State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

MEMORANDUM

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: June 26-27, 2025

From: STEVEN KECK, Chief Financial Officer

Reference Number: 4.20, Action Item

Prepared By: Dee Lam, Chief
Division of Local Assistance

Subject: **ACTIVE TRANSPORTATION PROGRAM – PROJECT SCOPE AMENDMENT – FORT ORD REGIONAL TRAIL AND GREENWAY: CALIFORNIA AVENUE SEGMENT PROJECT**
RESOLUTION ATP-P-2425-13

ISSUE:

Should the California Transportation Commission (Commission) approve a project scope amendment for the Cycle 6 Active Transportation Program (ATP) Transportation Agency for Monterey County (TAMC) – Fort Ord Regional Trail and Greenway: California Avenue Segment project (PPNO 3130A), in Monterey County?

RECOMMENDATION:

The California Department of Transportation (Department) recommends that the Commission approve this project scope amendment for the Cycle 6 ATP Fort Ord Regional Trail and Greenway: California Avenue Segment project (PPNO 3130A), in Monterey County.

DISCUSSION:

In December 2022, the Commission approved the Small Urban and Rural component of the 2023 ATP, which included $8,429,000 in funding for the Fort Ord Regional Trail and Greenway: California Avenue Segment project (PPNO 3130A), in Monterey County. This 1.8 mile segment of the Fort Ord Regional Trail and Greenway project (FORTAG) aims to close a gap in the regional multi-use path network and will connect disadvantaged communities in the City of Marina to elementary schools and the California State University Monterey Bay, planned affordable housing developments, future SURF! Busway and Bus Rapid Transit, health services, employment centers, and Fort Ord National Monument trails and open space. The FORTAG California Avenue segment will connect to Segment 2 of FORTAG, a 2.6 mile segment from Imjin Road to the Jerry Smith Corridor through Fort Ord open space.

During the design phase, geotechnical studies, topographic mapping, and environmental surveys were conducted, as further explained, which exposed challenges to the bridge that were not known at the time. In addition, at the time of the ATP application, there were no plans for improvements on Imjin Road. The City of Marina has since moved forward with roadway improvements immediately adjacent to the project location, a roundabout, sidewalk, bike lanes, shared use paths, and transit stops at Imjin Road and Imjin Parkway. The proposed midblock crosswalk would be adjacent to the new transit stop and would connect the FORTAG trail to this new pedestrian infrastructure, improving regional connectivity beyond what the bridge would have done.

Additionally, at the May 2025 Commission meeting, TAMC received approval for a 20-month time extension for the allocation of the Construction (CON) phase, extending the deadline to February 2027.

ANALYSIS:

The Department's analysis has deemed the TAMC request to be a significant scope change due to the replacement of a separated crossing with an at-grade crossing.

The revised scope includes the replacement/relocation of the originally proposed pedestrian overcrossing with an at-grade mid-block crossing with a High-intensity Activated crossWalK system and crossing improvement measures at two intersections. The relocation of the roadway crossing feature will facilitate access to a newly constructed roundabout with transit stops and the crossing improvements will enhance the safety of active transportation users. According to the revised cost estimates, the current construction costs are estimated at $7,380,000, while the ATP programmed CON phase is $6,920,000. The remaining funds, including the additional project costs, will be covered by TAMC.

ANALYSIS RECOMMENDATION:

Based on the Commission's scope change guidance, as well as the analysis of the proposed scope changes, the Department has determined that this scope change has the potential to increase overall active transportation users of the project as compared to the original scope; but the shift from a separated facility to an at-grade crossing will decrease the safety. Therefore, the Department supports the proposed scope change for this project.

BACKGROUND:

Resolution G-16-29 amended the ATP Guidelines to stipulate that any agency implementing an ATP project, present scope changes to the Department for consideration prior to allocation. Therefore, the Department will make a recommendation to the Commission for final approval with the understanding that scope changes that result in a decrease in active transportation benefits may result in removal from the program.

Attachments

Project Scope Change Request
Caltrans' Analysis and Recommendations

Resubmittal Date: 4/15/25

PROJECT NAME: Fort Ord Regional Trail and Greenway: California Avenue Segment
IMPLEMENTING AGENCY: Transportation Agency for Monterey County
ATP ID: ATP6-05-022R
FEDERAL PROJECT NO.: 6143(101)
PPNO: 3130A
DATE OF AGENCY/CT COORDINATION MEETING: 9/19/24
FIELD REVIEW DATE (major only):
APPROVED PROJECT DESCRIPTION: Construction of a 1.8 mile segment of the planned 28-mile FORTAG, including a protected intersection and bicycle and pedestrian overcrossing.

Purpose

This document serves as supplemental information to the Exhibit 25-D REQUEST FOR PROJECT SCOPE CHANGE (attached) completed by Transportation Agency for Monterey County (TAMC) and submitted to Caltrans on 1-30-25.

Caltrans' Recommendation(s)

As a result of Caltrans' review of the TAMC's Scope Change Request documentation and subsequent discussions with TAMC's staff, Caltrans recommends the following action:
APPROVE AS A MAJOR SCOPE CHANGE

Scope to Be Changed

The following is a numbered list of proposed scope changes:

1. Remove the proposed pedestrian overcrossing and replace/relocate with a mid-block crosswalk and HAWK system.
2. Adding 2 enhanced crossings on 8th street at
    a. California Ave, and
    b. Patton Parkway

Reason for the Scope Change

The agency is proposing to change the scope for the following reason(s):

1. The City of Marina is moving forward with the design of roundabout with sidewalks, bike lanes, shared used paths, and transit stops. The bridge would have-
    a. hindered access to regional connectivity.
    b. Created excessive negative impacts to endangered plants
2. The 2 crossing improvements will provide better access to the CSUMB campus.

Summary of Caltrans Analysis

Caltrans supports this request for the following reasons:

Proposed scope change's affect to benefits (Potential of the project to increase walking and biking as compared to the approved scope):
No change- The proposed scope change is expected to have the following impact on the project's potential to increase walking and biking as compared to the original scope.

1. The City of Marina has started improvements adjacent to the application's location, which includes adding a roundabout at Imjin Road/Parkway. The roundabout also includes transit stops. TAMC has relocated the trail alignment to improve access to the transit facilities.

The proposed roundabout will cause the vehicular speed to be reduced and a HAWK system will allow the non-motorized added safety at the at-grade crossing; while giving the non-motorized users easy access to the proposed transit stop. The addition of new transit stops may increase transit use, instead of the facility being used purely for recreation.

2. The 2 crossing improvements will provide better access to the CSUMB campus.

Proposed scope change's affect to benefits (Potential of the project to increase safety of pedestrians and bicyclists walking biking as compared to the approved scope):
Net Decrease - The proposed scope change is expected to have the following impact on the overall safety of pedestrians and bicyclists as compared to the original scope.

1. The originally proposed separated facility for non-motorized users would have offered the safest means of crossing vehicular traffic. The route in question has low traffic volume; but can experience higher traffic speeds. The use of a roundabout and HAWK system decrease non-motorized safety when compared to a fully separated facility; but will make transit access easier.
2. The 2 crossing improvements will provide increased non-motorized safety when compared to the current configuration.

Additional Comments
Caltrans concurs with the information provided in Attachment 1- Exhibit 25-D REQUEST FOR PROJECT SCOPE CHANGE. The agency has coordinated with Caltrans staff to provide the most accurate information possible.

Caltrans' Coordination with Requesting Agency
Via several email conversations

Impact to Project Cost
The project was awarded $8.42M, including $980,000 for Non-Infrastructure efforts. The current construction estimate is $7.38M

Impact to Project Schedule
The agency will be requesting a Construction allocation time extension.

ATTACHMENTS
1. Exhibit 25-D REQUEST FOR PROJECT SCOPE CHANGE-Completed by Agency
2. Original plans with changes redlined
3. Original Detailed Engineer's Estimate with changes redlined

To: Dianna Garrett
District Local Assistance Engineer
Caltrans, Office of Local Assistance
50 Higuera St.
San Luis Obispo, CA 93401

Date: 10/17/2024
PPNO: 3130A
Federal PROJECT #: 6143(101)

ATP ID #: 0523000102

Project Name (Per CTC programming)**:** Fort Ord Regional Trail and Greenway: California Avenue Segment

Approved Project Description (As submitted in Application)**:** Construction of a 1.8-mile segment of the planned 28-mile FORTAG, including a protected intersection and bicycle and pedestrian overcrossing.

Approved Project Limits (As submitted in Application)**:** FORTAG Segment 3 is located in the City of Marina on California Ave. from Carmel Avenue to 8th Avenue

☐ **For Federally Funded Projects:** Written MPO Concurrence (see Item #7)

Current FTIP/FSTIP Description: N/A

Current FTIP/FSTIP Limits: N/A

Dear Diana:

Consistent with the California Transportation Commission's (CTC) "Policy on Project Amendments and Advance Project Allocations", adopted on August 18, 2016, we request that Caltrans consider, and the CTC approve the proposed Project Amendments as documented below:

REQUIRED ELEMENTS (PER CTC'S PROJECT AMENDMENT POLICY):

1. **An explanation of the proposed scope change;**
   The proposed scope change is to move from a pedestrian bridge over Imjin Road to an at-grade crossing at Imjin Road. In the ATP application, the pedestrian bridge was planned to be located at Imjin Road as per the Draft 30% FORTAG CSUMB North Loop Extension plans prepared by Alta, dated 04/13/2020. The bridge crossing will be replaced by a mid-block at grade crossing along Imjin Road which will include a pedestrian signal to stop vehicle traffic on Imjin Road when activated. At the time of the ATP application the bridge was determined to be the best solution, however, since the application was submitted, geotechnical studies, topographic mapping, and environmental surveys were conducted, as further explained below, which exposed challenges to the bridge that were not known at the time. In addition, at the time of the ATP application, there were no plans for improvements on Imjin Road. The City of Marina has since moved forward with the environmental clearance and design of roadway improvements immediately adjacent to the project location, a roundabout, sidewalk, bike lanes, shared use paths, and transit stops at Imjin Rd and Imjin Parkway. The proposed midblock crosswalk would be adjacent to the new transit stop and would connect the FORTAG trail to this new pedestrian infrastructure, improving regional connectivity beyond what the bridge would have done.

   In addition to the originally scoped crossing improvements, the project now proposes two enhanced crossings on 8th Street to provide better access to CSUMB campus and enhanced crossings at California Avenue and Patton Parkway.
   See Appendix D for Regional Connectivity Map. See Appendix A for original plans and Appendix B for revised plans.

2. **The reason for the proposed scope change:**
The reason for the proposed scope change is due to the presence of Sand Gilia, a federally protected plant species, the topography on either side of the roadway, the sandy soils, the resulting engineering and environmental constraints, and the costs implications.

The project team met with the California Department of Fish and Wildlife to discuss the project and understand the agency's view on mitigation and to develop a mitigation strategy for the open space area adjacent to the proposed pedestrian bridge crossing. CDFW explained that impacting known occurrences of Sand Gilia if avoidable would not be acceptable and the agency considered the entire open space area as seed bank for Sand Gilia, and mitigation would be required.

The project team explored four alternative locations for the bridge that would not infringe upon the Gilia's critical 50-foot buffer zone and took into consideration the topography on either side of the roadway, the clearance requirements for Imjin Road, the sandy soils, and other engineering and environmental constraints. Additionally, geotechnical assessments revealed suboptimal soil conditions that would necessitate extensive and costly foundational support for the bridge abutments, further complicating the original plan.

The four alternatives included preliminary plans and cost estimates that were provided and discussed with the Transportation Agency for Monterey County (TAMC) and the City of Marina. All four alternatives would result in varying degrees of impact to the Gilia and exceeded the original cost estimate for the bridge and mitigation fees. After careful consideration, the decision was made to remove the pedestrian bridge from the project and replace it with an at-grade crossing due to high costs, poor soil conditions, challenging topography and the need to protect sensitive plant species. See Appendix D for bridge alternative plans.

The two enhanced crossings at California Ave. / Patton Parkway and California Ave. / 8th Street were added to provide connectivity to CSU Monterey Bay to the south and the existing bicycle facilities to the north.

3. **The impact the proposed scope change would have on the overall cost of the project;**
    - The original overall project costs in the approval application equaled $7,820,722.
    - The current overall project costs based on the originally approved project scope equal $14,788,722.
    - The proposed overall project costs based on the proposed scope change equal $7,386,344.
    - See Appendix C for detailed engineer's estimates.

4. **An estimate of the impact the proposed scope change would have on the potential of the project to increase walking and bicycling as compared to the benefits identified in the project application (increase or decrease in benefit);**

Location/Element	Approved Scope	Proposed Change	Change in Walking/Bicycling Benefit
On Imjin Road from Imjin Parkway to 8th Street	Pedestrian Bridge	At-grade crossing Pedestrian Hybrid Beacon System	Increase

The currently approved project scope includes a 150 LF pedestrian bridge. The sofit of the pedestrian bridge was required to be a minimum of 17 feet clear of the roadway elevation. As a result, each side of the pedestrian bridge requires long, steep (4.9% longitudinal slopes) approaches.

Conversely, the proposed scope removes the long and steep approaches, providing shorter connections to adjacent pedestrian and bicycling facilities, while offering a more accessible design for individuals of all ages and abilities, as well as connecting to regional transit stops and new bicycle and pedestrian infrastructure the City of Marina is currently constructing, thus increasing the benefit for walking and bicycling.

5. **An estimate of the impact the proposed scope change would have on the potential of the project to increase the safety of pedestrians and bicyclists as compared to the benefits identified in the project application (increase or decrease in benefit);**

Location/Element	Approved Scope	Proposed Change	Change in Safety Benefit
On Imjin Road from Imjin Parkway to 8th Street	*Pedestrian Bridge*	*At-grade crossing w/Hawk System*	*Equal to slight decrease*

The currently approved project scope includes a 150 LF pedestrian bridge. Since the elevated bridge and the road are separated, all conflict points between pedestrians, cyclists and vehicles would be eliminated.

With the proposed at-grade Pedestrian Hybrid Beacon system, vehicles are required to stop at the traffic light once the system is activated. While not eliminating conflict points, the proposed design will greatly reduce conflict points and provide a high level of safety for all users. The crossing will also be marked with high visibility crosswalk markings. Additionally, with the roundabout, the character of the road will be changing from a rural uncontrolled roadway to a more controlled traffic system.

6. **An explanation of the methodology used to develop the aforementioned estimates; and**

The original application portrayed the walking and biking needs and benefits:
Conflict Points: Several conflict points exist along the proposed project route including on California Ave. where the bike lane is within the roadway next to motor vehicles driving 40mph, at the California Ave. and Imjin Parkway intersection where two bike crashes occurred, and at Imjin road where the FORTAG crosses the road.

Inadequate facilities: 2 missing ADA curb ramps and 2 ramps require upgrades. 0.4-mile gap of Class ll bike lanes on California Avenue, 0.5 miles of no pedestrian or Class ll bike facilities on California Avenue between Imjin Parkway and 5th Ave.

How does project address inadequacies: The proposed project will provide an alternative facility for users with the addition of a 1.4 mile 12-foot multi-use path, installs 2 ADA curb ramps and 2 curb ramp upgrades, a protected intersection at California Ave. and Imjin Parkway, and a pedestrian overcrossing over Imjin Road.

The proposed scope change will continue to address inadequate facilities and conflicts points listed above. The change from a pedestrian bridge to an at-grade crossing at Imjin Road will provide a controlled crossing, thus reducing potential conflicts, but not completely eliminating potential conflicts like a grade separated facility. The project team has prepared a crossing control memo to inform the appropriate level of crossing control at this crossing. The crossing will feature a Pedestrian Hybrid Beacon system, providing full stop control. The pathway alignment is designed to provide a comfortable and convenient connection, but also an offset crossing to increase the awareness of the roadway crossing.

The project team produced alignments and profiles for the originally scoped pedestrian bridge, including provisions for minimizing impacts to critically sensitive species. To maintain 17' clear over the roadway, the bridge would require steep approaches. The proposed at-grade crossing will provide more accessible (less steep), and more direct connection to the new roundabout and bus stops at Imjin Parkway and the next segment of this trail, which will increase the likelihood that the trail is used for transportation rather than just for recreation.

In addition to the originally scoped crossing improvements, the project now proposes two enhanced crossings on 8th Street to provide better access to CSUMB campus and enhanced crossings at California Avenue and Patton Parkway.

7. **For projects programmed in the Metropolitan Planning Organization (MPO) component, evidence of MPO approval and the MPO rationale for their approval.**

No federal funds.

ADDITIONAL QUESTIONS:

8. **Does this scope change require revalidation of your environmental document?** No
   If yes, what is the actual/estimated date of revalidation? _____

   No, it follows the same alignment originally identified and reduces significantly the impacts to Sand Gilia and the natural environment.

9. **Explain the additional public outreach efforts you have made with respect to this proposed scope change and provide a summary of the public response to these efforts:**

   Significant public outreach was conducted during the environmental clearance phase of the project. This outreach was focused more on the general routing and alignment and focused less on the specifics of the design. The 30% plans were not circulated to the public; therefore, this will not be a significant change to the community's expectations. The project is scoped to conduct various public meetings and stakeholder meetings, which will focus on the specifics of the design.

   The project team has reached out to the City of Marina, California State University at Monterey Bay, and the FORTAG founders, to explain the scope change and all parties fully support the scope change.

REQUIRED Attachments: (check boxes of attached required documents)

- ☒ Original plans/workplan with changes highlighted
- ☒ Revised plans/workplan
- ☒ Original Detailed Engineer's Est. with changes highlighted
- ☒ Revised Detailed Engineer's Est.
- ☐ Written MPO Concurrence (see Item #7)
- ☒ Additional Revised Application Documentation

Required revisions to the Project's Description and/or Limits:

The proposed Project Amendments documented above will require the following changes to the Project's Description and/or Limits:

Proposed changes to the Project Description: Construction of a 1.8-mile segment of the planned 28-mile FORTAG, including a protected intersection and at-grade pedestrian hybrid beacon.

Proposed changes to the Project Limits: N/A

For Federally Funded Projects:

Proposed changes to the FTIP/FSTIP Description: N/A

Proposed changes to the FTIP/FSTIP Limits: N/A

Project Delivery Status:

The following is a side-by-side comparison of the original project schedule and the current project schedule. The explanations for each milestone date change is listed below:

Original CTC Allocation Dates: (as programmed by the CTC when the application was approved for funding):

PA&ED: _____ PS&E: 23/24 R/W: _____ CON: 24/25 CON-NI: 23/24

Actual/Currently Anticipated CTC Allocation Dates: (at the time of this request)

PA&ED: _____ PS&E: 23/24 R/W: _____ CON: 25/26 CON-NI: 25/26

Explanation for milestone changes:

Original construction allocation has been pushed from 24/25 to 25/26 due to the bridge location and bridge type engineering and

cost alternative analysis. Additionally, the project schedule was changed to account for the completion of adjacent projects to ensure there are no conflicts with construction footprints and operations.

Local Agency Certification:

This Request for Scope Change has been prepared in accordance with the *Procedures for Administering Local Projects in the Active Transportation Program (ATP)*. I certify that the information provided in the document is accurate and correct. I understand that if the required information has not been provided this form will be returned and the request may be delayed. Please advise us as soon as the scope change has been approved.
You may direct any questions to:

_____Janneke Strause_____ at __(831) 775-4410_____
(name) (phone number)

Signature: Janneke Strause Title: ____Associate Transportation Planner____Date:_10/24/2024__

Agency/Commission: _Transportation Agency for Monterey County_____

Attachments: Appendix A-D

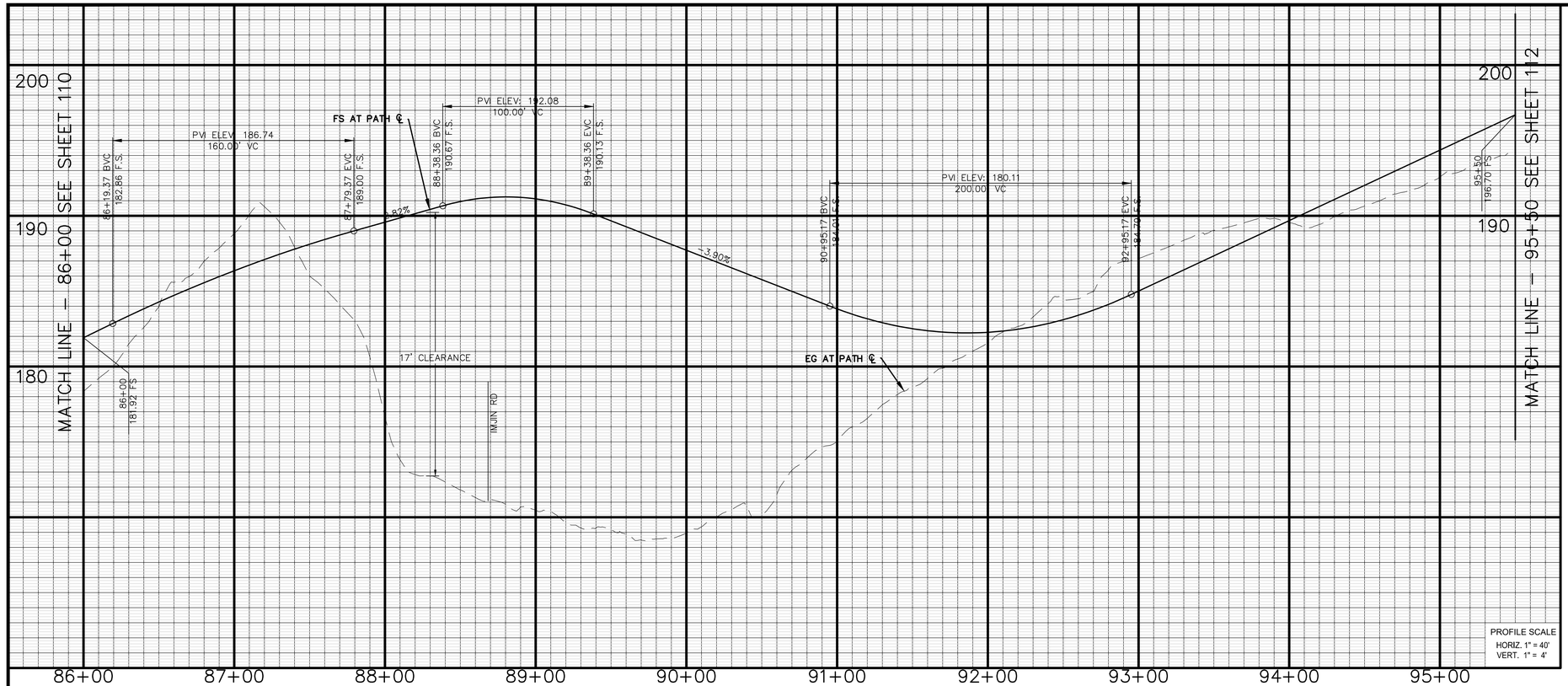
Distribution:

(1) Original -DLAE
(2) Copy – Division of Local Assistance, Headquarters ATP Program Manager
(3) Copy – MPO/RTPA/County Transportation Commission

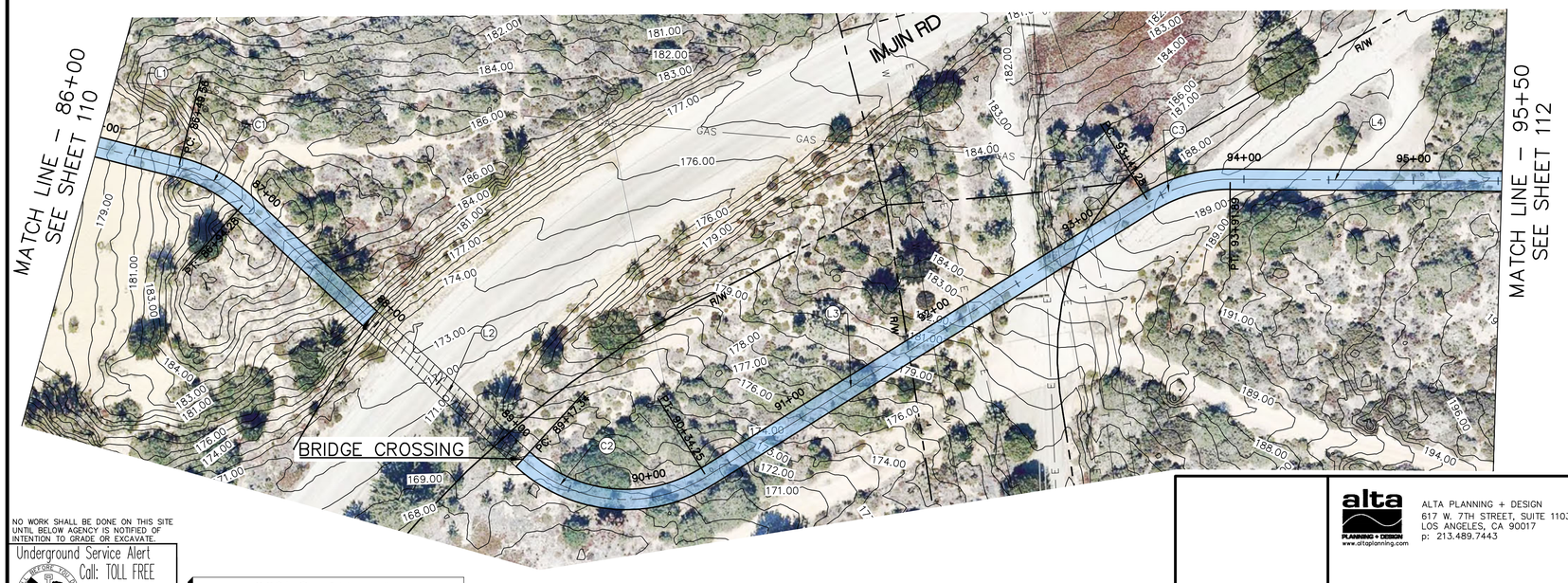
Appendices

Appendix A

Original plans with changes highlighted



PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



CONSTRUCTION NOTES:

DISPOSITION NOTES

HATCH / LINE LEGEND

- NEW SHARED USE PATH (SEE TYPICAL SECTIONS)
- BRIDGE CROSSING
- PROPERTY LINE
- E — EXISTING ELECTRICAL
- T — EXISTING TELECOMMUNICATION
- W — EXISTING WATER
- GAS — EXISTING GAS
- CONTOUR LINE AT 1' INTERVAL

LINE / CURVE TABLE

#	RADIUS	LENGTH	DELTA/BRG	TANGENT
L1	–	64.75'	S64° 02' 33.55"E'	–
C1	90.00'	44.72'	28° 28' 08"	22.83'
L2	–	223.06'	S35° 34' 25.63"E'	–
C2	90.00'	116.92'	74° 25' 52"	68.35'
L3	–	307.03'	N69° 59' 42.27"E'	–
C3	90.00'	50.61'	32° 13' 12"	25.99'
L4	–	210.23'	S77° 47' 05.58"E'	–

KEY MAP

40 0 20 40 80
1"=40' PLAN SCALE FEET

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

Underground Service Alert
Call: TOLL FREE
811
TWO WORKING DAYS BEFORE YOU DIG

30% SUBMITTAL
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p: 213.489.7443

PREPARED UNDER THE DIRECT SUPERVISION OF:

DATE:

STEVEN FRIESON, R.C.E. NO. 42110

DATE	REVISION	BY

SCALE AS SHOWN

F.B. NO.	PAGE	TO	
DESIGNED	DV/ EK	DATE	5/4/2020
DRAWN	DV/ EK	DATE	5/4/2020
CHECKED	VH	DATE	5/11/2020

PROJECT:

FORTAG IMPROVEMENTS
RECONSTRUCTION

SUBMITTED DATE

APPROVED DATE

JOB NO.

DRAWING NO.

SHEET 111 OF SHEET

TRANSPORTATION AGENCY FOR MONTEREY COUNTY
CIVIL ENGINEERING DEPARTMENT

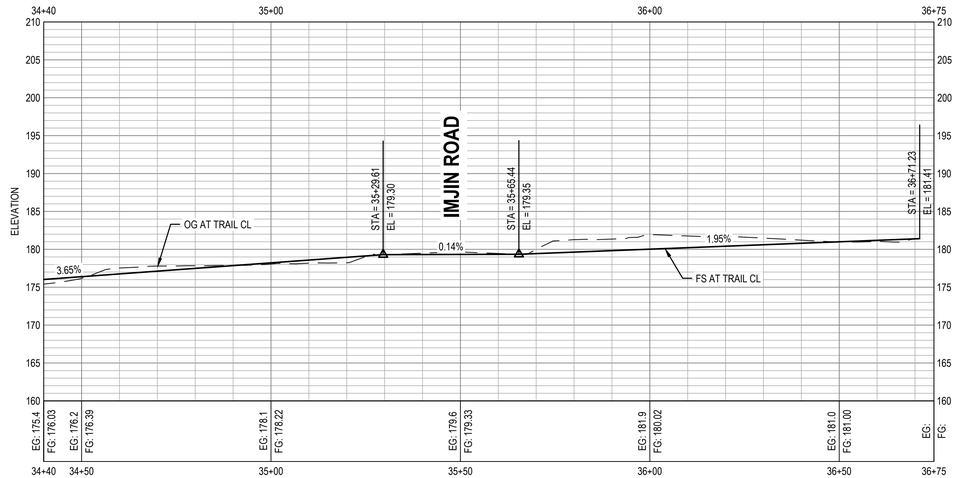
DWG Name: N:\Shared\projects\2018\00-2018-191 FORTAG\CAD\07_Engineering\09_Sheets\111 CSUMB Loop North - Sheet 9.dwg Plotted by: danielavazquez on May 11, 2020 - 11:37:22

Appendix B

Revised plans

IMJIN RD TRAIL - PLAN VIEW

SCALE: 1" = 20'



IMJIN RD TRAIL - PROFILE VIEW

SCALE: 1" = 20' HORIZ, 1" = 10' VERT

0 10' 20' VERTICAL

0 10' 20' 40' HORIZONTAL

GENERAL NOTES:

1. ALL LOCATIONS OF UTILITIES SHOWN ARE APPROXIMATE AND DEPICT UTILITY LOCATIONS AT BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXACT LOCATIONS OF ALL UTILITIES PRIOR TO ANY UNDERGROUND WORK.
2. CONTRACTOR SHALL REPLACE ALL DISTURBED AREAS IN-KIND.
3. FOR PAVEMENT AND TRAIL STRUCTURAL SECTIONS, SEE GENERAL SHEETS CROSS SECTIONS.

SHEET KEYNOTES

1. FUTURE ROADWAY IMPROVEMENTS BY OTHERS.

LEGEND

- PAVEMENT HOT MIX ASPHALT
- DG SHOULDER
- DETECTABLE WARNING SURFACE
- MINOR CONCRETE
- SENSITIVE SPECIES, VARIOUS, MAPPED 2024
- SENSITIVE SPECIES, GILIA, MAPPED 2024

35% PRELIMINARY

No.	Issue	Checked	Approved	Date
Author	C. PHELPS	Drafting Check	C. OTTO	Project Manager S. GRUPICO
Designer	C. PHELPS	Design Check	C. OTTO	Project Director L. VAN PARYS

Bar is one inch on original size sheet
0 1"

GHD Inc.
655 Montgomery Street Suite 1010
San Francisco California 94111 USA
T 1 415 283 4970 F 1 415 283 4980
www.ghd.com

Client FORTAG

Project CALIFORNIA AVENUE SEGMENT FINAL DESIGN

Project No. 12603415 | Date JULY 17, 2024 | Scale AS SHOWN

Title IMPROVEMENT PLAN AND PROFILE - 21

Size ANSI D

Sheet No C-121

Sheet 32 of 34

Plot Date: 17 July 2024 - 2:33 PM
Plotted By: Alice Park
Filename: \\ghdnet\ghd\US\San Francisco\Projects\561\12603415\05 - Digital_Design\ACAD\Sheets\12603415-GHD-0000-TRL-CI-D103.dwg

E 5,742,200
E 5,742,400
E 5,742,600
N 2,135,800
N 2,135,600
N 2,135,400
Dense Brush
Dense Trees
Asph.
Conc.
IMJIN ROAD
6TH AVE
MATCHLINE STA 34+26 - SEE SHEET
MATCHLINE STA 34+26 - SEE SHEET
EC 34+51.66
SC 34+66.66
PRC 36+71.23
N
0
30'
60'
IMJIN PARKWAY EXPANSION PROJECT, IN CONSTRUCTION SUMMER 2024
MAPPED GILIA WITH 50' BUFFER
FORTAG - FEDERAL LANDS PROJECT, IN DESIGN

Appendix C

+ Original Engineer's Estimate

+ Original Engineer's Estimate w/lowest cost bridge alternative

+ Revised Engineer's Estimate

FORTAG California Avenue Segment

ATP Cycle 5 - Scope Change Request

Cost Summary

Scope	Total Construction Cost	Detail
ATP Cycle 5 Application (Overpass Bridge)	$7,820,722	Pg. 3-4
Original Scope (Overpass Bridge) with updated cost	$14,788,722	Pg. 6-7
Updated Scope (at-grade crossing)	$7,386,344	Pg. 9-11

ORIGINAL DETAILED ENGINEER'S ESTIMATE

Detailed Project Estimate and Total Project Costs- Cycle 6

Important: Read the Instructions in the first sheet (tab) before entering data. Do not enter data in shaded fields (with formulas).

Project Information:

Agency: Transportation Agency for Monterey County **Date:** 6/9/2022

Project Description: Fort Ord Regional Trail and Greenway: California Avenue Segment

Project Location: 5th Avenue/Califo0rnia Avenue from Imjin Road to Patton Parkway

Licensed Engineer in responsible charge of preparing or reviewing this PSR-Equivalent Cost Estimate: Steve Grupico, PE **License #:** 74607

Project Estimate and Cost Breakdown:

Project Estimate (for Construction Items Only)

Item No.	Item	Quantity	Units	Unit Cost	Total Item Cost	Cost Breakdown: ATP Eligible Costs/Items %	ATP Eligible Costs/Items $	ATP Ineligible Costs/Items %	ATP Ineligible Costs/Items $	Corps/CCC to construct %	Corps/CCC to construct $
General Overhead-Related Construction Items											
1	Mobilization	1	LS	$286,000.00	$286,000	100%	$286,000				
2	Traffic Control	1	LS	$191,000.00	$191,000	100%	$191,000				
3	Stormwater Protection Plan	1	LS	$100,000.00	$100,000	100%	$100,000				
4	Permitting including Fees	1	LS	$150,000.00	$150,000	100%	$150,000				
5	Clearing and Grubbing	3.6	AC	$10,000.00	$36,000	100%	$36,000				
6	Environmental Protection and Mitigation	1	LS	$100,000.00	$100,000	100%	$100,000				
7			LS					100%			
8			LS					100%			
9			LS					100%			
10			LS					100%			
General Construction Items											
11	Excavation	9370	CUYD	$130.00	$1,218,100	100%	$1,218,100				
12	Demolition	1	LS	$100,000.00	$100,000	100%	$100,000				
13	Misc Utilities	1	LS	$65,000.00	$65,000	100%	$65,000				
14	ADA Curb Ramp	10	EA	$8,000.00	$80,000	100%	$80,000				
15	8" CL II AB	1400	CY	$85.00	$119,000	100%	$119,000				
16	4" HMA Pavement	3530	TON	$150.00	$529,500	100%	$529,500				
17	Construct Overpass Bridge	1	LS	$2,000,000.00	$2,000,000	100%	$2,000,000				
18	Signing and Striping	1	LS	$140,000.00	$140,000	100%	$140,000				
19	Landscape and Irrigation Improvements	1	LS	$120,000.00	$120,000	100%	$120,000				
20								100%			
21								100%			
22								100%			
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48								100%			
49								100%			
50								100%			
51								100%			
52								100%			
	Subtotal of Construction Items:				**$5,234,600**		**$5,234,600**				
	Construction Item Contingencies (% of Construction Items):			**30.00%**	$1,570,380		$1,570,380				
	Total (Construction Items & Contingencies) cost:				**$6,804,980**		**$6,804,980**				

Project Delivery Costs:

Type of Project Cost	Cost $	ATP Eligible Costs	Non-participating Costs
Preliminary Engineering (PE)			
Environmental Studies and Permits(PA&ED):			
Plans, Specifications and Estimates (PS&E):	$ 1,328,278	$1,328,278	
Total PE:	**$ 1,328,278**	**$1,328,278**	

"PE" costs / "CON" costs: 20% / 25% Max

Detailed Project Estimate and Total Project Costs- Cycle 6

Important: Read the Instructions in the first sheet (tab) before entering data. Do not enter data in shaded fields (with formulas).

Project Information:

Agency:	Transportation Agency for Monterey County	**Date:**	6/9/2022
Project Description:	Fort Ord Regional Trail and Greenway: California Avenue Segment		
Project Location:	5th Avenue/Califo0rnia Avenue from Imjin Road to Patton Parkway		
Licensed Engineer in responsible charge of preparing or reviewing this PSR-Equivalent Cost Estimate:	Steve Grupico, PE	**License #:**	74607

Right of Way (RW)					
Right of Way Engineering:					
Acquisitions and Utilities:					
Total RW:	**$ -**				
Total Pre-Construction Costs (PE+RW):	**$1,328,278**	**$1,328,278**			
Construction Engineering (CE)				"CE" costs / "CON" costs	
Construction Engineering (CE):	$ 1,015,742	$1,015,742		15%	**15% Max**
Total Construction Costs:	**$7,820,722**	**$7,820,722**			
		ATP Eligible Costs	Non-participating Costs		
Total Project Cost:	**$9,149,000**	**$9,149,000**			

Documentation of Ineligible (Non-Participating) Costs:

The Engineer's logic and/or calculations for splitting costs between ATP-Eligible and Non-participating costs must be documented in this section of the Estimate form.

Separate logic is required for each item which is partly ineligible for ATP funding or is required for the construction of an ineligible item/element of the project.

Item #:	Description of Engineer's Logic: (See examples shown in the Instructions)

ORIGINAL DETAILED ENGINEER'S ESTIMATE W/LOWEST COST BRIDGE ALTERNATIVE

Detailed Project Estimate and Total Project Costs- Cycle 6

Important: Read the Instructions in the first sheet (tab) before entering data. Do not enter data in shaded fields (with formulas).

Project Information:

Agency: Transportation Agency for Monterey County **Date:** 6/9/2022

Project Description: Fort Ord Regional Trail and Greenway: California Avenue Segment

Project Location: 5th Avenue/California Avenue from Imjin Road to Patton Parkway

Licensed Engineer in responsible charge of preparing or reviewing this PSR-Equivalent Cost Estimate: Steve Grupico, PE **License #:** 74607

Project Estimate and Cost Breakdown:

Project Estimate (for Construction Items Only)						Cost Breakdown					
						ATP Eligible Costs/Items		ATP Ineligible Costs/Items		Corps/CCC to construct	
Item No.	Item	Quantity	Units	Unit Cost	Total Item Cost	%	$	%	$	%	$
General Overhead-Related Construction Items											
1	Mobilization	1	LS	$286,000.00	$286,000	100%	$286,000				
2	Traffic Control	1	LS	$191,000.00	$191,000	100%	$191,000				
3	Stormwater Protection Plan	1	LS	$100,000.00	$100,000	100%	$100,000				
4	Permitting including Fees	1	LS	$150,000.00	$150,000	100%	$150,000				
5	Clearing and Grubbing	3.6	AC	$10,000.00	$36,000	100%	$36,000				
6	Environmental Protection and Mitigation	1	LS	$100,000.00	$100,000	100%	$100,000				
7			LS					100%			
8			LS					100%			
9			LS					100%			
10			LS					100%			
General Construction Items											
11	Excavation	9370	CUYD	$130.00	$1,218,100	100%	$1,218,100				
12	Demolition	1	LS	$100,000.00	$100,000	100%	$100,000				
13	Misc Utilities	1	LS	$65,000.00	$65,000	100%	$65,000				
14	ADA Curb Ramp	10	EA	$8,000.00	$80,000	100%	$80,000				
15	8" CL II AB	1400	CY	$85.00	$119,000	100%	$119,000				
16	4" HMA Pavement	3530	TON	$150.00	$529,500	100%	$529,500				
17	Construct Overpass Bridge	1	LS	$7,360,000.00	$7,360,000	100%	$7,360,000				
18	Signing and Striping	1	LS	$140,000.00	$140,000	100%	$140,000				
19	Landscape and Irrigation Improvements	1	LS	$120,000.00	$120,000	100%	$120,000				
20								100%			
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51								100%			
52								100%			
				Subtotal of Construction Items:	**$10,594,600**		**$10,594,600**				
	Construction Item Contingencies (% of Construction Items):			**30.00%**	$3,178,380		$3,178,380				
	Total (Construction Items & Contingencies) cost:				**$13,772,980**		**$13,772,980**				

Project Delivery Costs:

Type of Project Cost	Cost $	ATP Eligible Costs	Non-participating Costs	
Preliminary Engineering (PE)				
Environmental Studies and Permits(PA&ED):				
Plans, Specifications and Estimates (PS&E):	$ 1,328,278	$1,328,278		"PE" costs / "CON" costs
Total PE:	**$ 1,328,278**	**$1,328,278**		10% 25% Max

Detailed Project Estimate and Total Project Costs- Cycle 6

Important: Read the Instructions in the first sheet (tab) before entering data. Do not enter data in shaded fields (with formulas).

Project Information:

Agency:	Transportation Agency for Monterey County	**Date:**	6/9/2022
Project Description:	Fort Ord Regional Trail and Greenway: California Avenue Segment		
Project Location:	5th Avenue/California Avenue from Imjin Road to Patton Parkway		
Licensed Engineer in responsible charge of preparing or reviewing this PSR-Equivalent Cost Estimate:	Steve Grupico, PE	**License #:**	74607

	Right of Way (RW)				
Right of Way Engineering:					
Acquisitions and Utilities:					
Total RW:	**$ -**				
Total Pre-Construction Costs (PE+RW):	**$1,328,278**	**$1,328,278**			
	Construction Engineering (CE)			"CE" costs / "CON" costs	
Construction Engineering (CE):	$ 1,015,742	$1,015,742		7%	**15% Max**
Total Construction Costs:	**$14,788,722**	**$14,788,722**			
		ATP Eligible Costs	Non-participating Costs		
Total Project Cost:	**$16,117,000**	**$16,117,000**			

Documentation of Ineligible (Non-Participating) Costs:

The Engineer's logic and/or calculations for splitting costs between ATP-Eligible and Non-participating costs must be documented in this section of the Estimate form.

Separate logic is required for each item which is partly ineligible for ATP funding or is required for the construction of an ineligible item/element of the project.

Item #:	Description of Engineer's Logic: (See examples shown in the Instructions)

REVISED DETAILED ENGINEER'S ESTIMATE W/AT-GRADE CROSSING

FORTAG Cal Ave 35% Design Cost Estimate

GHD Project No 12603415
18-Aug-24

Item #	Item Description	UM	QTY	Unit Cost	Total Cost
	Mobilization				
1	Mobilization	LS	1	$298,700.00	$ 298,700
2	Temporary Traffic Contol	LS	1	$150,000.00	$ 150,000
3	Construction Area Signs	LS	1	$40,000.00	$ 40,000
4	Utility Conflict Allowance	LS	1	$25,000.00	$ 25,000
5	Temporary Construction Fencing	LS	1	$50,000.00	$ 50,000
6	Tree Protection	LS	1	$75,000.00	$ 75,000
7	Environmental Mitigation	LS	1		$ -
	Water Pollution Control				
8	Storm Water Pollution Prevention Plan (SWPPP)	LS	1	$20,000.00	$ 20,000
9	Erosion & Sediment Control	LS	1	$75,000.00	$ 75,000
	Demo				
10	Remove AC Roadway	SF	11,600	$7.00	$ 81,200
11	Remove AC Dike	LF	300	$1.50	$ 450
12	Remove Curb and Gutter	LF	520	$25.00	$ 13,000
13	Remove Concrete Sidewalk	SF	8,000	$7.00	$ 56,000
14	Remove Concrete Cross Gutter	SF	200	$10.00	$ 2,000
15	Remove Concrete Driveway	SF	-		$ -
16	Remove Wall and Stairs	LF	20	$25.00	$ 500
17	Remove Fence	LF	-		$ -
18	Remove Tree	EA	3	$1,000	$ 3,000
	Earthwork				
19	Clearing and Grubbing	AC	6	$15,000	$ 90,000
20	Roadway Excavation	CY	15,745	$55.00	$ 865,975
21	Import Fill	CY	3,555	$80.00	$ 284,400
22	Structural Excavation (Retaining Wall)	CY	120	$160.00	$ 19,200
23	Structural Backfill (Retaining Wall)	CY	50	$90.00	$ 4,500
	Utilities				
24	Adjust Manhole to Grade	EA	6	$2,000	$ 12,000
25	Adjust Valve to Grade	EA	4	$1,500	$ 6,000
26	Storm Drain Inlet	EA	4	$8,000	$ 32,000
27	Adjust Uility Box to Grade	EA	3	$1,500	$ 4,500
28	4-inch Curb Drains	LF	60	$85.00	$ 5,100
29	12-inch Storm Drain (HDPE)	LF	170	$210.00	$ 35,700
30	18-inch Storm Drain Extension (HDPE)	LF	30	$250.00	$ 7,500
31	Relocate Fire Hydrant	EA	4	$8,000	$ 32,000
32	Relocate Flared End Section	EA	2	$800.00	$ 1,600
33	Relocate RSP	SY	50	$400.00	$ 20,000
34	Flared End Section	EA	1	$150.00	$ 150
35	Rock Slope Protection (Class Light, Method B)	CY	3	$400.00	$ 1,200
36	Rock Slope Protection Fabric	SF	75	$5.00	$ 375

Item #	Item Description	UM	QTY	Unit Cost		Total Cost
	Low Impact Development (LID)					
37	LID Area, Swale or Basin	SF	380	$50.00	$	19,000
	Concrete					
38	8-inch Median Curb	LF	150	$55.00	$	8,250
39	Retaining Curb, 18" Ht	LF	40	$175.00	$	7,000
40	Median Stamped Concrete	SF	400	$20.00	$	8,000
41	Sidewalk	SF	5,000	$16.00	$	80,000
42	PCC Curb Ramp	EA	13	$12,500.00	$	162,500
43	PCC Bike Ramp	EA	2	$8,500.00	$	17,000
44	Concrete Valley Gutter	SF	1,000	$35.00	$	35,000
	Paving					
45	Roadway HMA Paving (Type A) (F)	TN	130	$330.00	$	42,900
46	Trail HMA Paving (Type A) (F)	TN	1,800	$330.00	$	594,000
47	Driveway HMA Paving (F)	TN	60	$330.00	$	19,800
48	Class 2 Aggregate Base, placed, compacted	CY	2,131	$360.00	$	767,160
49	2-inch Grind - Variable Thickness HMA Overlay	TN	150	$350.00	$	52,500
	Structural					
50	3-foot High Retaining Wall	LF	100	$850.00	$	85,000
	Striping					
51	Signing and Striping	LS	1	$120,000.00	$	120,000
	Lighting					
52	Lighting	LS	1	$300,000.00	$	300,000
	Traffic Signals					
53	New RRFB - 8th Ave at Cal Ave and Cal Ave at Patton	EA	2	$46,000.00	$	92,000
54	New HAWK - Imjin Road	LS	1	$144,500.00	$	144,500
	Landscaping					
55	Landscape Planting	SF	3,000	$7.00	$	21,000
56	Landscape Irrigation	SF	-	$8.00	$	-
57	Landscape Concrete	SF	-	$15.00	$	-
58	Landscape Seat Wall	LF	-	$300.00	$	-
59	Landscape Amenities-Bench	EA	6	$6,500.00	$	39,000
60	Landscape Amenities-Trash/Recycle Bin	EA	5	$5,000.00	$	25,000
61	Landscape Amenities-Bike Rack	EA	5	$2,600.00	$	13,000
62	Landscape Amenities-Hydration Station	EA	1	$9,000.00	$	9,000
63	Landscape Amenities-Boulders	LS	1	$20,000.00	$	20,000
64	Landscape Monument Signage	EA	2	$25,000.00	$	50,000
65	Landscape Wayfinding Signage	EA	8	$0.00	$	-
66	Landscape Interpretive Signage	EA	2	$5,000.00	$	10,000
67	Landscape Thermoplastic Pavement Marking	SF	-	$12.00	$	-
68	Fencing - Split Rail	LF	2,340	$95.00	$	222,300
				Subtotal	**$**	**5,275,960**
69	**Design Contingency**		30%		$	1,582,788
70	**Cost Escalation - 2024-to-2026 mipoint of construciton**		10%		$	527,596
71				***Construction Total***	**$**	**7,386,344**
						SF-Revised Total

Item #	Item Description	UM	QTY	Unit Cost	Total Cost
72	**Program Costs**				
73	**Design**			Separate Budget	
74	**Construction Management & Inspection**			Separate Budget	
75	**Real Estate and Environmental Mitigation**			Separate Budget	
76	**Adminstrative Costs**			Separate Budget	

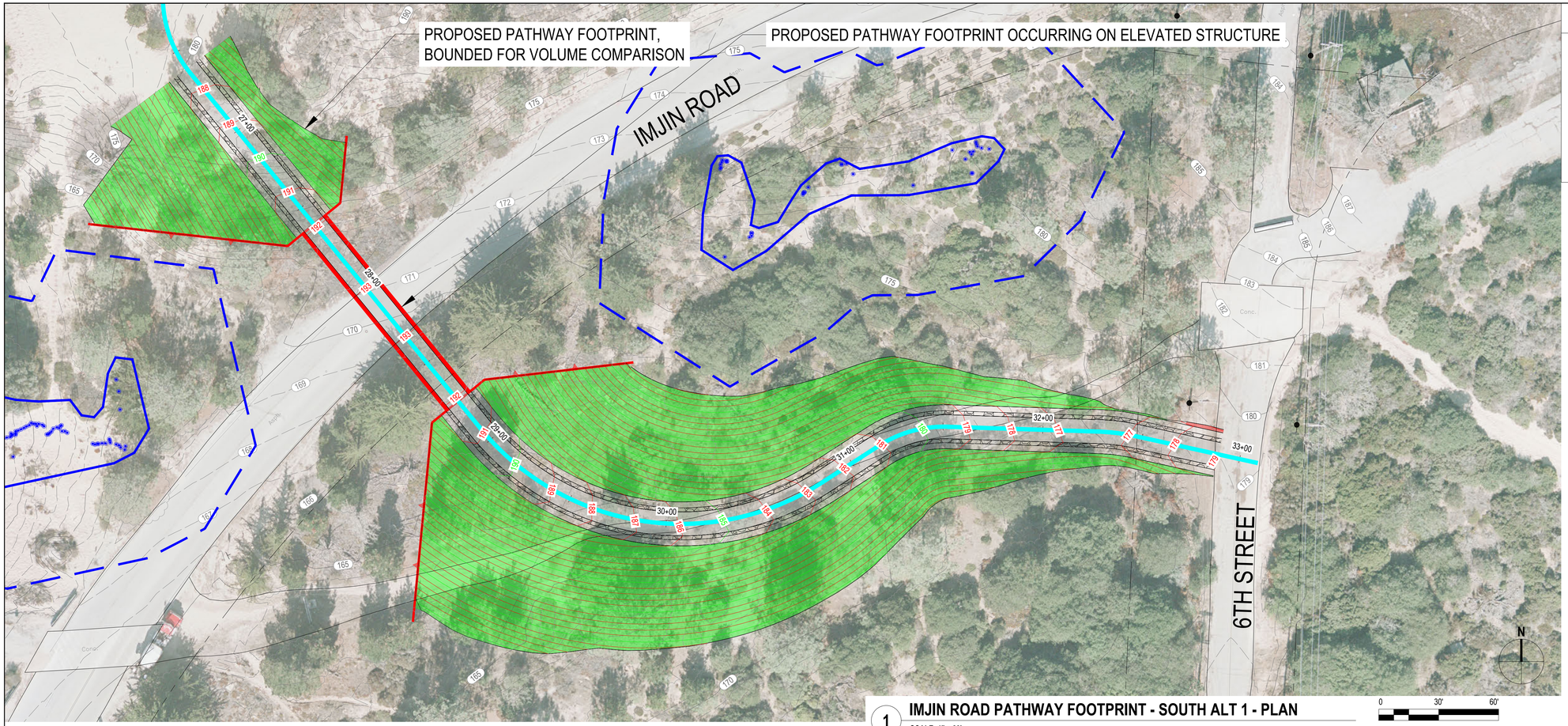
Appendix D

Additional Documentation

+ Bridge Alternative Plans

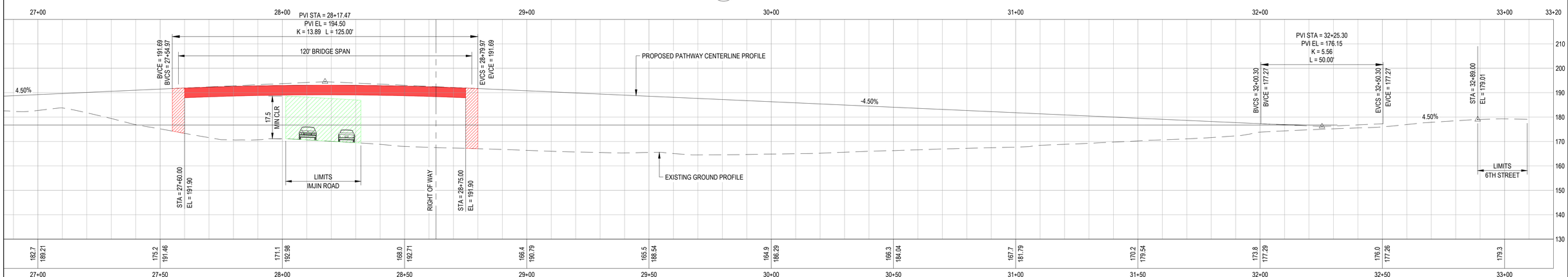
+ Regional Connectivity Map

+ Imjin Rd. At-Grade Crossing Tech Memo



1 **IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 1 - PLAN**
SCALE: 1" = 30'

0 30' 60'



2 **IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 1 - PROFILE**
SCALE: 1" = 20'

0 10' 20' 40'

SHEET GENERAL NOTES

1. THICK RED LINE REPRESENTS PROPOSED ELEVATED STRUCTURE CARRYING PROPOSED PATHWAY.
2. PROPOSED PATHWAY FOOTPRINT INCLUDES FINISH GRADE CONTOURS AND GREEN SHADING FOR FILL ZONE AND RED SHADING FOR CUT ZONE.
3. BLUE POLYGONS REPRESENT GILIA PLANT AREA BOUNDARIES. INSIDE THE PLANT AREA BOUNDARIES ARE BLUE DOTS THAT REPRESENT GILIA PLANT LOCATIONS PER RECENT FIELD STUDY. THE DASHED BLUE POLYGONS REPRESENT A 50' WIDE BUFFER ZONE.
4. YELLOW STRIPE REPRESENTS EXISTING HISTORICAL ROADWAY ALIGNMENT PER RECENT FIELD STUDY.

Alternative 1 Clear-Span Truss w/ Cast In Place Retaining Walls

PROPOSED PATHWAY FOOTPRINT GRADING.
INCLUDES ENGINEERED MATERIALS.
TOP FG WITH 3:1 SIDE SLOPE TO DAYLIGHT EG

SOUTH ALTERNATE 1A GRADING
16,516 cu. yd. NET FILL BOUNDED

30% PRELIMINARY

No.	Issue	Checked	Approved	Date
Author	C. PHELPS	Drafting Check	C. OTTO	Project Manager	S. GRUPICO
Designer	C. PHELPS	Design Check	S. GRUPICO	Project Director	##

Bar is one inch on original size sheet
0 1"

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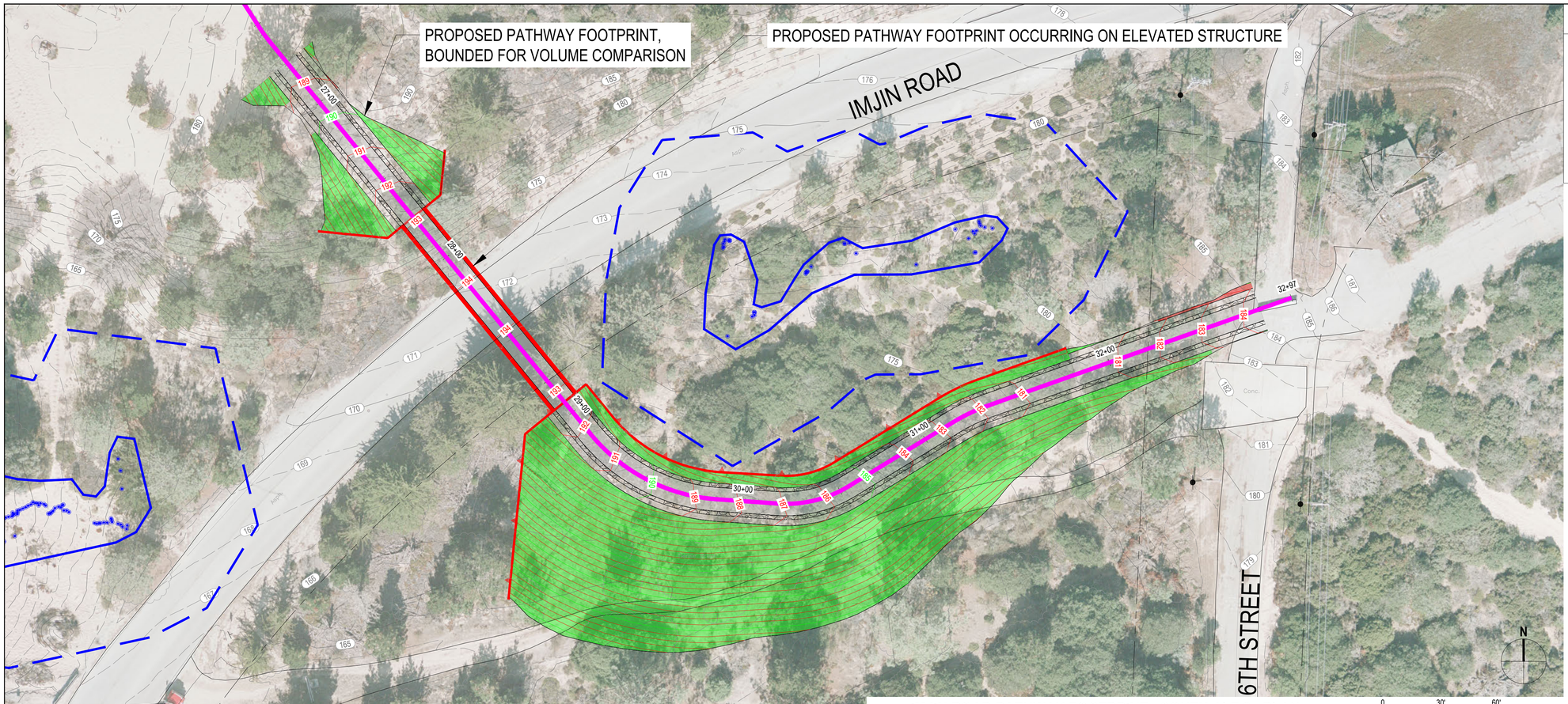
Client **FORTAG**
Project **CALIFORNIA AVENUE SEGMENT FINAL DESIGN**
Project No. **12603415**
Date **MARCH 6, 2024**
Scale **AS NOTED**

Title **IMJIN RD PATHWAY FOOTPRINT SOUTH ALTERNATE 1 PLAN AND PROFILE**
Size **ANSI D**
Sheet No. **FIG 1**
Sheet **1 of 3**

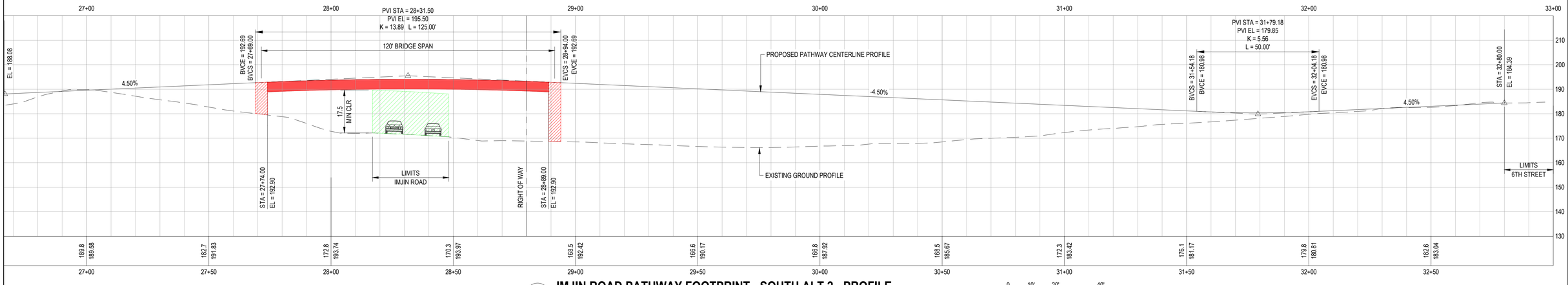
Plot Date: 7 March 2024 - 4:26 PM
Plotted By: Colby Phelps
Filename: \\ghdnet\ghd\US\San Francisco\Projects\561\12603415\05 - Digital_Design\ACAD\Figures\Pathway footprint_South 1_alternative 1A.dwg



2 IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 2 - PLAN

SCALE: 1" = 30'

0 30' 60'



2 IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 2 - PROFILE

SCALE: 1" = 20'

0 10' 20' 40'

SHEET GENERAL NOTES

1. THICK RED LINE REPRESENTS PROPOSED ELEVATED STRUCTURE CARRYING PROPOSED PATHWAY.
2. PROPOSED PATHWAY FOOTPRINT INCLUDES FINISH GRADE CONTOURS AND GREEN SHADING FOR FILL ZONE AND RED SHADING FOR CUT ZONE.
3. BLUE POLYGONS REPRESENT GILIA PLANT AREA BOUNDARIES. INSIDE THE PLANT AREA BOUNDARIES ARE BLUE DOTS THAT REPRESENT GILIA PLANT LOCATIONS PER RECENT FIELD STUDY. THE DASHED BLUE POLYGONS REPRESENT A 50' WIDE BUFFER ZONE.
4. YELLOW STRIPE REPRESENTS EXISTING HISTORICAL ROADWAY ALIGNMENT PER RECENT FIELD STUDY.

Alternative 2 Clear-Span Truss W/ CIP Retaining Walls and Mechanically Stabilized Earth Wall

PROPOSED PATHWAY FOOTPRINT GRADING.
INCLUDES ENGINEERED MATERIALS.
TOP FG WITH 3:1 SIDE SLOPE TO DAYLIGHT EG

SOUTH ALTERNATE 2 GRADING
11,037 cu. yd. NET FILL BOUNDED

30% PRELIMINARY

No.	Issue	Checked	Approved	Date
Author	C. PHELPS	Drafting Check	C. OTTO	Project Manager	S. GRUPICO
Designer	C. PHELPS	Design Check	S. GRUPICO	Project Director	##

Bar is one inch on original size sheet
0 1"

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Client: FORTAG
Project: CALIFORNIA AVENUE SEGMENT FINAL DESIGN
Title: IMJIN RD PATHWAY FOOTPRINT SOUTH ALTERNATE 2 PLAN AND PROFILE
Size: ANSI D
Project No.: 12603415
Date: MARCH 6, 2024
Scale: AS NOTED
Sheet No.: FIG 2
Sheet: 2 of 3

Plot Date: 6 March 2024 - 10:39 PM
Plotted By: Colby Phelps
Filename: \\ghdnet\ghd\US\San Francisco\Projects\5611\12603415\05 - Digital_Design\ACAD\Figures\Pathway footprint_South 1_3 alternatives.dwg

PROPOSED PATHWAY FOOTPRINT, BOUNDED FOR VOLUME COMPARISON

PROPOSED PATHWAY FOOTPRINT OCCURRING ON ELEVATED STRUCTURE

IMJIN ROAD

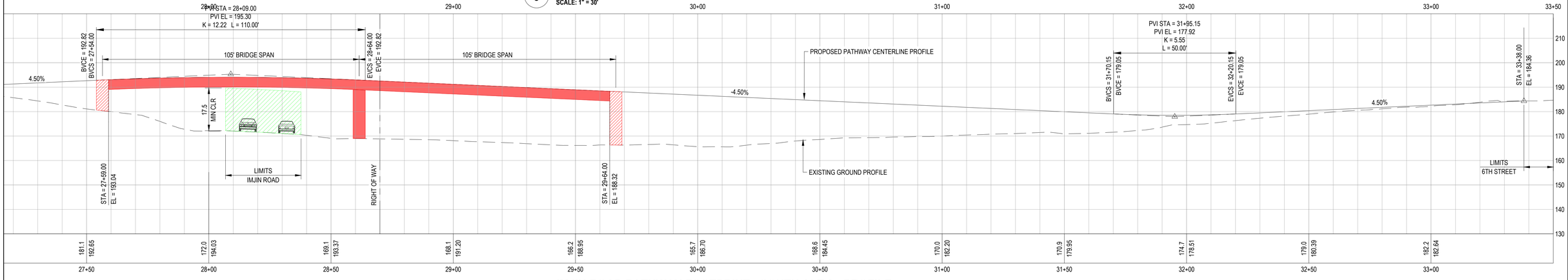
6TH STREET

N

3 IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 3 - PLAN

SCALE: 1" = 30'

0 30' 60'



3 IMJIN ROAD PATHWAY FOOTPRINT - SOUTH ALT 3 - PROFILE

SCALE: 1" = 20'

0 10' 20' 40'

SHEET GENERAL NOTES

1. THICK RED LINE REPRESENTS PROPOSED ELEVATED STRUCTURE CARRYING PROPOSED PATHWAY.
2. PROPOSED PATHWAY FOOTPRINT INCLUDES FINISH GRADE CONTOURS AND GREEN SHADING FOR FILL ZONE AND RED SHADING FOR CUT ZONE.
3. BLUE POLYGONS REPRESENT GILIA PLANT AREA BOUNDARIES. INSIDE THE PLANT AREA BOUNDARIES ARE BLUE DOTS THAT REPRESENT GILIA PLANT LOCATIONS PER RECENT FIELD STUDY. THE DASHED BLUE POLYGONS REPRESENT A 50' WIDE BUFFER ZONE.
4. YELLOW STRIPE REPRESENTS EXISTING HISTORICAL ROADWAY ALIGNMENT PER RECENT FIELD STUDY.

Alternative 3 Two-Span Truss W/ Cast In Place Retaining Walls

PROPOSED PATHWAY FOOTPRINT GRADING.
INCLUDES ENGINEERED MATERIALS.
TOP FG WITH 3:1 SIDE SLOPE TO DAYLIGHT EG

SOUTH ALTERNATE 3 GRADING
8,281 cu. yd. NET FILL BOUNDED

30% PRELIMINARY

No.	Issue	Checked	Approved	Date
Author	C. PHELPS	Drafting Check	C. OTTO	Project Manager	S. GRUPICO
Designer	C. PHELPS	Design Check	S. GRUPICO	Project Director	##

Bar is one inch on original size sheet
0 1"

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Client FORTAG

Project CALIFORNIA AVENUE SEGMENT FINAL DESIGN

Project No. 12603415 | Date MARCH 6, 2024 | Scale AS NOTED

Title IMJIN RD PATHWAY FOOTPRINT SOUTH ALTERNATE 3 PLAN AND PROFILE

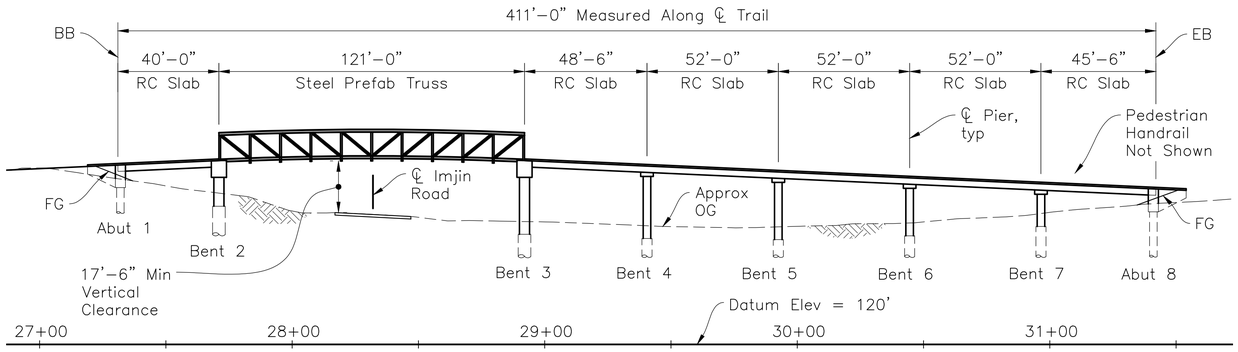
Size ANSI D

Sheet No. FIG 3

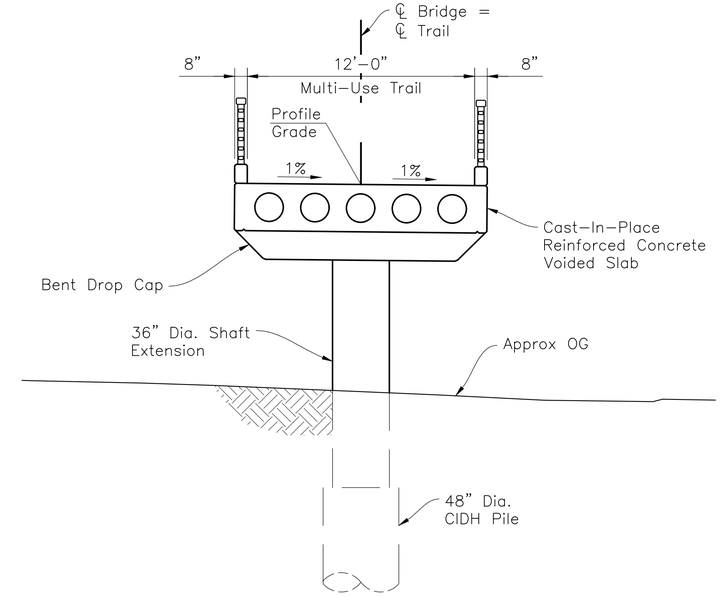
Sheet 3 of 3

Plot Date: 6 March 2024 - 10:08 PM Plotted By: Colby Phelps Filename: \\ghdnet\ghd\US\San Francisco\Projects\5611\12603415\05 - Digital_Design\ACAD\Figures\Pathway footprint_South 1_3 alternatives.dwg

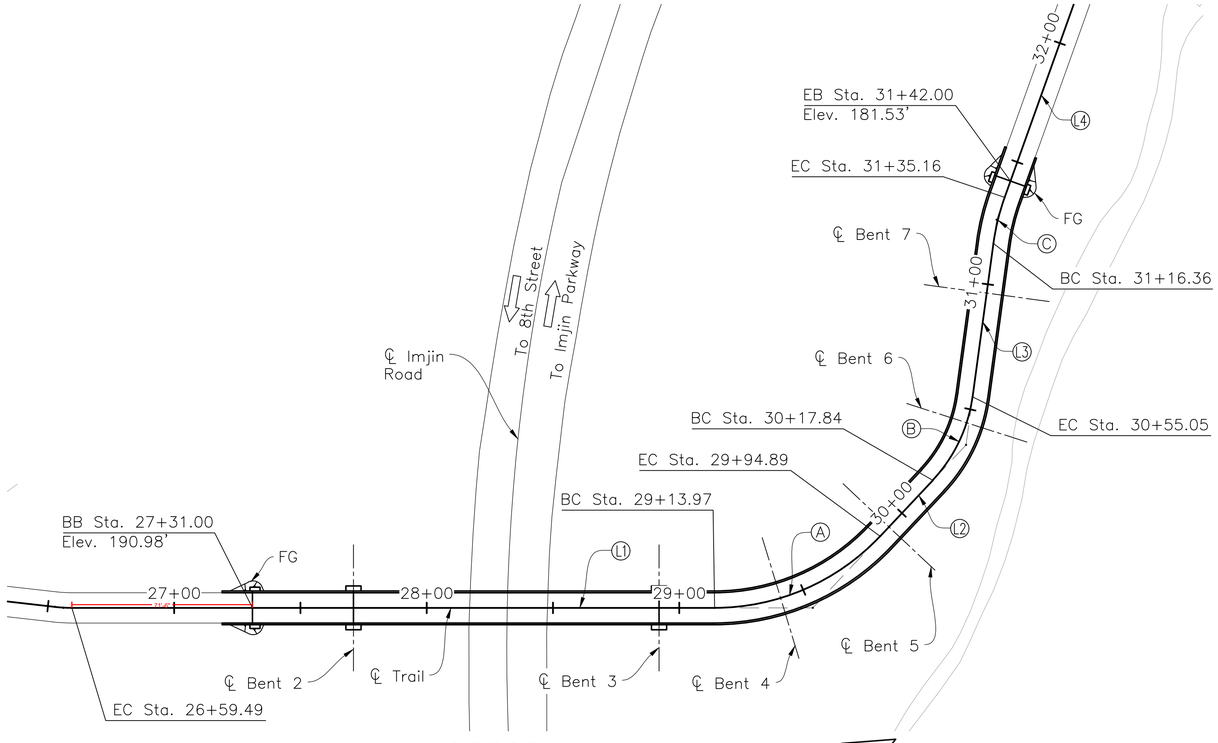
Alternative 4
Seven-Span Bridge (Steel Truss W/ Concrete Approach Spans)



ELEVATION
1"=30'–0"



CONCRETE TYPICAL SECTION
1/4"=1'–0"



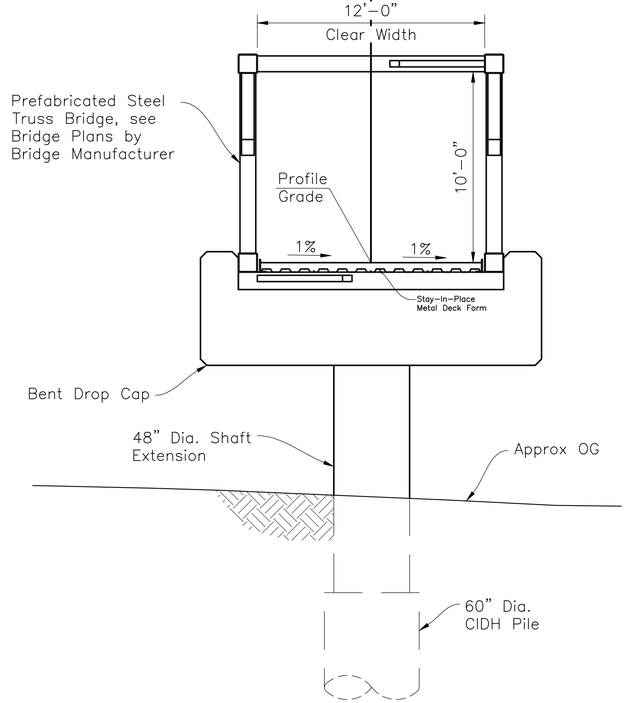
LINE DATA

No.	BEARING	LENGTH
L1	S39°15'30"E	254.47'
L2	S85°59'42"E	22.95'
L3	N58°28'23"E	61.31'
L4	N70°26'20"E	160.75'

CURVE DATA

No.	RADIUS	DELTA	LENGTH
A	90.00'	46°44'12"	80.92'
B	60.00'	35°31'55"	37.21'
C	90.00'	11°57'57"	18.80'

PLAN
1"=30'–0"



STEEL TYPICAL SECTION
1/4"=1'–0"

PLAN CHECK SET/NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER NARCISO R. ZERMENO No. 56783 STRUCTURAL STATE OF CALIFORNIA

DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:
NRZ	DJF	-	03/12/2024

REV.	DATE	DESCRIPTION	BY
-	-	-	-

CORNERSTONE structural engineering group
986 W Alluvial Ave - Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201

GENERAL PLAN

FORTAG California Ave Segment Over Imjin Road

Marina California

SHEET NUMBER
S1
OF # SHEETS

2023051S1 Alternative Four General Plan

W:\2023\2023051 FORTAG California Ave Segment Pedestrian Bridge\2023051S1 Alternative Four General Plan.dwg – 3/14/2024 2:39 PM

REGIONAL CONNECTIVITY MAP

TO SCHOOLS, HOUSING

FORTAG PROJECT CONTUNUES NORTH TO SCHOOL ZONE

TO SHOPPING, OCEAN

IMJIN PARKWAY

LOT 25
23 C&T PG 36
(AS ADJUSTED)

CALIFORNIA AVE

BEACON DRIVE

DUNES ON MONTEREY BAYPHASE
2 EAST
24-C&T-73

TELEGRAPH BLVD

L35.1
MCWD
PARCEL 1, 27-SUR-130
ADJUSTED PER MARINA REDEV. AGCY.
RESOLUTION 2008-31 & 2008-32
DOCS. 200672627 & 200672628

CALIFORNIA AVE

DITY OF MARINA
(EQUESTRIAN CENTER)

EQUESTRIAN CENTER

EXISTING CLASS I ON IMJIN PARKWAY

IMJIN PARKWAY

TO PARK HOUSING, OCEAN

OPEN SPACE PARCEL

9TH STREET

SANDY GULCH DRIVE

DUNES ON MONTEREY BAYPHASE
2 EAST
24-C&T-73

M.S.T.
DOC. 2004051179

FORTAG NEW PROPOSED ALIGNMENT

CLASS I ON IMJIN PARKWAY IN CONSTRUCTION

M.S.T.
DOC. 2009054539

CITY OF MARINA
PARCEL A, 29-SUR-105
DOC. 200[illegible]7441

TO PARK HOUSING, OCEAN

8TH STREET

FORTAG 30% NORTH CSUMB LOOP DESIGN ATP GRANT ALIGNMENT
Proposed over crossing has been removed in this Scope Change Request

IMJIN ROAD

U.C.S.C PARCEL 9
12-S-20

FORTAG 30% NORTH CSUMB LOOP DESIGN
This has been realigned to avoid Sand Gilia conservation easements which were reserved for adjancent development

CSUMB
PARCEL 6C
VOL. 27 SUR. PG. 151

CSUMB

FORTAG Class I FLAP Grant Segment

Technical Memorandum

October 17, 2024

To	Janneke Strauss, TAMC	**Copy to**	Michael Zeller, Laurie Williamson TAMC
From	Frank Penry, GHD	**Project No.**	12603415
Project Name	FORTAG CALIFORNIA AVE SGMT FINAL DESIGN AND ROW		
Subject	Imjin Road - At-Grade Pedestrian Crossing		

1. Introduction

GHD was retained by the Transportation Agency for Monterey County (TAMC) to complete the final design and right-of-way for the California Avenue segment of the Fort Ord Regional Trail and Greenway (FORTAG) project. FORTAG is proposed as a 12-foot wide continuously paved multiuse path that intends to connect Seaside, Marina, Del Rey Oaks, Monterey, and other unincorporated communities with California State University Monterey Bay, the Fort Ord National Monument, and the Monterey Bay Sanctuary Scenic Trail. This memorandum focuses specifically on the California Avenue segment in Marina which crosses Imjin Road just south of Imjin Parkway.

1.1 Purpose and Need

One of the values for FORTAG states that it should be 100% connected all the way around each loop. Initial plans at the Imjin Road crossing included a pedestrian overcrossing. After further review of the crossing location and cost estimates, it was determined that a pedestrian overcrossing facility would not be feasible at this location. To provide a safe and convenient connection across Imjin Road an at-grade pedestrian crossing is needed.

For the purposes of this study, pedestrian is used for all trail users crossing at the project location whether biking, walking, or rolling.

2. Existing Conditions

Imjin Road is an east-west local roadway that connects Imjin Parkway and 8th Street just north of California State University (CSU) Monterey Bay and spans approximately one-third mile. At the proposed crossing location, Imjin Road is a two-lane roadway with one 12-foot lane in each direction, a striped double-yellow centerline, and unpaved shoulders.

The posted speed limit on Imjin Road is 35mph. The City of Marina's 2018 Engineering and Traffic Survey did not cover Imjin Road, however the study indicates that the 85th percentile speed on similar roads in the vicinity

(such as California Avenue from Reindollar Avenue) is expected to be about 5-10 mph above the posted speed limit.

At the time of this study, a two-lane roundabout is under construction at the intersection of Imjin Road and Imjin Parkway as a part of the City of Marina's Imjin Parkway Expansion project. The project will construct bus stops on both the east and west-bound sides of Imjin Road near the proposed pedestrian crossing. The entry and exit curves for the roundabout end about 250' from the proposed pedestrian crossing on Imjin Road.

2.1 Sight Distance

For purposes of Sight Distance analysis under the prevailing speed and conditions, Stopping Sight Distance (SSD) analysis, Caltrans Highway Design Manual (HDM) Table 201.1, was used for required sight distance for the respective travel speeds in the vicinity of the proposed pedestrian crossing. These values include 250 feet for 35 mph (posted speed limit), 300 feet for 40 mph, and 360 feet for 45 mph and represent the distance required for a driver to see, react, and stop for an item or person in the roadway. As the posted speed limit on Imjin Road is 35 mph, the minimum sight distance at this location should be 250 feet. Figure 1 shows the limits of the minimum stopping sight distance in both directions from the crossing.

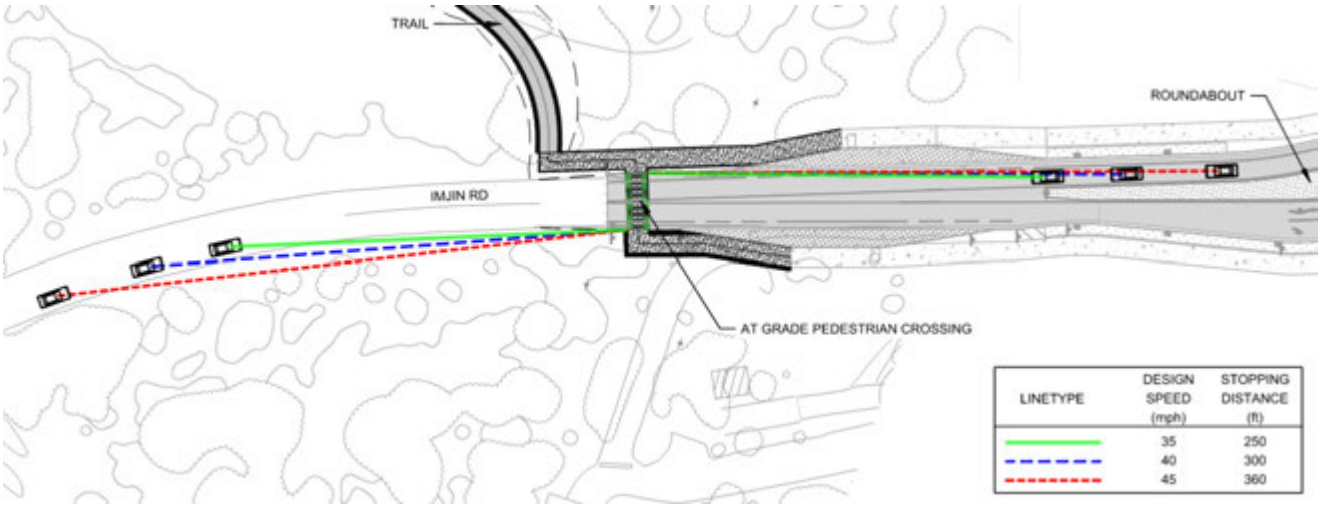


Figure 1 Minimum Stopping Sight Distance

As depicted in the figure, drivers traveling westbound from Imjin Parkway at the posted 35 mph speed limit or below will have adequate sight distance to the pedestrian crossing. Drivers traveling eastbound toward Imjin Parkway have more limited sight lines approaching the proposed crossing due to roadway curvature. However, the minimum sight distance is met when traveling at or below the posted speed limit. Considering that many drivers tend to travel over the speed limit, it should be noted that the sight distance will not be adequate in these scenarios.

3. Proposed Project – Pedestrian Hybrid Beacon

After reviewing the existing conditions and limitations of appropriate stopping sight distance of the proposed at-grade pedestrian crossing location, it was determined that a high visibility crossing or a rectangular rapid flashing beacon (RRFB) will not provide adequate warning protections for pedestrians and bicyclists crossing the roadway at this location. RRFBs and high visibility crossings are more effective in locations with clear sight lines to pedestrians and lower speeds. Although the posted speed limit is 35 mph and considered low enough for an RRFB, the sight lines to pedestrians waiting to cross are not adequate without the installation of curb bulbouts. Given the existing roadway width and the design of the new roundabout and bus stops to the east,

there would not be proper spacing to provide adequate curb bulb-outs. To ensure better protection for and visibility of the multimodal road users, a pedestrian hybrid beacon (PHB) was determined to be the best fit project for this crossing.

A pedestrian hybrid beacon is a specialized type of beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk. Unlike a standard traffic signal, a pedestrian hybrid beacon lies dark while not in use and only illuminates when activated by a pedestrian. Pedestrian hybrid beacons are an intermediate option between a flashing beacon (i.e., a rectangular rapid flashing beacon (RRFB)) and a full traffic signal as they assign right of way and provide positive stop control. Additionally, PHBs allow motorists to proceed once pedestrians have cleared the crossing, therefore reducing vehicle delay in comparison to a standard traffic signal. Figure 2 shows the sequencing of the beacons when activated.

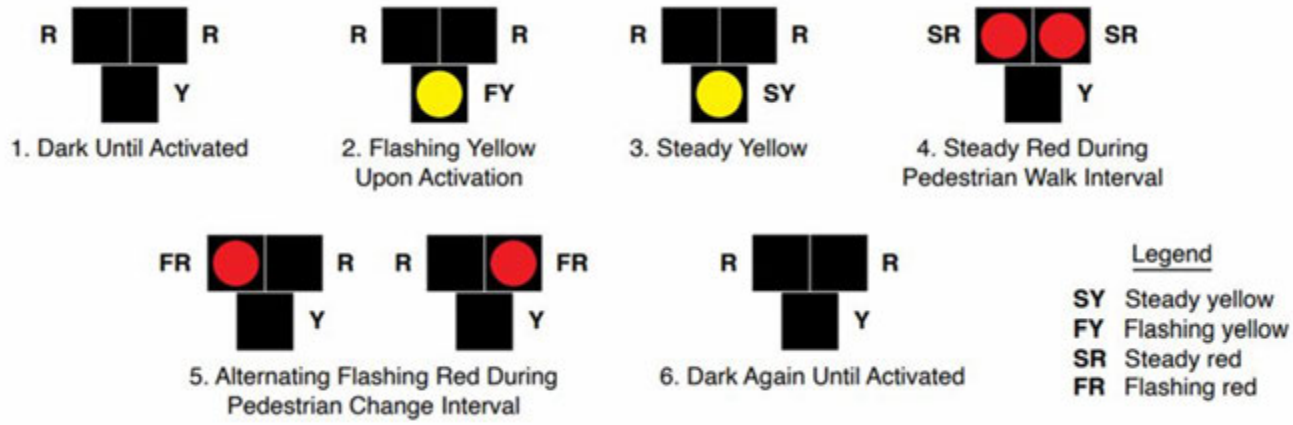


Figure 2 Sequence for a Pedestrian Hybrid Beacon

3.1 MUTCD Analysis

Chapter 4 of the latest edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD) provides support, standards, options, and guidance for justifying the installation of a pedestrian hybrid beacon through the evaluation of warrants. Pedestrian hybrid beacons are specifically addressed in Chapter 4F where it states, "A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C), or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal."

3.1.1 Traffic Signal Warrant Analysis

For purposes of establishing whether a traffic signal is or is not warranted, below is a list of the traffic signal warrants found in Chapter 4C and whether the signal warrant is applicable or met at the project location.

– Warrant 1 – Eight Hour Vehicular Volume
  - **Not applicable**, no intersecting roadway/vehicles.
– Warrant 2 – Four Hour Vehicular Volume
  - **Not applicable**, no intersecting roadway/vehicles.
– Warrant 3 – Peak Hour
  - **Not applicable**, no intersecting roadway/vehicles.
– Warrant 4 – Pedestrian Volume
  - **Not applicable**, no pedestrian facilities currently connect to this location.

– Warrant 5 – School Crossing
  - **Not applicable**, schoolchildren (ages kindergarten to high school) crossing at this location is not the principal reason for installing the crossing.
– Warrant 6 – Coordinated Signal System
  - **Not applicable**, vehicle platooning not needed, Imjin Rd and Imjin Pkwy intersection being converted to roundabout.
– Warrant 7 – Crash Experience
  - **Not met**, no reported collisions at this location in the past five years that can be mitigated with a signal.
– Warrant 8 – Roadway Network
  - **Not applicable**, no intersecting roadway.
– Warrant 9 – Intersection Near a Grade Crossing
  - **Not applicable**, not located near a grade crossing.

3.1.2 Pedestrian Hybrid Beacon Analysis

As provided above, none of the traffic signal warrants are met. However, other than providing a baseline for the need of alternate traffic controls at the proposed location, a pedestrian hybrid beacon may still be considered for installation to facilitate pedestrian crossings. The following guidance for the installation of a pedestrian hybrid beacon is provided in Section 4F of the CA MUTCD. This guidance considers the crosswalk length, number of pedestrian crossings per hour, and total vehicles per hour along the roadway. The guidance, by way of the curves shown in Figures 4F-1 and 4F-2 in the CA MUTCD, are used for 85th percentile speeds either below or above 35 mph, respectively.

The proposed crossing is expected to be approximately 36 feet in crossing length and Imjin Road has volumes of approximately 500 total vehicles per hour. As shown in Figure 3, there would need to be approximately 250-300 pedestrians per hour to meet the warrant. While the trail is expected to draw many users, the trail may not see this many users for extended periods of time. However, it is possible the trail could see this many users at peak periods.

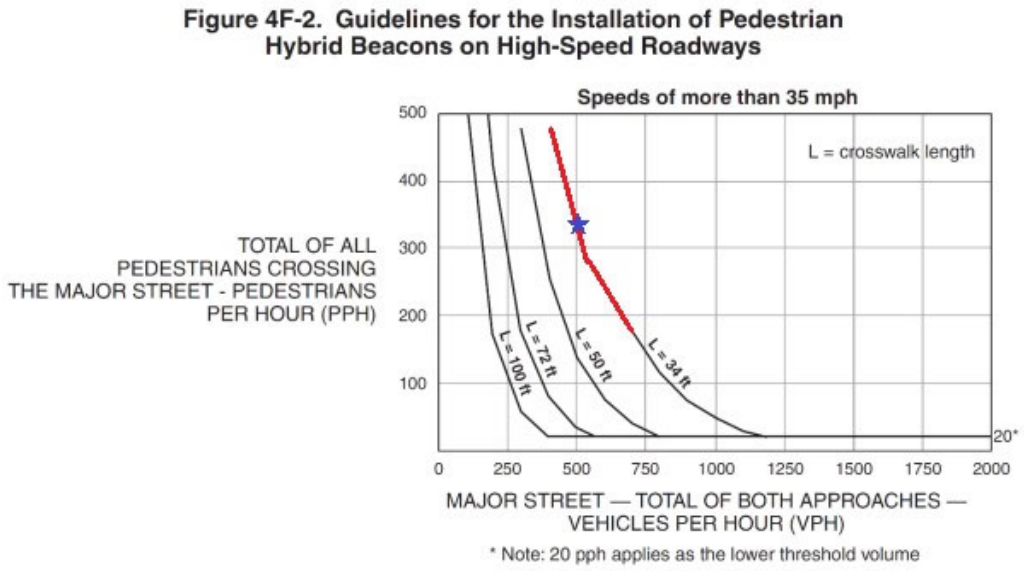


Figure 3 Pedestrian Hybrid Beacon Warrant

3.2 Engineering Judgement

As provided in the MUTCD, if the traffic control signal is not justified under the signal warrants of Chapter 4C and if gaps in traffic are not adequate to permit pedestrians to cross, or if the speed for vehicles approaching on the major street is too high to permit pedestrians to cross, or if pedestrian delay is excessive, the need for a pedestrian hybrid beacon should be considered on the basis of an engineering study that considers major-street volumes, speeds, widths, and gaps in conjunction with pedestrian volumes, walking speeds, and delay.

Given the roadway curvature and sight distance, particularly with the potential for higher than normal speeds along this stretch of roadway, a pedestrian hybrid beacon will provide better visibility for oncoming traffic as the mast arms span over the roadway and catch the driver's eye more easily than a RRFB on the shoulder. With the limited sight distance for eastbound vehicles, a PHB gives an earlier warning and will allow more space for a vehicle to begin braking. Additionally, PHBs provide drivers with clear indications of when to stop and when to cautiously proceed through the crossing that can reduce the possibility of vehicle-pedestrian collisions at this location where pedestrians have not been previously. Therefore, a pedestrian hybrid beacon should be installed at this location.

4. Recommendations

To provide pedestrians with a safe, visible crossing location, it is recommended that a Pedestrian Hybrid Beacon be installed at the proposed FORTAG crossing on Imjin Road. To enhance the PHB, an advanced warning flashing beacon should be considered in the eastbound direction due to the limited sight distance from the roadway curvature. Additionally, a speed table should be included as part of the crossing to change driver behavior through this area. A speed table will slow vehicles as they approach the new bus stops to the west of the proposed crossing providing increased protection for transit users at these stops as well as slow vehicles to a proper speed to navigate the new roundabout at the Imjin Road and Imjin Parkway intersection.