

Sulphur and York Creek Bridges

Bridge Rail Replacement and Widening

State Route 29 at St. Helena PM 28.43 and 29.29



Sulphur Creek Bridge



York Creek Bridge





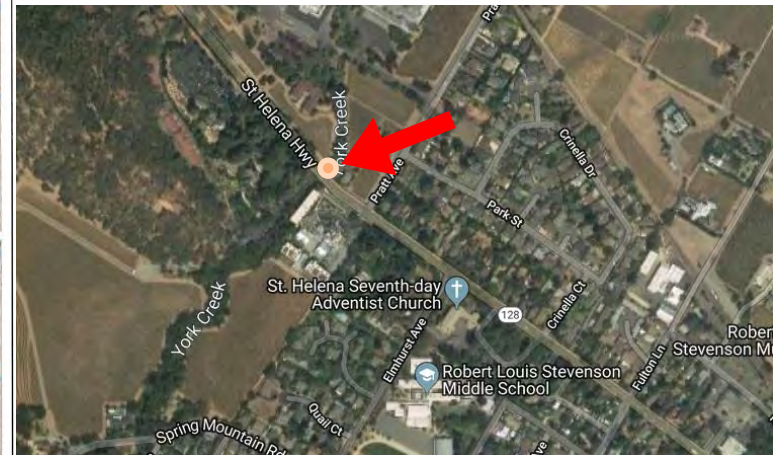
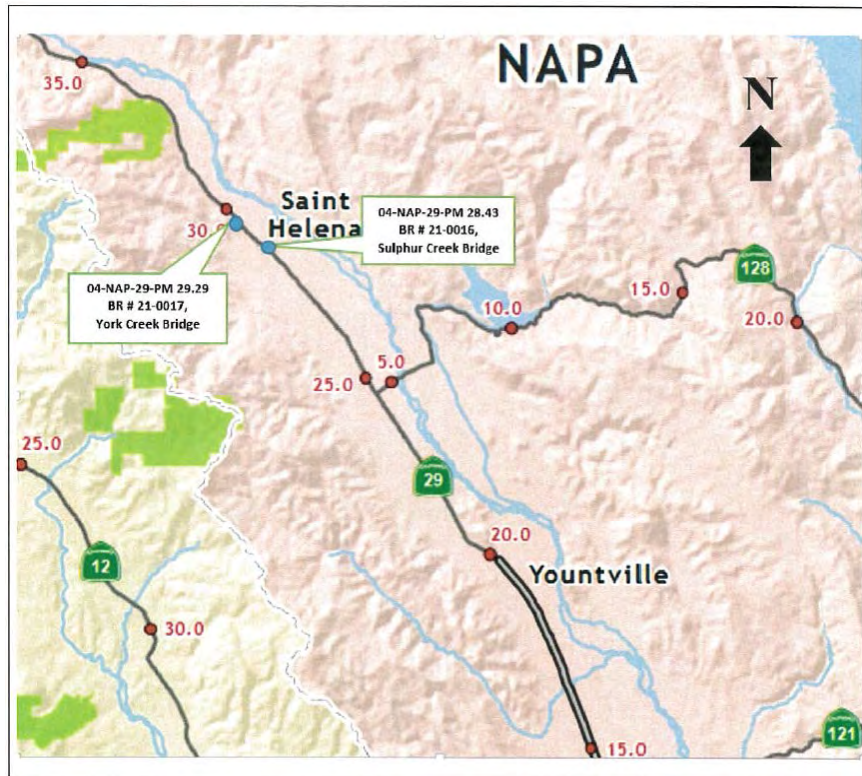
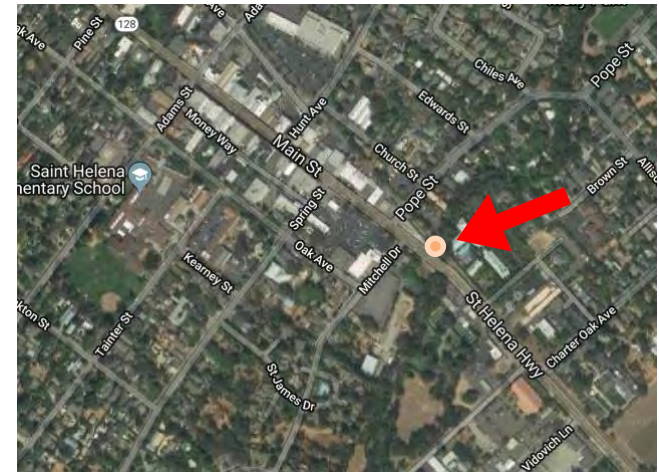
Presentation Outline

1. Project Location
2. Project Description
3. Proposed Project
4. Schedule

Project Location

Sulphur Creek Bridge (BR# 21-0016)
In Napa County Route 29 PM 28.43

York Creek Bridge (BR# 21-0017)
In Napa County Route 29 PM 29.29



Project Description

Sulphur Creek Bridge: Upgrade the rails without widening and have 4' shoulder on the NB side and 8' shoulder on the SB side (Alt. 1), or to upgrade the existing bridge rails and widen NB by 4 ft. to accommodate 8 ft. shoulders (Alt. 2)

York Creek Bridge: Upgrade the existing bridge rails and widen SB side of bridge by 1 ft to accommodate 6 ft. new sidewalk and 8 ft. SB shoulder, NB shoulder remains at 6 ft.

Programming: SHOPP 201.112 (Bridge Rail Replacement/upgrade)

Current Estimate: \$4.2 M (Capital Construction)

Project Description

Environmental:

- EIR and EA is expected.
- The replacement of the bridge rails have potential to cause controversy within the city of St Helena due to the architectural significance that the current stones used for the bridge rail represent. The current railings provide a rustic feeling consistent with the architecture of St. Helena.
- Permits include 1602(Streambed Alteration), 404(Army Corps of Engineers), 401(Water Quality), Incidental Take permit from CDFW and Biological Opinions from NMFS and USFWS.
- Neither bridges are on the National Register of Historic Places, however, they are listed in City of St. Helena's Master List of Historic Resources and will likely be considered Historical Resources for CEQA compliance.

R/W:

- Additional Right of Way is required for both bridges.
- Verification of utilities required. Potholing will be completed during PS&E.
- Relocation of PG&E transmission line will be required prior to construction on both bridges

Existing Condition at NB side of Sulfur Creek Bridge from 2018. Gas Line attached to bridge with straps. Pedestrian walk way and Napa Valley Wine train railroad tracks in the vicinity.



Existing Condition at SB side of Sulfur Creek Bridge from 2018. Pictures show existing pedestrian walkway with utilities running underneath. Bridge was also previously widened on the SB side.



Existing Condition at York Creek Bridge from 2018. Pictures show existing utilities (Light poles, internet device, PG&E transmission line), and Beringer Winery Pedestrian Wooden walkway



Proposed Project: Sulphur Creek Bridge

Sulphur Creek – PM 28.43 – **Alternative 1**

- Replace non-standard bridge rails with standard concrete barrier type 736 and concrete barrier slab.
- Proposed shoulders for this alternative are 8 ft. on the southbound side and 4 ft. on the northbound side.
- A form liner of architectural treatment would be used to provide an appearance of stone. 2-foot high chain link railing will be installed on top of barriers. The existing decorative street lamps will be reused
- Crash cushions or Midwestern Guardrail System (MGS) object markers Type 'P' will be installed at the bridge approach.
- Additional Right of Way will be required on both sides since part of the existing bridge is outside of the state Right of Way and the proposed MGS is also outside the State R/W.

Proposed Project: Sulphur Creek Bridge

Sulphur Creek – PM 28.43 – **Alternative 1** (Continued)

- This alternative will necessitate closure of the northbound lane in order to construct the barrier slab on the lane.



Proposed Project: Sulphur Creek Bridge

Sulphur Creek – PM 28.43 – **Alternative 2 (preferred alternative)**

- Includes all the features of Alternative 1, however , this alternative proposes to widen the northbound side of the bridge by 4 ft. This alternative provides standard 8 ft. shoulders on both sides of the bridge.
- This alternative requires four 3-foot diameter CIDH piles to support widened CIP/PS slab.
- The PG&E gas line will have to be relocated prior to construction.
- This alternative requires a longer construction period because of the addition of the CIDH piles, but there will be less slab barrier replacement due to the widening, providing enough space on the bridge deck for 2-way traffic.

Sulphur Creek – PM 28.43 – Alternative 2 (preferred alternative)



Proposed Project: York Creek Bridge

York Creek – PM 29.29 – Stage 1

- Proposed Work to be done in 2 stages to accommodate for 2-way traffic. First stage will be for work on the southbound direction.
- Replace non-standard bridge rails with standard concrete barrier type 742 .
- 1 ft. widening on southbound side to accommodate 6ft. sidewalk and 8 ft. shoulder.
- A form liner of architectural treatment would be used to provide an appearance of stone. 2-foot high chain link railing will be installed on top of barriers. The existing decorative street lamps will be reused
- Crash cushions or MGS object markers Type ‘P’ will be installed at the bridge approach.
- Additional Right of Way will be required on southbound side since part of the existing bridge is outside the state Right of Way.

Proposed Project: York Creek Bridge

York Creek Bridge— PM 29.29 – Stage 1 (Continued)

- Traffic open on both directions with 11 ft. lanes.



Proposed Project: York Creek Bridge

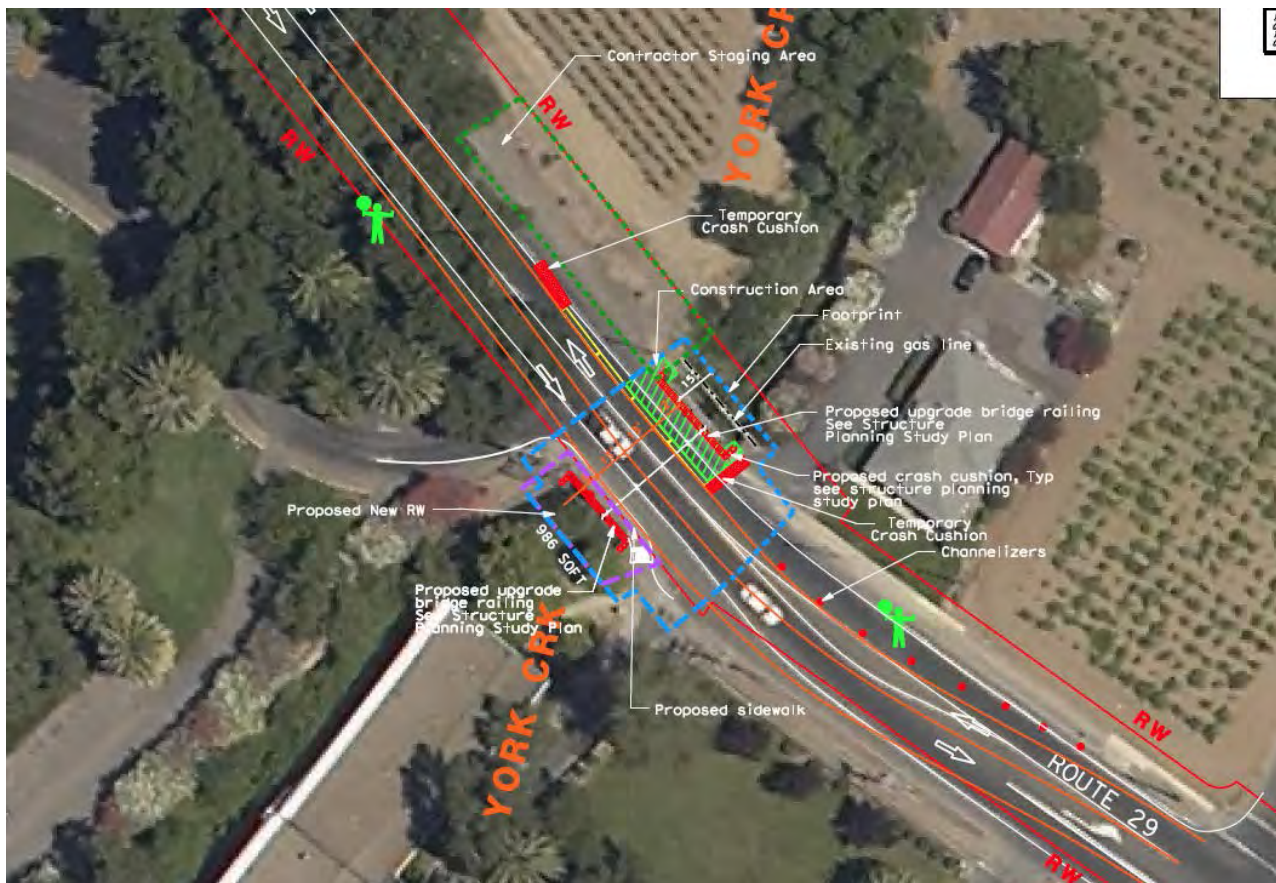
York Creek – PM 29.29 – Stage 2

- Replace non-standard bridge rails with standard concrete barrier type 742 .
- A form liner of architectural treatment would be used to provide an appearance of stone. 2-foot high chain link railing will be installed on top of barriers. The existing decorative street lamps will be reused
- Crash cushions or MGS object markers Type 'P' will be installed at the bridge approach.

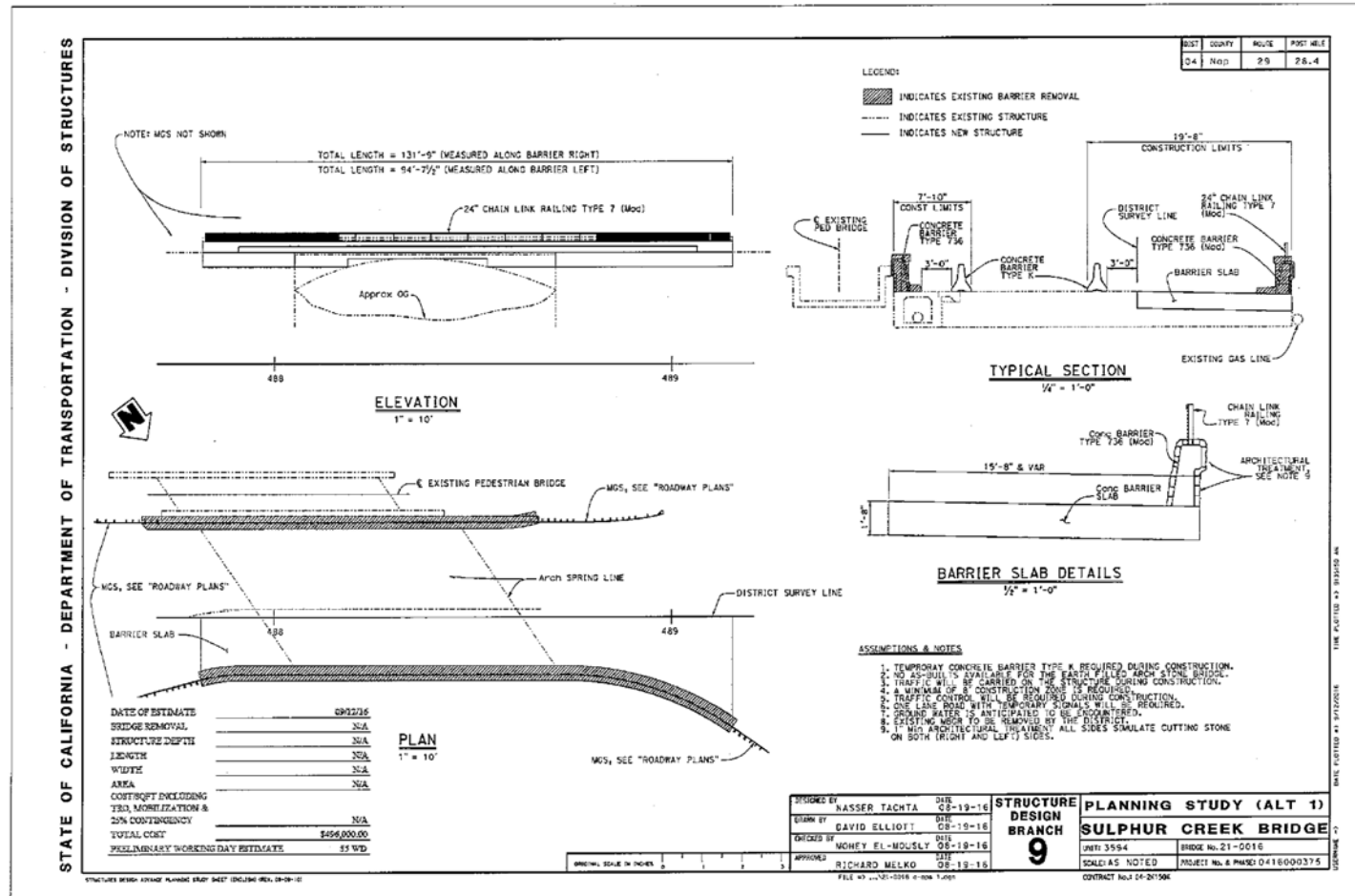
Proposed Project: York Creek Bridge

York Creek Bridge— PM 29.29 – Stage 2 (Continued)

- Traffic open in both directions with 11 ft. lanes.

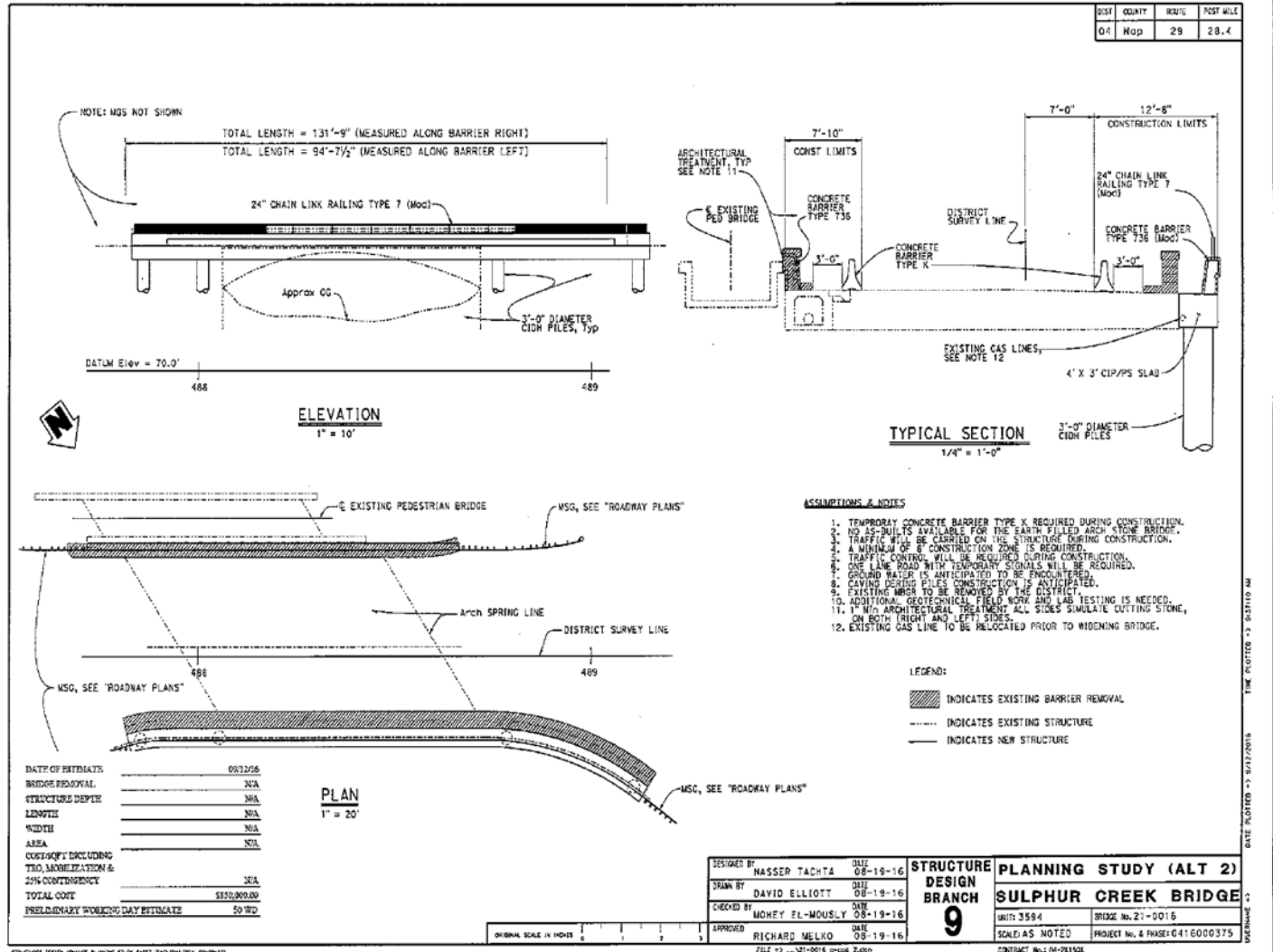


Proposed Project: Sulphur Creek Bridge Alternative 1 APS



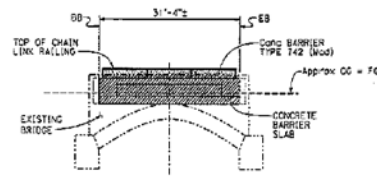
Proposed Project: Sulphur Creek Bridge Alternative 2 APS

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Proposed Project: York Creek Bridge

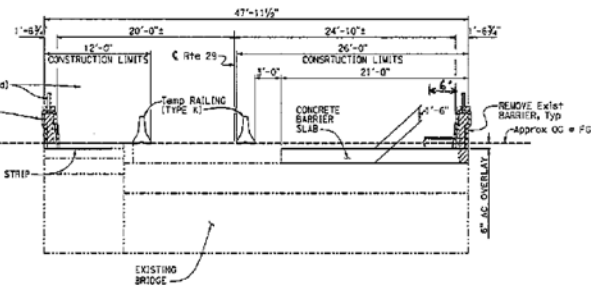
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES



ELEVATION

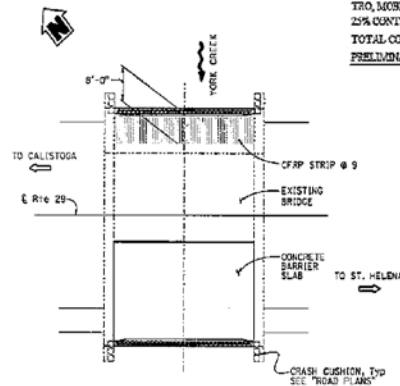
1" = 10'

DATE OF ESTIMATE	09/12/16
BRIDGE REMOVAL	N/A
STRUCTURE DEPTH	N/A
LENGTH	N/A
WIDTH	N/A
AREA	N/A
COST ESTIMATE INCLUDING TWO MOBILIZATION & 25% CONTINGENCY	N/A
TOTAL COST	\$395,000.00
PRELIMINARY WORKING DAY ESTIMATE	50 WD



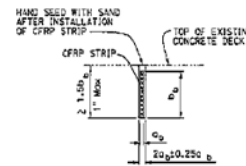
TYPICAL SECTION

1" = 5'



PLAN

1" = 10'



CFRP STRIP TYPICAL SECTION

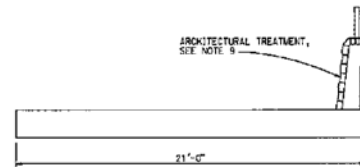
NO SCALE

NOTES:

1. GROOVE SAWCUTS MUST TAKE PLACE AFTER OVERLAPPING CONCRETE REINFORCES A MINIMUM COMPRESSIVE STRENGTH OF 3,255 PSI.

2. C_2 = HORIZONTAL DIMENSION FOR MINIMUM CROSS SECTION 2'-0" TO 5'-0" IN

3. D_p = 0.63" OR EQUIVALENT



ARCHITECTURAL TREATMENT DETAILS

3/8" = 1'-0"

LEGEND:

- CFRP - Carbon Fiber Reinforced Polymer
- Indicates existing structure
- /// Indicates concrete removal

ASSUMPTIONS & NOTES

1. TEMPORARY CONCRETE BARRIER TYPE K REQUIRED DURING CONSTRUCTION.
2. NO AS-BUILTS AVAILABLE FOR THE EARTH FILLED ARCH STONE BRIDGE.
3. TRAFFIC WILL BE CARRIED ON THE STRUCTURE DURING CONSTRUCTION.
4. A MINIMUM OF 12' CONSTRUCTION ZONE IS REQUIRED.
5. TRAFFIC CONTROL WILL BE REQUIRED DURING CONSTRUCTION.
6. GROUND WATER IS ANTICIPATED TO BE ENCOUNTERED.
7. EXISTING MAJOR TO BE REMARKED BY THE DISTRICT.
8. ASSUMING THE THICKNESS OF EARTH ABOVE CROWN IS MINIMUM 20 INCHES.
9. 1" MIN ARCHITECTURAL TREATMENT ALL SIDES SIMULATE CUTTING STONE ON BOTH (RIGHT AND LEFT SIDES).

DESIGNED BY N. Tachibana	DATE 08-19-16
DRAWN BY C. Dickerson	DATE 08-19-16
CHECKED BY W. El-Nously	DATE 08-19-16
APPROVED R. Weigand	DATE 08-19-16

STRUCTURE DESIGN BRANCH

9

PLANNING STUDY	
YORK CREEK BRIDGE	
UNIT: 3594	BRIDGE No. 21-0017
SCALE: As Noted	PROJECT No. & PHASE: 0416000375
CONTRACT No. 04-241806	

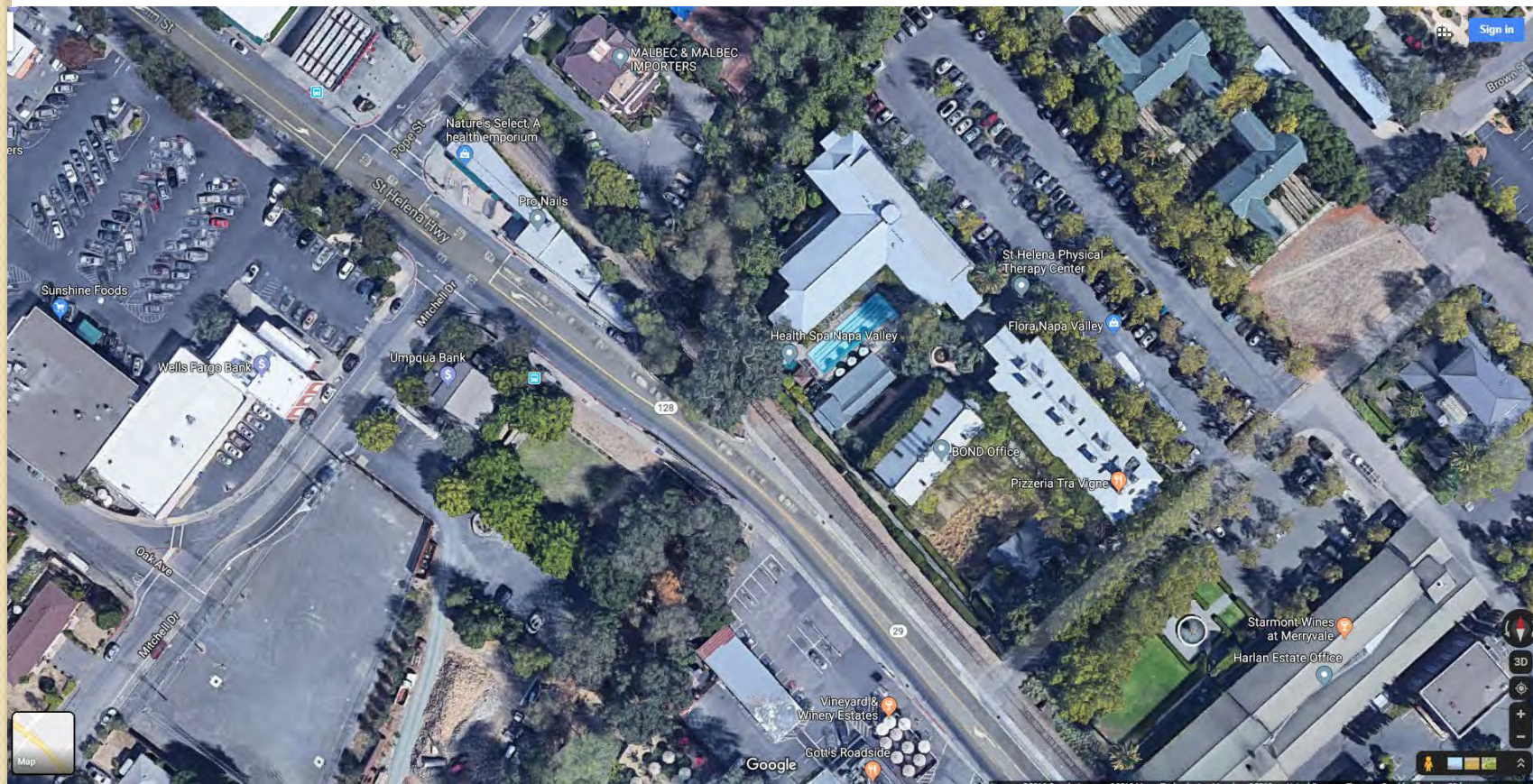
STRUCTURE DESIGN BRANCH PLANNING STUDY SHEET 000001 (Rev. 08-19-16)

FILE # 04-241806(01-000)Tachibana

DATE PLOTTED: 03/17/2016 TIME PLOTTED: 03:30:27 AM USERNAME: j

Schedule

Milestone (MS)	MS Date
CIRC DPR & DED EXT	09/01/20
PA & ED	03/01/21
PROJ PS&E	01/01/23
R/W CERT	04/01/23
RTL	04/03/23
HQ ADVERT	05/11/23
AWARD	07/01/23
APPROVE CONTRACT	10/01/23
CONTRACT ACCEPT	12/01/25
END PROJ	12/01/27
FINAL PROJ CLOSE	09/01/29



Google Maps

York Creek

NAPA 29 AT YORK CREEK/ ST HELENA

Cancel

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End of Presentation/Questions