



AMENDED

AGENDA

Tuesday, September 16, 2025

5:00 P.M. Closed Session

6:30 P.M. Open Session

REGULAR MEETING

**CITY COUNCIL, AIRPORT COMMISSION,
MARINA ABRAMS B NON-PROFIT CORPORATION, PRESTON PARK
SUSTAINABLE COMMUNITY NON-PROFIT CORPORATION, SUCCESSOR
AGENCY OF THE FORMER MARINA REDEVELOPMENT AGENCY**

THIS MEETING WILL BE HELD IN PERSON AND VIRTUALLY (HYBRID).

Council Chambers
211 Hillcrest Avenue
Marina, California

AND

Zoom Meeting URL: <https://zoom.us/j/730251556>

Zoom Meeting Telephone Only Participation: 1-669-900-9128 - Webinar ID: 730 251 556

PARTICIPATION

You may participate in the City Council meeting in person or in real-time by calling Zoom Meeting via the weblink and phone number provided at the top of this agenda. Instructions on how to access, view and participate in remote meetings are provided by visiting the City's home page at <https://cityofmarina.org/>. Attendees can make oral comments during the meeting by using the "Raise Your Hand" feature in the webinar or by pressing *9 on your telephone keypad if joining by phone only.

The most effective method of communication with the City Council is by sending an email to marina@cityofmarina.org. Comments will be reviewed and distributed before the meeting if received by 5:00 p.m. on the day of the meeting. All comments received will become part of the record. Council will have the option to modify their action on items based on comments received.

AGENDA MATERIALS

Agenda materials, staff reports and background information related to regular agenda items are available on the City of Marina's website www.cityofmarina.org. Materials related to an item on this agenda submitted to the Council after distribution of the agenda packet will be made available on the City of Marina website www.cityofmarina.org subject to City staff's ability to post the documents before the meeting.

VISION STATEMENT

Marina will grow and mature from a small town bedroom community to a small city which is diversified, vibrant and through positive relationships with regional agencies, self-sufficient. The City will develop in a way that insulates it from the negative impacts of urban sprawl to become a desirable residential and business community in a natural setting. **(Resolution No. 2006-112 - May 2, 2006)**

MISSION STATEMENT

The City Council will provide the leadership in protecting Marina's natural setting while developing the City in a way that provides a balance of housing, jobs and business opportunities that will result in a community characterized by a desirable quality of life, including recreation and cultural opportunities, a safe environment and an economic viability that supports a high level of municipal services and infrastructure. **(Resolution No. 2006-112 - May 2, 2006)**

LAND ACKNOWLEDGEMENT

The City recognizes that it was founded and is built upon the traditional homelands and villages first inhabited by the Indigenous Peoples of this region - the Esselen and their ancestors and allies - and honors these members of the community, both past and present.

1. CALL TO ORDER 
2. ROLL CALL & ESTABLISHMENT OF QUORUM: (City Council, Airport Commissioners, Marina Abrams B Non-Profit Corporation, Preston Park Sustainable Communities Nonprofit Corporation, Successor Agency of the Former Redevelopment Agency Members and Marina Groundwater Sustainability Agency)

Jenny McAdams, Brian McCarthy, Kathy Biala, Mayor Pro-Tem/Vice Chair Liesbeth Visscher, Mayor/Chair Bruce C. Delgado
3. PUBLIC COMMENT ON CLOSED SESSION ITEMS: None
4. CLOSED SESSION:
 - a. Conference with Legal Counsel, Existing Litigation (§ 54956.9(d))
 - i. *Application of California-American Water Company (U210W)*, Application 21-11-024, California Public Utilities Commission.
 - ii. *City of Marina, et. al. v. California Coastal Commission, et al.*, 22-CV-004063, Monterey Superior Court.
 - iii. *City of Marina, et al. v. RMC Lonestar, et. al.*, 20-CV-001387, Monterey Superior Court.
 - c. Public Employee Performance Evaluation, Unrepresented Employee (CA Govt. Code Section 54957(b)) – City Manager

6:30 PM - RECONVENE OPEN SESSION AND REPORT ON ANY ACTIONS TAKEN IN CLOSED SESSION

5. MOMENT OF SILENCE & PLEDGE OF ALLEGIANCE (Please stand)
6. SPECIAL PRESENTATIONS:
 - a. Blue Zone Certification – Kendra Howell
 - b. Friendship City with Izunokuni, Japan Welcome of Yuzuki Yamashita Proclamation
7. COUNCIL AND STAFF ANNOUNCEMENTS:
8. PUBLIC COMMENT: *Any member of the public may comment on any matter within the City Council's jurisdiction that is not on the agenda. This is the appropriate place to comment on items on the Consent Agenda. Action will not be taken on items not on the agenda. Comments are limited to a maximum of three (3) minutes. General public comment may be limited to thirty (30) minutes and/or continued to the end of the agenda. Any member of the public may comment on any matter listed on this agenda at the time the matter is being*

considered by the City Council. Whenever possible, written correspondence should be submitted to the Council in advance of the meeting, to provide adequate time for its consideration.

9. CONSENT AGENDA FOR THE SUCCESSOR AGENCY TO THE FORMER MARINA REDEVELOPMENT AGENCY: *Background information has been provided to the Successor Agency of the former Redevelopment Agency on all matters listed under the Consent Agenda, and these items are considered to be routine and non-controversial. All items under the Consent Agenda are normally approved by one motion. Prior to such a motion being made, any member of the public or City Council may ask a question or make a comment about an agenda item and staff may provide a response. If discussion or a lengthy explanation is required, the Council may remove an item from the Consent Agenda for individual consideration. If an item is pulled for discussion, it will be placed at the end of Other Action Items Successor Agency to the former Marina Redevelopment Agency.*
10. CONSENT AGENDA: *These items are considered to be routine and non-controversial. All items under the Consent Agenda may be approved by one motion. Prior to such a motion being made, any member of City Council may ask a question or make a comment about an agenda item and staff may provide a response. If discussion or a lengthy explanation is required, Council may remove the item from the Consent Agenda and it will be placed at the end of Other Action Items.*
 - a. ACCOUNTS PAYABLE: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) Accounts Payable Check Numbers 107673-107729, totaling \$953,078.34.
Accounts Payable Successor Agency Check Number 134, totaling \$3,250.00.
 - b. MINUTES: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) September 3, 2025, Regular City Council Meeting
 - (2) September 9, 2025, Special City Council Meeting
 - c. CLAIMS AGAINST THE CITY: None
 - d. AWARD OF BID: None
 - e. CALL FOR BIDS:
 - (1) Adopting Resolution No. 2025-, approving advertising and call for bids for the Imjin Pkwy and 3rd Ave. Intersection Improvement Project.
 - f. ADOPTION OF RESOLUTIONS: None
 - g. APPROVAL OF AGREEMENTS: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) Adopting Resolution No. 2025-, authorizing a professional services agreement with Wallace Group of San Luis Obispo, CA for engineering services in an amount not to exceed \$90,000.00 for undergrounding of overhead utilities at the City Park at the Dunes.
 - h. ACCEPTANCE OF PUBLIC IMPROVEMENTS: None
 - i. MAPS: None
 - j. REPORTS: (RECEIVE AND FILE):
 - (1) Monterey-Salinas Transit September 8, 2025, Board Meeting Highlights
 - k. FUNDING & BUDGET MATTERS: None

1. APPROVE ORDINANCES (WAIVE SECOND READING):

- (1) Read by Title Only and adopting Ordinance No. 2025-13, amending the Marina Municipal Code, Title 3, Chapter 3.16 by adding two new sections, 3.16.080 and 3.16.090 - Alternative Project Delivery Method for Public Works Projects.

m. APPROVE APPOINTMENTS: None

11. PUBLIC HEARINGS: *In the Council's discretion, the applicant/proponent of an item may be given up to ten (10) minutes to speak. All other persons may be given up to three (3) minutes to speak on the matter.*

- a. Open public hearing and consider introducing Ordinance No. 2025-, amending Section 17.52.020 of the Marina Municipal Code (MMC) removing the phrase "male and female impersonators" from the Definition of "Adult cabaret" thereby removing this form of personal and cultural expression from uses regulated by the Adult Businesses and Massage Therapists section of the MMC. The proposed Ordinance adoption is exempt from environmental review pursuant to Section and 15061(b)(3) of the CEQA Guidelines."
- b. Receive informational presentation on a Development Impact Fee Nexus Study; and adopt the Development Impact Fee Nexus Study; and Open the public hearing and take any testimony from the public, and; consider introducing Ordinance No. 2025-, amending chapter 3.26 of the Marina Municipal Code regarding mitigation fees for new development within the City of Marina.

12. OTHER ACTIONS ITEMS OF THE SUCCESSOR AGENCY TO THE FORMER MARINA REDEVELOPMENT AGENCY: *Action listed for each Agenda item is that which is requested by staff. The Successor Agency may, at its discretion, take action on any items. Members of the public may be given up to three (3) minutes to speak.*

13. OTHER ACTION ITEMS: *Action listed for each Agenda item is that which is requested by staff. The City Council may, at its discretion, take action on any items. Members of the public may be given up to three (3) minutes to speak.*

Note: No additional major projects or programs should be undertaken without review of the impacts on existing priorities (Resolution No. 2006-79 – April 4, 2006).

14. COUNCIL & STAFF INFORMATIONAL REPORTS:

- a. Monterey County Mayor's Association [Mayor Bruce Delgado]
- b. Council reports on meetings and conferences attended (Gov't Code Section 53232).

15. ADJOURNMENT:

CERTIFICATION

I, Anita Sharp, Deputy City Clerk, of the City of Marina, do hereby certify that a copy of the foregoing agenda was posted at City Hall and Council Chambers Bulletin Board at 211 Hillcrest Avenue, Monterey County Library Marina Branch at 190 Seaside Circle, City Bulletin Board at the corner of Reservation Road and Del Monte Boulevard on or before 6:30 p.m., Friday, September 12, 2025.

ANITA SHARP, DEPUTY CITY CLERK

City Council, Airport Commission and Redevelopment Agency meetings are recorded on tape and available for public review and listening at the Office of the City Clerk and kept for a period of 90 days after the formal approval of MINUTES.

City Council meetings may be viewed live on the meeting night and at 12:30 p.m. and 3:00 p.m. on Cable Channel 25 on the Sunday following the Regular City Council meeting date. In addition, Council meetings can be viewed at 6:30 p.m. every Monday, Tuesday and Wednesday. For more information about viewing the Council Meetings on Channel 25, you may contact Access Monterey Peninsula directly at 831-333-1267.

Agenda items and staff reports are public record and are available for public review on the City's website (www.cityofmarina.org), at the Monterey County Marina Library Branch at 190 Seaside Circle and at the Office of the City Clerk at 211 Hillcrest Avenue, Marina between the hours of 10:00 a.m. 5:00 p.m., on the Monday preceding the meeting.

Supplemental materials received after the close of the final agenda and through noon on the day of the scheduled meeting will be available for public review at the City Clerk's Office during regular office hours and in a 'Supplemental Binder' at the meeting.

ALL MEETINGS ARE OPEN TO THE PUBLIC. THE CITY OF MARINA DOES NOT DISCRIMINATE AGAINST PERSONS WITH DISABILITIES. Council Chambers are wheelchair accessible. Meetings are broadcast on cable channel 25 and recordings of meetings can be provided upon request. To request assistive listening devices, sign language interpreters, readers, large print agendas or other accommodations, please call (831) 884-1278 or e-mail: marina@cityofmarina.org. Requests must be made at least **48 hours** in advance of the meeting.

Upcoming 2025 Meetings of the City Council, Airport
Commission, Marina Abrams B Non-Profit Corporation,
Preston Park Sustainable Community Nonprofit Corporation,
Successor Agency of the Former Redevelopment Agency and
Marina Groundwater Sustainability Agency
Regular Meetings: 5:00 p.m. Closed Session;
6:30 p.m. Regular Open Sessions

Tuesday, October 7, 2025
Tuesday, October 21, 2025

Tuesday, November 4, 2025
Tuesday, November 18, 2025

Tuesday, December 2, 2025
Tuesday, December 16, 2025

CITY HALL 2025 HOLIDAYS
(City Hall Closed)

Veterans Day (City Offices Closed)----- Tuesday, November 11, 2025
Thanksgiving Day----- Thursday, November 27, 2025
Thanksgiving Break----- Friday, November 28, 2025
Winter Break----- Wednesday, December 24, 2025-Wednesday, December 31, 2025

2025 COMMISSION DATES

Upcoming 2025 Meetings of Planning Commission
2nd and 4th Thursday of every month. Meetings are held at the Council Chambers at 6:30 P.M.

September 25, 2025

October 9, 2025
October 23, 2025

November 13, 2025
November 27, 2025 (Cancelled)
December 11, 2025

Upcoming 2025 Meetings of Public Works Commission
1st Thursday of every month. Meetings are held at the Council Chambers at 6:30 P.M.

October 2, 2025

November 6, 2025

December 4, 2025

**Upcoming 2025 Meetings of Recreation &
Cultural Services Commission**
1st Wednesday of every second month. Meetings are held at the Council Chambers at 6:30 P.M.

November 5, 2025

Upcoming 2025 Meetings of Marina Tree Committee
2nd Wednesday of every quarter month as needed. Meetings are held at the Council Chambers at 6:30 P.M.

October 8, 2025



Proclamation

Friendship City with Izunokuni, Japan Welcome of Yuzuki Yamashita

Whereas, the Marina Sister City Program was established by City Council approval on June 6, 2023, creating a Friendship City partnership between the City of Marina and the City of Izunokuni, Japan; and

Whereas, in July 2024, Izunokuni sent a delegation, including their Mayor, to visit Marina, followed by a reciprocal visit of a Marina delegation to Izunokuni in March 2025; and

Whereas, two successful academic years of a Zoom Student Exchange Program have been completed, with six Japanese and six American high school students participating each year, and a third program is beginning for this 2025–2026 academic year; and

Whereas, during Marina's official delegation visit to Izunokuni in March 2025, Nagaoka Junior High School graciously hosted our delegation, with 120 students of their total 338 enrolled students performing the song "Best Friends," teaching us origami and Japanese calligraphy, and sharing a school lunch in their classrooms, creating a once-in-a-lifetime cultural experience; and

Whereas, as part of this Friendship City relationship, Ms. Yuzuki Yamashita, schoolteacher at Nagaoka Junior High School, has been sponsored by Shizuoka Prefecture and 27 supporting companies and organizations, to visit Marina, where she will observe our educational system at all levels of Marina schools and learn about the diversity of American culture; and

Whereas, the City of Marina wholeheartedly welcomes Ms. Yamashita, as part of our continuing effort to fulfill the mission of the Marina Sister City Program—promoting citizen diplomacy and exchanges in arts and culture, youth and education, business and trade, and community development as a means to foster peace and prosperity worldwide.

Now, Therefore, Be It Resolved that the City of Marina, Mayor Bruce Delagado and all councilmembers warmly welcome Ms. Yuzuki Yamashita and affirms our commitment to the lasting friendship between the City of Marina and the City of Izunokuni.

Dated this 16th day of September 2025

Liesbeth Visscher, Mayor Pro Tem

Brian McCarthy, Councilmember



Kathy Biala, Councilmember

Jenny McAdams, Councilmember

Bruce C. Delgado, Mayor



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 110 - City Council										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6400.565 - Material & Suppl Office Supplies										
11790 - Quality Print & Copy	24364	1000 Business Cards - Councilmember Biala	Paid by EFT # 6611		08/26/2025	08/25/2025	08/25/2025		09/05/2025	200.73
Account 6400.565 - Material & Suppl Office Supplies Totals							Invoice Transactions	1		\$200.73
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$200.73
Division 000 - Non-Div Totals							Invoice Transactions	1		\$200.73
Department 110 - City Council Totals							Invoice Transactions	1		\$200.73
Department 120 - City Mgr/HR/Risk										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.465 - Prof Svc Legal - Special Counsel										
11505 - Shartsis Friese LLP	5512901	Professional Services - MPWSP - July 2025	Paid by Check # 107693		08/29/2025	08/29/2025	08/29/2025		09/05/2025	104,296.60
Account 6300.465 - Prof Svc Legal - Special Counsel Totals							Invoice Transactions	1		\$104,296.60
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$104,296.60
Division 000 - Non-Div Totals							Invoice Transactions	1		\$104,296.60
Department 120 - City Mgr/HR/Risk Totals							Invoice Transactions	1		\$104,296.60
Department 130 - Finance										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.210 - Prof Svc Fin - Actuarial										
11710 - HdL Coren & Cone	SIN053912	2024-25 ACFR Statistical Package	Paid by EFT # 6606		08/28/2025	09/03/2025	09/03/2025		09/05/2025	795.00
Account 6300.210 - Prof Svc Fin - Actuarial Totals							Invoice Transactions	1		\$795.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$795.00
Division 000 - Non-Div Totals							Invoice Transactions	1		\$795.00
Department 130 - Finance Totals							Invoice Transactions	1		\$795.00
Department 150 - City Attorney										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc										
10257 - Goldfarb & Lipman	486112	The Dunes - July 2025	Paid by EFT # 6605		08/27/2025	08/25/2025	08/25/2025		09/05/2025	365.00
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc Totals							Invoice Transactions	1		\$365.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$365.00
Division 000 - Non-Div Totals							Invoice Transactions	1		\$365.00
Department 150 - City Attorney Totals							Invoice Transactions	1		\$365.00



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Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 190 - Citywide Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.217 - Prof Svc Fin - Business Lic Services										
10274 - Hinderliter, de Llamas & Associates (HDL)	SIN053404	July 2025 BL Admin Fee	Paid by EFT # 6607		07/31/2025	09/03/2025	09/03/2025		09/05/2025	9,180.71
Account 6300.217 - Prof Svc Fin - Business Lic Services Totals										Invoice Transactions 1
										\$9,180.71
Account 6300.570 - Prof Svc Other										
12208 - RAYA AUTOMOTIVE	2307	2019 Dodge Durango PD	Paid by Check # 107691		07/16/2025	08/27/2025	08/27/2025		09/05/2025	730.00
10274 - Hinderliter, de Llamas & Associates (HDL)	SIN053405	July 2025 - HDL TOT	Paid by EFT # 6607		07/31/2025	09/03/2025	09/03/2025		09/05/2025	2,365.13
Account 6300.570 - Prof Svc Other Totals										Invoice Transactions 2
										\$3,095.13
Account 6360.570 - Maint & Repairs Other Svc Agr										
10129 - Cintas Corporation	4241811593	Mat Service City Hall	Paid by Check # 107679		08/29/2025	09/03/2025	09/03/2025		09/05/2025	61.72
Account 6360.570 - Maint & Repairs Other Svc Agr Totals										Invoice Transactions 1
										\$61.72
Account 6380.150 - Utilities Comm Phone System										
10758 - AT & T CALNET3	000023976834	CALNET3-9391023477 (582-9803)	Paid by Check # 107677		08/27/2025	09/03/2025	09/03/2025		09/05/2025	31.17
10758 - AT & T CALNET3	000023976828	CALNET3-9391023471 (582-0100)	Paid by Check # 107677		08/27/2025	09/03/2025	09/03/2025		09/05/2025	64.81
10758 - AT & T CALNET3	000023978920	CALNET3-9391023463 (384-7854)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	31.16
10758 - AT & T CALNET3	000023978895	CALNET3-9391023440 (384-0860)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	31.21
10758 - AT & T CALNET3	000023978896	CALNET3-9391023441 (384-0888)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	31.16
10758 - AT & T CALNET3	000023978892	CALNET3-9391023437 (384-0425)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	47.40
10758 - AT & T CALNET3	000023978923	CALNET3-9391023466 (384-8477)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	60.77
10758 - AT & T CALNET3	000023978925	CALNET3-9391023468 (384-9148)	Paid by Check # 107677		08/28/2025	09/03/2025	09/03/2025		09/05/2025	31.16
Account 6380.150 - Utilities Comm Phone System Totals										Invoice Transactions 8
										\$328.84
Account 6380.500 - Utilities Water & Sewer										
10349 - Marina Coast Water District	Aug 2025 56-046	3100 Preston Dr	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	180.11
Account 6380.500 - Utilities Water & Sewer Totals										Invoice Transactions 1
										\$180.11
Account 6600.740 - Other Charges Special Event										
11871 - The State of California, Judicial Council	27-B1-2025-08-12	Marina Court House Parking Lot	Paid by Check # 107699		08/12/2025	08/28/2025	08/28/2025		09/05/2025	200.00
Account 6600.740 - Other Charges Special Event Totals										Invoice Transactions 1
										\$200.00
Sub-Division 00 - Non-Subdiv Totals										Invoice Transactions 14
										\$13,046.51



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Fund 100 - General Fund										
Department 190 - Citywide Non-Dept										
Division 000 - Non-Div Totals								Invoice Transactions 14		\$13,046.51
Department 190 - Citywide Non-Dept Totals								Invoice Transactions 14		\$13,046.51
Department 210 - Police										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.570 - Prof Svc Other										
10456 - Shred-it USA - Stericycle, Inc.	8011705465	Shredding - Onsite	Paid by Check # 107694		08/18/2025	08/22/2025	08/22/2025		09/05/2025	172.61
Account 6300.570 - Prof Svc Other Totals								Invoice Transactions 1		\$172.61
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades										
10623 - Xerox Financial Services	40853874	Printer Paper Tray 550 sheet non-serialized 8/10 - 9/09/25	Paid by Check # 107704		08/21/2025	08/22/2025	08/22/2025		09/05/2025	2.04
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades Totals								Invoice Transactions 1		\$2.04
Account 6360.570 - Maint & Repairs Other Svc Agr										
10623 - Xerox Financial Services	40853875	Svc payment 8/10 - 9/09/25	Paid by Check # 107704		08/21/2025	08/22/2025	08/22/2025		09/05/2025	782.85
Account 6360.570 - Maint & Repairs Other Svc Agr Totals								Invoice Transactions 1		\$782.85
Account 6380.150 - Utilities Comm Phone System										
10053 - AT & T	Aug 2025 0676	Acct # 325820676	Paid by Check # 107676		08/13/2025	08/22/2025	08/22/2025		09/05/2025	204.03
10057 - Avaya, Inc.	2222010967	Acct # 100828859	Paid by EFT # 6602		08/28/2025	08/28/2025	08/22/2025		09/05/2025	10.30
10057 - Avaya, Inc.	2222007645	Acct # 100828859	Paid by EFT # 6602		08/03/2025	08/22/2025	08/22/2025		09/05/2025	2.19
10374 - Maynard Group Inc.	IN2059268	Utilities - Phones / Acct #AC3746	Paid by EFT # 6610		09/01/2025	09/01/2025	08/22/2025		09/05/2025	676.53
Account 6380.150 - Utilities Comm Phone System Totals								Invoice Transactions 4		\$893.05
Account 6500.620 - Training & Travel POST										
11781 - K'Shante Dela Cuadra - Employee	9-07-25	Per Diem Dela Cuadra - Firearms and Tactical Rifle Course 9/7	Paid by Check # 107685		09/02/2025	09/02/2025	09/02/2025		09/05/2025	506.00
11892 - Lizette Rocha-Alvarez - Emp	9-08-25	Per Diem Rocha - CA CLETS Users Group CCUG Seminar	Paid by Check # 107687		09/03/2025	09/03/2025	09/03/2025		09/05/2025	207.00
11840 - Nicholas Beavers - Employee	9-02-25	Per Diem Beavers - COLT M4 / M16 Armorers Course 9/02/25	Paid by Check # 107690		08/19/2025	08/19/2025	08/19/2025		09/05/2025	30.00
11604 - Ryan Parra	9-08-25	Per Diem Parra - POST Glock AR-15 & Remington 870 Armorer Course	Paid by Check # 107692		09/03/2025	09/03/2025	09/03/2025		09/05/2025	54.00



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Fund 100 - General Fund										
Department 210 - Police										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6500.620 - Training & Travel POST										
12187 - Tanya Nava - Employee	9-08-25	Per Diem Nava - CA CLETS Users Group CCUG Seminar	Paid by Check # 107698		09/03/2025	09/03/2025	09/03/2025		09/05/2025	207.00
Account 6500.620 - Training & Travel POST Totals									Invoice Transactions 5	\$1,004.00
Account 6600.465 - Other Charges Live Scan										
10193 - California Department of Justice	834279	Livescans	Paid by Check # 107678		08/07/2025	08/22/2025	08/22/2025		09/05/2025	275.00
Account 6600.465 - Other Charges Live Scan Totals									Invoice Transactions 1	\$275.00
Account 6600.625 - Other Charges Printing Svc										
12091 - MP EXPRESS, INC.	78807	Vehicle Check / Parking Warning Slips	Paid by Check # 107689		08/20/2025	08/22/2025	08/22/2025		09/05/2025	237.30
Account 6600.625 - Other Charges Printing Svc Totals									Invoice Transactions 1	\$237.30
Account 6600.780 - Other Charges Transcription Svc										
10544 - SpeakWrite	c8cbfbf0	Transcription Service; Online Reporting	Paid by Check # 107696		09/01/2025	09/01/2025	08/22/2025		09/05/2025	3,294.93
Account 6600.780 - Other Charges Transcription Svc Totals									Invoice Transactions 1	\$3,294.93
Sub-Division 00 - Non-Subdiv Totals									Invoice Transactions 15	\$6,661.78
Division 000 - Non-Div Totals									Invoice Transactions 15	\$6,661.78
Department 210 - Police Totals									Invoice Transactions 15	\$6,661.78
Department 250 - Fire										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6360.565 - Maint & Repairs Office Equip										
11788 - City Management Advisors LLC - Peckham & McKenney	#1FC	City of Marina Professional Invoice Fee Fire Chief Search	Paid by Check # 107680		07/01/2025	09/03/2025	09/03/2025		09/05/2025	9,333.33
11788 - City Management Advisors LLC - Peckham & McKenney	#2FC	City of Marina Professional Invoice Fee Fire Chief Search	Paid by Check # 107680		08/01/2025	09/03/2025	09/03/2025		09/05/2025	9,333.33
Account 6360.565 - Maint & Repairs Office Equip Totals									Invoice Transactions 2	\$18,666.66
Account 6360.570 - Maint & Repairs Other Svc Agr										
10129 - Cintas Corporation	4241811390	Shop Towel - Microfiber Towel	Paid by Check # 107679		08/29/2025	09/03/2025	09/03/2025		09/05/2025	160.09
Account 6360.570 - Maint & Repairs Other Svc Agr Totals									Invoice Transactions 1	\$160.09
Account 6360.850 - Maint & Repairs Vehicle										
10323 - L.N. Curtis & Sons	INV982697	Tools for 5401	Paid by EFT # 6608		08/25/2025	08/26/2025	08/26/2025		09/05/2025	178.88
Account 6360.850 - Maint & Repairs Vehicle Totals									Invoice Transactions 1	\$178.88



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 250 - Fire										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.300 - Utilities Gas & Electric										
10603 - Verizon Wireless	6121941079	371782403-00002 FD Mobile Jul 26 - Aug 25	Paid by EFT # 6612		08/25/2025	09/03/2025	09/03/2025		09/05/2025	532.34
Account 6380.300 - Utilities Gas & Electric Totals							Invoice Transactions		1	<u>\$532.34</u>
Account 6400.740 - Material & Suppl Special Dept Suppl										
10599 - Valley Saw & Garden Equipment	418858	Chain Saw FD	Paid by Check # 107702		08/27/2025	08/27/2025	08/27/2025		09/05/2025	1,243.21
Account 6400.740 - Material & Suppl Special Dept Suppl Totals							Invoice Transactions		1	<u>\$1,243.21</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions		6	<u>\$20,781.18</u>
Division 000 - Non-Div Totals							Invoice Transactions		6	<u>\$20,781.18</u>
Department 250 - Fire Totals							Invoice Transactions		6	<u>\$20,781.18</u>
Department 310 - Public Works										
Division 311 - Buildings & Grounds										
Sub-Division 00 - Non-Subdiv										
Account 6360.040 - Maint & Repairs Backflow Preventers										
10183 - David Sollid / Marina Backflow Company	4053	Susan Ave	Paid by Check # 107681		08/25/2025	08/28/2025	08/28/2025		09/05/2025	170.00
Account 6360.040 - Maint & Repairs Backflow Preventers Totals							Invoice Transactions		1	<u>\$170.00</u>
Account 6360.065 - Maint & Repairs Bdg NonFlagship										
10728 - Ace Hardware-Public Works	092119	306 Reservation Rental	Paid by Check # 107674		08/18/2025	08/28/2025	08/28/2025		09/05/2025	25.12
10728 - Ace Hardware-Public Works	092114	306 Reservation Rental	Paid by Check # 107674		08/18/2025	08/28/2025	08/28/2025		09/05/2025	90.19
10728 - Ace Hardware-Public Works	092095	VD Park	Paid by Check # 107674		08/14/2025	08/28/2025	08/28/2025		09/05/2025	15.27
10728 - Ace Hardware-Public Works	092096	City Hall	Paid by Check # 107674		08/14/2025	08/28/2025	08/28/2025		09/05/2025	14.19
10728 - Ace Hardware-Public Works	092139	Window horse stable	Paid by Check # 107674		08/21/2025	08/29/2025	08/29/2025		09/05/2025	114.85
10728 - Ace Hardware-Public Works	092099	306 Reservation Rental	Paid by Check # 107674		08/15/2025	08/29/2025	08/29/2025		09/05/2025	22.92
10728 - Ace Hardware-Public Works	092103	306 Reservation Rental	Paid by Check # 107674		08/15/2025	08/29/2025	08/29/2025		09/05/2025	37.77
10034 - American Supply Co.	3069743	City Supplies	Paid by Check # 107675		08/26/2025	08/29/2025	08/29/2025		09/05/2025	3,814.90



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 310 - Public Works										
Division 311 - Buildings & Grounds										
Sub-Division 00 - Non-Subdiv										
Account 6360.065 - Maint & Repairs Bdg NonFlagship										
10230 - Ewing	27388764	Irrigation	Paid by Check # 107683		08/25/2025	09/02/2025	09/02/2025		09/05/2025	315.92
Account 6360.065 - Maint & Repairs Bdg NonFlagship Totals										Invoice Transactions 9
										\$4,451.13
Account 6380.500 - Utilities Water & Sewer										
10349 - Marina Coast Water District	Aug 2025 56-006	188 Seaside Cir	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	417.84
10349 - Marina Coast Water District	Aug 2025 56-042	3040 Lake Dr	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	272.97
10349 - Marina Coast Water District	Aug 2025 56-045	3100 Preston Dr	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	2,100.38
10349 - Marina Coast Water District	Aug 2025 56-061	Reservation/Locke Paddon Park	Paid by Check # 107688		08/20/2025	08/29/2025	08/29/2025		09/05/2025	190.97
10349 - Marina Coast Water District	Aug 2025 56-090	Locke Paddon Park	Paid by Check # 107688		08/20/2025	08/29/2025	08/29/2025		09/05/2025	146.41
Account 6380.500 - Utilities Water & Sewer Totals										Invoice Transactions 5
										\$3,128.57
Account 6400.630 - Material & Suppl Portable Toilet										
10588 - United Site Services	INV-5570027	2660 5th Ave	Paid by Check # 107701		08/31/2025	08/28/2025	08/28/2025		09/05/2025	893.61
Account 6400.630 - Material & Suppl Portable Toilet Totals										Invoice Transactions 1
										\$893.61
Account 6400.800 - Material & Suppl Uniform										
10264 - Green Rubber-Kennedy AG	S-811580	Tingley FL Lime	Paid by Check # 107684		08/21/2025	08/28/2025	08/28/2025		09/05/2025	88.10
Account 6400.800 - Material & Suppl Uniform Totals										Invoice Transactions 1
										\$88.10
Sub-Division 00 - Non-Subdiv Totals										Invoice Transactions 17
										\$8,731.41
Division 311 - Buildings & Grounds Totals										Invoice Transactions 17
										\$8,731.41
Division 313 - Vehicle Maint										
Sub-Division 00 - Non-Subdiv										
Account 6360.850 - Maint & Repairs Vehicle										
12208 - RAYA AUTOMOTIVE	2307	2019 Dodge Durango PD	Paid by Check # 107691		07/16/2025	08/27/2025	08/27/2025		09/05/2025	566.94
12181 - Sound Billing, LLC / MyFleetCenter	7003105	2003 Ford Truck F250 Airport	Paid by Check # 107695		08/22/2025	08/27/2025	08/27/2025		09/05/2025	161.98
12181 - Sound Billing, LLC / MyFleetCenter	7000567	FD 2024 F150 Ford Pick up	Paid by Check # 107695		07/10/2025	08/27/2025	08/27/2025		09/05/2025	116.27
Account 6360.850 - Maint & Repairs Vehicle Totals										Invoice Transactions 3
										\$845.19
Sub-Division 00 - Non-Subdiv Totals										Invoice Transactions 3
										\$845.19
Division 313 - Vehicle Maint Totals										Invoice Transactions 3
										\$845.19
Department 310 - Public Works Totals										Invoice Transactions 20
										\$9,576.60



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 410 - Planning										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6330.100 - Fee Agr Costs - Planning										
10316 - Kimley-Horn & Associates, Inc.	32882426	Marina Station Traffic	Paid by Check # 107686		07/31/2025	09/02/2025	09/02/2025		09/05/2025	2,952.00
Account 6330.100 - Fee Agr Costs - Planning Totals							Invoice Transactions	1		\$2,952.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$2,952.00
Division 000 - Non-Div Totals							Invoice Transactions	1		\$2,952.00
Department 410 - Planning Totals							Invoice Transactions	1		\$2,952.00
Department 420 - Engineering										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.175 - Prof Svc Eng Svc- Rev Funded Plan Check										
10171 - CSG Consultants	62372	Sea Haven Inspection Phase 3B	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	2,052.00
10171 - CSG Consultants	62373	Sea Haven Inspections Phase 4	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	8,550.00
Account 6300.175 - Prof Svc Eng Svc- Rev Funded Plan Check Totals							Invoice Transactions	2		\$10,602.00
Account 6300.185 - Prof Svc Engineering Svs-Staff Augment										
10171 - CSG Consultants	62362	Staff Augmentaion	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	4,930.50
Account 6300.185 - Prof Svc Engineering Svs-Staff Augment Totals							Invoice Transactions	1		\$4,930.50
Account 6300.190 - Prof Svc Engineering Svc Interagency										
10171 - CSG Consultants	62363	RWQCB	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	912.00
Account 6300.190 - Prof Svc Engineering Svc Interagency Totals							Invoice Transactions	1		\$912.00
Account 6330.200 - Fee Agr Costs - Engineering										
10171 - CSG Consultants	62366	Dunes Phase 2 West- Inspections	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	1,026.00
10171 - CSG Consultants	62367	Dunes Phase 3 North	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	2,052.00
10171 - CSG Consultants	62368	Dunes Promenade 1B Inspections	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	456.00
10171 - CSG Consultants	62369	Inspections Dunes Phase 3 North Improvements	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	6,156.00
10171 - CSG Consultants	62374	Via Del Mar Subdivision (3320 Abdy Way)	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	171.00
Account 6330.200 - Fee Agr Costs - Engineering Totals							Invoice Transactions	5		\$9,861.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	9		\$26,305.50
Division 000 - Non-Div Totals							Invoice Transactions	9		\$26,305.50
Department 420 - Engineering Totals							Invoice Transactions	9		\$26,305.50



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund Totals					Invoice Transactions 69					\$184,980.90



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 220 - Gas Tax										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.500 - Utilities Water & Sewer										
10349 - Marina Coast Water District	Aug 2025 56-028	California at Jerry Ct	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	78.07
10349 - Marina Coast Water District	Aug 2025 56-040	Hilo Ave	Paid by Check # 107688		08/20/2025	08/28/2025	08/28/2025		09/05/2025	50.75
Account 6380.500 - Utilities Water & Sewer Totals							Invoice Transactions	2		<u>\$128.82</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	2		<u>\$128.82</u>
Division 000 - Non-Div Totals							Invoice Transactions	2		<u>\$128.82</u>
Department 000 - Non-Dept Totals							Invoice Transactions	2		<u>\$128.82</u>
Fund 220 - Gas Tax Totals							Invoice Transactions	2		<u>\$128.82</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 235 - Cypress Cove II AD										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection										
10171 - CSG Consultants	62354	Marina Landscapt Maint Dis Eff 7/1/25 Cypress Cove	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	1,140.00
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection Totals							Invoice Transactions	1		<u>\$1,140.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$1,140.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$1,140.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$1,140.00</u>
Fund 235 - Cypress Cove II AD Totals							Invoice Transactions	1		<u>\$1,140.00</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 251 - CFD - Locke Paddon										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.500 - Utilities Water & Sewer										
10349 - Marina Coast Water District	Aug 2025 16-000	199 A Paddon Place	Paid by Check # 107688		08/20/2025	08/29/2025	08/29/2025		09/05/2025	153.67
Account 6380.500 - Utilities Water & Sewer Totals							Invoice Transactions	1		<u>\$153.67</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$153.67</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$153.67</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$153.67</u>
Fund 251 - CFD - Locke Paddon Totals							Invoice Transactions	1		<u>\$153.67</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 252 - CFD - Dunes No. 2015-1										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection										
10171 - CSG Consultants	62355	Locke Paddon CDF	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	228.00
10171 - CSG Consultants	62356	Phase1C CFD	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	228.00
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection Totals							Invoice Transactions	2		<u>\$456.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	2		<u>\$456.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	2		<u>\$456.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	2		<u>\$456.00</u>
Fund 252 - CFD - Dunes No. 2015-1 Totals							Invoice Transactions	2		<u>\$456.00</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 255 - Housing Assistance Fund										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6600.400 - Other Charges - Fees										
12067 - Sterling Management / Sterling Property Management	09-01-25	306 Reservation Road - HOA Fee - September 2025	Paid by Check # 107697		08/01/2025	08/25/2025	08/25/2025		09/05/2025	555.98
Account 6600.400 - Other Charges - Fees Totals							Invoice Transactions	1		\$555.98
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$555.98
Division 000 - Non-Div Totals							Invoice Transactions	1		\$555.98
Department 000 - Non-Dept Totals							Invoice Transactions	1		\$555.98
Fund 255 - Housing Assistance Fund Totals							Invoice Transactions	1		\$555.98



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 352 - Measure-X C.O.P. Debt Service										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.226 - Prof Svc Fin - Fees - Trustee										
11250 - U.S. Bank	7869339	2022 Certificates of Participation Trans Infrastructure Project	Paid by Check # 107700		08/25/2025	09/03/2025	09/03/2025		09/05/2025	3,250.00
Account 6300.226 - Prof Svc Fin - Fees - Trustee Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Fund 352 - Measure-X C.O.P. Debt Service Totals							Invoice Transactions	1		<u>\$3,250.00</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 462 - City Capital Projects										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.570 - Prof Svc Other										
10171 - CSG Consultants	62358	PFIP UDate	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	114.00
10171 - CSG Consultants	62359	Imjin Widening	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	4,560.00
10171 - CSG Consultants	62360	Salinas Ave Widening	Paid by EFT # 6604		08/08/2025	09/02/2025	09/02/2025		09/05/2025	228.00
Account 6300.570 - Prof Svc Other Totals							Invoice Transactions	3		<u>\$4,902.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	3		<u>\$4,902.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	3		<u>\$4,902.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	3		<u>\$4,902.00</u>
Fund 462 - City Capital Projects Totals							Invoice Transactions	3		<u>\$4,902.00</u>
Grand Totals							Invoice Transactions	80		<u>\$195,567.37</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/12/25 - 09/12/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 120 - City Mgr/HR/Risk										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.010 - Prof Svc Admin - Muni Code										
10149 - Code Publishing Inc. - General Code	GCI0018262	MMC Web Update	Paid by Check # 107711		08/29/2025	09/02/2025	09/02/2025		09/12/2025	2,235.00
Account 6300.010 - Prof Svc Admin - Muni Code Totals							Invoice Transactions 1			\$2,235.00
Account 6300.310 - Prof Svc HR - Labor Relation& Negotiation										
12265 - Atkinson, Andelson, Loya, Ruud & Romo	759123	AALRR Professional Corp.	Paid by Check # 107708		07/31/2025	08/21/2025	08/21/2025		09/12/2025	17,718.75
Account 6300.310 - Prof Svc HR - Labor Relation& Negotiation Totals							Invoice Transactions 1			\$17,718.75
Account 6300.465 - Prof Svc Legal - Special Counsel										
11033 - Sara Steck Myers	09-02-25	Professional Services - MPWSP - July-August 2025	Paid by EFT # 6659		09/02/2025	09/05/2025	09/05/2025		09/12/2025	14,670.00
Account 6300.465 - Prof Svc Legal - Special Counsel Totals							Invoice Transactions 1			\$14,670.00
Account 6300.570 - Prof Svc Other										
12265 - Atkinson, Andelson, Loya, Ruud & Romo	759123	AALRR Professional Corp.	Paid by Check # 107708		07/31/2025	08/21/2025	08/21/2025		09/12/2025	4,536.53
Account 6300.570 - Prof Svc Other Totals							Invoice Transactions 1			\$4,536.53
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions 4			\$39,160.28
Division 000 - Non-Div Totals							Invoice Transactions 4			\$39,160.28
Department 120 - City Mgr/HR/Risk Totals							Invoice Transactions 4			\$39,160.28
Department 125 - I. T.										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.330 - Prof Svc IT - Information Tech Svc										
10897 - TechRx Technology Services	13120	IT Support - August 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	11,400.00
Account 6300.330 - Prof Svc IT - Information Tech Svc Totals							Invoice Transactions 1			\$11,400.00
Account 6360.076 - Maint & Repairs Copier										
10592 - U.S. Bank Equipment Finance-USbancorp	563257484	CDD Copier Lease Payment - September 2025	Paid by Check # 107725		08/30/2025	09/02/2025	09/02/2025		09/12/2025	225.06
Account 6360.076 - Maint & Repairs Copier Totals							Invoice Transactions 1			\$225.06
Account 6360.342 - Maint & Repairs IT - System Annual Maint										
10897 - TechRx Technology Services	13117	Citywide MS Office 365 - September 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	2,714.00
10897 - TechRx Technology Services	13108	Veeam Subscription - September 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	544.00
10897 - TechRx Technology Services	13079	Zoom Fees - August 2025	Paid by EFT # 6661		08/31/2025	09/03/2025	09/03/2025		09/12/2025	533.85



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 125 - I. T.										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6360.342 - Maint & Repairs IT - System Annual Maint										
10897 - TechRx Technology Services	13109	Amazon Glacier - Subscription - September 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	475.00
10897 - TechRx Technology Services	13126	Veeam O365 Backup & Glacier Storage - August 2025	Paid by EFT # 6661		08/01/2025	09/03/2025	09/03/2025		09/12/2025	400.00
10897 - TechRx Technology Services	13099	Ninite Subscription - September 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	216.00
10897 - TechRx Technology Services	13127	Veeam O365 Backup & Glacier Storage - September 2025	Paid by EFT # 6661		09/01/2025	09/03/2025	09/03/2025		09/12/2025	400.00
10905 - Taygeta Scientific, Inc.	000423-R-0081	Computer Network Defense - September 2025	Paid by Check # 107723		09/01/2025	09/02/2025	09/02/2025		09/12/2025	2,750.00
10905 - Taygeta Scientific, Inc.	000708-R-0054	Barracuda Spam Firewall - September 2025	Paid by Check # 107723		09/01/2025	09/02/2025	09/02/2025		09/12/2025	475.80
Account 6360.342 - Maint & Repairs IT - System Annual Maint Totals							Invoice Transactions	9		\$8,508.65
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	11		\$20,133.71
Division 000 - Non-Div Totals							Invoice Transactions	11		\$20,133.71
Department 125 - I. T. Totals							Invoice Transactions	11		\$20,133.71
Department 130 - Finance										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6400.350 - Material & Suppl IT-Computer & Hardware (non-cap)										
10897 - TechRx Technology Services	13091	Finance - set up/migration of Rogers new laptop	Paid by EFT # 6661		08/31/2025	09/05/2025	09/05/2025		09/12/2025	190.00
Account 6400.350 - Material & Suppl IT-Computer & Hardware (non-cap) Totals							Invoice Transactions	1		\$190.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$190.00
Division 000 - Non-Div Totals							Invoice Transactions	1		\$190.00
Department 130 - Finance Totals							Invoice Transactions	1		\$190.00
Department 150 - City Attorney										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc										
11964 - Shute Mihaly & Weinberger LLP	292905	City Attorney Services - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	19,120.23



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 150 - City Attorney										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc										
11964 - Shute Mihaly & Weinberger LLP	292907	Code Enforcement - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	2,993.60
11964 - Shute Mihaly & Weinberger LLP	292908	City Manager - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	4,495.40
11964 - Shute Mihaly & Weinberger LLP	292909	Human Resources and Risk - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	777.40
11964 - Shute Mihaly & Weinberger LLP	292910	Finance - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	1,521.00
11964 - Shute Mihaly & Weinberger LLP	292911	Planning Commission/Development - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	18,486.01
11964 - Shute Mihaly & Weinberger LLP	292912	Parks - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	2,771.60
11964 - Shute Mihaly & Weinberger LLP	292913	Police Department - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	1,554.80
11964 - Shute Mihaly & Weinberger LLP	292914	Public Works - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	6,084.00
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc Totals							Invoice Transactions	9		\$57,804.04
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	9		\$57,804.04
Division 000 - Non-Div Totals							Invoice Transactions	9		\$57,804.04
Department 150 - City Attorney Totals							Invoice Transactions	9		\$57,804.04
Department 190 - Citywide Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.300 - Utilities Gas & Electric										
10463 - Pacific Gas & Electric	Aug 2025 313-6	PG&E 6793435313-6	Paid by Check # 107718		08/25/2025	09/03/2025	09/03/2025		09/12/2025	9,238.30
Account 6380.300 - Utilities Gas & Electric Totals							Invoice Transactions	1		\$9,238.30
Account 6600.010 - Other Charges Alarm										
10239 - First Alarm	903863	City Hall Alarm Service - Battery Replacement Zone 10	Paid by EFT # 6657		08/22/2025	09/02/2025	09/02/2025		09/12/2025	281.24
Account 6600.010 - Other Charges Alarm Totals							Invoice Transactions	1		\$281.24
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	2		\$9,519.54
Division 000 - Non-Div Totals							Invoice Transactions	2		\$9,519.54
Department 190 - Citywide Non-Dept Totals							Invoice Transactions	2		\$9,519.54



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 210 - Police										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.570 - Prof Svc Other										
10107 - California Towing & Transport	213402	Call # 275337473	Paid by Check # 107710		08/15/2025	09/02/2025	09/02/2025		09/12/2025	412.50
10107 - California Towing & Transport	213140	Towing Service	Paid by Check # 107710		08/22/2025	09/04/2025	09/04/2025		09/12/2025	195.00
10107 - California Towing & Transport	213859	Flat Change	Paid by Check # 107710		08/19/2025	09/04/2025	09/04/2025		09/12/2025	150.00
12065 - Hasco Stations, LLC	HCL-037820-25	Car Wash	Paid by Check # 107712		08/31/2025	09/02/2025	09/02/2025		09/12/2025	178.50
10334 - Lexis Nexis Risk Solutions	1100192387	August 2025 Minimum Commitment	Paid by Check # 107713		08/31/2025	09/04/2025	09/04/2025		09/12/2025	150.00
Account 6300.570 - Prof Svc Other Totals							Invoice Transactions 5			<u>\$1,086.00</u>
Account 6360.342 - Maint & Repairs IT - System Annual Maint										
10897 - TechRx Technology Services	13053	IT system maintenance - Starlink 3 months;	Paid by EFT # 6661		08/01/2025	09/02/2025	09/02/2025		09/12/2025	390.00
10897 - TechRx Technology Services	13082	Fuel pump and Kennel IT Maintenance: HP elitedesk; 3 year warranty; setup / delivery	Paid by EFT # 6661		08/31/2025	09/02/2025	09/02/2025		09/12/2025	1,650.63
10897 - TechRx Technology Services	13084	IT maintenance: Latest model microsoft & set up (Santana & Cox)	Paid by EFT # 6661		08/31/2025	09/02/2025	09/02/2025		09/12/2025	3,410.50
Account 6360.342 - Maint & Repairs IT - System Annual Maint Totals							Invoice Transactions 3			<u>\$5,451.13</u>
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades										
10897 - TechRx Technology Services	13073	IT maintenance: Cox's scanner	Paid by EFT # 6661		08/31/2025	09/02/2025	09/02/2025		09/12/2025	43.70
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades Totals							Invoice Transactions 1			<u>\$43.70</u>
Account 6360.850 - Maint & Repairs Vehicle										
11935 - California Premier Restoration	250809.1	Biohazard Remediation & Disinfection Marina PD patrol 8/22/25	Paid by Check # 107709		08/28/2025	09/02/2025	09/02/2025		09/12/2025	750.00
Account 6360.850 - Maint & Repairs Vehicle Totals							Invoice Transactions 1			<u>\$750.00</u>
Account 6370.010 - Shared Svc 911										
10411 - Monterey County - Emergency Communications	09-03-25	Monterey County Emergency Communication Quarter 2 Invoice 25/26	Paid by Check # 107714		09/03/2025	09/03/2025	09/03/2025		09/12/2025	128,678.12
Account 6370.010 - Shared Svc 911 Totals							Invoice Transactions 1			<u>\$128,678.12</u>



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 210 - Police										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6370.535 - Shared Svc NGEN O & M										
10411 - Monterey County - Emergency Communications	09-03-25	Monterey County Emergency Communication Quarter 2 Invoice 25/26	Paid by Check # 107714		09/03/2025	09/03/2025	09/03/2025		09/12/2025	9,955.00
Account 6370.535 - Shared Svc NGEN O & M Totals									Invoice Transactions 1	\$9,955.00
Account 6400.720 - Material & Suppl Safety Equip										
10580 - Tri County Fire Protection	HP65605A	Dry Chemical Maintenance Service ABC	Paid by Check # 107724		06/20/2025	09/02/2025	09/02/2025		09/12/2025	72.00
Account 6400.720 - Material & Suppl Safety Equip Totals									Invoice Transactions 1	\$72.00
Account 6400.800 - Material & Suppl Uniform										
10309 - Salinas Valley Pro Squad	881	Uniform - Bazzola	Paid by Check # 107720		08/25/2025	09/04/2025	09/04/2025		09/12/2025	1,772.93
10309 - Salinas Valley Pro Squad	880	Uniform - Aguilera	Paid by Check # 107720		08/23/2025	09/04/2025	09/04/2025		09/12/2025	1,772.93
Account 6400.800 - Material & Suppl Uniform Totals									Invoice Transactions 2	\$3,545.86
Account 6500.620 - Training & Travel POST										
11408 - Christopher Johnson - Employee	9-14-25	Per Diem Johnson - ICI Management/Supervision of Detective Units	Paid by EFT # 6655		09/03/2025	09/03/2025	09/03/2025		09/12/2025	253.00
10935 - South Bay Regional Public Safety Training Cons.	226041	Crisis Intervention Training 7/7 -7/11/25 - Smith; Sievers	Paid by Check # 107722		08/20/2025	09/02/2025	09/02/2025		09/12/2025	180.00
Account 6500.620 - Training & Travel POST Totals									Invoice Transactions 2	\$433.00
Account 6600.485 - Other Charges Medical Svc - Investigations										
10412 - Monterey County District Attorney	9-04-25	Revised FY 2023/2024 Blood Alcohol Costs - Marina only	Paid by Check # 107715		09/04/2025	09/04/2025	09/04/2025		09/12/2025	3,304.33
Account 6600.485 - Other Charges Medical Svc - Investigations Totals									Invoice Transactions 1	\$3,304.33
Sub-Division 00 - Non-Subdiv Totals									Invoice Transactions 18	\$153,319.14
Division 000 - Non-Div Totals									Invoice Transactions 18	\$153,319.14
Department 210 - Police Totals									Invoice Transactions 18	\$153,319.14



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 100 - General Fund										
Department 250 - Fire										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6370.010 - Shared Svc 911										
10411 - Monterey County - Emergency Communications	09-03-25	Monterey County Emergency Communication Quarter 2 Invoice 25/26	Paid by Check # 107714		09/03/2025	09/03/2025	09/03/2025		09/12/2025	16,786.63
Account 6370.010 - Shared Svc 911 Totals							Invoice Transactions 1			\$16,786.63
Account 6370.535 - Shared Svc NGEN O & M										
10411 - Monterey County - Emergency Communications	09-03-25	Monterey County Emergency Communication Quarter 2 Invoice 25/26	Paid by Check # 107714		09/03/2025	09/03/2025	09/03/2025		09/12/2025	6,183.25
Account 6370.535 - Shared Svc NGEN O & M Totals							Invoice Transactions 1			\$6,183.25
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions 2			\$22,969.88
Division 000 - Non-Div Totals							Invoice Transactions 2			\$22,969.88
Department 250 - Fire Totals							Invoice Transactions 2			\$22,969.88
Department 310 - Public Works										
Division 311 - Buildings & Grounds										
Sub-Division 00 - Non-Subdiv										
Account 6370.535 - Shared Svc NGEN O & M										
10411 - Monterey County - Emergency Communications	09-03-25	Monterey County Emergency Communication Quarter 2 Invoice 25/26	Paid by Check # 107714		09/03/2025	09/03/2025	09/03/2025		09/12/2025	2,489.00
Account 6370.535 - Shared Svc NGEN O & M Totals							Invoice Transactions 1			\$2,489.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions 1			\$2,489.00
Division 311 - Buildings & Grounds Totals							Invoice Transactions 1			\$2,489.00
Department 310 - Public Works Totals							Invoice Transactions 1			\$2,489.00
Department 410 - Planning										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6600.700 - Other Charges Refunds of Fees/Charges										
12311 - Ruiqui Chen - refund only	1560	Refund - Alarm Permit Over payment	Paid by Check # 107719		09/03/2025	09/03/2025	09/03/2025		09/12/2025	16.00
Account 6600.700 - Other Charges Refunds of Fees/Charges Totals							Invoice Transactions 1			\$16.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions 1			\$16.00
Division 000 - Non-Div Totals							Invoice Transactions 1			\$16.00
Department 410 - Planning Totals							Invoice Transactions 1			\$16.00



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Fund 100 - General Fund										
Department 420 - Engineering										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection										
10171 - CSG Consultants	62361	Permits/Development	Paid by EFT # 6656		08/08/2025	09/02/2025	09/02/2025		09/12/2025	10,065.00
10171 - CSG Consultants	62365	PWD Services	Paid by EFT # 6656		08/08/2025	09/02/2025	09/02/2025		09/12/2025	10,785.00
Account 6300.180 - Prof Svc Eng Svc- Rev Funded Inspection Totals							Invoice Transactions	2		\$20,850.00
Account 6300.190 - Prof Svc Engineering Svc Interagency										
10171 - CSG Consultants	62364	TAMC	Paid by EFT # 6656		08/08/2025	09/02/2025	09/02/2025		09/12/2025	11,528.00
Account 6300.190 - Prof Svc Engineering Svc Interagency Totals							Invoice Transactions	1		\$11,528.00
Account 6330.200 - Fee Agr Costs - Engineering										
10171 - CSG Consultants	62371	Marina Station Inspections Phase 1 and 2	Paid by EFT # 6656		08/08/2025	09/02/2025	09/02/2025		09/12/2025	13,422.00
Account 6330.200 - Fee Agr Costs - Engineering Totals							Invoice Transactions	1		\$13,422.00
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	4		\$45,800.00
Division 000 - Non-Div Totals							Invoice Transactions	4		\$45,800.00
Department 420 - Engineering Totals							Invoice Transactions	4		\$45,800.00
Department 510 - Recreation & Culture										
Division 100 - Admin										
Sub-Division 00 - Non-Subdiv										
Account 6500.700 - Training & Travel Training & Travel										
12173 - Andrea Diallo - Employee	10-08-25	CPRS - Director's Academy	Paid by Check # 107726		09/09/2025	09/09/2025	09/09/2025		09/12/2025	247.80
Account 6500.700 - Training & Travel Training & Travel Totals							Invoice Transactions	1		\$247.80
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$247.80
Division 100 - Admin Totals							Invoice Transactions	1		\$247.80
Division 511 - Youth										
Sub-Division 00 - Non-Subdiv										
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades										
10897 - TechRx Technology Services	13080	Youth Center	Paid by EFT # 6661		08/31/2025	09/04/2025	09/04/2025		09/12/2025	1,164.24
Account 6360.344 - Maint & Repairs IT - Office Equip & PC Upgrades Totals							Invoice Transactions	1		\$1,164.24
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$1,164.24
Division 511 - Youth Totals							Invoice Transactions	1		\$1,164.24
Department 510 - Recreation & Culture Totals							Invoice Transactions	2		\$1,412.04
Fund 100 - General Fund Totals							Invoice Transactions	55		\$352,813.63



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 110 - Vehicle and Equipment										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6700.130 - Capital Outlay Vehicles										
12259 - MUNICIPAL MAINTENANCE EQUIPMENT, INC.	039376	Street Sweeper	Paid by Check # 107716		07/30/2025	09/03/2025	09/03/2025		09/12/2025	346,434.74
Account 6700.130 - Capital Outlay Vehicles Totals							Invoice Transactions	1		\$346,434.74
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$346,434.74
Division 000 - Non-Div Totals							Invoice Transactions	1		\$346,434.74
Department 000 - Non-Dept Totals							Invoice Transactions	1		\$346,434.74
Fund 110 - Vehicle and Equipment Totals							Invoice Transactions	1		\$346,434.74



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 220 - Gas Tax										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.300 - Utilities Gas & Electric										
10463 - Pacific Gas & Electric	Aug 2025 313-6	PG&E 6793435313-6	Paid by Check # 107718		08/25/2025	09/03/2025	09/03/2025		09/12/2025	1,006.02
10463 - Pacific Gas & Electric	Aug 2025 483-6	PG&E - 3982644483-6	Paid by Check # 107718		08/19/2025	09/03/2025	09/03/2025		09/12/2025	17,661.89
Account 6380.300 - Utilities Gas & Electric Totals							Invoice Transactions	2		<u>\$18,667.91</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	2		<u>\$18,667.91</u>
Division 000 - Non-Div Totals							Invoice Transactions	2		<u>\$18,667.91</u>
Department 000 - Non-Dept Totals							Invoice Transactions	2		<u>\$18,667.91</u>
Fund 220 - Gas Tax Totals							Invoice Transactions	2		<u>\$18,667.91</u>



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 233 - Monterey Bay Estates AD										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.300 - Utilities Gas & Electric										
10463 - Pacific Gas & Electric	Aug 2025 313-6	PG&E 6793435313-6	Paid by Check # 107718		08/25/2025	09/03/2025	09/03/2025		09/12/2025	10.63
Account 6380.300 - Utilities Gas & Electric Totals							Invoice Transactions	1		\$10.63
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$10.63
Division 000 - Non-Div Totals							Invoice Transactions	1		\$10.63
Department 000 - Non-Dept Totals							Invoice Transactions	1		\$10.63
Fund 233 - Monterey Bay Estates AD Totals							Invoice Transactions	1		\$10.63



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Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 235 - Cypress Cove II AD										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6380.300 - Utilities Gas & Electric										
10463 - Pacific Gas & Electric	Aug 2025 313-6	PG&E 6793435313-6	Paid by Check # 107718		08/25/2025	09/03/2025	09/03/2025		09/12/2025	10.18
Account 6380.300 - Utilities Gas & Electric Totals							Invoice Transactions	1		\$10.18
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		\$10.18
Division 000 - Non-Div Totals							Invoice Transactions	1		\$10.18
Department 000 - Non-Dept Totals							Invoice Transactions	1		\$10.18
Fund 235 - Cypress Cove II AD Totals							Invoice Transactions	1		\$10.18



Accounts Payable by G/L Distribution Report

Payment Date Range 09/12/25 - 09/12/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 422 - Capital Projects - Measure X										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.570 - Prof Svc Other										
10171 - CSG Consultants	62357	Annual Street Resurfacing	Paid by EFT # 6656		08/08/2025	09/02/2025	09/02/2025		09/12/2025	13,224.00
Account 6300.570 - Prof Svc Other Totals							Invoice Transactions	1		<u>\$13,224.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$13,224.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$13,224.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$13,224.00</u>
Fund 422 - Capital Projects - Measure X Totals							Invoice Transactions	1		<u>\$13,224.00</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/12/25 - 09/12/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 462 - City Capital Projects										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.570 - Prof Svc Other										
10171 - CSG Consultants	62477	Project Management	Paid by EFT # 6656		08/11/2025	09/02/2025	09/02/2025		09/12/2025	17,550.00
Account 6300.570 - Prof Svc Other Totals							Invoice Transactions	1		<u>\$17,550.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$17,550.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$17,550.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$17,550.00</u>
Fund 462 - City Capital Projects Totals							Invoice Transactions	1		<u>\$17,550.00</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/12/25 - 09/12/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 555 - Marina Airport										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc										
11964 - Shute Mihaly & Weinberger LLP	292906	Airport - July 2025	Paid by EFT # 6660		08/21/2025	08/25/2025	08/25/2025		09/12/2025	8,799.88
Account 6300.450 - Prof Svc Legal - City Attorney Other Svc Totals							Invoice Transactions	1		<u>\$8,799.88</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$8,799.88</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$8,799.88</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$8,799.88</u>
Fund 555 - Marina Airport Totals							Invoice Transactions	1		<u>\$8,799.88</u>
Grand Totals							Invoice Transactions	63		<u>\$757,510.97</u>



Accounts Payable by G/L Distribution Report

Payment Date Range 09/05/25 - 09/05/25

Vendor	Invoice No.	Invoice Description	Status	Held Reason	Invoice Date	Due Date	G/L Date	Received Date	Payment Date	Invoice Amount
Fund 758 - Successor Agency Oblig Retirement										
Department 000 - Non-Dept										
Division 000 - Non-Div										
Sub-Division 00 - Non-Subdiv										
Account 6650.039 - ROPS #39-Bond Trustee Fees										
11250 - U.S. Bank	7873138	Admin Fees - Series 2018A/Tax Allocation Bonds 8/1/25-7/31/26	Paid by Check # 134		08/25/2025	09/03/2025	09/03/2025		09/05/2025	3,250.00
Account 6650.039 - ROPS #39-Bond Trustee Fees Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Sub-Division 00 - Non-Subdiv Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Division 000 - Non-Div Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Department 000 - Non-Dept Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Fund 758 - Successor Agency Oblig Retirement Totals							Invoice Transactions	1		<u>\$3,250.00</u>
Grand Totals							Invoice Transactions	1		<u>\$3,250.00</u>



DRAFT MINUTES

Agenda Item: **10b(1)**
City Council Meeting of
September 16, 2025

Tuesday, September 9, 2025

5:00 P.M. Closed Session

SPECIAL MEETING CITY COUNCIL

THIS MEETING WILL BE HELD IN PERSON

Council Chambers
211 Hillcrest Avenue
Marina, California

TELECONFERENCE LOCATION:¹

1004 Saga St.
Glendora, California 91741

¹ Note: Pursuant to Government Code Section 54953(b), this meeting will include teleconference participation by Mayor Bruce C. Delgado from the address above. This Notice and Agenda will be posted at the teleconference location

1. **CALL TO ORDER:** The meeting was called to order at 5:01 PM
2. **ROLL CALL & ESTABLISHMENT OF QUORUM:** (City Council, Airport Commissioners, Marina Abrams B Non-Profit Corporation, Preston Park Sustainable Communities Nonprofit Corporation, Successor Agency of the Former Redevelopment Agency Members and Marina Groundwater Sustainability Agency)

MEMBERS PRESENT: Jennifer McAdams, Brian McCarthy, Kathy Biala, Mayor Pro-Tem/Vice Chair Liesbeth Visscher, Mayor/Chair Bruce C. Delgado
3. **PUBLIC COMMENT ON CLOSED SESSION ITEMS:** None received.
4. **CLOSED SESSION:**
 - a. Conference with Legal Counsel and Chief of Police: Threat to Public Services or Facilities (Govt. Code §54957(a)). Consultation concerning a threat to critical infrastructure controls or critical infrastructure information relating to cybersecurity. Other participants may include Risk Manager, cybersecurity consultant(s).
 - b. Conference with Legal Counsel: Anticipated Litigation (Govt. Code § 54956.9(d)(2)), 1 potential case(s). Based on existing facts and circumstances, there is significant exposure to litigation. Such facts and circumstances creating significant exposure to litigation are not known to potential plaintiff(s).

City Attorney reported out Closed Session: Direction was provided by Council. No reportable action was taken.

5. **ADJOURNMENT:** the meeting adjourned at 6:05 PM

Anita Sharp, Deputy City Clerk

ATTEST:

Liesbeth Visscher, Mayor Pro Tem



DRAFT

Agenda Item: **10b(2)**
City Council Meeting of
September 16, 2025

**ACTION
MINUTES**

Wednesday, September 3, 2025

**5:00 P.M. Closed Session
6:30 P.M. Open Session**

**REGULAR MEETING
CITY COUNCIL, AIRPORT COMMISSION,
MARINA ABRAMS B NON-PROFIT CORPORATION, PRESTON PARK
SUSTAINABLE COMMUNITY NON-PROFIT CORPORATION, SUCCESSOR
AGENCY OF THE FORMER MARINA REDEVELOPMENT AGENCY
THIS MEETING WILL BE HELD IN PERSON AND VIRTUALLY (HYBRID).**

Council Chambers
211 Hillcrest Avenue
Marina, California

AND

**Zoom Meeting URL: <https://zoom.us/j/730251556>
Zoom Meeting Telephone Only Participation: 1-669-900-9128 - Webinar ID: 730 251 556**

1. CALL TO ORDER
2. ROLL CALL & ESTABLISHMENT OF QUORUM: (City Council, Airport Commissioners, Marina Abrams B Non-Profit Corporation, Preston Park Sustainable Communities Nonprofit Corporation, Successor Agency of the Former Redevelopment Agency Members and Marina Groundwater Sustainability Agency)

MEMBERS PRESENT: Jenny McAdams, Brian McCarthy, Kathy Biala, Mayor Pro-Tem/Vice Chair Liesbeth Visscher, Mayor/Chair Bruce C. Delgado (Remote)

Mayor Delgado requested attending the meeting under the Just Cause provision of AB2449 due to family medical emergency down south. City Attorney determined the "just cause" circumstances were met for this instance.

3. PUBLIC COMMENT ON CLOSED SESSION ITEMS: None
4. CLOSED SESSION:
 - a. Conference with Legal Counsel, Anticipated Litigation (Govt. Code § 54956.9(d)(4)), 1 potential case. City Council to consider initiation of litigation pursuant to Government Code § 54956.9(d)(4).
 - b. Conference with Legal Counsel, Existing Litigation (Govt. Code § 54956.9(d)(1)) 2 case(s)
 - (1) *Application of California-American Water Company (U210W), Application 21-11-024, California Public Utilities Commission.*

(2) *Museum of Handcar Technology v. TAMC and City of Marina*, 5:24-CV-08598, United States District Court, Northern District of California (San Jose Division).

- c. Real Property Negotiation (Govt. Code Section 54956.8)
 - i. Property: APNs: 032-312-043 (3044 Del Monte Boulevard)
Negotiating Party: Gina Klump, Trustee
Negotiator(s): City Manager
Terms: Price and Terms
 - ii. Property: APNs: Portion of 031-201-005-000 (Hayes Circle); 032-303-039 (3074 Del Monte Boulevard); 032-303-015 (3070 Del Monte Boulevard)
Negotiating David Howell
Negotiator(s): City Manager
Terms: Price and Terms
- d. Labor Negotiations
 - i. UWUA-MEA
 - ii. Marina Professional Fire Fighters Association
 - iii. Marina Public Safety Managers Association
 - iv. Marina Middle Manager Association
 - v. Directors
 - a. Assistant City Manager
 - b. Community Development Director
 - c. Finance Director
 - d. Fire Chief v. Police Chief
 - e. Public Works Director
 - f. Recreation & Cultural Services Director

City Negotiators: Layne P. Long, City Manager and Employee Relations Officer

6:30 PM - RECONVENE OPEN SESSION AND REPORT ON ANY ACTIONS TAKEN IN CLOSED SESSION

City Attorney reported out Closed Session: Mayor Delgado attended the meeting remotely under the just cause provision of AB2449. There was no reportable action taken in closed session.

- 5. **MOMENT OF SILENCE & PLEDGE OF ALLEGIANCE** (Please stand)
- 6. **SPECIAL PRESENTATIONS:**
 - a. The Village Project/Emanyatta Presentation
 - b. Childhood Cancer Awareness Month Proclamation
 - c. Woman's Equality Day Proclamation
 - d. Sun Street Centers National Recovery Month Proclamation
- 7. **COUNCIL AND STAFF ANNOUNCEMENTS:**
 - Andrea Diallo, Recreation Manager, announced the Multi-Cultural Event on September 20th from 11:00am-3:00 pm at Vince DiMaggio Park. Marina's 50th Anniversary will be on October 18th from 12:00-5:00pm on Vista Del Camino. All Inclusive Park Reveal Day Celebration on November 8th from 11:00am-1:00pm at the City Park at the Dunes.

- Guido Persicone, Community Development Director announced on November 11th from 11:0am-4:00pm is the Salute to Veterans Jamboree at the Veterans Transition Center, 220 12th Street, Marina.
- Councilmember McCarthy in terms of the 50th anniversary, we are also hosting a photo contest information on this will be on the 50th Anniversary website soon.
- Mayor Pro Tem Visscher announced that all the marina businesses that have a storefront and a business license. They'll receive a letter from the city that they can participate in a cool coupon book. To celebrate the 50th anniversary. Friday, September 5th, the Marina High School. We'll have the ribbon cutting for their new. Football field around 7:00pm between the two games being played. On Saturday, September 13th, there will be an art festival at the Marina Equestrian Center from 10:00am-4:00pm. On Saturday, October 11th Cars in the Park. at Vince DiMaggio Park.

8. **PUBLIC COMMENT:** *Any member of the public may comment on any matter within the City Council's jurisdiction that is not on the agenda. This is the appropriate place to comment on items on the Consent Agenda. Action will not be taken on items not on the agenda. Comments are limited to a maximum of three (3) minutes. General public comment may be limited to thirty (30) minutes and/or continued to the end of the agenda. Any member of the public may comment on any matter listed on this agenda at the time the matter is being considered by the City Council. Whenever possible, written correspondence should be submitted to the Council in advance of the meeting, to provide adequate time for its consideration.*

- Lisa Kinkade spoke about the Salute to Veterans Jamboree being held on November 11, 2025, from 11:00am-4:00pm at the Veterans Transition Center.
- Marius Bading spoke about the current fee schedule and the fess associated with dog licensing and kennel fee permits. Spoke about the MMC Section 6.04.120 and definitions and how many dogs you can have under a kennel permit.
- Nancy Amadeo expressed how impressed she is with Glorya Jean Tate Park and asked if there is on opening date or a timeframe for opening.
- Grace Silva-Santella spoke about the meeting currently being held by the Monterey Peninsula Regional Parks District Board and the petition with 206 signatures titled, Protect Locke Paddon Park. Preserve Marina's coastal heritage. Provided the council a write-up with a link to the petition.
- Mike Moeller spoke about the adoption of Resolution No. 2024-109, entering into an agreement with EMC Planning to prepare a management plan for Locke Paddon Park. Noted that the EMC Planning Group has not met/completed any of its key tasks.
- Denise Turley spoke about residents exiting Preston Park at the roundabouts. It's a safety issue when entering from a dead start with oncoming speeding traffic. Wanted to know where the bike lanes were.

9. **CONSENT AGENDA FOR THE SUCCESSOR AGENCY TO THE FORMER MARINA REDEVELOPMENT AGENCY:** *Background information has been provided to the Successor Agency of the former Redevelopment Agency on all matters listed under the Consent Agenda, and these items are considered to be routine and non-controversial. All items under the Consent Agenda are normally approved by one motion. Prior to such a motion being made, any member of the public or City Council may ask a question or make a*

comment about an agenda item and staff may provide a response. If discussion or a lengthy explanation is required, the Council may remove an item from the Consent Agenda for individual consideration. If an item is pulled for discussion, it will be placed at the end of Other Action Items Successor Agency to the former Marina Redevelopment Agency.

10. CONSENT AGENDA: *These items are considered to be routine and non-controversial. All items under the Consent Agenda may be approved by one motion. Prior to such a motion being made, any member of City Council may ask a question or make a comment about an agenda item and staff may provide a response. If discussion or a lengthy explanation is required, Council may remove the item from the Consent Agenda and it will be placed at the end of Other Action Items.*
 - a. ACCOUNTS PAYABLE: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) Accounts Payable Check Numbers 107459-107595, totaling \$5,381,319.03
Accounts Payable Successor Agency EFT 126, totaling \$473.75
 - b. MINUTES: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) ~~July 1, 2025, Regular City Council Meeting~~ – ***Pulled by McCarthy, becomes agenda item 13d***
 - (2) August 6, 2025, Regular City Council Meeting
 - c. CLAIMS AGAINST THE CITY: None
 - d. AWARD OF BID: None
 - e. CALL FOR BIDS: None
 - f. ADOPTION OF RESOLUTIONS: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) Adopt position in favor of supporting SB346(Durazo) requiring STR to provide rental listing address to city and provide city audit authority for TOT collected and to publish local license number and TOT certification on STR listing.
 - (2) Adopting **Resolution No. 2025-100**, authorizing the release of a Request for Proposals (RFP) to qualified firms for on-call Traffic Signal and Streetlight Maintenance Services.
 - g. APPROVAL OF AGREEMENTS: *(Not a Project under CEQA per Article 20, Section 15378)*
 - (1) ~~Adopting Resolution No. 2025, and Resolution No. 2025 (PPSC-NPC), approving an agreement with Fieldman, Rolapp & Associates, Inc. to provide municipal advisory services related to refinancing the Preston Park Loan; and approving an agreement with Stradling, Yocca, Carlson & Rauth, LLP for bond counsel services associated with refinancing the Preston Park Loan, and amending the Fiscal Year 2025-26 Preston Park budget by appropriating \$180,000 to support the municipal advisory and bond counsel agreements.~~ ***Pulled by Councilmember McAdams, becomes agenda item 13e***
 - (2) Adopting **Resolution No. 2025-101**, authorizing a professional services agreement with Yamabe & Horn Engineering, Inc. of Fresno, CA for engineering and land surveying services beginning September 15, 2025,
 - h. ACCEPTANCE OF PUBLIC IMPROVEMENTS: None

- i. MAPS: None
- j. REPORTS: (RECEIVE AND FILE): None
- k. FUNDING & BUDGET MATTERS: None
- l. APPROVE ORDINANCES (WAIVE SECOND READING): None
- m. APPROVE APPOINTMENTS: None

Councilmember McCarthy requested to pull agenda item 10b(1)

Councilmember McAdams had questions for agenda item 10a, asked about the \$9,000 to A-1 Sweepers and asked about the payment to Keyser Marston Association for \$11,500 for the Auto Dealership. Supports agenda item 10f(1); and requested to pull agenda item 10g(1) for a separate vote.

VISSCHER/MCCARTHY: TO APPROVE THE CONSENT AGENDA MINUS AGEND ITEMS 10b(1) AND 10g(1). Motion Passes by Roll Call Vote

- 11. PUBLIC HEARINGS: *In the Council's discretion, the applicant/proponent of an item may be given up to ten (10) minutes to speak. All other persons may be given up to three (3) minutes to speak on the matter.*
 - a. Open a public hearing and taking testimony from the public and consider adopting **Resolution No. 2025-102**, dissolving the Cypress Cove II Landscape Maintenance District ("Landscape District") and authorize the Finance Director to make the necessary budgetary and accounting entries.

Public Comments:

- Nancy Amadeo noted there was never anything in the district documents that show an inflationary clause when we first purchased our home. In 2006-2007 our district was turned over to a neighborhood association, at the guidance of the then-city attorney. The neighborhood association wanted to take care of the trees along Cardoza. They never worked on the trees along Beach or along Abdy and we have complained for years about trying to get something done. Now homeowners are going to pay a heavy price to get them in good shape. Spoke about the raises council received and that same money for one year could bring all of those trees up to good standing.

VISSCHER/MCADAMS: TO APPROVE RESOLUTION NO. 2025-102, DISSOLVING THE CYPRESS COVE II LANDSCAPE MAINTENANCE DISTRICT ("LANDSCAPE DISTRICT") AND AUTHORIZE THE FINANCE DIRECTOR TO MAKE THE NECESSARY BUDGETARY AND ACCOUNTING ENTRIES. 4-1(McCarthy)-0-0 Motion Passes by Roll Call Vote

- b. Open public hearing and consider adopting **Resolution No. 2025-103**, amending the City's Master Fee Schedule to reflect the addition of a new fee for minor address changes.

Public Comments: None received

Council asked if any complaints were received regarding fees. Discussion on fees for adding a new address for ADU's and staff time. Fees for multiple ADU's on a single lot.

MCADAMS/VISSCHER: TO APPROVE RESOLUTION NO. 2025-103, AMENDING THE CITY'S MASTER FEE SCHEDULE TO REFLECT THE ADDITION OF A NEW FEE FOR MINOR ADDRESS CHANGES; AND GIVE DIRECTION THAT WE TRY TO ELIMINATE OR REDUCE THE FEES TO GREATEST EXTENT POSSIBLE FOR MULTIPLE ADU'S IN ONE LOCATION. 5-0-0-0 Motion Passes by Roll Call Vote

12. OTHER ACTIONS ITEMS OF THE SUCCESSOR AGENCY TO THE FORMER MARINA REDEVELOPMENT AGENCY: *Action listed for each Agenda item is that which is requested by staff. The Successor Agency may, at its discretion, take action on any items. Members of the public may be given up to three (3) minutes to speak.*
13. OTHER ACTION ITEMS: *Action listed for each Agenda item is that which is requested by staff. The City Council may, at its discretion, take action on any items. Members of the public may be given up to three (3) minutes to speak.*

Note: No additional major projects or programs should be undertaken without review of the impacts on existing priorities (Resolution No. 2006-79 – April 4, 2006).

- a. Adopting **Resolution No. 2025-104**, approving an updated design for the Recreation and Aquatics Center; and approving the use of the Construction Manager-At-Risk public works project delivery method for the Recreation and Aquatics Center project; and authorizing the City Manager to issue a Request for Proposals for CMAR services.

Public Comments:

- Daniel Alvarez, NorCal Carpets Union, Local 646, discussed how essential apprenticeship, healthcare benefits, fair wages are for carpenters and for the whole construction industry as a whole as well as the challenges and what most important.
- Jesus Vega incredibly important to have labor standards language for the recreation and Aquatic Center. Expressed concerns when considering the cost of a project, especially as you weigh the decision to include strong labor standards moving forward. This project falls under prevailing wage requirements, which are set by the Department of Industrial Relations.
- Brian Shields Carpenter's Local 646, CMAR is a common process as the dollar value of the project is appropriate, a contractor would be able to meet that and build it out. Spoke about having contractor on board early on, due to arising challenges. Asked for Pre-qualification language for the contractors. Reiterated what prevailing wages mean to a contractor. Asked council to adopt pre-qualification language.
- Tom Moore spoke about apprenticeship programs. In favor of apprenticeship language for this item and to see local people getting paid local wages to work here at home.
- Tony Uzzle spoke about the Carpenters Union advocating for workforce development that allowed veterans like me, women and people of color to earn a livable wage. Spoke about wages and benefits receive are the same wages outlined in the California Department of Industrial Relationship. Provided council with a Research Brief by UC Berkeley Labor Center on Public Cost of Low-Wage Jobs in California's Construction Industry.
- Amber Sanford is here to advocate for the pre-qualification language in the RFP. Spoke about what it's like being in the apprenticeship program and what it would mean to others.

- Denise Turley asked about MST Class B buses having enough room to drop their ramps for deliveries and pickups and to be able to negotiate through the parking lot. Supports the Carpenter's Union request for Fair Labor Standard.

Council discussed the best way to include Labor Standards in the RFP for this item and in future RFP's. How CMAR process works versus without it. Possibly adding photos of the graffiti in the pool room as part of the art and informational signs to connector building. Cost neutrality of the Aquatic Center and energy efficiency. Asked about maximum occupancy and having plenty of parking. Contingency fees,

VISSCHER/BIALA: MOTION TO APPROVE AN UPDATED DESIGN FOR THE RECREATION AND AQUATICS CENTER, AND TO APPROVE THE USE OF THE CONSTRUCTION MANAGER-AT-RISK PUBLIC WORKS PROJECT DELIVERY METHOD FOR THE RECREATION AND AQUATICS CENTER PROJECT, AND REQUEST STAFF TO COME BACK TO THE COUNCIL NO LATER THAN THE SECOND MEETING IN OCTOBER WITH LANGUAGE TO ESTABLISH LABOR STANDARDS FOR THE RECREATION AND AQUATICS CENTER PROJECT TO BE INCLUDED IN THE REQUEST FOR PROPOSALS. 5-0-0-0 Motion Passes by Roll Call Vote

- b. Open a public hearing, take public testimony; and read by title only and introduce Ordinance 2025-, amending the Marina Municipal Code, Title 3, Chapter 3.16 by adding two new sections, 3.16.080 and 3.16.090 - Alternative Project Delivery Method for Public Works Projects.

Public Comments: None received

BIALA/VISSCHER: TO READ BY TITLE ONLY AND INTRODUCE ORDINANCE 2025-, AMENDING THE MARINA MUNICIPAL CODE, TITLE 3, CHAPTER 3.16 BY ADDING TWO NEW SECTIONS, 3.16.080 AND 3.16.090 - ALTERNATIVE PROJECT DELIVERY METHOD FOR PUBLIC WORKS PROJECTS. 5-0-0-0 Motion Passes by Roll Call Vote

- c. Adopting **Resolution No. 2025-105**, authorizing a professional services agreement with WithersRavenel, Inc. for a Citywide Facilities Condition Assessment and Asset Management Capital Lifecycle Modeling beginning September 15, 2025.

Public Comments: None received

Council discussed if this program can be used on other projects such as art projects the MLK Statue, not just buildings.

VISSCHER/BIALA: TO APPROVE RESOLUTION NO. 2025-105, AUTHORIZING A PROFESSIONAL SERVICES AGREEMENT WITH WITHERSRAVENEL, INC. FOR A CITYWIDE FACILITIES CONDITION ASSESSMENT AND ASSET MANAGEMENT CAPITAL LIFECYCLE MODELING BEGINNING SEPTEMBER 15, 2025. 5-0-0-0 Motion Passes by Roll Call Vote

- d. July 1, 2025, Regular City Council Meeting – *Pulled by Councilmember McCarthy, was agenda item 10b(1)*

Communication back and forth between council relating to the motion of item 13b.

Majority of the Council confirmed that the minutes reflect the actions taken for the July 1, 2025 meeting and item 13b.

BIALA/VISSCHER: TO ACCEPT THE MINUTES OF JULY 1, 2025. AYES 3- NOES 2(McAdams, McCarthy)-0-0 Motion Passes by Roll Call Vote

- e. Adopting **Resolution No. 2025-106**, and **Resolution No. 2025-03 (PPSC-NPC)**, approving an agreement with Fieldman, Rolapp & Associates, Inc. to provide municipal advisory services related to refinancing the Preston Park Loan; and approving an agreement with Stradling, Yocca, Carlson & Rauth, LLP for bond counsel services associated with refinancing the Preston Park Loan, and amending the Fiscal Year 2025-26 Preston Park budget by appropriating \$180,000 to support the municipal advisory and bond counsel agreements. *Pulled by Councilmember McAdams, was agenda item 10g(1)*

Public Comments: None received

Council discussed current loan being interest-only and costs of refinancing.

VISSCHER/BIALA: TO APPROVE RESOLUTION NO. 2025-106, AND RESOLUTION NO. 2025-03 (PPSC-NPC), APPROVING AN AGREEMENT WITH FIELDMAN, ROLAPP & ASSOCIATES, INC. TO PROVIDE MUNICIPAL ADVISORY SERVICES RELATED TO REFINANCING THE PRESTON PARK LOAN; AND APPROVING AN AGREEMENT WITH STRADLING, YOCCA, CARLSON & RAUTH, LLP FOR BOND COUNSEL SERVICES ASSOCIATED WITH REFINANCING THE PRESTON PARK LOAN, AND AMENDING THE FISCAL YEAR 2025-26 PRESTON PARK BUDGET BY APPROPRIATING \$180,000 TO SUPPORT THE MUNICIPAL ADVISORY AND BOND COUNSEL AGREEMENTS. 5-0-0-0 Motion Passes by Roll Call Vote

14. COUNCIL & STAFF INFORMATIONAL REPORTS:

- a. Monterey County Mayor’s Association [Mayor Bruce Delgado]
- b. Council reports on meetings and conferences attended (Gov’t Code Section 53232).

15. ADJOURNMENT: The meeting adjourned at 10:58 PM

Anita Sharp, Deputy City Clerk

ATTEST:

Liesbeth Visscher, Mayor Pro Tem

Honorable Mayor and Members
of the Marina City Council

City Council Meeting of
September 16, 2025

**RECOMMENDATION TO CONSIDER ADOPTING RESOLUTION NO. 2025-,
APPROVING ADVERTISING AND CALL FOR BIDS FOR THE IMJIN PKWY
& 3RD AVE INTERSECTION IMPROVEMENT PROJECT**

RECOMMENDATION:

It is recommended that the City Council consider:

1. Adopting Resolution No. 2025-, approving advertising and call for bids for the Imjin Pkwy and 3rd Ave. Intersection Improvement Project.

BACKGROUND:

The California Department of Transportation (Caltrans) has developed a comprehensive Strategic Highway Safety Plan (SHSP) that defines goals, objectives, and strategies to reduce fatalities and serious injuries on all public roads. The SHSP requires collaboration with law enforcement, educators, emergency services, and other stakeholders and is a major component of the Highway Safety Improvement Program (HSIP).

The HSIP is a Federal-aid program that incorporates a data-driven, strategic approach to improving highway safety that focuses on performance. Supporting safety improvement projects consistent with the State's SHSP, the HSIP finances projects specifically targeting roadway and intersection locations by identifying and implementing countermeasures to improve safety.

A Local Road Safety Plan (LRSP) is the local Municipality version of the State SHSP, providing a framework for organizing stakeholders to identify, analyze, and prioritize roadway safety improvements on local and rural roads. The process of developing an LRSP can be tailored to local protocols, needs, and issues. However, safety projects stemming from the plan need to be consistent with Federal and State project funding requirements if those funds will be used for project implementation. Also, the plan should be viewed as a living document that can be continually reviewed and updated to reflect changing local needs and priorities.

On May 4th, 2021, City Council passed resolution 2021-37 approving a Caltrans LRSP grant application. The City subsequently received a \$40,000 grant, which along with the \$5,000 City matching funds paid for the preparation of the LRSP. Staff issued a work order to Kimley-Horn to produce the LRSP under the on-call professional services agreement.

At the regular meeting of August 16, 2022, the City Council adopted Resolution No. 2022-108, approving the Local Roadway Safety Plan and the recommended safety improvement projects. Two of those improvement projects were the Imjin Pkwy & 3rd Ave intersection and the Del Monte Blvd & Beach Rd intersection.

The City proceeded to apply for HSIP Grant funding for these two projects as part of the 2023 Grant Cycle 11. Both projects were awarded Grant funding with Preliminary Engineering funding at the end of 2023.

At the regular meeting of December 17, 2024, the City Council adopted Resolution No. 2024-144, approving an agreement with Kimley Horn and Associates to provide engineering services for the Imjin Pkwy & 3rd Ave Intersection Improvement Project.

ANALYSIS:

The improvement project will provide a new all-way signal-controlled intersection. Intersection improvements will include accessibility ramps, bicycle access for the Class 1 Trail and Class 2 bike lanes, adjustments to the center medians, and improved high-visible crosswalks.

FISCAL IMPACT:

There is no fiscal impact to calling for bids. The current budget for this project is approximately \$1.1 million. The project's budget is funded with State Highway Safety Improvement Program Grant Funds and Regional Surface Transportation Program funds.

CEQA Findings:

The City has determined the project exempt from environmental review per § 15301(b) of the CEQA Guidelines for Existing Facilities.

CONCLUSION:

This request is submitted for City Council consideration and possible action.

Respectfully submitted,

Edrie Delos Santos, P.E.
Public Works Department
City of Marina

REVIEWED/CONCUR:

Ismael Hernandez
Public Works Director
City of Marina

Layne P. Long
City Manager
City of Marina

RESOLUTION NO. 2025-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MARINA
APPROVING ADVERTISING AND CALL FOR BIDS FOR THE FOR THE
IMJIN PKWY & 3RD AVE INTERSECTION IMPROVEMENT PROJECT

WHEREAS, the California Department of Transportation (Caltrans) has developed a comprehensive Strategic Highway Safety Plan (SHSP) that defines goals, objectives, and strategies to reduce fatalities and serious injuries on all public roads. The SHSP requires collaboration with law enforcement, educators, emergency services, and other stakeholders and is a major component of the Highway Safety Improvement Program (HSIP), and;

WHEREAS, the HSIP is a Federal-aid program that incorporates a data-driven, strategic approach to improving highway safety that focuses on performance. Supporting safety improvement projects consistent with the State's SHSP, the HSIP finances projects specifically targeting roadway and intersection locations by identifying and implementing countermeasures to improve safety, and;

WHEREAS, a Local Road Safety Plan (LRSP) is the local Municipality version of the State SHSP, providing a framework for organizing stakeholders to identify, analyze, and prioritize roadway safety improvements on local and rural roads. The process of developing an LRSP can be tailored to local protocols, needs, and issues. However, safety projects stemming from the plan need to be consistent with Federal and State project funding requirements if those funds will be used for project implementation. Also, the plan should be viewed as a living document that can be continually reviewed and updated to reflect changing local needs and priorities, and;

WHEREAS, on May 4th, 2021, City Council passed resolution 2021-37 approving a Caltrans LRSP grant application. The City subsequently received a \$40,000 grant, which along with the \$5,000 City matching funds paid for the preparation of the LRSP. Staff issued a work order to Kimley-Horn to produce the LRSP under the on-call professional services agreement, and;

WHEREAS, at the regular meeting of August 16, 2022, the City Council adopted Resolution No. 2022-108, approving the Local Roadway Safety Plan and the recommended safety improvement projects. Two of those improvement projects were the Imjin Pkwy & 3rd Ave intersection and the Del Monte Blvd & Beach Rd intersection, and;

WHEREAS, the City proceeded to apply for HSIP Grant funding for these two projects as part of the 2023 Grant Cycle 11. Both projects were awarded Grant funding with Preliminary Engineering funding at the end of 2023, and;

WHEREAS, at the regular meeting of December 17, 2024, the City Council adopted Resolution No. 2024-144, approving an agreement with Kimley Horn and Associates to provide engineering services for the Imjin Pkwy & 3rd Ave Intersection Improvement Project, and;

WHEREAS, the improvement project will provide a new all-way signal-controlled intersection. Intersection improvements will include accessibility ramps, bicycle access for the Class 1 Trail and Class 2 bike lanes, adjustments to the center medians, and improved high-visible crosswalks, and;

WHEREAS, there is no fiscal impact to calling for bids. The current budget for this project is approximately \$1.1 million. The project's budget is funded with State Highway Safety Improvement Program Grant Funds and Regional Surface Transportation Program funds, and;

WHEREAS, the City has determined the project exempt from environmental review per § 15301(b) of the CEQA Guidelines for Existing Facilities, and;

WHEREAS, the project is ready for advertisement.

NOW THEREFORE, BE IT RESOLVED that the City Council of the City of Marina does hereby approve advertising and call for bids for the Imjin Pkwy & 3rd Ave Intersection Improvement Project.

PASSED AND ADOPTED, at a regular meeting of the City Council of the City of Marina, duly held on the 16th day of September 2025, by the following vote:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

Bruce C. Delgado, Mayor

ATTEST:

Anita Sharp, Deputy City Clerk

k:\BAY_TPT10\097789010 - imjin & 3rd intersection improvements - nap\06 CADD\plansheets\01 CV-01.dwg 5/8/2025 10:05 AM
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of any part of this document without written authorization and adaptation by Kimley-Horn and Associates, shall be without liability to Kimley-Horn and Associates, Inc.



100% DRAFT DESIGN
FOR REVIEW ONLY
JUNE 2025

Rev.	Description	Date

Kimley»Horn

4637 CHABOT DRIVE, STE 300 PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM



Scale	AS SHOWN
Designed By:	JF/HW
Drawn By:	JF/RM
Checked By:	ASP/NP
Consultant's Job No.	097789010

CITY OF MARINA
DEPARTMENT OF PUBLIC WORKS

COVER SHEET
IMJIN PARKWAY & 3RD AVENUE
INTERSECTION IMPROVEMENTS



City of Marina Monterey County California	City of Marina Project No.
City of Marina 209 Cypress Ave Marina, CA 93933	Drawing No. CV-01 Sheet 1 of 11

EXHIBIT A TO STAFF REPORT

IMJIN PARKWAY & 3RD AVENUE INTERSECTION
IMPROVEMENTS PROJECT

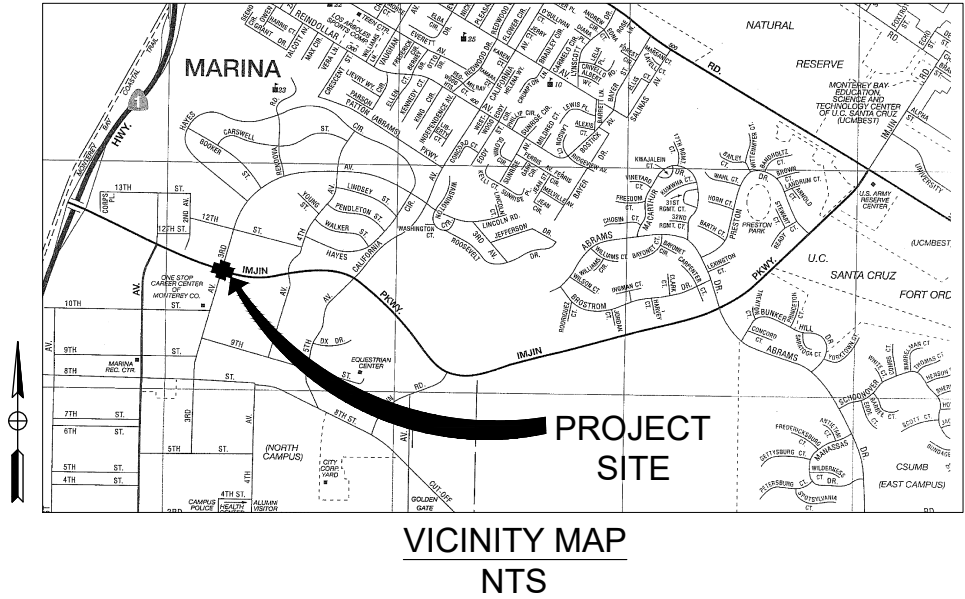
CITY OF MARINA, MONTEREY COUNTY, CALIFORNIA

TO BE SUPPLEMENTED BY THE CITY OF MARINA STANDARD PLANS DATED 2006, CALTRANS REVISED
STANDARD PLANS DATED 2024, AND CALIFORNIA MUTCD DATED 2014, REVISION 8



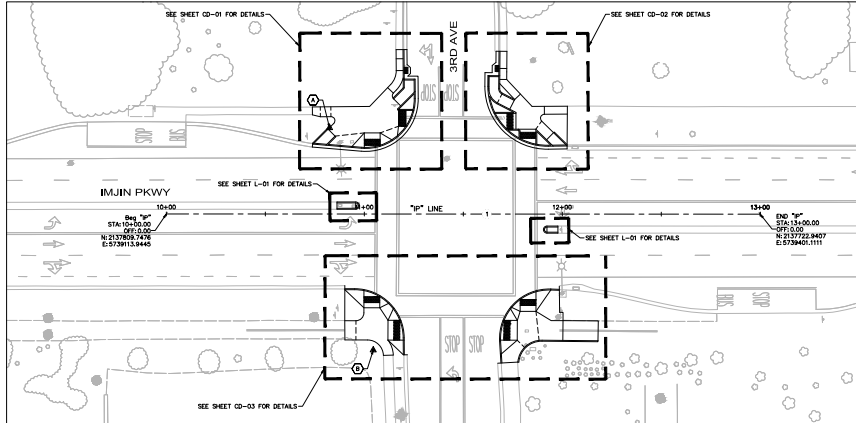
SHEET NUMBER AND TITLES

1	CV-01	COVER SHEET
2	GN-01	GENERAL NOTES
3	HC-01	HORIZONTAL CONTROL PLAN
4	L-01	LAYOUT PLAN
5-8	CD-01 TO CD-04	CONSTRUCTION DETAILS
9	SS-01	SIGNING AND STRIPING PLAN
10-11	TS-01 TO TS-02	TRAFFIC SIGNAL PLAN



PROJECT DESCRIPTION

THE IMJIN PARKWAY & 3RD AVE INTERSECTION IMPROVEMENTS PROJECT CONSISTS INSTALLING A NEW TRAFFIC SIGNAL, DIRECTIONAL CURB RAMPS AT ALL FOUR CORNERS, AND BICYCLE AND PEDESTRIAN CROSSINGS FOR CONNECTIVITY TO THE EXISTING TWO-WAY CYCLE TRACK.



ABBREVIATIONS

BC	BEGIN HORIZONTAL CURVE
BOW	BACK OF WALK
C&G	CURB AND GUTTER
EC	END HORIZONTAL CURVE
EX	EXISTING
FH	FIRE HYDRANT
FL	FLOWLINE
GB	GRADE BREAK
MH	MANHOLE
PB	PULL BOX
R/W	RIGHT OF WAY
SD	STORM DRAIN
SL	STREET LIGHT
STD	STANDARD
SW	SIDEWALK
TYP	TYPICAL
TC	TOP OF CURB
TG	TOP OF GRATE

PLANS PREPARED UNDER MY SUPERVISION

NIKITA PETROV, P.E.
KIMLEY-HORN AND ASSOCIATES, INC.

CITY OF MARINA

PUBLIC WORKS DIRECTOR/CITY OF MARINA

DATE

DATE

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES



Honorable Mayor and Members
of the Marina City Council

City Council Meeting
of September 16, 2025

**CITY COUNCIL TO CONSIDER ADOPTING RESOLUTION NO. 2025-,
AUTHORIZING A PROFESSIONAL SERVICES AGREEMENT TO
WALLACE GROUP OF SAN LUIS OBISPO, CA FOR ENGINEERING
SERVICES FOR UNDERGROUNDING OF OVERHEAD UTILITIES AT
THE CITY PARK AT THE DUNES; AND AUTHORIZING THE CITY
MANAGER OR DESIGNEE TO EXECUTE CONTRACT DOCUMENTS
SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY
ATTORNEY; AND AUTHORIZING THE FINANCE DIRECTOR TO
MAKE NECESSARY ACCOUNTING AND BUDGETARY ENTRIES.**

REQUEST:

It is requested that the City Council consider adopting Resolution No. 2025-__:

1. Authorizing a professional services agreement with Wallace Group of San Luis Obispo, CA for engineering services in an amount not to exceed \$90,000.00 for undergrounding of overhead utilities at the City Park at the Dunes.
2. Authorize the City Manager or designee to execute the agreement on behalf of the City subject to final review and approval by the City Attorney.
3. Authorize the Finance Director to make necessary accounting and budgetary entries.

BACKGROUND:

The City Park at the Dunes is a major development spanning 13.5 acres, featuring amenities such as an inclusive playground, restroom facilities, tennis and pickleball courts, an exercise center, picnic areas, and walkways. Engineering and landscape design efforts are well underway, with Wallace Group leading the project. Adjacent to the park is the upcoming Recreation & Aquatics Center, which, together with the park, will serve as a significant recreational hub for Marina residents for decades.

Throughout the project planning and design phases, staff have encountered and overcome numerous challenges. Currently, the final remaining obstacle involves a 760-foot overhead utility line operated by Pacific Gas & Electric (PG&E). Future maintenance activities for this line will interfere with public access to park facilities and detract from the aesthetic appeal of the area.

ANALYSIS:

Public Works staff have identified Wallace Group as the most qualified firm to handle the design for the undergrounding of this utility line. Wallace Group has an established history of successful projects within the city, maintains a positive working relationship with Marina, and is actively engaged in the design of both phases of the City Park at the Dunes. The firm possesses specialized expertise in underground utility design and has extensive experience collaborating with PG&E on similar projects.

The scope of work for this project will include engineering design, permitting, coordination with PG&E, and construction support for the undergrounding of the utility line. The total cost for these services is proposed at \$90,000, which reflects the full scope of services necessary to complete this critical improvement.

FISCAL IMPACT:

The proposed \$90,000 expenditure for engineering services will be funded through the project's allocated budget for the City Park at the Dunes development. Approval of this agreement will enable the project to move forward efficiently, reduce ongoing maintenance and aesthetic concerns associated with overhead lines, and enhance public safety and park accessibility.

EXHIBITS:

Exhibit A – Draft Professional Services Agreement with Wallace Group.

Exhibit B – Wallace Group Proposal and Scope of Services

Respectfully submitted,

Ismael Hernandez
Public Works Director
City of Marina

REVIEWED/CONCUR

Layne Long
City Manager
City of Marina

RESOLUTION NO. 2025-

A RESOLUTION OF THE CITY COUNCIL OF MARINA AUTHORIZING A PROFESSIONAL SERVICES AGREEMENT TO WALLACE GROUP OF SAN LUIS OBISPO, CA FOR ENGINEERING SERVICES FOR UNDERGROUNDING OF OVERHEAD UTILITIES AT THE CITY PARK AT THE DUNES; AND AUTHORIZING THE CITY MANAGER OR DESIGNEE TO EXECUTE CONTRACT DOCUMENTS SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ATTORNEY; AND AUTHORIZING THE FINANCE DIRECTOR TO MAKE NECESSARY ACCOUNTING AND BUDGETARY ENTRIES

WHEREAS, the City of Marina has identified the undergrounding of overhead utilities in the City Park at the Dunes as a critical step to improve public access, safety, and aesthetics; and

WHEREAS, Wallace Group has demonstrated extensive experience and a successful working relationship with the City of Marina, especially in the design and coordination efforts for the City Park at the Dunes project; and

WHEREAS, staff has negotiated a scope of services and a cost proposal for engineering services to design the undergrounding of approximately 760 feet of overhead utility line, in an amount not to exceed \$90,000; and

WHEREAS, approval of this agreement is necessary to facilitate timely progress on the project and to secure the improvements that will benefit residents and visitors alike;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Marina does hereby:

1. Authorize a professional services agreement with Wallace Group of San Luis Obispo, CA for engineering services, in an amount not to exceed \$90,000.00 for Undergrounding of Overhead Utilities at the City Park at the Dunes.
2. Authorize the City Manager or designee to execute the agreement on behalf of the City subject to final review and approval by the City Attorney.
3. Authorize the Finance Director to make necessary accounting and budgetary entries.

PASSED AND ADOPTED by the City Council of the City of Marina at a regular meeting duly held on the 16th Day of September, 2025 by the following vote:

COUNCIL MEMBERS:

COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

Bruce C. Delgado, Mayor

ATTEST:

Anita Sharp, Deputy City Clerk

CITY OF MARINA
AGREEMENT FOR CIVIL ENGINEERING AND LANDSCAPE ARCHITECTURE SERVICES

THIS AGREEMENT is made and entered into on August 6, 2025, by and between the City of Marina, a California charter city, hereinafter referred to as the "City," and *Wallace Group*, a *California corporation*, hereinafter referred to as the "Consultant." City and Consultant are sometimes individually referred to as "party" and collectively as "parties" in this Agreement.

Recitals

A. City desires to retain Consultant to:

Provide engineering services for Undergrounding of Overhead Utilities at the City Park at the Dunes, hereinafter referred to as the "Project."

B. Consultant represents that it has the qualifications, experience and personnel necessary to properly perform the services as set forth herein.

C. City desires to retain Consultant to provide such services.

Terms and Conditions

For of good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and in consideration of the mutual promises contained herein, City and Consultant agree to the following terms and conditions:

1. Scope of Work.

(a) Consultant is hereby hired and retained by the City to work in a cooperative manner with the City to fully and adequately perform those services set forth in Exhibit "A" attached hereto ("Scope of Work") and by this reference made a part hereof. With prior written notice to Consultant, City may elect to delete certain tasks of the Scope of Work at its sole discretion.

(b) Consultant shall perform all such work with skill and diligence and pursuant to generally accepted standards of practice in effect at the time of performance. Consultant shall provide corrective services without charge to the City for work which fails to meet these standards and which is reported to Consultant in writing within sixty days of discovery. Should Consultant fail or refuse to perform promptly its obligations under this Agreement, the City may render or undertake the performance thereof and the Consultant shall be liable for any expenses thereby incurred.

(c) If services under this Agreement are to be performed by a design professional, as that term is defined in California Civil Code §2782.8(b)(2), design professional certifies that all design professional services shall be provided by a person or persons duly licensed by the State of California to provide the type of services described in Section 1(a). By delivery of completed work, design professional certifies that the work conforms to the requirements of this Agreement and all applicable federal, state and local laws, and the professional standard of care in California.

(d) Consultant is responsible for making an independent evaluation and judgment of all relevant conditions affecting performance of the work, including without limitation site conditions, existing facilities, seismic, geologic, soils, hydrologic, geographic, climatic conditions, applicable federal, state and local laws and regulations and all other contingencies or considerations.

(e) City shall cooperate with Consultant and will furnish all information data, records and reports existing and available to City to enable Consultant to carry out work outlined in Exhibit "A." Consultant shall be entitled to reasonably rely on information, data, records and reports furnished by the City, however, the City makes no warranty as to the accuracy or completeness of any such information, data, records or reports available to it and provided to Consultant which were furnished to the City by a third party. Consultant shall have a duty to bring to the City's attention any deficiency or error it may discover in any information provided to the Consultant by the City or a third party.

2. Term of Agreement & Commencement of Work.

(a) Unless otherwise provided, the term of this Agreement shall begin on September 16, 2025 and shall expire on June 30, 2027, unless extended by amendment or terminated earlier as provided herein. The date of full execution is defined as the date when all of the following events have occurred:

(i) This Agreement has been approved by the City's Council or by the board, officer or employee authorized to give such approval; and

(ii) The office of the City Attorney has indicated in writing its approval of this Agreement as to form; and

(iii) This Agreement has been signed on behalf of Consultant by the person or persons authorized to bind the Consultant hereto; and.

(iv) This Agreement has been signed on behalf of the City by the person designated to so sign by the City's Council or by the officer or employee authorized to enter into this Contract and is attested to by the Marina City Clerk.

(b) Consultant shall commence work on the Project on or by September 16, 2025. This Agreement may be extended upon written agreement of both parties. Consultant may be required to prepare a written schedule for the work to be performed, which schedule shall be approved by the City and made a part of Exhibit A, and to perform the work in accordance with the approved schedule.

3. Compensation.

(a) City liability for compensation to Consultant under this Agreement shall only be to the extent of the present appropriation to fund this Agreement. For services to be provided under this Agreement City shall compensate Consultant in an amount not to exceed Ninety Thousand Dollars (\$90,000.00) in accordance with the provisions of this Section and the Fee Schedule attached hereto as Exhibit B and incorporated herein by this reference.

(b) Invoice(s) in a format and on a schedule acceptable to the City shall be submitted to and be reviewed and verified by the Project Administrator (see Section 5(a)) and forwarded to the City's Finance Department for payment. City shall notify Consultant of exceptions or disputed items and their dollar value within fifteen days of receipt. Payment of the undisputed

amount of the invoice will typically be made approximately thirty days after the invoice is submitted to the Finance Department.

(c) Consultant will maintain clearly identifiable, complete and accurate records with respect to all costs incurred under this Agreement on an industry recognized accounting basis. Consultant shall make available to the representative of City all such books and records related to this Agreement, and the right to examine, copy and audit the same during regular business hours upon 72-hour's notice for a period of four years from the date of final payment under this Agreement.

(d) Consultant shall not receive any compensation for Extra Work without the prior written authorization of City. As used herein, "Extra Work" means any work that is determined by the City to be necessary for the proper completion of the Project but which is not included within the Scope of Work and which the parties did not reasonably anticipate would be necessary at the execution of this Agreement.

(e) Expenses not otherwise addressed in the Scope of Services or the Fee Schedule incurred by Consultant in performing services under this Agreement shall be reviewed and approved in advance by the Project Administrator (Section 5(a)), be charged at cost and reimbursed to Consultant.

(f) There shall be no charge for transportation within Monterey, Santa Cruz and San Benito Counties required for the performance of the services under this Agreement; travel to other locations must be approved in writing and in advance by the City, mileage will be charged at the then current standard rate for business travel as set by the U.S. Internal Revenue Service for such approved travel.

4. Termination or Suspension.

(a) This Agreement may be terminated in whole or in part in writing by either party in the event of a substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given (1) not less than ten days written notice of intent to terminate, and (2) provided an opportunity for consultation with the terminating party prior to termination.

(b) If termination for default is effected by the City, an equitable adjustment in the price provided for in this Agreement shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due the Consultant at the time of termination may be adjusted to cover any additional costs to the City because of the Consultant's default. If after the termination for failure of Consultant to fulfill its contractual obligations, it is determined that the Consultant had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the City.

(c) The City may terminate or suspend this Agreement at any time for its convenience upon not less than thirty days prior written notice to Consultant. Not later than the effective date of such termination or suspension, Consultant shall discontinue all affected work and deliver all work product and other documents, whether completed or in progress, to the City.

(d) If termination for default is effected by the Consultant or if termination for convenience is effected by the City, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for termination shall provide for payment to the Consultant for services rendered and expenses incurred prior to the termination,

in addition to termination settlement costs reasonably incurred by Consultant relating to written commitments that were executed prior to the termination.

5. Project Administrator, Project Manager & Key Personnel.

(a) City designates as its Project Administrator, Ismael Hernandez, who shall have the authority to act for the City under this Agreement. The Project Administrator or his/her authorized representative shall represent the City in all matters pertaining to the work to be performed pursuant to this Agreement.

(b) Consultant designates, Kari Wagner, as its Project Manager who shall coordinate all phases of the Project. The Project manager shall be available to City at all reasonable times during the Agreement term.

(c) Consultant warrants that it will continuously furnish the necessary personnel to complete the Project on a timely basis as contemplated by this Agreement. Consultant, at the sole discretion of City, shall remove from the Project any of its personnel assigned to the performance of services upon written request of City. Consultant has represented to City that certain key personnel will perform and coordinate the work under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence upon written approval of the City. In the event that City and Consultant cannot agree as to the substitution of key personnel, City shall be entitled to terminate this Agreement for cause.

6. Delegation of Work.

(a) If Consultant utilizes any subconsultants, consultants, persons, employees or firms having applicable expertise to assist Consultant in performing the services under this Agreement, Consultant shall obtain City's prior written approval to such employment. Consultant's contract with any subconsultant shall contain a provision making the subcontract subject to all provisions of this Agreement. Consultant will be fully responsible and liable for payment for, administration, completion, presentation, and quality of all work performed. If such persons are utilized, they shall be charged at cost. City reserves its right to employ other consultants in connection with this Project.

(b) If the work hereunder is performed by a design professional, design professional shall be directly involved with performing the work or shall work through his, her or its employees. The design professional's responsibilities under this Agreement shall not be delegated. The design professional shall be responsible to the City for acts, errors or omissions of his, her or its subconsultants. Negligence of subconsultants or agents retained by the design professional is conclusively deemed to be the negligence of the design professional if not adequately corrected by the design professional. Use of the term subconsultant in any other provision of this Agreement shall not be construed to imply authorization for a design professional to use subconsultants for performance of any professional service under this Agreement.

(c) The City is an intended beneficiary of any work performed by a subconsultant for purposes of establishing a duty of care between the subconsultant and the City.

7. Skill of Employees. Consultant shall ensure that any employees or agents providing services under this Agreement possess the requisite skill, training and experience to properly perform such services.

8. Confidential and Proprietary Information. In the course of performing services under this Agreement Consultant may obtain, receive, and review confidential or proprietary documents, information or materials that are and shall remain the exclusive property of the City. Should Consultant undertake the work on behalf of other agencies, entities, firms or persons relating to the matters described in the Scope of Work, it is expressly agreed by Consultant that any such confidential or proprietary information or materials shall not be provided or disclosed in any manner to any of Consultant's other clients, or to any other third party, without the City's prior express written consent.

9. Ownership of Data. Unless otherwise provided for herein, all documents, material, data, drawings, plans, specifications, computer data files, basis for design calculations, engineering notes, and reports originated and prepared by Consultant, or any subconsultant of any tier, under this Agreement shall be and remain the property of the City for its use in any manner it deems appropriate. Consultant agrees that all copyrights which arise from creation of the work pursuant to this Agreement shall be vested in the City and waives and relinquishes all claims to copyright or intellectual property rights in favor of the City. Consultant shall provide two (2) sets of reproducible of the above-cited items, except for the computer data files which shall consist of one (1) set. Consultant shall use all reasonable efforts to ensure that any electronic files provided to the City will be compatible with the City's computer hardware and software. Consultant makes no representation as to long-term compatibility, usability or readability of the format resulting from the use of software application packages, operating systems or computer hardware differing from those in use by the City at the commencement of this Agreement. Consultant shall be permitted to maintain copies of all such data for its files. City acknowledges that its use of the work product is limited to the purposes contemplated by the Scope of Work and, should City use these products or data in connection with additions to the work required under this Agreement or for new work without consultation with and without additional compensation to Consultant, Consultant makes no representation as to the suitability of the work product for use in or application to circumstances not contemplated by the Scope of Work and shall have no liability or responsibility whatsoever in connection with such use which shall be at the City's sole risk. Any and all liability arising out of changes made by the City to Consultant's deliverables is waived against Consultant unless City has given Consultant prior written notice of the changes and has received Consultant's written consent to such changes.

10. Conflict of Interest.

(a) Consultant covenants that neither it, nor any officer or principal of its firm has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of the City or which would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent or subconsultant without the express written consent of the City Manager. Consultant agrees to at all times avoid conflicts of interest or the appearance of any conflicts of interest with the interests of the City in the performance of this Agreement. Consultant shall represent the interest of the City in any discussion or negotiation.

(b) City understands and acknowledges that Consultant may be, as of the date of commencement of services under this Agreement, independently involved in the performance of non-related services for other governmental agencies and private parties. Consultant is unaware of any stated position of the City relative to such projects. Any future position of the City on such projects may result in a conflict of interest for purposes of this section.

11. Disclosure. Consultant may be subject to the appropriate disclosure requirements of the California Fair Political Practices Act, as determined by the City Manager.

12. Non-Discrimination.

- (a) During the performance of this Agreement the Consultant and its subconsultants shall comply with the applicable laws of the United States of America, the State of California and the City prohibiting discrimination and harassment. In performing this Agreement, Consultant shall not discriminate, harass, or allow harassment, against any employee or applicant for employment because of gender, gender expression, gender identity, genetic characteristics, sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical condition (including cancer), mental disability, age, marital status, denial of family and medical care leave and denial of pregnancy disability leave, sexual orientation, military/veteran status and any other characteristics protected by state or federal law. Consultant shall give written notice of its obligations under this clause to labor organizations with which it has a collective bargaining or other agreement.
- (b) Consultant shall include the provisions of this Section 12(a) in all subcontracts related to this Agreement.

13. Indemnification.

(a) Other than in the performance of design professional services by a design professional, which shall be solely as addressed by subsection (b) below, and to the full extent permitted by law, Consultant shall indemnify, immediately defend (with independent counsel reasonably acceptable to the City) and hold harmless the City, its Council, boards, commissions, employees, officials and agents (collectively "Indemnified Parties" or in the singular "Indemnified Party") from and against any claims, losses, damages, penalties, fines and judgments, associated investigation and administrative expenses, and defense costs including but not limited to reasonable attorney's fees, court costs, expert witness fees and costs of alternate dispute resolution (collectively "Liabilities"), where same arise out of the performance of this Agreement by Consultant, its officers, employees, agents and subconsultants. The duty to defend is a separate and distinct obligation from the Consultant's duty to indemnify and Consultant shall be obligated to defend in all legal, equitable, administrative or special proceedings upon tender to the Consultant of any claim in any form or at any stage of an action or proceeding, whether or not liability is established and the obligation extends through final judgment including exhaustion of any appeals.. The Consultant's obligation to indemnify applies unless it is finally determined that the liability was caused by the sole active negligence or sole willful misconduct of an indemnified party. If it is finally determined that liability is caused by the comparative active negligence or willful misconduct of an Indemnified Party, the Consultant's indemnification obligation shall be reduced in proportion to the established comparative liability of the indemnified party.

(b) To the fullest extent permitted by law (including without limitation California Civil Code Sections 2782.8), when the services to be provided under this Agreement are design professional services to be performed by a design professional, as that term is defined by said section 2782.8(c)(2) ("Design Professional") Design Professional shall indemnify, protect and hold harmless any Indemnified Party for all Liabilities regardless of nature or type that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Design Professional, or such acts or omissions of an officer, employee, agent or subcontractor of the Design Professional, in the performance of professional services provided to the city. Design Professional shall not have an immediate duty to defend an Indemnified Party, however, Design Professional's obligation to indemnify (including reimbursing the cost to defend) and hold the Indemnified Parties harmless applies unless it is finally determined that the liability was caused by the sole active negligence or sole willful misconduct of an Indemnified Party. If it is finally

determined that liability was caused by the comparative active negligence or willful misconduct of an Indemnified Party as adjudicated by a court of competent jurisdiction, the Design Professional's indemnification obligation shall be reduced in direct proportion to the indemnified party's proportionate percentage of fault. Within 30 days following Design Professional's receipt of a properly presented written invoice Design Professional shall satisfy its indemnification obligations and reimburse the Indemnified Party for the cost of reasonable attorney's fees and defense costs incurred by the Indemnified Party to the same extent of Design Professional's indemnity obligation herein. In no event shall the cost to defend charged to the Design Professional exceed the Design Professional's proportionate percentage of fault.

(c) The provisions of this Section are not limited by the provisions of sections relating to insurance including provisions of any worker's compensation act or similar act. Consultant expressly waives its statutory immunity under such statutes or laws as to City, its employees and officials. An allegation or determination of comparative active negligence or willful misconduct by an Indemnified Party unrelated to design professional services does not relieve Consultant from its separate and distinct obligation to defend City. Consultant agrees to obtain executed indemnity agreements with provisions identical to those set forth here in this section from each and every subconsultant, sub tier consultant or any other person or entity involved by, for, with or on behalf of Consultant in the performance or subject matter of this Agreement. In the event Consultant fails to obtain such indemnity obligations from others as required here, Consultant agrees to be fully responsible according to the terms of this section. Failure of City to monitor compliance with these requirements imposes no additional obligations on City and will in no way act as a waiver of any rights hereunder.

(d) If any action or proceeding is brought against any Indemnified Party by reason of any of the matters against which the Consultant has agreed to provide an immediate defense to any Indemnified Party, as provided above, Consultant, upon notice from the City, shall defend the Indemnified Party at Consultant's expense by independent counsel reasonably acceptable to the City. Unless otherwise provided above, an Indemnified Party need not have first paid for any of the matters to which it is entitled to indemnification in order to be so defended. Consultant may submit a claim to the City for reasonable defense costs (including attorney's and expert fees) incurred in providing a defense of any Indemnified Party to the extent such defense costs arise under principals of comparative fault from the Indemnified Party's active negligence, recklessness or willful misconduct.

(e) This obligation to indemnify and defend, as set forth herein, is binding on the successors, assigns, or heirs of Consultant and shall survive the termination of this Agreement or this Section.

14. Insurance.

(a) As a condition precedent to the effectiveness of this Agreement and without limiting Consultant's indemnification of the City, Consultant agrees to obtain and maintain in full force and effect at its own expense the insurance policies set forth in Exhibit "B" "Insurance" attached hereto and made a part hereof. Consultant shall furnish the City with original certificates of insurance, executed by a person authorized by that insurer to bind coverage on its behalf, along with copies of all required endorsements. All certificates and endorsements must be received and approved by the City before any work commences. All insurance policies shall be subject to approval by the City Attorney and Risk Manager as to form and content. Specifically, such insurance shall: (1) be endorsed to protect City as an additional insured for commercial general and business auto liability; (2) provide City prior notice of cancellation; and (3) be primary with respect to City's insurance program. Consultant's insurance is not expected to respond to claims that may arise from the acts or omissions of the City.

(b) City reserves the right at any time during the term of this Agreement to change the amounts and types of insurance required herein by giving Consultant ninety days advance written notice of such change. If such change should result in substantial additional cost of the Consultant, City agrees to negotiate additional compensation proportional to the increased benefit to City.

(c) All required insurance must be submitted and approved the City Attorney and Risk Manager prior to the inception of any operations by Consultant.

(d) The required coverage and limits are subject to availability on the open market at reasonable cost as determined by the City. Non availability or non affordability must be documented by a letter from Consultant's insurance broker or agency indicating a good faith effort to place the required insurance and showing as a minimum the names of the insurance carriers and the declinations or quotations received from each. Within the foregoing constraints, Consultant's failure to procure or maintain required insurance during the entire term of this Agreement shall constitute a material breach of this Agreement under which City may immediately suspend or terminate this Agreement or, at its discretion, procure or renew such insurance to protect City's interests and pay any and all premium in connection therewith and recover all monies so paid from Consultant.

(e) By signing this Agreement, Consultant hereby certifies that it is aware of the provisions of Section 3700 *et seq.*, of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provision of that Code, and that it will comply with such provisions at all such times as they may apply during the performance of the work pursuant to this Contract. Unless otherwise agreed, a waiver of subrogation in favor of the City is required.

15. Independent Consultant. The parties agree that Consultant, its officers, employees and agents, if any, shall be independent consultants with regard to the providing of services under this Agreement, and that Consultant's employees or agents shall not be considered to be employees or agents of the City for any purpose and will not be entitled to any of the benefits City provides for its employees. City shall make no deductions for payroll taxes or Social Security from amounts due Consultant for work or services provided under this Agreement.

This Agreement shall not constitute, and it is not intended to constitute, either party as an employer, employee, agent, partner or legal representative of the other party for any purpose, or give either party any right to supervise or direct the functions of the other party. Except as specifically provided herein, neither party shall have authority to act for or obligate the other party in any way or to extend any representation on behalf of the other party. Each party agrees to perform under this Agreement solely as an independent consultant and neither party shall have any right, power, or authority, nor shall they represent themselves as having any authority to assume, create, or incur any expense, liability or obligation, express or implied, on behalf of the other party for any purpose. Each party agrees not to permit its employees or agents to do anything that might be construed or interpreted as acts of the other party.

16. Claims for Labor and Materials. Consultant shall promptly pay when due all amounts payable for labor and materials furnished in the performance of this Agreement, so as to prevent any lien or other claim under any provision of law from arising against any City property (including reports, documents, and other tangible matter produced by the Consultant hereunder), against the Consultant's rights to payments hereunder, or against the City, and shall pay all amounts due under the Unemployment Insurance Act with respect to such labor.

17. Discounts. Consultant agrees to offer the City any discount terms that are offered to its best customers for the goods and services to be provided herein, and apply such discounts to payment made under this Agreement which meet the discount terms.

18. Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

19. Dispute Resolution. If any dispute arises between the parties as to proper interpretation or application of this Agreement, the parties shall first meet and confer in a good faith attempt to resolve the matter between themselves. If the dispute is not resolved by meeting and conferring, the matter shall be submitted for formal mediation to a mediator selected mutually by the parties. The expenses of such mediation shall be shared equally between the parties. If the dispute is not or cannot be resolved by mediation, the parties may mutually agree (but only as to those issues of the matter not resolved by mediation) to submit their dispute to arbitration. Before commencement of the arbitration, the parties may elect to have the arbitration proceed on an informal basis; however, if the parties are unable so to agree, then the arbitration shall be conducted in accordance with the rules of the American Arbitration Association. The decision of the arbitrator shall be binding, unless within thirty days after issuance of the arbitrator's written decision, any party files an action in court. Venue and jurisdiction for any such action between the parties shall lie in the Superior Court for the County of Monterey.

20. Compliance with Laws.

(a) Each party's performance hereunder shall comply with all applicable laws of the United States of America, the State of California and the City including but not limited to laws regarding health and safety, labor and employment, wage and hours and licensing laws which affect employees. This Agreement shall be governed by, enforced and interpreted under the laws of the State of California. Consultant must be in good standing and registered with the California Department of Industrial Relations in accordance with California labor Code section 1725.5 and shall comply with new, amended or revised laws, regulations or procedures that apply to the performance of this Agreement.

(b) If the Project is a "public work," or prevailing wages are otherwise required, Consultant shall comply with all provision of California Labor Code section 1720 *et seq.*, as applicable, and laws dealing with prevailing wages, apprentices and hours of work.

(c) Consultant represents that it has obtained and presently holds all permits and licenses necessary for performance hereunder, including a Business License required by the City's Business License Ordinance (Title 5 of the Marina Municipal Code) for which a business license tax is prescribed and assessed at the rate of two-tenths percent of gross receipts, in accordance with the provisions therein. For the term covered by this Agreement, the Consultant shall maintain or obtain as necessary, such permits and licenses and shall not allow them to lapse, be revoked or suspended.

21. Assignment or Transfer. This Agreement or any interest herein may not be assigned, hypothecated or transferred, either directly or by operation of law, without the prior written consent of the City. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

22. Notices. All notices required or permitted to be given under this Agreement shall be in writing and shall be personally delivered, sent by facsimile ("fax") or certified mail, postage prepaid with return receipt requested, addressed as follows:

To City: City Manager
City of Marina City Hall
211 Hillcrest Avenue
Marina, California 93933
Fax: (831) 384-9148

To Consultant:

Fax (____) _____

The parties may agree in writing to receive notice by email. Notice shall be deemed effective on the date personally delivered or transmitted by facsimile or, if mailed, three days after deposit in the custody of the U.S. Postal Service. A copy of any notice sent as provided herein shall also be delivered to the Project Administrator and Project Manager.

23. Amendments, Changes or Modifications. This Agreement is not subject to amendment, change or modification except by a writing signed by the authorized representatives of City and Consultant.

24. Force Majeure. Notwithstanding any other provisions hereof, neither Consultant nor City shall be held responsible or liable for failure to meet their respective obligations under this Agreement if such failure shall be due to causes beyond Consultant's or the City's control except that an economic downturn of any type shall not be a justifiable cause for the failure to meet their respective obligations under this Agreement. Such causes include but are not limited to: strike, fire, flood, civil disorder, act of God or of the public enemy, act of the federal government, or any unit of state or local government in either sovereign or contractual capacity, epidemic, quarantine restriction, or delay in transportation to the extent that they are not caused by the party's willful or negligent acts or omissions, and to the extent that they are beyond the party's reasonable control.

25. Attorney's Fees. In the event of any controversy, claim or dispute relating to this Agreement, or the breach thereof, the prevailing party shall be entitled to recover from the losing party reasonable expenses, attorney's fees and costs.

26. Successors and Assigns. All of the terms, conditions and provisions of this Agreement shall apply to and bind the respective heirs, executors, administrators, successors, and assigns of the parties. Nothing in this paragraph is intended to affect the limitation on assignment.

27. Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver and perform the Agreement. Each party warrants that the individuals who have signed this Agreement have the legal power, right and authority to make this Agreement and bind each respective party.

28. Waiver. A waiver of a default of any term of this Agreement shall not be construed as a waiver of any succeeding default or as a waiver of the provision itself. A party's performance after the other party's default shall not be construed as a waiver of that default.

29. **Severability.** Should any portion of this Agreement be determined to be void or unenforceable, such shall be severed from the whole and the Agreement will continue as modified.

30. **Construction, References, Captions.** Since the parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. The captions of the various sections are for convenience and ease of reference only, and do not define, limit, augment or describe the scope, content or intent of this Agreement.

31. **Advice of Counsel.** The parties agree that they are aware that they have the right to be advised by counsel with respect to the negotiations, terms and conditions of this Agreement, and that the decision of whether or not to seek the advice of counsel with respect to this Agreement is a decision which is the sole responsibility of each of the parties hereto. This Agreement shall not be construed in favor or against either party by reason of the extent to which each party participated in the drafting of this Agreement.

32. **Counterparts.** This Agreement may be signed in counterparts, each of which shall constitute an original.

33. **Time.** Time is of the essence in this contract.

34. **Entire Agreement.** This Agreement contains the entire agreement of the parties with respect to the matters as set forth in this Agreement, and no other agreement, statement or promise made by or to any party or by or to any employee, officer or agent of any party, which is not contained in this Agreement shall be binding or valid.

IN WITNESS WHEREOF, Consultant and the City by their duly authorized representatives, have executed this Agreement, on the date first set forth above, at Marina, California.

CITY OF MARINA

CONSULTANT

By: _____
Name: _____
Its: _____
Date: _____

By: _____
Name: _____
Its: _____
Date: _____

Attest: (Pursuant to Reso: 20____ - ____)

By: _____
City Clerk

Approved as to form:

By: _____
City Attorney

INSERT EXHIBIT A

Section 1 (a)

- SCOPE OF WORK -

[Include Work Schedule if required.]

EXHIBIT B - INSURANCE

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by Consultant, its agents, representatives, or employees.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$1,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Consultant has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than **\$1,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than **\$1,000,000** per accident for bodily injury or disease. (Not required if Consultant provides written verification it has no employees)
4. **Professional Liability (Errors and Omissions):** Insurance appropriate to Consultant's profession, with limit no less than **\$2,000,000** per occurrence or claim, \$2,000,000 aggregate.

If Consultant maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions:

Additional Insured Status

City, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of Consultant including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to Consultant's insurance (at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 if a later edition is used).

Primary Coverage

For any claims related to this contract, Consultant's insurance coverage shall be primary and non-contributory and at least as broad as ISO CG 20 01 04 13 as respects the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of Consultant's insurance and shall not contribute with it. This requirement shall also apply to any Excess or Umbrella liability policies.

Umbrella or Excess Policy

Consultant may use Umbrella or Excess Policies to provide the liability limits as required in this agreement. This form of insurance will be acceptable provided that all of the Primary and Umbrella or Excess Policies shall provide all of the insurance coverages herein required, including, but not limited to, primary and non-contributory, additional insured, Self-Insured Retentions (SIRs), indemnity, and defense requirements. The Umbrella or Excess policies shall be provided on a true "following form" or broader coverage basis, with coverage at least as broad as provided on the underlying Commercial General Liability insurance. No insurance policies maintained by the Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until Consultant's primary and excess liability policies are exhausted.

Notice of Cancellation

Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the City.

Waiver of Subrogation

Consultant hereby grants to City a waiver of any right to subrogation which any insurer of said Consultant may acquire against the City by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

Self-Insured Retentions

Self-insured retentions must be declared to and approved by the City. The City may require Consultant to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City. The CGL and any policies, including Excess liability policies, may not be subject to a self-insured retention (SIR) or deductible that exceeds \$25,000 unless approved in writing by City. Any and all deductibles and SIRs shall be the sole responsibility of Consultant or subconsultant who procured such insurance and shall not apply to the Indemnified Additional Insured Parties. City may deduct from any amounts otherwise due Consultant to fund the SIR/deductible. Policies shall NOT contain any self-insured retention (SIR) provision that limits the satisfaction of the SIR to the City. The policy must also provide that Defense costs, including the Allocated Loss Adjustment Expenses, will satisfy the SIR or deductible. City reserves the right to obtain a copy of any policies and endorsements for verification.

Acceptability of Insurers

Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the City.

Claims Made Policies

If any of the required policies provide claims-made coverage:

1. The Retroactive Date must be shown, and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of work.

Verification of Coverage

Consultant shall furnish the City with original certificates and amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause and a copy of the Declarations and Endorsements Pages of the CGL and any Excess policies listing all policy endorsements. All certificates and endorsements and copies of the Declarations & Endorsements pages are to be received and approved by the City before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive Consultant's obligation to provide them. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time. City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

Subconsultants

Consultant shall require and verify that all subconsultants maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that City is an additional insured on insurance required from subconsultants.

Duration of Coverage

CGL & Excess liability policies for any construction related work, including, but not limited to, maintenance, service, or repair work, shall continue coverage for a minimum of five (5) years for Completed Operations liability coverage. Such Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.

Special Risks or Circumstances

City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

July 28, 2025

Ismael Hernandez
City of Marina
211 Hillcrest Avenue
Marina, California 93933

Subject: Dunes Park Undergrounding of Overhead Utilities

Dear Ismael Hernandez :

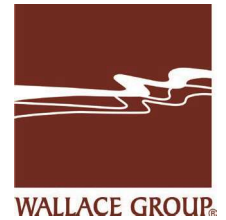
Wallace Group appreciates the opportunity to provide you with our proposal for engineering services for the above referenced project. Based on our discussion, the following Scope of Services has been prepared for your consideration:

PROJECT UNDERSTANDING

The City is interested in removing the remaining portions of overhead utilities within property that will be developed as Dunes Park. This includes up to 4 poles and approximately 760' of overhead lines.



Wallace Group proposes to support this City in this endeavor by providing utility coordination, preparing Plans Specs and Cost Estimate (PS&E) for the joint trench, and providing engineering support during the bidding phase of the project. It is our understanding that a topographic survey covering the area of work has been performed in recent years, and that additional survey will not be necessary for this project. Furthermore, environmental surveys and/or



CIVIL AND
TRANSPORTATION
ENGINEERING

CONSTRUCTION
MANAGEMENT

LANDSCAPE
ARCHITECTURE

MECHANICAL
ENGINEERING

PLANNING

PUBLIC WORKS
ADMINISTRATION

SURVEYING /
GIS SOLUTIONS

WATER RESOURCES

WALLACE GROUP
A California Corporation

612 CLARION CT
SAN LUIS OBISPO
CALIFORNIA 93401

T 805 544-4011
F 805 544-4294

www.wallacegroup.us



remediation efforts are not considered as part of this proposal, as those have been performed previously as part of the City's blight removal project in this area.

It is our understanding that the City has not yet submitted an application to PG&E for this project and it is unclear at this time as to whether it would be considered a Rule 20A or Rule 20B project. For the purposes of this proposal, we have assumed that this project will fall under Rule 20B as this is likely the quicker process between the two. If the project is determined to be a Rule 20A project, then additional budget may be needed to cover our services over the longer timeframe.

The undergrounding design should aim to compliment the future Dunes Park development plans, as it relates to vault locations, trench restoration, etc.

SCOPE OF SERVICES

Project Management, Meetings, and QA/QC

Wallace Group will perform the necessary day-to-day project management tasks to keep the project moving forward during the design phase and bid. This proposal assumes monthly meetings with pertinent stakeholders throughout the duration of the planning/design process, however actual meeting needs will vary. For the purpose of this proposal, we are assuming a timeline of 18-24 months for project planning, design, and bidding. We will submit monthly schedule updates. Wallace Group will perform internal QA/QC for the 90% and 100% PS&E submittals.

Utility Coordination

Wallace Group will act as lead coordinator between all overhead utilities (PG&E, AT&T, and Comcast) and the City. We will start by contacting the PG&E's Rule 20 liaison to discuss the project and application, and we will work with the City and PG&E to determine the application approach that best suits the project. Wallace Group will prepare and submit the PG&E application on behalf of the City. Once the application has been submitted/accepted and a preliminary design is prepared/provided by PG&E, we will engage with AT&T and Comcast to obtain their designs for the underground substructure. Wallace Group will review each utility company's proposed design and contract with the City and will assist with any subsequent discussions between the City and utility companies during the design phase. We have assumed (1) site visit with utility company representatives for design coordination purposes.

Joint Trench Plans, Specifications, and Cost Estimate (PS&E)

After all utility companies have provided their preliminary substructure designs, Wallace Group will compile them into a single set of 'joint trench' plans, which will define trench and vault/box locations, general construction notes, relevant requirements of the affected utilities, typical details, and trench sections. Traffic control plans are not anticipated for this project.

Along with the plans, Wallace Group will prepare a set of technical specifications and an Engineer's Opinion of Probable Cost for the substructure construction. The technical specifications will be prepared in CSI format, to be attached as Technical Provisions to the City's standard bidding 'front end' documents and general provisions. Wallace Group can prepare front end documents if needed as an additional service, however for the purpose of this proposal we have assumed that the City will prepare the bulk of the front end bidding documents.



The PS&E will be submitted to the City for review at 50%, 90%, and 100% IFC progress stages, which are anticipated to include the following

- 50% Progress -
 - Plans will show topographic mapping (already completed by Wallace Group), existing utilities mapping (based on utility A-letter responses or other available data), proposed joint trench route, proposed vault locations, typical trench restoration details.
 - Technical Specifications Table of Contents
 - Suggested list of bid items
- 90% Progress* -
 - Plans will include cover and general notes, pertinent utility requirements, trench sections, and construction details.
 - Technical Specifications
 - Draft Engineer's Opinion of Probable Construction Cost
- 100% Issued for Bid -
 - Stamped & Signed Plans
 - Stamped & Signed Technical Specifications
 - Final Engineer's Opinion of Probable Construction Cost

*Note that the 90% plans will also be submitted to PG&E for composite review

Engineering Services during Bidding

Wallace Group will attend an in-person pre-bid meeting with prospective bidders and representatives of the City. Wallace Group will respond to pre-bid RFIs as needed during the bidding process. For the purpose of this proposal, we have assumed a total of 10 pre-bid RFIs. Following the bid opening, Wallace Group will perform an analysis of the bids and present our recommendations

SCHEDULE

Wallace Group anticipates a duration of 18-24 months for the planning, design, and bidding phases of this project, however the pace of the project will be highly dependent upon PG&E's representative's responsiveness and their design team's queue. We will endeavor to perform regular check-ins with each utility company while they are working on their respective designs, to attempt to maintain progress.

ITEMS NOT INCLUDED IN SCOPE OF SERVICES

The following services may also benefit your project. Wallace Group can provide these services, directly or through sub-consultants, however, they are not included in the current Scope of Services or estimate of fees:

- Topographic / Boundary survey (already completed by Wallace Group)
- Potholing
- Environmental services
- Engineering services during construction
- Construction management services



PROJECT FEES

Wallace Group will perform the services denoted in the proposed Scope of Services in accordance with the attached Standard Billing Rates (Exhibit A). These services will be invoiced monthly on an accrued cost basis, and our total fees, including reimbursables will not exceed our estimated fee of \$90,000 without receiving written authorization from the Client.

At your request, additional services to the Scope of Services will be performed by Wallace Group following the signature of our Contract Amendment or the initiation of a new contract.

TERMS AND CONDITIONS

~~In order to convey a clear understanding of the matters related to our mutual responsibilities regarding this proposal, our master services agreement with the City of Marina dated March 4, 2025 is considered a part of our proposal agreement.~~ If this proposal meets with your approval, please sign where indicated and return to our office, which will serve as our notice-to-proceed.

We want to thank you for this opportunity to present our proposal for professional services. If you would like to discuss this proposal in greater detail, please feel free to contact me or Project Manager, Erik Rutherford.

Sincerely,

WALLACE GROUP, a California Corporation

TERMS AND CONDITIONS ACCEPTED:

Erik Rutherford, PE C86188, ME 36487
Senior Mechanical Engineer
612 Clarion Court
San Luis Obispo
California 93401
T 805 544-4011
F 805 544-4294
www.wallacegroup.us

Signature

Printed Name

Title

Date

Attachments
GGM: PP25-8525, 2025
Exhibit A
Exhibit B

THIS PROPOSAL IS VALID FOR 60 DAYS FROM THE DATE OF THIS DOCUMENT.

Exhibit A
Standard Billing Rates

Engineering, Design & Support Services:

Assistant Designer/Technician	\$128
Designer/Technician I - IV	\$132/\$142/\$152/\$162
Senior Designer/Technician I - III	\$172/\$179/\$186
GIS Technical Specialist.....	\$167
Senior GIS Technical Specialist	\$178
Associate Engineer I - III	\$140/\$150/\$160
Engineer I - IV	\$178/\$183/\$188/\$193
Senior Engineer I - III	\$210/\$218/\$225
Director	\$228
Principal Engineer/Consulting Engineer	\$255
Principal.....	\$280

Surveying Services:

Party Chief	\$190
Party Chief (*Prevailing Wage).....	\$250
Instrument Person	\$133
Instrument Person (*Prevailing Wage)	\$150
Associate Survey Technician	\$125
Survey Technician I - IV	\$140/\$145/\$155/\$160
Land Surveyor I - III	\$170/\$180/\$190
Senior Land Surveyor I - III.....	\$198/\$203/\$208
Director	\$228
Principal Surveyor	\$255
Principal.....	\$280

Construction/Program Management and Inspection Services:

Construction Office Tech I-III.....	\$125/\$135/\$145
Construction Inspector I-IV	\$150/\$155/\$160/\$165
Senior Construction Inspector	\$170
Construction Inspector (*Prevailing Wage)	\$185
Assistant Construction/ Program Manager I - II	\$165/\$170
Construction/ Program Manager I-III	\$175/\$180/\$185
Senior Construction/ Program Manager I - II	\$195/\$200
Assistant Resident Engineer I - II.....	\$175/\$180
Resident Engineer I-III	\$185/\$190/\$195
Senior Resident Engineer I-II	\$205/\$210
Director	\$228
Principal Construction Manager.....	\$253
Principal.....	\$280

Support Services:

Office Assistant	\$120
Project Assistant I - III.....	\$130/\$135/\$145

***Prevailing Wage:**

State established prevailing wage rates will apply to some services based on state law, prevailing wage rates are subject to change over time and geographic location.

Right to Revisions:

Wallace Group reserves the right to revise our standard billing rates on an annual basis, personnel classifications may be added as necessary.

Additional Professional Services:

Fees for expert witness preparation, testimony, court appearances, or depositions will be billed at the rate of \$400 an hour. If required to meet schedule requests, overtime on a project will be billed at 1.5 times the employee's typical hourly rate.

Direct Expenses:

Direct expenses will be invoiced to the client and a handling charge of 15% may be added. Sample direct expenses include, but are not limited to the following:

- travel expenses
- sub-consultant services
- agency fees
- delivery/copy services
- mileage (per IRS rates)
- other direct expenses

Invoicing and Interest Charges:

Invoices are submitted monthly on an accrued cost basis. A finance charge of 1.5% per month may be assessed on all balances that are thirty days past due.



MST HIGHLIGHTS
Board of Directors Meeting
September 8, 2025

RECOGNIZED AUGUST EMPLOYEE OF THE MONTH

The MST Board adopted Resolution 2026-04 recognizing Greg Burchell, Operations Supervisor, as the August 2025 Employee of the Month for his outstanding contribution to MST and the entire community.

RECOGNIZED SEPTEMBER EMPLOYEE OF THE MONTH

The MST Board adopted Resolution 2026-05 recognizing Kelly Soriano, Mobility Specialist, as the September 2025 Employee of the Month for her outstanding contribution to MST and the entire community.

APPROVED AMMENDMENT #1 TO TAMC MEMORANDUM OF UNDERSTANDING

The MST approved Amendment #1 to the memorandum of understanding (MOU) among the Transportation Agency for Monterey County (TAMC), the City of Salinas, and MST regarding use of the Salinas Intermodal Transportation Center.

APPROVED DISPOSAL OF THIRTEEN MST SURPLUS VEHICLES

The MST approved a list of thirteen (13) MST-owned vehicles as surplus property and directed staff to dispose of the vehicles using the most economical method available.

APPOINTED MOBILITY ADVISORY COMMITTEE MEMBER

The MST Board appointed Thomas De La Cruz to the Mobility Advisory Committee for a 3-year term.

RATIFIED COLLECTIVE BARGAINING AGREEMENT BETWEEN ATU AND MST

The MST Board ratified the collective bargaining agreement (CBA) between the Amalgamated Transit Union Local 1225 (ATU) employees and the Monterey-Salinas Transit District (MST).

RECEIVED MST LAND UTILIZATION STUDY

The MST Board received a presentation on an MST Land Utilization Study and provided direction to staff.

AWARDED CONTRACT FOR GENERAL COUNSEL AND SPECIAL COUNSEL SERVICES

The MST Board authorized the General Manager/CEO or their designee to enter into a five (5) year contract with De Lay and Laredo for general counsel and labor negotiations, and a five (5) year non-exclusive contract with Hanson Bridgett for special counsel services, both with the option to extend for two (2) additional one (1) year terms.

NEXT MST BOARD MEETING

The next regular MST Board meeting is scheduled for October 13, 2025.

ORDINANCE NO. 2025-13

AN ORDINANCE AMENDING THE MARINA MUNICIPAL CODE (MMC), TITLE 3,
CHAPTER 3.16, BY ADDING TWO NEW SECTIONS 3.16.080 AND 3.16.090
ALTERNATIVE PROJECT DELIVERY METHODS FOR PUBLIC WORKS PROJECTS.
THE PROPOSED ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW
PURSUANT TO SECTION 15061(B)(3) OF THE CEQA GUIDELINES

THE CITY COUNCIL OF THE CITY OF MARINA DOES HEREBY ORDAIN AS
FOLLOWS;

1. The City of Marina is a charter city organized pursuant to Article XI of the California Constitution and pursuant to the authority granted to the City pursuant to Section 5 of Article XI of the California Constitution and City of Marina Charter Article I, Section 1.01 the City of Marina may adopt and enforce ordinances and regulations in respect to municipal affairs.
2. The City of Marina Charter Article 2, Section 2.05 grants the City the power to establish standards, procedures, rules and regulations to regulate all aspects of the bidding, award and performance of any City public works contracts.
3. The City has determined that providing flexibility in the delivery method of public works contracts is in the best interest of the City.
4. Title 3, Chapter 3.16 of the Marina Municipal Code is hereby amended by adding Sections 3.16.080 and 3.16.090 to read as set forth in the attached **Exhibit A** and incorporated herein by reference.
5. The proposed Ordinance is not subject to environmental review pursuant to State CEQA Guidelines, California Code of Regulations, Title 14, Article 5, Section 15061(b)(3) because the proposed procedural changes would not result in a direct or reasonably foreseeable indirect physical change in the environment and the proposed ordinance is covered by the general rule that CEQA applies only to projects which have potential for causing significant effects on the environment. Therefore, the adoption of this ordinance is exempt from CEQA, and no further environmental review is necessary.
6. Effective Date. This Ordinance shall be in full force and effect thirty (30) days after its final passage and adoption.
7. Severability. If any portion of this Ordinance is found to be unconstitutional or invalid, the City Council hereby declares that it would have enacted the remainder of this Ordinance regardless of the absence of any such invalid part.
8. Posting of ordinance. With fifteen (15) days after the passage of this Ordinance, the City Clerk shall cause it to be posted in the three (3) public places designated by resolution of the City Council.

The foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Marina duly held on September 3, 2025, and was passed and adopted at a regular meeting duly held on September 16, 2025, by the following vote:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

Bruce C. Delgado, Mayor

ATTEST:

Anita Sharp, Deputy City Clerk

Exhibit A

CHAPTER 3.16

PURCHASING SYSTEM

3.16.080 Alternative Project Delivery Methods for Public Works Contracts

- A. The city council may approve the following alternative project delivery methods for the procurement, design, construction, improvement, repair, maintenance, and/or operation of a public works project: design-build, construction manager at-risk, or other project delivery methods.
- B. Alternative project delivery methods may be used for projects that are valued at more than \$1 million and for projects that are valued at less than \$1 million if recommended by the city manager, and that meet at least one of the criteria in both of the following subsections (1) and (2), such that the selected method is in the best interests of the city:
 - 1. The project:
 - a. Has a high level of technical complexity;
 - b. Calls for expertise that city staff does not possess;
 - c. Has a scope of work and technical requirements that are difficult to define;
 - d. Benefits from early contractor involvement;
 - e. Calls for a high level of risk management;
 - f. Has complex phasing for implementation;
 - g. Calls for overall schedule acceleration;
 - h. Calls for value engineering or other solutions to reduce construction costs or to improve function, quality, performance, or sustainability;
 - i. Has budget constraints requiring construction cost guarantees; and/or
 - j. Contemplates a third party operating, managing, maintaining, or servicing the building, facility, or infrastructure after the project's completion.
 - 2. The alternative project delivery method is anticipated to:
 - a. Minimize the project delivery time;
 - b. Accelerate the start of project revenue;
 - c. Minimize the project's cost;
 - d. Maximize the project's budget; and/or
 - e. Improve the project's quality or functionality.
- C. City council approval of an alternative project delivery method is required for the use of a competitive selection procedure seeking proposals for an alternative project delivery method.
- D. Competitive Selection Procedures.

1. The solicitation shall include the scope and needs of a project, selection method, and selection factors and relative weight of those factors.
2. The following competitive selection processes may be used:
 - a. Request for qualifications;
 - b. Request for proposals; or
 - c. Request for alternative technical proposals.

E. Contract Award.

1. The contract shall be awarded by the city council to the best value proposer.

F. Definitions:

1. "Alternative project delivery method" means a procurement for the financing, design, construction, improvement, repair, materials, maintenance and/or operation of a public works project that is not design-bid-build. Alternative project delivery methods include but are not limited to:

- (a). Design-build;
- (b). Construction manager at-risk.

2. "Best value" means a selection method for alternative project delivery method entities based on evaluation of stated criteria. Stated criteria are those deemed appropriate for an alternative project delivery method contract and must include price and may include some or all of the following criteria: features, functions, life-cycle costs, experience, and/or past performance.

3. "Construction manager at-risk" means a project delivery method in which the city awards separate contracts for architectural and engineering services to design a public works project, and for licensed general contractor services. The licensed general contractor provides construction management services for the project throughout the design, pre-construction services, and construction phases and also provides a guaranteed maximum price for construction.

4. "Design-build" means an alternative project delivery method in which the city contracts with a single entity for the design and construction of a public works project.

5.. "Guaranteed Maximum Price" means the agreed amount that the city will pay for a public works project, including, but not limited to:

- (a) Specified scope of work;
- (b) Cost of the trade work;
- (c) General conditions;
- (d) Construction contingency; and
- (e) Fees charged by the construction management at-risk firm, design-build firm, or general contractor firm.

Costs exceeding the guaranteed maximum price shall be the responsibility of the general contractor.

5. "Public works" means all fixed works for the construction, alteration, repair, improvement, reconstruction, or demolition of any public improvement, including, but not limited to, constructed for public use or protection, including but not limited to, bridges, waterworks, sewers, electric works, public buildings or facilities, street improvements, and park or open space improvements.

3.16.090. Exemption from public contract code.

- A. Pursuant to California Public Contract Code Section 1100.7, the City of Marina, as a charter city, is exempt from the provisions of the Public Contract Code, except as provided by ordinance, agreement, or where the city chooses, in its discretion, to follow portions of the Public Contract Code.
- B. When public works projects or other applicable contracts are funded by state or federal sources, including but not limited to, loans or grants, the city shall comply with any contract solicitation, bidding, evaluation and award rules or regulations required in order to receive such state or federal funds.

Honorable Mayor and Members of the
City Council

City Council Meeting
of September 16, 2025

**CITY COUNCIL CONSIDER OPENING A PUBLIC HEARING AND
INTRODUCING ORDINANCE 2025- AMENDING MARINA
MUNICIPAL CODE (MMC), TITLE 17, ARTICLE 5, SECTION
17.52.020-DEFINITIONS, TO REMOVE “MALE AND FEMALE
IMPERSONATION” FROM THE DEFINITION OF “ADULT
CABARET”. THE PROPOSED ORDINANCE ADOPTION IS EXEMPT
FROM ENVIRONMENTAL REVIEW PURSUANT TO SECTION
15061(b)(3) OF THE CEQA GUIDELINES.**

RECOMMENDATION:

Staff recommends that the City Council consider:

1. Opening a public hearing;
2. Reading by title only Ordinance 2025-__ amending Section 17.52.020 of the Marina Municipal Code (MMC) removing the phrase “male and female impersonators” from the Definition of “Adult cabaret”; and
3. Finding the proposed Ordinance adoption is exempt from environmental review pursuant to Section 15061(b)(3) of the CEQA Guidelines.

BACKGROUND

At its regular public meeting held on July 1, 2025, City Council provided direction to the Community Development Department (CDD) to process a minor amendment to the Marina Municipal Code (MMC) removing the phrase “male and female impersonators” from the Definition of “Adult cabaret” as found in MMC Section 17.52.020. The Council informed staff that this type of expression has become a common art form and a cultural norm and it should be, thereby, removed from uses regulated by the Adult Businesses and Massage Therapists section of the MMC.

On August 28, 2025, the Planning Commission, at its regular noticed public hearing, adopted PC Reso. 2025-10 recommending approval of the proposed amendment to the City Council.

ANALYSIS

In California, the expression of personal identity through male and female impersonation has long been considered an acceptable form of theatrical and cultural expression. Article 1 of the California Constitution (Sec. 2) allows freedom of expression as long as it is not indecent. In *Miller v. California*¹, the U.S. Supreme Court found that this type of expression within a context of artistic, literary, and social expression is within the “contemporary community standards of California”.

By removing this use from the definition of “Adult cabaret” in MMC 17.52.020, male and female impersonation may legally occur at any operation or community assembly that is otherwise permitted.

¹ [Miller v. California, 413 U.S. 15 \(1973\)](#)

The entire MMC Chapter 17.52 entitled Adult Businesses and Massage Therapists is being reviewed for consistency with State law. A more comprehensive amendment to this Chapter will likely come before the Planning Commission and City Council in the near future.

FISCAL IMPACT

None.

ENVIRONMENTAL DETERMINATION

The proposed project is exempt from the California Environmental Quality Act (CEQA) under Section 15061(b)(3) of the State CEQA Guidelines. Staff has determined that the exemption applies in this case because the proposed procedural changes would not result in a direct or a reasonably foreseeable indirect physical change in the environment and the proposed ordinance is covered by the general rule that CEQA applies only to projects which have potential for causing significant effect on the environment. Therefore, the adoption of this ordinance is exempt from CEQA, and no further environmental review is necessary.

CONCLUSION

This request is submitted for Planning Commission consideration and recommendation to the City Council.

Respectfully submitted,

Alyson Hunter, AICP
Planning Services Manager
City of Marina

REVIEWED/CONCUR:

Guido Persicone, AICP
Community Development Director
City of Marina

Layne Long
City Manager
City of Marina

ORDINANCE NO. 2025-

AN ORDINANCE AMENDING THE MARINA MUNICIPAL CODE (MMC), CHAPTER 17, ARTICLE 5, SECTION 17.52.020 – DEFINITIONS, BY REMOVING THE PHRASE “MALE OR FEMALE IMPERSONATORS” FROM THE DEFINITION OF “ADULT CABARET”. THE PROPOSED ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW PURSUANT TO SECTION 15061(b)(3) OF THE CEQA GUIDELINES.

-oOo-

THE CITY COUNCIL OF THE CITY OF MARINA DOES HEREBY ORDAIN AS FOLLOWS:

1. The City Council of the City of Marina (City) acknowledges that male and female impersonation is now considered a respected form of comedic theatre and cultural expression. As a result, the City Council, at its July 1, 2025, meeting, requested that the Community Development Dept. (CDD) provide amendments to the Marina Municipal Code (MMC) that would remove “male and female impersonation” as a use defined in the Adult Businesses and Massage Therapists portion of the Marina Municipal Code (MMC), also known as, Section 17.52.020.
2. By removing this type of activity from this Section of the MMC and, thereby, the Adult Businesses and Massage Therapists Chapter, the City Council recognizes that this form of expression is considered simply to be artistic in nature and not subject to the other regulations found within MMC Section 17.52.
3. The proposed amendment consists of removing the phrase “male and female impersonators” from the definition of “Adult cabaret” in MMC Section 17.52.020 and is referenced herein as **Exhibit A**.
4. Furthermore, the Community Development Department is reviewing the entirety of MMC Section 17.52 for consistency with State law and the current goals of the City Council including inclusivity, cultural expression, and respect for everyone’s rights.
5. The proposed amendment to Chapter 17 of the MMC is consistent with Section 17.72 (Amendments).
6. At its regular noticed public hearing on August 28, 2025, the Planning Commission adopted PC Resolution 2025-10 (**Exhibit B**) recommending approval of the proposed amendment.

7. Environmental. The proposed Ordinance amendments are not subject to environmental review pursuant to the State CEQA Guidelines, California Code of Regulations, Title 14, Article 5, Section 15061(b)(3) because the proposed procedural changes would not result in a direct or a reasonably foreseeable indirect physical change in the environment and the proposed ordinance is covered by the general rule that CEQA applies only to projects which have potential for causing significant effect on the environment. Therefore, the adoption of this ordinance is exempt from CEQA, and no further environmental review is necessary.

8. Effective Date. This Ordinance shall be in full force and effect on thirty (30) days after its final passage and adoption.

9. Severability. If any portion of this Ordinance is found to be unconstitutional or invalid the City Council hereby declares that it would have enacted the remainder of this Ordinance regardless of the absence of any such invalid part.

10. Posting of Ordinance. Within fifteen (15) days after the passage of this Ordinance, the City Clerk shall cause it to be posted in the three (3) public places designated by resolution of the City Council.

The foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Marina duly held on September 16, 2025 and was passed and adopted at a regular meeting duly held on October 7, 2025 by the following vote:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ATTEST:

Bruce C. Delgado, Mayor

Anita Sharp, Deputy City Clerk

Exhibit A

(Deleted text is indicated with strikethrough)

Chapter 17.52

ADULT BUSINESSES AND MASSAGE THERAPISTS

Sections:

...

17.52.020 Definitions.

...

17.52.020 Definitions.

For the purpose of this chapter, the following definitions shall apply, unless the context otherwise requires:

“Adult bookstore” means an establishment in which fifty percent or more of either its floor area, inventory or monthly sales is devoted to stock, books, magazines, or other periodicals, films, videotapes, video discs, or other such electronic, magnetic, or other means of creating a moving image upon any screen, television, or other device, peep shows or other similar devices designed for use in individual viewing of films on the premises, which books, magazines, periodicals, films, videotapes, video discs, or other means, peep shows or similar devices are substantially devoted to the depiction of specified sexual activities or specified anatomical areas as defined herein.

“Adult businesses” means adult bookstore, adult motion picture facility, figure model studio, adult motel, adult cabaret, or massage establishment. However, a massage therapist business as defined in this section shall be excluded from the definition of adult businesses.

“Adult cabaret” means an establishment which features topless-bottomless dancers, go-go dancers, exotic dancers, strippers, ~~male or female impersonators~~, or similar entertainers.

“Adult motels” means any establishment designated as or having the characteristics of a hotel, motel, or other transient lodging facility which has or proposes to have as a feature or service offered to its customers the presentation or entertainment in the form of motion picture film, videotape, closed circuit television, or any other similar means or device which is substantially similar thereto and provided for the purpose of displaying, showing or depicting specified anatomical areas, as defined in this section for observation or viewing by persons who are customers of such establishments. This section shall apply whether charge is made or consideration exchanged for the use of rooms within such establishments for overnight accommodations or for short-term admission to view the material above described.

...

RESOLUTION NO. 2025-10

A RESOLUTION OF THE PLANNING COMMISSION RECOMMENDING THAT THE CITY COUNCIL ADOPT AN ORDINANCE AMENDING THE MARINA MUNICIPAL CODE (MMC), CHAPTER 17, ARTICLE 5, SECTION 17.52.020 – DEFINITIONS, BY REMOVING THE PHRASE “MALE OR FEMALE IMPERSONATORS” FROM THE DEFINITION OF “ADULT CABARET”. THE PROPOSED ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW PURSUANT TO SECTION 15061(b)(3) OF THE CEQA GUIDELINES.

WHEREAS, the City Council of the City of Marina (City) acknowledges that male and female impersonation is now considered a respected form of comedic theatre and cultural expression. As a result, the City Council, at its July 1, 2025, meeting, requested that the Community Development Dept. (CDD) provide amendments to the Marina Municipal Code (MMC) that would remove “male and female impersonation” as a use defined in the Adult Businesses and Massage Therapists portion of the Marina Municipal Code (MMC), also known as, Section 17.52.020;

WHEREAS, by removing this type of activity from this Section of the MMC and, thereby, the Adult Businesses and Massage Therapists Chapter, the City Council recognizes that this form of expression is considered simply to be artistic in nature and not subject to the other regulations found within MMC Section 17.52;

WHEREAS, the proposed amendment consists of removing the phrase “male and female impersonators” from the definition of “Adult cabaret” in MMC Section 17.52.020 and is referenced herein as Exhibit A;

WHEREAS, furthermore, the Community Development Department is reviewing the entirety of MMC Section 17.52 for consistency with State law and the current goals of the City Council including inclusivity, cultural expression, and respect for everyone’s rights; and

WHEREAS, the proposed amendment to Chapter 17 of the MMC is consistent with Section 17.72 (Amendments).

WHEREAS, the findings and conclusions made by the Planning Commission in this resolution are based upon the oral and written evidence presented as well as the entirety of the administrative record for the proposed amendment, which is incorporated herein by this reference. The findings are not based solely on the information provided in this resolution;

WHEREAS, the project is exempt from CEQA per Section 15061(b)(3) because the proposed procedural changes would not result in a direct or a reasonably foreseeable indirect physical change in the environment and the proposed ordinance is covered by the general rule that CEQA applies only to projects which have potential for causing significant effect on the environment.

NOW THEREFORE BE IT RESOLVED that the Planning Commission does hereby recommend that the City Council adopt changes to Chapter 17 of the Marina Municipal Code as described in the draft ordinance referenced herein as Exhibit A.

PASSED AND ADOPTED by the Planning Commission of the City of Marina at a regular meeting duly held on the 28th day of August 2025, by the following vote:

AYES, COMMISSIONERS: WALTON, BARON, ST. JOHN, CHENG, RANA, JACOBSEN

NOES, COMMISSIONERS: NONE

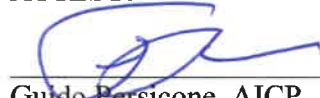
ABSENT, COMMISSIONERS: WOODSON

ABSTAIN, COMMISSIONERS: NONE

Audra M Walton

Audra Walton, Vice Chair

ATTEST:



Guido Persicone, AICP
Community Development Director
City of Marina

ORDINANCE NO. 2025-

AN ORDINANCE AMENDING THE MARINA MUNICIPAL CODE (MMC), CHAPTER 17, ARTICLE 5, SECTION 17.52.020 – DEFINITIONS, BY REMOVING THE PHRASE “MALE OR FEMALE IMPERSONATORS” FROM THE DEFINITION OF “ADULT CABARET”. THE PROPOSED ORDINANCE IS EXEMPT FROM ENVIRONMENTAL REVIEW PURSUANT TO SECTION 15061(b)(3) OF THE CEQA GUIDELINES.

-oOo-

THE CITY COUNCIL OF THE CITY OF MARINA DOES HEREBY ORDAIN AS FOLLOWS:

1. The City Council of the City of Marina (City) acknowledges that male and female impersonation is now considered a respected form of comedic theatre and cultural expression. As a result, the City Council, at its July 1, 2025, meeting, requested that the Community Development Dept. (CDD) provide amendments to the Marina Municipal Code (MMC) that would remove “male and female impersonation” as a use defined in the Adult Businesses and Massage Therapists portion of the Marina Municipal Code (MMC), also known as, Section 17.52.020.
2. By removing this type of activity from this Section of the MMC and, thereby, the Adult Businesses and Massage Therapists Chapter, the City Council recognizes that this form of expression is considered simply to be artistic in nature and not subject to the other regulations found within MMC Section 17.52.
3. The proposed amendment consists of removing the phrase “male and female impersonators” from the definition of “Adult cabaret” in MMC Section 17.52.020 and is referenced herein as Exhibit A.
4. Furthermore, the Community Development Department is reviewing the entirety of MMC Section 17.52 for consistency with State law and the current goals of the City Council including inclusivity, cultural expression, and respect for everyone’s rights.
5. The proposed amendment to Chapter 17 of the MMC is consistent with Section 17.72 (Amendments).

6. Environmental. The proposed Ordinance amendments are not subject to environmental review pursuant to the State CEQA Guidelines, California Code of Regulations, Title 14, Article 5, Section 15061(b)(3) because the proposed procedural changes would not result in a direct or a reasonably foreseeable indirect physical change in the environment and the proposed ordinance is covered by the general rule that CEQA applies only to projects which have potential for causing significant effect on the environment. Therefore, the adoption of this ordinance is exempt from CEQA, and no further environmental review is necessary.

7. Effective Date. This Ordinance shall be in full force and effect on thirty (30) days after its final passage and adoption.

8. Severability. If any portion of this Ordinance is found to be unconstitutional or invalid the City Council hereby declares that it would have enacted the remainder of this Ordinance regardless of the absence of any such invalid part.

9. Posting of Ordinance. Within fifteen (15) days after the passage of this Ordinance, the City Clerk shall cause it to be posted in the three (3) public places designated by resolution of the City Council.

The foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Marina duly held on _____, 2025, and was passed and adopted at a regular meeting duly held on _____, 2025, by the following vote:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

Bruce C. Delgado, Mayor

ATTEST: _____

Anita Sharp, Deputy City Clerk

Exhibit A**(Deleted text is indicated with strikethrough)****Chapter 17.52****ADULT BUSINESSES AND MASSAGE THERAPISTS****Sections:**

...

17.52.020 Definitions.

...

17.52.020 Definitions.

For the purpose of this chapter, the following definitions shall apply, unless the context otherwise requires:

“Adult bookstore” means an establishment in which fifty percent or more of either its floor area, inventory or monthly sales is devoted to stock, books, magazines, or other periodicals, films, videotapes, video discs, or other such electronic, magnetic, or other means of creating a moving image upon any screen, television, or other device, peep shows or other similar devices designed for use in individual viewing of films on the premises, which books, magazines, periodicals, films, videotapes, video discs, or other means, peep shows or similar devices are substantially devoted to the depiction of specified sexual activities or specified anatomical areas as defined herein.

“Adult businesses” means adult bookstore, adult motion picture facility, figure model studio, adult motel, adult cabaret, or massage establishment. However, a massage therapist business as defined in this section shall be excluded from the definition of adult businesses.

“Adult cabaret” means an establishment which features topless-bottomless dancers, go-go dancers, exotic dancers, strippers, ~~male or female impersonators~~, or similar entertainers.

“Adult motels” means any establishment designated as or having the characteristics of a hotel, motel, or other transient lodging facility which has or proposes to have as a feature or service offered to its customers the presentation or entertainment in the form of motion picture film, videotape, closed circuit television, or any other similar means or device which is substantially similar thereto and provided for the purpose of displaying, showing or depicting specified anatomical areas, as defined in this section for observation or viewing by persons who are customers of such establishments. This section shall apply whether charge is made or consideration exchanged for the use of rooms within such establishments for overnight accommodations or for short-term admission to view the material above described.

...

Signature:

 Audra M. Walton (Sep 2, 2025 12:46:46 PDT)
Email: kaleolani.aw@gmail.com

Honorable Mayor and Members
of the Marina City Council

City Council Meeting
of September 16, 2025

**CITY COUNCIL RECEIVING INFORMATIONAL PRESENTATION AND
CONSIDER OPENING PUBLIC HEARING, TAKING ANY TESTIMONY
FROM THE PUBLIC AND CONSIDER INTRODUCING ORDINANCE NO.
2025-, AMENDING CHAPTER 3.26 OF THE MARINA MUNICIPAL CODE
REGARDING MITIGATION FEES FOR NEW DEVELOPMENT WITHIN
THE CITY OF MARINA**

REQUEST:

It is requested that the City Council consider:

1. Receive informational presentation on a Development Impact Fee Nexus Study; and
2. Open the public hearing and take any testimony from the public, and
3. Adopt the Development Impact Fee Nexus Study; and
4. Consider introducing Ordinance No. 2025-, amending chapter 3.26 of the Marina Municipal Code regarding mitigation fees for new development within the City of Marina.

BACKGROUND:

The Mitigation Fee Act, Section 66000 et seq. of the California Government Code, and the Marina Municipal Code Chapter 3.26 Mitigation Fees for New Development, provide a mechanism whereby the City may impose and charge mitigation fees as a condition of approval for development projects. These mitigation or public facility impact fees (PFIF) may only be used to offset the cost of certain infrastructure attributable to development.

In 2007, the City contracted with Kimley Horn to conduct a Development Impact Fee Study. Following this study, the Council adopted public facility impact fees. In 2011, and subsequently in 2016, the Development Impact Fee Study was updated and the City Council adopted updated public facility impact fees.

California Government Code Section 66016.5(c)(8) indicates that studies shall be updated at least every eight years, from the period beginning on January 1, 2022. The City recently contracted with a consulting team to provide an update to the prior impact fee studies through a new Development Impact Fee Nexus Study (Study). To comply with the Government Code and the City's Municipal Code, the following public notifications were prepared:

- Adopted Resolution 2025-56, acknowledging the Public Hearing Notice and ratifying the setting of a Public Hearing for July 1, 2025, on the proposed intention to adopt an Impact Fee Nexus Study and to amend Chapter 3.26 of the Marina Municipal Code Regarding Mitigation Fees for New Development within the City of Marina.
- Published the notice of public hearing for July 1, 2025, on May 30, 2025, on the City's website and with the June 3, 2025, City Council agenda packet.

- Placed a public notice ten days prior to the July 1, 2025, Council Meeting in the Monterey Herald newspaper on June 20, 2025, and June 26, 2025.
- Published a copy of the new Development Impact Fee Nexus Studies, prior study, and additional related information on the City's website on June 20, 2025.
- Continued the Public Hearing at the July 1, 2025, Council Meeting; and provided notice of continuation on the City website.
- Re-published a notice of public hearing on the City website, Council Chambers Bulletin Board; Monterey County Library, Marina Branch; and the City Bulletin Board at the corner of Reservation Road and Del Monte Boulevard.
- Placed a public notice ten days prior to the September 16, 2025, Council Meeting in the Monterey Herald newspaper on September 4, 2025, and September 10, 2025.
- Published a copy of the revised new Development Impact Fee Nexus Studies, proposed fee schedule, and a comparative fee schedule on the City's website on September 4, 2025: [Development Impact Fees Study Update | Marina, CA - Official Website](#).

ANALYSIS:

The City's new Development Impact Fee Nexus Study (Study) is divided into the following two reports and includes updates to the City's five (5) public facilities impact fee programs:

- City of Marina Development Impact Fee Update for General Government, Public Safety, and Parks (**ATTACHMENT A**)
 - Public building facilities
 - Public safety facilities
 - Parks
- City of Marina Traffic Impact Fee Update (**ATTACHMENT B**)
 - Roadways
 - Intersections

The Studies re-evaluate and update the fees developed from the 2016 study; incorporate projects from the City's Capital Improvement Program (CIP), and recommend additional projects. These fees are based on future infrastructure needs that are generated by new development. A list of recommended general government, public safety, and park improvements that were incorporated into the study are included in Attachment A, page 15; and traffic-related projects are included in Attachment B on pages 1-2. These projects are within the City's current General Plan boundaries; and represent a twenty-year growth and project time horizon.

In accordance with new legislation and [Government 66016.5 \(a\)\(5\)\(A\)](#), fees imposed on housing development projects shall be based on the square footage of the units of development. These fees were previously calculated based on the type of residential unit. To comply with this section, all fees have been converted to a square footage calculation, and when applicable on a per unit cost based on square feet. Information on the proposed new fees is included in **ATTACHMENT C**. An overview of this methodology and the legislation will be provided at the Council Meeting. An excerpt from the upcoming presentation which compares the City's existing fees to the proposed new fee schedule based on typical square footage by residential unit type is included in **EXHIBIT D**.

The proposed fees are not applicable to all developments. The City has entered into Disposition and Development Agreements (DDA) which include terms related to Development Impact Fees. The fees related to these developments will be subject to fees in accordance with such agreements. This includes the Dunes and Marina Station developments.

Government Code Section 66016.5 requires the City do all of the following when it conducts an impact fee nexus study:

- Adopt an impact fee nexus study prior to adopting new impact fees.
- When applicable, the nexus study shall identify the existing level of service for each public facility, identify the proposed new level of service, and include an explanation of why the new level of service is appropriate.
- A nexus study shall include information that supports the city's actions, as required by subdivision (a) of Section 66001.
- If a nexus study supports the increase of an existing fee, the city shall review the assumptions of the nexus study supporting the original fee and evaluate the amount of fees collected under the original fee.
- A nexus study adopted after July 1, 2022, shall calculate a fee imposed on a housing development project proportionately to the square footage of proposed units of the development.

The actions requested along with the Study are intended to satisfy these requirements.

Additionally, Chapter 3.26.070 of the Marina Municipal Code requires the adoption or increase of fees by ordinance, and in accordance with Government Code Section 66016. Ordinance 2025-XX has been provided for consideration. If Council adopts the Development Impact Fee Nexus Study and introduces Ordinance 2025-, the second reading adopting the ordinance will take place on October 7, 2025. The new fees can only become effective sixty (60) days following the adoption of the ordinance.

FISCAL IMPACT:

Adoption of the proposed development impact fees will provide revenue to fund the development driven projects.

CONCLUSION:

This request is submitted for City Council's approval.

Respectfully submitted,

Tori Hannah
Finance Director
City of Marina

REVIEWED/CONCUR:

Layne P. Long
City Manager
City of Marina

ORDINANCE NO. 2025-

AN ORDINANCE OF THE CITY OF MARINA AMENDING CHAPTER 3.26
OF THE MARINA MUNICIPAL CODE REGARDING
MITIGATION FEES FOR NEW DEVELOPMENT

WHEREAS, the Mitigation Fee Act, at Sections 66000 and following of the California Government Code, provides authority for imposing and charging mitigation fees; and

WHEREAS, in accordance with Chapter 3.26 of the Municipal Code, the Community Development Director has caused to be prepared and has reviewed a revised version of the “Development Impact Fee Study” initially prepared by RBF Kimley Horn on, dated July 20, 2007 (the “Initial Study”), as updated by RBF Consulting on April 25, 2011, Kimley Horn & Associates, Inc. on May 18, 2016; and further updated by Kimley Horn on September 2, 2025 and Economic and Planning Systems, Inc. (EPS) on September 3, 2025 (the “Updated Study”), incorporated herein by this reference, and on file in the office of the Public Works Division and City Clerk; and

WHEREAS, the Updated Study evaluates the impacts of contemplated future development on existing public facilities, public safety, transportation (roadways and intersections), and parks (collectively “Facilities”) in the City of Marina along with an analysis of the need for new Facilities and improvements required by such new development, sets forth the reasonable relationship between such needs and the impacts of the various types of development pending or anticipated for which this fee is charged and describes the estimated costs of those improvements and the continued need for those improvements; and

WHEREAS, the update to the Initial Study by Kimley Horn and EPS were necessary due to the requirements of California Government Code Section 66016.5(c)(8), changes in the City’s Capital Improvement Program, and revised cost estimates which occurred or were determined subsequent to the completion of the Initial Study; and

WHEREAS, to comply with the Government Code and the City’s Municipal Code, the following public notifications were undertaken:

- Adopted Resolution 2025-56, acknowledging the Public Hearing Notice and ratifying the setting of a Public Hearing for July 1, 2025 on the proposed intention to adopt an Impact Fee Nexus Study and to amend Chapter 3.26 of the Marina Municipal Code Regarding Mitigation Fees for New Development within the City of Marina; and
- Published the notice of public hearing for July 1, 2025 on May 30, 2025 on the City’s website and with the June 3, 2025 City Council agenda packet; and
- Placed a public notice ten days prior to the July 1, 2025 Council Meeting in the Monterey Herald newspaper on June 20, 2025 and June 26, 2025; and
- Published a copy of the new Development Impact Fee Nexus Studies, prior study, and additional related information on the City’s website on June 20, 2025; and
- Continued the Public Hearing at the July 1, 2025 Council Meeting; and provided notice of continuation on the City website; and
- Re-published a notice of public hearing on the City’s website, Council Chambers Bulletin Board, Monterey County Library Marina Branch; and the City Bulletin Board at the corner of Reservation Road and Del Monte Boulevard; and

- Placed a public notice ten days prior to the September 16, 2025 Council Meeting in the Monterey Herald newspaper on September 4, 2025, and September 10, 2025; and
- Published a copy of the revised new Development Impact Fee Nexus Studies, proposed fee schedule, and a comparative fee schedule on the City's website on September 4, 2025: [Development Impact Fees Study Update | Marina, CA - Official Website](#).

WHEREAS, a duly noticed public meeting regarding the mitigation fees recommended by the update to the Study was held before this Council pursuant to Section 3.26.070 (B)(1) of the Municipal Code and California Government Code Section 66016 on September 16, 2025, and the Updated Study was made available to the public at least 10 days prior to the meeting; and

WHEREAS, a duly noticed public hearing regarding the mitigation fees recommended by the Updated Study was held before this Council pursuant to Section 3.26.070(B)(4) of the Municipal Code and California Government Code Section 66018 on September 16, 2025.

THEREFORE, THE CITY COUNCIL OF THE CITY OF MARINA DOES FIND AS FOLLOWS:

a) Having reviewed and considered the Updated Study and the testimony and materials presented at the public hearing, this Council approves and adopts the Updated Study and further finds that new development in the City of Marina will generate additional population within the City and will impact the Facilities defined and analyzed in the Updated Study.

b) There is a need in the City of Marina for Facilities that have not been constructed, or have been constructed but for which new development has not contributed its fair share of facility costs, and said Facilities have been called for in or are consistent with Updated Study. The cost estimates set forth in the Updated Study are the reasonable cost estimates in 2024 dollars for constructing these Facilities, and the fees expected to be generated by new development will not exceed the total of these costs.

c) The facts and evidence presented establish that there is a reasonable relationship between the need for the described Facilities and the impacts of the types of development described herein by Exhibit A, herein adopted and incorporated by reference as if set forth herein in their entirety, and there is a reasonable relationship between the fee's use and the type of development for which the fee is charged, as these reasonable relationships and nexus are in more detail described in the Updated Study.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MARINA INCORPORATES THE ABOVE RECITALS AND FINDINGS AS IF FULLY SET FORTH HEREIN AND DOES ORDAIN AS FOLLOWS:

1. Section 3.26.050 Amended: Section 3.26.050 of Chapter 3.26, entitled

“Payment of Fees” is hereby amended to read in its entirety as follows:

“3.26.050 Payment of fees.

For new development, mitigation fees shall be charged and payable as set out in Table 1 of this chapter, as set forth in the attached one (1) page, marked Exhibit “A,” and incorporated herein by this reference thereto. The director shall determine, based on the type of development, the corresponding fee to be paid pursuant to this chapter. Except as otherwise provided by law or development agreement, the fees shall be paid at the time of issuance of any building permit for new development within the city.

2. Effective Date. This ordinance shall take effect and be in force sixty (60) days from and after its final passage.

3. Posting of Ordinance. Within fifteen (15) days after the passage of this ordinance, the City Clerk shall cause it to be posted in the three (3) public places designated by resolution of City Council.

4. Any fee, ordinance or resolution previously adopted in conflict with this Ordinance hereby is repealed as to any portion thereof in conflict with this Ordinance.

The foregoing ordinance was introduced at a regular meeting of the City Council of the City of Marina duly held on 16th day of September 2025, and was passed and adopted at a regular meeting duly held on the 7th day of October 2025, by the following roll call vote:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ATTEST:

Bruce C. Delgado, Mayor

Anita Sharp, Deputy City Clerk

Exhibit A

Public Facilities, Public Safety, Parks, Intersections and Roadways

Land Use Category	per Unit	Public Facility	Public Safety	Parks	Intersections	Roadways
Residential						
Single Family	per KSF	\$804	\$1,948	\$4,661	\$2,134	\$6,015
Senior Homes	per KSF	\$1,307	\$3,168	\$7,578	-	-
Senior Homes	per DU	-	-	-	\$2,438	\$6,873
Assisted Living	per KSF	\$653	\$1,584	\$3,789	-	-
Assisted Living	per DU	-	-	-	\$1,471	\$4,146
Multifamily	per KSF	\$1,547	\$3,749	\$8,971	-	-
Multifamily	per DU	-	-	-	\$3,813	\$10,748
Nonresidential						
Office/Research	per KSF	\$956	\$2,318	-	\$6,069	\$17,108
Retail/Service	per KSF	\$574	\$1,391	-	\$9,688	\$27,309
Industrial	per KSF	\$191	\$464	-	\$2,783	\$7,846
Hotel	per Room	\$144	\$348	-	\$4,473	\$12,610
Church	per KSF	\$191	\$464	-	\$4,033	\$11,370
Daycare Center	per KSF	\$765	\$1,854	-	\$23,883	\$67,327
Animal Hospital/Clinic	per KSF	\$1,147	\$2,781	-	\$12,288	\$34,639
Medical/Dental	per KSF	\$1,147	\$2,781	-	\$20,575	\$58,000

(1) SF = Square Feet, KSF = 1000 Square Feet, DU = Dwelling Units, Hotel Fees are per Room.

(2) Adjustments for rounding of \$1 or less on total fees have been made to reflect rounding in the study.

Attachment A

Report Fee Update and Nexus Study

City of Marina
Development Impact Fee Update
for General Government, Public
Safety, and Parks

The Economics of Land Use



Prepared for:

City of Marina

Prepared by:

Economic & Planning Systems, Inc.

*Economic & Planning Systems, Inc.
1330 Broadway
Suite 450
Oakland, CA 94612
510 841 9190 tel*

EPS #231081

*Oakland
Sacramento
Denver
Los Angeles*

September 3, 2025

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1. Introduction and Results

Introduction

This Fee Update and Nexus Study (Nexus Study) provides the City of Marina with the necessary technical documentation to support adoption of updated development impact fees, including General Government (formerly Public Buildings), Public Safety, and Parks Fee programs. Economic & Planning Systems, Inc. (EPS) prepared the Nexus Study based on capital improvement planning and city growth forecasting data provided by the City of Marina. EPS conducted the analysis and reporting under a subcontract with Kimley-Horn. General Government, Public Safety, and Parks Fee Programs may be approved by the City Council and would be effective 60 days following the City's adoption of the fees.

A Development Impact Fee (DIF) is a one-time charge levied on new real estate development. DIFs are collected and used by local jurisdictions (e.g., a City or County) to fund infrastructure and capital investments needed to serve new residential and commercial growth. Consistent with the Mitigation Fee Act (AB 1600/ Government Code Section 66000 et seq.) and related legislation, this Nexus Study provides a legal basis for three DIFs charged by the City of Marina. DIF program elements that may be established by a City Ordinance and implemented by Resolution.

The Nexus Study determines the relationship between city growth and capital improvements and provides associated fee calculations that identify the maximum fee levels the City may charge. As with current fees in Marina, updated fees would be collected on a citywide basis given the broad scope of capital improvements included in this study. While the City may elect to charge lower fees for specific land uses, areas of the city, or across the board, such reductions must be offset by alternative funding that supports the improvement program.

The fee program described in this Nexus Study is based on capital investments identified by the City that serve to maintain or increase citywide service levels. The fee program focuses on a roughly 20-year time frame and, as such, relies on forecasts for growth, development, and associated capital facilities needs over that period. To inform fee levels, the City identified specific capital facility project investments. Importantly, these capital projects may be altered or replaced over time with other qualifying projects as the City administers the fee program.

This Nexus Study and the technical information it contains should be maintained and reviewed periodically by the City to ensure ongoing relevancy and accuracy, and to enable the adequate programming of funding sources. To the extent that improvement requirements, costs, population, employment, visitors or development potential changes over time, the fee program will be updated.

Legal Context

The Mitigation Fee Act allows the City to adopt citywide public facilities impact fees consistent with supporting technical analysis and findings provided in this Nexus Report. In addition, the “Mitigation Fees for New Development” section of the City’s Municipal Code allows the City Council to use the Resolution approach to set updated fees, and to periodically adjust the fees as may be necessary over time, without amending the enabling local ordinance.

Impact fee revenues are used to cover the cost of capital investments, including buildings, infrastructure improvements, and equipment required to serve new development and growth. DIFs must be based on a reasonable nexus, or connection, between new development and the need for capital investments and improvements. Impact fee revenue cannot be used to cover the operation and maintenance costs of these or any other facilities. In addition, impact fee revenue cannot be collected or used to cover the cost of preexisting infrastructure needs or deficiencies.

In establishing, increasing, or imposing a fee as a condition for the approval of a development project, Government Code 66001(a) and 66001(b) require a local agency to:

1. Identify the purpose of the fee;
2. Identify how the fee is to be used;
3. Determine how a reasonable relationship exists between the fee use and type of development project for which the fee is being used;
4. Determine how the need for the public facility relates to the type of development project for which the fee is imposed; and
5. Show the relationship between the fee and the cost of the public investments.

Furthermore, in September 2021, the State of California adopted Assembly Bill (AB) 602, which includes several new requirements related to the development and implementation of impact fee programs. The key provisions related to the calculations documented in this Nexus Report are summarized below.

- **Capital Improvement Plan:** AB 602 requires that jurisdictions adopt a capital improvement plan as part of the nexus study process. This adoption can occur at the same time as fee adoption. Accordingly, this Nexus Study relies on a Marina DIF Capital Improvement Plan (Marina DIF CIP) to be approved by the City Council in conjunction with the DIF Program.¹ The Marina DIF CIP presented in this Nexus

¹ The Marina DIF CIP is different from and does not replace the City's 5-year CIP budget and 10-year CIP. These separate CIP documents serve a shorter period and generally rely on more specific project parameters than the DIF CIP. However, the DIF program may provide funding to support some projects included in the 5-year and 10-year CIPs.

Study includes the capital improvements identified by the City for General Government, Public Safety, and Parks (**Table 7**).

- **Explanation of Level of Service and Fee Increase:** AB 602 requires that when applicable, the nexus study identifies the existing level of service for each public facility, identifies the proposed new level of service, and includes an explanation of why the new level of service is appropriate. This Nexus Study relies on a CIP prepared by City staff, based on City capital facilities and improvement goals for general government, public safety, and parks. **Appendix A-3**, identifies current and future level of service implied by the Marina DIF CIP. In general, service levels are expected to improve, with service quality increases still anticipated in cases where standard per capita service level metrics indicate a modest decrease. The Marina DIF CIP reflects the City's goals for citywide public services provision in the areas of general government, public safety, and parks by 2045.
- **Capital Facilities List:** The City developed a detailed list of capital facilities and equipment acquisitions planned over the next twenty years. The list includes City administrative (general government) facilities and equipment, emergency services facilities and equipment, and recreational facilities and equipment. These capital investments will serve both existing and new development. The DIF allocates a portion of the facilities and equipment costs to new development using "service population" to quantify the nexus between growth and public investments. This nexus framework is consistent with the "System Plan Method" nexus study methodology.²
- **Per Square Foot Residential Fees:** AB 602 notes that for fees adopted after July 1, 2022, the nexus study must "either calculate a fee levied or imposed on a housing development proportionately to the square footage of the proposed units, or make specific findings explaining why square footage is not an appropriate metric to calculate the fees." AB 602 also notes that "This bill would require that a local agency that calculates fees proportionately to the square footage of the proposed units be deemed to have used a valid method to establish a reasonable relationship between the fee charged and the burden posed by the development." This analysis relies on assumptions about the unit size for residential units developed following market research and City data. Average home sizes determine the maximum per square foot fee for each residential development type.

This Nexus Study adheres to State of California statutory requirements for DIFs, as documented in subsequent chapters. **Chapter 4** summarizes the specific findings that explain or demonstrate the nexus logic employed. If the DIF is adopted, this Nexus Study and the technical information it contains should be maintained and reviewed periodically by the City to ensure its accuracy and to enable adequate programming of funding

² Impact Fee Nexus Study Templates Nexus Study and Residential Feasibility Calculation Templates in fulfillment of AB 602, December 2023, Prepared for the California Department of Housing and Community Development by Turner Center for Housing Innovation at UC Berkeley.

sources. To the extent that capital improvement requirements, costs, and/or development projections change over time, the DIF levels estimated here will need to be updated. AB 602 requires the DIF to be updated at least every eight years.

Summary of Maximum Allowable Fees

Table 1 summarizes the City's maximum allowable fee schedule for the capital facility and equipment needs as evaluated in this Fee Update. The three fee categories updated in this analysis are:

- **General Government** – This fee, formerly "Public Buildings," includes the capital facilities fees for administrative and airport buildings, City vehicles, and equipment.
- **Public Safety** – This fee includes the capital facilities fees for the Police and Fire Departments of the City.
- **Parks** – This fee includes capital facilities fees for the Recreation & Culture Department of the City.

Table 1 presents per-square-foot fees for residential and commercial structures. The Nexus Study also establishes per-unit maximum and minimum residential fees levels, not shown here.

Table 1 Summary of Maximum Allowable Fee Calculations

Land Use	General Government	Public Safety	Parks	Total
Residential (per sq.ft.)				
Single Family	\$0.80	\$1.95	\$4.66	\$7.41
Multifamily	\$1.55	\$3.75	\$8.97	\$14.27
Senior Homes	\$1.31	\$3.17	\$7.58	\$12.05
Assisted Living	\$0.65	\$1.58	\$3.79	\$6.03
Nonresidential				
Office (per sq. ft.)	\$0.96	\$2.32	-	\$3.27
Retail (per sq. ft.)	\$0.57	\$1.39	-	\$1.96
Industrial (per sq. ft.)	\$0.19	\$0.46	-	\$0.65
Hotel (per sq.ft.)	\$0.26	\$0.63	-	\$0.89
Church (per sq.ft.)	\$0.19	\$0.46	-	\$0.65
Daycare (per sq.ft.)	\$0.76	\$1.85	-	\$2.62
Animal Hospital (per sq.ft.)	\$1.15	\$2.78	-	\$3.93
Medical (per sq.ft.)	\$1.15	\$2.78	-	\$3.93

Source: Economic & Planning Systems, Inc.

Fees in **Table 1** represent the maximum allowable per-square-foot amount that the City can charge based on the nexus requirements of the Mitigation Fee Act. The fees include a three percent (3.0%) charge to cover the cost of program administration. This Fee Update and Nexus Study is available to support City Council adoption of an updated fee schedule. Based on economic and fiscal considerations, the City of Marina may approve any impact fee level that falls below the maximum allowable.

Table 2 compares the maximum fees calculated in this Nexus Study to the existing fee schedule in the City of Marina. Per-unit fees are presented based on average size units by type, for illustrative purposes. As shown, at typical home sizes, the adoption of the maximum allowable fees would result in fee increases. **Table 2** presents residential fees on a per-unit basis, for the average size dwelling unit, for comparison purposes only. The **Appendix** contains additional fee comparison detail, including presentation of minimum and maximum fees for each category.

Table 2 Summary of Maximum Fees at Average Home Sizes (Illustrative Comparison)¹

Land Use	General Government	Public Safety	Parks	Total	Current Fees (2025) Excluding Roadways and Intersections
Residential (per unit)					
Single Family	\$2,009	\$4,870	\$11,653	\$18,532	\$16,848
Multifamily	\$1,701	\$4,124	\$9,868	\$15,693	\$15,599
Senior Homes	\$1,437	\$3,484	\$8,336	\$13,258	\$11,231
Assisted Living	\$719	\$1,742	\$4,168	\$6,629	\$6,238
Nonresidential					
Office (per sq. ft.)	\$956	\$2,318		\$3,274	\$998
Retail (per sq. ft.)	\$574	\$1,391		\$1,964	\$598
Industrial (per sq. ft.)	\$191	\$464		\$655	\$200
Hotel (per room)	\$143	\$348		\$491	\$271
Church (per sq.ft.)	\$191	\$464		\$655	\$200
Daycare (per sq.ft.)	\$765	\$1,854		\$2,619	\$800
Animal Hospital (per sq.ft.)	\$1,147	\$2,781		\$3,929	\$1,197
Medical (per sq.ft.)	\$1,147	\$2,781		\$3,929	\$1,197

Source: Economic & Planning Systems, Inc.

¹ Assumes single family dwelling units at 2,500 square feet; Multifamily, Senior Homes, and Assisted Living units at 1,100 square feet. Assumes hotel rooms are 550 square feet.

2. Development Impact Fee Methodology

This section provides a brief overview of the nexus methodology and key assumptions used in this Study, including demographic and land use projections underlying the fee.

Chapter 3 provides more detailed calculations for each DIF category.

Summary of Methodology

The nexus methodology employed in this study is generally consistent across fee categories. As is appropriate given the range fee programs, capital facilities, and equipment covered, the study recognizes variation in the relevant service population. For each fee category, EPS applied the following general steps to calculate the nexus-supported fee amounts:

1. EPS reviewed existing and future population and employment projections defined by the City for the Study.
2. EPS reviewed new capital facility improvements and other capital investments needed to serve both existing and future residents and employees. City staff identified long-term capital investment plans for general government, public safety, and parks.
3. EPS reviewed the cost estimates prepared by City staff for specific capital investments identified in Step 2.
4. EPS allocated the capital costs identified in Step 3 between existing and new development based on nexus apportionment. Because the CIP will serve both existing and the future populations similarly, the share of costs attributable to new development is based on the new service population (attributable to growth) relative to the total citywide service population at the end of the fee program time horizon.
5. EPS distributed costs attributable to growth to residential and commercial uses to arrive at a cost per resident and a cost per employee. The distribution reflects the service population forecast for residents versus employees, recognizing that residents and employees place different demands on City services.
6. EPS relied on estimates of household size for each residential land use category to derive a fee per unit. Commercial land use fees were determined using typical employment density factors.
7. EPS converted the residential fee to a per-square-foot fee based on average housing unit sizes and then used typical maximum and minimum home sizes to establish maximum and minimum fee levels for residential uses.

Demographic and Land Use Assumptions

This section describes the demographic and land use assumptions used in this Study:

- Existing population and employment establish a basis from which growth forecasts and service levels for specific capital improvement categories are measured.
- Future population and employment growth inform capital improvement needs and the apportionment of these costs between existing and new development.

- Estimates of population and employment density (e.g., persons per household) inform the allocation of costs between land use categories.

Population and Employment Growth Projections

The Nexus Study relies on estimated population and employment growth to the year 2045. The growth projections reflect City development capacity and development trends rather than specific real estate development projects “in the pipeline” at the local level. As summarized in **Table 3**, the projection indicates a total population of approximately 32,770 residents and total employment of approximately 9,478 by 2045. This equates to an increase of 10,434 residents and 3,318 employees, representing a 46.7 percent and 53.9 percent increase over existing conditions, respectively.

Table 3 Population and Employment Projections

Item	2024	2045	Growth	
			Amount	% Change
Resident Population	22,336	32,770	10,434	46.7%
Households	7,813	11,426	3,613	46.2%
Employment	6,160	9,478	3,318	53.9%

Sources: City of Marina; Kimley-Horn; Economic & Planning Systems, Inc.

Service Population Calculations

The DIF Study requires calculations that translate population and employment projections into estimates of existing and future service population. The service population is derived from assumptions that compare residents and employees based on relative service demands. The City’s population and employment, presented in **Table 3**, are the basis of the service population calculations described below.

Service population can differ by municipal service category. The service population for Parks excludes local employees, a key difference associated with the Parks fee calculation. For General Government and Public Safety fee programs, service population is based on the City’s existing “daytime population,” derived using the City’s existing residents, employees, and commute patterns for each to estimate the relative time spent within the City. This approach establishes an employee to resident equivalency factor to allocate costs between existing and new growth and between residential and commercial development. This Nexus Study calculates a citywide service population in 2024 estimated at 24,795, as shown in **Table 4**. The service population is composed of 22,336

residents and 6,160 employees, with each employee equivalent to 0.399 residents (i.e., the typical service demand of an employee is about 40 percent of a resident).

Table 4 Existing Service Population Factor Estimate

Item	Existing		Weight ²	Weighted Average
	#	%		
<u>Marina Residents</u>				
Employment Status¹	<i>Formula</i>	<i>a</i>	<i>b</i>	<i>= a * b</i>
Not in Labor Force	10,359	46.4%	100%	46.4%
Employed in the City	994	4.5%	67%	3.0%
Employed Outside of the City	<u>10,982</u>	<u>49.2%</u>	67%	<u>33.0%</u>
Total Residents	22,336	100.0%		82.4%
<u>Marina Employees</u>				
Place of Residence¹	<i>Formula</i>	<i>b</i>	<i>c</i>	<i>= a * b</i>
Live in the City	1,081	9.0%	33%	3.0%
Live Outside the City	<u>5,079</u>	<u>91.0%</u>	33%	<u>29.9%</u>
Total Jobs	6,160	100.0%		32.9%
Employee to Resident Equivalency Factor³			39.9%	
Service Population Calculation				
	Count	Weight	Service Population	Distribution
Residents	22,336	100.0%	22,336	90%
Employees	6,160	39.9%	<u>2,459</u>	<u>10%</u>
Total Service Population			24,795	100%

(1) Distribution based on data from U.S. Census (OnTheMap 2022) and Census ACS.

(2) Assumptions regarding relative demand for City Services by resident type and employees.

(3) Equals weighted average of residents divided by weighted average of employees.

Sources: LEHD OnTheMap; JobsEQ; CA DOF; Economic & Planning Systems, Inc.

The General Government and Public Safety service population is projected to reach 36,553, with new growth accounting for about 32.2 percent of the service population in 2045, as shown in **Table 5**. The Parks service population, which is limited to residents, accounts for 31.8 percent of total service population in 2045. For the General Government and Public Safety service population, service population growth is largely attributable to residential expansion, with 88.7 percent of the service population increase

attributable to residential uses and 11.3 percent attributable to employment. These proportions are used to allocate costs for General Government and Public Safety facilities and equipment included in the DIF. For Parks, cost attributable to growth is allocated entirely to residential uses since employees are not included in the parks service population.

Table 5 Forecasted Service Population Estimate

Service Population Calculation	Unweighted Count	Weight	General Government & Public Safety Service Population	Distribution	Parks Service Population	Distribution
<u>2024 Service Population</u>						
Residents	22,336	100.0%	22,336	90.1%	22,336	100.0%
Employees	6,160	39.9%	<u>2,459</u>	<u>9.9%</u>	<u>0</u>	<u>0.0%</u>
Total Service Population			24,795	100.0%	22,336	100.0%
<u>2045 Service Population</u>						
Residents	32,770	100.0%	32,770	89.7%	32,770	100.0%
Employees	9,478	39.9%	<u>3,783</u>	<u>10.3%</u>	<u>0</u>	<u>0.0%</u>
Total Service Population			36,553	100.0%	32,770	100.0%
<u>Growth in Service Population 2024-2045</u>						
Residents	10,434		10,434	88.7%	10,434	100.0%
Employees	3,318		<u>1,324</u>	<u>11.3%</u>	<u>0</u>	<u>0.0%</u>
Total Service Population			11,758	100%	10,434	100%
Growth Allocation Factors¹			32.2%		31.8%	

(1) Growth allocation reflects future growth in service population as a percentage of total service population in 2045.

Sources: LEHD OnTheMap; JobsEQ; CA DOF; City of Marina; and Economic & Planning Systems, Inc.

Population and Employment Density Assumptions

The Nexus Study uses population and employment density assumptions by land use type. DIF cost estimates per capita or per job are converted to fee rates per unit or square foot based on average persons per household or square footage per employee density factors. For residential fees, EPS first calculated all residential fees on a per unit basis (i.e., per single family and multi-family) and then converts the fee to a per-square-foot level based on typical housing unit sizes. Additional residential uses evaluated include Senior Homes and Assisted Living, which the Study assumes have equivalent size characteristics to

typical multifamily units. **Table 6** summarizes key assumptions, derived from U.S. Census Bureau, CoStar Group, and City of Marina data, as well as EPS professional judgement.

Table 6 Average Household Size and Employment Density Assumptions

Land Use Fee Categories	Assumptions for Population & Employment
Average Unit Size	
Single Family	2,500 square feet
Multifamily	1,100 square feet
Residential¹	
Single Family	2.80 people per household
Senior Homes	2.00 people per household
Multifamily	2.37 people per household
Assisted Living	1.00 people per household
Nonresidential²	
Office	300 square feet per employee
Retail	500 square feet per employee
Industrial	1,500 square feet per employee
Hotel	2 rooms per employee
Church	1,500 square feet per employee
Daycare	375 square feet per employee
Animal Hospital/ Clinic	250 square feet per employee
Medical	250 square feet per employee

(1) Average single family and multifamily household size per occupied housing unit in the City of Marina based on data from the 2023 American Community Survey (5-Year Estimates), U.S. Census Bureau.

(2) Average employment density derived from previous City of Marina studies. Lodging assumes 0.5 employees per 550-square-foot per room (i.e., 2 rooms per employee).

Sources: U.S. Census ACS 2023 5-Year Estimates; City of Marina; and Economic & Planning Systems, Inc.

3. Fee Calculation

This Chapter describes the technical methodology for the DIFs. Fees will cover a variety of public buildings and vehicles, including those for needed for Police, Fire, Parks, and other City department functions. It is assumed that both residential and nonresidential development will pay both the General Government and Public Safety fees, while the Parks fee will only be paid by residential uses.

Facility and Vehicle Needs and Costs

DIFs are derived from specific capital improvement projects and associated costs that are needed to maintain or grow City service levels, in part to accommodate new growth. The Nexus Study identifies capital improvements included in the fee program and associated cost estimates, as shown in **Table 7**. City staff provided the capital improvement program list and costs, drawing on internal City facilities planning and consultations with architects and facilities planners. To ensure that capital project costs included in the impact fees do not address existing deficiencies, only an appropriate portion of total costs is ultimately allocated to future growth and included in the fee program.

Cost Allocation and Fee Calculation

General Government, Public Safety, and Parks improvements are allocated to new development based on the proportion of 2045 service population attributable to new development. That is, the portion of the CIP cost allocated to the fees is based on service population growth in the City as a percentage of the City's future 2045 service population. As shown in **Table 8**, this translates to 31 percent of DIF CIP costs being allocated to new development, overall. The "growth allocation factor" for vehicles, which is lower than for building and facilities, reflects that new growth occurs over time as vehicle replacement costs are incurred (See **Appendix Table A-2** for vehicle cost allocation calculations).

Table 7 Marina DIF CIP for General Government, Public Safety, and Parks

Capital Improvement Item	Description	Cost Estimate
<u>General Government</u>		
City Hall	17,500 Square Feet	\$14,100,000
Council Chambers	2,500 Square Feet	\$2,000,000
Airport Facilities	T-Hangars and Box Hangars	\$10,000,000
Corporation Yard Expansion	Additional Capacity	\$4,000,000
General Government Vehicles	8 Vehicles	\$1,500,000
General Government Equipment	Miscellaneous	<u>\$695,000</u>
<i>Subtotal</i>		<i>\$32,295,000</i>
<u>Police Department</u>		
Police Department Buildings	15,000 Square Feet (13,000 + 2,000)	\$12,750,000
Police Department Vehicles	34 Vehicles	<u>\$13,000,000</u>
<i>Subtotal</i>		<i>\$25,750,000</i>
<u>Fire Department</u>		
Fire Department Headquarters	20,200 Square Feet (12,400 + 7,800)	\$17,170,000
Fire 3 Bay Substation	7,300 Square Feet (3,300+4,000)	\$6,205,000
EOC/Classroom	3,500 Square Feet	\$2,975,000
Fire Department Vehicles	16 Vehicles	<u>\$21,000,000</u>
<i>Subtotal</i>		<i>\$47,350,000</i>
<u>Recreation & Culture Department</u>		
Sports & Aquatic Center	74,000 Square Feet	\$45,000,000
Senior Center	14,000 Square Feet	\$9,100,000
Army Chapel	3800 Square Feet	\$2,470,000
Youth /Community Center	5000 Square Feet	\$3,250,000
Teen Center Expansion	2000 Square Feet	\$1,300,000
Preston Park Ballfield Expansion	9.3 Acres	\$10,550,000
Equestrian Center Redevelopment	30.5 Acres	\$10,000,000
Dunes Park	17 Acres	\$22,600,000
Glorya Jean Tate Park	4.2 Acres	\$8,000,000
Equestrian Boarding Facility	3 Acres	\$1,000,000
Disc Golf Course & Parking	1 Acre	\$100,000
Locke Paddon Park		\$2,000,000
Trail System Around City/FORTAG Trail		\$10,000,000
Lake Court Beach Access Trail		\$2,000,000
Lake Drive Park and Recreation Facility		\$2,000,000
Arts Village Renovation and Access		\$10,000,000
Vince DiMaggio/Locke Paddon Bridge		\$4,000,000
Culture and Recreation Department Vehicles	9 Vehicles	<u>\$1,400,000</u>
<i>Subtotal</i>		<i>\$144,770,000</i>
Total		\$250,165,000

Table 8 CIP Costs Attributable to Service Population Growth

Capital Improvement Item	DIF CIP Net Cost Estimate ¹	Cost Allocated to Growth	Growth Allocation Factor
<u>General Government Departments</u>			
City Hall	\$14,100,000	\$4,535,672	32%
Council Chambers	\$2,000,000	\$643,358	32%
Airport Facilities	\$10,000,000	\$3,216,789	32%
Corporation Yard Expansion	\$4,000,000	\$1,286,715	32%
General Government Vehicles	\$1,500,000	\$309,616	21%
General Government Equipment	\$695,000	\$223,567	32%
Fund Balance Adjustment	<u>-\$6,253,071</u>	<u>-\$2,011,481</u>	<u>32%</u>
<i>Subtotal</i>	<i>\$26,041,929</i>	<i>\$8,204,236</i>	<i>32%</i>
<u>Public Safety</u>			
Police Department Buildings	\$12,750,000	\$4,101,405	32%
Police Department Vehicles	\$13,000,000	\$2,661,893	20%
Fire Department Headquarters	\$17,170,000	\$5,523,226	32%
Fire 3 Bay Substation	\$6,205,000	\$1,996,017	32%
EOC/Classroom	\$2,975,000	\$956,995	32%
Fire Department Vehicles	\$21,000,000	\$5,179,030	25%
Fund Balance Adjustment	<u>-\$1,649,804</u>	<u>-\$530,707</u>	<u>32%</u>
<i>Subtotal</i>	<i>\$71,450,196</i>	<i>\$19,887,858</i>	<i>28%</i>
<u>Recreation & Culture Department</u>			
Sports & Aquatic Center ²	\$44,965,000	\$14,316,900	32%
Senior Center	\$9,100,000	\$2,897,449	32%
Army Chapel	\$2,470,000	\$786,450	32%
Youth /Community Center	\$3,250,000	\$1,034,803	32%
Teen Center Expansion	\$1,300,000	\$413,921	32%
Preston Park Ballfield Expansion ²	\$10,500,000	\$3,343,210	32%
Equestrian Center Redevelopment	\$10,000,000	\$3,184,010	32%
Dunes Park	\$21,100,000	\$6,718,261	32%
Glorya Jean Tate Park ²	\$7,800,000	\$2,483,528	32%
Equestrian Boarding Facility ²	\$1,000,000	\$318,401	32%
Disc Golf Course & Parking	\$100,000	\$31,840	32%
Locke Paddon Park	\$2,000,000	\$636,802	32%
Trail System Around City/FORTAG Trail	\$10,000,000	\$3,184,010	32%
Lake Court Beach Access Trail	\$2,000,000	\$636,802	32%
Lake Drive Park and Recreation Facility	\$2,000,000	\$636,802	32%
Arts Village Renovation and Access	\$10,000,000	\$3,184,010	32%
Vince DiMaggio/Locke Paddon Bridge	\$4,000,000	\$1,273,604	32%
Culture and Recreation Department Vehicles	\$1,400,000	\$310,441	22%
Fund Balance Adjustment	<u>-\$9,952,131</u>	<u>-\$3,168,768</u>	<u>32%</u>
<i>Subtotal</i>	<i>\$133,032,869</i>	<i>\$42,222,475</i>	<i>32%</i>
Total	\$230,524,995	\$70,314,569	31%

¹ Net cost estimate reflects cost reductions associated with funding from Fee Program allocations to projects and remaining balances through June 30, 2024.

² Reflects reduction for Fee Program funding allocation.

Table 9 illustrates the total costs included in the fee program for each fee category, along with costs that would be covered by other City funding sources (assuming maximum fee levels).

Table 9 CIP Cost Summary by Fee Program vs Other City Sources

Facilities	Fee Funded	Other City Funding	CIP Total
General Government	\$8,204,236	\$17,837,694	\$26,041,929
Public Safety	\$19,887,858	\$51,562,338	\$71,450,196
Recreation & Cultural Services Department	<u>\$42,222,475</u>	<u>\$90,810,394</u>	<u>\$133,032,869</u>
Total	\$70,314,569	\$160,210,426	\$230,524,995

Table 10 allocates costs by basic land use category, either residential or commercial, and then calculates the cost per resident and employee. These cost calculations also introduce a three percent (3.0%) administration charge for the fee programs. **Table 11** utilizes the cost per resident figure to calculate fees for each department. These fee calculations result in residential impact fees that are presented on a per-unit basis. However, AB 602 requires that residential impact fees be charged on a per-square-foot basis. As described and outlined in the summary of fees in **Chapter 4**, residential fees per unit have been converted into a fee per square foot based on typical housing unit sizes.

Table 10 Facilities Costs per Resident and Employee

Cost Allocation Factor	Formula	General Government	Public Safety	Recreation & Culture
CIP Costs Allocated to Fee Program		\$8,204,236	\$19,887,858	\$42,222,475
Fee Program Administration (3%)		\$246,127	\$596,636	\$1,266,674
Total Costs Allocated to Fee Program	a	\$8,450,363	\$20,484,494	\$43,489,149
<u>Cost Allocation to Land Use¹</u>				
Residential Development	b	88.7%	88.7%	100.0%
Nonresidential Development	c	11.3%	11.3%	0.0%
<u>Allocated Costs by Land Use</u>				
Residential Development	d = a * b	\$7,498,623	\$18,177,386	\$43,489,149
Nonresidential Development	e = a * c	\$951,739	\$2,307,108	\$0
<u>Service Population Growth</u>				
Residents	f	10,434	10,434	10,434
Employees (unweighted)	g	3,318	3,318	N/A
Facilities Cost per Resident	h = d / f	\$719	\$1,742	\$4,168
Facilities Cost per Employee	i = e / g	\$287	\$695	N/A

[1] The cost allocation to residential and nonresidential development is based on the service population attribution calculated in Table 4.

Source: Economic & Planning Systems, Inc.

Table 11 Development Impact Fee Calculation Overview

Land Use	Density (See Table 5)	General Government	Public Safety	Parks
Facilities Cost per Resident		\$719	\$1,742	\$4,168
Facilities Cost per Employee		\$287	\$695	-
Residential (per unit)	<u>Persons / Household</u>			
Single Family	2.80	\$2,009	\$4,870	\$11,653
Multifamily	2.37	\$1,701	\$4,124	\$9,868
Senior Homes	2.00	\$1,437	\$3,484	\$8,336
Assisted Living	1.00	\$719	\$1,742	\$4,168
Nonresidential	<u>Average Employment Density</u>			
Office (per sq. ft.)	300	\$0.96	\$2.32	-
Retail (per sq. ft.)	500	\$0.57	\$1.39	-
Industrial (per sq. ft.)	1,500	\$0.19	\$0.46	-
Hotel (per sq.ft.)	1,100	\$0.26	\$0.63	-
Church (per sq.ft.)	1,500	\$0.19	\$0.46	-
Daycare (per sq.ft.)	375	\$0.76	\$1.85	-
Animal Hospital/ Clinic (per sq.ft.)	250	\$1.15	\$2.78	-
Medical (per sq.ft.)	250	\$1.15	\$2.78	-

Source: City of Marina and Economic & Planning Systems, Inc.

4. Nexus Findings and Impact Fee Summary

This chapter documents the necessary findings for approval of General Government, Public Safety, and Parks DIF programs for the City of Marina, as required under Government Code Section 66000 (AB1600 Mitigation Fee Act). The discussion that follows articulates the "nexus" between new development in Marina and the infrastructure improvements needed to serve that growth. **Table 12** summarizes the maximum DIF levels, presented as per-square-foot fees. Tables that follow (**Table 13** through **Table 16**) present recommended maximum and minimum per-unit fees for each residential use type.

Nexus Findings

The maximum allowable DIFs applicable to new development are calculated based on the proportionate share of demand for Marina DIF CIP investments that each land use type generates through 2045. With this context, the following findings are made regarding the Fee Program. This section addresses the following:

- Identify the purpose of the fee;

- Identify how the fee is to be used;
- Determine how a reasonable relationship exists between the fee use and type of development project for which the fee is being used;
- Determine how the need for the public facility relates to the type of development project for which the fee is imposed; and
- Show the relationship between the fee and the cost of the public investments.

Purpose and Use of Fees

General Government

The fee will fund replacement of essential government facilities, including City Hall and the City Council Chambers, as well as new Airport facilities. The fee also will fund capital investments in City vehicles and equipment. The updated General Government fee covers new development's fair share portion of the total capital investment costs identified by the City, based on service population apportionment. General Government improvement total costs and fee program costs are documented in **Chapter 3**.

Public Safety

The fee will fund replacement and expansion of public facilities for Fire and Police department functioning, including a police station, fire department headquarters, and a fire department substation. The fee also will fund capital investments in emergency vehicles and equipment. The updated Public Safety fee covers new development's fair share portion of the total capital investment costs identified by the City, based on service population apportionment. The Public Safety improvement total costs and fee program costs are documented in **Chapter 3**.

Parks Fee

The fee will fund improvements at existing parks as well as new facilities that serve Marina residents. Parks program investments include a sports and aquatic center, a senior center, a youth center, a teen center expansion, and a range of improvements in existing parks. The fee will also fund vehicles. The updated Parks fee covers new development's fair share portion of the total capital investment costs identified by the City, based on service population apportionment. Parks improvement total costs and fee program costs are documented in **Chapter 3**.

Relationship between Use of Fees and Type of Development

New development in the City of Marina will require additional public facilities and capital investments to maintain or improve levels of service and meet the needs of new residents and employees. The DIF revenue will be used to fund the fair share cost of new facilities, improvements, and equipment based on current and projected City service populations. While some of the improvements included in the CIP will also benefit existing

land uses, the costs allocated to the DIF programs only include the proportion of cost attributable to new development.

Relationship between Need for Facility and Type of Project

The infrastructure improvements identified in this study are designed to accommodate the needs of existing and future service populations. The Marina DIF CIP presented here reflects current City goals for General Government, Public Safety, and Parks facilities and equipment, as identified by City staff. Fees will apply to land uses that generate new residents and workers and thereby increase service burden on the City. The Marina DIF CIP addresses the service needs of new populations.

Relationship between Fee Amount and Cost Facilities Attributed to Development

The fee levels calculated in this Nexus Study are based on a fair share cost allocation to new service population-generating citywide development. Overall, about 31 percent of the CIP investment costs are allocated to future development, which corresponds with service population growth as a percentage of future service population. The remainder of the CIP cost is attributable to existing land uses in the city and would be funded by other sources available to the City.

Summary of Impact Fees

Table 12 summarizes the Public Buildings, Public Safety, and Parks fees for residential and nonresidential uses. The maximum fee estimates include a three percent (3.0%) program administration fee. This administration cost covers expenses for preparation of the development impact fee and subsequent updates, as well as the required reporting, auditing, collection, and other annual administrative costs involved in overseeing the program.

Table 12 Summary of Maximum Per-Square-Foot Development Impact Fees

Land Use	General Government	Public Safety	Parks	Total
Residential (per sq.ft.)				
Single Family	\$0.80	\$1.95	\$4.66	\$7.41
Multifamily	\$1.55	\$3.75	\$8.97	\$14.27
Senior Homes	\$1.31	\$3.17	\$7.58	\$12.05
Assisted Living	\$0.65	\$1.58	\$3.79	\$6.03
Nonresidential				
Office (per sq. ft.)	\$0.96	\$2.32	-	\$3.27
Retail (per sq. ft.)	\$0.57	\$1.39	-	\$1.96
Industrial (per sq. ft.)	\$0.19	\$0.46	-	\$0.65
Hotel (per sq.ft.)	\$0.26	\$0.63	-	\$0.89
Church (per sq.ft.)	\$0.19	\$0.46	-	\$0.65
Daycare (per sq.ft.)	\$0.76	\$1.85	-	\$2.62
Animal Hospital (per sq.ft.)	\$1.15	\$2.78	-	\$3.93
Medical (per sq.ft.)	\$1.15	\$2.78	-	\$3.93

Source: Economic & Planning Systems, Inc.

AB 602 requires that residential impact fees be charged on a per square foot basis, as shown above. **Table 13** through **Table 16** present calculations of fee conversions into per square foot fees. EPS has also provided a recommended minimum and maximum per unit fee, based on the approximate range of typical unit sizes.

Table 13 Single Family Fee Per Square Foot Conversion

Item	Amount			Formula	Source / Assumption
	Parks	General Government	Public Safety		
Unit Size (sq.ft.)					
Average ¹		2,500		<i>a</i>	<i>K H; City; Zillow</i>
Units equal or less than ²		900		<i>b</i>	<i>EPS Assumption</i>
Units equal or greater than ³		3,000		<i>c</i>	<i>Redfin</i>
Fee / Unit					
Average ⁴	\$11,653	\$2,009	\$4,870	<i>d</i>	
Minimum ⁵	\$4,195	\$723	\$1,753	<i>e = d * (b / a)</i>	
Maximum ⁶	\$13,983	\$2,411	\$5,845	<i>f = d * (c / a)</i>	
Fee Amounts					
< 900 sq.ft. (per unit)	\$4,195	\$723	\$1,753		see "e"
900 - 3,000 sq.ft. (per sq. ft.)	\$4.66	\$0.80	\$1.95	<i>= d / a</i>	
> 3,000 sq.ft. (per unit)	\$13,983	\$2,411	\$5,845		see "f"

(1) Represents average square footage of recently built single family housing in Marina, based on Zillow sales data and City of Marina building permit applications.

(2) Minimum size has been adjusted to reflect the square footage for a 1-person household, based on the average unit size (2,373 sq. ft.) and average persons per household (2.80) in Marina.

(3) Represents high end of home size in Marina based on Redfin sales data.

(4) Based on the average development impact fee per unit as calculated in **Table 10**.

(5) Adjusts the average fee based on the ratio of minimum unit size to the average unit size.

(6) Adjusts the average fee based on the ratio of maximum unit size to the average unit size.

Table 14 Multifamily Fee Per Square Foot Conversion

Item	Amount			Formula	Source / Assumption
	Parks	General Government	Public Safety		
Unit Size (sq.ft.)					
Average ¹		1,100		a	Redfin
Units equal or less than ²		500		b	EPS Assumption
Units equal or greater than ³		1,600		c	Redfin
Fee / Unit					
Average ⁴	\$9,868	\$1,701	\$4,124	d	
Minimum ⁵	\$4,485	\$773	\$1,875	$e = d * (b / a)$	
Maximum ⁶	\$14,353	\$2,475	\$5,999	$f = d * (c / a)$	
Fee Amounts					
< 500 sq.ft. (per unit)	\$4,485	\$773	\$1,875		see "e"
500 - 1,600 sq.ft. (per sq. ft.)	\$8.97	\$1.55	\$3.75	$= d / a$	
> 1,600 sq.ft. (per unit)	\$14,353	\$2,475	\$5,999		see "f"

(1) Represents average square footage of multifamily housing in Marina based on Redfin data.

(2) Minimum size has been adjusted to reflect the square footage for a 1-person household, based on the average unit size (1,100 sq. ft.) and average persons per household (2.37) in Marina.

(3) Represents high end of multifamily housing size in Marina based on Redfin data.

(4) Based on the average development impact fee per unit as calculated in **Table 10**.

(5) Adjusts the average fee based on the ratio of minimum unit size to the average unit size.

(6) Adjusts the average fee based on the ratio of maximum unit size to the average unit size.

Table 15 Senior Homes Multifamily Fee Per Square Foot Conversion

Item	Amount			Formula	Source / Assumption
	Parks	General Government	Public Safety		
Unit Size (sq.ft.)					
Average ¹		1,100		a	Redfin
Units equal or less than ²		500		b	EPS Assumption
Units equal or greater than ³		1,600		c	Redfin
Fee / Unit					
Average ⁴	\$8,336	\$1,437	\$3,484	d	
Minimum ⁵	\$3,789	\$653	\$1,584	e = d * (b / a)	
Maximum ⁶	\$12,125	\$2,091	\$5,068	f = d * (c / a)	
Fee Amounts					
< 500 sq.ft. (per unit)	\$3,789	\$653	\$1,584		see "e"
500 - 1,600 sq.ft. (per sq. ft.)	\$7.58	\$1.31	\$3.17	= d / a	
> 1,600 sq.ft. (per unit)	\$12,125	\$2,091	\$5,068		see "f"

(1) Represents average square footage of multifamily housing in Marina based on Redfin data.

(2) Minimum size has been adjusted to reflect the square footage for a 1-person household, based on the average unit size (1,100 sq. ft.) and average persons per household (2.37) in Marina.

(3) Represents high end of multifamily housing size in Marina based on Redfin data.

(4) Based on the average development impact fee per unit as calculated in **Table 10**.

(5) Adjusts the average fee based on the ratio of minimum unit size to the average unit size.

(6) Adjusts the average fee based on the ratio of maximum unit size to the average unit size.

Table 16 Assisted Living Multifamily Fee Per Square Foot Conversion

Item	Amount			Formula	Source / Assumption
	Parks	General Government	Public Safety		
Unit Size (sq.ft.)					
Average ¹		1,100		a	Redfin
Units equal or less than ²		500		b	EPS Assumption
Units equal or greater than ³		1,600		c	Redfin
Fee / Unit					
Average ⁴	\$4,168	\$719	\$1,742	d	
Minimum ⁵	\$1,895	\$327	\$792	$e = d * (b / a)$	
Maximum ⁶	\$6,063	\$1,045	\$2,534	$f = d * (c / a)$	
Fee Amounts					
< 500 sq.ft. (per unit)	\$1,895	\$327	\$792		see "e"
500 - 1,600 sq.ft. (per sq. ft.)	\$3.79	\$0.65	\$1.58	$= d / a$	
> 1,600 sq.ft. (per unit)	\$6,063	\$1,045	\$2,534		see "f"

(1) Represents average square footage of multifamily housing in Marina based on Redfin data.

(2) Minimum size has been adjusted to reflect the square footage for a 1-person household, based on the average unit size (1,100 sq. ft.) and average persons per household (2.37) in Marina.

(3) Represents high end of multifamily housing size in Marina based on Redfin data.

(4) Based on the average development impact fee per unit as calculated in **Table 10**.

(5) Adjusts the average fee based on the ratio of minimum unit size to the average unit size.

(6) Adjusts the average fee based on the ratio of maximum unit size to the average unit size.

Appendix

Appendix Table 1 Existing Facilities

Facility	Address	Existing Amount
<u>General Government (Building Sq.Ft.)</u>		
Annex Building	209 Cypress Ave.	3,420
Church Building	2801 2nd Ave.	3,816
Council Chambers	211 Hillcrest Ave.	2,304
City Hall	211 Hillcrest Ave.	6,115
Old Corp. Yard Building	3040 Lake Ct	3,800
Animal Shelter Building	3040 Lake Drive	665
Corp Yard Building	2660 Fifth Avenue	<u>10,166</u>
Subtotal		30,286
<i>Vehicles</i>		7
<u>Fire (Building Sq.Ft.)</u>		
Fire Station	210 8th St.	15,000
Subtotal		15,000
<i>Vehicles</i>		14
<u>Police (Building Sq.Ft.)</u>		
Public Safety Building	211 Hillcrest Ave.	12,474
Subtotal		12,474
<i>Vehicles</i>		31
<u>Park Facilities (Acres)</u>		
Tate Park Grass/Baseball/Softball:	3255 Abdy Way	3.3
Community Center Playground	211 Hillcrest Ave.	0.3
Los Arboles Sports Complex	327 Reindollar Ave.	13.3
Preston Park	3100 Preston Dr.	9.3
Vince DiMaggio Park	3200 Del Monte Ave.	4.8
Windy Hill	3240 DeForest Rd.@ Beach Rd.	1.8
Locke-Paddon Park	190 Seaside Cir.	20.1
Glorya Jean Tate Park	3254 Abdy Way	4.2
Equestrian Center	2830 5th Avenue	30.5
Dunes Park	2nd Avenue between 6th & 8th	42.0
Hilltop Park	4th Avenue at 9th Street	<u>12.0</u>
Subtotal Acres		141.6
<u>Recreation and Culture Facilities (Building/Facility Sq.Ft.)</u>		
Library	190 Seaside Cir.	18,600
Tate Park Scout House	3254 Abdy Way	1,440
Community Center	211 Hillcrest Ave.	6,597
Teen Center	304 Hillcrest Ave.	3,552
Snack Bar and Building	327 Reindollar Ave.	910
Preston Park Building	3100 Preston Dr.	1,668
Windy Hill Park Building	3240 DeForest Rd.@ Beach Rd.	2,483
Bathrooms	190 Seaside Cir.	300
Veterinary Clinic	Building 3140	2,160
Barns	2830,2832,2834,2836,2838 Fifth Avenue	16,300
Subtotal Building/Facility Square Feet		54,010
<i>Teen Center Skate Park</i>	<i>304 Hillcrest Ave.</i>	<i>14,875</i>
<i>Vehicles</i>		5

Source: City of Marina

Appendix Table 2 Vehicle CIP Detail

Department	Existing Vehicles	New Vehicles	Average Per Vehicle Cost	Replacement Frequency	Total Cost ¹	Cost Allocated to Growth 2024-2045
General Government Vehicles	7	1	\$50,000	5 Years	\$1,500,000	\$309,616
Police Department Vehicles	31	3	\$100,000	5 Years	\$13,000,000	\$2,661,893
Fire Department Vehicles ²	14	2	\$700,000	10 Years	\$21,000,000	\$5,179,030
Recreation and Cultural Services Department Vehicles	<u>5</u>	<u>4</u>	<u>\$50,000</u>	5 Years	<u>\$1,400,000</u>	<u>\$310,441</u>
Total	57		\$900,000		\$36,900,000	\$8,460,979

[1] Assumes that new vehicles are purchased at the midpoint of the development timeline (i.e., no vehicle replacement is required in the initial years of the fee program)

[2] Based on a weighted average of fire department vehicle types, including Type 1 and 3 fire engines, trucks, utility vehicles, command vehicles, and rescue vehicles.

Appendix Table 3 Level of Service Comparison

Item	Existing Inventory a	Existing Service Level ¹ b = a / (24,934 / 1,000)	Existing + CIP for 2045 c	2045 Service Level ¹ d = c * (44,219 / 1,000)	Units
<u>General Government</u>					
Building Space ²	30,286	1,221	41,867	1,145	square feet
Vehicle Fleet	7	0.3	8	0.2	vehicles
<u>Police Department</u>					
Police Station ²	12,474	503	15,000	410	square feet
Vehicle Fleet	31	1.3	34	0.9	vehicles
<u>Fire Department</u>					
Fire Stations	15,000	605	31,000	848	square feet
Vehicle Fleet	14	0.6	16	0.4	vehicles
<u>Recreation and Culture</u>					
Parkland	141.6	5.7	206.6	5.7	acres
Recreation Buildings	54,010	2,178	152,810	4,181	square feet
Teen Center Skate Park	14,875	600	14,875	407	square feet
Vehicle Fleet	5	0.2	9	0.2	vehicles

(1) Calculations reflect existing and future City facilities and equipment per 1,000 service population.

(2) See **Appendix Table A-1** table for detailed list of exiting facilities included.

Appendix Table 4 General Government Fee Comparison

	Updated Maximum Allowable Fees			
	2025 Current Fee	Per-Square- Foot Fee	Per-Unit Minimum Fee	Per-Unit Maximum Fee
Residential (per sq.ft.)				
Single Family	\$4,983	\$0.80	\$723	\$2,411
Multifamily	\$4,615	\$1.55	\$773	\$2,475
Senior Homes	\$3,323	\$1.31	\$653	\$2,091
Assisted Living	\$1,845	\$0.65	\$327	\$1,045
Nonresidential				
Office (per sq. ft.)	\$0.35	\$0.96		
Retail (per sq. ft.)	\$0.21	\$0.57		
Industrial (per sq. ft.)	\$0.07	\$0.19		
Hotel (per sq.ft.)	\$0.09	\$0.26		
Church (per sq.ft.)	\$0.07	\$0.19		
Daycare (per sq.ft.)	\$0.28	\$0.76		
Animal Hospital (per sq.ft.)	\$0.42	\$1.15		
Medical (per sq.ft.)	\$0.42	\$1.15		

Source: Economic & Planning Systems, Inc.

Appendix Table 5 Public Safety Fee Comparison

	2025 Current Fee	Updated Maximum Allowable Fees		
		Per-Square-Foot Fee	Per-Unit Minimum Fee	Per-Unit Maximum Fee
Residential (per sq.ft.)				
Single Family	\$1,074	\$1.95	\$1,753	\$5,845
Multifamily	\$993	\$3.75	\$1,875	\$5,999
Senior Homes	\$714	\$3.17	\$1,584	\$5,068
Assisted Living	\$397	\$1.58	\$792	\$2,534
Nonresidential				
Office (per sq. ft.)	\$0.65	\$2.32		
Retail (per sq. ft.)	\$0.39	\$1.39		
Industrial (per sq. ft.)	\$0.13	\$0.46		
Hotel (per sq.ft.)	\$0.18	\$0.63		
Church (per sq.ft.)	\$0.13	\$0.46		
Daycare (per sq.ft.)	\$0.52	\$1.85		
Animal Hospital (per sq.ft.)	\$0.78	\$2.78		
Medical (per sq.ft.)	\$0.78	\$2.78		

Source: Economic & Planning Systems, Inc.

Appendix Table 6 Parks Fee Comparison

	2025 Current Fee	Updated Maximum Allowable Fees		
		Per-Square- Foot Fee	Per-Unit Minimum Fee	Per-Unit Maximum Fee
Residential (per sq.ft.)				
Single Family	\$10,791	\$4.66	\$4,195	\$13,983
Multifamily	\$9,991	\$8.97	\$4,485	\$14,353
Senior Homes	\$7,194	\$7.58	\$3,789	\$12,125
Assisted Living	\$3,996	\$3.79	\$1,895	\$6,063
Nonresidential				
Office (per sq. ft.)				
Retail (per sq. ft.)				
Industrial (per sq. ft.)				
Hotel (per sq.ft.)				
Church (per sq.ft.)				
Daycare (per sq.ft.)				
Animal Hospital (per sq.ft.)				
Medical (per sq.ft.)				

Source: Economic & Planning Systems, Inc.

Appendix Table 7 Combined Fee Comparison

	2025 Current Fee	Updated Maximum Allowable Fees		
		Per-Square- Foot Fee	Per-Unit Minimum Fee	Per-Unit Maximum Fee
Residential (per sq.ft.)				
Single Family	\$16,848	\$7.41	\$6,672	\$22,239
Multifamily	\$15,599	\$14.27	\$7,133	\$22,827
Senior Homes	\$11,231	\$12.05	\$6,026	\$19,284
Assisted Living	\$6,238	\$6.03	\$3,013	\$9,642
Nonresidential				
Office (per sq. ft.)	\$1.00	\$3.27		
Retail (per sq. ft.)	\$0.60	\$1.96		
Industrial (per sq. ft.)	\$0.20	\$0.65		
Hotel (per sq.ft.)	\$0.27	\$0.89		
Church (per sq.ft.)	\$0.20	\$0.65		
Daycare (per sq.ft.)	\$0.80	\$2.62		
Animal Hospital (per sq.ft.)	\$1.20	\$3.93		
Medical (per sq.ft.)	\$1.20	\$3.93		

Source: Economic & Planning Systems, Inc.

City of Marina Traffic Impact Fee Update

Report

Prepared for:
City of Marina

September 2, 2025

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Programmed CIP Transportation Projects

For this TIF Program update, the project team worked closely with City staff to conduct a comprehensive review of the transportation projects to be included in the program. This review identified 26 projects focused on intersection and roadway improvements, which have been included in this study. The area covered by the TIF Program and the location of projects proposed for inclusion in the fee program are shown in **Figure 1**.

Cost estimates for each project were provided by the City Staff which were updated to 2024 dollars where applicable. The project list including the 2024 dollars cost estimates is shown in **Table 1**.

Table 1 – Proposed City of Marina TIF Projects – Intersections and Roadways

ID	Project Name	Description ¹	Estimated Cost (2024 dollars)
Intersection Improvement Projects			
1	2nd Avenue & Inter-Garrison Road	Construct a second left turn lane for the eastbound approach, additional through lane for westbound approach and right-turn pocket at southbound approach at the intersection of 2nd Avenue and Inter-Garrison Road.	\$875,200
2	Imjin Road & 8 th Street	Implement modern roundabout at the intersection of Imjin Road and 8th Street.	\$1,800,000
3	California Drive & 8 th Street	Implement modern roundabout at the intersection of California Drive and 8th Street.	\$1,750,300
4	Reservation Road & Salinas Avenue	Signalize intersection of Reservation Road and Salinas Avenue.	\$2,438,600
5	Imjin Parkway bridge @ SR 1 ²	Restripe lanes to accommodate two WB lanes on the Imjin Parkway bridge over SR 1.	\$41,400
6	SR 1 Southbound off-ramp @ Imjin Parkway ²	Convert the southbound off-ramp to a loop configuration at SR 1 and Imjin Parkway interchange.	\$3,182,400
7	SR 1 Southbound on-ramp @ Imjin Parkway ²	Widen the southbound on-ramp at SR 1 and Imjin Parkway interchange to accommodate two lanes.	\$795,600
8	Del Monte Boulevard & Beach Road	Widen the existing roundabout at the intersection of Del Monte Boulevard and Beach Road to 2-lanes.	-
9	Imjin Parkway & 2 nd Avenue	Construct a second eastbound right turn lane and dedicated westbound right-turn lane at the intersection of Imjin Parkway and 2nd Avenue.	\$6,583,200
10	Reservation Road & Del Monte Boulevard	Construct a multi lane roundabout at the intersection of Reservation Road & Del Monte Boulevard.	\$2,800,000
11	California Avenue & Marina Heights Drive	Signalize intersection of California Avenue and Marina Heights Drive.	\$1,384,400
12	SR1 Southbound Ramp @ Reservation Rd	Signalize intersection of SR1 Southbound Ramp and Reservation Road.	\$4,000,000

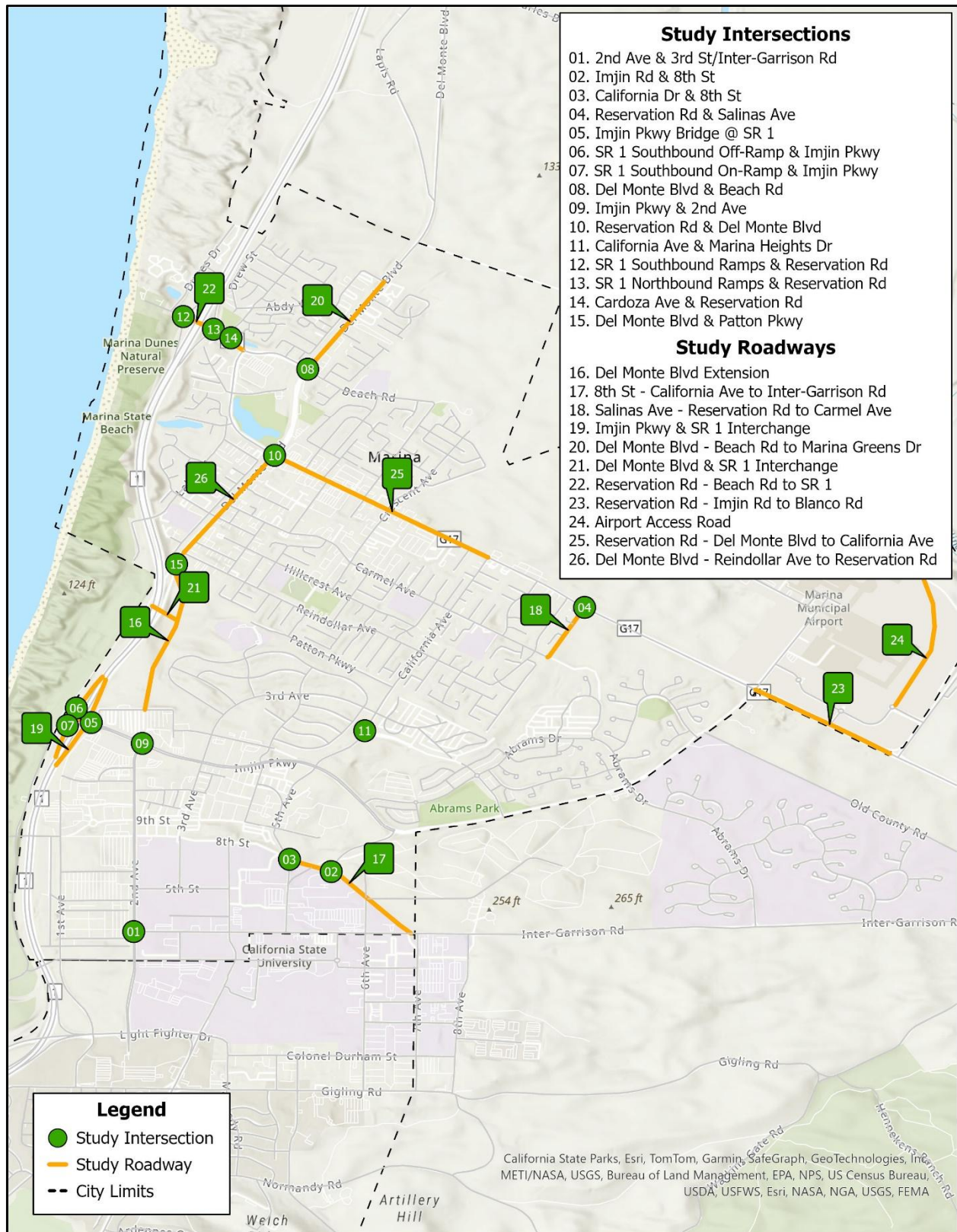
Table 1 – Proposed City of Marina TIF Projects – Intersections and Roadways

ID	Project Name	Description ¹	Estimated Cost (2024 dollars)
13	SR1 Northbound Ramp @ Reservation Road	Signalize intersection of SR1 Northbound Ramp and Reservation Road.	\$4,000,000
14	Cardoza Avenue & Reservation Road	Construct westbound right turn only lane from Cardoza Avenue to SR1 Northbound Ramp.	\$3,500,000
15	Del Monte Boulevard and Patton Parkway Roundabout	Construct a new Roundabout intersection at Del Monte Boulevard and Patton Parkway	\$6,000,000
Roadway Improvement Projects			
16	Del Monte Boulevard Extension ³	Construct new 2-lane collector between Imjin Parkway and Reindollar Avenue.	\$17,000,000
17	8 th Street from California Avenue to Inter-Garrison Road ³	Reconstruct 8th Street into 2-lane arterial with a two-way-left-turn lane between California Avenue and Inter-Garrison Road.	\$9,449,700
18	Salinas Avenue - Reservation Road to Carmel Avenue ³	Reconstruct Salinas Avenue into a 2-lane collector between Reservation Road and Carmel Avenue.	\$3,450,000
19	Imjin Parkway & SR1 Interchange	Reconstruct interchange between Imjin Parkway and SR1.	\$24,385,300
20	Del Monte Boulevard - Beach Road to Marina Greens Drive	Widen Del Monte Boulevard to a 4-lane arterial between Beach Road and Marina Greens Drive.	\$13,411,900
21	Del Monte Boulevard & SR 1 Interchange	Reconstruct interchange between Del Monte Boulevard and SR1.	-
22	Reservation Road – Beach Road to SR 1	Widen Reservation Road to a 4-lane divided arterial with a two-way-left-turn lane between Beach Road and SR1 Southbound Ramp.	\$6,099,250
23	Reservation Road - Imjin Road to Blanco Road	Widen Reservation Road to a 6-lane expressway between Imjin Road and Blanco Road.	\$13,036,400
24	Airport Access Road	Construct new access road from University Drive and UC Mbest Drive intersection to the existing access road connecting to Ramco Enterprises building providing additional connection to the Marina Municipal Airport.	\$6,190,000
25	Reservation Road – Del Monte Boulevard to California Street	Improve Reservation Corridor from Del Monte Boulevard to California Street with six roundabout intersections, install separated bike facilities and install new sidewalks.	\$31,174,100
26	Del Monte Corridor – Reindollar Avenue to Reservation Road	Improve Del Monte Corridor with two roundabout intersections at Reindollar Avenue and Palm Avenue, install separated bike facilities and sidewalks.	\$16,258,700
Total			\$179,606,450

Notes:

- 1: Project 1 through 20 are intersection improvement projects and Project 21 through 29 are roadway improvement projects.
2: Projects 5, 6, & 7 are considered as intersection projects and analyzed as one combined intersection improvement
3: Projects 8 and 21 are part of the DIF program but are not considered eligible for the current fee program as they are given a lower priority based on traffic growth and may be required beyond 2045 conditions.

Figure 1 – Marina TIF Program Projects



Growth Projections

This chapter details the population and employment growth projections used for the TIF update. Note that these are consistent with those based on the population and employment projections from the City's most recent General Plan and Housing Element Update. Projections by land use category and trip generation by land use are discussed below.

Land Use Growth Projections

The growth projections for the approved and pending developments were determined in coordination with the City and incorporated into the Association of Monterey Bay Governments' travel demand model (AMBAG TDM) used for this study. The AMBAG TDM utilizes a base year of 2015 and a future year of 2045, representing the conditions expected when the City's General Plan and Housing Element are fully built out. As part of this study, the model's base year was revised to reflect 2024 conditions. The growth projections were converted into population, households and employment as input to the model.

The proposed land uses were distributed throughout the Traffic Analysis Zones (TAZs) that represent the proposed growth in the City and were added to the base year household and employment numbers to represent the future build out scenario. In order to estimate the number of employees for the non-residential land uses to input into the model, the ratio of daily trip generation rates listed in the Trip Generation Handbook, 11th Edition published by the Institute of Transportation Engineers (ITE) between 1,000 square-feet and employees was used. The number of daily trips produced by the size of each of the land use codes for office, retail and industrial was used to back calculate the number of employees based on each land use's equation for the number of trips that are produced by each employee.

While the AMBAG TDM uses household as its input, there is no differentiation between single-family and multi-family residential in terms of trip generation and distribution. However, the AMBAG TDM is a hybrid model as its processes follow the traditional four-step model (trip generation, trip distribution, mode choice, and trip assignment), but it also contains a population synthesis step based on socioeconomic data collected throughout the AMBAG region to produce individuals living in each household that contain their own trip making characteristics. Therefore, the population synthesis step was completed to develop the population estimates for the future growth in the City. The land use estimates for future growth are summarized in **Table 2**. The population, household and employment estimates for the base year and future year are summarized in **Table 3**. It is estimated that the growth in the impact fee area will increase the City population by approximately **10,434** people and will generate about **3,318** new jobs.

Table 2 – New Development Impact Fee Area Land Use Projections

Projects	Single Family (DU)	Multi Family (DU)	Office (KSF)	Retail (KSF)	Industrial (KSF)	Hotel (Rooms)
UCMBEST	-	-	266	34	88	150
Downtown Specific Plan	-	1,000	128	219	0	-
Dunes	683	-	0	35	0	300
Marina Station	709	651	144	60	652	-
Sea Haven	476	-	0	0	0	-
3298 Del Monte	-	94	0	0	0	-
Total	1,868	1,745	537	348	740	450

Table 3 – Citywide Growth Projections

Growth Category	2024 Base Year for AMBAG Model	2045 Horizon Year for AMBAG Model	2024 to 2045 Growth
Population	22,336	32,770	10,434 (47%)
Households	7,813	11,426	3,613 (46%)
Employment/Jobs	6,160	9,478	3,318 (54%)

Land Use Trip Generation

To assess the TIF across various land uses a Trip Demand Factor (TDF) is calculated, which reflects the trip generation characteristics of each land use that produces new vehicle trips on the roadway system in Marina. Each land use has unique trip generation characteristics including base trip generation rate, pass-by trip rates and time-of-day variation that are used as inputs in calculating the TDF. The daily trip generation rates have been obtained from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition as shown in **Table 4**.

TDFs are calculated by multiplying the daily trip rate by the new trip percentage for each land use. The new trip percentage for each land use was obtained from SANDAG's Brief Guide of Vehicular Traffic Generation Rates and accounts for the fact that some trips generated by the land uses will be pass-by or otherwise pre-existing trips. As these trips are already on the City's roadway network, they cannot be included as part of the growth used to calculate the fees for the 2024 TIF Program.

Table 4 – Trip Demand Factors

Fee Category (Development Type)	Unit	ITE Lane Use Code	Daily Trip Rate ¹	New Trip Percentage ²	Trip Demand Factor
Residential					
Single Family	Unit	210	9.43	97%	9.15
Multifamily	Unit	220	6.74	97%	6.54
Nonresidential					
Office	KSF	710	10.84	96%	10.41
Retail	KSF	820	37.01	70%	16.61
Industrial	KSF	110	4.87	98%	4.77
Hotel	Room	310	7.99	96%	7.67

1. Reflects average number of daily trips for the unit type indicated based on data from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition).
2. This factor accounts for the fact that some trips generated by the land uses will be pass-by or otherwise pre-existing trips. Source is *Brief Guide of Vehicular Traffic Generation Rates*, SANDAG, April 2002.

The adjusted TDFs are used to calculate the total growth in adjusted daily trips generated by each land use type. The growth projected to occur in the City of Marina was taken from the City's General Plan and Housing Element and in consultation with the City, as outlined in **Table 5**. As shown in **Table 5**, the land use growth was multiplied by its respective adjusted trip rate to calculate the total daily trip generation growth in the City. These calculations resulted in an estimated adjusted daily citywide trip increase of **46,851** between 2024 and 2045.

Table 5 – Land Use Growth Converted to Adjusted Daily Trips

Land Use Type	Unit	Quantity	Adjusted Daily TDF	Adjusted Daily Trips
Single Family	DU	1,868	9.15	17,087
Multifamily	DU	1,000	6.54	11,408
Office	KSF	357.3	10.41	5,592
Retail	KSF	348.0	16.61	5,781
Industrial	KSF	740.0	4.77	3,532
Hotel	Rooms	450	7.67	3,452
Total				46,851

AB 602 Analysis

Assembly Bill (AB) 602 was approved on September 28, 2021, and went into effect on January 1, 2022. This legislation requires that impact fee nexus studies adopted on or after January 1, 2022, must, as appropriate, identify the existing level of service for each public facility, specify the new level of service once an improvement (project) is constructed, and include an explanation of why the new level of service is necessary. It is important to note that AB 602 does not specifically define the basis for the required level of service analyses. Consequently, the methods used to assess the level of service for various public facilities must be tailored to the type of facility being analyzed and the information available.

AB 602 also mandates that studies adopted after July 1, 2022, must calculate fees levied or imposed on housing development projects proportionate to the square footage of the proposed units, or provide specific findings explaining why square footage is not an appropriate metric for fee calculation. In essence, development impact fees must be stratified based on the size of the housing unit or be supported by findings justifying the decision not to stratify the fees. As part of this study, an AB 602 deficiency analysis and fee stratification analysis were conducted.

The AB 602 analysis evaluated 24 of 26 projects, summarized in **Table 1** earlier, which involved improvements to public facilities. The projects identified for the required level of service (LOS) analysis under AB 602 were categorized as either an intersection or roadway improvement. Projects 1 through 15 were analyzed as intersection LOS improvements, Project 16 through 24 were analyzed as roadway LOS improvements and Projects 25 and 26 were analyzed as roadway safety improvements for pedestrians and bicyclists.

Level of Service Analysis Methodology

Table 6 summarizes the methodology and MOE that was used to determine existing and future conditions depending on the type of improvement.

Table 6 – Methodology and Measure of Effectiveness

Improvement Type	Methodology	Measure of Effectiveness
Intersection	HCM	LOS (Delay)
Roadway Capacity	Roadway Volume LOS Threshold	LOS (V/C)
Roadway Ped/Bike	Roadway LTS Threshold	LOS (LTS)

Note: HCM = Highway Capacity Manual, LOS = Level of Service, Volume-to-Capacity Ratio, LTS=Level of Traffic Street

The intersection LOS analysis for AB 602 was conducted for the PM peak-hour which represents the worst traffic conditions, and roadway LOS analysis was conducted for the daily traffic.

Intersection Level of Service

Analysis of intersection level of service (LOS) is based on the Highway Capacity Manual's (HCM) concept of LOS. The HCM defines the LOS of a facility as a qualitative measure used to describe operational conditions. LOS ranges from A (free flow traffic with minimal delay) to F (heavy congestion operating near or over

capacity). LOS was determined using methodologies defined in HCM 7th Edition, the current edition at the time of the analysis. The LOS criteria is summarized in **Table 7**.

Existing condition traffic counts during the AM (7 AM – 9 AM) and PM (4 PM – 6 PM) peak period were collected in September 2023. Future 2045 No Build and 2045 Build volumes were developed by adding travel demand model growth to existing counts. The travel demand model maintained by Association of Monterey Bay Area Governments (AMBAG model) was used to determine future traffic growth.

Table 7 – Methodology and Measure of Effectiveness

Level of Service (LOS)	Signalized Delay (sec/veh)	Unsignalized Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10.0 – 20.0	> 10.0 – 15.0
C	> 20.0 – 35.0	> 15.0 – 25.0
D	> 35.0 – 55.0	> 25.0 – 35.0
E	> 55.0 – 80.0	> 35.0 – 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual, 7th Edition

Note: For All-way stop-control intersection (AWSC), LOS is defined based on average intersection delay.

For two-way stop-controlled intersections (TWSC), LOS is defined based on the worst movement delay.

According to the City of Marina General Plan, the City aims to maintain LOS D or better as the standard at all intersections. Therefore, for this analysis intersections calculated to operate at LOS E or LOS F were determined to be deficient.

Roadway Capacity

Roadway improvements were evaluated based on threshold average daily traffic volumes (ADT) for various facility types. The daily volume thresholds are based on the Highway Capacity Manual 2000 and intended for preliminary planning purposes only. Existing condition volumes for the study roadway segments were collected from the Replica Big Data platform. Replica provides travel data by mode as well as by roadway segments. Future 2045 No Build and 2045 Build volumes were developed by adding model growth to existing volumes. Note that while the City aims to maintain an LOS D or better on its roadways, for the purposes of this analysis a deficient roadway is one that operates at LOS E or LOS F.

Roadway Pedestrian and Bicycle

Roadway pedestrian and Bicycle improvements analysis utilized pedestrian level of comfort (LOC) and Bicycle Level of Traffic Stress (LTS) methodology. Both of these methodologies quantify amount of discomfort pedestrian or bicyclist may experience when traveling close to vehicle traffic. The LOC or LTS methodology assigns a numerical ranking between 1-4, where 1 is very comfortable and 4 is undesirable, based on facility attributed such as speed, number of travel lanes, pathway widths, etc. This analysis utilized

modified LOC and LTS methodologies from Montgomery County their methodology accounts for additional factors.

Level of Service Results

This section presents a summary of results for each project. Detailed analysis tables and outputs are included in **Appendix B**.

Intersection

Intersection LOS analysis was completed for Projects 1 through 20. **Table 8** presents a summary of the intersection LOS. Note that as discussed previously, LOS is presented in terms of the PM Peak-hour.

Project 1 evaluated the 2nd Avenue and Inter-Garrison Road intersection. It is estimated that future development will deteriorate the existing PM LOS from A to B. Under With Improvement Future conditions, Project 1 will improve operations to LOS A for PM.

Project 2 evaluated the Imjin Road and 8th Street intersection. This intersection operates at an LOS A in existing PM conditions. Under future conditions, the intersection operates at LOS C under PM conditions. Under With Improvement Future conditions, Project 2 will improve operations to LOS A for PM.

Project 3 evaluated the California Drive/5th Avenue and 8th Street intersection. This intersection operates at LOS A for existing and future PM conditions. Future development will slightly increase delay at this intersection. Project 3 will decrease the delay and keep operations to LOS A for PM.

Project 4 evaluated the Reservation Road and Salinas Avenue intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 4 will improve operations to LOS A from C for PM.

Project 5, Project 6, and Project 7 evaluated all Highway 1 ramps that intersect with Imjin Parkway. It is estimated that future development will deteriorate the existing PM LOS from C to E. Project 5, Project 6, and Project 7 will add geometric improvements to each intersection that will result in no delay.

Project 8 is not considered eligible for the TIF program due to low priority and is not evaluated for the LOS analysis.

Project 9 evaluated the Imjin Parkway and 2nd Avenue intersection. It is estimated that future development will deteriorate the existing PM LOS from B to D. Under With Improvement Future conditions, Project 9 will decrease delay, but operations remain at LOS D for PM.

Project 10 evaluated the Del Monte Boulevard and Reservation Road intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 10 will slightly decrease delay, but operations remain at LOS C for PM.

Project 11 evaluated the California Avenue and Marina Heights Drive intersection. It is estimated that future development will slightly increase delay at this intersection. Under With Improvement Future conditions, Project 11 will improve operations to LOS A for PM.

Project 12 evaluated the Reservation Road and SR1 Southbound Ramp intersection. This intersection operates at an LOS F in PM in existing and future conditions, which would be considered an existing deficiency. Under With Improvement Future conditions, Project 12 will improve operations to LOS C for PM.

Project 13 evaluated the Reservation Road and SR1 Northbound Ramp intersection. It is estimated that future development will deteriorate the existing PM LOS from B to C. Under With Improvement Future conditions, Project 13 will improve operations to LOS B for PM.

Project 14 evaluated the Cardoza Avenue and Reservation Road intersection. It is estimated that future development will remain the same for PM at LOS A. Under With Improvement Future conditions, Project 14 will remain the same as baseline future conditions.

Project 15 evaluated the Del Monte Boulevard and Patton Parkway intersection. This intersection is a future project, and therefore does not have an existing or future no project LOS. Under future with project conditions, the intersection is estimated to have an LOS of A.

Table 8 – Intersection Level of Service Summary

Project #	Existing Control Type	Project Control Type	Existing		2045 No Project		2045 Project	
			Delay sec/veh	LOS	Delay sec/veh	LOS	Delay sec/veh	LOS
1. 2nd Ave. & Inter-Garrison Rd.	AWSC	Signal	9.4	A	11.1	B	7.9	A
2. Imjini Rd. & 8 th St.	AWSC	RAB	9.2	A	17.7	C	6.2	A
3. California Dr./5 th Ave. & 8 th St.	SSSC	RAB	7.2	A	7.2	A	2.9	A
4. Reservation Rd. & Salinas Ave.	SSSC	Signal	15.8	C	20.5	C	6.1	A
5. Imjin Pkwy. Overpass at SR1	Signal	-	22.5	C	63.2	E	New Interchange with Free Flow	
6. SR1 Southbound Off-ramp & Imjin Pkwy.	Signal	-	22.5	C	63.2	E		
7. SR1 Southbound On-ramp & Imjin Pkwy.	Signal	-	22.5	C	63.2	E		
8. Del Monte Blvd. & Beach Rd.	RAB	RAB	-	-	-	-	-	-
9. Imjin Pkwy. & 2nd Ave.	Signal	Signal	16.3	B	54.9	D	54.5	D
10. Del Monte Blvd. & Reservation Rd.	Signal	Signal	24.1	C	37.7	C	36.4	C
11. California Ave. & Marina Heights Dr.	SSSC	Signal	12.1	B	13.0	B	8.4	A
12. SR1 Southbound Ramp & Reservation Rd.	SSSC	Signal	101.3	F	563.4	F	18.9	B
13. SR1 Northbound Ramp & Reservation Rd.	SSSC	Signal	14.2	B	20.6	C	11.8	B
14. Cardoza Ave. & Reservation Rd.	AWSC	Signal	9.4	A	9.5	A	9.5	A
15. Del Monte and Patton Parkway	RAB	RAB	-	-	-	-	-	A

Note:

Intersections that operate at LOS E or F are Bold.

Intersection and All-way stop-control intersection (AWSC) reported as intersection delay/LOS. Side-street stop-controlled intersections (SSSC) is reported as the worst movement's delay/LOS.

Roundabouts (RAB) report overall delay/LOS

Roadway Capacity

Roadway LOS analysis was completed for Projects 16 through 24. **Table 9** presents a summary of the roadway LOS.

Project 16 evaluated Del Monte (2nd Ave) between Reindollar Avenue and Imjin Parkway. This road segment is a future project, and therefore does not have an existing or future no project LOS. Under future with project conditions, the roadway is estimated to have an LOS of A.

Project 17 evaluated 8th Street between 3rd Avenue and Inter-Garrison Road. It is estimated that future development will deteriorate the existing LOS from A to B. Under With Improvement Future conditions, project 17 will improve roadway operations to LOS A.

Project 18 evaluated Salinas Avenue between Reservation Road and Carmel Avenue. This roadway operates at LOS A for Existing, Future, and Future with Improvement conditions.

Project 19 evaluated SR1 Interchange at Imjin Parkway. It is estimated that future development will deteriorate the existing LOS from A to F. Under With Improvement Future conditions, project 19 will improve roadway operations to LOS A.

Project 20 evaluated Del Monte Boulevard between Beach Road to Marina Greens Drive. It is estimated that future development will deteriorate the existing LOS from A to D. Under With Improvement Future conditions, project 20 will improve roadway operations to LOS A.

Project 21 is not considered eligible for the TIF program due to low priority and is not evaluated for the LOS analysis.

Project 22 evaluated Reservation Road between Beach Road to SR1. It is estimated that future development will deteriorate the existing LOS from A to D. Under With Improvement Future conditions, project 22 will improve roadway operations to LOS A.

Project 23 evaluated Reservation Road between Imjin Road to Blanco Road. It is estimated that future development will deteriorate the existing LOS from A to F. Under With Improvement Future conditions, project 23 will improve roadway operations to LOS C.

Project 24 evaluated new Airport Access Road from University Drive between Research Drive and Ramco access roadway. It is estimated that future development will increase the demand near the airport. Under With Improvement Future conditions, project 24 will have roadway operations at LOS A.

Table 9 – Roadway Capacity Level of Service Summary

Project #	Facility Type (# Lanes)		LOS		
	Existing	Project Improvements	Existing	Future No Project	Future With Project
16. Del Monte (2 nd Ave) between Reindollar Ave. & Imjin Pkwy.	-	Collector (2)	-	-	A
17. 8th St. between 3rd Ave. & Inter-Garrison Rd.	Collector (2)	Arterial (4)	A	B	A
18. Salinas Ave. between Reservation Rd. & Carmel Ave	Collector (2)	Arterial (2)	A	A	A
19. SR 1 Interchange at Imjin Pkwy.	Collector (2)	Arterial (8)	A	F	A
20. Del Monte Blvd. between Beach Rd. to Marina Greens Dr.	Expressway (4)	Expressway (4)	A	D	A
21. SR 1 Interchange at Del Monte Blvd.	Arterial (2)	Arterial (4)	-	-	-
22. Reservation Rd. between Beach Rd. to SR 1	Collector (2)	Collector (2)	A	D	A
23. Reservation Rd. between Imjin Rd. to Blanco Rd.	Arterial (4)	Expressway (6)	A	F	C
24. New Airport Access Road between Research Dr and Ramco facility	-	Collector (2)	-	-	A

Note: Roadways that operate at LOS E or F are **Bold**.

Roadway Pedestrian and Bicycle

Roadway pedestrian and bicycle improvement analysis was conducted for Projects 25 and 26. The pedestrian level of comfort (LOC) and bicycle level of street (LTS) is summarized in **Table 10** and Table 11, respectively.

Project 25 evaluated Reservation Road corridor between Del Monte Boulevard and California Avenue. Project 25 will improve the LOC from 2 to 1 and LTS from 2 to 1 at majority of the corridor segments.

Project 26 evaluated Del Monte Boulevard between Reindollar Avenue and Reservation Road. Project 26 will improve the LOC from 2 to 1 and LTS from 2 to 1 at majority of the corridor segments.

Table 10 – Pedestrian Level of Comfort Summary

Project #	Without Project				With Project			
	Min. Pathway Width (ft)	DPL, SBL or 2SBL?	Min. Pathway Buffer (ft)	LOC	Min. Pathway Width (ft)	DPL, SBL or 2SBL?	Min. Pathway Buffer (ft)	LOC
25. Reservation Road Corridor								
Eastbound								
Del Monte Bl to Vista Del Camino Cir	8	SBL	6	2	8	SBL	≥8	1
Vista Del Camino Cir to Crescent Av	10	DPL & SBL	13	1	10	DPL & SBL	≥8	1
Crescent Av to California St	10	DPL & SBL	17	1	10	DPL & SBL	≥8	1
Westbound								
Del Monte Bl to Vista Del Camino Cir	8	DPL & SBL	13	1	8	SBL	≥8	1
Vista Del Camino Cir to Crescent Av	8	EBL	12	1	8	SBL	≥8	1
Crescent Av to California St	10	DPL & SBL	13	1	10	DPL & SBL	≥8	1
26. Del Monte Boulevard Corridor								
Northbound								
Reindollar Av to Palm Av	9	No DPL or SBL	8	2	9	SBL	≥8	1
Palm Av to Reservation Rd	9	No DPL or SBL	9	2	9	SBL	≥8	1
Southbound								
Reindollar Av to Palm Av	7	No DPL or SBL	6	3	7	SBL	≥8	1
Palm Av to Reservation Rd	7	No DPL or SBL	8	2	7	SBL	≥8	1

Note: LOC=Level of Comfort, DPL=Dedicated Parking Lane, SBL=Separated Bike Lane, 2SBL=Two-way Separated Bike Lane.

Table 11 – Bicycle Level of Stress Summary

Project #	Without Project		With Project	
	# through Lanes	LTS	# through Lanes	LTS
25. Reservation Road Corridor				
Eastbound				
Del Monte Bl to Vista Del Camino Cir	2	2	2	2
Vista Del Camino Cir to Crescent Av	2	2	1	2
Crescent Av to California St	2	2	1	2
Westbound				
Del Monte Bl to Vista Del Camino Cir	2	2	2	1
Vista Del Camino Cir to Crescent Av	2	2	1	1
Crescent Av to California St	2	2	1	1
26. Del Monte Boulevard Corridor				
Northbound				
Reindollar Av to Palm Av	2	2	2	2
Palm Av to Reservation Rd	2	2	1	2
Southbound				
Reindollar Av to Palm Av	2	2	2	1
Palm Av to Reservation Rd	2	2	1	1

Note: Assumed Separated bike lane with buffer & many driveways as project improvements.

Housing Analysis

As mentioned previously, AB 602 requires that studies either calculate a fee levied or imposed on housing development projects proportionately to the square footage of the proposed units or make specified findings explaining why square footage is not an appropriate metric to calculate the fees. Simply, development impact fees must be charged on a per square feet basis or provide findings that support per unit fees. In order to guide future analysis requirements and help inform the City of Marina as to how AB 602 may impact the TIF program in regard to the housing fee stratification requirement, an analysis was conducted to evaluate housing fees by housing size.

The analysis relied on cross-tabulation of the following three data sources:

- The average number vehicle trips generated by household size (i.e., number of persons in the household) derived from a Big Data platform (Replica) for a typical weekday (Thursday) in the Spring of 2023 which was the latest available data during this analysis

- The number of single-family housing units in categories of persons per household and square footage of units estimated from the 2021 US Census' American Housing Survey (AHS)
- Building permits by square footage for single family units constructed within the City of Marina and the surrounding areas between 2020 and 2023

The trip generation information was combined with the number of single-family detached units in cross-tabulated categories of persons per household and total household square footage. This resulted in estimates of vehicle trip rates and equivalent dwelling units (EDUs) for each square footage category established as a part of this analysis. This data was combined with the square footage data for single-family housing units built in the City between 2020 and 2023. The housing size data was provided by the City and verified using real estate sales data available online on Zillow. The resultant dataset was used as the basis for evaluating whether future Nexus Study updates should consider square footage in the development of the fee schedule. The major analysis processes are discussed in detail in the following sections.

Replica Data

Replica is a big data platform that provides demographic and travel data based on multiple data collection sources such as mobile location data, merchant transaction data, census data, land use data, and observed “ground-truth” mobility data. Data from Replica’s Spring 2023 typical Thursday dataset for the City of Marina was used to estimate the number of vehicle trips by persons per household. **Table 12** summarizes the trip generation rates for each household category.

Table 12 – City of Marina Trip Generation Data – Replica 2023

Persons per Household	Households	Trips	Daily Home-Based Vehicle Trips
1	6,020	14,886	2.47
2	11,538	42,516	3.68
3	9,142	45,600	4.99
4	9,114	45,436	4.99
5	4,888	24,500	5.01
6	3,599	23,807	6.41
7+	3,589	25,369	7.07
Total	47,890	221,394	
Average			4.62

Source: Replica Spring 2023 Thursday Dataset.

American Housing Survey

The American Housing Survey (AHS), which is conducted by the Bureau of the Census for the U.S. Department of Housing and Urban Development (HUD), collects data on the nation's housing, including data on household characteristics and demographics.

The AHS data is collected in odd numbered years only. The most recent available survey data from 2021 was used. The AHS was designed to include two samples, the National sample, and the independent

Metropolitan sample. The metropolitan areas that are surveyed and the size of the surveys have been reduced over recent years. While these measures have reduced costs, they also limit the localized data available.

As the AB 602 analysis requires trip generation to be defined by square footage, housing units were cross tabulated by three variables: structure type, square footage, and total persons in the household. This cross-tabulation requires an adequate sample size for each category. The closest available metropolitan area for the City of Marina region was the City of San Jose. However, the San Jose metropolitan area sample size limits its ability to provide information for all square-footage categories and may not be representative of housing in the City of Marina. In addition, the tools available from the Census Bureau to create cross-tabulations from the AHS for the purposes of this analysis indicate that the only sample that can provide a statistically relevant sample for the three required variables is the full national sample. Thus, it was decided that the national sample from the 2021 AHS should be used to define the number of single-family housing units by persons per household and by the square footage of the housing unit. This data is summarized in **Table 13**.

Table 13 – No. of Single-Family Unit Detached Structures by AHS Square Foot Category

Persons per Household	Total Units	<500 s.f.	500 to 749 s.f.	750 to 999 s.f.	1,000 to 1,499 s.f.	1,500 to 1,999 s.f.	2,000 to 2,499 s.f.	2,500 to 2,999 s.f.	3,000 to 3,999 s.f.	>4,000 s.f.	Size Unknown
1	16,679	218	409	1,371	4,854	4,017	2,201	1,010	730	325	1,543
2	29,676	123	321	1,435	6,315	7,451	5,237	3,156	2,838	1,320	1,478
3	13,396	0	99	623	2,825	3,241	2,683	1,229	1,254	477	941
4	12,496	0	116	360	2,182	2,906	2,260	1,553	1,565	862	650
5	5,872	0	38	186	957	1,314	1,122	639	832	406	362
6	2,317	0	0	75	436	445	423	257	288	185	182
7+	1,308	0	0	45	234	270	215	122	141	120	131
Average per Household	2.67	1.36	2.04	2.26	2.46	2.62	2.79	2.86	3.05	3.20	2.60

Trip Generation by Categories of Square Footage

The number of trips by household size and persons per household, as well as the estimation of the average trip generation rate for each of the AHS square footage categories, are summarized in **Table 14**. The trip generation rates were estimated using the following steps:

- Multiply the trip generation rate for a category of “persons per household” estimated from Replica’s trip generation data (see **Table 12**) by the number of single-family units in each AHS square footage category for that same number of persons per household (see **Table 13**)
- Sum the number of trips generated by all households in an AHS square footage category and divide by the total number of households in that square footage category.

The differences in trip rates for each household categories shown in **Table 14**, along with data on recent housing square footages built in the City’s surrounding region, were used to establish the EDU for each AHS square footage category.

Table 14 – Daily Vehicle Trips for All Households in Each AHS Square Foot Category

Persons per Household	Total Trips	<500 s.f.	500 to 749 s.f.	750 to 999 s.f.	1,000 to 1,499 s.f.	1,500 to 1,999 s.f.	2,000 to 2,499 s.f.	2,500 to 2,999 s.f.	3,000 to 3,999 s.f.	>4,000 s.f.	Size Unknown
1	30,436	398	746	2,502	8,858	7,330	4,016	1,843	1,332	593	2,816
2	68,631	284	742	3,319	14,605	17,232	12,112	7,299	6,563	3,053	3,418
3	37,258	0	275	1,733	7,857	9,014	7,462	3,418	3,488	1,327	2,617
4	32,401	0	301	933	5,658	7,535	5,860	4,027	4,058	2,235	1,685
5	14,585	0	94	462	2,377	3,264	2,787	1,587	2,066	1,008	899
6	6,535	0	0	212	1,230	1,255	1,193	725	812	522	513
7+	3,565	0	0	123	638	736	586	332	384	327	357
Average per Household	2.37	2.00	2.20	2.27	2.32	2.36	2.41	2.41	2.45	2.45	2.33

Recent Housing Built in Surrounding Region

Table 15 groups available data for 112 “non-age-restricted” single-family dwelling units built in the City of Marina between 2020 and 2023 by their square footage. The data indicates that the average size of the single-family dwelling units built in that three-year period was 2,373 square feet. Based on the analysis completed, an EDU of 1.0 was established for the “middle grouping” of single-family units between 2,000 and 2,499 square feet in size (the group in which the cumulative percentage reaches 50-percent). Setting the 1.0 EDU at this group means that housing units smaller than 2,000 square-feet were given an EDU less than 1.0 and dwelling units that are larger than 2,499 square-feet were given an EDU greater than 1.0.

Table 15 – Single-Family Units Built in City of Marina’s Surrounding Region

Square Feet	Units	Percent
Less than 1,000 SF	0	0%
1,000 – 1,499 SF	5	4%
1,500 – 1,999 SF	3	32%
2,000 – 2,499 SF	28	25%
2,500 – 2,999 SF	22	20%
3,000 – 3,999 SF	21	19%
More than 4,000 SF	0	0%
Total	112	100%
Average Square Footage of Single-Family Units		2,373 SF

Analysis Results

Table 16 summarizes the estimated EDUs for the five recommended single-family dwelling units grouped by their square footage. Note that **Table 16** contains fewer groups than **Table 15** as the trip generation for dwelling units smaller than 1500 square-feet have similar trip generation characteristics resulting in the same EDU value. Similarly, dwelling units larger than 3000 square-feet were also grouped together because of similar EDU values.

The EDU values summarized in **Table 16** were calculated by dividing the average number of trips per household for each group by the average trips per household for the middle (2,000 to 2,499 square feet) group. **Table 16** also summarizes the calculated weighted average EDU for each of the AHS square footage categories, which is estimated by multiplying the EDU for each category by the percentage of households in that category (from the 2020 – 2023 available housing data). This calculation shows that the weighted average EDU for “non-age restricted” single-family dwelling units is 1.00. Based on the analysis completed, there is evidence that daily trips are correlated to the square footage of existing residences within the City of Marina and a stratified fee structure based on square footage can be established as part of the AB 602 compliant Nexus Fee Study.

Table 16 – Estimated EDUs for Single-Family Units by Square Foot Groupings

Recommended Square Footage Categories	Average Trip per Household	EDU ¹	Weighted Average EDU
Less than 1,500 SF		0.94	0.042
1,500 – 1,999 SF		0.99	0.317
2,000 – 2,499 SF		1.00	0.250
2,500 – 2,999 SF		1.01	0.199
More than 3,000 SF		1.02	0.192
Weighted Average of All Groups			1.000

¹ Equals avg. trips per household for each grouping divided by the avg. trips per household for the prominent group (2.41).

Alternatively, the City has established a per-square-foot fee structure using the average household size observed in recent residential developments. Note that for multifamily and other residential units, the fee structure remains on a per-unit basis due to the presence of shared common spaces, which makes it difficult to determine the accurate square footage of individual units.

Nexus Allocation and Fee Calculations

Determining Nexus is a two-step process which establishes the relationship between future needed improvements to the transportation network and future development within the same geography. First the allocation to users must be determined and second the fee based on user type is calculated. These steps identify the highest allowable fee that can be tied to the effects of development with the City.

Allocation to Users

Having previously identified the improvements needed to the transportation network, the cost of those improvements can be proportionally allocated to the users of these facilities. The AMBAG TDM and the citywide growth projections were used in determining the share of project costs that can actually be attributed to growth within the City.

The AMBAG TDM was used to identify traffic patterns within Marina and the surrounding region under both existing baseline conditions and future horizon year conditions. The traffic volume on each link of the model was captured and links associated with TIF projects were identified for further analysis. These two scenario comparisons on TIF Project links in the model allow for isolation of the anticipated growth on each link and the proportion of growth on those links relative to the overall traffic on that link was calculated.

Growth in the model encompasses trips that originate both within the City of Marina and the surrounding County. Therefore, the portion of growth attributable to local trips within the City was also isolated for each project. Local trips are those trips that have either an origin or destination (or both) within the City of Marina. Non-local trips, those trips that are just passing-through, were excluded from the fee calculations. This was done by proportionally reducing the eligible cost for inclusion in the TIF program of each TIF project to the share of trips anticipated to use the projects that are local trips. The results of this reduction in eligible cost associated with the local trips analysis is shown in **Table 17**.

The scope of this analysis is limited to applications within the fee calculation for the Marina TIF and should not be extrapolated to represent the sizing, scope, or policy related to future transportation projects. The size and scope of TIF project is established through nexus and then subsequent allocatable fees are calculated.

Table 17 – Project Costs Eligible for TIF

ID	Project	Total Cost Estimate	% of New Local Trips	Cost Eligible for TIF
1	2nd Avenue & Inter-Garrison Road	\$875,200	100%	\$875,200
2	Imjin Road & 8 th Street	\$1,800,000	30%	\$548,600
3	California Drive & 8 th Street	\$1,750,300	93%	\$1,635,300
4	Reservation Road & Salinas Avenue	\$2,438,600	100%	\$2,438,600
5	Imjin Parkway bridge @ SR 1	\$41,400	27%	\$11,100
6	SR 1 Southbound off-ramp @ Imjin Parkway	\$3,182,400	27%	\$851,700
7	SR 1 Southbound on-ramp @ Imjin Parkway	\$795,600	27%	\$213,000
8	Del Monte Boulevard & Beach Road	-	-	-
9	Imjin Parkway & 2 nd Avenue	\$6,583,200	42%	\$2,779,400
10	Reservation Road & Del Monte Boulevard	\$2,800,000	100%	\$2,800,000
11	California Avenue & Marina Heights Drive	\$1,384,400	100%	\$1,384,400
12	SR1 Southbound Ramp @ Reservation Rd	\$4,000,000	17%	\$684,000
13	SR1 Northbound Ramp @ Reservation Road	\$4,000,000	96%	\$3,822,100
14	Cardoza Avenue & Reservation Road	\$3,500,000	95%	\$3,338,200
15	Del Monte Boulevard & Patton Parkway	\$6,000,000	100%	\$6,000,000
Total Cost for Intersection Projects		\$39,151,100	70%	\$27,381,600
16	Del Monte Boulevard Extension	\$17,000,000	100%	\$17,000,000
17	8 th Street from California Ave to Inter-Garrison Rd	\$9,449,700	53%	\$5,003,300
18	Salinas Ave - Reservation Road to Carmel Ave	\$3,450,000	100%	\$3,450,000
19	Imjin Parkway & SR1 Interchange	\$24,385,300	32%	\$7,734,500
20	Del Monte Blvd - Beach Road to Marina Greens Dr	\$13,411,900	100%	\$13,388,100
21	Del Monte Boulevard & SR 1 Interchange	-	-	-
22	Reservation Road – Beach Road to SR 1	\$6,099,250	96%	\$5,829,100
23	Reservation Road - Imjin Road to Blanco Road	\$13,036,400	47%	\$6,071,100
24	Airport Access Road	\$6,190,000	100%	\$6,190,000
25	Reservation Rd – Del Monte Blvd to California St	\$31,174,100	30%	\$9,352,300
26	Del Monte Blvd – Reindollar Ave to Reservation Rd	\$16,258,700	30%	\$4,877,700
Total Cost for Roadway Projects		\$140,455,350	56%	\$78,896,100
Total Cost for Transportation Projects:		\$179,606,450	59%	\$106,277,700

Fee Calculations

The actual fee per trip were calculated by dividing the total eligible cost for all TIF projects by the total estimated growth in Daily trips on the roadway network at buildout of the City's General Plan and Housing Element Update. These calculations also introduce a three percent (3.0%) administration charge for the fee program. **Table 18** shows this calculation results in a base fee per trip of \$580.91 and \$2,136.56 for intersection and roadway projects, respectively. **Table 19** then uses the adjusted daily trip demand factor to apply this fee across each land use type.

Table 18 – Calculation of Fee per Adjusted Daily Trip

Calculation	Intersections	Roadways	Total
Cost Eligible for TIF	\$27,381,600	\$78,896,100	\$106,277,700
Administrative Fee (3% of total costs)	\$821,448	\$2,366,883	\$3,188,331
Total Impact Fee Revenue Allocated ¹	-\$879,922	-\$4,239,501	-\$5,119,423
Subtotal Impact Fee Program Funding after Contribution from Impact Fee	\$27,323,126	\$77,023,482	\$104,346,608
Growth in Adjusted Daily Trips	46,851	46,851	46,851
Fee per Trip	\$583.19	\$1,644.00	\$2,227.19

¹ Total revenue allocation includes fairshare of fee collected as part of the TIF as of June 30, 2024 for development projects.

Table 19 – Fee per Land Use Category

Land Use Category	Unit	Adjusted Daily Trip Demand Factor	Fee per Unit Intersections	Fee per Unit Roadways	Total Fee per Unit
Residential					
Single Family Detached	KSF	9.15	\$2,134	\$6,015	\$8,149
Single Family Attached(Town Homes)	KSF	6.98	\$1,629	\$4,593	\$6,222
Senior Homes	DU	4.18	\$2,438	\$6,873	\$9,311
Assisted Living – Senior	DU	2.52	\$1,471	\$4,146	\$5,617
Multifamily	DU	6.54	\$3,813	\$10,748	\$14,561
Nonresidential					
Office/Research	KSF	10.41	\$6,069	\$17,108	\$23,177
Retail/Service	KSF	16.61	\$9,688	\$27,309	\$36,997
Industrial	KSF	4.77	\$2,783	\$7,846	\$10,629
Hotel	ROOM	7.67	\$4,473	\$12,610	\$17,083
Church	KSF	6.92	\$4,033	\$11,370	\$15,403
Day Care Center	KSF	40.95	\$23,883	\$67,327	\$91,211
Animal Hospital/Clinic	KSF	21.07	\$12,288	\$34,639	\$46,927
Medical/Dental Office	KSF	35.28	\$20,575	\$58,000	\$78,575

The fees presented here represent the maximum eligible fees attributable to new growth and development within the City of Marina and also serves as a ceiling to the fee schedule eventually adopted by the City Council. As mentioned earlier, as part of the AB 602 compliant Nexus Fee Study the City has established a per-square-foot fee structure using the average household size observed in recent residential developments. Note that for multifamily and other residential units, the fee structure remains on a per-unit basis due to the presence of shared common spaces, which makes it difficult to determine the accurate square footage of individual units.

Table 20 shows the fees for the single-family residential units based on a per-unit fee structure, for the purposes of comparison with the current fees.

Table 20 – Fee for Single Family Residential Land Use by Units

Land Use Category	Unit	Adjusted Daily Trip Demand Factor	Fee per Unit Intersections	Fee per Unit Roadways	Total Fee per Unit
Single Family Detached	DU	9.15	\$5,334	\$15,038	\$20,372
Single Family Attached(Town Homes)	DU	6.98	\$4,073	\$11,482	\$15,555

Fee for Single Family units are shown per Unit basis for a typical home size in Marina with an average size of 2,500 sq.ft.

Required Program Elements

This report has provided a detailed discussion of the elements of the Marina Transportation Impact Fee program and explained the analytical techniques used to develop this nexus study. The report addresses the fee program elements required by Government Code 66000-66025, as summarized below.

1. *Identifying the purpose of the fee*
 - The purpose of the Marina Transportation Impact Fee (TIF) program is to provide funding for public infrastructure improvements that are needed to mitigate the transportation-related impacts of new development in Marina.
2. *Identifying how the fee will be used and the facilities to be funded through the fee*
 - The fee is used to help fund capital improvement projects that will accommodate future transportation needs throughout the City of Marina. **Table 1** identifies the projects to be funded through the TIF fee.
3. *Determining a reasonable relationship between the fee's use and the type of development on which the fee is imposed*
 - As described in this report, different types of development generate traffic with different characteristics. The calculations presented in **Table 5** account for these characteristics by calculating the travel-related characteristics of different land use types. These considerations account for the difference in impacts on the local transportation system generated by different land use types.
4. *Determining a reasonable relationship between the need for the roadway and intersection improvements and the type of development on which the fee is imposed*
 - The need for the facilities listed in **Table 1** has been established through local planning processes prepared by the City of Marina and building upon the adopted General Plan and Housing Element Update.
5. *Determining a reasonable relationship between the amount of the fee and the cost of the public facility (or portion of facility) attributable to new development*
 - Fee Calculation Section of this report describes the calculations completed to determine the cost of the roadway and intersection projects that is attributable to new development in the TIF area. A reasonable effort has been made to quantitatively establish the relationship between the fees charged in the TIF program and the costs of improvements attributable to new development within the City of Marina.

Appendices

Appendix A: Level of Service Analysis Outputs

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	11	128	20	106	695
Future Vol, veh/h	3	11	128	20	106	695
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	12	138	22	114	747
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.1	9	40.3
HCM LOS	A	A	E

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	20	3	11	106	695
LT Vol	0	0	3	0	106	0
Through Vol	128	0	0	0	0	695
RT Vol	0	20	0	11	0	0
Lane Flow Rate	138	22	3	12	114	747
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.202	0.027	0.007	0.02	0.163	0.963
Departure Headway (Hd)	5.29	4.585	7.28	6.066	5.139	4.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	681	784	494	592	692	777
Service Time	2.997	2.293	4.994	3.779	2.916	2.415
HCM Lane V/C Ratio	0.203	0.028	0.006	0.02	0.165	0.961
HCM Control Delay	9.3	7.4	10	8.9	8.9	45.1
HCM Lane LOS	A	A	A	A	A	E
HCM 95th-tile Q	0.8	0.1	0	0.1	0.6	14.9

Intersection

Intersection Delay, s/veh41.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	6	0	7	4	42	0	5	21	597	5	2
Future Vol, veh/h	11	6	0	7	4	42	0	5	21	597	5	2
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	6	0	8	4	45	0	5	23	642	5	2
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	9.7	9.2	8.3	46.2
HCM LOS	A	A	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	99%	0%
Vol Thru, %	19%	0%	100%	0%	9%	1%	0%
Vol Right, %	81%	0%	0%	0%	91%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	11	6	7	46	602	2
LT Vol	0	11	0	7	0	597	0
Through Vol	5	0	6	0	4	5	0
RT Vol	21	0	0	0	42	0	2
Lane Flow Rate	28	12	6	8	49	647	2
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.039	0.023	0.012	0.015	0.08	0.953	0.002
Departure Headway (Hd)	5.079	7.017	6.509	6.951	5.794	5.3	4.103
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	701	508	548	514	616	686	877
Service Time	3.136	4.783	4.274	4.706	3.548	3	1.803
HCM Lane V/C Ratio	0.04	0.024	0.011	0.016	0.08	0.943	0.002
HCM Control Delay	8.3	9.9	9.4	9.8	9.1	46.3	6.8
HCM Lane LOS	A	A	A	A	A	E	A
HCM 95th-tile Q	0.1	0.1	0	0	0.3	13.7	0

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱		↱		↱
Traffic Vol, veh/h	0	0	0	3	1	14	0	2	6	14	0	0
Future Vol, veh/h	0	0	0	3	1	14	0	2	6	14	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	1	18	0	3	8	18	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1	0	0	19	28	1
Stage 1	-	-	-	-	-	-	1	1	-
Stage 2	-	-	-	-	-	-	18	27	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1622	-	-	998	865	1084
Stage 1	0	-	-	-	-	-	1022	895	-
Stage 2	0	-	-	-	-	-	1005	873	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1622	-	-	996	0	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	996	0	-
Stage 1	-	-	-	-	-	-	1022	0	-
Stage 2	-	-	-	-	-	-	1003	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	1084	-	-	1622	-	-
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-
HCM Control Delay (s)	8.4	-	-	7.2	0	-
HCM Lane LOS	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

5: California Dr/California Ave & Imjin Pkwy

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	732	0	2	872	25	0	0	0	165	0	470
Future Volume (veh/h)	135	732	0	2	872	25	0	0	0	165	0	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	144	779	0	2	928	27	0	0	0	176	0	500
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1439	0	6	1094	32	0	892	0	224	10	544
Arrive On Green	0.10	0.40	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.48	0.00	0.48
Sat Flow, veh/h	1781	3647	0	1781	3526	103	0	1870	0	379	22	1139
Grp Volume(v), veh/h	144	779	0	2	468	487	0	0	0	676	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1852	0	1870	0	1541	0	0
Q Serve(g_s), s	8.3	17.5	0.0	0.1	25.8	25.8	0.0	0.0	0.0	40.2	0.0	0.0
Cycle Q Clear(g_c), s	8.3	17.5	0.0	0.1	25.8	25.8	0.0	0.0	0.0	42.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.06	0.00		0.00	0.26		0.74
Lane Grp Cap(c), veh/h	175	1439	0	6	551	574	0	892	0	778	0	0
V/C Ratio(X)	0.82	0.54	0.00	0.35	0.85	0.85	0.00	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	238	1596	0	102	662	690	0	1162	0	1000	0	0
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	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.3	23.7	0.0	52.0	33.8	33.8	0.0	0.0	0.0	25.4	0.0	0.0
Incr Delay (d2), s/veh	15.4	0.3	0.0	32.2	8.7	8.4	0.0	0.0	0.0	6.7	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	7.2	0.0	0.1	12.2	12.7	0.0	0.0	0.0	16.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	24.0	0.0	84.3	42.5	42.2	0.0	0.0	0.0	32.1	0.0	0.0
LnGrp LOS	E	C	A	F	D	D	A	A	A	C	A	A
Approach Vol, veh/h		923			957			0			676	
Approach Delay, s/veh		29.9			42.5			0.0			32.1	
Approach LOS		C			D						C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.9	4.3	46.4		53.9	14.3	36.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		65.0	6.0	47.0		65.0	14.0	39.0				
Max Q Clear Time (g_c+l1), s		0.0	2.1	19.5		44.7	10.3	27.8				
Green Ext Time (p_c), s		0.0	0.0	6.0		5.2	0.1	4.7				
Intersection Summary												
HCM 6th Ctrl Delay			35.2									
HCM 6th LOS			D									

Intersection

Intersection Delay, s/veh25.4

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	25	138	158	54	27	49	178	33	11	375	22
Future Vol, veh/h	31	25	138	158	54	27	49	178	33	11	375	22
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	29	160	184	63	31	57	207	38	13	436	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.6	19.3	19.3	37.6
HCM LOS	C	C	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	16%	66%	3%
Vol Thru, %	68%	13%	23%	92%
Vol Right, %	13%	71%	11%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	194	239	408
LT Vol	49	31	158	11
Through Vol	178	25	54	375
RT Vol	33	138	27	22
Lane Flow Rate	302	226	278	474
Geometry Grp	1	1	1	1
Degree of Util (X)	0.582	0.441	0.562	0.86
Departure Headway (Hd)	6.927	7.034	7.278	6.528
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	520	510	495	555
Service Time	4.987	5.099	5.338	4.58
HCM Lane V/C Ratio	0.581	0.443	0.562	0.854
HCM Control Delay	19.3	15.6	19.3	37.6
HCM Lane LOS	C	C	C	E
HCM 95th-tile Q	3.7	2.2	3.4	9.3

Marina DIF - 2023 Update
9: 2nd Ave & Imjin Pkwy

Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	871	498	392	761	0	120	0	102	0	0	0
Future Volume (veh/h)	0	871	498	392	761	0	120	0	102	0	0	0
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
Work Zone On Approach	No				No		No				No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	907	519	408	793	0	125	0	106	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1701	758	588	2563	0	320	251	211	3	6	0
Arrive On Green	0.00	0.48	0.48	0.17	0.72	0.00	0.09	0.00	0.13	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1583	3456	3647	0	3456	1870	1574	1781	3647	0
Grp Volume(v), veh/h	0	907	519	408	793	0	125	0	106	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1583	1728	1777	0	1728	1870	1574	1781	1777	0
Q Serve(g_s), s	0.0	9.9	14.1	6.1	4.4	0.0	1.9	0.0	3.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.9	14.1	6.1	4.4	0.0	1.9	0.0	3.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1701	758	588	2563	0	320	251	211	3	6	0
V/C Ratio(X)	0.00	0.53	0.69	0.69	0.31	0.00	0.39	0.00	0.50	0.00	0.00	0.00
Avail Cap(c_a), veh/h	193	2827	1259	1437	3919	0	562	1387	1167	193	2442	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.1	11.2	21.6	2.8	0.0	23.6	0.0	22.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.1	1.5	0.1	0.0	0.8	0.0	1.8	0.0	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	0.0	3.2	4.2	2.4	0.7	0.0	0.7	0.0	1.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.4	12.3	23.1	2.8	0.0	24.4	0.0	24.1	0.0	0.0	0.0
LnGrp LOS	A	B	B	C	A	A	C	A	C	A	A	A
Approach Vol, veh/h	1426				1201		231				0	
Approach Delay, s/veh	11.1				9.7		24.2				0.0	
Approach LOS	B				A		C					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	11.4	13.4	30.5	9.1	2.3	0.0	43.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	41.0	23.0	44.0	9.0	38.0	6.0	61.0				
Max Q Clear Time (g_c+I1),s	5.5	5.5	8.1	16.1	3.9	0.0	0.0	6.4				
Green Ext Time (p_c), s	0.0	0.3	1.3	10.1	0.1	0.0	0.0	6.8				
Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

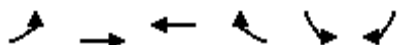
Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	235	123	338	122	162	95	165	229	225	277	4
Future Volume (veh/h)	15	235	123	338	122	162	95	165	229	225	277	4
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		0.98	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	270	141	389	140	186	109	190	263	259	318	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	407	222	679	367	304	155	401	589	407	877	14
Arrive On Green	0.19	0.19	0.19	0.20	0.20	0.20	0.09	0.21	0.21	0.12	0.25	0.25
Sat Flow, veh/h	136	2176	1188	3456	1870	1549	1781	1870	2744	3456	3580	56
Grp Volume(v), veh/h	234	0	194	389	140	186	109	190	263	259	158	165
Grp Sat Flow(s),veh/h/ln	1864	0	1636	1728	1870	1549	1781	1870	1372	1728	1777	1859
Q Serve(g_s), s	6.6	0.0	6.2	5.7	3.7	6.2	3.4	5.0	4.7	4.0	4.1	4.2
Cycle Q Clear(g_c), s	6.6	0.0	6.2	5.7	3.7	6.2	3.4	5.0	4.7	4.0	4.1	4.2
Prop In Lane	0.07		0.73	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	349	0	306	679	367	304	155	401	589	407	435	456
V/C Ratio(X)	0.67	0.00	0.63	0.57	0.38	0.61	0.70	0.47	0.45	0.64	0.36	0.36
Avail Cap(c_a), veh/h	662	0	581	1841	997	825	949	997	1462	1227	1262	1321
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	21.3	0.0	21.1	20.5	19.6	20.7	25.0	19.3	19.2	23.7	17.6	17.6
Incr Delay (d2), s/veh	2.2	0.0	2.2	0.8	0.6	2.0	5.7	0.9	0.5	1.7	0.5	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	2.8	0.0	2.3	2.2	1.5	2.2	1.5	2.0	1.4	1.6	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	23.3	21.2	20.3	22.6	30.6	20.2	19.7	25.4	18.1	18.1
LnGrp LOS	C	A	C	C	C	C	C	C	B	C	B	B
Approach Vol, veh/h	428					715		562		582		
Approach Delay, s/veh	23.4					21.4		22.0		21.3		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.6	16.1	14.5		8.9	17.8	15.1					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	20.0	30.0	20.0		30.0	40.0	30.0					
Max Q Clear Time (g_c+I), s	10.0	7.0	8.6		5.4	6.2	8.2					
Green Ext Time (p_c), s	0.7	2.1	2.0		0.3	1.9	2.9					
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									
Notes												

Marina DIF - 2023 Update
11: Reservation Rd & Blanco Rd

Existing 2023 Conditions
AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	865	248	566	42	30	1327
Future Volume (veh/h)	865	248	566	42	30	1327
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	940	270	615	46	33	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1156	2806	739	626	311	
Arrive On Green	0.33	0.79	0.39	0.39	0.09	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	940	270	615	46	33	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	16.6	1.2	19.7	1.2	0.6	0.0
Cycle Q Clear(g_c), s	16.6	1.2	19.7	1.2	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1156	2806	739	626	311	
V/C Ratio(X)	0.81	0.10	0.83	0.07	0.11	
Avail Cap(c_a), veh/h	1973	4697	1292	1095	1765	
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	0.00
Uniform Delay (d), s/veh	20.2	1.6	18.2	12.5	27.8	0.0
Incr Delay (d2), s/veh	1.4	0.0	2.5	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.1	8.1	0.4	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.7	1.6	20.7	12.6	28.0	0.0
LnGrp LOS	C	A	C	B	C	
Approach Vol, veh/h		1210	661		33	
Approach Delay, s/veh		17.2	20.1		28.0	
Approach LOS		B	C		C	
Timer - Assigned Phs			4	6	7	8
Phs Duration (G+Y+Rc), s			56.6	10.0	26.3	30.3
Change Period (Y+Rc), s			4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s			88.0	34.0	38.0	46.0
Max Q Clear Time (g_c+l1), s			3.2	2.6	18.6	21.7
Green Ext Time (p_c), s			2.0	0.1	3.7	4.6
Intersection Summary						
HCM 6th Ctrl Delay			18.4			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	115	146	17	61	616
Future Vol, veh/h	38	115	146	17	61	616
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	126	160	19	67	677
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	975	163	0	0	181	0
Stage 1	162	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	279	882	-	-	1394	-
Stage 1	867	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	264	879	-	-	1391	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.6	0	0.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 264 879	1391	-		
HCM Lane V/C Ratio	-	- 0.158 0.144	0.048	-		
HCM Control Delay (s)	-	- 21.2 9.8	7.7	-		
HCM Lane LOS	-	- C A	A	-		
HCM 95th %tile Q(veh)	-	- 0.6 0.5	0.2	-		

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	12	16	83	8	19	7	87	15	14	319	0
Future Vol, veh/h	4	12	16	83	8	19	7	87	15	14	319	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	14	19	97	9	22	8	101	17	16	371	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.5	9.6	9.1	13.2
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	12%	75%	100%	0%
Vol Thru, %	0%	85%	38%	7%	0%	100%
Vol Right, %	0%	15%	50%	17%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	102	32	110	14	319
LT Vol	7	0	4	83	14	0
Through Vol	0	87	12	8	0	319
RT Vol	0	15	16	19	0	0
Lane Flow Rate	8	119	37	128	16	371
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.013	0.172	0.053	0.188	0.025	0.524
Departure Headway (Hd)	5.838	5.23	5.133	5.304	5.59	5.087
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	610	682	692	673	638	705
Service Time	3.602	2.993	3.207	3.362	3.34	2.837
HCM Lane V/C Ratio	0.013	0.174	0.053	0.19	0.025	0.526
HCM Control Delay	8.7	9.1	8.5	9.6	8.5	13.4
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0.6	0.2	0.7	0.1	3.1

Marina DIF - 2023 Update
14: SR 1 Southbound Ramp & Reservation Rd

Existing 2023 Conditions
AM Peak

Intersection												
Int Delay, s/veh	47.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱		↱	↱						↲	
Traffic Vol, veh/h	0	36	20	328	33	0	0	0	0	193	40	10
Future Vol, veh/h	0	36	20	328	33	0	0	0	0	193	40	10
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	41	23	377	38	0	0	0	0	222	46	11
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	64	0	0				847	856	38
Stage 1	-	-	-	-	-	-				792	792	-
Stage 2	-	-	-	-	-	-				55	64	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1538	-	0				332	295	1034
Stage 1	0	-	-	-	-	0				446	401	-
Stage 2	0	-	-	-	-	0				968	842	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1538	-	-				251	0	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-				251	0	-
Stage 1	-	-	-	-	-	-				446	0	-
Stage 2	-	-	-	-	-	-				731	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			7.4			117.6					
HCM LOS							F					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1538	-	261							
HCM Lane V/C Ratio	-	-	0.245	-	1.07							
HCM Control Delay (s)	-	-	8.1	-	117.6							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q(veh)	-	-	1	-	11.4							

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Existing 2023 Conditions
AM Peak

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	228	0	0	335	218	11	0	108	0	0	0
Future Vol, veh/h	14	228	0	0	335	218	11	0	108	0	0	0
Conflicting Peds, #/hr	5	0	4	4	0	5	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	245	0	0	360	234	12	0	116	0	0	0

Major/Minor	Major1		Major2			Minor1			
Conflicting Flow All	599	0	-	-	-	0	753	874	245
Stage 1	-	-	-	-	-	-	275	275	-
Stage 2	-	-	-	-	-	-	478	599	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	978	-	0	0	-	-	377	288	794
Stage 1	-	-	0	0	-	-	771	683	-
Stage 2	-	-	0	0	-	-	624	490	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	978	-	-	-	-	-	371	0	794
Mov Cap-2 Maneuver	-	-	-	-	-	-	371	0	-
Stage 1	-	-	-	-	-	-	759	0	-
Stage 2	-	-	-	-	-	-	623	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.5	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	371	794	978	-	-	-
HCM Lane V/C Ratio	0.032	0.146	0.015	-	-	-
HCM Control Delay (s)	15	10.3	8.7	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0.1	0.5	0	-	-	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑			↕			↕	
Traffic Vol, veh/h	1	689	2	7	797	0	1	0	7	0	0	1
Future Vol, veh/h	1	689	2	7	797	0	1	0	7	0	0	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	811	2	8	938	0	1	0	8	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	938	0	0	815	0	0	1300	1769	408	1362	1771	469
Stage 1	-	-	-	-	-	-	815	815	-	954	954	-
Stage 2	-	-	-	-	-	-	485	954	-	408	817	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	726	-	-	808	-	0	119	83	593	107	82	541
Stage 1	-	-	-	-	-	0	338	389	-	278	335	-
Stage 2	-	-	-	-	-	0	532	335	-	591	388	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	726	-	-	806	-	-	117	82	592	104	81	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	117	82	-	104	81	-
Stage 1	-	-	-	-	-	-	336	387	-	277	332	-
Stage 2	-	-	-	-	-	-	526	332	-	581	386	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			14.4			11.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	393	726	-	-	806	-	541					
HCM Lane V/C Ratio	0.024	0.002	-	-	0.01	-	0.002					
HCM Control Delay (s)	14.4	10	-	-	9.5	-	11.7					
HCM Lane LOS	B	A	-	-	A	-	B					
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0					

18: Driveway/Cardoza Ave & Reservation Rd

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	295	3	10	422	24	6	0	20	70	0	124
Future Volume (veh/h)	38	295	3	10	422	24	6	0	20	70	0	124
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	314	3	11	449	26	6	0	21	74	0	132
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	1466	638	31	700	591	162	43	253	510	0	325
Arrive On Green	0.06	0.41	0.41	0.02	0.37	0.37	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	140	210	1225	1385	0	1574
Grp Volume(v), veh/h	40	314	3	11	449	26	27	0	0	74	0	132
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1574	0	0	1385	0	1574
Q Serve(g_s), s	0.7	1.9	0.0	0.2	6.5	0.3	0.0	0.0	0.0	0.9	0.0	2.4
Cycle Q Clear(g_c), s	0.7	1.9	0.0	0.2	6.5	0.3	0.4	0.0	0.0	1.3	0.0	2.4
Prop In Lane	1.00		1.00	1.00		1.00	0.22		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	99	1466	638	31	700	591	459	0	0	510	0	325
V/C Ratio(X)	0.40	0.21	0.00	0.35	0.64	0.04	0.06	0.00	0.00	0.15	0.00	0.41
Avail Cap(c_a), veh/h	701	7530	3277	485	3737	3154	1911	0	0	1858	0	1858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.1	6.3	5.7	16.0	8.5	6.6	10.6	0.0	0.0	10.9	0.0	11.3
Incr Delay (d2), s/veh	2.6	0.1	0.0	6.7	1.0	0.0	0.1	0.0	0.0	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.1	1.9	0.1	0.1	0.0	0.0	0.4	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	6.3	5.7	22.8	9.5	6.6	10.6	0.0	0.0	11.0	0.0	12.2
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		357			486			27			206	
Approach Delay, s/veh		7.6			9.6			10.6			11.8	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.8	4.6	17.6		10.8	5.8	16.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	9.0	70.0		39.0	13.0	66.0				
Max Q Clear Time (g_c+l1), s		2.4	2.2	3.9		4.4	2.7	8.5				
Green Ext Time (p_c), s		0.1	0.0	2.3		1.1	0.0	3.3				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Existing 2023 Conditions
AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	835	0	0	0	437	33
Future Volume (vph)	835	0	0	0	437	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.96
Satd. Flow (prot)	1770					1780
Flt Permitted	0.95					0.96
Satd. Flow (perm)	1770					1780
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	938	0	0	0	491	37
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	938	0	0	0	0	528
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	63.1					37.5
Effective Green, g (s)	63.1					37.5
Actuated g/C Ratio	0.58					0.35
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1028					614
v/s Ratio Prot	c0.53					c0.30
v/s Ratio Perm						
v/c Ratio	0.91					0.86
Uniform Delay, d1	20.3					33.1
Progression Factor	1.00					1.00
Incremental Delay, d2	12.0					11.6
Delay (s)	32.3					44.7
Level of Service	C					D
Approach Delay (s)	32.3		0.0			44.7
Approach LOS	C		A			D
Intersection Summary						
HCM 2000 Control Delay			36.7		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			108.6		Sum of lost time (s)	8.0
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	114	46	157	336	0	0
Future Volume (Veh/h)	114	46	157	336	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	121	49	167	357	0	0
Pedestrians	12			2	7	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			177		856	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			177		856	154
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		100	100
cM capacity (veh/h)			1399		286	890
Direction, Lane #	EB 1	WB 1				
Volume Total	170	524				
Volume Left	0	167				
Volume Right	49	0				
cSH	1700	1399				
Volume to Capacity	0.10	0.12				
Queue Length 95th (ft)	0	10				
Control Delay (s)	0.0	3.3				
Lane LOS		A				
Approach Delay (s)	0.0	3.3				
Approach LOS						
Intersection Summary						
Average Delay		2.5				
Intersection Capacity Utilization		50.3%	ICU Level of Service	A		
Analysis Period (min)		15				

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖↖	↖
Traffic Volume (vph)	649	241	366	781	29	30
Future Volume (vph)	649	241	366	781	29	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.96		1.00	1.00	0.96	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	3396		1770	3539	3342	1441
Flt Permitted	1.00		0.95	1.00	0.97	1.00
Satd. Flow (perm)	3396		1770	3539	3342	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	690	256	389	831	31	32
RTOR Reduction (vph)	26	0	0	0	11	18
Lane Group Flow (vph)	920	0	389	831	32	2
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	29.3		23.0	56.3	6.8	6.8
Effective Green, g (s)	29.3		23.0	56.3	6.8	6.8
Actuated g/C Ratio	0.41		0.32	0.79	0.10	0.10
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1399		572	2802	319	137
v/s Ratio Prot	c0.27		c0.22	0.23		
v/s Ratio Perm					c0.01	0.00
v/c Ratio	0.66		0.68	0.30	0.10	0.01
Uniform Delay, d1	16.9		20.9	2.0	29.4	29.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		3.3	0.1	0.1	0.0
Delay (s)	18.0		24.2	2.1	29.5	29.2
Level of Service	B		C	A	C	C
Approach Delay (s)	18.0			9.1	29.4	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			13.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			71.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 AM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand [Total	Flows HV]	Arrival [Total	Flows HV]	Deg. Satn	Aver. Delay	Level of Service	95% Back [Veh.	Of Queue Dist]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	ft				mph
South: Del Monte Blvd															
3	L2	All MCs	151	2.0	151	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.0
8	T1	All MCs	227	2.0	227	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.6
18	R2	All MCs	62	2.0	62	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.4
Approach			440	2.0	440	2.0	0.403	7.4	LOS A	2.4	60.4	0.49	0.28	0.49	31.4
East: Beach Rd															
1	L2	All MCs	162	2.0	162	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.1
6	T1	All MCs	133	2.0	133	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.7
16	R2	All MCs	66	2.0	66	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.4
Approach			360	2.0	360	2.0	0.417	9.1	LOS A	2.3	59.4	0.64	0.51	0.69	30.4
North: Del Monte Blvd															
7	L2	All MCs	77	2.0	77	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.5
4	T1	All MCs	408	2.0	408	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.9
14	R2	All MCs	67	2.0	67	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.7
Approach			552	2.0	552	2.0	0.654	15.0	LOS B	7.0	177.8	0.81	0.83	1.33	28.8
West: Beach Rd															
5	L2	All MCs	45	2.0	45	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.2
2	T1	All MCs	82	2.0	82	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.7
12	R2	All MCs	127	2.0	127	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.5
Approach			255	2.0	255	2.0	0.374	10.2	LOS B	1.8	47.0	0.69	0.64	0.79	30.5
All Vehicles			1607	2.0	1607	2.0	0.654	10.8	LOS B	7.0	177.8	0.67	0.58	0.87	30.1

SITE LAYOUT

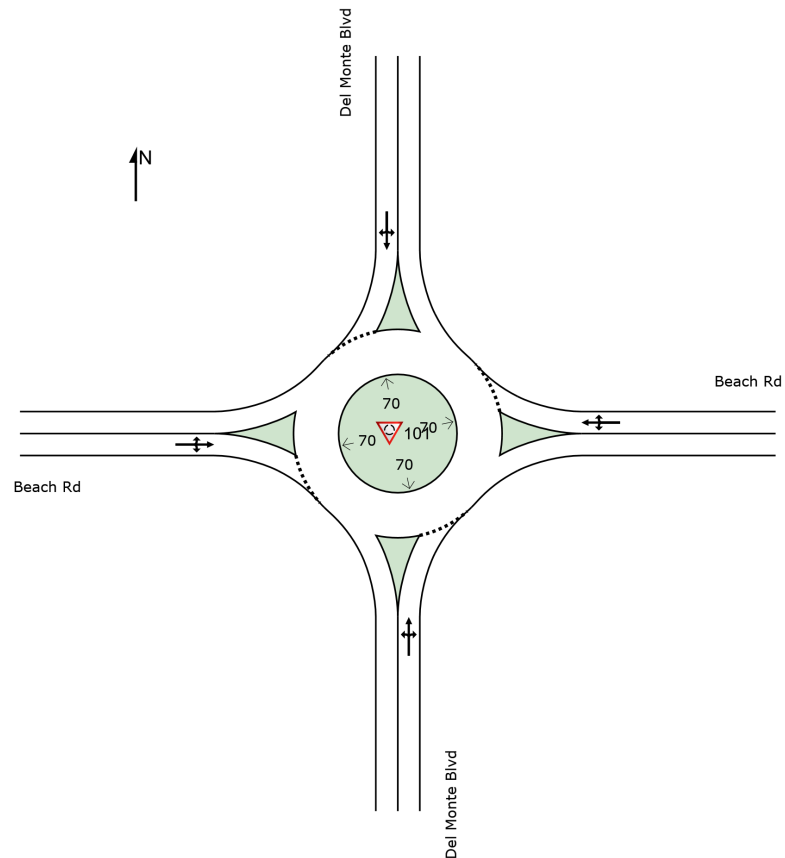
 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 AM)]**

New Site

Site Category: (None)

Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Intersection

Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	66	223	11	52	191
Future Vol, veh/h	19	66	223	11	52	191
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	67	228	11	53	195
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.4	9.9	9.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	11	19	66	52	191
LT Vol	0	0	19	0	52	0
Through Vol	223	0	0	0	0	191
RT Vol	0	11	0	66	0	0
Lane Flow Rate	228	11	19	67	53	195
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.315	0.013	0.033	0.093	0.08	0.268
Departure Headway (Hd)	4.977	4.274	6.196	4.989	5.459	4.956
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	724	837	578	718	657	725
Service Time	2.703	2	3.931	2.723	3.185	2.683
HCM Lane V/C Ratio	0.315	0.013	0.033	0.093	0.081	0.269
HCM Control Delay	10	7.1	9.1	8.2	8.7	9.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	1.3	0	0.1	0.3	0.3	1.1

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	1	28	1	194	0	28	32	106	24	3
Future Vol, veh/h	0	9	1	28	1	194	0	28	32	106	24	3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	1	32	1	223	0	32	37	122	28	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	8.2	8.9	8.6	10
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	100%	0%	82%	0%
Vol Thru, %	47%	100%	90%	0%	1%	18%	0%
Vol Right, %	53%	0%	10%	0%	99%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	0	10	28	195	130	3
LT Vol	0	0	0	28	0	106	0
Through Vol	28	0	9	0	1	24	0
RT Vol	32	0	1	0	194	0	3
Lane Flow Rate	69	0	11	32	224	149	3
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.097	0	0.017	0.051	0.278	0.234	0.004
Departure Headway (Hd)	5.048	5.391	5.321	5.659	4.458	5.632	4.519
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	708	0	672	634	807	637	790
Service Time	3.091	3.133	3.062	3.384	2.182	3.372	2.258
HCM Lane V/C Ratio	0.097	0	0.016	0.05	0.278	0.234	0.004
HCM Control Delay	8.6	8.1	8.2	8.7	8.9	10.1	7.3
HCM Lane LOS	A	N	A	A	A	B	A
HCM 95th-tile Q	0.3	0	0.1	0.2	1.1	0.9	0

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱		↱		↱
Traffic Vol, veh/h	1	0	0	2	0	2	0	1	0	10	1	1
Future Vol, veh/h	1	0	0	2	0	2	0	1	0	10	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	3	0	3	0	1	0	13	1	1

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	3	0	0	0	0	0	11	11	0
Stage 1	-	-	-	-	-	-	2	2	-
Stage 2	-	-	-	-	-	-	9	9	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	-	-	-	1009	884	-
Stage 1	-	-	-	-	-	-	1021	894	-
Stage 2	-	-	-	-	-	-	1014	888	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	-	-	-	1007	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	1007	0	-
Stage 1	-	-	-	-	-	-	1020	0	-
Stage 2	-	-	-	-	-	-	1013	0	-

Approach	EB	WB	NB
HCM Control Delay, s	7.2		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1619	-	-	-	-	-
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-
HCM Control Delay (s)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-

5: California Dr/California Ave & Imjin Pkwy

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	1122	0	1	870	60	0	0	0	27	0	210
Future Volume (veh/h)	289	1122	0	1	870	60	0	0	0	27	0	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	1145	0	1	888	61	0	0	0	28	0	214
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	2072	0	3	1281	88	0	392	0	90	17	293
Arrive On Green	0.21	0.58	0.00	0.00	0.38	0.38	0.00	0.00	0.00	0.21	0.00	0.21
Sat Flow, veh/h	1781	3647	0	1781	3373	232	0	1870	0	103	80	1400
Grp Volume(v), veh/h	295	1145	0	1	468	481	0	0	0	242	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1828	0	1870	0	1583	0	0
Q Serve(g_s), s	9.2	11.6	0.0	0.0	12.9	12.9	0.0	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear(g_c), s	9.2	11.6	0.0	0.0	12.9	12.9	0.0	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.13	0.00		0.00	0.12		0.88
Lane Grp Cap(c), veh/h	365	2072	0	3	675	694	0	392	0	401	0	0
V/C Ratio(X)	0.81	0.55	0.00	0.33	0.69	0.69	0.00	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	1038	4505	0	183	1400	1440	0	1218	0	1090	0	0
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	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.1	7.5	0.0	29.1	15.2	15.2	0.0	0.0	0.0	21.5	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.2	0.0	52.9	1.3	1.3	0.0	0.0	0.0	1.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.3	0.0	0.1	4.8	4.9	0.0	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	7.7	0.0	82.0	16.5	16.5	0.0	0.0	0.0	22.9	0.0	0.0
LnGrp LOS	C	A	A	F	B	B	A	A	A	C	A	A
Approach Vol, veh/h	1440				950				0			
Approach Delay, s/veh	11.5				16.6				0.0			
Approach LOS	B				B				C			
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	16.2			4.1			38.0			16.2		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	38.0			6.0			74.0			38.0		
Max Q Clear Time (g_c+l1), s	0.0			2.0			13.6			10.3		
Green Ext Time (p_c), s	0.0			0.0			11.8			1.6		
Intersection Summary												
HCM 6th Ctrl Delay	14.4											
HCM 6th LOS	B											

Intersection

Intersection Delay, s/veh11.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	43	36	56	19	26	58	185	123	36	164	42
Future Vol, veh/h	32	43	36	56	19	26	58	185	123	36	164	42
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	47	40	62	21	29	64	203	135	40	180	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	10.1	13.4	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	29%	55%	15%
Vol Thru, %	51%	39%	19%	68%
Vol Right, %	34%	32%	26%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	366	111	101	242
LT Vol	58	32	56	36
Through Vol	185	43	19	164
RT Vol	123	36	26	42
Lane Flow Rate	402	122	111	266
Geometry Grp	1	1	1	1
Degree of Util (X)	0.542	0.192	0.178	0.376
Departure Headway (Hd)	4.85	5.661	5.774	5.084
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	633	620	707
Service Time	2.85	3.708	3.823	3.117
HCM Lane V/C Ratio	0.537	0.193	0.179	0.376
HCM Control Delay	13.4	10.1	10.1	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.3	0.7	0.6	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1138	400	240	877	0	418	0	283	0	0	0
Future Volume (veh/h)	0	1138	400	240	877	0	418	0	283	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1185	417	250	914	0	435	0	295	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1697	755	357	2272	0	572	455	384	3	67	0
Arrive On Green	0.00	0.48	0.48	0.10	0.64	0.00	0.17	0.00	0.24	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1582	3456	3647	0	3456	1870	1577	1781	3647	0
Grp Volume(v), veh/h	0	1185	417	250	914	0	435	0	295	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	0	1728	1870	1577	1781	1777	0
Q Serve(g_s), s	0.0	17.8	12.7	4.8	8.5	0.0	8.2	0.0	11.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.8	12.7	4.8	8.5	0.0	8.2	0.0	11.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1697	755	357	2272	0	572	455	384	3	67	0
V/C Ratio(X)	0.00	0.70	0.55	0.70	0.40	0.00	0.76	0.00	0.77	0.00	0.00	0.00
Avail Cap(c_a), veh/h	157	2453	1092	558	2713	0	964	1373	1158	157	1931	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.9	12.6	29.5	6.0	0.0	27.1	0.0	24.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	2.5	0.1	0.0	2.1	0.0	3.3	0.0	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	0.0	6.3	4.1	2.0	2.5	0.0	3.4	0.0	4.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.5	13.3	32.0	6.1	0.0	29.2	0.0	27.3	0.0	0.0	0.0
LnGrp LOS	A	B	B	C	A	A	C	A	C	A	A	A
Approach Vol, veh/h	1602		1164			730			0			
Approach Delay, s/veh	14.2		11.7			28.4			0.0			
Approach LOS	B		B			C						
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	20.6	11.0	36.5	15.3	5.3	0.0	47.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	50.0	50.0	11.0	47.0	19.0	37.0	6.0	52.0				
Max Q Clear Time (g_c+I), s	13.9	13.9	6.8	19.8	10.2	0.0	0.0	10.5				
Green Ext Time (p_c), s	0.0	1.1	0.3	12.4	1.1	0.0	0.0	8.1				
Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

10: Del Monte Blvd & Reservation Rd

PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	189	83	303	222	209	112	226	566	224	119	3
Future Volume (veh/h)	15	189	83	303	222	209	112	226	566	224	119	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	199	87	319	234	220	118	238	596	236	125	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	311	139	749	405	328	157	543	780	364	1090	26
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.09	0.29	0.29	0.11	0.31	0.31
Sat Flow, veh/h	182	2285	1024	3456	1870	1512	1781	1870	2689	3456	3544	85
Grp Volume(v), veh/h	164	0	138	319	234	220	118	238	596	236	62	66
Grp Sat Flow(s),veh/h/ln	1861	0	1630	1728	1870	1512	1781	1870	1344	1728	1777	1852
Q Serve(g_s), s	5.3	0.0	5.1	5.1	7.1	8.5	4.1	6.6	12.8	4.2	1.6	1.6
Cycle Q Clear(g_c), s	5.3	0.0	5.1	5.1	7.1	8.5	4.1	6.6	12.8	4.2	1.6	1.6
Prop In Lane	0.10		0.63	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	253	0	222	749	405	328	157	543	780	364	546	569
V/C Ratio(X)	0.65	0.00	0.62	0.43	0.58	0.67	0.75	0.44	0.76	0.65	0.11	0.12
Avail Cap(c_a), veh/h	586	0	513	1631	883	714	841	883	1269	1088	1118	1166
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	26.0	0.0	25.9	21.5	22.3	22.8	28.3	18.3	20.6	27.3	15.8	15.8
Incr Delay (d2), s/veh	2.8	0.0	2.9	0.4	1.3	2.4	7.1	0.6	1.6	1.9	0.1	0.1
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	2.4	0.0	2.1	2.0	3.1	3.0	2.0	2.7	3.8	1.7	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	28.8	21.9	23.6	25.2	35.4	18.9	22.2	29.2	15.9	15.9
LnGrp LOS	C	A	C	C	C	C	D	B	C	C	B	B
Approach Vol, veh/h	302					773		952		364		
Approach Delay, s/veh	28.8					23.3		23.0		24.5		
Approach LOS	C					C		C		C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.7	22.4	12.6		9.6	23.5	17.8					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (G_max), s	20.0	30.0	20.0		30.0	40.0	30.0					
Max Q Clear Time (g_c+I_2), s	10.2	14.8	7.3		6.1	3.6	10.5					
Green Ext Time (p_c), s	0.6	3.6	1.4		0.3	0.7	3.3					

Intersection Summary

HCM 6th Ctrl Delay 24.1

HCM 6th LOS C

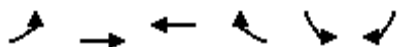
Notes

User approved ignoring U-Turning movement.

Marina DIF - 2023 Update
11: Reservation Rd & Blanco Rd

Existing 2023 Conditions

PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1101	538	323	28	38	956
Future Volume (veh/h)	1101	538	323	28	38	956
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1159	566	340	29	40	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1459	2638	461	391	382	
Arrive On Green	0.42	0.74	0.25	0.25	0.11	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1159	566	340	29	40	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	15.8	2.7	9.1	0.8	0.6	0.0
Cycle Q Clear(g_c), s	15.8	2.7	9.1	0.8	0.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1459	2638	461	391	382	
V/C Ratio(X)	0.79	0.21	0.74	0.07	0.10	
Avail Cap(c_a), veh/h	2609	5758	1481	1255	2163	
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	0.00
Uniform Delay (d), s/veh	13.6	2.1	18.8	15.7	21.7	0.0
Incr Delay (d2), s/veh	1.0	0.0	2.3	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.3	3.8	0.3	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.7	2.2	21.2	15.8	21.9	0.0
LnGrp LOS	B	A	C	B	C	
Approach Vol, veh/h		1725	369		40	
Approach Delay, s/veh		10.6	20.7		21.9	
Approach LOS		B	C		C	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			44.3		10.0	26.9 17.4
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	41.0 43.0
Max Q Clear Time (g_c+l1), s			4.7		2.6	17.8 11.1
Green Ext Time (p_c), s			4.5		0.1	5.1 2.3
Intersection Summary						
HCM 6th Ctrl Delay			12.5			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	63	318	33	64	197
Future Vol, veh/h	29	63	318	33	64	197
Conflicting Peds, #/hr	3	1	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	67	338	35	68	210
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	690	342	0	0	376	0
Stage 1	341	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	411	701	-	-	1182	-
Stage 1	720	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	385	698	-	-	1179	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.1	0	2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 385 698	1179	-		
HCM Lane V/C Ratio	-	- 0.08 0.096	0.058	-		
HCM Control Delay (s)	-	- 15.2 10.7	8.2	-		
HCM Lane LOS	-	- C B	A	-		
HCM 95th %tile Q(veh)	-	- 0.3 0.3	0.2	-		

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	3	11	4	53	23	100	11	144	26	9	102	4
Future Vol, veh/h	3	11	4	53	23	100	11	144	26	9	102	4
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	14	5	66	29	125	14	180	33	11	128	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.3	9.5	10.1	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	17%	30%	100%	0%
Vol Thru, %	0%	85%	61%	13%	0%	96%
Vol Right, %	0%	15%	22%	57%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	170	18	176	9	106
LT Vol	11	0	3	53	9	0
Through Vol	0	144	11	23	0	102
RT Vol	0	26	4	100	0	4
Lane Flow Rate	14	212	22	220	11	132
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.022	0.304	0.032	0.282	0.018	0.196
Departure Headway (Hd)	5.762	5.15	5.062	4.618	5.843	5.312
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	619	695	702	777	610	672
Service Time	3.519	2.907	3.127	2.66	3.605	3.074
HCM Lane V/C Ratio	0.023	0.305	0.031	0.283	0.018	0.196
HCM Control Delay	8.6	10.2	8.3	9.5	8.7	9.4
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.3	0.1	1.2	0.1	0.7

Marina DIF - 2023 Update
14: SR 1 Southbound Ramp & Reservation Rd

Existing 2023 Conditions
PM Peak

Intersection												
Int Delay, s/veh	42.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	35	214	94	0	0	0	0	244	0	40
Future Vol, veh/h	0	85	35	214	94	0	0	0	0	244	0	40
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	105	43	264	116	0	0	0	0	301	0	49
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	149	0	0				772	793	116
Stage 1	-	-	-	-	-	-				644	644	-
Stage 2	-	-	-	-	-	-				128	149	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1432	-	0				368	321	936
Stage 1	0	-	-	-	-	0				523	468	-
Stage 2	0	-	-	-	-	0				898	774	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1432	-	-				~ 300	0	936
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 300	0	-
Stage 1	-	-	-	-	-	-				523	0	-
Stage 2	-	-	-	-	-	-				733	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			5.6			101.3					
HCM LOS	F											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1432	-	332							
HCM Lane V/C Ratio	-	-	0.184	-	1.056							
HCM Control Delay (s)	-	-	8.1	-	101.3							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q(veh)	-	-	0.7	-	12.7							
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Existing 2023 Conditions
PM Peak

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	296	0	0	304	253	39	0	331	0	0	0
Future Vol, veh/h	27	296	0	0	304	253	39	0	331	0	0	0
Conflicting Peds, #/hr	2	0	10	10	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	302	0	0	310	258	40	0	338	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	570	0	-	-	-	0	797	928	302
Stage 1	-	-	-	-	-	-	358	358	-
Stage 2	-	-	-	-	-	-	439	570	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1002	-	0	0	-	-	356	268	738
Stage 1	-	-	0	0	-	-	707	628	-
Stage 2	-	-	0	0	-	-	650	505	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1002	-	-	-	-	-	346	0	738
Mov Cap-2 Maneuver	-	-	-	-	-	-	346	0	-
Stage 1	-	-	-	-	-	-	687	0	-
Stage 2	-	-	-	-	-	-	650	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	346	738	1002	-	-	-
HCM Lane V/C Ratio	0.115	0.458	0.027	-	-	-
HCM Control Delay (s)	16.8	13.9	8.7	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0.4	2.4	0.1	-	-	-

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑			↔			↔	
Traffic Vol, veh/h	1	770	8	8	678	0	3	0	10	0	0	5
Future Vol, veh/h	1	770	8	8	678	0	3	0	10	0	0	5
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	802	8	8	706	0	3	0	10	0	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	811	0	0	1174	1527	402	1125	1535	353
Stage 1	-	-	-	-	-	-	805	805	-	722	722	-
Stage 2	-	-	-	-	-	-	369	722	-	403	813	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	888	-	-	811	-	0	147	116	598	160	115	643
Stage 1	-	-	-	-	-	0	342	393	-	384	429	-
Stage 2	-	-	-	-	-	0	623	429	-	595	390	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	888	-	-	810	-	-	144	114	597	156	114	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	114	-	156	114	-
Stage 1	-	-	-	-	-	-	341	392	-	383	425	-
Stage 2	-	-	-	-	-	-	612	425	-	583	389	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	15.8	10.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	346	888	-	-	810	-	643
HCM Lane V/C Ratio	0.039	0.001	-	-	0.01	-	0.008
HCM Control Delay (s)	15.8	9.1	-	-	9.5	-	10.6
HCM Lane LOS	C	A	-	-	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	0

18: Driveway/Cardoza Ave & Reservation Rd

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	498	15	17	480	79	10	1	11	58	1	66
Future Volume (veh/h)	104	498	15	17	480	79	10	1	11	58	1	66
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	503	15	17	485	80	10	1	11	59	1	67
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	1753	772	46	773	646	212	54	128	425	4	259
Arrive On Green	0.11	0.49	0.49	0.03	0.41	0.41	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1566	1781	1870	1562	451	323	773	1400	23	1561
Grp Volume(v), veh/h	105	503	15	17	485	80	22	0	0	59	0	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1781	1870	1562	1546	0	0	1400	0	1584
Q Serve(g_s), s	2.1	3.2	0.2	0.4	7.8	1.2	0.0	0.0	0.0	0.9	0.0	1.4
Cycle Q Clear(g_c), s	2.1	3.2	0.2	0.4	7.8	1.2	0.4	0.0	0.0	1.3	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	188	1753	772	46	773	646	394	0	0	425	0	263
V/C Ratio(X)	0.56	0.29	0.02	0.37	0.63	0.12	0.06	0.00	0.00	0.14	0.00	0.26
Avail Cap(c_a), veh/h	888	6622	2918	374	2945	2460	1651	0	0	1626	0	1621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	5.7	4.9	18.3	8.8	6.9	13.4	0.0	0.0	13.8	0.0	13.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	4.8	0.8	0.1	0.1	0.0	0.0	0.1	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	0.9	0.7	0.0	0.2	2.4	0.3	0.1	0.0	0.0	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	5.8	5.0	23.1	9.7	7.0	13.5	0.0	0.0	13.9	0.0	14.4
LnGrp LOS	B	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		623			582			22			127	
Approach Delay, s/veh		8.0			9.7			13.5			14.2	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	5.0	22.8		10.3	8.0	19.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	8.0	71.0		39.0	19.0	60.0				
Max Q Clear Time (g_c+l1), s		2.4	2.4	5.2		3.4	4.1	9.8				
Green Ext Time (p_c), s		0.1	0.0	3.9		0.6	0.2	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Existing 2023 Conditions

PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	865	0	0	0	318	1
Future Volume (vph)	865	0	0	0	318	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.95
Satd. Flow (prot)	1770					1774
Flt Permitted	0.95					0.95
Satd. Flow (perm)	1770					1774
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	940	0	0	0	346	1
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	940	0	0	0	0	347
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	52.6					23.7
Effective Green, g (s)	52.6					23.7
Actuated g/C Ratio	0.62					0.28
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1104					498
v/s Ratio Prot	c0.53					
v/s Ratio Perm						0.20
v/c Ratio	0.85					0.70
Uniform Delay, d1	12.7					27.1
Progression Factor	1.00					1.00
Incremental Delay, d2	6.5					4.2
Delay (s)	19.2					31.3
Level of Service	B					C
Approach Delay (s)	19.2		0.0			31.3
Approach LOS	B		A			C
Intersection Summary						
HCM 2000 Control Delay			22.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.80			
Actuated Cycle Length (s)			84.3		Sum of lost time (s)	8.0
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	240	41	75	139	0	0
Future Volume (Veh/h)	240	41	75	139	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	267	46	83	154	0	0
Pedestrians	19			5	21	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			334		650	316
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			334		650	316
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	100
cM capacity (veh/h)			1225		397	721
Direction, Lane #	EB 1	WB 1				
Volume Total	313	237				
Volume Left	0	83				
Volume Right	46	0				
cSH	1700	1225				
Volume to Capacity	0.18	0.07				
Queue Length 95th (ft)	0	5				
Control Delay (s)	0.0	3.2				
Lane LOS		A				
Approach Delay (s)	0.0	3.2				
Approach LOS						
Intersection Summary						
Average Delay		1.4				
Intersection Capacity Utilization		41.7%	ICU Level of Service	A		
Analysis Period (min)		15				

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘↗	↗
Traffic Volume (vph)	1009	60	54	747	128	80
Future Volume (vph)	1009	60	54	747	128	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	0.98	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	3509		1770	3539	3399	1441
Flt Permitted	1.00		0.95	1.00	0.96	1.00
Satd. Flow (perm)	3509		1770	3539	3399	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1085	65	58	803	138	86
RTOR Reduction (vph)	3	0	0	0	8	57
Lane Group Flow (vph)	1147	0	58	803	146	13
Confl. Peds. (#/hr)					2	
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	32.2		4.7	41.4	12.0	12.0
Effective Green, g (s)	32.2		4.7	41.4	12.0	12.0
Actuated g/C Ratio	0.52		0.08	0.66	0.19	0.19
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1810		133	2347	653	277
v/s Ratio Prot	c0.33		0.03	c0.23		
v/s Ratio Perm					c0.04	0.01
v/c Ratio	0.63		0.44	0.34	0.22	0.05
Uniform Delay, d1	10.9		27.6	4.6	21.3	20.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		2.3	0.1	0.2	0.1
Delay (s)	11.6		29.9	4.7	21.4	20.6
Level of Service	B		C	A	C	C
Approach Delay (s)	11.6			6.4	21.2	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			10.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			62.4		Sum of lost time (s)	13.5
Intersection Capacity Utilization			51.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 PM)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site

Site Category: (None)

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows [Total HV]		Arrival Flows [Total HV]		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue [Veh. Dist]		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			veh/h	%	veh/h	%	v/c	sec		veh	ft				mph
South: Del Monte Blvd															
3	L2	All MCs	173	2.0	173	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	30.9
8	T1	All MCs	230	2.0	230	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.4
18	R2	All MCs	57	2.0	57	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.2
Approach			460	2.0	460	2.0	0.418	7.6	LOS A	2.5	64.1	0.49	0.28	0.49	31.2
East: Beach Rd															
1	L2	All MCs	21	2.0	21	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.0
6	T1	All MCs	68	2.0	68	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.6
16	R2	All MCs	40	2.0	40	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.4
Approach			129	2.0	129	2.0	0.157	6.0	LOS A	0.7	16.7	0.54	0.43	0.54	32.5
North: Del Monte Blvd															
7	L2	All MCs	44	2.0	44	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.0
4	T1	All MCs	167	2.0	167	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.6
14	R2	All MCs	59	2.0	59	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.3
Approach			270	2.0	270	2.0	0.263	6.0	LOS A	1.3	32.9	0.47	0.30	0.47	32.4
West: Beach Rd															
5	L2	All MCs	67	2.0	67	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	31.9
2	T1	All MCs	85	2.0	85	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.4
12	R2	All MCs	145	2.0	145	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.2
Approach			297	2.0	297	2.0	0.280	6.1	LOS A	1.4	36.1	0.45	0.27	0.45	32.2
All Vehicles			1156	2.0	1156	2.0	0.418	6.6	LOS A	2.5	64.1	0.48	0.30	0.48	31.9

SITE LAYOUT

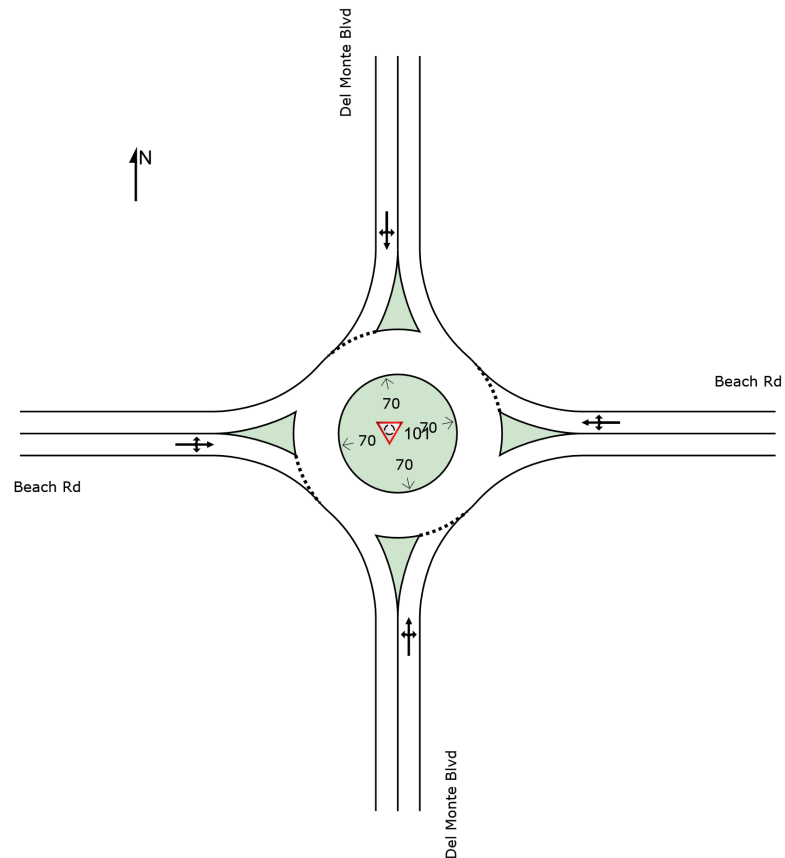
 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Existing 2023 PM)]**

New Site

Site Category: (None)

Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Intersection

Intersection Delay, s/veh 129.9

Intersection LOS F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	15	161	95	180	939
Future Vol, veh/h	12	15	161	95	180	939
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	16	173	102	194	1010
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	10.3	9.9	160.2
HCM LOS	B	A	F

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	95	12	15	180	939
LT Vol	0	0	12	0	180	0
Through Vol	161	0	0	0	0	939
RT Vol	0	95	0	15	0	0
Lane Flow Rate	173	102	13	16	194	1010
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.263	0.136	0.027	0.028	0.289	1.366
Departure Headway (Hd)	5.804	5.098	8.119	6.896	5.373	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	623	708	444	522	672	747
Service Time	3.504	2.798	5.819	4.596	3.089	2.587
HCM Lane V/C Ratio	0.278	0.144	0.029	0.031	0.289	1.352
HCM Control Delay, s/veh	10.6	8.6	11	9.8	10.3	188.9
HCM Lane LOS	B	A	B	A	B	F
HCM 95th-tile Q	1.1	0.5	0.1	0.1	1.2	42.6

Intersection

Intersection Delay, s/veh 2.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
Future Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	9	0	1	39	26	0	20	10	654	12	567
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	2.5	10.8	9.4	47.3
HCM LOS	B	B	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	98%	0%
Vol Thru, %	68%	0%	100%	0%	60%	2%	0%
Vol Right, %	32%	0%	0%	0%	40%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	97	8	1	60	619	527
LT Vol	0	97	0	1	0	608	0
Through Vol	19	0	8	0	36	11	0
RT Vol	9	0	0	0	24	0	527
Lane Flow Rate	30	104	9	1	65	666	567
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.05	0.222	0.017	0.002	0.125	1.049	0.705
Departure Headway (Hd)	6.054	7.78	7.271	7.885	7.088	5.674	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	464	495	457	509	639	799
Service Time	4.054	5.48	4.971	5.585	4.788	3.446	2.249
HCM Lane V/C Ratio	0.05	0.224	0.018	0.002	0.128	1.042	0.71
HCM Control Delay, s/veh	9.4	12.7	10.1	10.6	10.8	72.7	17.4
HCM Lane LOS	A	B	B	B	B	F	C
HCM 95th-tile Q	0.2	0.8	0.1	0	0.4	17.7	6

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Future Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	268	22	0	0	10	16	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	1	0	0	288	299	1			
Stage 1	-	-	-	-	-	-	1	1	-			
Stage 2	-	-	-	-	-	-	287	298	-			
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	0	-	-	1622	-	-	702	613	1084			
Stage 1	0	-	-	-	-	-	1022	895	-			
Stage 2	0	-	-	-	-	-	762	667	-			
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	1622	-	-	700	0	1084			
Mov Cap-2 Maneuver	-	-	-	-	-	-	700	0	-			
Stage 1	-	-	-	-	-	-	1022	0	-			
Stage 2	-	-	-	-	-	-	760	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s/v	0			0.1			8.4					
HCM LOS							A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR						
Capacity (veh/h)	1084	-	-	1622	-	-						
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-						
HCM Control Delay (s/veh)	8.4	-	-	7.2	0	-						
HCM Lane LOS	A	-	-	A	A	-						
HCM 95th %tile Q (veh)	0	-	-	0	-	-						

5: California Dr/California Ave & Imjin Pkwy

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Future Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1496	0	6	1172	38	0	885	0	260	5	499
Arrive On Green	0.09	0.42	0.00	0.00	0.33	0.33	0.00	0.00	0.00	0.47	0.00	0.47
Sat Flow, veh/h	1781	3647	0	1781	3512	114	0	1870	0	464	10	1055
Grp Volume(v), veh/h	134	881	0	2	878	922	0	0	0	677	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1850	0	1870	0	1529	0	0
Q Serve(g_s), s	8.6	22.3	0.0	0.1	39.0	39.0	0.0	0.0	0.0	47.8	0.0	0.0
Cycle Q Clear(g_c), s	8.6	22.3	0.0	0.1	39.0	39.0	0.0	0.0	0.0	48.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.06	0.00		0.00	0.31		0.69
Lane Grp Cap(c), veh/h	162	1496	0	6	593	617	0	885	0	764	0	0
V/C Ratio(X)	0.83	0.59	0.00	0.35	1.48	1.49	0.00	0.00	0.00	0.89	0.00	0.00
Avail Cap(c_a), veh/h	213	1496	0	91	593	617	0	1040	0	890	0	0
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	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.3	26.0	0.0	58.1	39.0	39.0	0.0	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	18.3	0.6	0.0	32.5	225.8	230.7	0.0	0.0	0.0	9.7	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	9.4	0.0	0.1	53.9	56.9	0.0	0.0	0.0	19.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.5	26.7	0.0	90.6	264.7	269.6	0.0	0.0	0.0	38.8	0.0	0.0
LnGrp LOS	E	C		F	F	F				D		
Approach Vol, veh/h		1015			1802			0			677	
Approach Delay, s/veh		32.4			267.0			0.0			38.8	
Approach LOS		C			F						D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		59.3	4.4	53.2		59.3	14.6	43.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		65.0	6.0	47.0		65.0	14.0	39.0				
Max Q Clear Time (g_c+l1), s		0.0	2.1	24.3		50.9	10.6	41.0				
Green Ext Time (p_c), s		0.0	0.0	6.6		4.4	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			154.7									
HCM 6th LOS			F									

Intersection

Intersection Delay, s/veh 26.3

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	32	25	137	162	56	29	50	177	34	13	372	24
Future Vol, veh/h	32	25	137	162	56	29	50	177	34	13	372	24
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	29	159	188	65	34	58	206	40	15	433	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.8	20.2	19.7	39.3
HCM LOS	C	C	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	16%	66%	3%
Vol Thru, %	68%	13%	23%	91%
Vol Right, %	13%	71%	12%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	261	194	247	409
LT Vol	50	32	162	13
Through Vol	177	25	56	372
RT Vol	34	137	29	24
Lane Flow Rate	303	226	287	476
Geometry Grp	1	1	1	1
Degree of Util (X)	0.59	0.446	0.584	0.871
Departure Headway (Hd)	7	7.116	7.317	6.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	513	505	491	547
Service Time	5.067	5.186	5.382	4.648
HCM Lane V/C Ratio	0.591	0.448	0.585	0.87
HCM Control Delay, s/veh	19.7	15.8	20.2	39.3
HCM Lane LOS	C	C	C	E
HCM 95th-tile Q	3.8	2.3	3.7	9.6



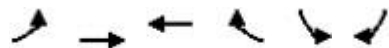
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶	↷	↰	↶	↷	↰	↶	↷	↰	↶	↷
Traffic Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Future Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1719	766	675	2624	0	315	268	225	3	5	0
Arrive On Green	0.00	0.48	0.48	0.20	0.74	0.00	0.09	0.00	0.14	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1583	3456	3647	0	3456	1870	1575	1781	3647	0
Grp Volume(v), veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1583	1728	1777	0	1728	1870	1575	1781	1777	0
Q Serve(g_s), s	0.0	13.4	20.3	9.6	10.4	0.0	4.1	0.0	5.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.4	20.3	9.6	10.4	0.0	4.1	0.0	5.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1719	766	675	2624	0	315	268	225	3	5	0
V/C Ratio(X)	0.00	0.57	0.76	0.77	0.50	0.00	0.68	0.00	0.62	0.00	0.00	0.00
Avail Cap(c_a), veh/h	158	2316	1032	1177	3211	0	461	1136	957	158	2001	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	14.2	25.7	3.7	0.0	29.7	0.0	27.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	2.3	1.9	0.1	0.0	2.6	0.0	2.7	0.0	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	0.0	4.7	6.8	3.9	2.2	0.0	1.7	0.0	2.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.8	16.6	27.6	3.8	0.0	32.3	0.0	29.9	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		C			
Approach Vol, veh/h	1569		1841			354			0			
Approach Delay, s/veh	14.2		10.6			31.4			0.0			
Approach LOS	B		B			C						
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	13.7	17.2	36.7	10.2	3.5	0.0	53.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	23.0	44.0	9.0	38.0	6.0	61.0					
Max Q Clear Time (g_c+I), s	7.6	11.6	22.3	6.1	0.0	0.0	12.4					
Green Ext Time (p_c), s	0.0	0.4	1.5	10.2	0.2	0.0	0.0	14.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.0									
HCM 6th LOS			B									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Future 2045 No Improvement Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		2T	1T	1T	2T	1T	1T	2T	1T	1T
Traffic Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Future Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
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		0.98	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	272	122	257	191	267	168	308	237	666	684	24
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	360	169	754	408	339	211	390	573	756	1083	38
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h	272	2211	1037	3456	1870	1552	1781	1870	2743	3456	3501	123
Grp Volume(v), veh/h	232	0	196	257	191	267	168	308	237	666	347	361
Grp Sat Flow(s), veh/h/ln	1857	0	1663	1728	1870	1552	1781	1870	1371	1728	1777	1847
Q Serve(g_s), s	10.0	0.0	9.3	5.2	7.4	13.6	7.7	13.0	6.3	15.6	14.0	14.0
Cycle Q Clear(g_c), s	10.0	0.0	9.3	5.2	7.4	13.6	7.7	13.0	6.3	15.6	14.0	14.0
Prop In Lane	0.15		0.62	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	302	0	271	754	408	339	211	390	573	756	550	571
V/C Ratio(X)	0.77	0.00	0.72	0.34	0.47	0.79	0.80	0.79	0.41	0.88	0.63	0.63
Avail Cap(c_a), veh/h	444	0	398	1240	671	557	639	671	984	827	850	884
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	83.5	0.0	33.2	27.6	28.4	30.8	35.9	31.3	28.6	31.6	24.8	24.8
Incr Delay (d2), s/veh	4.8	0.0	3.6	0.3	0.8	4.1	6.8	3.6	0.5	10.2	1.2	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	0.8	0.0	3.9	2.1	3.3	5.3	3.6	6.0	2.0	7.3	5.8	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.3	0.0	36.9	27.9	29.3	34.9	42.6	34.9	29.1	41.8	26.0	25.9
LnGrp LOS	D		D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		428			715			713			1374	
Approach Delay, s/veh		37.6			30.9			34.8			33.7	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.3	21.4		17.6	13.9	29.9		22.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c-1), s	15.0	15.0		12.0	9.7	16.0		15.6				
Green Ext Time (p_c), s	0.7	2.4		1.6	0.4	4.4		2.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			33.8									
HCM 6th LOS			C									



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↖↗	↖	↗	↖↗	↖↗
Traffic Volume (veh/h)	1156	251	1788	127	27	1502
Future Volume (veh/h)	1156	251	1788	127	27	1502
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1257	273	1943	138	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1287	3066	843	715	203	
Arrive On Green	0.37	0.86	0.45	0.45	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1257	273	1943	138	29	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	36.6	1.2	46.0	5.3	0.8	0.0
Cycle Q Clear(g_c), s	36.6	1.2	46.0	5.3	0.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1287	3066	843	715	203	
V/C Ratio(X)	0.98	0.09	2.30	0.19	0.14	
Avail Cap(c_a), veh/h	1287	3066	843	715	1152	
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	0.00
Uniform Delay (d), s/veh	81.6	1.0	28.0	16.8	45.6	0.0
Incr Delay (d2), s/veh	19.6	0.0	590.3	0.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	157.8	1.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.1	1.1	618.3	17.0	45.9	0.0
LnGrp LOS	D	A	F	B	D	
Approach Vol, veh/h		1530	2081		29	
Approach Delay, s/veh		42.2	578.4		45.9	
Approach LOS		D	F		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			92.0		10.0	42.0 50.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	38.0 46.0
Max Q Clear Time (g_c+l1), s			3.2		2.8	38.6 48.0
Green Ext Time (p_c), s			2.0		0.1	0.0 0.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			348.8			
HCM 6th LOS			F			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	61	127	145	27	57	620
Future Vol, veh/h	61	127	145	27	57	620
Conflicting Peds, #/hr	2	1	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	140	159	30	63	681
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	970	162	0	0	191	0
Stage 1	161	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	281	883	-	-	1383	-
Stage 1	868	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	267	880	-	-	1380	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v14.1		0	0.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 267 880	1380	-		
HCM Lane V/C Ratio	-	- 0.251 0.159	0.045	-		
HCM Control Delay (s/veh)	-	- 22.9 9.9	7.7	-		
HCM Lane LOS	-	- C A	A	-		
HCM 95th %tile Q (veh)	-	- 1 0.6	0.1	-		

Intersection

Intersection Delay, s/veh 130.4

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	6	9	18	175	12	58	4	98	10	22	730	0
Future Vol, veh/h	6	9	18	175	12	58	4	98	10	22	730	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	10	21	203	14	67	5	114	12	26	849	0
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.9	16.3	11.5	190.6
HCM LOS	B	C	B	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	18%	71%	100%	0%
Vol Thru, %	0%	91%	27%	5%	0%	100%
Vol Right, %	0%	9%	55%	24%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	108	33	245	22	730
LT Vol	4	0	6	175	22	0
Through Vol	0	98	9	12	0	730
RT Vol	0	10	18	58	0	0
Lane Flow Rate	5	126	38	285	26	849
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.009	0.224	0.07	0.486	0.045	1.374
Departure Headway (Hd)	7.459	6.879	7.386	6.909	6.335	5.828
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	525	488	524	568	628
Service Time	5.159	4.579	5.386	4.909	4.042	3.535
HCM Lane V/C Ratio	0.01	0.24	0.078	0.544	0.046	1.352
HCM Control Delay, s/veh	10.2	11.6	10.9	16.3	9.3	196.1
HCM Lane LOS	B	B	B	C	A	F
HCM 95th-tile Q	0	0.9	0.2	2.6	0.1	37.4

Intersection												
Int Delay, s/veh	43.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕						↕	
Traffic Vol, veh/h	0	45	28	319	41	0	0	0	0	184	43	16
Future Vol, veh/h	0	45	28	319	41	0	0	0	0	184	43	16
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	2	2	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	52	32	367	47	0	0	0	0	211	49	18
Major/Minor	Major1		Major2				Minor2					
Conflicting Flow All	-	0	0	84	0	0				851	865	47
Stage 1	-	-	-	-	-	-				781	781	-
Stage 2	-	-	-	-	-	-				70	84	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1513	-	0				330	292	1022
Stage 1	0	-	-	-	-	0				451	405	-
Stage 2	0	-	-	-	-	0				953	825	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1513	-	-				250	0	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-				250	0	-
Stage 1	-	-	-	-	-	-				451	0	-
Stage 2	-	-	-	-	-	-				721	0	-
Approach	EB		WB				SB					
HCM Control Delay, s/v	0		7.2				110.6					
HCM LOS	F											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1513	-	266							
HCM Lane V/C Ratio	-	-	0.242	-	1.05							
HCM Control Delay (s/veh)	-	-	8.1	-	110.6							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q (veh)	-	-	1	-	11.1							

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↰		↰	↰			
Traffic Vol, veh/h	73	180	0	0	289	340	57	0	156	0	0	0
Future Vol, veh/h	73	180	0	0	289	340	57	0	156	0	0	0
Conflicting Peds, #/hr	5	0	4	4	0	5	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	194	0	0	311	366	61	0	168	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	682	0	-	-	-	0	845	1032	194			
Stage 1	-	-	-	-	-	-	350	350	-			
Stage 2	-	-	-	-	-	-	495	682	-			
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	911	-	0	0	-	-	333	233	847			
Stage 1	-	-	0	0	-	-	713	633	-			
Stage 2	-	-	0	0	-	-	613	450	-			
Platoon blocked, %	-			-			-					
Mov Cap-1 Maneuver	911	-	-	-	-	-	304	0	847			
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	0	-			
Stage 1	-	-	-	-	-	-	652	0	-			
Stage 2	-	-	-	-	-	-	612	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s/v	2.7			0			12.8					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	304	847	911	-	-	-						
HCM Lane V/C Ratio	0.202	0.198	0.086	-	-	-						
HCM Control Delay (s/veh)	19.8	10.3	9.3	-	-	-						
HCM Lane LOS	C	B	A	-	-	-						
HCM 95th %tile Q (veh)	0.7	0.7	0.3	-	-	-						

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑			↑			↑	
Traffic Vol, veh/h	1	971	11	25	795	0	3	0	20	0	0	1
Future Vol, veh/h	1	971	11	25	795	0	3	0	20	0	0	1
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1142	13	29	935	0	4	0	24	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	935	0	0	1157	0	0	1672	2139	573	1566	2152	468
Stage 1	-	-	-	-	-	-	1146	1146	-	993	993	-
Stage 2	-	-	-	-	-	-	526	993	-	573	1159	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	728	-	-	600	-	0	63	48	463	75	47	542
Stage 1	-	-	-	-	-	0	212	272	-	263	322	-
Stage 2	-	-	-	-	-	0	503	322	-	472	268	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	728	-	-	599	-	-	60	45	462	68	44	542
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	45	-	68	44	-
Stage 1	-	-	-	-	-	-	211	270	-	262	307	-
Stage 2	-	-	-	-	-	-	478	307	-	446	266	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.3			21.4			11.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1					
Capacity (veh/h)	247	728	-	-	599	-	542					
HCM Lane V/C Ratio	0.11	0.002	-	-	0.049	-	0.002					
HCM Control Delay (s/veh)	21.4	10	-	-	11.3	-	11.7					
HCM Lane LOS	C	A	-	-	B	-	B					
HCM 95th %tile Q (veh)	0.4	0	-	-	0.2	-	0					

18: Driveway/Cardoza Ave & Reservation Rd

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Future Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
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		0.99
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	307	7	6	460	24	7	0	20	82	0	169
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1507	656	17	705	595	172	48	247	513	0	337
Arrive On Green	0.06	0.42	0.42	0.01	0.38	0.38	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	181	222	1154	1387	0	1574
Grp Volume(v), veh/h	41	307	7	6	460	24	27	0	0	82	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1558	0	0	1387	0	1574
Q Serve(g_s), s	0.8	1.9	0.1	0.1	6.9	0.3	0.0	0.0	0.0	1.1	0.0	3.2
Cycle Q Clear(g_c), s	0.8	1.9	0.1	0.1	6.9	0.3	0.4	0.0	0.0	1.6	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	101	1507	656	17	705	595	466	0	0	513	0	337
V/C Ratio(X)	0.41	0.20	0.01	0.35	0.65	0.04	0.06	0.00	0.00	0.16	0.00	0.50
Avail Cap(c_a), veh/h	680	7304	3179	471	3625	3059	1829	0	0	1804	0	1802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	6.2	5.7	16.8	8.8	6.7	10.7	0.0	0.0	11.1	0.0	11.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	11.5	1.0	0.0	0.1	0.0	0.0	0.1	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	0.3	0.4	0.0	0.1	2.0	0.1	0.1	0.0	0.0	0.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	6.2	5.7	28.2	9.8	6.7	10.8	0.0	0.0	11.2	0.0	13.0
LnGrp LOS	B	A	A	C	A	A	B			B		B
Approach Vol, veh/h		355			490			27			251	
Approach Delay, s/veh		7.6			9.9			10.8			12.4	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	4.3	18.4		11.3	5.9	16.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	9.0	70.0		39.0	13.0	66.0				
Max Q Clear Time (g_c+I1), s		2.4	2.1	3.9		5.2	2.8	8.9				
Green Ext Time (p_c), s		0.1	0.0	2.3		1.4	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.7									
HCM 6th LOS			A									

Marina DIF - 2023 Update
4: Highway 1 SB Ramp & Imjin Pkwy

Future 2045 No Improvement Conditions
AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰					↰
Traffic Volume (vph)	1356	0	0	0	437	33
Future Volume (vph)	1356	0	0	0	437	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.96
Satd. Flow (prot)	1770					1780
Flt Permitted	0.95					0.96
Satd. Flow (perm)	1770					1780
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1524	0	0	0	491	37
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1524	0	0	0	0	528
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	77.2					40.4
Effective Green, g (s)	77.2					40.4
Actuated g/C Ratio	0.61					0.32
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1087					572
v/s Ratio Prot	c0.86					c0.30
v/s Ratio Perm						
v/c Ratio	1.40					0.92
Uniform Delay, d1	24.2					41.1
Progression Factor	1.00					1.00
Incremental Delay, d2	186.5					20.6
Delay (s)	210.7					61.7
Level of Service	F					E
Approach Delay (s/veh)	210.7		0.0			61.7
Approach LOS	F		A			E
Intersection Summary						
HCM 2000 Control Delay (s/veh)		172.4		HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio		1.24				
Actuated Cycle Length (s)		125.6		Sum of lost time (s)		8.0
Intersection Capacity Utilization		49.1%		ICU Level of Service		A
Analysis Period (min)		15				

c Critical Lane Group

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (veh/h)	148	57	146	691	0	0
Future Volume (Veh/h)	148	57	146	691	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	157	61	155	735	0	0
Pedestrians	12			2	7	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			225		1252	197
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			225		1252	197
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		100	100
cM capacity (veh/h)			1344		166	843
Direction, Lane #	EB 1	WB 1				
Volume Total	218	890				
Volume Left	0	155				
Volume Right	61	0				
cSH	1700	1344				
Volume to Capacity	0.13	0.12				
Queue Length 95th (ft)	0	10				
Control Delay (s/veh)	0.0	2.7				
Lane LOS		A				
Approach Delay (s/veh)	0.0	2.7				
Approach LOS						
Intersection Summary						
Average Delay		2.2				
Intersection Capacity Utilization		70.3%		ICU Level of Service		C
Analysis Period (min)		15				

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘↘	↗
Traffic Volume (vph)	742	213	1263	1524	56	121
Future Volume (vph)	742	213	1263	1524	56	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.97		1.00	1.00	0.92	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3421		1770	3539	3254	1441
Flt Permitted	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	3421		1770	3539	3254	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	227	1344	1621	60	129
RTOR Reduction (vph)	19	0	0	0	60	59
Lane Group Flow (vph)	997	0	1344	1621	65	5
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	35.9		40.3	80.2	7.5	7.5
Effective Green, g (s)	35.9		40.3	80.2	7.5	7.5
Actuated g/C Ratio	0.38		0.42	0.84	0.08	0.08
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1283		745	2965	255	112
v/s Ratio Prot	c0.29		c0.76	0.46		
v/s Ratio Perm					c0.02	0.00
v/c Ratio	0.78		1.80	0.55	0.26	0.04
Uniform Delay, d1	26.4		27.7	2.3	41.5	40.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0		367.2	0.2	0.5	0.2
Delay (s)	29.4		394.9	2.5	42.0	41.0
Level of Service	C		F	A	D	D
Approach Delay (s/veh)	29.4			180.4	41.6	
Approach LOS	C			F	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			137.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.22			
Actuated Cycle Length (s)			95.7		Sum of lost time (s)	12.0
Intersection Capacity Utilization			112.3%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 No Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Del Monte Blvd															
3	L2	All MCs	165	2.0	165	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.5
8	T1	All MCs	308	2.0	308	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	31.1
18	R2	All MCs	67	2.0	67	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.8
Approach			540	2.0	540	2.0	0.496	8.8	LOS A	3.3	83.6	0.56	0.33	0.56	30.9
East: Beach Rd															
1	L2	All MCs	180	2.0	180	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	29.7
6	T1	All MCs	79	2.0	79	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	30.2
16	R2	All MCs	52	2.0	52	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	30.0
Approach			311	2.0	311	2.0	0.403	9.7	LOS A	2.2	55.8	0.67	0.59	0.78	29.8
North: Del Monte Blvd															
7	L2	All MCs	96	2.0	96	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
4	T1	All MCs	998	2.0	998	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
14	R2	All MCs	87	2.0	87	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
Approach			1181	2.0	1181	2.0	1.367	184.4	LOS F	117.1	2975.0	1.00	4.39	9.57	9.1
West: Beach Rd															
5	L2	All MCs	62	2.0	62	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.1
2	T1	All MCs	81	2.0	81	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.4
12	R2	All MCs	249	2.0	249	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.2
Approach			393	2.0	393	2.0	0.824	37.5	LOS E	6.8	171.5	0.91	1.20	1.90	22.2
All Vehicles			2425	2.0	2425	2.0	1.367	99.1	LOS F	117.1	2975.0	0.85	2.48	5.20	13.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Intersection

Intersection Delay, s/veh 11.1

Intersection LOS B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	101	259	27	73	294
Future Vol, veh/h	63	101	259	27	73	294
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	103	264	28	74	300
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	9.6	11.3	11.6
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	259	27	63	101	73	294
LT Vol	0	0	63	0	73	0
Through Vol	259	0	0	0	0	294
RT Vol	0	27	0	101	0	0
Lane Flow Rate	264	28	64	103	74	300
Geometry Grp	5	5	5	5	5	5
Degree of Util (X)	0.396	0.036	0.118	0.155	0.12	0.441
Departure Headway (Hd)	5.388	4.682	6.628	5.416	5.794	5.29
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	663	757	537	655	615	675
Service Time	3.162	2.455	4.418	3.205	3.565	3.06
HCM Lane V/C Ratio	0.398	0.037	0.119	0.157	0.12	0.444
HCM Control Delay, s/veh	11.7	7.6	10.3	9.2	9.4	12.2
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	1.9	0.1	0.4	0.5	0.4	2.3

Intersection

Intersection Delay, s/veh 17.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Future Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	166	51	0	0	559	0	149	0	11	10	92
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	11.9	22.9	12.6	10.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	53%	0%
Vol Thru, %	100%	100%	77%	100%	0%	47%	0%
Vol Right, %	0%	0%	23%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	0	188	0	486	19	80
LT Vol	0	0	0	0	0	10	0
Through Vol	130	0	144	0	0	9	0
RT Vol	0	0	44	0	486	0	80
Lane Flow Rate	149	0	216	0	559	22	92
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.284	0	0.355	0	0.776	0.044	0.158
Departure Headway (Hd)	6.832	6.078	5.912	5.709	5.002	7.172	6.188
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	0	605	0	721	497	577
Service Time	4.9	3.839	3.672	3.456	2.748	4.944	3.959
HCM Lane V/C Ratio	0.284	0	0.357	0	0.775	0.044	0.159
HCM Control Delay, s/veh	12.6	8.8	11.9	8.5	22.9	10.3	10.1
HCM Lane LOS	B	N	B	N	C	B	B
HCM 95th-tile Q	1.2	0	1.6	0	7.5	0.1	0.6

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Future Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	0	16	0	1	0	12	0	28	5	12

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1	0	0	0	0	0	52	51	0
Stage 1	-	-	-	-	-	-	18	18	-
Stage 2	-	-	-	-	-	-	34	33	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	-	-	-	957	840	-
Stage 1	-	-	-	-	-	-	1005	880	-
Stage 2	-	-	-	-	-	-	988	868	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	-	-	-	950	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	950	0	-
Stage 1	-	-	-	-	-	-	999	0	-
Stage 2	-	-	-	-	-	-	987	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v	7.2		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1622	-	-	-	-	-
HCM Lane V/C Ratio	-	0.006	-	-	-	-	-
HCM Control Delay (s/veh)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q (veh)	-	0	-	-	-	-	-

5: California Dr/California Ave & Imjin Pkwy

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Future Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	2326	0	33	1594	77	0	373	0	67	14	277
Arrive On Green	0.21	0.65	0.00	0.02	0.46	0.46	0.00	0.00	0.00	0.20	0.00	0.20
Sat Flow, veh/h	1781	3647	0	1781	3449	168	0	1870	0	119	70	1390
Grp Volume(v), veh/h	331	1905	0	13	666	691	0	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1840	0	1870	0	1579	0	0
Q Serve(g_s), s	16.9	37.5	0.0	0.7	30.3	30.4	0.0	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	16.9	37.5	0.0	0.7	30.3	30.4	0.0	0.0	0.0	14.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.09	0.00		0.00	0.12		0.88
Lane Grp Cap(c), veh/h	375	2326	0	33	821	850	0	373	0	358	0	0
V/C Ratio(X)	0.88	0.82	0.00	0.40	0.81	0.81	0.00	0.00	0.00	0.72	0.00	0.00
Avail Cap(c_a), veh/h	645	2801	0	114	871	901	0	757	0	678	0	0
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	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.9	12.1	0.0	45.6	21.7	21.8	0.0	0.0	0.0	35.9	0.0	0.0
Incr Delay (d2), s/veh	7.4	1.7	0.0	7.6	5.6	5.5	0.0	0.0	0.0	2.8	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	8.0	13.1	0.0	0.4	13.1	13.6	0.0	0.0	0.0	5.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	13.8	0.0	53.2	27.3	27.2	0.0	0.0	0.0	38.7	0.0	0.0
LnGrp LOS	D	B		D	C	C				D		
Approach Vol, veh/h		2236			1370			0			259	
Approach Delay, s/veh		18.2			27.5			0.0			38.7	
Approach LOS		B			C						D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.7	5.7	65.4		22.7	23.8	47.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		38.0	6.0	74.0		38.0	34.0	46.0				
Max Q Clear Time (g_c+I1), s		0.0	2.7	39.5		16.7	18.9	32.4				
Green Ext Time (p_c), s		0.0	0.0	22.0		1.6	0.9	7.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			22.9									
HCM 6th LOS			C									

Intersection

Intersection Delay, s/veh 12

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	32	44	36	58	21	28	60	183	126	40	162	40
Future Vol, veh/h	32	44	36	58	21	28	60	183	126	40	162	40
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	48	40	64	23	31	66	201	138	44	178	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	10.2	13.6	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	29%	54%	17%
Vol Thru, %	50%	39%	20%	67%
Vol Right, %	34%	32%	26%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	369	112	107	242
LT Vol	60	32	58	40
Through Vol	183	44	21	162
RT Vol	126	36	28	40
Lane Flow Rate	405	123	118	266
Geometry Grp	1	1	1	1
Degree of Util (X)	0.546	0.195	0.189	0.379
Departure Headway (Hd)	4.85	5.694	5.792	5.127
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	629	618	702
Service Time	2.88	3.738	3.835	3.16
HCM Lane V/C Ratio	0.546	0.196	0.191	0.379
HCM Control Delay, s/veh	13.6	10.1	10.2	11.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.3	0.7	0.7	1.8



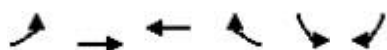
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↡	↱	↰	↡		↰	↡	↱	↰	↡	
Traffic Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Future Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No		No				No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	1669	743	380	2202	0	519	562	474	2	393	0
Arrive On Green	0.00	0.47	0.47	0.11	0.62	0.00	0.15	0.00	0.30	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1582	3456	3647	0	3456	1870	1579	1781	3647	0
Grp Volume(v), veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1582	1728	1777	0	1728	1870	1579	1781	1777	0
Q Serve(g_s), s	0.0	47.0	22.8	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	47.0	22.8	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	1669	743	380	2202	0	519	562	474	2	393	0
V/C Ratio(X)	0.00	1.13	0.64	0.94	0.58	0.00	0.84	0.00	0.89	0.00	0.00	0.00
Avail Cap(c_a), veh/h	107	1669	743	380	2202	0	656	935	789	107	1314	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.5	20.1	44.2	11.3	0.0	41.4	0.0	33.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	66.5	1.9	31.2	0.4	0.0	7.8	0.0	7.6	0.0	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	0.0	34.1	8.4	6.0	7.7	0.0	5.7	0.0	10.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	93.0	22.0	75.4	11.6	0.0	49.2	0.0	41.1	0.0	0.0	0.0
LnGrp LOS		F	C	E	B		D		D			
Approach Vol, veh/h	2361				1625		860				0	
Approach Delay, s/veh	78.7				25.6		45.2				0.0	
Approach LOS	E				C		D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	15.0	51.0	19.0	15.1	0.0	66.0					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
Max Green Setting (Gmax), s	50.0	11.0	47.0	19.0	37.0	6.0	52.0					
Max Q Clear Time (g_c+I), s	27.7	12.3	49.0	14.3	0.0	0.0	23.1					
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.7	0.0	0.0	11.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			54.9									
HCM 6th LOS			D									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Future 2045 No Improvement Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		2T	1T	1T	2T	1T	1T	2T	1T	1T
Traffic Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Future Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	243	171	405	311	374	163	414	484	304	261	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	301	221	977	529	432	202	493	706	397	927	32
Arrive On Green	0.17	0.17	0.17	0.28	0.28	0.28	0.11	0.26	0.26	0.11	0.26	0.26
Sat Flow, veh/h	315	1795	1320	3456	1870	1529	1781	1870	2679	3456	3500	120
Grp Volume(v), veh/h	253	0	204	405	311	374	163	414	484	304	132	138
Grp Sat Flow(s), veh/h/ln	1855	0	1575	1728	1870	1529	1781	1870	1339	1728	1777	1843
Q Serve(g_s), s	12.3	0.0	11.6	8.9	13.4	21.7	8.3	19.5	15.2	8.0	5.5	5.6
Cycle Q Clear(g_c), s	12.3	0.0	11.6	8.9	13.4	21.7	8.3	19.5	15.2	8.0	5.5	5.6
Prop In Lane	0.17		0.84	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	311	0	264	977	529	432	202	493	706	397	471	488
V/C Ratio(X)	0.81	0.00	0.77	0.41	0.59	0.87	0.81	0.84	0.69	0.77	0.28	0.28
Avail Cap(c_a), veh/h	397	0	337	1110	601	491	572	601	861	740	761	790
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	87.4	0.0	37.2	27.2	28.8	31.8	40.4	32.5	30.9	40.1	27.2	27.3
Incr Delay (d2), s/veh	9.7	0.0	8.2	0.3	1.2	13.6	7.5	8.8	1.7	3.1	0.3	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	0.3	0.0	5.0	3.6	6.0	9.4	4.0	9.7	4.9	3.5	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.2	0.0	45.3	27.5	30.0	45.4	47.9	41.3	32.6	43.2	27.6	27.6
LnGrp LOS	D		D	C	C	D	D	D	C	D	C	C
Approach Vol, veh/h		457			1090			1061			574	
Approach Delay, s/veh		46.4			34.4			38.3			35.9	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	28.6		19.7	14.6	28.7		30.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c+1.0), s	21.5	21.5		14.3	10.3	7.6		23.7				
Green Ext Time (p_c), s	0.7	3.1		1.4	0.4	1.5		2.7				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			37.7									
HCM 6th LOS			D									



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↰	↰↰	↰	↰	↰↰	↰↰
Traffic Volume (veh/h)	1200	1431	761	55	86	1129
Future Volume (veh/h)	1200	1431	761	55	86	1129
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1263	1506	801	58	91	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1352	3057	803	680	207	
Arrive On Green	0.39	0.86	0.43	0.43	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1263	1506	801	58	91	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	35.1	10.3	42.8	2.2	2.5	0.0
Cycle Q Clear(g_c), s	35.1	10.3	42.8	2.2	2.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1352	3057	803	680	207	
V/C Ratio(X)	0.93	0.49	1.00	0.09	0.44	
Avail Cap(c_a), veh/h	1414	3121	803	680	1173	
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	0.00
Uniform Delay (d), s/veh	29.3	1.7	28.6	16.9	45.5	0.0
Incr Delay (d2), s/veh	11.4	0.1	31.2	0.1	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	1.3	25.2	0.8	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.6	1.8	59.8	17.0	46.9	0.0
LnGrp LOS	D	A	E	B	D	
Approach Vol, veh/h		2769	859		91	
Approach Delay, s/veh		19.5	56.9		46.9	
Approach LOS		B	E		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			90.2		10.0	43.2 47.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	41.0 43.0
Max Q Clear Time (g_c+l1), s			12.3		4.5	37.1 44.8
Green Ext Time (p_c), s			19.9		0.3	2.1 0.0
Intersection Summary						
HCM 6th Ctrl Delay, s/veh			28.8			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	46	59	332	56	62	199
Future Vol, veh/h	46	59	332	56	62	199
Conflicting Peds, #/hr	3	1	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	80	75	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	63	353	60	66	212
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	703	357	0	0	416	0
Stage 1	356	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	404	687	-	-	1143	-
Stage 1	709	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	684	-	-	1140	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s/v	13	0	2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	378	684	1140	-
HCM Lane V/C Ratio	-	-	0.129	0.092	0.058	-
HCM Control Delay (s/veh)	-	-	15.9	10.8	8.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q (veh)	-	-	0.4	0.3	0.2	-

Intersection	
Intersection Delay, s/veh	25.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	12	10	33	15	131	18	439	23	12	116	10
Future Vol, veh/h	13	12	10	33	15	131	18	439	23	12	116	10
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	15	13	41	19	164	23	549	29	15	145	13
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.1	11.9	36.1	10.9
HCM LOS	B	B	E	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	37%	18%	100%	0%
Vol Thru, %	0%	95%	34%	8%	0%	92%
Vol Right, %	0%	5%	29%	73%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	462	35	179	12	126
LT Vol	18	0	13	33	12	0
Through Vol	0	439	12	15	0	116
RT Vol	0	23	10	131	0	10
Lane Flow Rate	23	578	44	224	15	158
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.038	0.891	0.078	0.354	0.028	0.265
Departure Headway (Hd)	6.098	5.557	6.438	5.699	6.626	6.061
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	653	553	629	540	592
Service Time	3.829	3.288	4.51	3.753	4.374	3.808
HCM Lane V/C Ratio	0.039	0.885	0.08	0.356	0.028	0.267
HCM Control Delay, s/veh	9.1	37.1	10.1	11.9	9.6	11
HCM Lane LOS	A	E	B	B	A	B
HCM 95th-tile Q	0.1	10.9	0.3	1.6	0.1	1.1

Intersection												
Int Delay, s/veh	298.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰		↰	↰					↰	↰	
Traffic Vol, veh/h	0	103	32	231	95	0	0	0	0	457	0	55
Future Vol, veh/h	0	103	32	231	95	0	0	0	0	457	0	55
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	250	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	127	40	285	117	0	0	0	0	564	0	68
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	168	0	0				835	855	117
Stage 1	-	-	-	-	-	-				687	687	-
Stage 2	-	-	-	-	-	-				148	168	-
Critical Hdwy	-	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1410	-	0				~ 338	296	935
Stage 1	0	-	-	-	-	0				~ 499	447	-
Stage 2	0	-	-	-	-	0				880	759	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1410	-	-				~ 270	0	935
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 270	0	-
Stage 1	-	-	-	-	-	-				~ 499	0	-
Stage 2	-	-	-	-	-	-				702	0	-
Approach	EB			WB			SB					
HCM Control Delay, s/v	0			5.8			\$ 563.4					
HCM LOS	F											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1410	-	292							
HCM Lane V/C Ratio	-	-	0.202	-	2.165							
HCM Control Delay (s/veh)	-	-	8.2	-	\$ 563.4							
HCM Lane LOS	-	-	A	-	F							
HCM 95th %tile Q (veh)	-	-	0.8	-	47.5							
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↱		↰	↱			
Traffic Vol, veh/h	67	485	0	0	337	387	44	0	326	0	0	0
Future Vol, veh/h	67	485	0	0	337	387	44	0	326	0	0	0
Conflicting Peds, #/hr	2	0	10	10	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	120	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	495	0	0	344	395	45	0	333	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	741	0	-	-	-	-	0	1173	1372	495		
Stage 1	-	-	-	-	-	-	-	631	631	-		
Stage 2	-	-	-	-	-	-	-	542	741	-		
Critical Hdwy	4.12	-	-	-	-	-	-	6.42	6.52	6.22		
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.42	5.52	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.42	5.52	-		
Follow-up Hdwy	2.218	-	-	-	-	-	-	3.518	4.018	3.318		
Pot Cap-1 Maneuver	866	-	0	0	-	-	-	212	146	575		
Stage 1	-	-	0	0	-	-	-	530	474	-		
Stage 2	-	-	0	0	-	-	-	583	423	-		
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	866	-	-	-	-	-	-	195	0	575		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	195	0	-		
Stage 1	-	-	-	-	-	-	-	488	0	-		
Stage 2	-	-	-	-	-	-	-	583	0	-		
Approach	EB			WB			NB					
HCM Control Delay, s/v	1.2			0			20.6					
HCM LOS							C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR						
Capacity (veh/h)	195	575	866	-	-	-						
HCM Lane V/C Ratio	0.23	0.579	0.079	-	-	-						
HCM Control Delay (s/veh)	28.9	19.5	9.5	-	-	-						
HCM Lane LOS	D	C	A	-	-	-						
HCM 95th %tile Q (veh)	0.9	3.7	0.3	-	-	-						

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑			↑			↑	
Traffic Vol, veh/h	1	808	13	20	999	0	8	0	27	0	0	5
Future Vol, veh/h	1	808	13	20	999	0	8	0	27	0	0	5
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	842	14	21	1041	0	8	0	28	0	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	857	0	0	1408	1928	422	1506	1942	521
Stage 1	-	-	-	-	-	-	845	845	-	1083	1083	-
Stage 2	-	-	-	-	-	-	563	1083	-	423	859	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	664	-	-	779	-	0	99	66	580	83	64	500
Stage 1	-	-	-	-	-	0	324	377	-	232	292	-
Stage 2	-	-	-	-	-	0	478	292	-	579	371	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	664	-	-	778	-	-	96	64	579	77	62	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	64	-	77	62	-
Stage 1	-	-	-	-	-	-	323	375	-	231	284	-
Stage 2	-	-	-	-	-	-	460	284	-	549	370	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0.2			20.5			12.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	269	664	-	-	778	-	500
HCM Lane V/C Ratio	0.136	0.002	-	-	0.027	-	0.01
HCM Control Delay (s/veh)	20.5	10.4	-	-	9.8	-	12.3
HCM Lane LOS	C	B	-	-	A	-	B
HCM 95th %tile Q (veh)	0.5	0	-	-	0.1	-	0

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Future Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	653	17	16	653	82	10	1	11	59	1	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1985	876	43	907	759	184	46	112	370	3	226
Arrive On Green	0.10	0.56	0.56	0.02	0.49	0.49	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1568	1781	1870	1565	451	321	773	1400	23	1560
Grp Volume(v), veh/h	103	653	17	16	653	82	22	0	0	59	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1870	1565	1545	0	0	1400	0	1583
Q Serve(g_s), s	2.4	4.4	0.2	0.4	12.2	1.3	0.0	0.0	0.0	1.0	0.0	1.7
Cycle Q Clear(g_c), s	2.4	4.4	0.2	0.4	12.2	1.3	0.5	0.0	0.0	1.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	174	1985	876	43	907	759	343	0	0	370	0	229
V/C Ratio(X)	0.59	0.33	0.02	0.37	0.72	0.11	0.06	0.00	0.00	0.16	0.00	0.30
Avail Cap(c_a), veh/h	769	5731	2529	324	2549	2133	1428	0	0	1408	0	1402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	5.3	4.3	21.1	9.0	6.2	16.3	0.0	0.0	16.7	0.0	16.8
Incr Delay (d2), s/veh	3.2	0.1	0.0	5.2	1.1	0.1	0.1	0.0	0.0	0.2	0.0	0.7
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	1.0	1.0	0.0	0.2	3.7	0.3	0.2	0.0	0.0	0.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.2	5.4	4.3	26.4	10.1	6.2	16.4	0.0	0.0	16.9	0.0	17.6
LnGrp LOS	C	A	A	C	B	A	B			B		B
Approach Vol, veh/h		773			751			22			128	
Approach Delay, s/veh		7.6			10.0			16.4			17.3	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	5.1	28.6		10.4	8.3	25.4				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		39.0	8.0	71.0		39.0	19.0	60.0				
Max Q Clear Time (g_c+l1), s		2.5	2.4	6.4		3.7	4.4	14.2				
Green Ext Time (p_c), s		0.1	0.0	5.4		0.6	0.2	5.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			9.5									
HCM 6th LOS			A									

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1222	0	0	0	318	1
Future Volume (vph)	1222	0	0	0	318	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					4.0
Lane Util. Factor	1.00					1.00
Frt	1.00					1.00
Flt Protected	0.95					0.95
Satd. Flow (prot)	1770					1774
Flt Permitted	0.95					0.95
Satd. Flow (perm)	1770					1774
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1328	0	0	0	346	1
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1328	0	0	0	0	347
Turn Type	Prot				pm+pt	NA
Protected Phases	8				1	6
Permitted Phases					6	
Actuated Green, G (s)	85.2					28.2
Effective Green, g (s)	85.2					28.2
Actuated g/C Ratio	0.70					0.23
Clearance Time (s)	4.0					4.0
Vehicle Extension (s)	3.0					3.0
Lane Grp Cap (vph)	1242					412
v/s Ratio Prot	c0.75					
v/s Ratio Perm						0.20
v/c Ratio	1.07					0.84
Uniform Delay, d1	18.1					44.5
Progression Factor	1.00					1.00
Incremental Delay, d2	46.2					14.4
Delay (s)	64.3					58.9
Level of Service	E					E
Approach Delay (s/veh)	64.3		0.0			58.9
Approach LOS	E		A			E
Intersection Summary						
HCM 2000 Control Delay (s/veh)			63.2		HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.01			
Actuated Cycle Length (s)			121.4		Sum of lost time (s)	8.0
Intersection Capacity Utilization			40.8%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (veh/h)	644	56	60	165	0	0
Future Volume (Veh/h)	644	56	60	165	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	716	62	67	183	0	0
Pedestrians	19			5	21	
Lane Width (ft)	12.0			12.0	0.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			799	1104	773	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			799	1104	773	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			92	100	100	
cM capacity (veh/h)			824	211	397	
Direction, Lane #	EB 1	WB 1				
Volume Total	778	250				
Volume Left	0	67				
Volume Right	62	0				
cSH	1700	824				
Volume to Capacity	0.46	0.08				
Queue Length 95th (ft)	0	7				
Control Delay (s/veh)	0.0	3.3				
Lane LOS		A				
Approach Delay (s/veh)	0.0	3.3				
Approach LOS						
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		64.3%	ICU Level of Service		C	
Analysis Period (min)		15				

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑↑	↑
Traffic Volume (vph)	1810	62	166	1090	187	442
Future Volume (vph)	1810	62	166	1090	187	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	0.92	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3522		1770	3539	3241	1441
Flt Permitted	1.00		0.95	1.00	0.98	1.00
Satd. Flow (perm)	3522		1770	3539	3241	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1946	67	178	1172	201	475
RTOR Reduction (vph)	2	0	0	0	150	150
Lane Group Flow (vph)	2011	0	178	1172	289	87
Confl. Peds. (#/hr)					2	
Turn Type	NA		Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases					2	2
Actuated Green, G (s)	66.9		12.6	84.0	16.8	16.8
Effective Green, g (s)	66.9		12.6	84.0	16.8	16.8
Actuated g/C Ratio	0.61		0.11	0.77	0.15	0.15
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2145		203	2707	495	220
v/s Ratio Prot	c0.57		c0.10	0.33		
v/s Ratio Perm					c0.09	0.06
v/c Ratio	0.94		0.88	0.43	0.58	0.40
Uniform Delay, d1	19.6		47.8	4.5	43.2	41.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6		31.8	0.1	1.8	1.2
Delay (s)	28.1		79.6	4.6	45.0	43.1
Level of Service	C		E	A	D	D
Approach Delay (s/veh)	28.1			14.5	44.3	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			26.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			109.8		Sum of lost time (s)	13.5
Intersection Capacity Utilization			82.4%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 No Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c			sec	[Veh. veh				
South: Del Monte Blvd															
3	L2	All MCs	262	2.0	262	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.4
8	T1	All MCs	441	2.0	441	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.8
18	R2	All MCs	105	2.0	105	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.6
Approach			808	2.0	808	2.0	0.727	14.4	LOS B	12.2	309.8	0.78	0.59	1.06	28.6
East: Beach Rd															
1	L2	All MCs	42	2.0	42	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.2
6	T1	All MCs	78	2.0	78	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.7
16	R2	All MCs	62	2.0	62	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.5
Approach			182	2.0	182	2.0	0.303	10.0	LOS B	1.3	32.6	0.69	0.64	0.71	30.5
North: Del Monte Blvd															
7	L2	All MCs	58	2.0	58	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.4
4	T1	All MCs	313	2.0	313	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.9
14	R2	All MCs	67	2.0	67	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.7
Approach			438	2.0	438	2.0	0.485	10.0	LOS B	3.4	85.3	0.66	0.54	0.80	30.8
West: Beach Rd															
5	L2	All MCs	60	2.0	60	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.1
2	T1	All MCs	69	2.0	69	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.6
12	R2	All MCs	171	2.0	171	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.4
Approach			300	2.0	300	2.0	0.343	7.9	LOS A	1.7	43.0	0.60	0.45	0.60	31.4
All Vehicles			1729	2.0	1729	2.0	0.727	11.7	LOS B	12.2	309.8	0.71	0.56	0.88	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: \\kimley-horn.com\ca_pls1\Project\SJC_TPTO\City of Marina\097789003- Marina DIF\2025 Update\05 Design & Analysis\Sidra\Marina DIF 2025_v2.sip9

Marina DIF - 2023 Update
1: 2nd Ave & Inter-Garrison Rd

Plus Project Conditions
AM Peak

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	0	0	0	12	0	15	0	161	95	180	939	0				
Future Volume (veh/h)	0	0	0	12	0	15	0	161	95	180	939	0				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Lane Width 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				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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				
Work Zone On Approach	No			No			No			No						
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870				
Adj Flow Rate, veh/h	0	0	0	13	0	16	0	173	102	194	1010	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	6	39	33	76	0	301	6	598	332	277	1978	0				
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.19	0.00	0.27	0.27	0.16	0.56	0.00				
Sat Flow, veh/h	1781	1870	1585	1781	0	1585	1781	2178	1209	1781	3647	0				
Grp Volume(v), veh/h	0	0	0	13	0	16	0	139	136	194	1010	0				
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1777	1611	1781	1777	0				
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.9	2.1	3.3	5.6	0.0				
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.9	2.1	3.3	5.6	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.00				
Lane Grp Cap(c), veh/h	6	39	33	76	0	301	6	488	442	277	1978	0				
V/C Ratio(X)	0.00	0.00	0.00	0.17	0.00	0.05	0.00	0.29	0.31	0.70	0.51	0.00				
Avail Cap(c_a), veh/h	339	1659	1406	564	0	1607	339	2533	2296	1749	7880	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.6	0.0	10.5	0.0	9.0	9.1	12.6	4.3	0.0				
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	0.0	0.1	0.0	0.3	0.4	3.2	0.2	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	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.6	1.2	0.8	0.0				
Unsig. Movement Delay, s/veh																
LnGrp Delay(d), s/veh	0.0	0.0	0.0	15.6	0.0	10.5	0.0	9.3	9.5	15.9	4.5	0.0				
LnGrp LOS				B				A	A	B	A					
Approach Vol, veh/h	0				29				275							
Approach Delay, s/veh	0.0				12.8				9.4							
Approach LOS					B				A							
Timer - Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	8.9	12.7	5.3	4.7	0.0	21.6	0.0	10.0								
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
Max Green Setting (Gmax), s	31.0	45.0	10.0	28.0	6.0	70.0	6.0	32.0								
Max Q Clear Time (g_c+l1), s	5.3	4.1	2.2	0.0	0.0	7.6	0.0	2.3								
Green Ext Time (p_c), s	0.5	1.8	0.0	0.0	0.0	9.7	0.0	0.0								
Intersection Summary																
HCM 7th Control Delay, s/veh				7.0												
HCM 7th LOS				A												

Intersection

Intersection Delay, s/veh 2.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
Future Vol, veh/h	97	8	0	1	36	24	0	19	9	608	11	527
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	9	0	1	39	26	0	20	10	654	12	567
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	2.5	10.8	9.4	47.3
HCM LOS	B	B	A	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%	98%	0%
Vol Thru, %	68%	0%	100%	0%	60%	2%	0%
Vol Right, %	32%	0%	0%	0%	40%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	97	8	1	60	619	527
LT Vol	0	97	0	1	0	608	0
Through Vol	19	0	8	0	36	11	0
RT Vol	9	0	0	0	24	0	527
Lane Flow Rate	30	104	9	1	65	666	567
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.05	0.222	0.017	0.002	0.125	1.049	0.705
Departure Headway (Hd)	6.054	7.78	7.271	7.885	7.088	5.674	4.478
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	464	495	457	509	639	799
Service Time	4.054	5.48	4.971	5.585	4.788	3.446	2.249
HCM Lane V/C Ratio	0.05	0.224	0.018	0.002	0.128	1.042	0.71
HCM Control Delay, s/veh	9.4	12.7	10.1	10.6	10.8	72.7	17.4
HCM Lane LOS	A	B	B	B	B	F	C
HCM 95th-tile Q	0.2	0.8	0.1	0	0.4	17.7	6

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰		↰		↰
Traffic Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Future Vol, veh/h	0	0	0	3	206	17	0	0	8	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	4	268	22	0	0	10	16	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	1	0	0	277	299	1
Stage 1	-	-	-	-	-	-	1	1	-
Stage 2	-	-	-	-	-	-	275	297	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1621	-	-	713	613	1083
Stage 1	0	-	-	-	-	-	1022	895	-
Stage 2	0	-	-	-	-	-	771	667	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	-	-	-	1621	-	-	711	0	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	711	0	-
Stage 1	-	-	-	-	-	-	1022	0	-
Stage 2	-	-	-	-	-	-	769	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.1	8.36
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	1083	-	-	24	-	-
HCM Lane V/C Ratio	0.01	-	-	0.002	-	-
HCM Control Delay (s/veh)	8.4	-	-	7.2	0	-
HCM Lane LOS	A	-	-	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Marina DIF - 2023 Update
5: California Dr/California Ave & Imjin Pkwy

Plus Project Conditions
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Future Volume (veh/h)	126	828	0	2	1638	54	0	0	0	197	0	439
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	1926	859	6	1604	714	2	268	0	248	609	515
Arrive On Green	0.09	0.54	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.14	0.00	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1583	1781	1870	0	1781	1870	1581
Grp Volume(v), veh/h	134	881	0	2	1743	57	0	0	0	210	0	467
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1583	1781	1870	0	1781	1870	1581
Q Serve(g_s), s	6.9	14.1	0.0	0.1	42.0	1.9	0.0	0.0	0.0	10.7	0.0	26.3
Cycle Q Clear(g_c), s	6.9	14.1	0.0	0.1	42.0	1.9	0.0	0.0	0.0	10.7	0.0	26.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	1926	859	6	1604	714	2	268	0	248	609	515
V/C Ratio(X)	0.80	0.46	0.00	0.35	1.09	0.08	0.00	0.00	0.00	0.85	0.00	0.91
Avail Cap(c_a), veh/h	306	1985	886	115	1604	714	124	723	0	383	995	841
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	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	13.0	0.0	46.3	25.5	14.5	0.0	0.0	0.0	39.1	0.0	30.0
Incr Delay (d2), s/veh	8.5	0.2	0.0	32.0	50.1	0.0	0.0	0.0	0.0	10.1	0.0	8.6
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	3.4	5.3	0.0	0.1	27.7	0.7	0.0	0.0	0.0	5.3	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	13.1	0.0	78.3	75.6	14.6	0.0	0.0	0.0	49.2	0.0	38.6
LnGrp LOS	D	B		E	F	B				D		D
Approach Vol, veh/h		1015			1802			0			677	
Approach Delay, s/veh		18.0			73.7			0.0			41.9	
Approach LOS		B			E						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	17.3	4.3	54.4	0.0	34.3	12.8	46.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	20.0	36.0	6.0	52.0	6.5	49.5	16.0	42.0				
Max Q Clear Time (g_c+I1), s	12.7	0.0	2.1	16.1	0.0	28.3	8.9	44.0				
Green Ext Time (p_c), s	0.3	0.0	0.0	7.5	0.0	1.7	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			51.3									
HCM 7th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	32	25	137	162	56	29	50	177	34	13	372	24
Future Volume (veh/h)	32	25	137	162	56	29	50	177	34	13	372	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	29	159	188	65	34	58	206	40	15	433	28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	109	372	480	153	58	214	516	89	132	684	43
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	135	328	1114	844	460	175	178	1289	222	21	1707	108
Grp Volume(v), veh/h	225	0	0	287	0	0	304	0	0	476	0	0
Grp Sat Flow(s), veh/h/ln	1577	0	0	1479	0	0	1689	0	0	1836	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.1	0.0	0.0	3.6	0.0	0.0	6.3	0.0	0.0
Prop In Lane	0.16		0.71	0.66		0.12	0.19		0.13	0.03		0.06
Lane Grp Cap(c), veh/h	665	0	0	691	0	0	819	0	0	859	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.42	0.00	0.00	0.37	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	3253	0	0	2937	0	0	3316	0	0	3806	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	8.0	0.0	0.0	6.5	0.0	0.0	7.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.6	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	0.8	0.0	0.0	1.0	0.0	0.0	0.8	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	0.0	0.0	8.4	0.0	0.0	6.8	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	225			287			304			476		
Approach Delay, s/veh	8.1			8.4			6.8			7.8		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	16.1			14.0			16.1			14.0		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	61.0			61.0			61.0			61.0		
Max Q Clear Time (g_c+l1), s	5.6			5.2			8.3			6.1		
Green Ext Time (p_c), s	2.3			1.6			3.5			2.2		
Intersection Summary												
HCM 7th Control Delay, s/veh				7.7								
HCM 7th LOS				A								



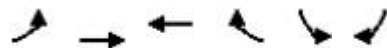
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↗	↰	↗	↗	↰	↗	↗	↰	↗	↗
Traffic Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Future Volume (veh/h)	0	947	560	500	1267	0	206	0	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	3	1597	1251	698	2552	1138	337	277	233	3	6	0
Arrive On Green	0.00	0.45	0.45	0.20	0.72	0.00	0.10	0.00	0.15	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	2783	3456	3554	1585	3456	1870	1575	1781	3647	0
Grp Volume(v), veh/h	0	986	583	521	1320	0	215	0	139	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1392	1728	1777	1585	1728	1870	1575	1781	1777	0
Q Serve(g_s), s	0.0	12.6	8.7	8.5	10.0	0.0	3.6	0.0	4.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.6	8.7	8.5	10.0	0.0	3.6	0.0	4.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	3	1597	1251	698	2552	1138	337	277	233	3	6	0
V/C Ratio(X)	0.00	0.62	0.47	0.75	0.52	0.00	0.64	0.00	0.60	0.00	0.00	0.00
Avail Cap(c_a), veh/h	179	2615	2048	1329	3625	1617	520	1282	1080	179	2258	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.5	11.5	22.4	3.8	0.0	26.0	0.0	23.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.3	1.6	0.2	0.0	2.0	0.0	2.4	0.0	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	0.0	4.4	2.3	3.3	1.9	0.0	1.5	0.0	1.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.9	11.7	24.0	3.9	0.0	28.0	0.0	26.2	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		C			
Approach Vol, veh/h	1569			1841			354			0		
Approach Delay, s/veh	12.5			9.6			27.3			0.0		
Approach LOS	B			A			C					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	12.8	16.1	30.9	9.8	3.0	0.0	47.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	41.0	41.0	23.0	44.0	9.0	38.0	6.0	61.0				
Max Q Clear Time (g_c+I), s	6.9	6.9	10.5	14.6	5.6	0.0	0.0	12.0				
Green Ext Time (p_c), s	0.0	0.5	1.6	11.9	0.2	0.0	0.0	14.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			12.5									
HCM 7th LOS			B									

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷	↷	↰	↷	↷	↰	↷	↷	↰	↷	↷
Traffic Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Future Volume (veh/h)	30	237	106	224	166	232	146	268	206	579	595	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	272	122	257	191	267	168	308	237	666	684	24
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	374	163	758	410	341	211	392	575	760	1089	38
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.12	0.21	0.21	0.22	0.31	0.31
Sat Flow, veh/h	1781	2395	1043	3456	1870	1553	1781	1870	2743	3456	3501	123
Grp Volume(v), veh/h	34	200	194	257	191	267	168	308	237	666	347	361
Grp Sat Flow(s),veh/h/ln	1781	1777	1661	1728	1870	1553	1781	1870	1372	1728	1777	1847
Q Serve(g_s), s	1.3	8.8	9.2	5.1	7.3	13.3	7.5	12.8	6.1	15.3	13.7	13.7
Cycle Q Clear(g_c), s	1.3	8.8	9.2	5.1	7.3	13.3	7.5	12.8	6.1	15.3	13.7	13.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	278	277	259	758	410	341	211	392	575	760	553	575
V/C Ratio(X)	0.12	0.72	0.75	0.34	0.47	0.78	0.80	0.79	0.41	0.88	0.63	0.63
Avail Cap(c_a), veh/h	434	433	405	1263	684	567	651	684	1003	842	866	900
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	29.8	32.9	33.1	27.0	27.9	30.2	35.2	30.7	28.1	30.9	24.2	24.2
Incr Delay (d2), s/veh	0.2	3.5	4.3	0.3	0.8	4.0	6.7	3.5	0.5	9.6	1.2	1.1
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	0.6	3.9	3.9	2.1	3.3	5.2	3.5	5.9	2.0	7.1	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.0	36.5	37.4	27.3	28.7	34.2	41.9	34.2	28.5	40.5	25.4	25.3
LnGrp LOS	C	D	D	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h	428			715			713			1374		
Approach Delay, s/veh	36.4			30.2			34.1			32.7		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),s	28.1	21.2		16.8	13.7	29.5		22.0				
Change Period (Y+Rc),s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax),s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c-1),s	14.8	14.8		11.2	9.5	15.7		15.3				
Green Ext Time (p_c), s	0.8	2.4		1.6	0.4	4.4		2.7				
Intersection Summary												
HCM 7th Control Delay, s/veh	33.0											
HCM 7th LOS	C											



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↕↕	↕	↕	↔↔	↔↔
Traffic Volume (veh/h)	1156	251	1788	127	27	1502
Future Volume (veh/h)	1156	251	1788	127	27	1502
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1257	273	1943	138	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1287	3066	843	715	203	
Arrive On Green	0.37	0.86	0.45	0.45	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1257	273	1943	138	29	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	36.6	1.2	46.0	5.3	0.8	0.0
Cycle Q Clear(g_c), s	36.6	1.2	46.0	5.3	0.8	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1287	3066	843	715	203	
V/C Ratio(X)	0.98	0.09	2.30	0.19	0.14	
Avail Cap(c_a), veh/h	1287	3066	843	715	1152	
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	0.00
Uniform Delay (d), s/veh	81.6	1.0	28.0	16.8	45.6	0.0
Incr Delay (d2), s/veh	19.6	0.0	590.3	0.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.1	157.8	1.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	51.1	1.1	618.3	17.0	45.9	0.0
LnGrp LOS	D	A	F	B	D	
Approach Vol, veh/h		1530	2081		29	
Approach Delay, s/veh		42.2	578.4		45.9	
Approach LOS		D	F		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			92.0		10.0	42.0 50.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	38.0 46.0
Max Q Clear Time (g_c+l1), s			3.2		2.8	38.6 48.0
Green Ext Time (p_c), s			2.0		0.1	0.0 0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			348.8			
HCM 7th LOS			F			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	↑	↑	←	↑
Traffic Volume (veh/h)	61	127	145	27	57	620
Future Volume (veh/h)	61	127	145	27	57	620
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach No			No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	140	159	30	63	681
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	359	319	587	496	146	991
Arrive On Green	0.20	0.20	0.31	0.31	0.08	0.53
Sat Flow, veh/h	1781	1585	1870	1580	1781	1870
Grp Volume(v), veh/h	67	140	159	30	63	681
Grp Sat Flow(s), veh/h/ln	1781	1585	1870	1580	1781	1870
Q Serve(g_s), s	0.9	2.3	1.9	0.4	1.0	8.0
Cycle Q Clear(g_c), s	0.9	2.3	1.9	0.4	1.0	8.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	359	319	587	496	146	991
V/C Ratio(X)	0.19	0.44	0.27	0.06	0.43	0.69
Avail Cap(c_a), veh/h	1914	1703	4521	3819	837	5651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	10.4	7.7	7.1	13.0	5.2
Incr Delay (d2), s/veh	0.2	0.9	0.2	0.1	2.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.5	0.1	0.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.1	11.4	7.9	7.2	15.0	6.0
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	207		189			744
Approach Delay, s/veh	11.0		7.8			6.8
Approach LOS	B		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.4	13.4			19.8	10.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (G_max), s	72.0				90.0	32.0
Max Q Clear Time (g_c+1.0), s	3.9				10.0	4.3
Green Ext Time (p_c), s	0.1	1.1			5.8	0.6
Intersection Summary						
HCM 7th Control Delay, s/veh			7.7			
HCM 7th LOS			A			

Marina DIF - 2023 Update
13: General Jim Moore Blvd/4th Ave & Divarty St

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	6	9	18	175	12	58	4	98	10	22	730	0
Future Volume (veh/h)	6	9	18	175	12	58	4	98	10	22	730	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	10	21	203	14	67	5	114	12	26	849	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	155	254	363	30	93	14	844	89	61	1001	0
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.01	0.51	0.51	0.03	0.54	0.00
Sat Flow, veh/h	182	557	913	975	108	334	1781	1659	175	1781	1870	0
Grp Volume(v), veh/h	38	0	0	284	0	0	5	0	126	26	849	0
Grp Sat Flow(s), veh/h/ln	1870	0	0	1870	0	0	1781	0	1870	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	10.9	0.0	0.0	0.2	0.0	2.4	1.0	25.9	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	12.0	0.0	0.0	0.2	0.0	2.4	1.0	25.9	0.0
Prop In Lane	0.18		0.55	0.71		0.24	1.00		0.10	1.00		0.00
Lane Grp Cap(c), veh/h	523	0	0	486	0	0	14	0	933	61	1001	0
V/C Ratio(X)	0.07	0.00	0.00	0.58	0.00	0.00	0.35	0.00	0.14	0.43	0.85	0.00
Avail Cap(c_a), veh/h	1034	0	0	949	0	0	265	0	1803	292	1866	0
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	21.7	0.0	0.0	33.1	0.0	8.7	31.8	13.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.0	14.3	0.0	0.1	4.6	2.1	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	0.4	0.0	0.0	3.9	0.0	0.0	0.1	0.0	0.9	0.5	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.0	0.0	0.0	22.8	0.0	0.0	47.4	0.0	8.8	36.4	15.4	0.0
LnGrp LOS	B			C			D		A	D	B	
Approach Vol, veh/h	38			284			131			875		
Approach Delay, s/veh	18.0			22.8			10.2			16.0		
Approach LOS	B			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	38.2		22.7	4.5	39.9		22.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (G_max), s	66.0			41.0	10.0	67.0		41.0				
Max Q Clear Time (g_c+I), s	4.4			3.1	2.2	27.9		14.0				
Green Ext Time (p_c), s	0.0	0.8		0.2	0.0	8.0		1.9				
Intersection Summary												
HCM 7th Control Delay, s/veh	17.0											
HCM 7th LOS	B											

14: SR 1 Southbound Ramp & Reservation Rd

AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰		↰	↱						↱	
Traffic Volume (veh/h)	0	45	28	319	41	0	0	0	0	184	43	16
Future Volume (veh/h)	0	45	28	319	41	0	0	0	0	184	43	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	52	32	367	47	0				211	49	18
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	174	107	479	1007	0				333	77	28
Arrive On Green	0.00	0.16	0.16	0.27	0.54	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	1073	660	1781	1870	0				1352	314	115
Grp Volume(v), veh/h	0	0	84	367	47	0				278	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1734	1781	1870	0				1781	0	0
Q Serve(g_s), s	0.0	0.0	1.6	7.0	0.4	0.0				5.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.6	7.0	0.4	0.0				5.2	0.0	0.0
Prop In Lane	0.00		0.38	1.00		0.00				0.76		0.06
Lane Grp Cap(c), veh/h	0	0	280	479	1007	0				438	0	0
V/C Ratio(X)	0.00	0.00	0.30	0.77	0.05	0.00				0.63	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1448	2304	4183	0				1872	0	0
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	0.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	13.7	12.5	4.1	0.0				12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	2.6	0.0	0.0				1.5	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	0.0	0.6	2.5	0.1	0.0				1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	14.3	15.1	4.1	0.0				14.0	0.0	0.0
LnGrp LOS			B	B	A					B		
Approach Vol, veh/h		84			414						278	
Approach Delay, s/veh		14.3			13.8						14.0	
Approach LOS		B			B						B	
Timer - Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			14.0	10.0	13.1		24.0					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			48.0	31.0	39.0		83.0					
Max Q Clear Time (g_c+I1), s			9.0	3.6	7.2		2.4					
Green Ext Time (p_c), s			1.2	0.4	1.8		0.3					
Intersection Summary												
HCM 7th Control Delay, s/veh			14.0									
HCM 7th LOS			B									

15: SR 1 Northbound Ramp & Reservation Rd

AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	180	0	0	289	340	57	0	156	0	0	0
Future Volume (veh/h)	73	180	0	0	289	340	57	0	156	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	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			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	78	194	0	0	311	366	61	0	168			
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	2	2			
Cap, veh/h	159	1059	0	0	689	580	388	0	345			
Arrive On Green	0.09	0.57	0.00	0.00	0.37	0.37	0.22	0.00	0.22			
Sat Flow, veh/h	1781	1870	0	0	1870	1574	1781	0	1583			
Grp Volume(v), veh/h	78	194	0	0	311	366	61	0	168			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1574	1781	0	1583			
Q Serve(g_s), s	1.5	1.9	0.0	0.0	4.7	7.1	1.0	0.0	3.4			
Cycle Q Clear(g_c), s	1.5	1.9	0.0	0.0	4.7	7.1	1.0	0.0	3.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	159	1059	0	0	689	580	388	0	345			
V/C Ratio(X)	0.49	0.18	0.00	0.00	0.45	0.63	0.16	0.00	0.49			
Avail Cap(c_a), veh/h	577	4241	0	0	3433	2890	1827	0	1624			
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	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	16.1	3.9	0.0	0.0	8.9	9.6	11.7	0.0	12.7			
Incr Delay (d2), s/veh	2.3	0.1	0.0	0.0	0.5	1.1	0.2	0.0	1.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.6	0.4	0.0	0.0	1.4	1.9	0.3	0.0	1.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.4	4.0	0.0	0.0	9.3	10.8	11.9	0.0	13.7			
LnGrp LOS	B	A			A	B	B		B			
Approach Vol, veh/h	272				677				229			
Approach Delay, s/veh	8.1				10.1				13.2			
Approach LOS	A				B				B			
Timer - Assigned Phs	2		4				7		8			
Phs Duration (G+Y+Rc), s	12.1		25.0				7.3		17.7			
Change Period (Y+Rc), s	4.0		4.0				4.0		4.0			
Max Green Setting (Gmax), s	38.0		84.0				12.0		68.0			
Max Q Clear Time (g_c+l1), s	5.4		3.9				3.5		9.1			
Green Ext Time (p_c), s	0.9		1.2				0.1		3.5			
Intersection Summary												
HCM 7th Control Delay, s/veh		10.3										
HCM 7th LOS		B										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔↔			↔			↔	
Traffic Volume (veh/h)	1	971	11	25	795	0	3	0	20	0	0	1
Future Volume (veh/h)	1	971	11	25	795	0	3	0	20	0	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	1142	13	29	935	0	4	0	24	0	0	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1841	835	73	2363	0	113	18	196	0	0	228
Arrive On Green	0.53	0.53	0.53	0.04	0.66	0.00	0.14	0.00	0.14	0.00	0.00	0.14
Sat Flow, veh/h	0	3486	1582	1781	3647	0	100	127	1365	0	0	1585
Grp Volume(v), veh/h	613	530	13	29	935	0	28	0	0	0	0	1
Grp Sat Flow(s), veh/h/ln	1870	1617	1582	1781	1777	0	1592	0	0	0	0	1585
Q Serve(g_s), s	0.0	9.6	0.2	0.7	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.6	9.6	0.2	0.7	5.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00	0.14		0.86	0.00		1.00
Lane Grp Cap(c), veh/h	1074	854	835	73	2363	0	327	0	0	0	0	228
V/C Ratio(X)	0.57	0.62	0.02	0.40	0.40	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	3302	2787	2727	384	7230	0	1484	0	0	0	0	1404
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	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	6.9	4.7	19.5	3.2	0.0	15.6	0.0	0.0	0.0	0.0	15.3
Incr Delay (d2), s/veh	0.5	0.7	0.0	3.5	0.1	0.0	0.1	0.0	0.0	0.0	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	0.5	2.2	0.0	0.3	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.4	7.7	4.7	23.0	3.3	0.0	15.7	0.0	0.0	0.0	0.0	15.3
LnGrp LOS	A	A	A	C	A		B					B
Approach Vol, veh/h	1156			964			28			1		
Approach Delay, s/veh	7.5			3.9			15.7			15.3		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	10.0	5.7	26.1		10.0		31.8					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0		4.0					
Max Green Setting (Gmax), s	37.0	9.0	72.0		37.0		85.0					
Max Q Clear Time (g_c+l1), s	2.6	2.7	11.6		2.0		7.0					
Green Ext Time (p_c), s	0.1	0.0	10.4		0.0		8.7					
Intersection Summary												
HCM 7th Control Delay, s/veh			6.0									
HCM 7th LOS			A									

Marina DIF - 2023 Update
18: Driveway/Cardoza Ave & Reservation Rd

Plus Project Conditions
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶	↷	↰	↶	↷		↶		↰	↷	
Traffic Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Future Volume (veh/h)	39	289	7	6	432	23	7	0	19	77	0	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	307	7	6	460	24	7	0	20	82	0	169
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1507	656	17	706	596	172	48	247	513	0	337
Arrive On Green	0.06	0.42	0.42	0.01	0.38	0.38	0.21	0.00	0.21	0.21	0.00	0.21
Sat Flow, veh/h	1781	3554	1546	1781	1870	1579	181	223	1154	1387	0	1578
Grp Volume(v), veh/h	41	307	7	6	460	24	27	0	0	82	0	169
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1870	1579	1558	0	0	1387	0	1578
Q Serve(g_s), s	0.8	1.9	0.1	0.1	6.9	0.3	0.0	0.0	0.0	1.1	0.0	3.2
Cycle Q Clear(g_c), s	0.8	1.9	0.1	0.1	6.9	0.3	0.4	0.0	0.0	1.5	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	101	1507	656	17	706	596	466	0	0	513	0	337
V/C Ratio(X)	0.41	0.20	0.01	0.35	0.65	0.04	0.06	0.00	0.00	0.16	0.00	0.50
Avail Cap(c_a), veh/h	680	7308	3180	471	3627	3061	1831	0	0	1805	0	1808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	6.2	5.7	16.7	8.8	6.7	10.7	0.0	0.0	11.1	0.0	11.8
Incr Delay (d2), s/veh	2.6	0.1	0.0	11.5	1.0	0.0	0.1	0.0	0.0	0.1	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	0.3	0.4	0.0	0.1	2.0	0.1	0.1	0.0	0.0	0.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	6.2	5.7	28.2	9.8	6.7	10.8	0.0	0.0	11.2	0.0	12.9
LnGrp LOS	B	A	A	C	A	A	B			B		B
Approach Vol, veh/h	355				490		27				251	
Approach Delay, s/veh	7.6				9.9		10.8				12.4	
Approach LOS	A				A		B				B	
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	11.3		4.3	18.4	11.3		5.9	16.8				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	39.0		9.0	70.0	39.0		13.0	66.0				
Max Q Clear Time (g_c+l1), s	2.4		2.1	3.9	5.2		2.8	8.9				
Green Ext Time (p_c), s	0.1		0.0	2.3	1.4		0.0	3.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			9.7									
HCM 7th LOS			A									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (vph)	148	57	146	691	0	0
Future Volume (vph)	148	57	146	691	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	1.00			1.00		
Frbp, ped/bikes	0.99			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	0.96			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	1779			1845		
Flt Permitted	1.00			0.90		
Satd. Flow (perm)	1779			1681		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	157	61	155	735	0	0
RTOR Reduction (vph)	15	0	0	0	0	0
Lane Group Flow (vph)	203	0	0	890	0	0
Confl. Peds. (#/hr)		7	7		12	2
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	29.0			29.0		
Effective Green, g (s)	29.0			29.0		
Actuated g/C Ratio	0.67			0.67		
Clearance Time (s)	4.0			4.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1194			1128		
v/s Ratio Prot	0.11					
v/s Ratio Perm				0.53		
v/c Ratio	0.17			0.79		
Uniform Delay, d1	2.6			5.0		
Progression Factor	1.00			1.00		
Incremental Delay, d2	0.1			3.7		
Delay (s)	2.7			8.7		
Level of Service	A			A		
Approach Delay (s/veh)	2.7			8.7	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			7.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			43.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.0%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	742	213	1263	1524	56	121
Future Volume (vph)	742	213	1263	1524	56	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frt	1.00	0.85	1.00	1.00	0.92	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3254	1441
Flt Permitted	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3254	1441
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	789	227	1344	1621	60	129
RTOR Reduction (vph)	0	133	0	0	60	59
Lane Group Flow (vph)	789	94	1344	1621	65	5
Turn Type	NA	Perm	Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases		4			2	2
Actuated Green, G (s)	29.5	29.5	46.3	79.8	7.5	7.5
Effective Green, g (s)	29.5	29.5	46.3	79.8	7.5	7.5
Actuated g/C Ratio	0.31	0.31	0.49	0.84	0.08	0.08
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1095	490	859	2963	256	113
v/s Ratio Prot	c0.22		c0.76	0.46		
v/s Ratio Perm		0.06			c0.02	0.00
v/c Ratio	0.72	0.19	1.56	0.55	0.25	0.04
Uniform Delay, d1	29.2	24.1	24.5	2.3	41.3	40.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.2	259.8	0.2	0.5	0.2
Delay (s)	31.6	24.3	284.3	2.5	41.8	40.8
Level of Service	C	C	F	A	D	D
Approach Delay (s/veh)	30.0			130.2	41.4	
Approach LOS	C			F	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			101.8		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.15			
Actuated Cycle Length (s)			95.3		Sum of lost time (s)	12.0
Intersection Capacity Utilization			105.5%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [California Dr/5th Ave & 8th St (Site Folder: Future 2045 With Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				
South: 5th Ave															
3	L2	All MCs	1	2.0	1	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	33.7
8	T1	All MCs	1	2.0	1	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.4
18	R2	All MCs	10	2.0	10	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.1
Approach			13	2.0	13	2.0	0.010	2.8	LOS A	0.0	1.0	0.08	0.02	0.08	34.1
East: 8th St															
1	L2	All MCs	4	2.0	4	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.3
6	T1	All MCs	268	2.0	268	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	34.0
16	R2	All MCs	22	2.0	22	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.7
Approach			294	2.0	294	2.0	0.217	3.9	LOS A	1.1	29.0	0.04	0.01	0.04	33.9
North: California Dr															
7	L2	All MCs	16	2.0	16	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	31.6
4	T1	All MCs	1	2.0	1	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	32.2
14	R2	All MCs	1	2.0	1	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	32.0
Approach			18	2.0	18	2.0	0.018	3.7	LOS A	0.1	1.8	0.39	0.22	0.39	31.7
West: 8th St															
5	L2	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.2
2	T1	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.8
12	R2	All MCs	1	2.0	1	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.6
Approach			4	2.0	4	2.0	0.003	2.7	LOS A	0.0	0.3	0.09	0.02	0.09	33.5
All Vehicles			329	2.0	329	2.0	0.217	3.8	LOS A	1.1	29.0	0.06	0.02	0.06	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 With Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Del Monte Blvd															
3	L2	All MCs	165	2.0	165	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	31.4
8	T1	All MCs	308	2.0	308	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.7
18	R2	All MCs	67	2.0	67	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.8
Approach			540	2.0	540	2.0	0.244	5.5	LOS A	1.1	28.1	0.40	0.25	0.40	32.3
East: Beach Rd															
1	L2	All MCs	180	2.0	180	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.2
6	T1	All MCs	79	2.0	79	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.8
16	R2	All MCs	52	2.0	52	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.5
Approach			311	2.0	311	2.0	0.361	8.3	LOS A	1.6	40.5	0.59	0.49	0.61	30.4
North: Del Monte Blvd															
7	L2	All MCs	96	2.0	96	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.0
4	T1	All MCs	998	2.0	998	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.6
14	R2	All MCs	87	2.0	87	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.5
Approach			1181	2.0	1181	2.0	0.636	13.4	LOS B	6.6	167.4	0.76	0.75	1.22	29.5
West: Beach Rd															
5	L2	All MCs	62	2.0	62	2.0	0.373	16.6	LOS C	1.4	35.4	0.79	0.84	0.99	27.4
2	T1	All MCs	81	2.0	81	2.0	0.373	16.6	LOS C	1.4	35.4	0.79	0.84	0.99	27.9
12	R2	All MCs	249	2.0	249	2.0	0.570	21.2	LOS C	2.6	65.9	0.82	0.94	1.26	26.6
Approach			393	2.0	393	2.0	0.570	19.5	LOS C	2.6	65.9	0.81	0.91	1.16	27.0
All Vehicles			2425	2.0	2425	2.0	0.636	12.0	LOS B	6.6	167.4	0.67	0.63	0.95	29.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 101 [Imjin Rd & 8th St (Site Folder: Future 2045 With Improvements AM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]				mph
			veh/h	%	veh/h	%	v/c	sec			ft				
South: Driveway															
3	L2	All MCs	1	2.0	1	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.0
8	T1	All MCs	20	2.0	20	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.6
18	R2	All MCs	10	2.0	10	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.4
Approach			31	2.0	31	2.0	0.052	6.6	LOS A	0.2	4.8	0.61	0.56	0.61	32.5
East: 8th St															
1	L2	All MCs	1	2.0	1	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	33.6
6	T1	All MCs	39	2.0	39	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	34.2
16	R2	All MCs	26	2.0	26	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	33.9
Approach			66	2.0	66	2.0	0.055	3.5	LOS A	0.2	6.0	0.26	0.13	0.26	34.1
North: Imjin Rd															
7	L2	All MCs	654	2.0	654	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.0
4	T1	All MCs	12	2.0	12	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.4
14	R2	All MCs	567	2.0	567	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.2
Approach			1232	2.0	1232	2.0	0.950	20.7	LOS C	43.2	1097.6	1.00	0.46	1.00	26.1
West: 8th St															
5	L2	All MCs	104	2.0	104	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.0
2	T1	All MCs	9	2.0	9	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.5
12	R2	All MCs	1	2.0	1	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.3
Approach			114	2.0	114	2.0	0.171	7.3	LOS A	0.7	17.3	0.62	0.55	0.62	30.1
All Vehicles			1443	2.0	1443	2.0	0.950	18.6	LOS C	43.2	1097.6	0.93	0.46	0.93	26.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Marina DIF - 2023 Update
1: 2nd Ave & Inter-Garrison Rd

Plus Project Conditions
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	63	0	101	0	259	27	73	294	0
Future Volume (veh/h)	0	0	0	63	0	101	0	259	27	73	294	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	64	0	103	0	264	28	74	300	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	6	5	268	0	346	6	932	98	164	1825	0
Arrive On Green	0.00	0.00	0.00	0.15	0.00	0.22	0.00	0.29	0.29	0.09	0.51	0.00
Sat Flow, veh/h	1781	1870	1585	1781	0	1579	1781	3242	341	1781	3647	0
Grp Volume(v), veh/h	0	0	0	64	0	103	0	144	148	74	300	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1579	1781	1777	1806	1781	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	1.6	0.0	1.9	1.9	1.2	1.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.9	0.0	1.6	0.0	1.9	1.9	1.2	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	6	6	5	268	0	346	6	511	519	164	1825	0
V/C Ratio(X)	0.00	0.00	0.00	0.24	0.00	0.30	0.00	0.28	0.29	0.45	0.16	0.00
Avail Cap(c_a), veh/h	357	1751	1484	953	0	2006	357	2674	2718	1489	7605	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	11.2	0.0	9.8	0.0	8.3	8.3	12.9	3.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.3	0.3	1.9	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	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.5	0.5	0.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	11.6	0.0	10.2	0.0	8.6	8.6	14.8	3.9	0.0
LnGrp LOS				B				A	A	B	A	
Approach Vol, veh/h	0			167			292			374		
Approach Delay, s/veh	0.0			10.8			8.6			6.1		
Approach LOS				B			A			A		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	12.6	8.5	2.1	0.0	19.4	0.0	10.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	25.0	45.0	16.0	28.0	6.0	64.0	6.0	38.0				
Max Q Clear Time (g_c+l1), s	3.2	3.9	2.9	0.0	0.0	3.3	0.0	3.6				
Green Ext Time (p_c), s	0.2	1.8	0.1	0.0	0.0	2.2	0.0	0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				7.9								
HCM 7th LOS				A								

Intersection

Intersection Delay, s/veh 17.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Future Vol, veh/h	0	144	44	0	0	486	0	130	0	10	9	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	166	51	0	0	559	0	149	0	11	10	92
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay, s/veh	11.9	22.9	12.6	10.1
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	0%	0%	0%	53%	0%
Vol Thru, %	100%	100%	77%	100%	0%	47%	0%
Vol Right, %	0%	0%	23%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	0	188	0	486	19	80
LT Vol	0	0	0	0	0	10	0
Through Vol	130	0	144	0	0	9	0
RT Vol	0	0	44	0	486	0	80
Lane Flow Rate	149	0	216	0	559	22	92
Geometry Grp	4b	5	5	5	5	5	5
Degree of Util (X)	0.284	0	0.355	0	0.776	0.044	0.158
Departure Headway (Hd)	6.832	6.078	5.912	5.709	5.002	7.172	6.188
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	0	605	0	721	497	577
Service Time	4.9	3.839	3.672	3.456	2.748	4.944	3.959
HCM Lane V/C Ratio	0.284	0	0.357	0	0.775	0.044	0.159
HCM Control Delay, s/veh	12.6	8.8	11.9	8.5	22.9	10.3	10.1
HCM Lane LOS	B	N	B	N	C	B	B
HCM 95th-tile Q	1.2	0	1.6	0	7.5	0.1	0.6

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↶			↶		↶		↶
Traffic Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Future Vol, veh/h	7	0	0	12	0	1	0	9	0	21	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	0	16	0	1	0	12	0	28	5	12

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1	0	0	0	0	0	52	52	0
Stage 1	-	-	-	-	-	-	19	19	-
Stage 2	-	-	-	-	-	-	33	33	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1621	-	-	-	-	-	957	839	-
Stage 1	-	-	-	-	-	-	1004	880	-
Stage 2	-	-	-	-	-	-	989	867	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1621	-	-	-	-	-	951	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	951	0	-
Stage 1	-	-	-	-	-	-	998	0	-
Stage 2	-	-	-	-	-	-	989	0	-

Approach	EB	WB	NB
HCM Control Delay, s/v7.23			
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	1621	-	-	-	-	-
HCM Lane V/C Ratio	-	0.006	-	-	-	-	-
HCM Control Delay (s/veh)	-	7.2	-	-	-	-	-
HCM Lane LOS	-	A	-	-	-	-	-
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-

Marina DIF - 2023 Update
5: California Dr/California Ave & Imjin Pkwy

Plus Project Conditions
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Future Volume (veh/h)	324	1867	0	13	1268	62	0	0	0	30	0	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	2359	1052	33	1667	741	2	173	0	65	329	279
Arrive On Green	0.21	0.66	0.00	0.02	0.47	0.47	0.00	0.00	0.00	0.04	0.00	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1580	1781	1870	0	1781	1870	1582
Grp Volume(v), veh/h	331	1905	0	13	1294	63	0	0	0	31	0	228
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1580	1781	1870	0	1781	1870	1582
Q Serve(g_s), s	15.2	33.0	0.0	0.6	25.8	1.9	0.0	0.0	0.0	1.4	0.0	11.8
Cycle Q Clear(g_c), s	15.2	33.0	0.0	0.6	25.8	1.9	0.0	0.0	0.0	1.4	0.0	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	2359	1052	33	1667	741	2	173	0	65	329	279
V/C Ratio(X)	0.87	0.81	0.00	0.39	0.78	0.08	0.00	0.00	0.00	0.47	0.00	0.82
Avail Cap(c_a), veh/h	672	2849	1271	126	1760	782	126	750	0	126	750	634
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	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	10.3	0.0	41.1	18.8	12.5	0.0	0.0	0.0	40.1	0.0	33.6
Incr Delay (d2), s/veh	6.2	1.5	0.0	7.3	2.1	0.0	0.0	0.0	0.0	5.3	0.0	5.9
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	7.0	10.9	0.0	0.3	10.3	0.6	0.0	0.0	0.0	0.7	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.5	11.8	0.0	48.5	20.9	12.5	0.0	0.0	0.0	45.3	0.0	39.5
LnGrp LOS	D	B		D	C	B				D		D
Approach Vol, veh/h		2236			1370			0			259	
Approach Delay, s/veh		15.8			20.8			0.0			40.2	
Approach LOS		B			C						D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	11.8	5.6	60.3	0.0	18.9	22.1	43.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	6.0	34.0	6.0	68.0	6.0	34.0	32.0	42.0				
Max Q Clear Time (g_c+I1), s	3.4	0.0	2.6	35.0	0.0	13.8	17.2	27.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	21.4	0.0	0.7	0.9	8.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			19.2									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	32	44	36	58	21	28	60	183	126	40	162	40
Future Volume (veh/h)	32	44	36	58	21	28	60	183	126	40	162	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	48	40	64	23	31	66	201	138	44	178	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	226	144	385	141	107	234	384	232	228	524	115
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	271	848	540	601	527	402	158	939	567	141	1281	282
Grp Volume(v), veh/h	123	0	0	118	0	0	405	0	0	266	0	0
Grp Sat Flow(s), veh/h/ln	1660	0	0	1529	0	0	1665	0	0	1704	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.3	0.0	0.0	4.4	0.0	0.0	2.5	0.0	0.0
Prop In Lane	0.28		0.33	0.54		0.26	0.16		0.34	0.17		0.17
Lane Grp Cap(c), veh/h	630	0	0	633	0	0	851	0	0	867	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.19	0.00	0.00	0.48	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	2656	0	0	2481	0	0	5656	0	0	5679	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	7.1	0.0	0.0	5.6	0.0	0.0	5.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.4	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.3	0.0	0.0	0.7	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.3	0.0	0.0	7.2	0.0	0.0	6.0	0.0	0.0	5.2	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	123			118			405			266		
Approach Delay, s/veh	7.3			7.2			6.0			5.2		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	14.1			10.6			14.1			10.6		
Change Period (Y+Rc), s	4.0			4.0			4.0			4.0		
Max Green Setting (Gmax), s	84.0			38.0			84.0			38.0		
Max Q Clear Time (g_c+l1), s	6.4			3.4			4.5			3.3		
Green Ext Time (p_c), s	3.1			0.7			1.9			0.7		
Intersection Summary												
HCM 7th Control Delay, s/veh				6.1								
HCM 7th LOS				A								



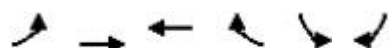
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↗	↗	↰	↗	↗	↰	↗	↗	↰	↗	
Traffic Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Future Volume (veh/h)	0	1810	457	343	1217	0	419	0	407	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	1669	1306	380	2202	982	519	562	474	2	393	0
Arrive On Green	0.00	0.47	0.47	0.11	0.62	0.00	0.15	0.00	0.30	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	2781	3456	3554	1585	3456	1870	1579	1781	3647	0
Grp Volume(v), veh/h	0	1885	476	357	1268	0	436	0	424	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1390	1728	1777	1585	1728	1870	1579	1781	1777	0
Q Serve(g_s), s	0.0	47.0	11.0	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	47.0	11.0	10.3	21.1	0.0	12.3	0.0	25.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	2	1669	1306	380	2202	982	519	562	474	2	393	0
V/C Ratio(X)	0.00	1.13	0.36	0.94	0.58	0.00	0.84	0.00	0.89	0.00	0.00	0.00
Avail Cap(c_a), veh/h	107	1669	1306	380	2202	982	656	935	789	107	1314	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.5	17.0	44.2	11.3	0.0	41.4	0.0	33.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	66.5	0.2	31.2	0.4	0.0	7.8	0.0	7.6	0.0	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	0.0	34.1	3.4	6.0	7.7	0.0	5.7	0.0	10.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	93.0	17.1	75.4	11.6	0.0	49.2	0.0	41.1	0.0	0.0	0.0
LnGrp LOS		F	B	E	B		D		D			
Approach Vol, veh/h	2361			1625			860			0		
Approach Delay, s/veh	77.7			25.6			45.2			0.0		
Approach LOS	E			C			D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	34.1	15.0	51.0	19.0	15.1	0.0	66.0				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	50.0	50.0	11.0	47.0	19.0	37.0	6.0	52.0				
Max Q Clear Time (g_c+I), s	27.7	27.7	12.3	49.0	14.3	0.0	0.0	23.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.7	0.0	0.0	11.5				
Intersection Summary												
HCM 7th Control Delay, s/veh	54.5											
HCM 7th LOS	D											

Marina DIF - 2023 Update
10: Del Monte Blvd & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↷	↷	↰	↷	↷	↰	↷	↷	↰	↷	↷
Traffic Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Future Volume (veh/h)	41	231	162	385	295	355	155	393	460	289	248	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	243	171	405	311	374	163	414	484	304	261	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	321	215	983	532	435	202	496	710	398	933	32
Arrive On Green	0.16	0.16	0.16	0.28	0.28	0.28	0.11	0.27	0.27	0.12	0.27	0.27
Sat Flow, veh/h	1781	2002	1342	3456	1870	1529	1781	1870	2679	3456	3500	120
Grp Volume(v), veh/h	43	214	200	405	311	374	163	414	484	304	132	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1567	1728	1870	1529	1781	1870	1340	1728	1777	1843
Q Serve(g_s), s	1.9	10.6	11.2	8.7	13.1	21.2	8.2	19.1	14.9	7.8	5.4	5.4
Cycle Q Clear(g_c), s	1.9	10.6	11.2	8.7	13.1	21.2	8.2	19.1	14.9	7.8	5.4	5.4
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	286	285	252	983	532	435	202	496	710	398	474	492
V/C Ratio(X)	0.15	0.75	0.79	0.41	0.58	0.86	0.81	0.84	0.68	0.76	0.28	0.28
Avail Cap(c_a), veh/h	389	388	342	1131	612	501	583	612	877	754	776	804
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	83.1	36.7	37.0	26.6	28.1	31.0	39.6	31.8	30.2	39.3	26.6	26.6
Incr Delay (d2), s/veh	0.2	5.4	8.7	0.3	1.1	12.7	7.3	8.2	1.6	3.1	0.3	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	0.8	4.9	4.8	3.6	5.9	9.1	3.9	9.4	4.8	3.4	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.3	42.1	45.7	26.8	29.2	43.8	47.0	40.0	31.8	42.4	26.9	26.9
LnGrp LOS	C	D	D	C	C	D	D	D	C	D	C	C
Approach Vol, veh/h	457			1090			1061			574		
Approach Delay, s/veh	42.9			33.3			37.3			35.1		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	28.3		18.7	14.4	28.4		30.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	30.0		20.0	30.0	40.0		30.0				
Max Q Clear Time (g_c+I), s	21.1	21.1		13.2	10.2	7.4		23.2				
Green Ext Time (p_c), s	0.8	3.1		1.5	0.4	1.5		2.9				
Intersection Summary												
HCM 7th Control Delay, s/veh				36.4								
HCM 7th LOS				D								



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↰↱	↰	↰	↰↱	↰↱
Traffic Volume (veh/h)	1200	1431	761	55	86	1129
Future Volume (veh/h)	1200	1431	761	55	86	1129
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1263	1506	801	58	91	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1352	3057	803	680	207	
Arrive On Green	0.39	0.86	0.43	0.43	0.06	0.00
Sat Flow, veh/h	3456	3647	1870	1585	3456	2790
Grp Volume(v), veh/h	1263	1506	801	58	91	0
Grp Sat Flow(s), veh/h/ln	1728	1777	1870	1585	1728	1395
Q Serve(g_s), s	35.1	10.3	42.8	2.2	2.5	0.0
Cycle Q Clear(g_c), s	35.1	10.3	42.8	2.2	2.5	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1352	3057	803	680	207	
V/C Ratio(X)	0.93	0.49	1.00	0.09	0.44	
Avail Cap(c_a), veh/h	1414	3121	803	680	1173	
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	0.00
Uniform Delay (d), s/veh	29.3	1.7	28.6	16.9	45.5	0.0
Incr Delay (d2), s/veh	11.4	0.1	31.2	0.1	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.2	1.3	25.2	0.8	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.6	1.8	59.8	17.0	46.9	0.0
LnGrp LOS	D	A	E	B	D	
Approach Vol, veh/h		2769	859		91	
Approach Delay, s/veh		19.5	56.9		46.9	
Approach LOS		B	E		D	
Timer - Assigned Phs			4		6	7 8
Phs Duration (G+Y+Rc), s			90.2		10.0	43.2 47.0
Change Period (Y+Rc), s			4.0		4.0	4.0 4.0
Max Green Setting (Gmax), s			88.0		34.0	41.0 43.0
Max Q Clear Time (g_c+l1), s			12.3		4.5	37.1 44.8
Green Ext Time (p_c), s			19.9		0.3	2.1 0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			28.8			
HCM 7th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑	↱	↰	↑
Traffic Volume (veh/h)	46	59	332	56	62	199
Future Volume (veh/h)	46	59	332	56	62	199
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach No			No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	63	353	60	66	212
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	352	313	605	499	150	1009
Arrive On Green	0.20	0.20	0.32	0.32	0.08	0.54
Sat Flow, veh/h	1781	1585	1870	1543	1781	1870
Grp Volume(v), veh/h	49	63	353	60	66	212
Grp Sat Flow(s), veh/h/ln	1781	1585	1870	1543	1781	1870
Q Serve(g_s), s	0.7	1.0	4.8	0.8	1.1	1.8
Cycle Q Clear(g_c), s	0.7	1.0	4.8	0.8	1.1	1.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	352	313	605	499	150	1009
V/C Ratio(X)	0.14	0.20	0.58	0.12	0.44	0.21
Avail Cap(c_a), veh/h	1875	1668	4060	3348	1172	5537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	10.2	8.6	7.2	13.2	3.6
Incr Delay (d2), s/veh	0.2	0.3	0.9	0.1	2.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	1.4	0.2	0.4	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.3	10.5	9.5	7.3	15.2	3.7
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	112		413			278
Approach Delay, s/veh	10.4		9.2			6.5
Approach LOS	B		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.6	13.8			20.4	10.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0
Max Green Setting (Gm), s	66.0				90.0	32.0
Max Q Clear Time (g_c+I), s	6.8				3.8	3.0
Green Ext Time (p_c), s	0.1	2.6			1.4	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			8.4			
HCM 7th LOS			A			

Marina DIF - 2023 Update
13: General Jim Moore Blvd/4th Ave & Divarty St

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↖	↗		↖	↗	
Traffic Volume (veh/h)	13	12	10	33	15	131	18	439	23	12	116	10
Future Volume (veh/h)	13	12	10	33	15	131	18	439	23	12	116	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	15	12	41	19	164	22	549	29	15	145	12
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	193	114	148	62	284	58	754	40	41	713	59
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.43	0.43	0.02	0.42	0.42
Sat Flow, veh/h	408	768	455	168	246	1133	1781	1758	93	1781	1700	141
Grp Volume(v), veh/h	43	0	0	224	0	0	22	0	578	15	0	157
Grp Sat Flow(s), veh/h/ln	1632	0	0	1548	0	0	1781	0	1851	1781	0	1840
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	0.5	0.0	10.5	0.3	0.0	2.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	5.0	0.0	0.0	0.5	0.0	10.5	0.3	0.0	2.2
Prop In Lane	0.37		0.28	0.18		0.73	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	532	0	0	494	0	0	58	0	794	41	0	772
V/C Ratio(X)	0.08	0.00	0.00	0.45	0.00	0.00	0.38	0.00	0.73	0.37	0.00	0.20
Avail Cap(c_a), veh/h	2206	0	0	2212	0	0	573	0	2383	441	0	2233
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	0.0	13.2	0.0	0.0	19.1	0.0	9.6	19.4	0.0	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.7	0.0	0.0	4.1	0.0	1.3	5.4	0.0	0.1
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	0.3	0.0	0.0	1.5	0.0	0.0	0.2	0.0	3.2	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.7	0.0	0.0	13.8	0.0	0.0	23.2	0.0	10.9	24.8	0.0	7.6
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h	43			224			600			172		
Approach Delay, s/veh	11.7			13.8			11.3			9.1		
Approach LOS	B			B			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	21.3		14.1	5.3	20.9		14.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (G_max), s	52.0			56.0	13.0	49.0		56.0				
Max Q Clear Time (g_c+1.2), s	12.5			2.8	2.5	4.2		7.0				
Green Ext Time (p_c), s	0.0	4.5		0.2	0.0	1.0		1.6				
Intersection Summary												
HCM 7th Control Delay, s/veh	11.5											
HCM 7th LOS	B											

14: SR 1 Southbound Ramp & Reservation Rd

PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰		↰	↰						↰	
Traffic Volume (veh/h)	0	103	32	231	95	0	0	0	0	457	0	55
Future Volume (veh/h)	0	103	32	231	95	0	0	0	0	457	0	55
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	127	40	285	117	0				564	0	68
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81				0.81	0.81	0.81
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	200	63	358	783	0				688	0	83
Arrive On Green	0.00	0.15	0.15	0.20	0.42	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	1362	429	1781	1870	0				1569	0	189
Grp Volume(v), veh/h	0	0	167	285	117	0				632	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1791	1781	1870	0				1758	0	0
Q Serve(g_s), s	0.0	0.0	4.9	8.5	2.2	0.0				17.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.9	8.5	2.2	0.0				17.7	0.0	0.0
Prop In Lane	0.00		0.24	1.00		0.00				0.89		0.11
Lane Grp Cap(c), veh/h	0	0	263	358	783	0				771	0	0
V/C Ratio(X)	0.00	0.00	0.64	0.80	0.15	0.00				0.82	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1087	1208	2536	0				1442	0	0
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	0.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	22.5	21.3	10.1	0.0				13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.5	4.1	0.1	0.0				2.2	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	0.0	2.1	3.7	0.8	0.0				6.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	25.0	25.4	10.2	0.0				16.0	0.0	0.0
LnGrp LOS			C	C	B					B		
Approach Vol, veh/h	167				402						632	
Approach Delay, s/veh	25.0				21.0						16.0	
Approach LOS	C				C						B	
Timer - Assigned Phs			3	4	6		8					
Phs Duration (G+Y+Rc), s			15.3	12.2	28.6		27.5					
Change Period (Y+Rc), s			4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s			38.0	34.0	46.0		76.0					
Max Q Clear Time (g_c+l1), s			10.5	6.9	19.7		4.2					
Green Ext Time (p_c), s			0.9	0.9	4.9		0.7					
Intersection Summary												
HCM 7th Control Delay, s/veh			18.9									
HCM 7th LOS			B									

Marina DIF - 2023 Update
15: SR 1 Northbound Ramp & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑			↑	↗		↰	↗			
Traffic Volume (veh/h)	67	485	0	0	337	387	44	0	326	0	0	0
Future Volume (veh/h)	67	485	0	0	337	387	44	0	326	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
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			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	68	495	0	0	344	395	45	0	333			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	139	1001	0	0	678	573	491	0	437			
Arrive On Green	0.08	0.54	0.00	0.00	0.36	0.36	0.28	0.00	0.28			
Sat Flow, veh/h	1781	1870	0	0	1870	1581	1781	0	1585			
Grp Volume(v), veh/h	68	495	0	0	344	395	45	0	333			
Grp Sat Flow(s),veh/h/ln	1781	1870	0	0	1870	1581	1781	0	1585			
Q Serve(g_s), s	1.5	7.1	0.0	0.0	6.1	9.0	0.8	0.0	8.1			
Cycle Q Clear(g_c), s	1.5	7.1	0.0	0.0	6.1	9.0	0.8	0.0	8.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	139	1001	0	0	678	573	491	0	437			
V/C Ratio(X)	0.49	0.49	0.00	0.00	0.51	0.69	0.09	0.00	0.76			
Avail Cap(c_a), veh/h	464	3010	0	0	2346	1983	2276	0	2026			
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	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.7	6.2	0.0	0.0	10.5	11.4	11.4	0.0	14.0			
Incr Delay (d2), s/veh	2.6	0.4	0.0	0.0	0.6	1.5	0.1	0.0	2.8			
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	7	1.8	0.0	0.0	2.1	2.7	0.3	0.0	2.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	6.6	0.0	0.0	11.1	12.9	11.5	0.0	16.8			
LnGrp LOS	C	A			B	B	B		B			
Approach Vol, veh/h	563					739		378				
Approach Delay, s/veh	8.4					12.1		16.2				
Approach LOS	A					B		B				
Timer - Assigned Phs	2		4			7		8				
Phs Duration (G+Y+Rc), s	15.6		26.6			7.3		19.3				
Change Period (Y+Rc), s	4.0		4.0			4.0		4.0				
Max Green Setting (Gmax), s	54.0		68.0			11.0		53.0				
Max Q Clear Time (g_c+I1), s	10.1		9.1			3.5		11.0				
Green Ext Time (p_c), s	1.5		3.7			0.1		3.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			11.8									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔↔			↕			↕	
Traffic Volume (veh/h)	1	808	13	20	999	0	8	0	27	0	0	5
Future Volume (veh/h)	1	808	13	20	999	0	8	0	27	0	0	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	842	14	21	1041	0	8	0	28	0	0	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	1517	689	57	2081	0	160	33	220	0	0	282
Arrive On Green	0.44	0.44	0.44	0.03	0.59	0.00	0.18	0.00	0.18	0.00	0.00	0.18
Sat Flow, veh/h	1	3485	1583	1781	3647	0	168	186	1239	0	0	1585
Grp Volume(v), veh/h	452	391	14	21	1041	0	36	0	0	0	0	5
Grp Sat Flow(s), veh/h/ln	1869	1617	1583	1781	1777	0	1593	0	0	0	0	1585
Q Serve(g_s), s	0.0	6.1	0.2	0.4	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	6.1	6.1	0.2	0.4	5.8	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Prop In Lane	0.00		1.00	1.00		0.00	0.22		0.78	0.00		1.00
Lane Grp Cap(c), veh/h	920	704	689	57	2081	0	413	0	0	0	0	282
V/C Ratio(X)	0.49	0.56	0.02	0.37	0.50	0.00	0.09	0.00	0.00	0.00	0.00	0.02
Avail Cap(c_a), veh/h	4075	3446	3375	475	8942	0	1829	0	0	0	0	1736
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	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	7.1	7.1	5.4	16.0	4.1	0.0	11.7	0.0	0.0	0.0	0.0	11.5
Incr Delay (d2), s/veh	0.4	0.7	0.0	4.0	0.2	0.0	0.1	0.0	0.0	0.0	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	5	1.4	0.0	0.2	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.5	7.8	5.4	20.0	4.3	0.0	11.8	0.0	0.0	0.0	0.0	11.5
LnGrp LOS	A	A	A	C	A		B					B
Approach Vol, veh/h		857			1062			36			5	
Approach Delay, s/veh		7.6			4.6			11.8			11.5	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.0	5.1	18.7		10.0		23.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0				
Max Green Setting (Gmax), s		37.0	9.0	72.0		37.0		85.0				
Max Q Clear Time (g_c+l1), s		2.6	2.4	8.1		2.1		7.8				
Green Ext Time (p_c), s		0.2	0.0	6.6		0.0		10.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			6.1									
HCM 7th LOS			A									

Marina DIF - 2023 Update
18: Driveway/Cardoza Ave & Reservation Rd

Plus Project Conditions
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱		↕		↰	↱	
Traffic Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Future Volume (veh/h)	102	646	17	16	646	81	10	1	11	58	1	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.99	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
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	653	17	16	653	82	10	1	11	59	1	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1985	876	43	907	759	184	46	112	370	3	226
Arrive On Green	0.10	0.56	0.56	0.02	0.49	0.49	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1568	1781	1870	1565	452	321	773	1400	23	1562
Grp Volume(v), veh/h	103	653	17	16	653	82	22	0	0	59	0	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1568	1781	1870	1565	1546	0	0	1400	0	1585
Q Serve(g_s), s	2.4	4.4	0.2	0.4	12.2	1.3	0.0	0.0	0.0	1.0	0.0	1.7
Cycle Q Clear(g_c), s	2.4	4.4	0.2	0.4	12.2	1.3	0.5	0.0	0.0	1.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	0.45		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	174	1985	876	43	907	759	343	0	0	370	0	229
V/C Ratio(X)	0.59	0.33	0.02	0.37	0.72	0.11	0.06	0.00	0.00	0.16	0.00	0.30
Avail Cap(c_a), veh/h	769	5731	2529	324	2549	2133	1429	0	0	1408	0	1404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	5.3	4.3	21.1	9.0	6.2	16.3	0.0	0.0	16.7	0.0	16.8
Incr Delay (d2), s/veh	3.2	0.1	0.0	5.2	1.1	0.1	0.1	0.0	0.0	0.2	0.0	0.7
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	0	1.0	0.0	0.2	3.7	0.3	0.2	0.0	0.0	0.5	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.2	5.4	4.3	26.4	10.1	6.2	16.4	0.0	0.0	16.9	0.0	17.6
LnGrp LOS	C	A	A	C	B	A	B			B		B
Approach Vol, veh/h	773				751		22				128	
Approach Delay, s/veh	7.6				10.0		16.4				17.3	
Approach LOS	A				A		B				B	
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	10.4		5.1	28.6	10.4		8.3	25.4				
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0	4.0				
Max Green Setting (Gmax), s	39.0		8.0	71.0	39.0		19.0	60.0				
Max Q Clear Time (g_c+l1), s	2.5		2.4	6.4	3.7		4.4	14.2				
Green Ext Time (p_c), s	0.1		0.0	5.4	0.6		0.2	5.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			9.5									
HCM 7th LOS			A									

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4		
Traffic Volume (vph)	644	56	60	165	0	0
Future Volume (vph)	644	56	60	165	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		
Lane Util. Factor	1.00			1.00		
Frbp, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	0.99			1.00		
Flt Protected	1.00			0.99		
Satd. Flow (prot)	1837			1836		
Flt Permitted	1.00			0.76		
Satd. Flow (perm)	1837			1412		
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	716	62	67	183	0	0
RTOR Reduction (vph)	4	0	0	0	0	0
Lane Group Flow (vph)	774	0	0	250	0	0
Confl. Peds. (#/hr)		21	21		19	5
Confl. Bikes (#/hr)		1				
Turn Type	NA		Perm	NA		
Protected Phases	4			8		
Permitted Phases			8			
Actuated Green, G (s)	20.3			20.3		
Effective Green, g (s)	20.3			20.3		
Actuated g/C Ratio	0.59			0.59		
Clearance Time (s)	4.0			4.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1084			833		
v/s Ratio Prot	c0.42					
v/s Ratio Perm				0.18		
v/c Ratio	0.71			0.30		
Uniform Delay, d1	5.0			3.5		
Progression Factor	1.00			1.00		
Incremental Delay, d2	2.3			0.2		
Delay (s)	7.2			3.7		
Level of Service	A			A		
Approach Delay (s/veh)	7.2			3.7	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)		6.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.55				
Actuated Cycle Length (s)		34.4		Sum of lost time (s)		8.0
Intersection Capacity Utilization		64.3%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	1810	62	166	1090	187	442
Future Volume (vph)	1810	62	166	1090	187	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.92	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3241	1441
Flt Permitted	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3241	1441
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1946	67	178	1172	201	475
RTOR Reduction (vph)	0	13	0	0	161	161
Lane Group Flow (vph)	1946	54	178	1172	278	76
Confl. Peds. (#/hr)	2					
Turn Type	NA	Perm	Prot	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases		4			2	2
Actuated Green, G (s)	66.9	66.9	13.6	85.0	16.5	16.5
Effective Green, g (s)	66.9	66.9	13.6	85.0	16.5	16.5
Actuated g/C Ratio	0.61	0.61	0.12	0.77	0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2142	958	217	2722	483	215
v/s Ratio Prot	c0.55		c0.10	0.33		
v/s Ratio Perm		0.03			c0.09	0.05
v/c Ratio	0.91	0.06	0.82	0.43	0.58	0.35
Uniform Delay, d1	19.1	8.9	47.3	4.4	43.7	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	0.0	21.3	0.1	1.7	1.0
Delay (s)	25.2	8.9	68.6	4.5	45.4	43.2
Level of Service	C	A	E	A	D	D
Approach Delay (s/veh)	24.7			13.0	44.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			24.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			110.5		Sum of lost time (s)	13.5
Intersection Capacity Utilization			80.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

MOVEMENT SUMMARY

 **Site: 101 [California Dr/5th Ave & 8th St (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: 5th Ave															
3	L2	All MCs	1	2.0	1	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	33.7
8	T1	All MCs	12	2.0	12	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.3
18	R2	All MCs	1	2.0	1	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.1
Approach			15	2.0	15	2.0	0.011	2.8	LOS A	0.0	1.2	0.13	0.03	0.13	34.2
East: 8th St															
1	L2	All MCs	16	2.0	16	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.0
6	T1	All MCs	1	2.0	1	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.6
16	R2	All MCs	1	2.0	1	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.4
Approach			19	2.0	19	2.0	0.014	2.8	LOS A	0.1	1.5	0.09	0.02	0.09	32.1
North: California Dr															
7	L2	All MCs	28	2.0	28	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.5
4	T1	All MCs	5	2.0	5	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	33.1
14	R2	All MCs	12	2.0	12	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.8
Approach			45	2.0	45	2.0	0.034	2.9	LOS A	0.1	3.7	0.09	0.02	0.09	32.6
West: 8th St															
5	L2	All MCs	9	2.0	9	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.2
2	T1	All MCs	1	2.0	1	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.7
12	R2	All MCs	1	2.0	1	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.5
Approach			12	2.0	12	2.0	0.009	2.9	LOS A	0.0	1.0	0.15	0.04	0.15	32.3
All Vehicles			91	2.0	91	2.0	0.034	2.9	LOS A	0.1	3.7	0.10	0.02	0.10	32.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglach M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: \\kimley-horn.com\ca_pls1\Project\SJC_TPTO\City of Marina\097789003- Marina DIF\2025 Update\05 Design & Analysis\Sidra\Marina DIF 2025_v2.sip9

MOVEMENT SUMMARY

 **Site: 101 [Del Monte Blvd & Beach Rd (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
South: Del Monte Blvd															
3	L2	All MCs	262	2.0	262	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	30.9
8	T1	All MCs	441	2.0	441	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	32.3
18	R2	All MCs	105	2.0	105	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	32.4
Approach			808	2.0	808	2.0	0.347	6.4	LOS A	1.8	45.8	0.40	0.22	0.40	31.8
East: Beach Rd															
1	L2	All MCs	42	2.0	42	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	30.9
6	T1	All MCs	78	2.0	78	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.4
16	R2	All MCs	62	2.0	62	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.2
Approach			182	2.0	182	2.0	0.261	8.2	LOS A	1.0	24.5	0.61	0.56	0.61	31.2
North: Del Monte Blvd															
7	L2	All MCs	58	2.0	58	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	31.8
4	T1	All MCs	313	2.0	313	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.7
14	R2	All MCs	67	2.0	67	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.6
Approach			438	2.0	438	2.0	0.227	5.9	LOS A	1.0	24.5	0.49	0.36	0.49	32.6
West: Beach Rd															
5	L2	All MCs	60	2.0	60	2.0	0.145	5.4	LOS A	0.6	14.1	0.47	0.36	0.47	31.7
2	T1	All MCs	69	2.0	69	2.0	0.145	5.4	LOS A	0.6	14.1	0.47	0.36	0.47	32.2
12	R2	All MCs	171	2.0	171	2.0	0.178	5.4	LOS A	0.7	17.4	0.46	0.34	0.46	32.8
Approach			300	2.0	300	2.0	0.178	5.4	LOS A	0.7	17.4	0.46	0.35	0.46	32.4
All Vehicles			1729	2.0	1729	2.0	0.347	6.3	LOS A	1.8	45.8	0.46	0.31	0.46	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglach M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

 **Site: 101 [Imjin Rd & 8th St (Site Folder: Future 2045 With Improvements PM)]**

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist]				
			veh/h		veh/h					ft					mph
South: Driveway															
3	L2	All MCs	1	2.0	1	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.1
8	T1	All MCs	149	2.0	149	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.7
18	R2	All MCs	1	2.0	1	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.5
Approach			152	2.0	152	2.0	0.135	4.4	LOS A	0.6	15.5	0.34	0.19	0.34	33.7
East: 8th St															
1	L2	All MCs	1	2.0	1	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.3
6	T1	All MCs	1	2.0	1	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.9
16	R2	All MCs	559	2.0	559	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.7
Approach			561	2.0	561	2.0	0.486	8.3	LOS A	3.3	84.8	0.48	0.25	0.48	31.7
North: Imjin Rd															
7	L2	All MCs	11	2.0	11	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.6
4	T1	All MCs	10	2.0	10	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	34.2
14	R2	All MCs	92	2.0	92	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.9
Approach			114	2.0	114	2.0	0.084	3.1	LOS A	0.4	9.6	0.03	0.00	0.03	33.9
West: 8th St															
5	L2	All MCs	1	2.0	1	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.4
2	T1	All MCs	166	2.0	166	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	34.0
12	R2	All MCs	51	2.0	51	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.7
Approach			217	2.0	217	2.0	0.164	3.9	LOS A	0.8	20.4	0.11	0.03	0.11	33.9
All Vehicles			1044	2.0	1044	2.0	0.486	6.2	LOS A	3.3	84.8	0.33	0.17	0.33	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stoeline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglach M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Roadway Segment		Description	ADT Volume	LOS
<i>Existing</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	3,733	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Collector	4,290	A
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	830	A
19	Imjin Parkway (12th) & SR1 Interchange	2-Lane Collector	4,480	A
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	2-Lane Collector	2,460	A
21	Del Monte & SR 1 Interchange	4-Lane Expressway	24,610	B
22	Reservation Road - Beach to SR1	2-Lane Arterial (w/ left-turn lane)	8,080	A
23	Reservation Road - Imjin Road to Blanco Road	4-Lane Divided Arterial (w/ left-turn lane)	17,890	A
24	Airport Access Road	-	-	-

Roadway Segment		Description	ADT Volume	LOS
<i>Future No Project</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	4,075	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Collector	7,466	B
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	722	A
19	Imjin Parkway (12th) & SR1 Interchange	2-Lane Collector	20,078	F
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	2-Lane Collector	10,073	D
21	Del Monte & SR 1 Interchange	4-Lane Expressway	20,673	B
22	Reservation Road - Beach to SR1	2-Lane Arterial (w/ left-turn lane)	15,360	D
23	Reservation Road - Imjin Road to Blanco Road	4-Lane Divided Arterial (w/ left-turn lane)	42,173	F
24	Airport Access Road	-	-	-

Roadway Segment		Description	ADT Volume	LOS
<i>Future With Project</i>				
16	Del Monte(2nd Ave)/Patton Parkway Extension	2-Lane Collector	4,075	A
17	8th Street - 3rd Ave to Intergarrison	2-Lane Arterial (w/ left-turn lane)	7,466	A
18	Salinas Avenue - Reservation Road to Carmel Avenue	2-Lane Collector	722	A
19	Imjin Parkway (12th) & SR1 Interchange	4-Lane Freeway	20,078	A
20	Del Monte Blvd. - Beach Road to Marina Greens Drive	4-Lane Undivided Arterial (no left-turn lane)	10,073	A
21	Del Monte & SR 1 Interchange	4-Lane Expressway	20,673	B
22	Reservation Road - Beach to SR1	4-Lane Divided Arterial (w/ left-turn lane)	15,360	A
23	Reservation Road - Imjin Road to Blanco Road	6-Lane Expressway	42,173	C
24	Airport Access Road	2-Lane Collector	5,000	A

Attachment C

Public Facilities, Public Safety, Parks, Intersections and Roadways

Land Use Category	per Unit	Public Facility	Public Safety	Parks	Intersections	Roadways
Residential						
Single Family	per KSF	\$804	\$1,948	\$4,661	\$2,134	\$6,015
Senior Homes	per KSF	\$1,307	\$3,168	\$7,578	-	-
Senior Homes	per DU	-	-	-	\$2,438	\$6,873
Assisted Living	per KSF	\$653	\$1,584	\$3,789	-	-
Assisted Living	per DU	-	-	-	\$1,471	\$4,146
Multifamily	per KSF	\$1,547	\$3,749	\$8,971	-	-
Multifamily	per DU	-	-	-	\$3,813	\$10,748
Nonresidential						
Office/Research	per KSF	\$956	\$2,318	-	\$6,069	\$17,108
Retail/Service	per KSF	\$574	\$1,391	-	\$9,688	\$27,309
Industrial	per KSF	\$191	\$464	-	\$2,783	\$7,846
Hotel	per Room	\$144	\$348	-	\$4,473	\$12,610
Church	per KSF	\$191	\$464	-	\$4,033	\$11,370
Daycare Center	per KSF	\$765	\$1,854	-	\$23,883	\$67,327
Animal Hospital/Clinic	per KSF	\$1,147	\$2,781	-	\$12,288	\$34,639
Medical/Dental	per KSF	\$1,147	\$2,781	-	\$20,575	\$58,000

(1) SF = Square Feet, KSF = 1000 Square Feet, DU = Dwelling Units, Hotel Fees are per Room.

(2) Adjustments for rounding of \$1 or less on total fees have been made to reflect rounding in the study.

Attachment D

Current Development Impact Fee Schedule

Land Use	Unit ⁽¹⁾	Public Building	Public Safety	Parks	Intersections	Roadways	Proposed Total
Residential							
Single Family	DU	\$4,983	\$1,074	\$10,791	\$2,275	\$9,396	\$28,519
Senior Homes	DU	\$3,323	\$714	\$7,194	\$881	\$3,632	\$15,744
Assisted Living – Senior	DU	\$1,845	\$397	\$3,996	\$633	\$2,606	\$9,477
Multifamily	DU	\$4,615	\$993	\$9,991	\$1,592	\$6,563	\$23,754
Non-Residential							
Office/Research	KSF	\$347	\$651	-	\$2,593	\$10,699	\$14,290
Retail/Service	KSF	\$209	\$389	-	\$4,359	\$17,983	\$22,940
Industrial	KSF	\$71	\$129	-	\$1,638	\$6,761	\$8,599
Hotel	ROOM	\$94	\$177	-	\$1,920	\$7,926	\$10,117
Church	KSF	\$71	\$129	-	\$2,141	\$8,837	\$11,178
Day Care Center	KSF	\$278	\$522	-	\$17,415	\$71,842	\$90,057
Animal Hospital/Clinic	KSF	\$417	\$780	-	\$11,098	\$45,786	\$58,081
Medical Office	KSF	\$417	\$780	-	\$8,494	\$35,048	\$44,739

⁽¹⁾ KSF = 1,000 Square Feet, DU = Dwelling units



Proposed Development Impact Fee Schedule

Land Use	Unit ⁽¹⁾	Public Building	Public Safety	Parks	Intersections	Roadways	Proposed Total
Residential							
Single Family	DU	\$2,009	\$4,870	\$11,653	\$5,334	\$15,038	\$38,904
Senior Homes	DU	\$1,437	\$3,484	\$8,336	\$2,438	\$6,873	\$22,568
Assisted Living – Senior	DU	\$719	\$1,742	\$4,168	\$1,471	\$4,146	\$12,246
Multifamily	DU	\$1,701	\$4,124	\$9,868	\$3,813	\$10,748	\$30,254
Non-Residential							
Office/Research	KSF	\$956	\$2,318	-	\$6,069	\$17,108	\$26,451
Retail/Service	KSF	\$574	\$1,391	-	\$9,688	\$27,309	\$38,962
Industrial	KSF	\$191	\$464	-	\$2,783	\$7,846	\$11,284
Hotel	ROOM	\$144	\$348	-	\$4,473	\$12,610	\$17,575
Church	KSF	\$191	\$464	-	\$4,033	\$11,370	\$16,058
Day Care Center	KSF	\$765	\$1,854	-	\$23,883	\$67,327	\$93,829
Animal Hospital/Clinic	KSF	\$1,147	\$2,781	-	\$12,288	\$34,639	\$50,855
Medical Office	KSF	\$1,147	\$2,781	-	\$20,575	\$58,000	\$82,503

Typical Size

← 2,500 SF

← 1,100 SF

← 1,100 SF

← 1,100 SF

⁽¹⁾ KSF = 1,000 Square Feet, DU = Dwelling units



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