-ft. wide travel lanes, and a variable width median lane/left turn lane turning movements into and out of the project driveway. A standard 90-ft bay taper will be provided at the start of the left turn lane, and the left turn stacking length shall be 150' minimum, or as determined by the City Engineer. A standard 15:1 parabolic flare and adequate transition shall be provided east of the project entrance for the median island to transition to a standard double yellow center line stripe.

i) As recommended by the Project Traffic Study, the median islands shall be constructed as painted islands rather than raised median islands to accommodate outbound truck traffic turning movements at the Project entrance and secondary Emergency Vehicle Access gate.

c. Irrigation and Landscaping Plans - All parkway landscaping improvements along the frontage of the Property on Henley Parkway shall be designed and constructed in accordance with City Regulations and completed as part of the Henley Parkway Roadway Improvements. Design and construction details of these improvements shall be included in the Irrigation and Landscaping Plans. Parkway landscaping shall be maintained by the HOA as part of the Long-Term Maintenance Agreement between the City and Developer or HOA. The parkway landscape planting and irrigation system shall be separate from the onsite landscaping plan, including a separate irrigation meter, irrigation main(s), and irrigation controller(s). Parkway landscape improvements shall conform to City standards.

d. The Developer shall design and install public and private improvements, including street trees, monument signs, decorative fences and walls, and other improvements at locations that shall meet requirements related to horizontal sight distance.

e. All roadway improvements described in these Conditions of Approval must be designed and constructed by the Developer to meet the applicable requirements of the latest edition of the California Department of Transportation Highway Design Manual (HDM) and the California Manual of Uniform Traffic Control Devices (MUTCD), all applicable City Regulations, and these Conditions of Approval, prior to final inspection of the first building to be constructed within the Property.

f. The Developer shall be responsible for any repairs or reconstruction of street pavement, curb, gutter and sidewalk and other public improvements along the frontage of the Project along Henley Parkway, if determined by the City Engineer to be in poor condition or damaged by construction activities related to the Project.

g. Offsite Improvement Agreement – Prior to starting any work on Henley Parkway Roadway Improvements, the Developer shall sign an improvement agreement (Offsite Improvement Agreement or OIA) and post improvement security in accordance with Section 12.36.080 of the TMC, to guarantee completion of the public improvements. The OIA requires approval from the City Council.

i) Prior to the approval of the OIA, the Developer will be required to submit Improvement Plans that contain the design, construction details and specifications of all public improvements that are required to serve the Project, prepared in a 24” x 36” size polyester film (mylar), signed and stamped by the Design Engineer, for City’s approval and signature. The Developer shall also submit Technical Specifications and Cost Estimates. All engineering calculations for the design of the improvements must be submitted as part of the Improvement Plans.

ii) The Developer will be required to pay Engineering Review Fees which include plan checking, agreement and permit processing, testing, engineering inspection, and program management fees, prior to the approval of the OIA.

h. Traffic Impact Mitigations - Prior to issuance of first Building Permit, the Project's Traffic Impacts identified in the Traffic Study are to be mitigated by the Developer. The study intersections and recommended mitigations are summarized below.

i) Lowell Avenue / Henley Parkway – Side street stop control to be converted to all-way stop control.

ii) Bridle Creek Drive / Henley Parkway: Side street stop control to be converted to all-way stop control.

iii) Grant Line Road / Byron Road –Addition of a second westbound right turn lane is needed to mitigate Level of Service deficiencies. Per the findings of the Traffic Study, the Project's proportionate share of the LOS deficiency at this intersection in the Existing plus Project Scenario is 1% of the AM Peak Hour and 0.5% in the PM Peak Hour. The Developer shall pay for the Project's fair share cost of $2,000 towards the construction of this improvement.

iv) Grant Line Road / Henley Pkwy northbound left turn lane: Based on the signalized intersection queuing analysis, it is recommended that the storage length for the northbound left-turn lane be extended from 260 feet to 575-feet of plus a 60-foot taper at the intersection of Grant Line Road / Henley Parkway. Per the findings of the Traffic Study, the Project's proportionate share of the LOS deficiency at this intersection in the Cumulative plus Project Scenario is 2.2% of the AM Peak Hour and 1.5% in the PM Peak Hour. The Developer shall pay for the Project's fair share cost of $4,400 towards the construction of this improvement.

v) Corral Hollow Road / Lowell Avenue northbound left turn lane: Based on the signalized intersection queuing analysis, it is recommended that the storage length for the northbound left-turn lane be extended from 250 feet to 300-feet plus a 60-foot taper at the intersection of Corral Hollow Road / Lowell Avenue. Per the findings of the Traffic Study, the Project's proportionate share of the LOS deficiency at this intersection in the Cumulative plus Project Scenario is 0.5% of the AM Peak Hour and 0.6% in the PM Peak Hour. The Developer shall pay for the Project's fair share cost of $1,200 towards the construction of this improvement.

E.4.9. Traffic Control Plan - Prior to starting the work for the Project's water line connections on Henley Parkway, or the Henley Parkway Roadway Improvements, the Developer shall submit a Traffic Control Plan, to show the method and type of construction signs to be used for regulating traffic at the work areas within these streets. The Traffic Control Plan shall be prepared by a Civil Engineer or Traffic Engineer licensed to practice in the State of California.

E.4.10. Joint Utility Trench Plans – The Developer shall prepare joint trench plans in compliance with utility companies' requirements and City regulations, and obtain approval of the plans. All private utility services to serve Project, including electric, telephone and cable TV to the building must be installed underground, and to be installed at the location approved by the respective owner(s) of the utilities.

a. The Developer shall submit Joint Utility Trench Plans for the installation of electric, gas, telephone and TV cable main and service lines that are necessary to be installed to serve the Project. These utilities shall be installed within the Public Utility Easement (PUE) that will be offered for dedication to the City. The Developer shall coordinate, as feasible, with the respective owner(s) of the utilities for the design of these underground utilities to ensure they can be installed within the PUE to the extent feasible (and except in the event, that additional space beyond the PUE is required, as determined by the utilities owner(s)).

b. The Developer shall verify with the respective utility owner(s) if they will allow the installation of private landscaping within the public utility easement. Developer shall provide the utilities' owner(s) written notification and receive permission to construct the improvements, prior to the approval of the building permit

c. Trench Restoration for Pavement cuts or utility trench(s) on existing street(s) for the installation of water distribution main, storm drain, sewer line, electric, gas, cable TV, and telephone on Henley Parkway shall comply with City Standard Plan No. 501.

E.5. Building Permit - No building permit will be approved by the City until the Developer demonstrates, to the satisfaction of the City Engineer, compliance with all required Conditions of Approval, including, but not limited to, the following:

E.5.1. Payment of the Master Plan Fees for Citywide Roadway and Traffic, Water, Recycled Water, Wastewater, Storm Drainage, Public Safety, Public Facilities, and Park adopted by the City Council on January 7, 2014, per Resolution 2014-010, or as identified in the approved Finance Plan, as required by these Conditions of Approval.

E.5.2. Payment of the San Joaquin County Facilities Fees as required in Chapter 13.24 of the TMC, and these Conditions of Approval.

E.5.3. Payment of the Agricultural Conversion or Mitigation Fee as required in Chapter 13.28 of the TMC, Mitigation Measure Bio-1 of the Initial Study MND, and these Conditions of Approval.

E.5.4. Payment of the Regional Transportation Impact Fees (RTIF) as required in Chapter 13.32 of the TMC, and these Conditions of Approval.

E.5.5. Prior to issuance of the first building permit, Developer shall submit copy of Maintenance Access Easement between Toste property owner and Harvest in Tracy HOA for maintenance and access of sound wall along north property adjacent to future Caltrans Right-of-Way.

E.6. Acceptance of Public Improvements - Public improvements will not be accepted by the City Council until after the Developer completes construction of the relevant public improvements, and also demonstrates to the City Engineer satisfactory completion of the following:

E.6.1. Correction of all items listed in the deficiency report prepared by the assigned Engineering Inspector relating to public improvements subject to City Council's acceptance.

E.6.2. Certified "As-Built" Improvement Plans (or Record Drawings). Upon completion of the construction by the Developer, the City shall temporarily release the originals of the Improvement Plans to the Developer so that the Developer will be able to document revisions to show the "As Built" configuration of all improvements.

E.6.3. Reasonable written permission from irrigation district or affected owner(s), if applicable, as required in Condition E.10.3, below. The cost of relocating and/or removing irrigation facilities and/or tile drains is the sole responsibility of the Developer.

E.7. Temporary or Final Building Certificate of Occupancy - No Temporary or Final Building Certificate of Occupancy will be issued by the City until after the Developer provides reasonable documentation which demonstrates, to the satisfaction of the City Engineer, that:

E.7.1. The Developer has satisfied all the requirements set forth in Condition E.6, above.

E.7.2. The Developer has completed construction of all required public facilities for the building for which a certificate of occupancy is requested and all the improvements required in these Conditions of Approval. Unless specifically provided in these Conditions of Approval, or some other applicable City Regulations, the Developer shall use diligent and good faith efforts in taking all actions necessary to construct all public facilities required to serve the Project, and the Developer shall bear all costs related to construction of the public facilities (including all costs of design, construction, construction management, plan check, inspection, land acquisition, program implementation, and contingency).

E.8. Improvement Security – The Developer shall provide improvement security for all public facilities, as required by the OIA and these Conditions of Approval. The form of the improvement security may be a surety bond, letter of credit or other form in accordance with section 12.36.080 of the TMC. The amount of improvement security shall be as follows:

E.8.1. Faithful Performance (100% of the estimated cost of constructing the public facilities),

E.8.2. Labor & Materials (100% of the estimated cost of constructing the public facilities), and

E.8.3. Warranty (10% of the estimated cost of constructing the public facilities)

E.9. Release of Improvement Security - Improvement Security(s) described herein shall be released to the Developer after City Council's acceptance of public improvements, and after the Developer demonstrates, to the satisfaction of the City Engineer, compliance of these Conditions of Approval, and completion of the following:

E.9.1. Improvement Security for Faithful Performance, Labor & Materials, and Warranty shall be released to the Developer in accordance with Section 12.36.080 of the TMC.

E.9.2. Written request from the Developer and a copy of the recorded Notice of Completion.

E.10. Special Conditions

E.10.1. All streets and utilities improvements within City's right-of-way shall be designed and constructed in accordance with City Regulations, and City's Design documents including the City's Facilities Master Plan for storm drainage, roadway, wastewater and water adopted by the City, or as otherwise specifically approved by the City.

E.10.2. All existing on-site wells, if any, shall be abandoned or removed in accordance with the City and San Joaquin County requirements. The Developer shall be responsible for all costs associated with the abandonment or removal of the existing well(s) including the cost of permit(s) and inspection. The Developer shall submit a copy of written approval(s) or permit(s) obtained from San Joaquin County regarding the removal and abandonment of any existing well(s), prior to the issuance of the Grading Permit.

E.10.3. The Developer shall abandon or remove all existing irrigation structures, channels and pipes, if any, as directed by the City after coordination with the irrigation district, if the facilities are no longer required for irrigation purposes. If irrigation facilities including tile drains, if any, are required to remain to serve existing adjacent agricultural uses, the Developer will design, coordinate and construct required modifications to the facilities to the satisfaction of the affected agency and the City. Written permission from irrigation district or affected owner(s) will be required to be submitted to the City prior to the issuance of the Grading Permit. The cost of relocating and/or removing irrigation facilities and/or tile drains is the sole responsibility of the Developer.

E.10.4. Nothing contained herein shall be construed to permit any violation of relevant ordinances and regulations of the City of Tracy, or another public agency having jurisdiction. This Condition of Approval does not preclude the City from requiring pertinent revisions and additional requirements to the Grading Permit, Encroachment Permit, Building Permit, Improvement Plans, and OIA, if the City Engineer finds it necessary due to public health and safety reasons, and it is in the best interest of the City. The Developer shall bear all the cost for the inclusion, design, and implementations of such additions and requirements, without reimbursement or any payment from the City.