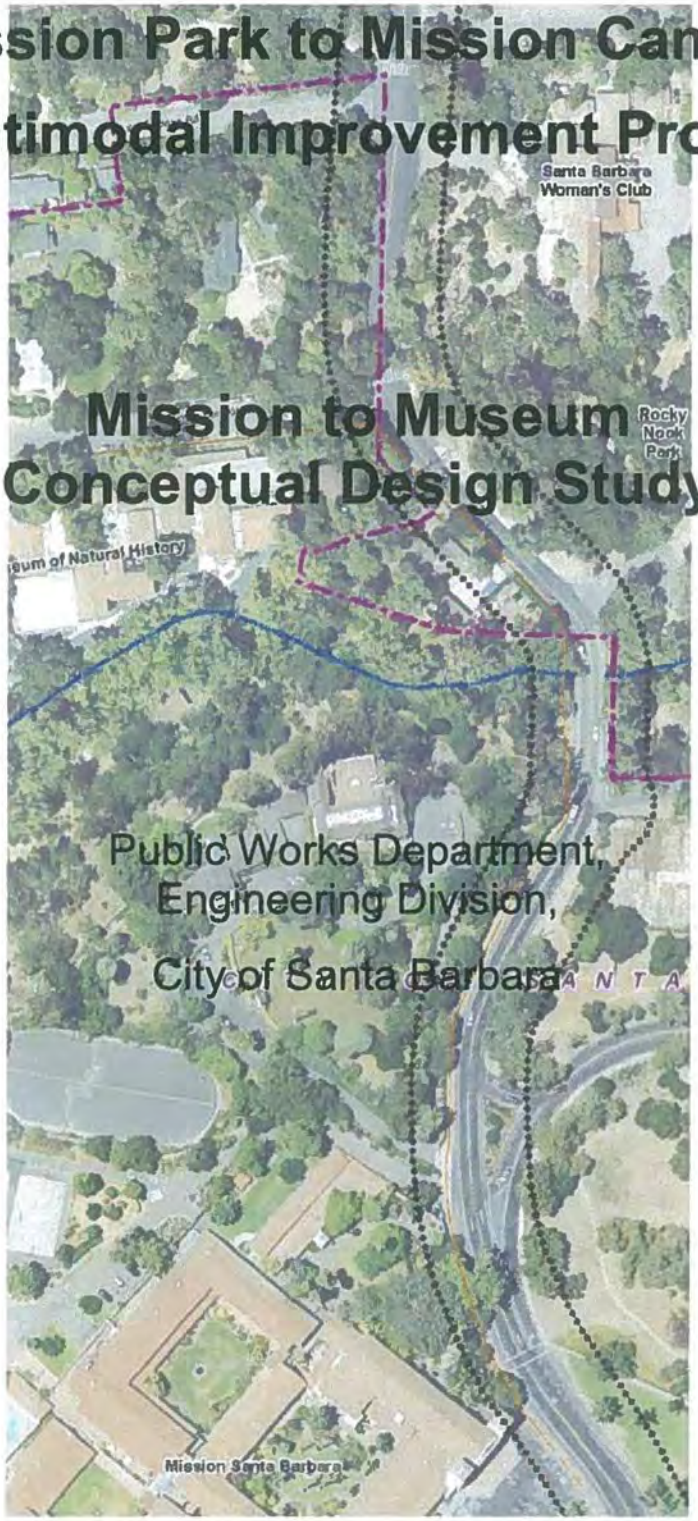
Mission Park to Mission Canyon Multimodal Improvement Project



Mission to Museum Conceptual Design Study

Public Works Department,
Engineering Division,
City of Santa Barbara

R. Patrick Kelly
Assistant Public Works Director/City Engineer

Andrew Grubb
Project Engineer

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Contents

Background

In September 2012, a community group (Concerned Citizens for Safe Passage - Safe Passage) made a presentation to Council requesting that the City of Santa Barbara (City) support the improvement of pedestrian circulation in the Lower Mission Canyon area. They asked the City and the County of Santa Barbara (County) to work together to study ways to improve the safety of pedestrians passing between the intersection of Los Olivos and Laguna Streets near the Santa Barbara Mission (Mission) in the City, and the intersection of Mission Canyon Road and Foothill Road in the County's jurisdiction. This corridor passes several historic and otherwise notable landmarks, including the Mission, Mission Historical Park, Rocky Nook Park, the Santa Barbara Museum of Natural History (Museum), and the Santa Barbara Woman's Club (Women's Club).

Council directed staff to work with the community group and the County to create a plan that will work towards developing a community consensus for solutions to improve pedestrian circulation in that area. This collaborative planning and conceptual design process was funded through a recent County acquired Caltrans planning grant for a Mission Canyon Corridor Multimodal Improvement Project (Project) with the City as a 'sub-applicant'. Rob Dayton, Principal Transportation Planner, was assigned as the lead City staff member in this planning process, acting as a resource at all meetings and coordinating and giving presentations to City Boards and Commissions.

Subsequently, it was recognized that professional engineering services would be necessary to help with conceptual design of the project's multimodal elements and with construction cost estimates. In March 2014, the City contracted with the County to provide professional services for conceptual design of multimodal improvements for the Project. The City's scope of work would provide technical report in support of the Mission Park to Mission Canyon Multimodal Improvements Report that the County is preparing as part of the grant. The County and City agreed that City staff would focus on a study area for the portion of the Los Olivos Street and Mission Canyon Road corridor between the Mission and the Museum. This stretch of the corridor between the Mission and the Museum is primarily within the City's jurisdiction (See Exhibit A – Mission to Museum Photo Map).

Purpose

The purpose of this City report was focused on studying improved pedestrian access between the Mission and the Museum, while still accommodating appropriate vehicular and bicycle roadway geometries per city, state, and federal design standards. In addition, the City studied feasible alternatives to improve pedestrian access across Mission Creek, as well as improved pedestrian crossing along the Los Olivos Street and Mission Canyon Road corridor.

As part of the planning process, several public outreach meetings were held to gather input on pedestrian, bicyclist, and vehicular improvements along the corridor (See Public Meeting Summaries, Exhibits F1 –F3 and G1-G4). City staff coordinated with the County and Safe Passage to develop and supply exhibits for these public meetings.

Design Constraints

Several design constraints were identified during this planning study for creating improved pedestrian, bicycle, and vehicular use along the corridor study area between the Mission and the Museum (See Exhibit A – Mission to Museum Photo Map). These two sites attract a significant number of visitors who attempt to walk the approximately quarter to half mile between them. Many pedestrians have been observed to turn back once they see there is not a conventional and continuous sidewalk between them. The City identified many key impediments to consider for designing a continuous pedestrian path as outlined below.

Historic Features

The Mission Creek Bridge (Bridge) was constructed in 1891 by the adjacent property owner and the County, having a 22 foot wide roadway deck and masonry railings. A wood plank pedestrian footbridge was added by the County on the east side in 1929, modifying the railing to accommodate pedestrians using the footbridge. The bridge was widened on the westside in 1930 to its current 30 foot roadway deck dimensions, which required shifting the walls immediately abutting the bridge on the west, several feet to accommodate the widening.

In the 1980s, the bridge was determined by Caltrans to be eligible for listing on the National Registry of Historic Places. A Historic Resources Study is in progress to attempt to verify the nature and context of any improvements at the Bridge and immediately adjacent to it. Any improvements that are made adjacent to the Bridge will have to take in to consideration the effect on the historical significance of the structure.

Other key historic features of the study area include the Oliver Memorial Trough abutting the eastside footbridge, and the the Mission Aqueduct (Aqueduct). The Aqueduct was built in the early 1800's and was once connected to the historic Lower Reservoir to the east. These historic features essentially frame the southerly edge of the Los Olivos Road and Mountain Drive intersection and limit the space to 38 feet for the paved vehicular roadway, a pedestrian path, and bicycle lanes. Due to the narrow space here, this becomes the key 'pinch point' for allowing pedestrian access along the corridor. The Aqueduct is believed to be of such historic significance that it cannot be touched.

Pedestrian Accessibility

Pedestrian access through the corridor is currently limited and unimproved. A continuous and accessible sidewalk for pedestrians does not exist in the corridor. The current pedestrian route varies between roadway shoulders, hardened dirt paths, park paths, degraded asphalt, stairs, a wooden footbridge, and vehicular roadway that pedestrians are forced to navigate in order to get from the Mission to the Museum. The following outlines the current pedestrian route on the West and East sides of Los Olivos Street and Mission Canyon Road:

Westside Path Option:

1. Starting at the paved plaza in front of the Mission, there are steps, but no access ramp to the Los Olivos Street westerly parkway path to the Bridge.
2. A degraded asphalt path leads from Laguna Street north on the west side of Los Olivos Street and ends abruptly at the driveway that currently serves St. Mary's Retreat House. The path surface does not meet modern accessibility standards.
3. The three driveways along the westerly path to the Bridge exceed the maximum cross slope for modern accessibility standards.
4. North of the driveways, the westerly path continues as a compacted dirt surface until it terminates at the Bridge.
5. There is a 'pinch point' to about 3.5 feet on the westerly path between the roadway curb and a remnant of the historical Aqueduct just south of the Bridge at the path's termination.
6. At the Bridge, a pedestrian is forced to cross the approximate 300-foot long and 30-foot wide bridge. Privately-owned stone walls block access to Mission Creek, which is a deeply incised channel at this location.
7. If continuing on the vehicular roadway, a pedestrian is forced to walk into oncoming traffic with limited visibility, due to a curve in the road, to go to the other side or cross the 30-foot roadway to the easterly side, where a wooden catwalk attached to the Bridge steps down to cross over Mission Creek to Rocky Nook Park and added dirt pathways. (see Eastside Path option below)
8. To the north of the Bridge, a narrow dirt roadway shoulder varies from a few inches to up to about four feet wide between the Privately-owned "Stegosaurus" stone wall and the edge of the paved road.
9. The narrow shoulder contains a driveway entrance to the adjacent property and two power poles, before approaching the Puesta del Sol and Mission Canyon Road intersection.
10. The southerly side of Puesta del Sol currently does not contain an improved pathway. In order to access the Museum entrance, pedestrians are forced to continue on the asphalt shoulder that currently serves as a parallel parking lane, avoiding rocks, trees, a driveway, and other obstacles.

Eastside Path Option:

1. Starting at the stop sign-controlled Los Olivos/Laguna Street intersection in front of the Mission, there is a crosswalk that leads to the Mission Park on the east side of Los Olivos Street.
2. A narrow degraded asphalt path continues on the east side of Los Olivos Street, adjacent to the Mission Historical Park, until it ends abruptly prior to an existing stacked stone wall.
3. A pedestrian is then forced into the asphalt shoulder for approximately 230 feet to an uncontrolled crosswalk to the Mission.
4. In order to continue north on the sidewalk on the east side of Los Olivos Street, a pedestrian is forced to navigate the three-way Y-intersection with Alameda Padre Serra and an uncontrolled through-right turn travel lane that doesn't contain crosswalks.
5. Continuing northerly toward the Museum and Rock Nook Park, there are several uneven paths on the edge of the road and through the Mission Historic Park, where the path ends abruptly at the stop sign for Mountain Drive. After crossing Mountain Drive, there is a wooden catwalk attached to the eastside of the Bridge to cross to the entrance of Rocky Nook Park.
6. The eastside path continues as a compacted dirt surface adjacent to Rocky Nook Park with various pathway obstacles on the east side of Mission Canyon Road to the intersection with Puesta del Sol.
7. At the Puesta del Sol and Mission Canyon Road intersection, pedestrians must continue across the Woman's Club driveway entrance to an uncontrolled crosswalk in order to cross to the west side of Mission Canyon Road.
8. Once on the west side of the street, pedestrians must cross Puesta del Sol at the stop sign controlled T-intersection to get to the south side of Puesta del Sol to access the Museum.

<u>Mission Creek Bridge;</u>

The Bridge generally marks the end of Los Olivos Road in the City and the beginning of Mission Canyon Road in the County. Since the bridge roadway deck is only 30 feet wide, which is just enough room for two traffic lanes and two bike lanes, there is not enough room to provide exclusive space for pedestrians. For pedestrians crossing on the eastside of the Bridge, there is an existing wooden footbridge to cross the creek. The footbridge approaches do not meet current accessibility standards. Pedestrians crossing on the westside of the bridge must use the existing roadway shoulder to cross the creek.

Per the Caltrans Bridge Inspection Report for the Bridge, its deck geometry (essentially the width for the amount of traffic) and approach roadway alignment is assessed as being "functionally obsolete" by Caltrans. Planning and design studies are programmed in the 2014-2015 Federal Transportation Improvement

Program (FTIP). The City is scheduling to request authorization for Caltrans to begin the design work in Winter/Spring 2015.

Conceptual Design Study

A public workshop was held on October 29, 2013, at the Woman's Club to gather community input about the corridor (See Exhibit F-1 – 3, First Public Workshop Summary).

Due to the minimum space along the study area and the tight physical constraints and tolerances to meeting minimum vehicular, bicycle, and pedestrian passage along with the curving roadway, it was important to have an accurate survey. Therefore, the City arranged to compile City and County roadway surveys. The City did add some spot surveys at its own cost for added detail.

After considering all the input from the first public workshop and physical constraints, a conceptual design proposal was developed. The complete AutoCAD conceptual design study can be found in Exhibit B – Concept Plans for reference. This civil design work was used as the basis for the architectural rendering that was presented to the public at the second public workshop in April 2014 where it received overwhelming support (89%) from community participants. (See Exhibit G-1 – 4 Second Public Workshop Summary).

The following summarizes the conceptual design study performed for the community consensus proposal:

Continuous Pedestrian Pathway

As stated earlier, the primary focus of the planning study was to develop a continuous pedestrian pathway from the Mission to the Museum. City staff performed several design studies to develop a community consensus proposal. The proposed pathway stays on the westside beginning at the Laguna Street/Los Olivos Street intersection.

Currently on the westside, where there is a pathway, it is degraded asphalt or hard-pack dirt. To meet current accessible standards, several new sidewalk surfaces were considered in this study (See Exhibit C-5 Sidewalk Surface Studies). Sidewalk edge types were also considered and studied for use (See Exhibit C-4 Sidewalk Edge Studies). It is anticipated that further design studies will present these to the various boards and commissions for final design.

Mission Creek Bridge - Pedestrian Bridge Alternatives

In order to provide a continuous pathway on the west side, a portion of the two adjoining parcels would have to be acquired in order to modify the existing

privately-owned stone walls and create room for a pathway and separated pedestrian bridge. The City and County have conducted positive discussions with the current property owners and the south wall is part of the St. Mary's Retreat House (505 East Lost Olivos Street) where its local representative, Brother Tom Schultz, has expressed his support and his anticipated support from his religious monastic order. City and County staff have also met with the property owner to the north (Dr. John Kay at 609 Mission Canyon Road), who also expressed support for the project as proposed.

The costs of a new pedestrian bridge would be significantly affected by the selection of many possible prefabricated bridge options by providing a uniquely constructed parallel pedestrian bridge. Several pedestrian bridge alternatives were studied and can be seen in Exhibits C-1.1 – 1.2 and C-2.

Roadway Realignment Study

There are several 'pinch points' in the study area for pedestrians to navigate. These are mostly described above in the Pedestrian Accessibility section of this report. The key 'pinch point', with a width of only 38 feet, is at the Aqueduct just south of the Los Olivos Street and Mountain Road intersection. Due to the 'pinch point', it is necessary to realign the roadway near the Aqueduct to create enough room for an exclusive pedestrian pathway. Due to the minimal space all along the study area and the tight tolerances to meet minimum vehicular, bicycle, and pedestrian passage, having a good survey proved to be important.

The City Traffic Engineer developed a proposed roadway alignment that includes two ten-foot vehicle lanes and two five-foot bicycle lanes (for a total roadway width of thirty feet), and enough room for a six-foot-wide accessible pedestrian pathway on the west side. It was found that roadway alignment cannot be moved sufficiently toward the west at the Aqueduct to accommodate a new pathway on the eastside while adhering to reasonable roadway curve radii.

By shifting the road slightly to the east, sufficient room can be created on the west side at the Aqueduct for a new six-foot-wide pedestrian pathway. This realignment also provides additional room at the north and south approaches to the Bridge at the private stone walls. This makes the west side the recommended alignment for a new pathway. This proposed west side pathway alignment will require moving existing private stone walls that currently connect to the Bridge rails, and building a new pedestrian bridge on the west side of the Bridge.

In addition to shifting the roadway alignment to the east at the Aqueduct, the roadway is also proposed to be shifted to the east between the Mission Creek Bridge and Puesta Del Sol. Currently, there is less than five feet between the edge of pavement and private stone wall, which is insufficient to accommodate an exclusive pedestrian pathway.

Realignment of the roadway to the east between the Bridge and Puesta Del Sol will require the relocation of several utility poles with electrical and telephone lines along the study area corridor. In addition, there are several sycamore trees that will need to be removed to accommodate the new alignment.

Public Right of Way

As part of moving the roadway alignment to the east between the Mission Creek Bridge and Puesta Del Sol, the current east side pathway must be relocated from the hard dirt in front of Rocky Nook Park to an alignment inside the park. This is necessary to provide sufficient space along Mission Canyon Road between the Bridge and Puesta Del Sol to accommodate a pedestrian pathway and buffer (12 feet) and roadway (30 feet). This alignment will move the edge of the new roadway a few feet into the County's Rocky Nook Park property. In conversations with County staff, they feel confident that moving a new path further to the east into the Park will be compatible with the Park such that pedestrians would be walking through woodland there.

In order to accommodate the new alignment and the preferred relocation of the Puesta del Sol crosswalk, the Woman's Club driveway entrance must be modified. The iconic stone plinth columns that are located there will not be affected; however, part of the stacked stone wall in front of the plinth columns must be relocated to accommodate a new pedestrian landing for the relocated Puesta Del Sol crosswalk. The study of this re-alignment can be found in Exhibit I 2.1 – 2.4.

For the purposes of this study, the City assumed that the Museum, along with their recently proposed improvements, would reconfigure Puesta del Sol and construct the frontage improvements from the Museum entrance to the east side of the Museum's frontage. Two alternative proposals were sketched to study roadway geometrics and can be found in Exhibit C 6.1 – 6.2.

City/County Technical Coordination

The City has been working with the County's Transportation Engineer to coordinate on the City's study area designs at the City/County limits, including new roadway alignments up to the Mission Canyon Road and Las Encinas intersection. There has been specific correspondence regarding changing the pedestrian crossing features at the Puesta del Sol intersection at the Woman's Club driveway (See Exhibit I-2.1 – 2.4). In addition, per the request of the County, the City investigated options to provide a left turn pocket on Mission Canyon Road onto Las Encinas Road (See Exhibit I 1.1 – 1.3).

Design Conclusions for the Community Consensus Proposal

The City coordinated with the County to develop the proposal that was presented at the second public workshop on April 22, 2014, at the Woman's Club. The resulting Mission to Museum westside pedestrian route proposal was considered as the preferred design alternative. An eastside path that could meet accessibility standards was not considered feasible. Engineered AutoCAD based drawings were provided to a Safe Passage volunteer to create Architectural (watercolor) Renderings of the proposed design (See Exhibit E for plans and sections). Photo perspectives were also developed to conceptually show the proposed improvements (See Exhibit D).

The key components of the westside pedestrian route proposal are as follows:

- A continuous pedestrian path on the west side of the corridor (surface material to be determined). The path must comply with the Americans with Disabilities Act and be consistent with the historical setting.
- Landscape buffers between path and roadway, where feasible.
- A new detached pedestrian bridge that is parallel and west of the existing stone bridge over Mission Creek (material and structure design to be determined).
- Bike lanes extending north to Puesta del Sol that transition into bike routes in the County's jurisdiction where the road narrows.
- Relocation of the Puesta del Sol/Mission Canyon Road crosswalk.

To accomplish these improvements, the two stone walls near the bridge need to be relocated, portions of the roadway would be realigned to the east between the bridge and Las Encinas Lane, restripe the roadway in some areas, and reconstruct the roadway to accommodate grade changes necessary due to the realignment.

This proposal is considered as the minimum improvement required to provide continuous access from the Mission to the Museum. Future studies may address additional concerns that were heard at the public workshops, such as intersection improvements at Los Olivos Road and Alameda Padre Serra and the intersection of Los Olivos Road and Laguna Street, and the left-turn pocket from Mission Canyon Road onto Las Encinas Lane.

<u>Initial Cost Estimates</u>

A conceptual cost estimate was prepared for the Mission to Museum study area with a grand total cost of approximately $2.74 million. This figure includes a 35% construction cost contingency to accommodate the time necessary to secure construction funding and uncertainties in the final scope of construction work, as well as 30% for administration, environmental clearance, special studies, design services, and construction management (See Exhibit H-1).

Design Recommendations

City and County staff's should continue to work together to further develop design and construction funding options for improving multi-model access along the corridor. It may be necessary to make improvements incrementally as funding, grant or otherwise, becomes available to the City or the County individually or jointly.

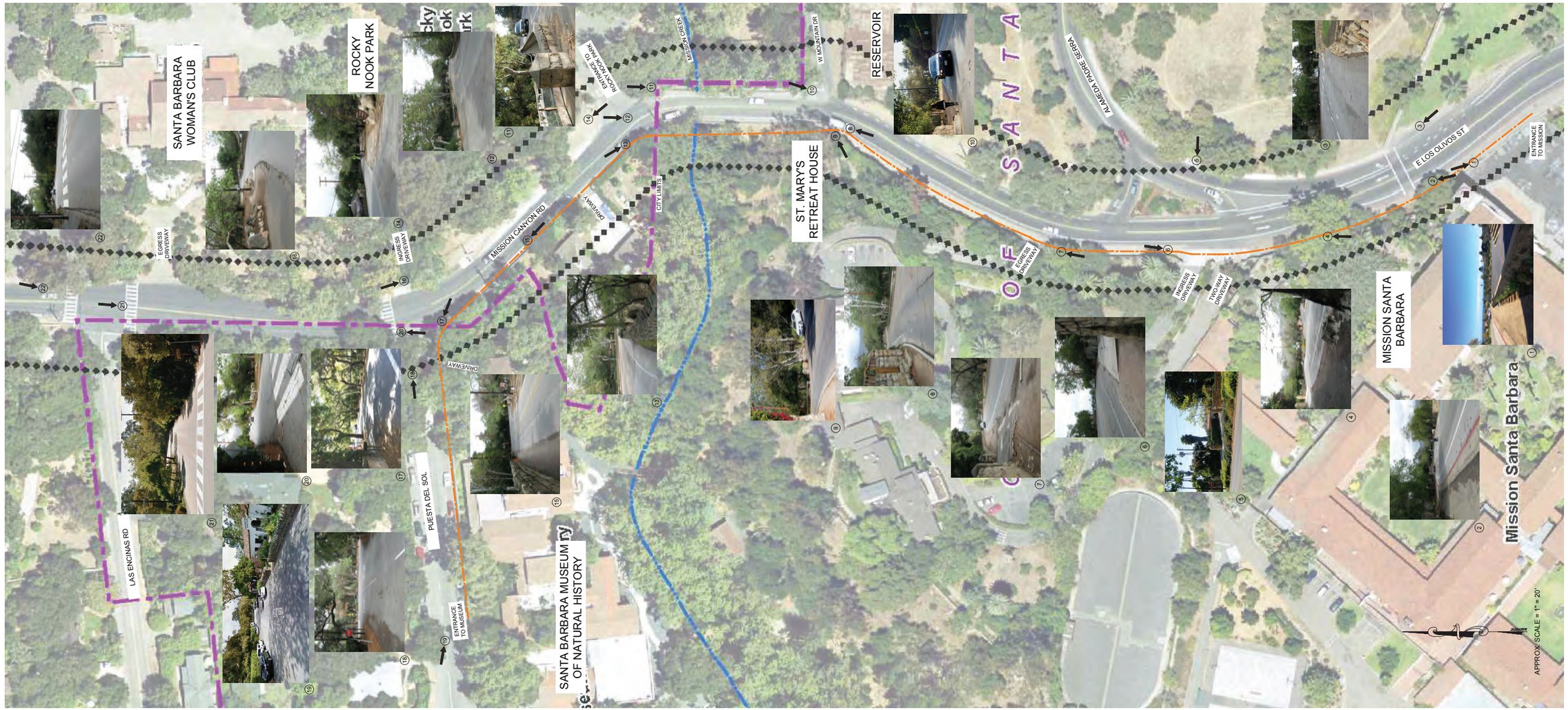
Initial corridor multimodal improvements should include:

- A continuous pedestrian path on the west side of the corridor (surface material to be determined). The path must comply with the Americans with Disabilities Act and be consistent with the historical setting.
- Landscape buffers between path and roadway, where feasible.
- New detached pedestrian bridge parallel and west of the existing stone bridge over Mission Creek (material and structure design to be determined).
- Bike lanes extending north to Puesta del Sol that transition into bike routes in the County's jurisdiction where the road narrows.
- Relocation of Mission Canyon Road crosswalk at Puesta del Sol to the south.

EXHIBITS - TABLE OF CONTENTS

A-1: PHOTO MAP – MISSION TO MUSEUM CONCEPT PLANS

EXHIBIT A-1



Mission Canyon Corridor Planning Process

Mission to Museum Photo Map

B-1: Laguna to Mission

EXHIBIT B-1

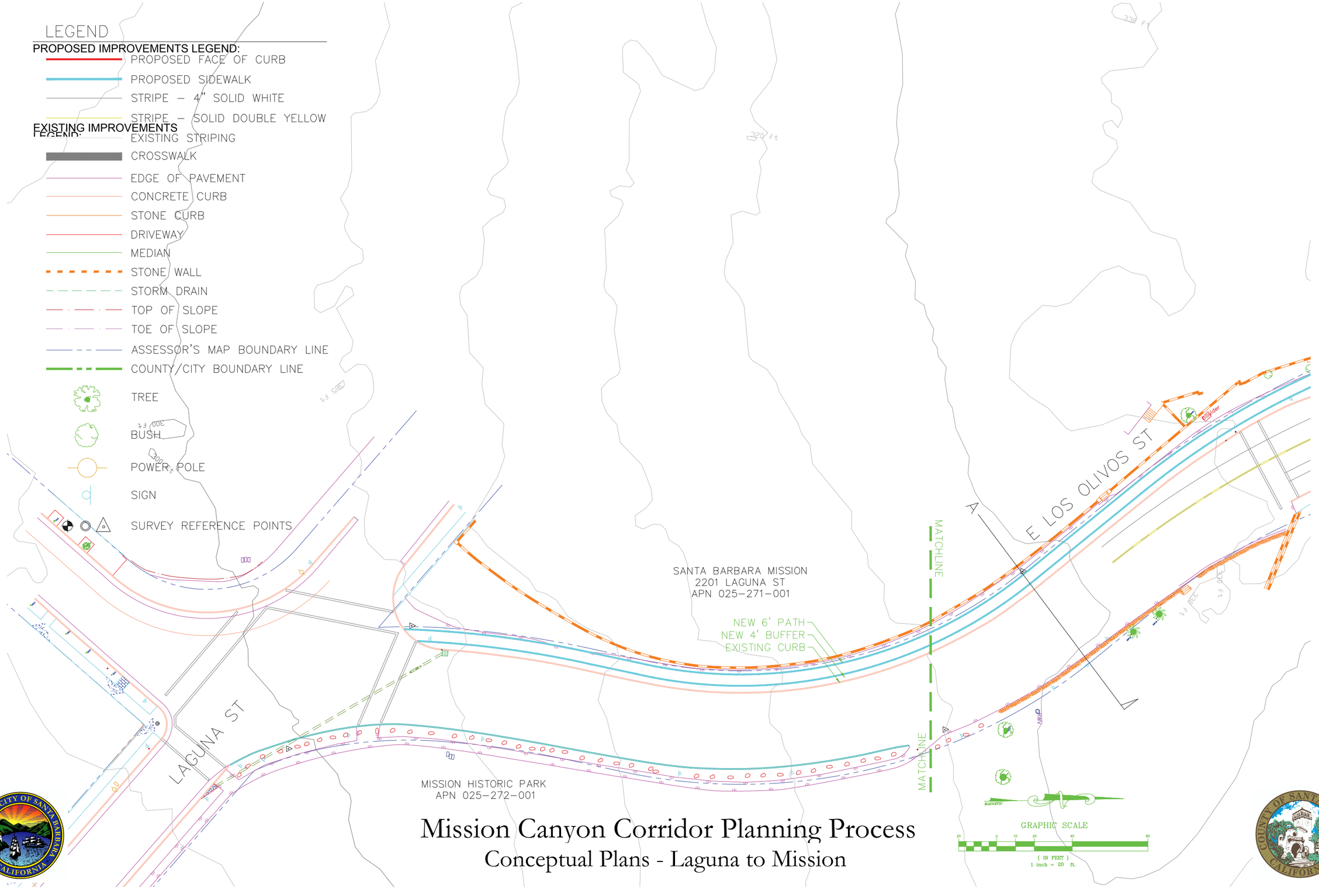
LEGEND

PROPOSED IMPROVEMENTS LEGEND:

- PROPOSED FACE OF CURB
- PROPOSED SIDEWALK
- STRIPE – 4" SOLID WHITE
- STRIPE – SOLID DOUBLE YELLOW

EXISTING IMPROVEMENTS LEGEND:

- EXISTING STRIPING
- CROSSWALK
- EDGE OF PAVEMENT
- CONCRETE CURB
- STONE CURB
- DRIVEWAY
- MEDIAN
- STONE WALL
- STORM DRAIN
- TOP OF SLOPE
- TOE OF SLOPE
- ASSESSOR'S MAP BOUNDARY LINE
- COUNTY/CITY BOUNDARY LINE
- TREE
- BUSH
- POWER POLE
- SIGN
- SURVEY REFERENCE POINTS

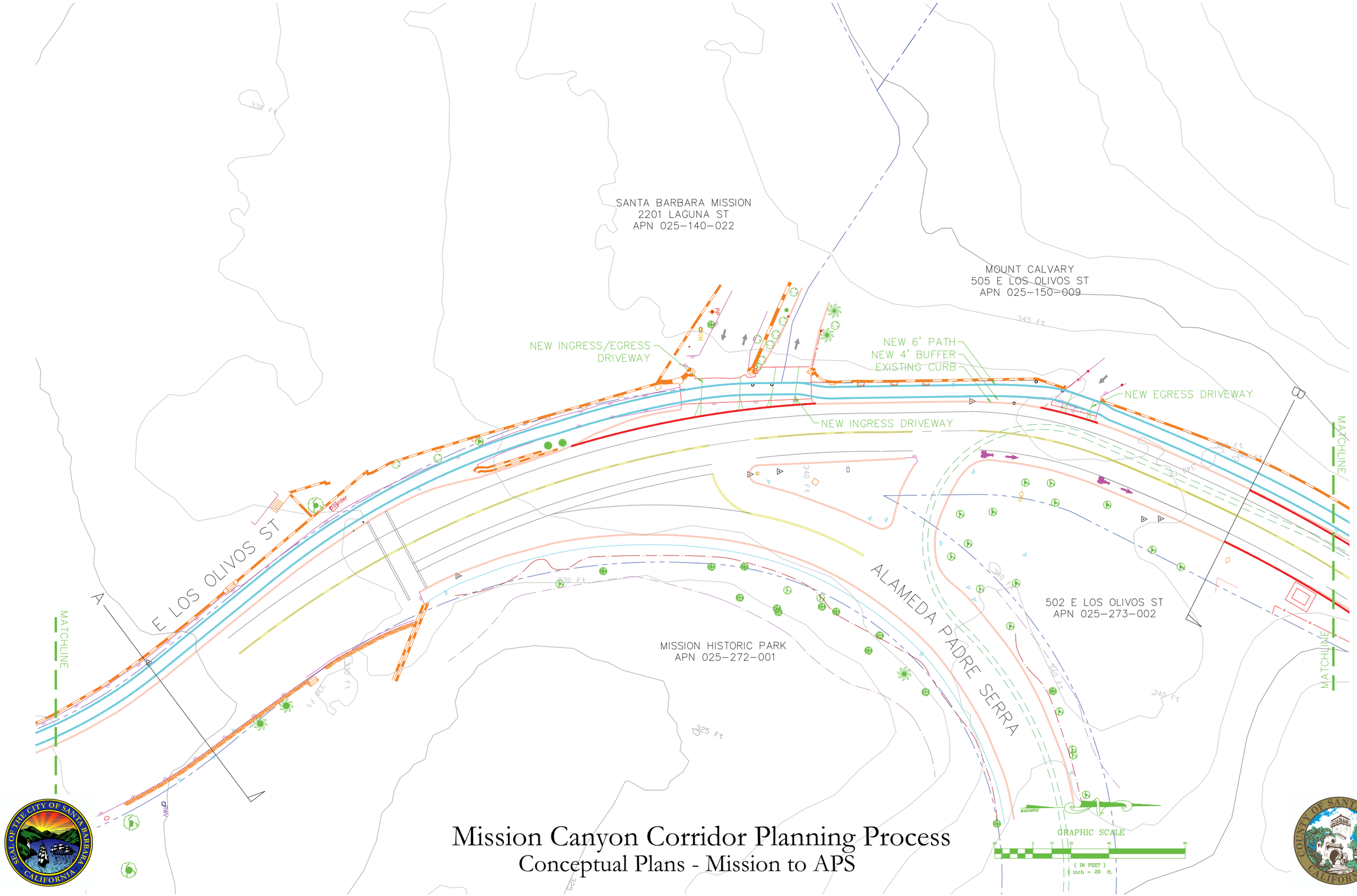


Mission Canyon Corridor Planning Process

Conceptual Plans - Laguna to Mission

B-2: Mission to APS

EXHIBIT B-2

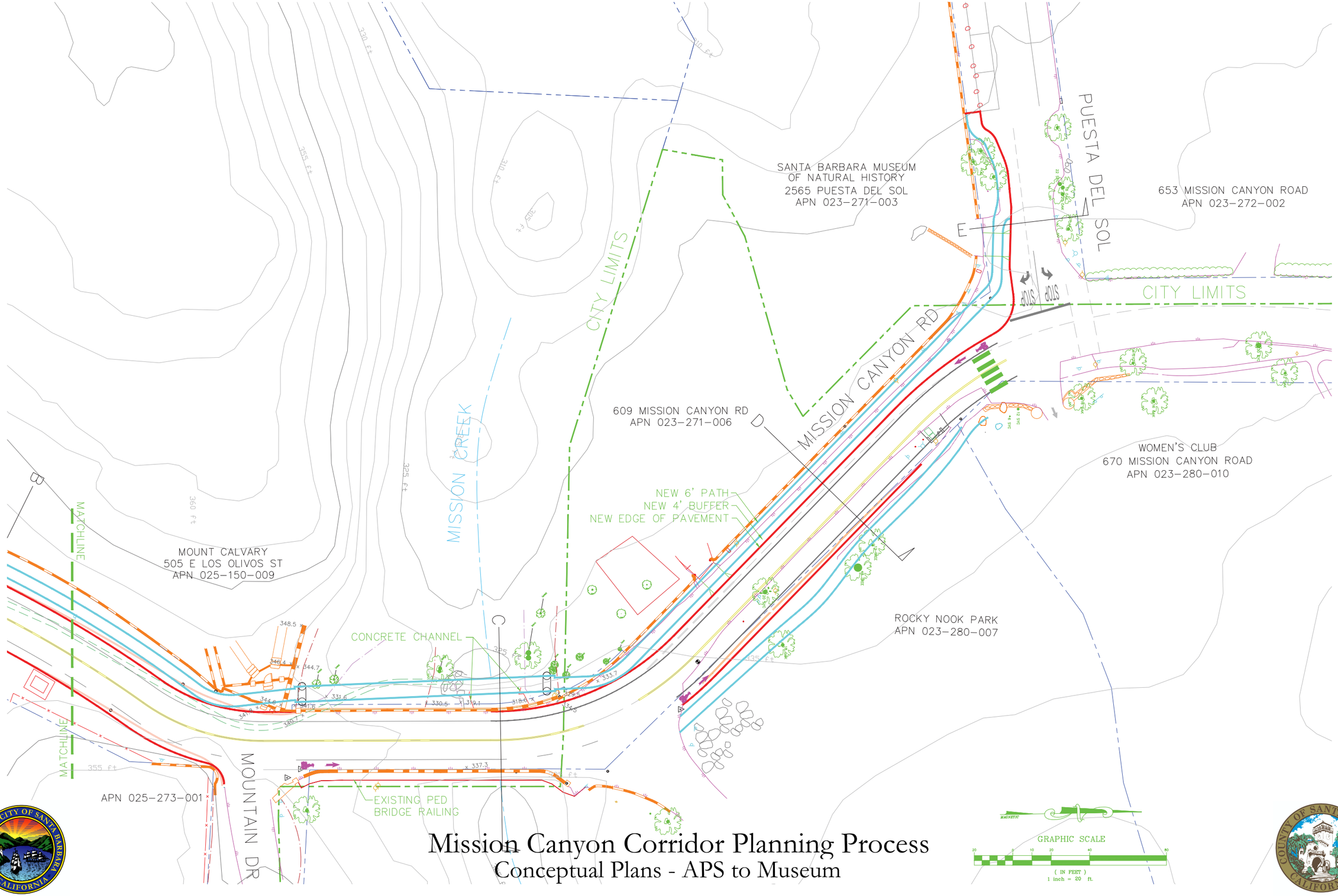


Mission Canyon Corridor Planning Process

Conceptual Plans - Mission to APS

B-3: APS to Museum

EXHIBIT B-3



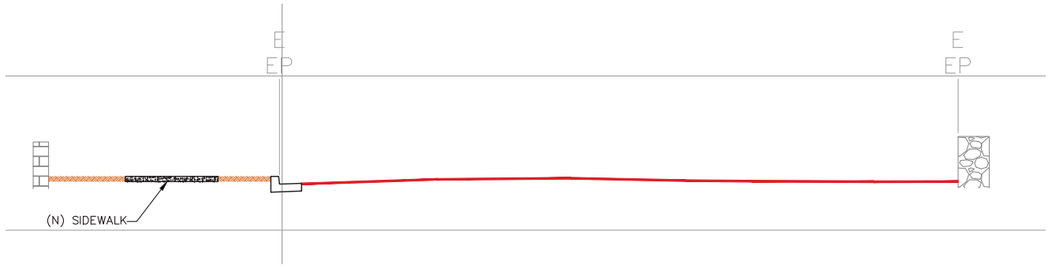
Mission Canyon Corridor Planning Process

Conceptual Plans - APS to Museum

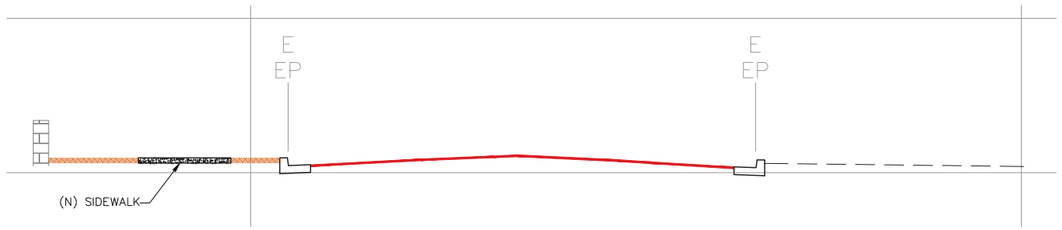
GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

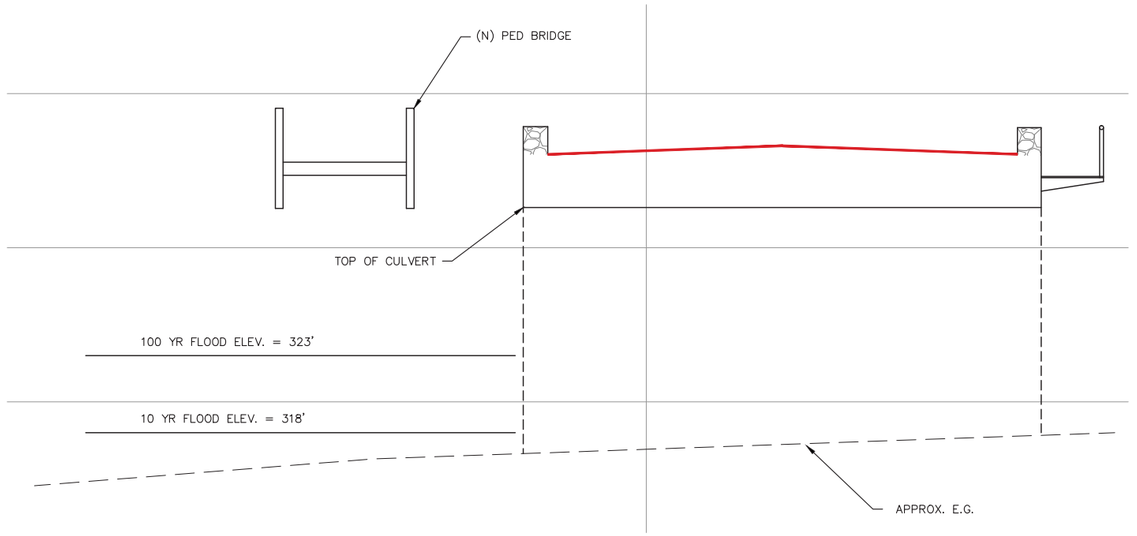
B-4: Sections



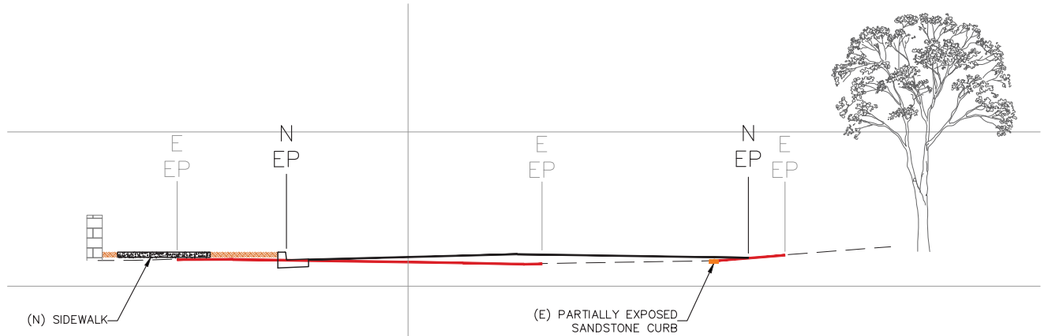
A MISSION CANYON AT MISSION WALL



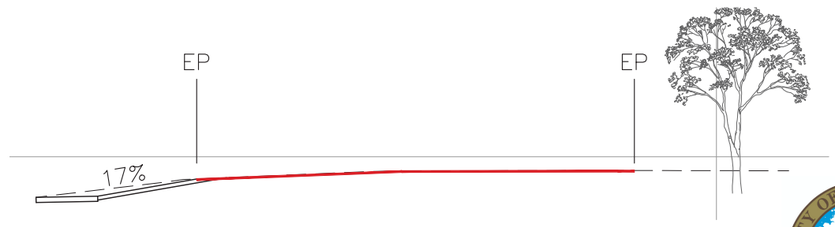
B MISSION CANYON AT START OF CURB



C BRIDGE SECTION



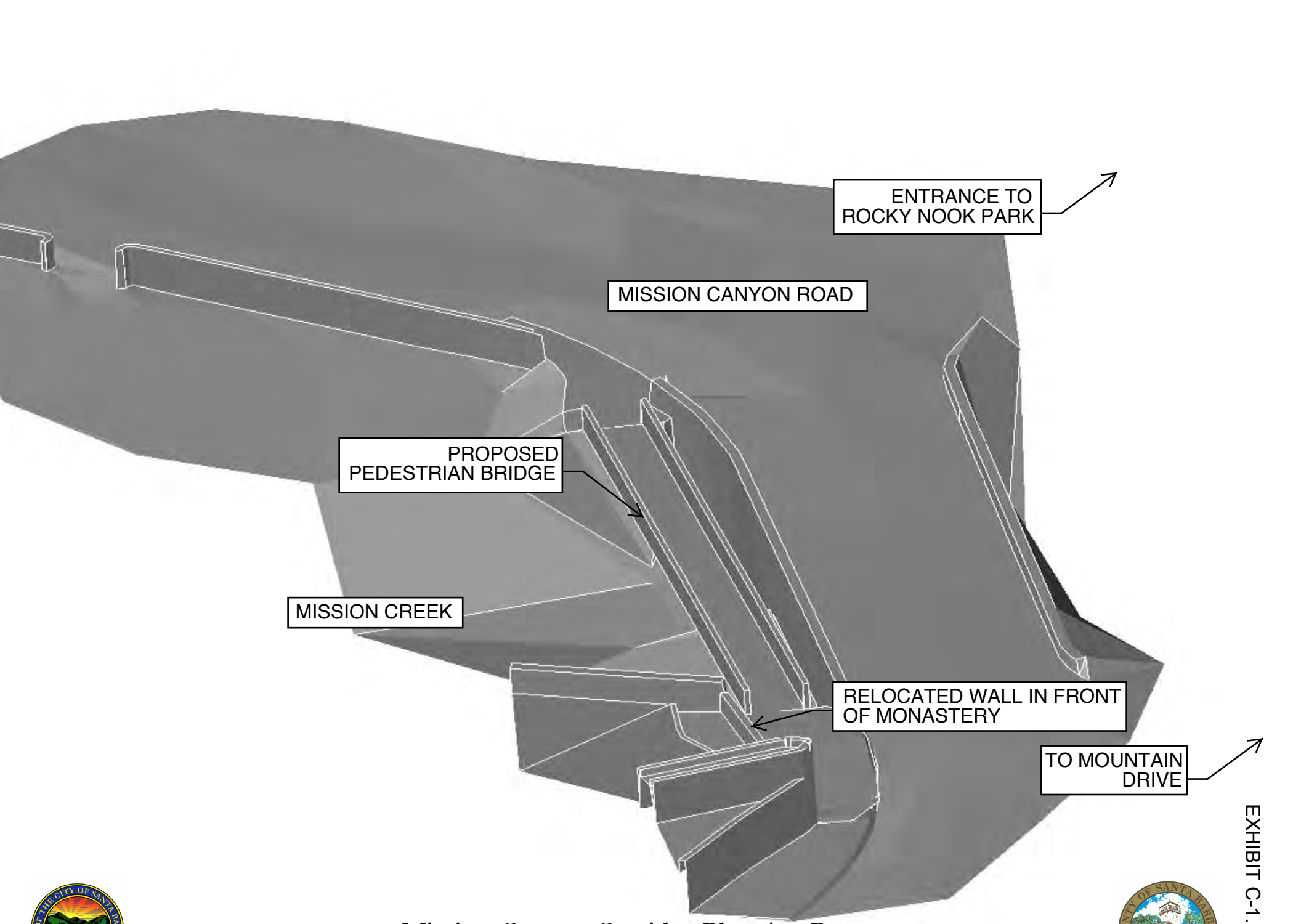
D MISSION CANYON AT ROCK NOOK



E DRIVEWAY SECTION AT PUESTA DEL SOL

Mission Canyon Corridor Planning Process
Conceptual Plans - Sections

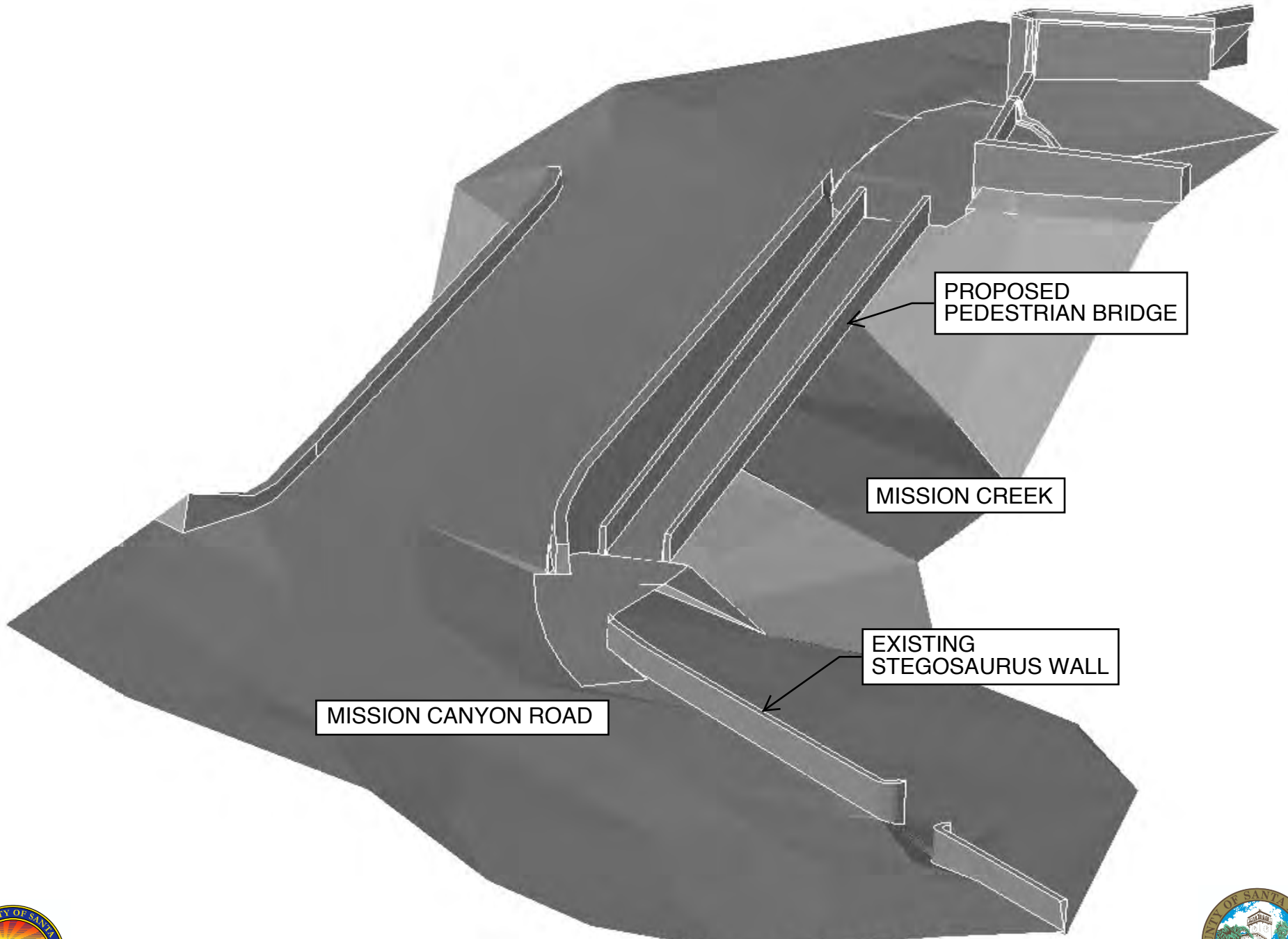
C-1.1 – 1.2: Pedestrian Bridge Site Studies



Mission Canyon Corridor Planning Process

Bridge Study - Looking Northerly

EXHIBIT C-1.1

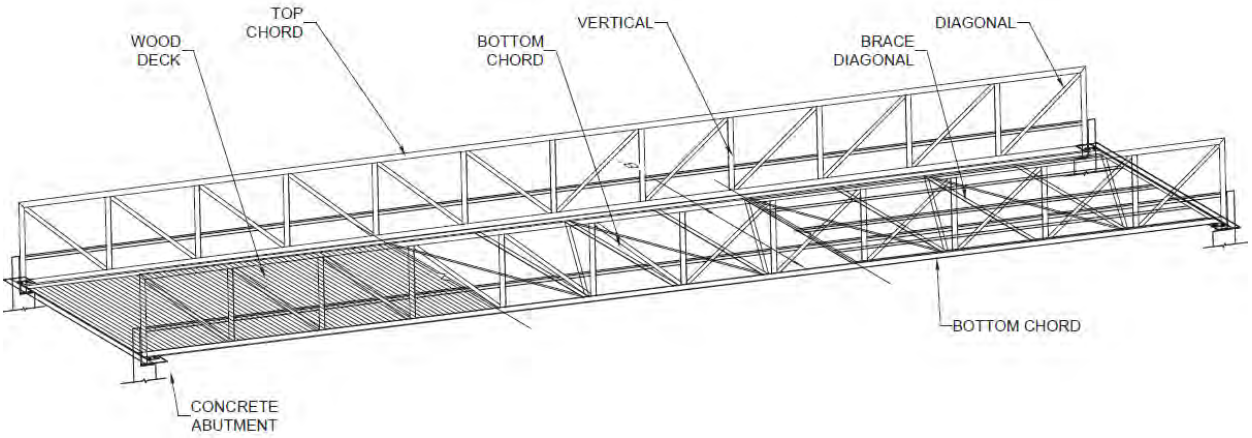


Mission Canyon Corridor Planning Process

Bridge Study - Looking Southerly

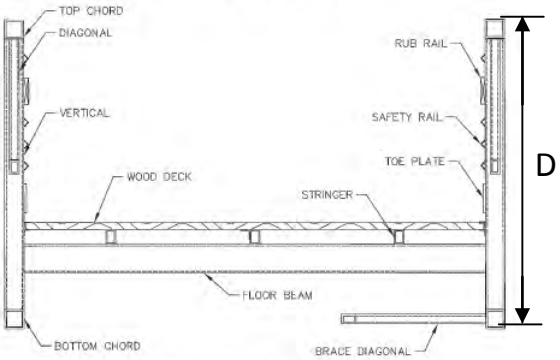
EXHIBIT C-1.2

C-2: Pedestrian Bridge Structural Details

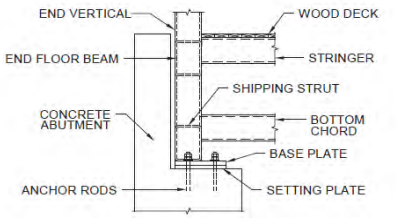


A Connector® standard truss pedestrian bridge, or equivalent, is proposed with a clear span of 125 feet from top of bank to top of bank.

Section Views

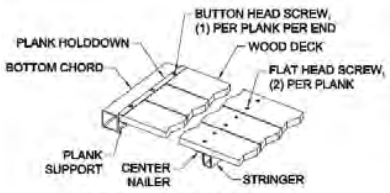


Connector® - H-Section



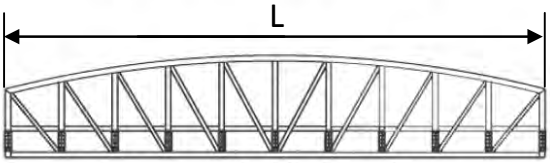
BEARING SIDE VIEW

INFORMATION PROVIDED FOR REPRESENTATION ONLY.
ACTUAL BEARING DIAGRAMS TO BE BASED ON FINAL DESIGN.

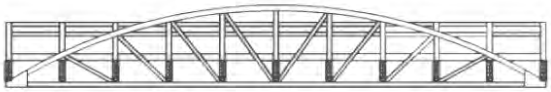


WOOD DECK DETAIL

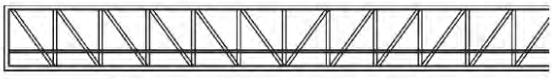
Typical Truss Styles



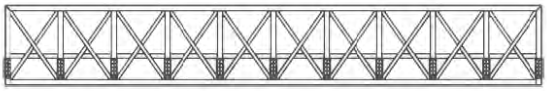
Capstone® Modified Bow Truss



Keystone® Bow Truss



Connector® Standard Truss



Link® X-Brace Truss

Archway® Underhung Truss

How tall will the side trusses be on my bridge?
If your bridge is a Half-Through Pony System, the truss height will be a minimum of 42" for pedestrian only traffic, a minimum of 54" for pedestrians with bicycle traffic or L/20 (the bridge length divided by 20).

The proposed clear span (L) is 125 feet long; therefore the total depth (D) of the truss will be approximately 6.25 feet.

Mason St Ped Bridge

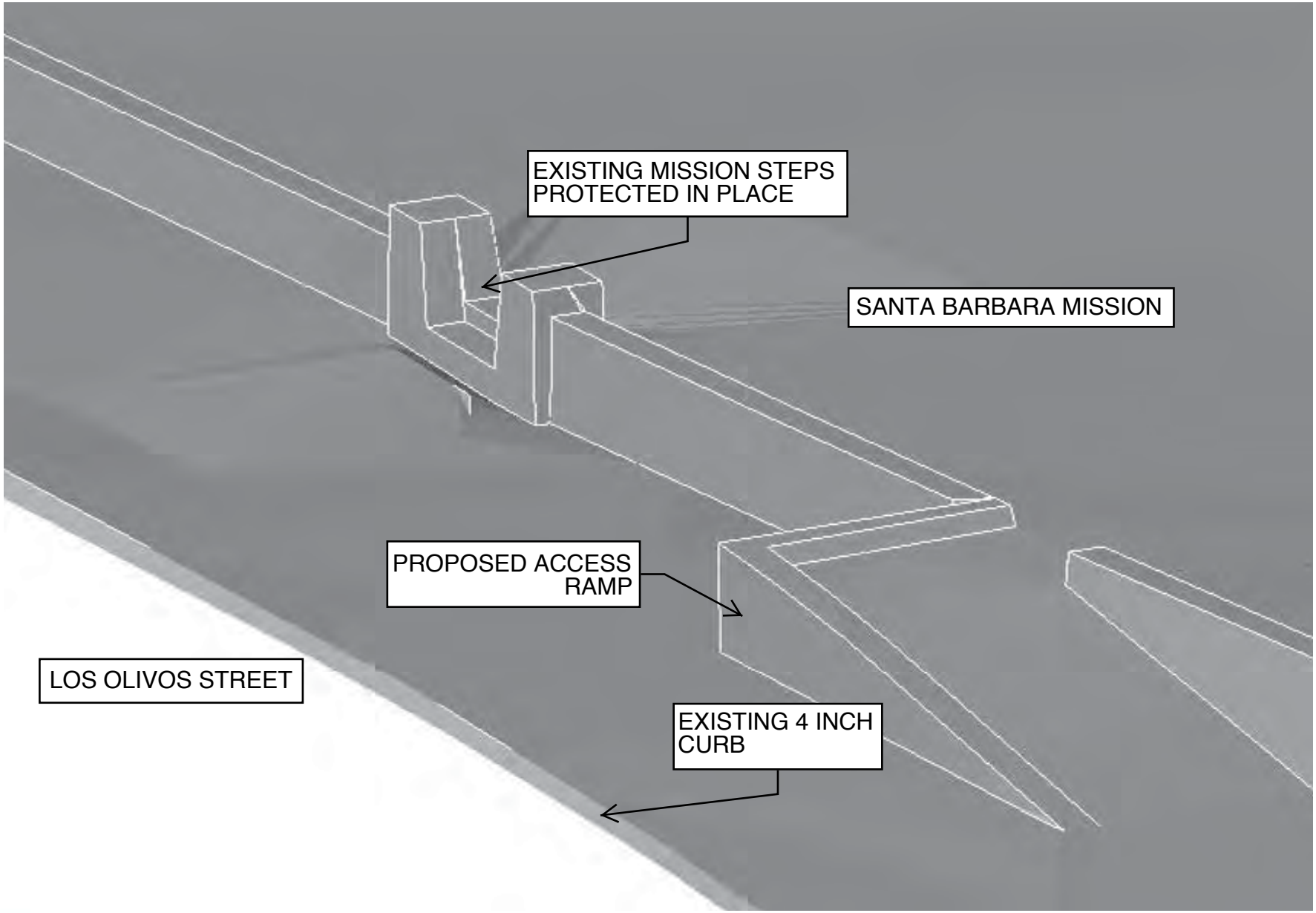
Arroyo Burro Ped Bridge (72’ span, 4’3” truss, 5’6 width, vertical pickets)

Westmont College Ped Bridge (129'span, 7' truss height)

Mission Canyon Corridor Planning Process

Pedestrian Bridge Structural Details

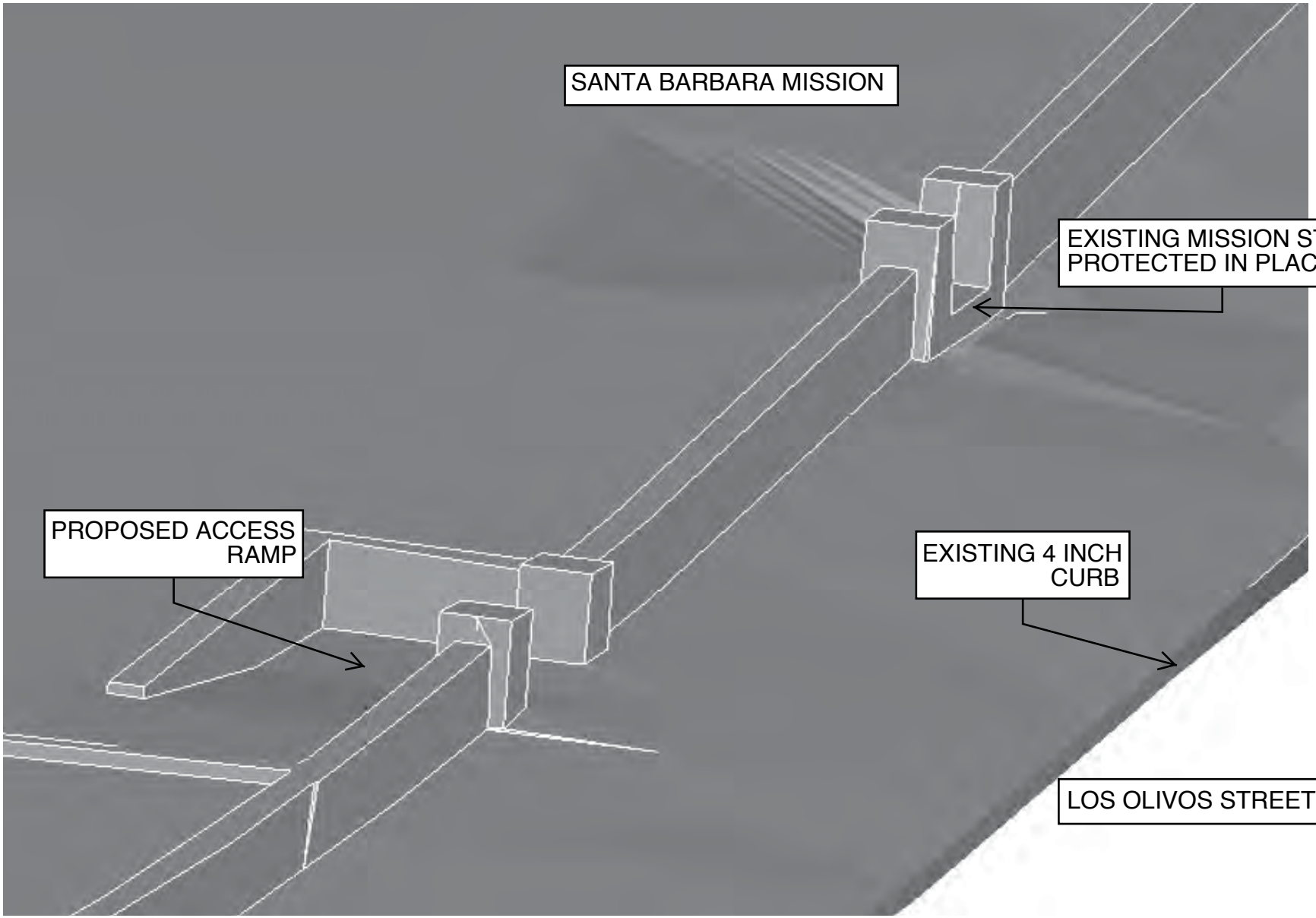
C-3.1 – 3.2: Santa Barbara Mission Access Ramp Studies



Mission Canyon Corridor Planning Process

Mission Access Ramp Study - On Existing ROW

EXHIBIT C-3.1

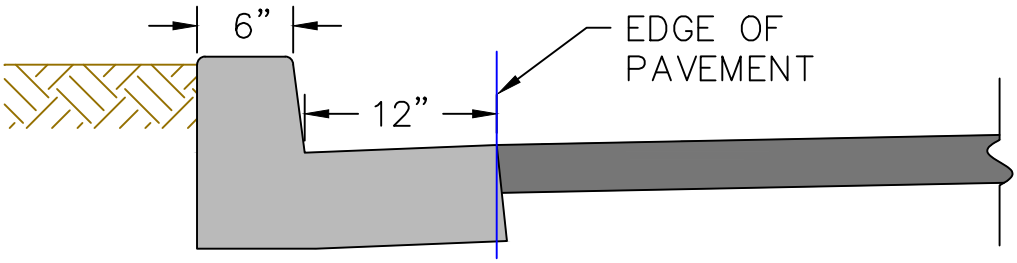


Mission Canyon Corridor Planning Process

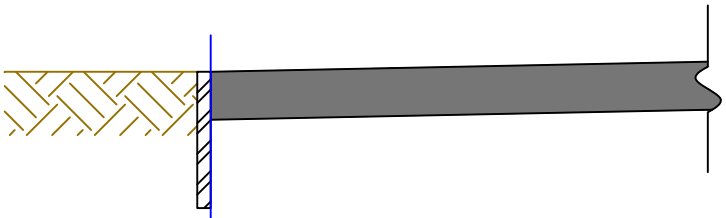
Mission Access Ramp Study - On Mission Property

EXHIBIT C-3.2

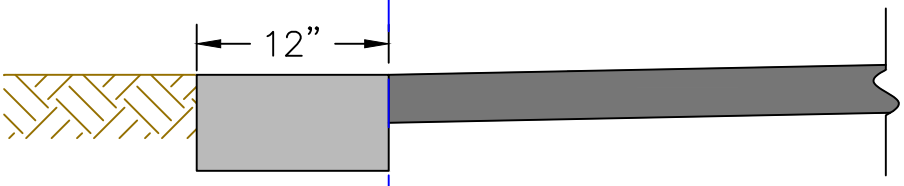
C-4: Sidewalk Edge Studies



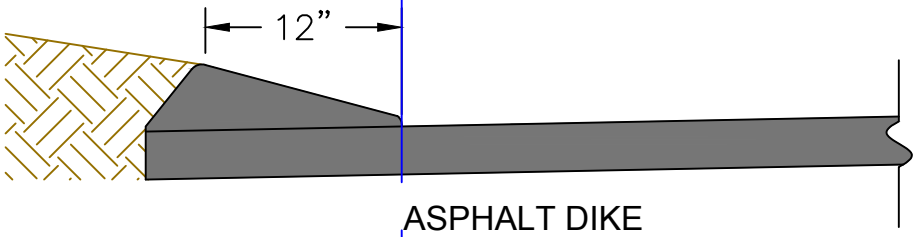
STANDARD CURB & GUTTER



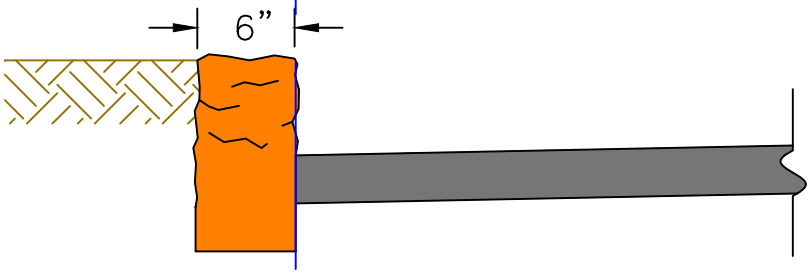
STRUCTURAL EDGE



RIBBON CURB



ASPHALT DIKE



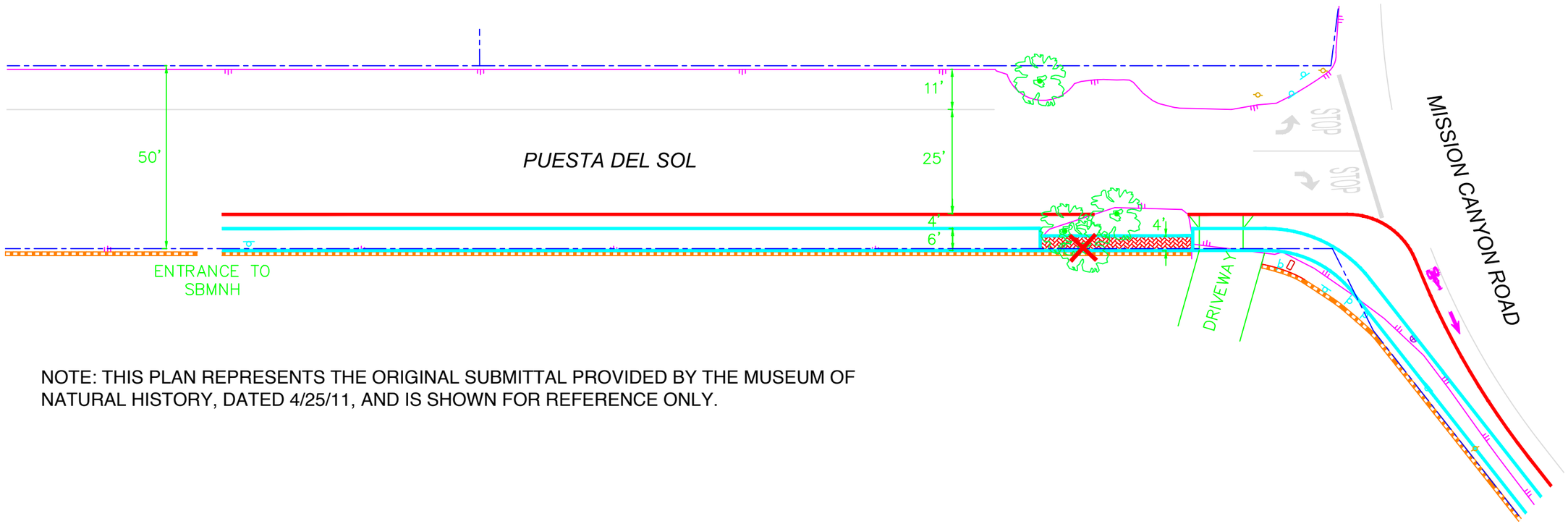
FAUX SANDSTONE CURB

C-5: Sidewalk Surface Studies

Surface	Estimated Cost ($/SF)*	Opportunities	Constraints
Concrete (4”) 	7 – 12	• 25+ year design life • Low maintenance • Low rolling resistance • May be used on steep grades • Reflects heat • Can be colored for aesthetics	• Rigid - prone to cracking • Contraction joints • Expensive to replace
Asphalt (3”) 	3 – 5	• Fairly low maintenance • Low rolling resistance when maintained • 15-20 year design life • Moderate up-front costs • Quiet/Soft/Flexible when installed • Joint-free when installed • Quick installation – minimal excavation req.	• Prone to uplift/cracking • Aggregate may delaminate over time • Absorbs heat
Permeable Pavers 	15 – 20	• 25+ year design life • Permeable • Easy to access underground utilities • Reduces Stormwater Permit requirements • High compressive strength • Allows for differential movement	• Higher up-front costs • Deeper excavation required to allow for permeable base • Difficult to maintain when clogged
Porous Concrete (4”) 	9 – 15	• 25+ year design life • Permeable • Reduces Stormwater Permit requirements • Can be colored for aesthetics	• Rigid - prone to cracking • Difficult to install properly • Difficult to maintain when clogged • Lower compressive strength than conventional concrete • At end of design life, requires replacement by milling to base
Porous Asphalt (4”) 	3.5 – 6	• 15-20 year design life • Permeable • Reduces Stormwater Permit requirements	• Absorbs heat • Difficult to install properly • Difficult to maintain when clogged • Lower compressive strength than conventional asphalt • At end of design life, requires replacement by milling to base
Decomposed Granite 	1.5 – 2	• Natural aesthetic • Cost effective • Easy to patch for access underground utilities • Minimal excavation	• Subject to rutting • Regular maintenance required • May lead to fines runoff • Short design life • More difficult for wheelchair access
Stabilized Aggregate 	4 – 8	• Natural aesthetic • Cost effective • Minimal excavation	• Aggregate may delaminate over time • Less environmental impact than asphalt • Glossy sheen may be undesirable

* Costs are for general comparison only. Costs include minimum required excavation, base, subbase, and material cost. Mobilization and other extraneous costs are not included. Actual material/installation costs may vary.

C-6.1 – 6.2: Santa Barbara Museum of Natural History - Puesta del Sol Pedestrian Options



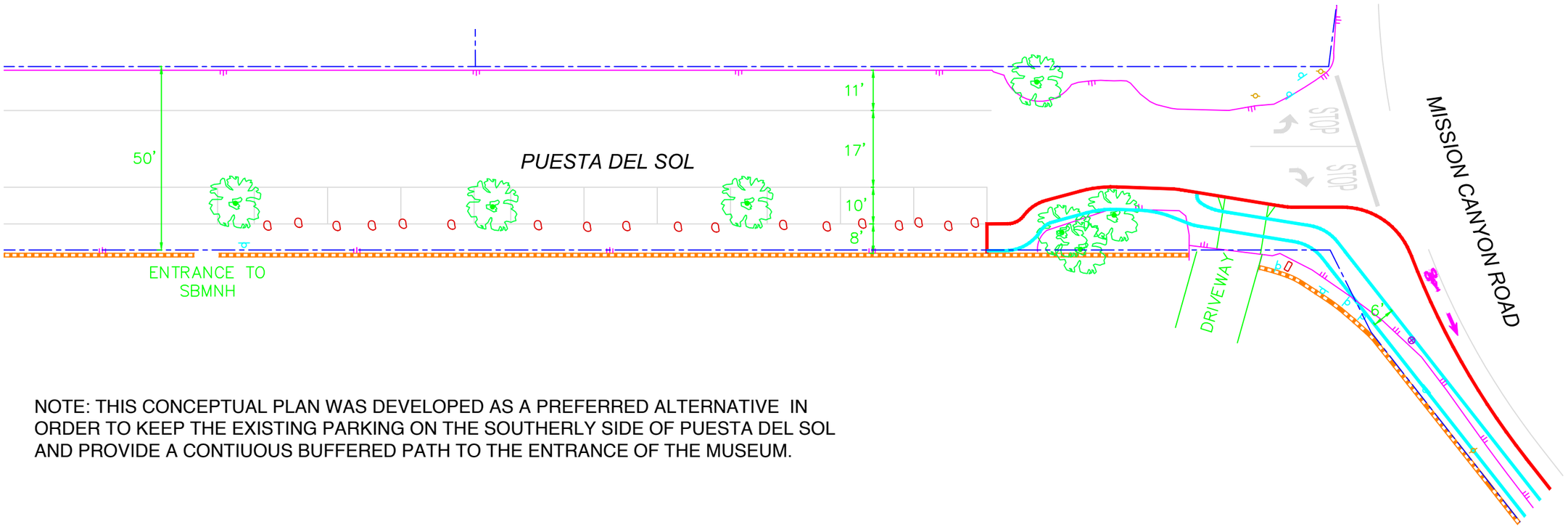
NOTE: THIS PLAN REPRESENTS THE ORIGINAL SUBMITTAL PROVIDED BY THE MUSEUM OF NATURAL HISTORY, DATED 4/25/11, AND IS SHOWN FOR REFERENCE ONLY.

PUESTA DEL SOL
PEDESTRIAN IMPROVEMENTS

MUSEUM OF NATURAL HISTORY ORIGINAL
DEVELOPMENT PLAN SUBMITTAL, DATED 4/25/2011

-PRELIMINARY-
NOT FOR CONSTRUCTION

SCALE: 1" = 30'



NOTE: THIS CONCEPTUAL PLAN WAS DEVELOPED AS A PREFERRED ALTERNATIVE IN ORDER TO KEEP THE EXISTING PARKING ON THE SOUTHERLY SIDE OF PUESTA DEL SOL AND PROVIDE A CONTIUOUS BUFFERED PATH TO THE ENTRANCE OF THE MUSEUM.

PUESTA DEL SOL
PEDESTRIAN IMPROVEMENTS

PREFERRED ALTERNATIVE

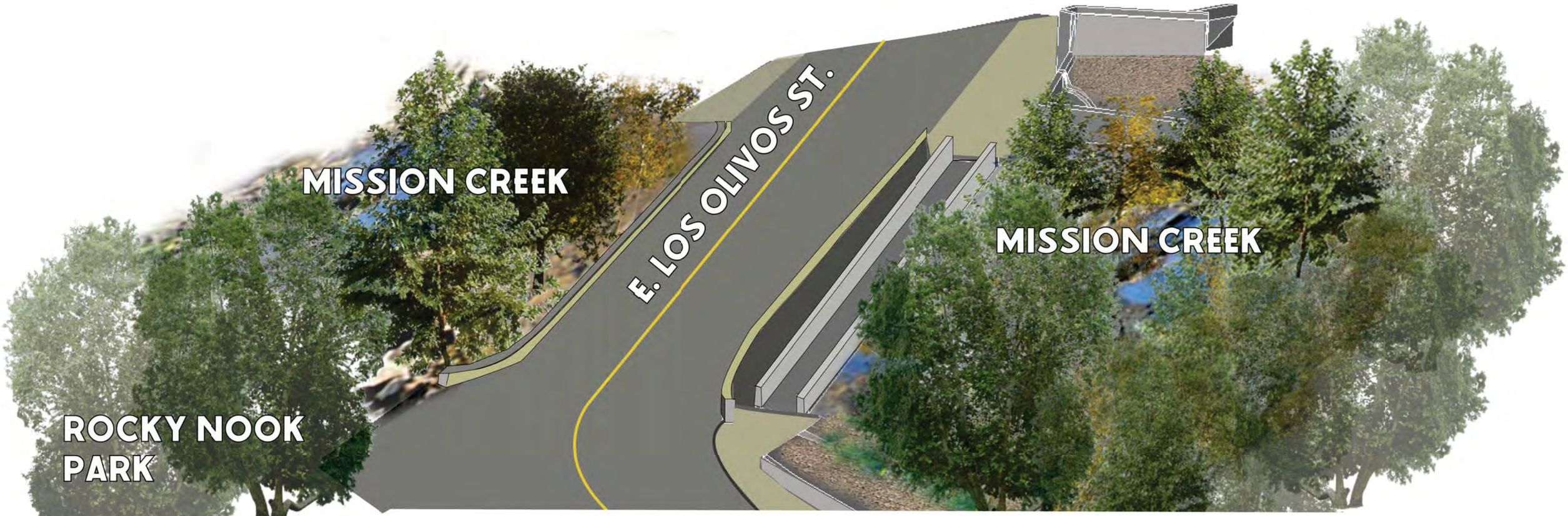
-PRELIMINARY-
NOT FOR CONSTRUCTION

SCALE: 1" = 30'

D-1 – 3: PHOTO PERSPECTIVES

Mission Canyon Corridor Planning Process

Mission Canyon Bridge - Street Level



Mission Canyon Corridor Planning Process

Mission Canyon Bridge - Axonometric

Mission Canyon Corridor Planning Process

Mountain Drive - Section

E-1.1 – 1.3: Plans

Mission Canyon Corridor Planning Process

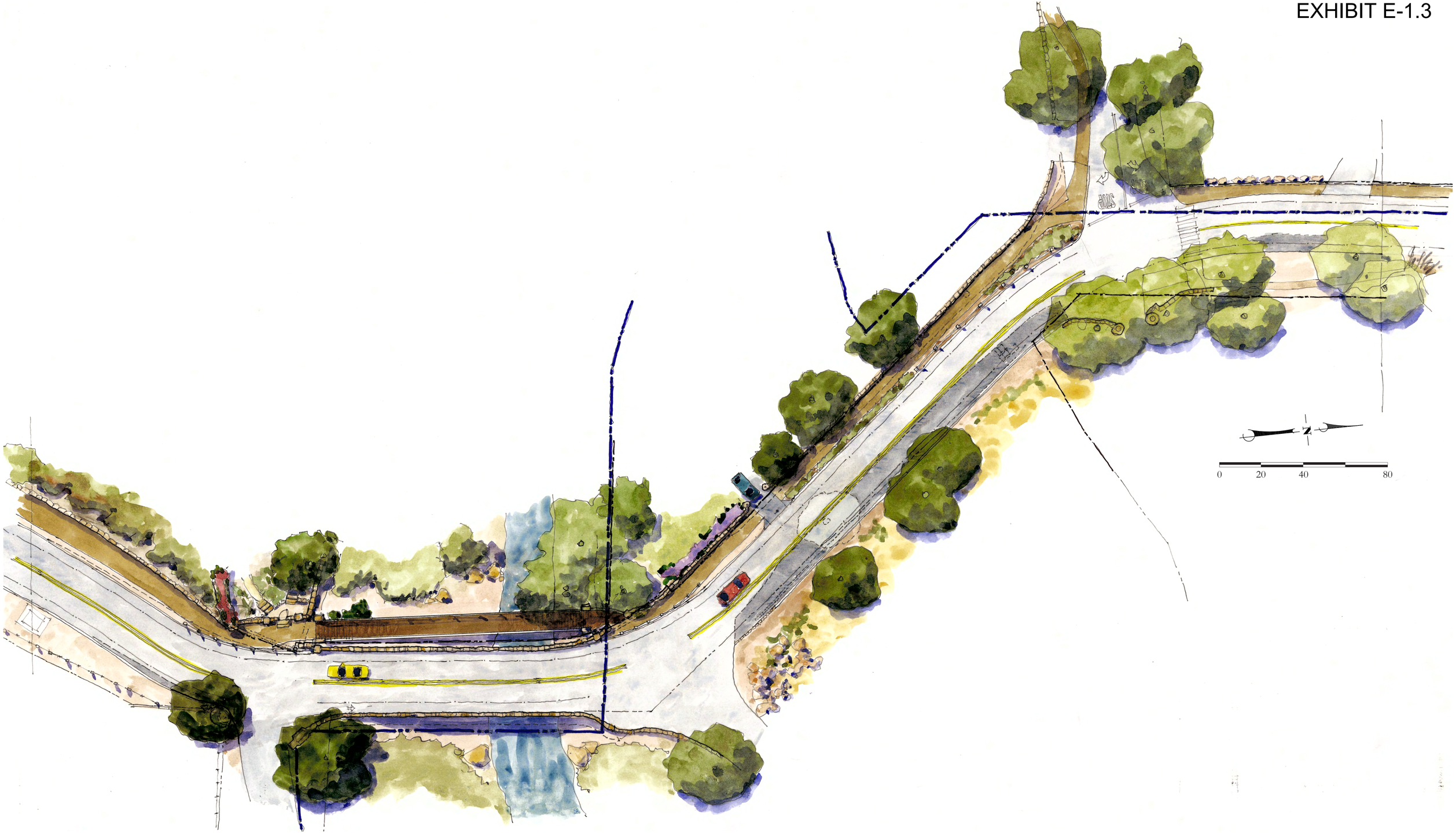
Laguna to Mission

EXHIBIT E-1.2

Mission Canyon Corridor Planning Process

Mission to APS

EXHIBIT E-1.3



Mission Canyon Corridor Planning Process

APS to Museum

E-2.1 – 2.5: Sections

Mission Canyon Corridor Planning Process

at Mission Santa Barbara

0 5 10 20

Mission Canyon Corridor Planning Process

at Mountain Drive

Mission Canyon Corridor Planning Process

at Mission Canyon Bridge

Mission Canyon Corridor Planning Process

at Rocky Nook Park

Mission Canyon Safe Passage Project

at Puesta del Sol

F-1 – 3: FIRST PUBLIC MEETING SUMMARY

MISSION CANYON CORRIDOR LISTENING WORKSHOP

Tuesday, October 29, 2013
6:30 p.m.
Santa Barbara Woman's Club

Agenda

6:30 – 7:00	Refreshments
7:00 – 7:15	Presentation
7:15 – 8:45	Table Discussions
8:45 – 9:00	Wrap Up and Adjourn

Mission Canyon Corridor Listening Workshop October 29, 2013

EXHIBIT F-2.1

Caltrans Grant Key Steps

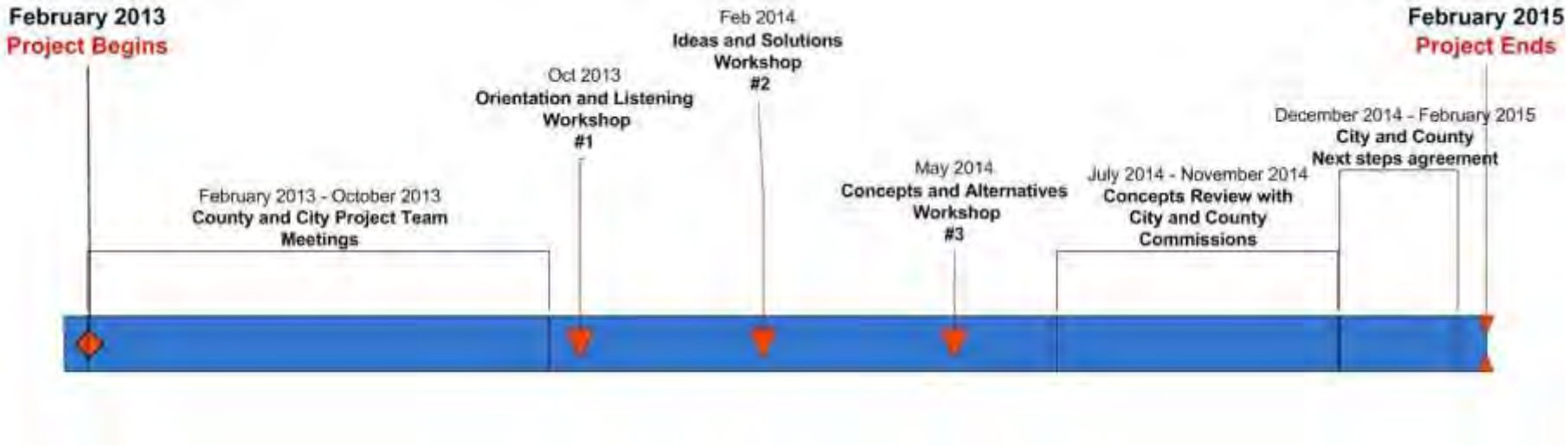


EXHIBIT F-2.2

Results

- Preferred concept level master plan and technical report
- Next Steps County/City Agreement

EXHIBIT F-2.3

Corridor Map

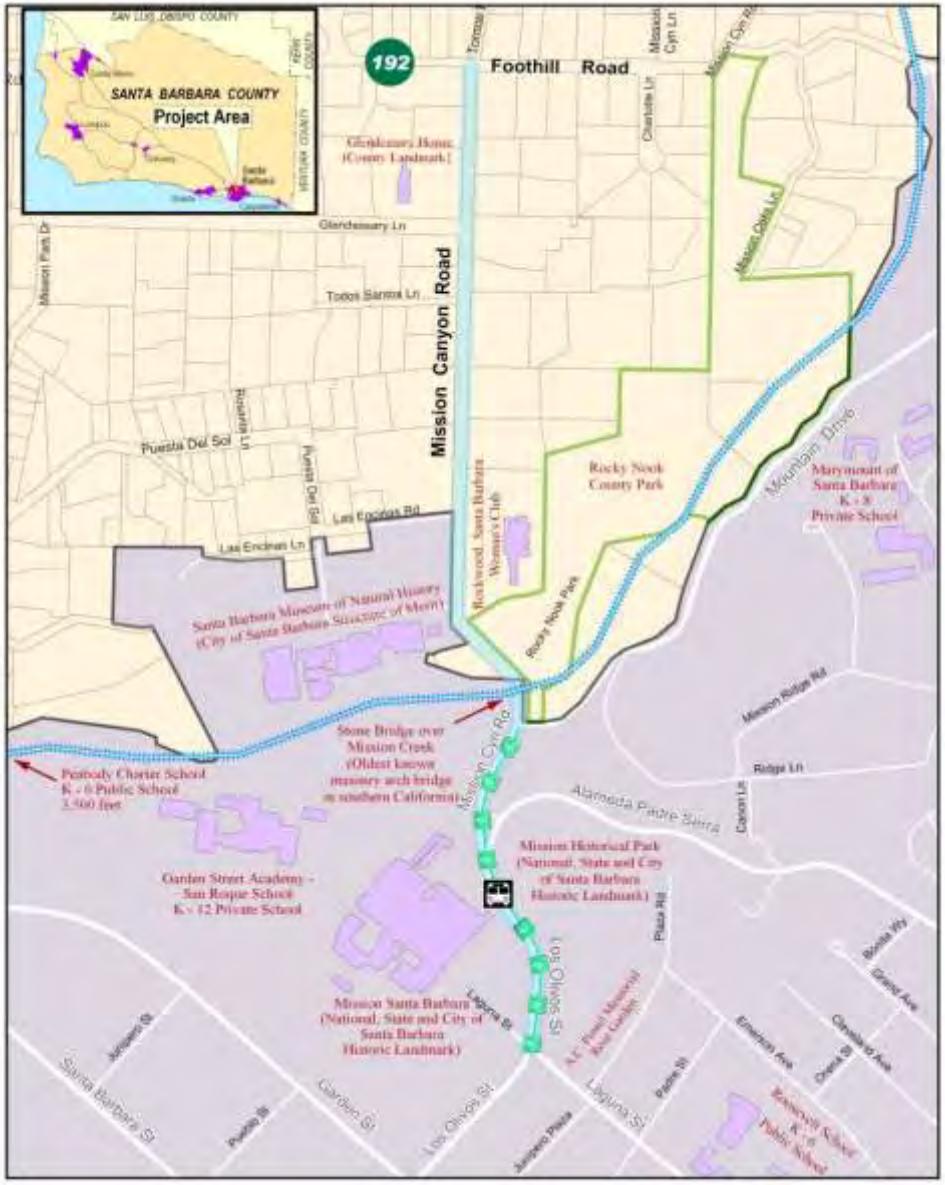


EXHIBIT F-2.4

Features

Mission Santa Barbara

Mission Historic Park

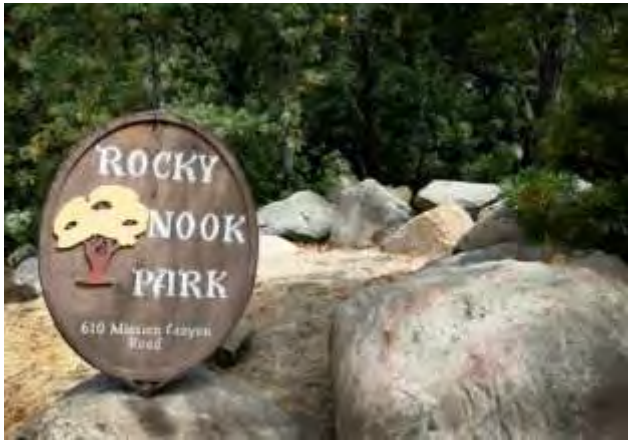
WW I Memorial Olive Grove

Aqueduct Wall

EXHIBIT F-2.5

Historic Stone Bridge

Stone walls and mature oak trees

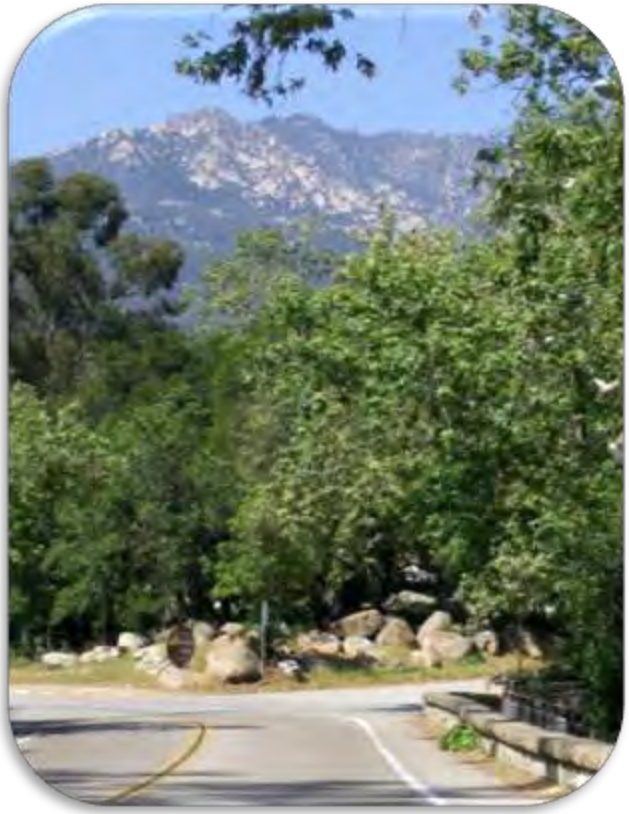


Rocky Nook Park

Rockwood - Santa Barbara Woman's Club

EXHIBIT F-2.6

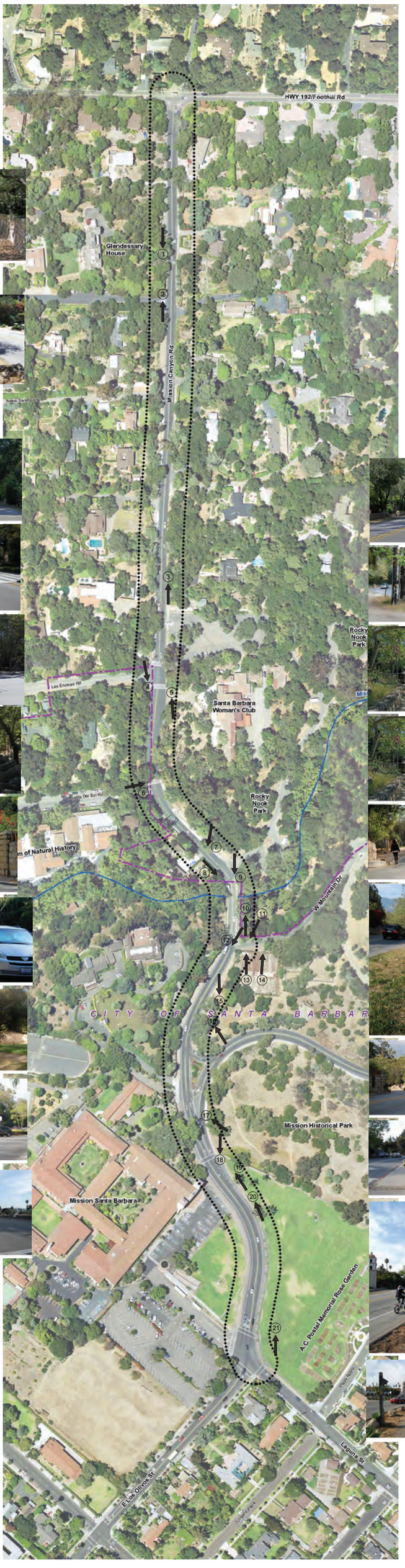
Thanks for coming



- Questions?
- Community Meeting Survey
- For more information:

http://longrange.sbcountyplanning.org/planareas/mission_canyon/mc_multimodal.php

EXHIBIT F-2.7



Mission Canyon Corridor Planning Process

1st Public Meeting Corridor Display

EXHIBIT F-3

G-1 – 4: SECOND PUBLIC MEETING SUMMARY

EXHIBIT G-1

AGENDA

Mission Canyon Corridor Public Workshop #2 – "What the Community is Saying"

April 22, 2014
6:30 – 8:00 PM
Santa Barbara Woman's Club

Purpose: Receive feedback on the Listening Workshop held October 29, 2013 – what is the community saying about the Mission Canyon corridor? We will also get community feedback on initial concepts for improvements along the corridor.

Agenda Item	Discussion Topic	Estimated Time	Lead
1	**Welcome and Introductions** ➢ Staff introductions ➢ Workshop purpose and format	5 min	Rosie Dyste, County Planning & Development
2	**Workshop #1 Recap – What is the community saying about the corridor** ➢ What's important? ➢ What's not working? ➢ What needs to be fixed? ➢ What needs to be left alone?	15 min	Rosie Dyste
3	**What's "doable"?** ➢ Review and get community feedback of possible improvements.	40 min	Robert Dayton, City Public Works Matt Dobberteen, County Public Works
4	**What should be included on the long-term plan?** ➢ Review and feedback of other community desires	20 min	Matt Dobberteen
5	**Next Steps** ➢ Upcoming opportunities to participate ➢ Community Meeting Survey	10 min	Rosie Dyste

Questions or comments about the Mission Park to Mission Canyon Multimodal Improvements Project may be directed to Rosie Dyste at (805) 568-3532, or rdyste@co.santa-barbara.ca.us.

Further information may be obtained on the following website:
http://longrange.sbcountyplanning.org/planareas/mission_canyon/mc_multimodal.php

Mission Canyon Corridor Planning Process

EXHIBIT G-2.1

What’s Important?

EXHIBIT G-2.2

1 History

EXHIBIT G-2.3

2 Views and Aesthetics

EXHIBIT G-2.4

3 Ecological Resources

EXHIBIT G-2.5

4 Destinations

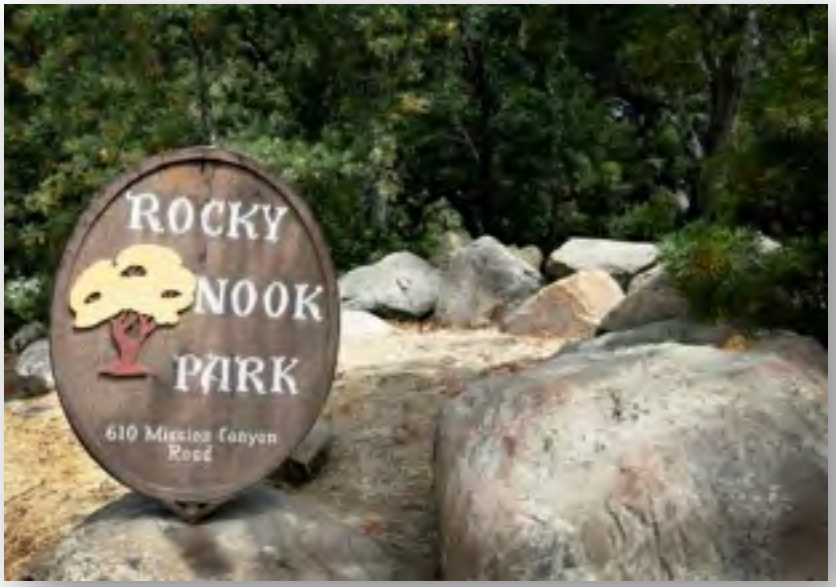


EXHIBIT G-2.6

5 Connectivity

EXHIBIT G-2.7

What’s not working well?

EXHIBIT G-2.8

1 Automobiles and Intersections

EXHIBIT G-2.9

2 Pedestrian Passage

EXHIBIT G-2.10

3 Bicyclist Passage

EXHIBIT G-2.11

4 Signage

EXHIBIT G-2.12

5 Utility Poles

EXHIBIT G-2.13

What needs to be fixed?

EXHIBIT G-2.14

1 Walkways

EXHIBIT G-2.15

2 Safety

EXHIBIT G-2.16

3 Roads and Intersections

EXHIBIT G-2.17

4 Bicycle Safety

EXHIBIT G-2.18

5 Signage/Utility Poles

EXHIBIT G-2.19

What needs to be left alone?

EXHIBIT G-2.20

1 Bridge

EXHIBIT G-2.21

2 Stone Walls

EXHIBIT G-2.22

3 Historic and Archaeological Resources

EXHIBIT G-2.23

4 Ecological Resources

EXHIBIT G-2.24

5 Rural Quality

EXHIBIT G-2.25

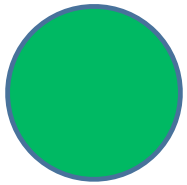
Mission Canyon Corridor Workshop #2 April 22, 2014

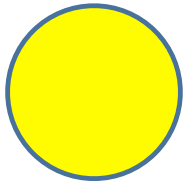
EXHIBIT G-3.1

What is “doable”?

- City and County Public Works Presentation
- Dot Vote
- Other ways to comment

Dot Consensus


= “I approve.”


= “Not perfect, but I can live with it.”

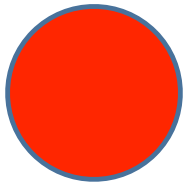

= “I can’t support it.”

EXHIBIT G-3.3

Mission Canyon Corridor Planning Process

Laguna to Mission

EXHIBIT G-3.4

EXHIBIT G-3.5

Mission Canyon Corridor Planning Process

Mission to APS

EXHIBIT G-3.6

EXHIBIT G-3.7

EXHIBIT G-3.8

EXHIBIT G-3.9

EXHIBIT G-3.10

EXHIBIT G-3.11

EXHIBIT G-3.12

EXHIBIT G-3.13

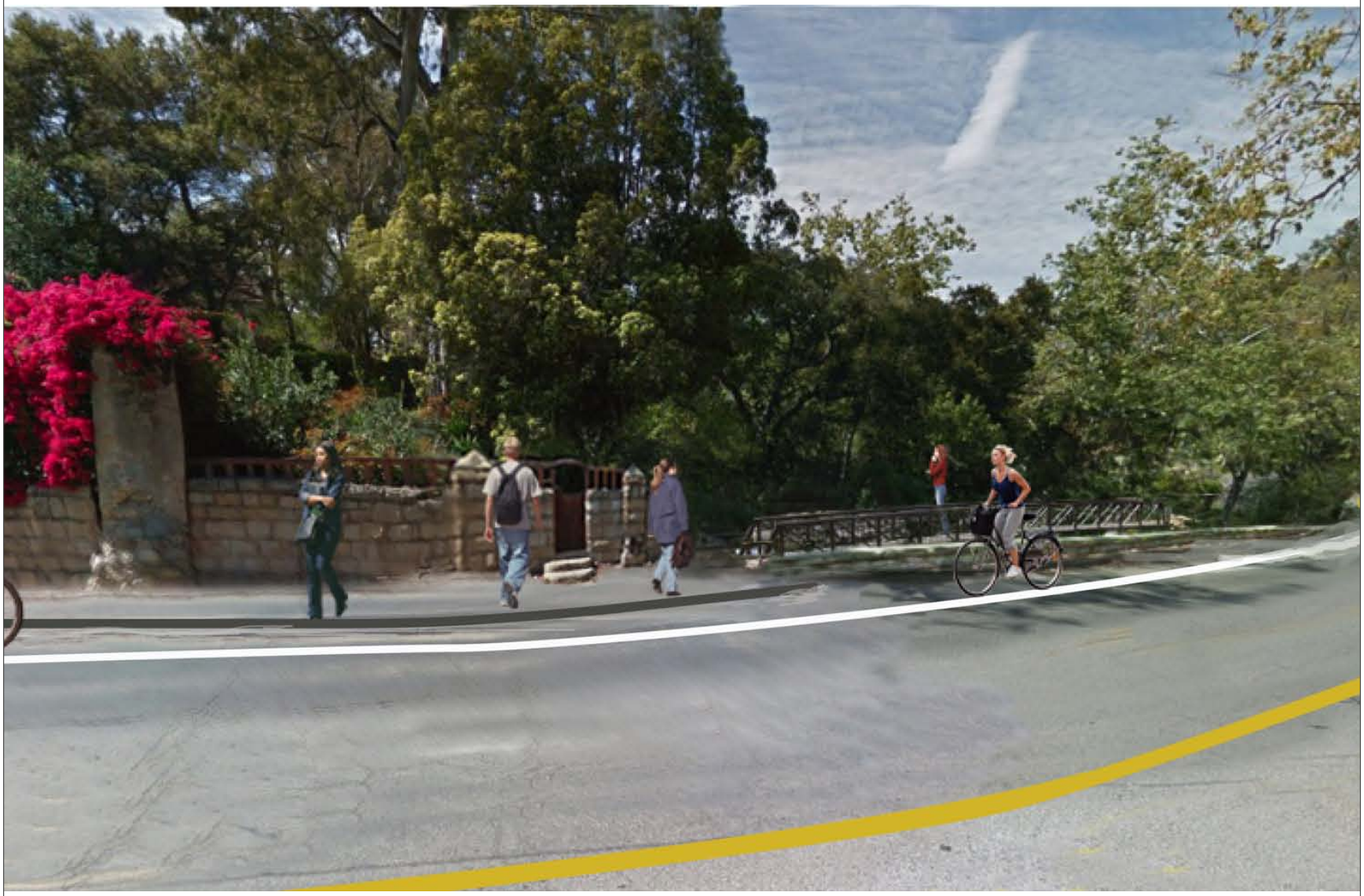


EXHIBIT G-3.14

EXHIBIT G-3.15

Wednesday, April 23, 14

EXHIBIT G-3.16

Wednesday, April 23, 14

EXHIBIT G-3.17

Wednesday, April 23, 14

Mission Canyon Corridor Planning Process

APS to Museum

EXHIBIT G-3.18

EXHIBIT G-3.19

EXHIBIT G-3.20

EXHIBIT G-3.21

EXHIBIT G-3.22

EXHIBIT G-3.23

Wednesday, April 23, 14

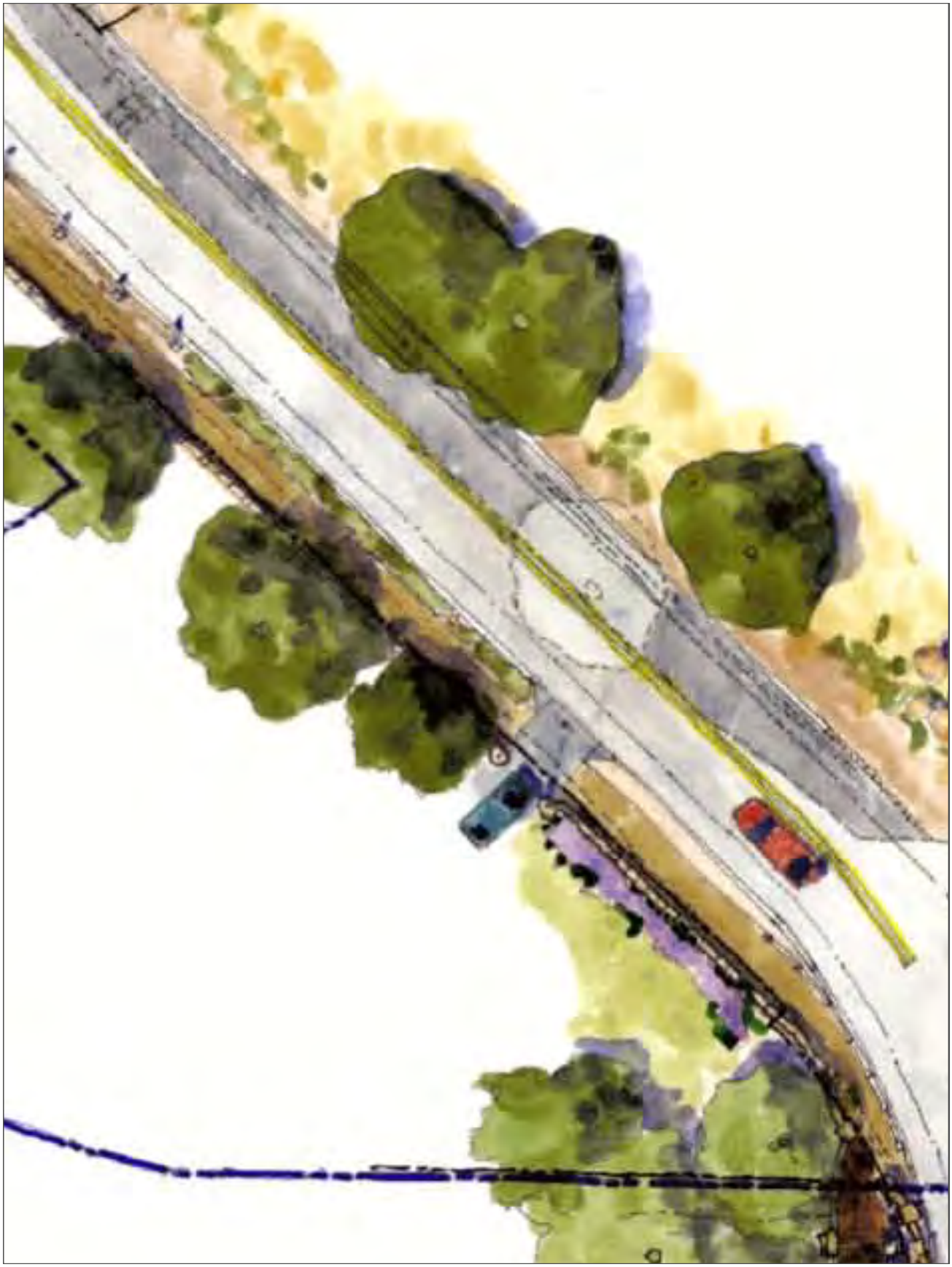
EXHIBIT G-3.24

EXHIBIT G-3.25

Wednesday, April 23, 14

EXHIBIT G-3.26

EXHIBIT G-3.27



Wednesday, April 23, 14

EXHIBIT G-3.28

EXHIBIT G-3.29

EXHIBIT G-3.30

EXHIBIT G-3.31

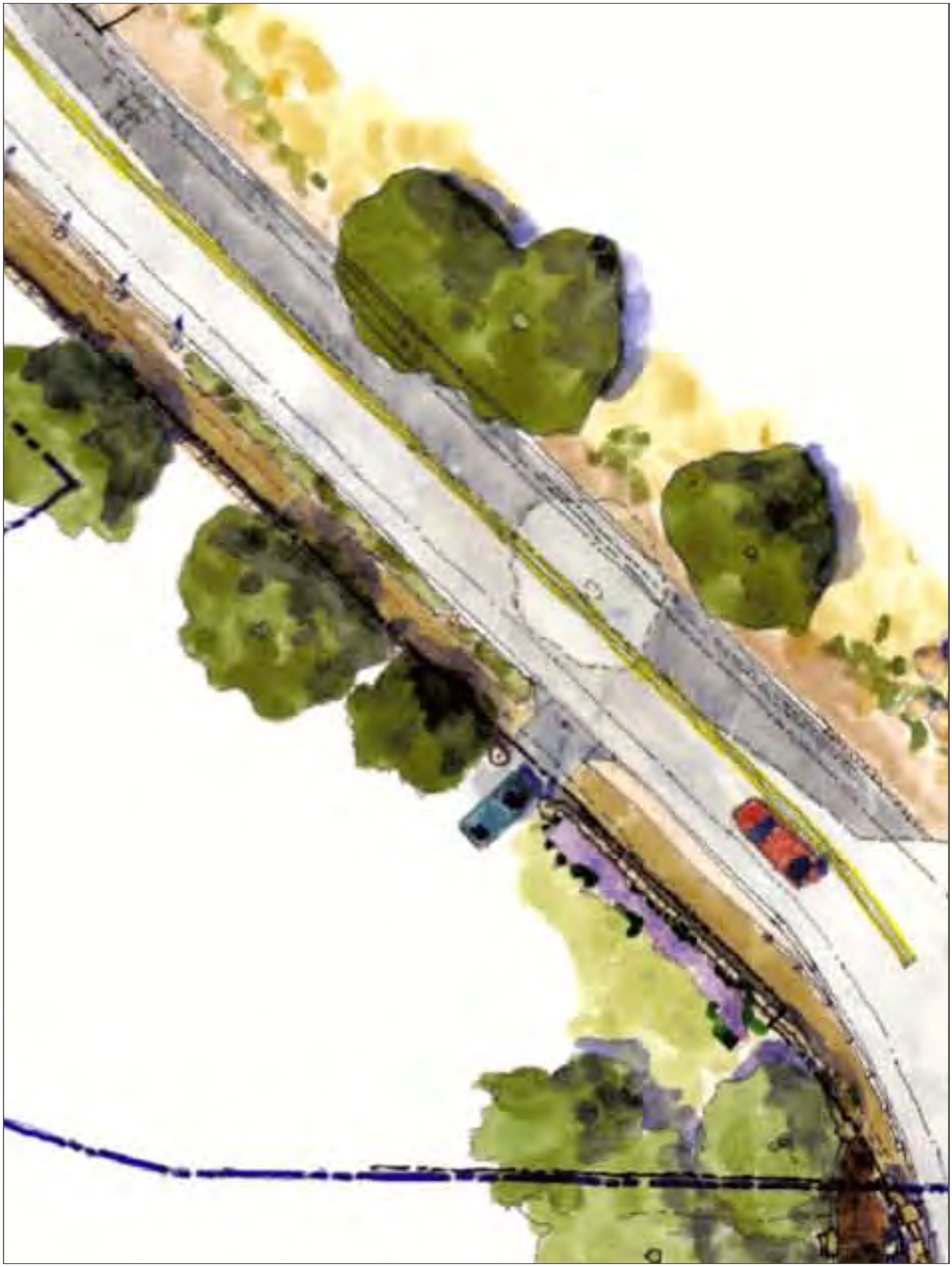
EXHIBIT G-3.32

EXHIBIT G-3.33

EXHIBIT G-3.34

Wednesday, April 23, 14

EXHIBIT G-3.35



Wednesday, April 23, 14

EXHIBIT G-3.36

EXHIBIT G-4

Mission Canyon Corridor Planning Process

2nd Public Meeting Corridor Display

H-1: COST ESTIMATE

Mission Canyon Corridor Multimodal Improvement Project

DETAILED ENGINEER'S ESTIMATE OF CONSTRUCTION COSTS

Estimate Date: 11/19/14

Item #	Item Description	Quantity	Unit of Measure	Engineer's Estimate	
				Unit Price	Item Total
A	**GENERAL**				
1	MOBILIZATION	1	LS	$50,000.00	$50,000.00
2	TRAFFIC CONTROL	1	LS	$25,000.00	$25,000.00
3	CLEARING & GRUBBING	1	LS	$15,000.00	$15,000.00
4	SWPPP	1	LS	$15,000.00	$15,000.00
5	SIGNAGE AND STRIPING	1	LS	$25,000.00	$25,000.00
6	UTILITY RELOCATION	1	LS	$35,000.00	$35,000.00
				SUBTOTAL	$165,000.00
B	**MISSION TO PEDESTRIAN BRIDGE**				
1	HARDSCAPE REMOVAL	10000	SQFT	$3.50	$35,000.00
2	CRUSHED AGGREGATE BASE	250	TN	$60.00	$15,000.00
3	4" THICK PCC SIDEWALK	7000	SQFT	$15.00	$105,000.00
4	6" SANDSTONE CURB & GUTTER	580	LF	$120.00	$69,600.00
5	8" THICK PCC RESIDENTIAL DRIVEWAY	820	SQFT	$24.00	$19,680.00
6	ASPHALT CONCRETE CONFORM	30	TN	$200.00	$6,000.00
7	SLURRY SEAL (TYPE II)	5700	SF	$1.20	$6,840.00
8	PARKWAY ENHANCEMENTS	3500	SF	$8.00	$28,000.00
				SUBTOTAL	$285,120.00
C	**PEDESTRIAN BRIDGE CONSTRUCTION**				
1	STRUCTURE EXCAVATION AND ROUGH GRADING	1	LS	$40,000.00	$40,000.00
2	STRUCTURE BACKFILL (BRIDGE)	1	LS	$10,000.00	$10,000.00
3	RELOCATE STONE WALL - AT MONASTERY	1	LS	$30,000.00	$30,000.00
4	RELOCATE STONE WALL - AT KAY PROPERTY	1	LS	$20,000.00	$20,000.00
5	CIDH PILE 30" DIAMETER	320	LF	$220.00	$70,400.00
6	REINFORCED CONCRETE GRADE BEAM ABUTMENT	2	EA	$15,000.00	$30,000.00
7	WING WALL	60	LF	$480.00	$28,800.00
8	8' X 125' PREFABRICATED BRIDGE	1	EA	$250,000.00	$250,000.00
9	BRIDGE DECKING	1000	SF	$12.00	$12,000.00
10	CREEK BANK PROTECTION AND REHABILITATION	1	LS	$50,000.00	$50,000.00
11	TREE REMOVAL	1	LS	$10,000.00	$10,000.00
12	LANDSCAPE MAINTENANCE	24	MO	$400.00	$9,600.00
13	IRRIGATION SYSTEM MATERIALS AND INSTALLATION	1	LS	$6,000.00	$6,000.00
				SUBTOTAL	$566,800.00
D	**PEDESTRIAN BRIDGE TO LAS ENCINAS***				
1	HARDSCAPE REMOVAL	25000	SQFT	$3.50	$87,500.00
2	CRUSHED AGGREGATE BASE	600	TN	$60.00	$36,000.00
3	4" THICK PCC SIDEWALK	2400	SQFT	$15.00	$36,000.00
4	SIDEWALK ACCESS RAMP	3	EA	$10,000.00	$30,000.00
5	6" SANDSTONE CURB & GUTTER	1140	LF	$120.00	$136,800.00
6	8" THICK PCC RESIDENTIAL DRIVEWAY	330	SQFT	$24.00	$7,920.00
7	DRAINAGE IMPROVEMENTS	1	LS	$20,000.00	$20,000.00
8	ROADWAY EXCAVATION AND GRADING	1	LS	$40,000.00	$40,000.00
9	ASPHALT CONCRETE PAVEMENT (4" THICK)	640	TN	$200.00	$128,000.00
10	SLURRY SEAL (TYPE II)	8300	SF	$1.20	$9,960.00
11	PARKWAY ENHANCEMENTS	1200	SF	$8.00	$9,600.00
				SUBTOTAL	$541,780.00
E	**Sub-Total Estimated Construction Cost**				**$1,558,700.00**
	35% Contingency (Includes Change Order, Scope, and Inflation Allowances)				$545,545.00
F	**Total Estimated Construction Cost (Rounded to nearest $1,000)**				**$2,105,000.00**
	Design/Construction Management/Administrative Cost (30%)				**$631,500.00**
Total Estimated Project Cost					**$2,736,500.00**

*To easterly edge of Santa Barbara Museum of Natural History frontage. Assumes frontage of Museum will be improved by Museum.

I-1.1 – 1.3: Left Turn at Las Encinas – Letter to Rosie Dyste (June 5, 2014)

EXHIBIT I-1.1

City of Santa Barbara

Public Works Department

www.SantaBarbaraCA.gov

June 5, 2014

Main Office
630 Garden Street
P.O. Box 1990
Santa Barbara, CA
93102-1990

Administration
Tel: 805.564.5377
Fax: 805.897.2613

Engineering
Tel: 805.564.5363
Fax: 805.564.5467

Facilities
Tel: 805.564.5415
Fax: 805.897.2577

Street Maintenance
Tel: 805.564.5413
Fax: 805.897.1991

Transportation
Tel: 805.564.5385
Fax: 805.564.5467

Water Resources
Tel: 805.564.5387
Fax: 805.897.2613

Ms. Rosie Dyste, Senior Planner
Long Range Planning
Santa Barbara County Planning and Development
123 E. Anapamu Street
Santa Barbara, CA 93101

SUBJECT: Mission Canyon Corridor Community Process – Left Turn at Las Encinas

Dear Ms. Dyste:

For your information, here are the drawings we drafted for County Engineering staff regarding the idea to provide a new left turn lane on Mission Canyon Road at Las Encinas Road

On April 30, 2014, Derrick Bailey, Supervising City Transportation Engineer, and Andrew Grubb, City Project Engineer, met with Gary Smart and Chris Sneddon, County Traffic Engineers, at the intersection of Mission Canyon Road and Puesta del Sol, regarding the proposed Mission Canyon Corridor Multimodal Project. Several items were discussed regarding the realignment of Mission Canyon Road between the bridge and Las Encinas, including the potential for adding a left turn lane at Las Encinas, per recent public inquiries.

Since the City has been drafting alternative roadway realignments as part of the Corridor Project, Gary Smart requested that the City draft an alternative for a left turn lane at Las Encinas (see enclosure). Two alternatives are attached: 1) Installation of a left turn lane at Las Encinas, and 2) matching the realigned portion of Mission Canyon Road in front of Rocky Nook Park to the existing striping. Both alternatives match the existing turning radius of 198' (or 25 MPH) at Puesta del Sol. Please note that these exhibits are for conceptual use only and do not include potential impacts to existing improvements (e.g. driveways, utilities, etc.).

Should you or Gary Smart have any questions about the enclosed drawings, please contact Derrick Bailey, Supervising City Transportation Engineer at 805-564-5544.

Sincerely,

Pat Kelly
Assistant Public Works Director/City Engineer

PK/sk

Enclosure: Mission Canyon Road at Las Encinas Left Turn Alternatives (2-pages)

cc: Derrick Bailey, Supervising City Transportation Engineer
Gary Smart, County Transportation Engineer, County of Santa Barbara, 123 E. Anapamu St., Santa Barbara, CA 93101

GENERAL NOTES:

1) THIS PLAN IS CONCEPTUAL ONLY. ALL DIMENSIONS SHOWN SHOULD BE FIELD VERIFIED.
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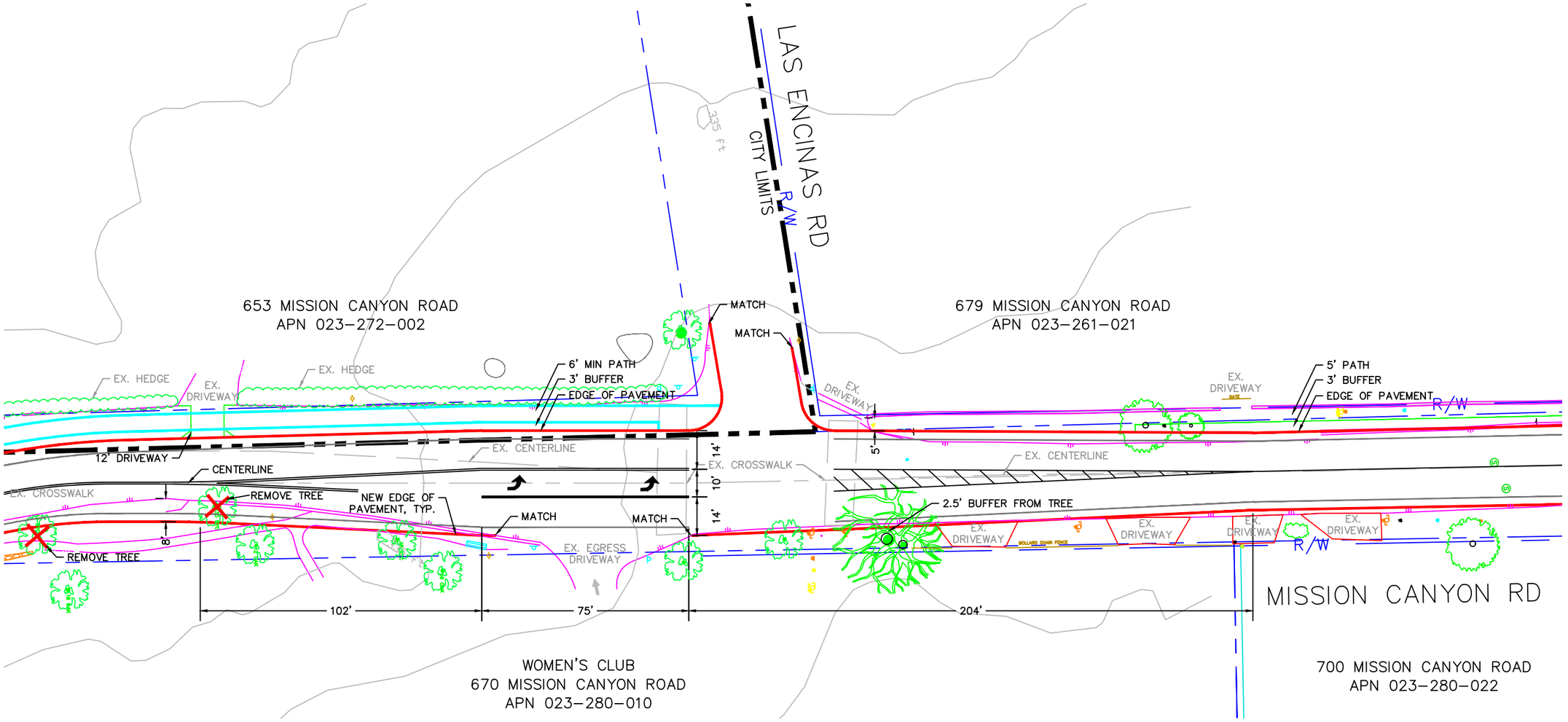
3) EXISTING SIGNAGE SHALL BE RELOCATED AS NECESSARY PER THE CITY/COUNTY TRAFFIC ENGINEER.



MISSION CANYON ROAD AT LAS ENCINAS

ALTERNATIVE 1 - LEFT TURN LANE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

6/5/2014

EXHIBIT I-1.3

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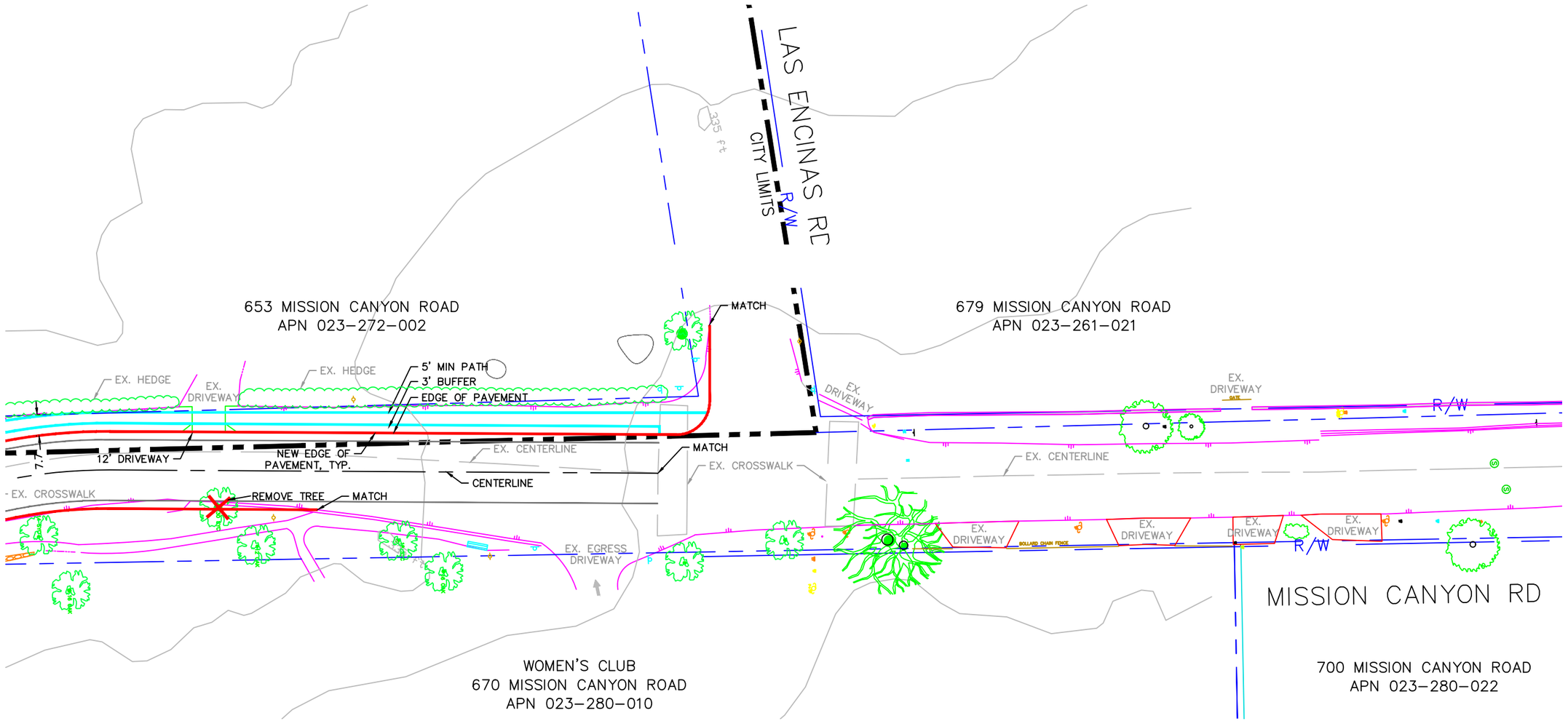

MISSION CANYON ROAD AT LAS ENCINAS

ALTERNATIVE 2 - MATCH STRIPING

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

6/5/2014

I-2.1 – 2.4: Mission Canyon Road at Puesta del Sol – Letter to Chris Sneddon (July 31, 2014)

EXHIBIT I-2.1

City of Santa Barbara

Public Works Department

www.SantaBarbaraCA.gov

August 4, 2014

Main Office
630 Garden Street
P.O. Box 1990
Santa Barbara, CA
93102-1990

Administration
Tel: 805.564.5377
Fax: 805.897.2613

Engineering
Tel: 805.564.5363
Fax: 805.564.5467

Facilities
Tel: 805.564.5415
Fax: 805.897.2577

Street Maintenance
Tel: 805.564.5413
Fax: 805.897.1991

Transportation
Tel: 805.564.5385
Fax: 805.564.5467

Water Resources
Tel: 805.564.5387
Fax: 805.897.2613

Mr. Chris Sneddon, Transportation Deputy Director
Santa Barbara County Public Works
Transportation Division
County of Santa Barbara,
123 East Anapamu Street
Santa Barbara, CA 93101

SUBJECT: Mission Canyon (Corridor) Multimodal Improvement Project – Alignment Study at Puesta del Sol

Dear Mr. Sneddon: Chris

As part of the Mission Canyon (Corridor) Multimodal Improvement Project (Project), we've been meeting to discuss the Project, which also includes relocating the crosswalk on Mission Canyon Road at Puesta Del Sol in order encourage pedestrian ease of access between Rocky Nook Park and the Museum of Natural History. To document our discussions, enclosed are drawings of two options to relocate the crosswalk from the north side of the intersection to the south side, in coordination with other pedestrian Project improvements.

On April 30, 2014, Derrick Bailey, City Supervising Transportation Engineer, and Andrew Grubb, City Project Engineer, met with you and Gary Smart at the intersection of Mission Canyon Road and Puesta Del Sol, regarding the proposed Project. Key discussions of the outcome of the recent Project Community Outreach Process included adding a sidewalk on the west side of Mission Canyon Road between Puesta Del Sol and the Mission Creek Bridge. The proposed sidewalk will create a great opportunity to improve pedestrian access between the County's Rocky Nook Park and the Museum of Natural History, which is located further west down Puesta Del Sol, on the south side of the street.

Taking advantage of the proposed sidewalk by moving the existing crosswalk at the northwest corner of the intersection to the southwest corner will improve sight recognition between vehicles and pedestrians for their safety, and also make it more convenient for pedestrians to go from the Museum to the Park.

As part of the City's conceptual planning design work for the Project, we propose two alternative roadway realignments of Mission Canyon Road at Puesta Del Sol to relocate the existing crosswalk and provide a safe sight distance for pedestrians to cross between the Museum and Rocky Nook Park (see attachments):

1) Creating a 4-foot landing near the Women's Club by reducing the existing radius to 184 feet (or 24 miles per hour) and modifying the low rock wall at the entrance to the Women's Club, and

2) Matching the existing 198-feet radius and modifying to the low rock wall at the entrance to the Women's Club.

Both alternatives require removal of a 14-foot Sycamore tree and a 30-foot Sycamore tree to create the required sight distance for a 35 mile per hour road. Please note that these exhibits are for conceptual use only and do not include potential impacts to existing improvements (e.g. driveways, utilities, etc.).

The attached drawings are intended to reflect what we agree are two feasible options at this stage of design. We understand the County's final plans will require an ADA-compliant pathway for pedestrians. There still remain several final design issues to resolve, such as final grading, drainage, curb treatments, and appropriate allowances for the offset of immovable features (rocks) off the edge of the roadway, such as the boulders at the entrance of the Woman's Club driveway entrance.

If you have any questions please contact Derrick Bailey, Supervising Transportation Engineer, at 805-564-5544.

Sincerely,

Pat Kelly
Assistant Public Works Director/City Engineer

PK/sk

Attachment: Mission Canyon Road at Puesta Del Sol Alignment Study (two pages)

cc: Rob Dayton, Principal Transportation Planner
Derrick Bailey, Supervising Transportation Engineer
Ms. Rosie Dyste, Senior Planner, Long Range Planning
Santa Barbara County Planning and Development
County of Santa Barbara
123 East Anapamu St., Santa Barbara, CA 93101

CONSTRUCTION NOTES:

1. RELOCATE CROSSWALK FOR MORE DIRECT ACCESS BETWEEN MUSEUM OF NATURAL HISTORY AND ROCKY NOOK PARK
2. REMOVE TREE FOR IMPROVED SIGHT DISTANCE
3. CHANGE RADIUS TO PROVIDE 4' CLEAR WIDTH
4. SIDEWALK TO MUSEUM OF NATURAL HISTORY
5. ACQUIRE ROADWAY EASEMENT

PHOTO 1 – EXISTING 14" SYC

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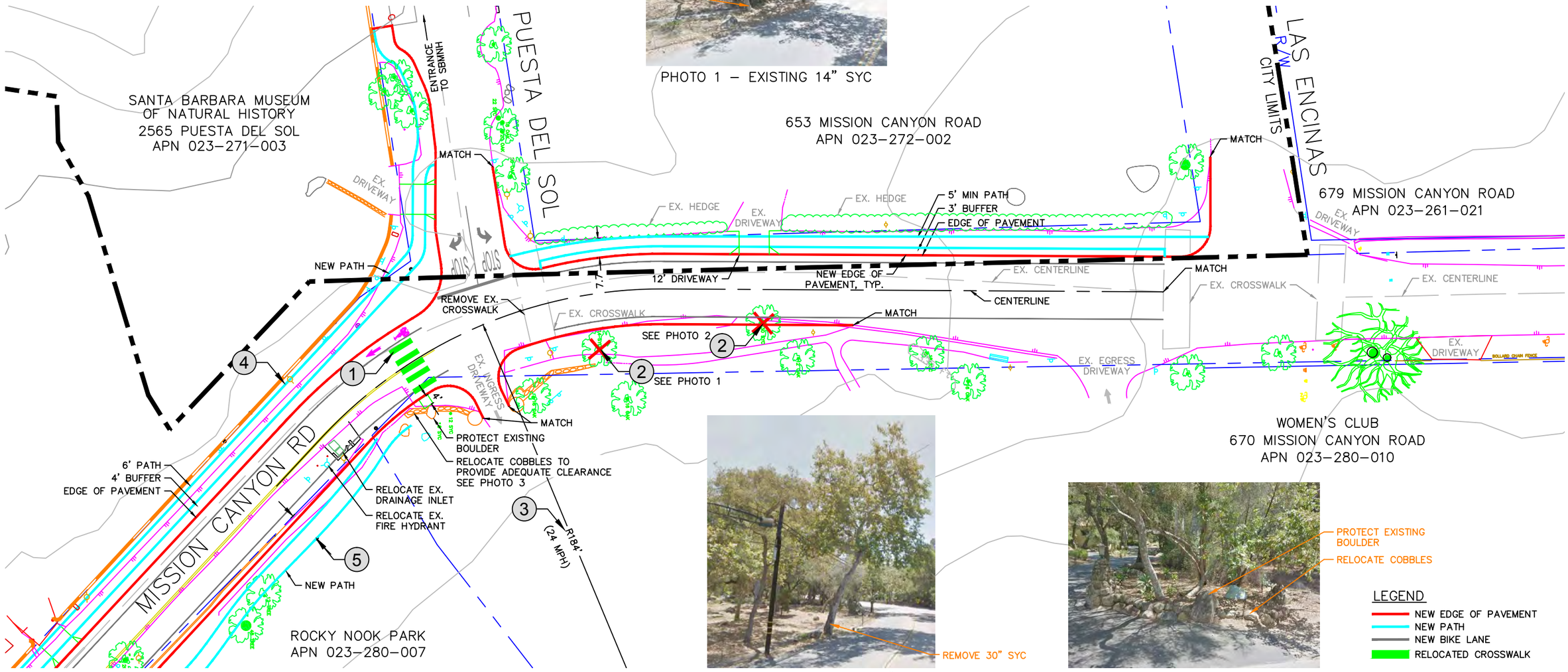

PHOTO 2 – EXISTING 30" SYC

PHOTO 3 – EXISTING ROCK WALL

LEGEND
- NEW EDGE OF PAVEMENT
- NEW PATH
- NEW BIKE LANE
- RELOCATED CROSSWALK

MISSION CANYON MULITMODAL IMPROVEMENT PROJECT

MISSION CANYON ROAD AT PUESTA DEL SOL

ALTERNATIVE 1 - FIXED LANDING, MODIFIED RADIUS

6/26/2014

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

CONSTRUCTION NOTES:

1. RELOCATE CROSSWALK FOR MORE DIRECT ACCESS BETWEEN MUSEUM OF NATURAL HISTORY AND ROCKY NOOK PARK
2. REMOVE TREE FOR IMPROVED SIGHT DISTANCE
3. SIDEWALK TO MUSEUM OF NATURAL HISTORY
4. ACQUIRE ROADWAY EASEMENT

PHOTO 1 – EXISTING 14" SYC

GENERAL NOTES:

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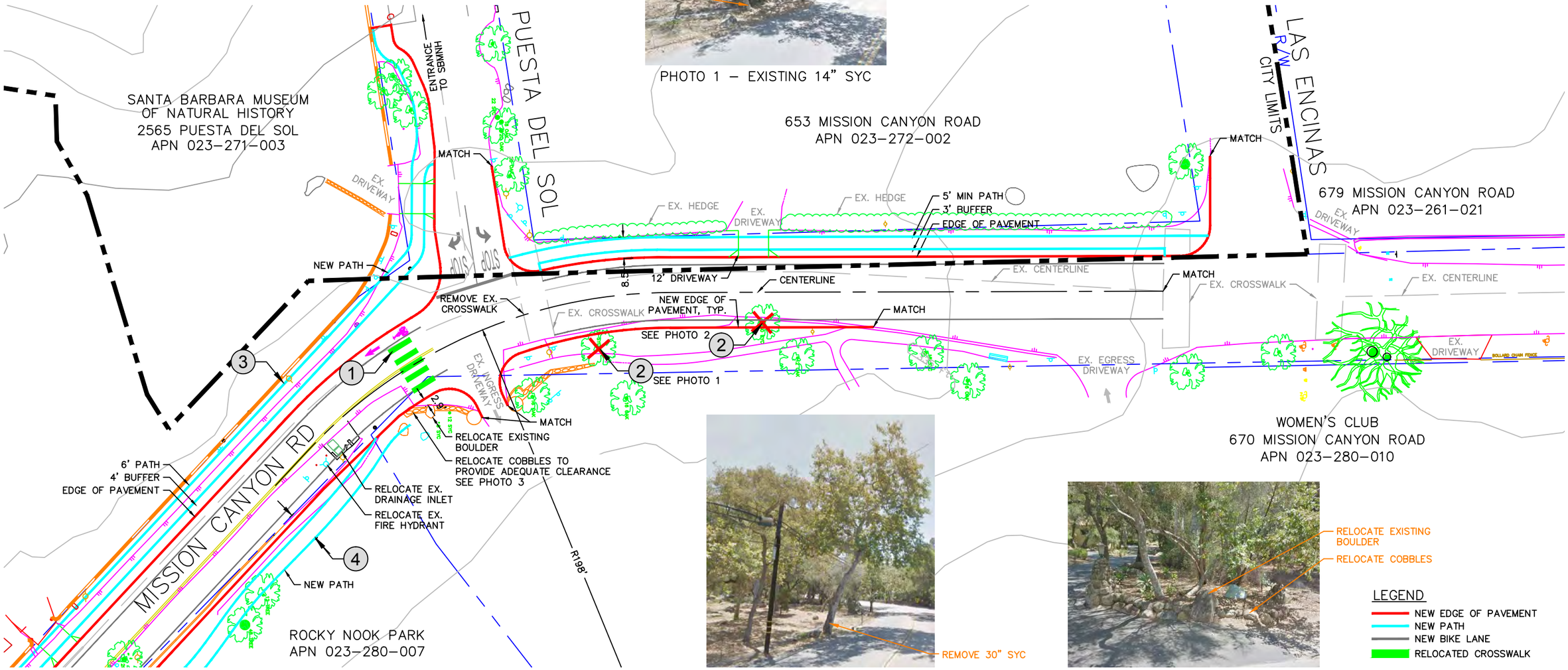

PHOTO 2 – EXISTING 30" SYC

PHOTO 3 – EXISTING ROCK WALL

LEGEND
- NEW EDGE OF PAVEMENT
- NEW PATH
- NEW BIKE LANE
- RELOCATED CROSSWALK

MISSION CANYON MULITMODAL IMPROVEMENT PROJECT

MISSION CANYON ROAD AT PUESTA DEL SOL

ALTERNATIVE 2 - FIXED RADIUS, 2.9' LANDING

6/26/2014

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.