



FOR DEPARTMENT USE ONLY				
Date Received	Amount Received	Amount Due	Date Complete	Notification No.
	\$	\$		
Assigned to:				

## NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the [instructions](#) and submit ALL required enclosures, attachments, and fee(s) to the [CDFW regional office](#) that serves the area where the project will occur. Attach additional pages to notification, if necessary.

### 1. APPLICANT PROPOSING PROJECT

Name	Steven E. White
Business/Agency	County of Fresno, Department of Public Works and Planning
Mailing Address	2220 Tulare Street, 6th Floor
City, State, Zip	Fresno, CA, 93721
Phone Number	(559)600-4537
Email	stwhite@fresnocountyca.gov

### 2. CONTACT PERSON *(Complete only if different from applicant.)*

Name	Alexis Rutherford
Business/Agency	County of Fresno, Department of Public Works and Planning, Design Division
Mailing Address	2220 Tulare Street, 6th Floor
City, State, Zip	Fresno, CA, 93721
Phone Number	(559)600-4530
Email	arutherford@fresnocountyca.gov

While an applicant is legally responsible for complying with Fish and Game Code section 1602 et seq., an applicant may designate and authorize an agent (e.g., lawyer, consultant, or other individual) to act as a Designated Representative. The Designated Representative is authorized to sign the notification and any agreement on behalf of the Applicant.

**Do you authorize the Contact Person above to represent you as your Authorized Designated Representative?**

<input type="checkbox"/> Yes, I authorize.	<input checked="" type="checkbox"/> No, I do not authorize.
--	---

### 3. PROPERTY OWNER *(Complete only if different from applicant)*

Name	
Mailing Address	
City, State, Zip	
Phone Number	
Email	



**4. PROJECT NAME AND AGREEMENT TERM**

A. Project Name		Travers Creek Bridge Replacement Manning Project		
B. Agreement Term Requested		<input type="checkbox"/> Regular (5 years or less) <input type="checkbox"/> Long-term (greater than 5 years)		
C. Project Term		Beginning (year)	2021	Ending (year)
				2026
D. Seasonal Work Period				
Season(s)*	Start Date (month/day)	End Date (month/day)		E. Number of Work Days
1	09/01	11/30		59
2	09/01	06/23		200
3				
4				
5				

\* Continue on additional page(s) if necessary

**5. AGREEMENT TYPE**

Check the applicable box. If boxes B – F are checked, complete the <a href="#">specified attachment</a> .	
A.	<input type="checkbox"/> Standard (Most construction projects, excluding the categories listed below)
B.	<input type="checkbox"/> Gravel/Sand/Rock Extraction (Attachment A) Mine I.D. Number: _____
C.	<input type="checkbox"/> Timber Harvesting (Attachment B) THP Number: _____
D.	<input type="checkbox"/> Water Diversion/Extraction/Impoundment (Attachment C) SWRCB Number: _____
E.	<input type="checkbox"/> Routine Maintenance (Attachment D)
F.	<input type="checkbox"/> Cannabis Cultivation (Attachment E)
G.	<input type="checkbox"/> CDFW Grant Programs Agreement Number: _____
H.	<input type="checkbox"/> Master
I.	<input type="checkbox"/> Master Timber Operations



**6. FEES**

See the [current fee schedule](#) to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. **Note: CDFW may not process this notification until the correct fee has been received.**

A. Project Name		B. Project Cost	C. Project Fee
1	Travers Creek Bridge Replacement on Manning	\$2,845,000	\$5,430.50
2			
3			
4			
5			
6			
7			
8			
9			
10			
		D. Base Fee (if applicable)	
		<b>E. TOTAL FEE*</b>	<b>\$5,430.50</b>

\* Check, money order, and [Visa or MasterCard](#) (select Environmental Fees from Menu) payments are accepted.

**7. PRIOR NOTIFICATION AND ORDERS**

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, CDFW for the project described in this notification?

Yes (Provide the information below)       No

Applicant	Notification Number	Date

B. Is this notification being submitted in response to a court or administrative order or notice, or a notice of violation (NOV) issued by CDFW?

Yes     No (Enclose a copy of the order, notice, or NOV. If the applicant was directed to notify CDFW verbally rather than in writing, identify the person who directed the applicant to submit this notification, the agency he or she represents, and describe the circumstances relating to the order.)

Name of person who directed notification	Agency

Describe circumstances relating to order

Continued on additional page(s)



**8. PROJECT LOCATION**

A. Address or description of project location. <i>(Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway.)</i>				
The bridge replacement project is located in unincorporated Fresno County, approximately 1.4 miles east of the City of Reedley and about 2 miles north of Tulare County border. From the City of Fresno: Take CA-180 E for approximately 18 miles, continue straight onto S Reed Ave for 6 miles, turn left onto E Adams Ave for 2.5 miles, right onto S Englehart Ave for 2 miles, turn left onto E Manning Ave and bridge is approximately 0.3 mile down Manning Ave. Located on Manning Avenue between Alta Avenue to the east and South Englehart Avenue to the west.				
See Attachment 8A - Project Location Map				
<input checked="" type="checkbox"/> Continued on additional page(s)				
B. River, stream, or lake affected by the project.		Travers Creek		
C. What water body is the river, stream, or lake tributary to?		Kings River		
D. Is the river or stream segment affected by the project listed in the state or federal <a href="#">Wild and Scenic Rivers Acts</a> ?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
E. County		Fresno		
F. USGS 7.5 Minute Quad Map Name		G. Township	H. Range	I. Section
Reedley 7.5 Minute Quadrangle (See Attachment 8F)		15 South	24 East	19
<input checked="" type="checkbox"/> Continued on additional page(s)				
K. Meridian (check one)		<input type="checkbox"/> Humboldt <input type="checkbox"/> Mt. Diablo <input type="checkbox"/> San Bernardino		
L. Assessor's Parcel Number(s)				
373-111-14, 373-111-13		373-350-10, 373-350-28		
373-111-12, 373-111-54		373-350-08, 373-350-20		
<input type="checkbox"/> Continued on additional page(s)				
M. Geographic coordinates <i>(Provide the latitude and longitude coordinates for the property where the project(s) will take place. CDFW utilizes decimal degrees and WGS 84 datum. Access <a href="#">Google Maps Help</a> if you need assistance in finding your coordinates.)</i>				
Latitude/Longitude	Latitude: 36.603958		Longitude: 119.405944	
	Latitude: ##.#####		Longitude: -###.#####	
	Latitude: ##.#####		Longitude: -###.#####	
	Latitude: ##.#####		Longitude: -###.#####	
	Latitude: ##.#####		Longitude: -###.#####	



**9. PROJECT CATEGORY**

WORK TYPE	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR-MAINTAIN-OPERATE EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bank stabilization – rip-rap/retaining wall/gabion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat dock/pier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat ramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bridge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Channel clearing/vegetation management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debris basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filling of wetland, river, stream, or lake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat enhancement – revegetation/mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low water crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road/trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment removal: pond, stream, or marina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
flood control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm drain outfall structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary stream crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utility crossing: horizontal directional drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
jack/bore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
open trench	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water diversion without facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water diversion with facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other ( <i>specify</i> ):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**10. PROJECT DESCRIPTION**

- A. Describe the project in detail. Include photographs of the project location and immediate surrounding area.
- Written description of all project activities with detailed step-by-step description of project implementation.
  - Include any structures (e.g., rip-rap, culverts) that will be placed or modified in or near the stream, river, or lake, and any channel clearing.
  - Specify volume, and dimensions of all materials and features (e.g., rip rap fields) that will be used or installed.
  - If water will be diverted or drafted, specify the purpose or use and include [Attachment C](#).
  - Enclose diagrams, drawings, design plans, construction specifications, and maps that provide all of the following: site specific construction details; dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; overview of the entire project area (i.e., “bird’s-eye view”) showing the location of each structure and/or activity, significant area features, stockpile areas, areas of temporary disturbance, and where the equipment/machinery will access the project area.
    - A helpful resource to assist in the development of quality PDF maps in Google Earth. See [Using Google Earth to Map your Property \(PDF\)](#).

The County of Fresno proposes to replace the existing the Travers Creek Bridge on East Manning Avenue. The proposed bridge replacement project is eligible for federal Highway Bridge Program funding. This project includes the construction of a new bridge solving the functional and structural deficiencies of the existing bridge. The current Travers Creek Bridge is approximately 33 feet long and 28 feet wide. The proposed project would replace the structurally deficient two-lane bridge with a new widened bridge that would be striped for two lanes, but would be wide enough to accommodate the County’s future plan to widen Manning Avenue from two to four lanes.

The proposed bridge will be a single span structure 77'-0" wide, 64'-6" long, and structure depth of 2'-6". The bridge superstructure is made up of 22 precast prestressed concrete voided slabs with a composite cast-in-place concrete deck supported on 3'-6" wide, 5'-0" deep seat type abutments on (18) - 30" diameter, 60'-0" long CIDH piles. Each abutment will have wingwalls on either side, 1'-0" in width with a height that varies from 3'-0" to 7'-0". The slopes along the abutments and wingwalls on either side will have a 24" thick layer of 75-pound rock placed on them for slope protection. Approximately 300 cu.yd. of rocks will be laid back at a 2:1 slope. The project will also construct 15 LF of concrete approach slab on both sides of the bridge and reconstruct a total of 1,184 LF of approach roadways with hot mix asphalt and then install object markers.

The project would require general construction activities including: grading, excavation, trenching, placement of backfill, and asphalt patching.

- See Attachment A - Detailed Project Activity.
- See Attachment B - Volume Quantity Map.
- See Attachment 10A - Project Description.
- See Attachment 10A - Site Photos.
- See Attachment 10A - Travers Creek Manning Project Plans.

Continued on additional page(s)

B. Specify the equipment and machinery that will be used to complete the project.

See Attachment A - Detailed Project Activity

Continued on additional page(s)

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).

Yes  No (Skip to box 11)

D. Will the project require work in the wetted portion of the channel?

Yes (Enclose a plan to divert water around work site)  
 No



**11. PROJECT IMPACTS**

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

The project area is located on an existing road and bridge in Fresno County, and is surrounded by aquatic habitat, riparian habitat, single-family rural residential homes, and agricultural operations. There will be 578 cubic yards of soil excavation from the stream channel and 310 cubic yards of rock fill along the slopes of the channel.

See Attachment B - Volume Quantities Map.  
 See Attachment 11A - Project Impacts Map.

Continued on additional page(s)

B. Will the project affect any vegetation?  Yes (Complete the tables below)  No (Include aerial photo with date supporting this determination)

Vegetation Type	Temporary Impact	Permanent Impact
Riparian - low-lying vegetation, along creek banks	Linear feet: <u>15.00</u> Total area: <u>0.00</u>	Linear feet: <u>115.00</u> Total area: <u>0.01</u>
<b>Stream Channel</b>	Linear feet: <u>173.00</u> Total area: <u>0.04</u>	Linear feet: <u>123.00</u> Total area: <u>0.05</u>

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
See Attachment A - Detailed Project Activity.		
See Attachment 11A - Project Impacts Map		

Continued on additional page(s)

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

Yes (List each species and/or describe the habitat below)  No  Unknown

See Attachment A - Detailed Project Activity.

Continued on additional page(s)

D. Identify the source(s) of information that supports a “yes” or “no” answer above in Box 11.C.

See attached Natural Environment Study.

Continued on additional page(s)

E. Has a biological study been completed for the project site?

Yes (Enclose the biological study)  No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.



F. Has one or more technical studies (e.g., engineering, hydrologic, geological, or geomorphological) been completed for the project or project site?

Yes (Enclose the study(ies))  No

*Note: One or more technical studies may be required to evaluate potential project impacts to a lake or streambed.*

G. Have fish or wildlife resources or waters of the state been mapped or delineated on the project site?

Yes (Enclose the mapped results)  No

*Note: Check “yes” if fish and wildlife resources or waters of the state on the project site have been mapped or delineated. “Wildlife” means and includes all wild animals, birds, plants, fish, amphibians, reptiles and related ecological communities, including the habitat upon which the wildlife depends.” (Fish & G. Code, § 89.5.) If “yes” is checked, submit the mapping or delineation. If the mapping or delineation is in digital format (e.g., GIS shape files or KMZ), you must submit the information in this format for CDFW to deem your notification complete. If “no” is checked, or the resolution of the mapping or delineation is insufficient, CDFW may request mapping or delineation (in digital or non-digital format), or higher resolution mapping or delineation for CDFW to deem the notification complete.*

**12. MEASURES TO PROTECT FISH, WILDLIFE, AND PLANT RESOURCES**

A. Describe the techniques that will be used to prevent sediment, hazardous, or other deleterious materials from entering watercourses during and after construction.

Best Management Practices (BMPs) will be developed and implemented to minimize sediment from entering the creek to protect water quality during the construction of the project.

See Attachment 12A - Natural Environment Study, pages 51 & 52.

Continued on additional page(s)

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

See Attachment 12B - Mitigation Monitoring and Reporting Plan.  
 See attached Natural Environment Study, pages 54-57.

Continued on additional page(s)

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

No compensatory mitigation proposed.

Continued on additional page(s)





**13. PERMITS**

List any local, State, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A. <u>RWQCB 401 Certification</u>	<input checked="" type="checkbox"/> Applied	<input type="checkbox"/> Issued
B. <u>ACOE 404 PCN NWP 14</u>	<input checked="" type="checkbox"/> Applied	<input type="checkbox"/> Issued
C. _____	<input type="checkbox"/> Applied	<input type="checkbox"/> Issued
D. Unknown whether <input type="checkbox"/> local, <input type="checkbox"/> State, or <input type="checkbox"/> federal permit is needed for the project. <i>(Check each box that applies)</i>		
<input type="checkbox"/> Continued on additional page(s)		

**14. ENVIRONMENTAL REVIEW**

A. Has a <a href="#">CEQA</a> lead agency been determined?				<input checked="" type="checkbox"/> Yes <i>(Complete boxes B, C, D, E, and F)</i>		<input type="checkbox"/> No <i>(Skip to box 14.G)</i>	
B. CEQA Lead Agency		County of Fresno, Department of Public Works and Planning					
C. Contact Person		Alexis Rutherford		D. Phone Number		(559) 600-4530	
E. Has a draft or final document been prepared for the project pursuant to CEQA and/or NEPA?							
<input checked="" type="checkbox"/> Yes <i>(Check the box below for each CEQA or NEPA document that has been prepared and enclose a copy of each.)</i>							
<input type="checkbox"/> No <i>(Check the box below for each CEQA or NEPA document listed below that will be or is being prepared.)</i>							
<input type="checkbox"/> Notice of Exemption		<input type="checkbox"/> Mitigated Negative Declaration		<input checked="" type="checkbox"/> NEPA document <i>(type):</i>			
<input checked="" type="checkbox"/> Initial Study		<input type="checkbox"/> Environmental Impact Report		NEPA CE _____			
<input type="checkbox"/> Negative Declaration		<input checked="" type="checkbox"/> Notice of Determination <i>(Enclose)</i>					
<input type="checkbox"/> THP/ NTMP		<input checked="" type="checkbox"/> Mitigation, Monitoring, & Reporting Plan					
F. <a href="#">State Clearinghouse Number</a> <i>(if applicable)</i>				2015061006			
G. If the project described in this notification is not the “whole project” or action pursuant to CEQA, briefly describe the entire project (Cal. Code Regs., tit. 14 § 15378).							
N/A							
<input type="checkbox"/> Continued on additional page(s) <span style="float: right;">+</span>							



H. Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4?

Yes (Enclose proof of payment)       No (Briefly explain below the reason a CEQA filing fee has not been paid)

Note: The [CEQA filing fee](#) is in addition to the notification fee. If a CEQA filing fee is required, the Lake or Streambed Alteration Agreement may not be finalized until paid.

**15. SITE INSPECTION**

Check one box only.

In the event CDFW determines that a site inspection is necessary, I hereby authorize a CDFW representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant CDFW such entry.

I request CDFW to first contact (insert name) Alexis Rutherford at (insert phone number or email address) (559) 600-4530 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay CDFW's determination as to whether a Lake or Streambed Alteration Agreement is required and/or CDFW's issuance of a draft agreement pursuant to this notification.

**16. DIGITAL FORMAT**

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

Yes (Please enclose the information via digital media with the completed notification form.)

No

**17. SIGNATURE**

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, CDFW may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless CDFW has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

**Steven White signed via CDFW's EPIMS Permitting Portal**

\_\_\_\_\_  
Signature of Applicant or Applicant's Authorized Representative

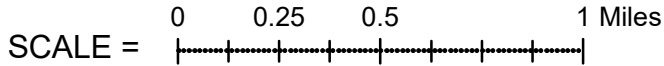
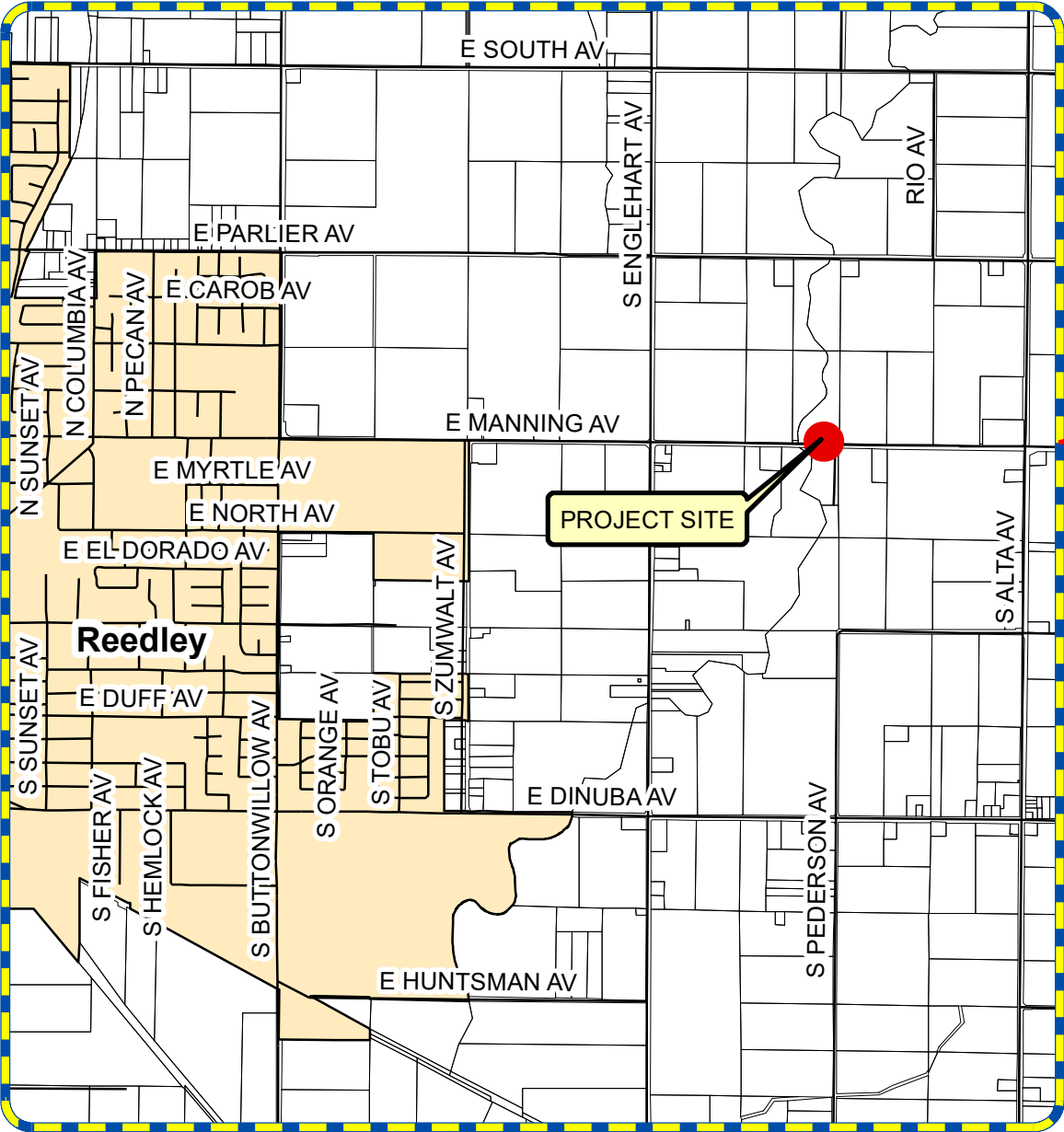
\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

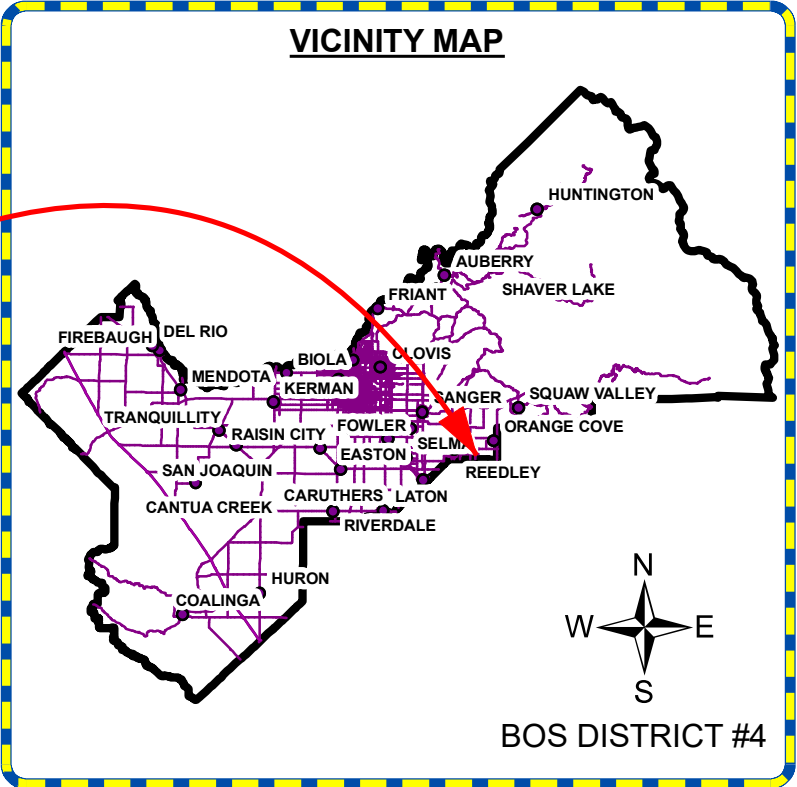
# NOTIFICATION ATTACHMENTS

**PROJECT  
HBP - TRAVERS CREEK BRIDGE ON MANNING AVE.**

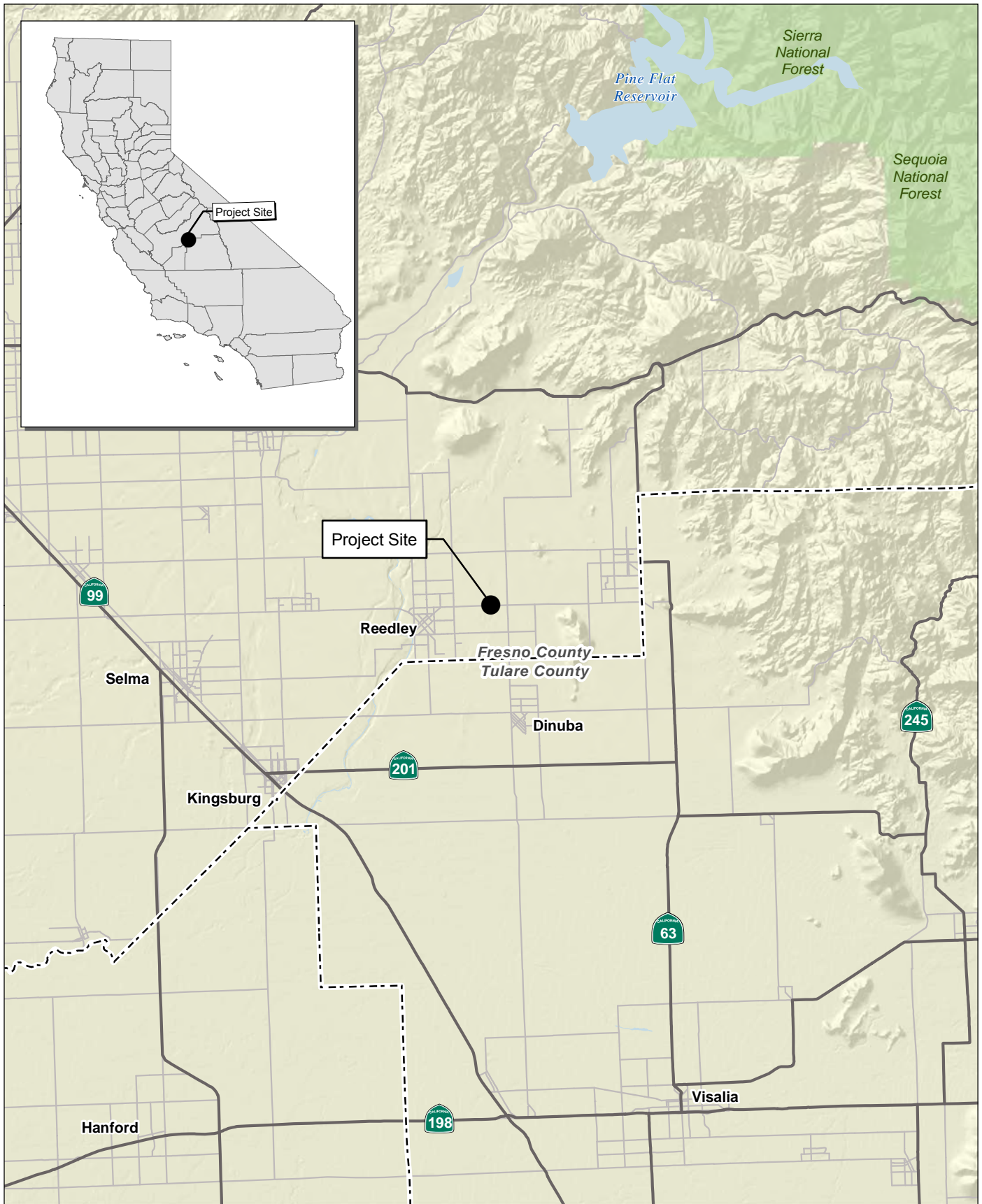
**LOCATION MAP**



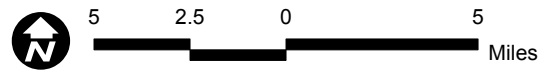
**VICINITY MAP**



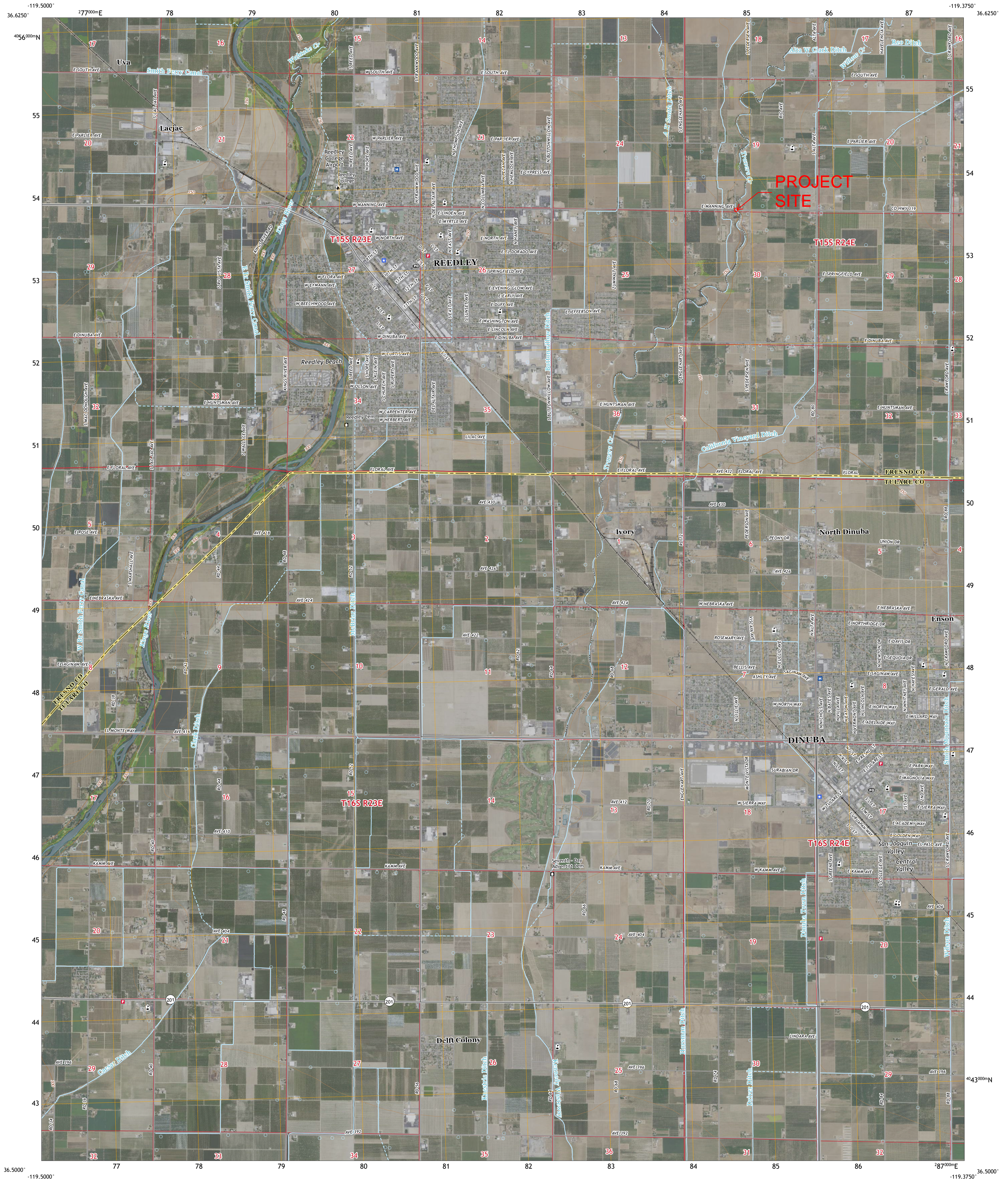
**DEPARTMENT OF PUBLIC WORKS  
AND PLANNING**



Source: Census 2000 Data, The CaSIL



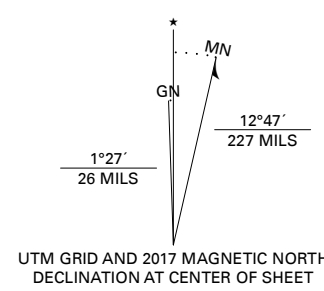
**Figure 1**  
**Regional Location Map**



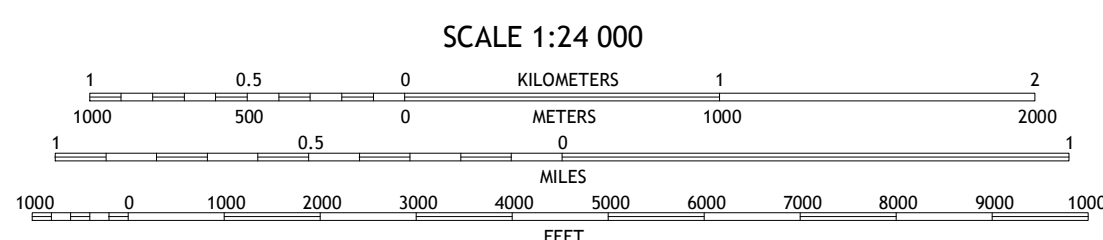
**Produced by the United States Geological Survey**

North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1 000-meter grid: Universal Transverse Mercator, Zone 11S  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery: NAIP, June 2016 - October 2016  
Roads: U.S. Census Bureau, 2016  
Names: GNIS, 1981-2018  
Hydrography: National Hydrography Dataset, 2006 -  
2018  
Contours: National Elevation Dataset, 2008  
Boundaries: Multiple sources; see metadata file, 2016 -  
2017  
Public Land Survey System: BLM, 2018  
Wetlands: FWS National Wetlands Inventory, 1984



U.S. National Grid	100,000 - m Square ID
KA	
Grid Zone Designation	11S



CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard, 2011.  
A metadata file associated with this product is draft version 0.6.18



QUADRANGLE LOCATION

1	2	3
4	5	6
7	8	

1 Sanger  
2 Wahtoke  
3 Orange Cove North  
4 Selma  
5 Orange Cove South  
6 Burris Park  
7 Traver  
8 Hanson

**ROAD CLASSIFICATION**

Expressway	Local Connector	
Secondary Hwy	Local Road	
Ramp	4WD	
Interstate Route	US Route	State Route

REEDLEY, CA  
2018

\*7643016357512\*  
NSN 7560-01-6357512  
NSA REF NO. USGS X 2.4 K 3.7 5.2

## Project Description

The proposed project will replace the structurally deficient two-lane bridge on Manning Avenue with a new widened bridge built to current standards. The existing bridge is located over Travers Creek, near the City of Reedley, approximately 0.6 miles west of Alta Avenue.

### Existing Structure

The existing Travers Creek Bridge measures approximately 33 ft in total length with a clear width between curbs of 28.2 feet and is a simple single-span cast-in-place, reinforced concrete T-girder structure on cantilever abutments. The bridge spans over the Travers Creek which is under the jurisdiction of the Alta Irrigation District and the County of Fresno. The bridge structure was originally constructed in 1925 and widened in 1942. Travers Creek flows perpendicular to Manning Avenue upstream of the bridge, but at a significant skew to Manning Avenue downstream of the bridge. The existing bridge structure is located at the center of a sharp change in the alignment of the creek. The existing structure is considerably narrower than the creek, which creates a “choke point.”

### Proposed Structure

The proposed bridge will be a single span, precast prestressed voided concrete slab, supported on seat type abutments on Cast-In-Drilled Hole (CIDH) piles. The bridge will be 77 ft wide and 64 ft 6 in long to accommodate two 12-ft travel lanes with two 25-ft wide shoulders and 1-ft 6-in barriers. The new Travers Creek Bridge would be striped for two lanes but wide enough to accommodate the County of Fresno’s future plans to widen East Manning Avenue from two to four lanes.

The scope of work, in general, will include bridge removal, pile and abutment installations, furnishing and placement of voided concrete slab units, placement of concrete deck, roadway improvements, and installation of concrete barriers, crash cushions, Midwest Guardrail System and channel rock slope protection. The project will also construct concrete approach slabs adjacent to each ends of the bridge. Drainage swales and pipes will be installed at the roadsides of the approach ways. Erosion control items will be installed on disturbed, steep areas.

Construction will be completed in two seasons. The first season will be from September 1, 2021 to November 30, 2021 with approximately 59 workdays. During this period, PG&E will be relocating overhead electrical poles along the north and south side of Manning Avenue. The second season will be from September 1, 2022 to June 23, 2023 with approximately 200 workdays. Bridge replacement construction will occur during this time.

### Vicinity Characteristics

Four single-family rural residential homes and their associated ancillary buildings are located adjacent to the northern and southern boundaries of the Project area. Vegetation within and around the existing bridge is primarily characterized by riparian tree and shrub vegetation associated with Travers Creek. The topography within the vicinity of the proposed project is generally flat. Nearby land uses are predominantly agricultural and/or rural residential in nature.

### Travers Creek

Travers Creek is a small intermittent creek that flows north to south approximately 16 miles prior to discharging into King River. It is located in the southern portion of Fresno County, near the City of Reedley and is controlled by Alta Irrigation District. The creek has an average width at the ordinary high-water mark (OHWM) of approximately three feet on the north side of the bridge and one foot on the south side of the bridge.

Travers Creek Bridge on Manning Avenue Replacement Project  
Site Photos



*Figure 2 Photo taken on the northern side of the existing bridge.*



*Figure 1 Photo taken on the southern side of the existing bridge.*



Travers Creek Bridge on Manning Avenue Replacement Project  
Site Photos



*Figure 4 View facing the north side of Manning Avenue.*



*Figure 3 View along the north side of Manning Avenue.*

Travers Creek Bridge on Manning Avenue Replacement Project  
Site Photos



Figure 1 View facing south side of Manning Avenue.



Figure 2 View facing south side of Manning Avenue.

## 10. Project Description

### A. Detailed Project Description

#### **MOBILIZATION**

This includes setting up of the Traffic Control System, staging areas and BMP's.

#### **CLEARING AND GRUBBING**

Clearing and grubbing will occur before performing earthwork in the area. Earthwork activities include, but are not limited to, grading, excavation, slope stabilization, backfill and compaction, etc. The Contractor will clear the creek of vegetation by removing shrubs, dead vines, and bushes. There will be approximately 66 trees will be removed within the floodplain with 10 trees that will be trimmed and approximately 35 trees outside of the floodplain that will be removed (see Attachment 11A – Project Impacts Map). Typical excavator, chainsaw, and other suitable machinery may be used to complete clearing and grubbing. All excavated materials will be hauled off from the creek area.

Clearing and grubbing will comply with section 17-2.03 Caltrans Standard Specifications as follows:

1. Clear all construction areas above the original ground of all vegetation, organic materials, concrete, masonry, and debris.
2. Grub all construction areas to the necessary depth, typically 3 to 6 inches below existing ground, to remove all existing stumps, roots, and other objectionable material.

#### **WATER DIVERSION**

The project is planned to be constructed during the irrigation district's shutdown period in the fall and winter. However, if nuisance flows are encountered, various temporary methods could be used to minimize impacts to construction operations and convey water through the site. Temporary earthen cofferdams constructed using only clean materials (i.e. washed gravel or sand) could be placed upstream and downstream from centerline of the proposed bridge. To maintain water flow through the channel, a corrugated metal pipe(s) with an approximate diameter of 30 inches and an approximate flow rate of 18 cfs will be installed between the cofferdams to move water through the construction site. Any pumps required to dewater the work areas will have fish screens to prevent fish from being harmed. Cofferdams will remain in place and functional throughout the in-channel construction periods. Cofferdams will be removed at cessation of in-channel work, and the area will be restored to pre-construction condition. The contractor will submit water diversion plan shop drawings and calculations for approval of the engineer before proceeding.

#### **BRIDGE REMOVAL**

Bridge removal activities will be implemented in compliance with Caltrans Standard Specifications, 2015 edition. A demolition plan depicting the proposed methods of bridge removal accompanied by substantiating calculations signed by an engineer will be submitted for approval before starting the demolition process.

Existing bridge demolition and removal work sequence will be as follows:

1. Remove existing Bridge Rails.
2. Cut existing Asphalt Concrete deck and subbase through its full thickness and dispose using pavement removal buckets mounted on hydraulic excavators. Equipment will be staged near the existing bridge abutments.
3. Each member of the existing superstructure, which consists of reinforced concrete T-girder, will be removed individually using cranes.

4. Existing abutments, wing walls, and foundations will be demolished and removed by breaking up the concrete into pieces using a backhoe or possibly using excavator mounted breakers.
5. Backfill voids and grade to existing topography in areas where bridge structure was removed. Light compaction equipment will be used for the backfill compaction.
6. Thorough sweeping and hauling out of demolished material or debris in areas upstream and downstream of the bridge.
7. Haul out demolished materials to an approved disposal site.

### **SUBSTRUCTURE CONSTRUCTION**

Substructure construction consists of installation of CIDH piles (18) and construction of abutments and wingwalls. Each pile is approximately 60 ft long, with a 30 in diameter. Rock slope protection (RSP) will be laid out almost simultaneously with abutment construction. See Attachment B – Volume Quantity Map for volumes of substructure elements.

The contractor will perform Substructure construction in the following manner:

1. Excavate existing ground to the bottom of abutment.
2. Drive the piles to specified tip elevations using an impact hammer. The impact hammer may be steam, hydraulic air or diesel. Impact hammer should be able to develop sufficient energy to drive the pile at a penetration rate of not less than 1/8" per blow at the normal driving resistance.
3. Contractor will form, install rebars, vertical dowels or anchors and pour the abutment.
4. Contractor will then form and pour the associated backwall and wingwall. Contractor would use a concrete pump truck, crane and forklift.
5. After the abutments are constructed and cured, prestressed precast voided concrete slab will be lifted in place using a crane on the bank of the creek.

### **ROCK SLOPE CONSTRUCTION**

RSP will be placed along the slopes of each abutment and wingwall. About 3,900 sqft of area will receive the RSP to the left and right of the bridge. RSP will be 24" thick of 75-pound rock laid back at a 2:1 slope, total volume of which is approximately 310 cy (see Attachment B – Volume Quantity Map). RSP will be installed in compliance with the California Department of Transportation (Caltrans) Standard Specifications, 2015 edition Division VIII Section 72.

The Contractor will install RSP as follows:

1. Strip areas that will receive RSP of all vegetation and other objectionable materials. Slope will be graded to the elevations shown on the plans.
2. Place Class 8 RSP fabric per the manufacturer's instruction.
3. Excavate for footing trench along toe of slope.
4. Place the rocks in accordance to Caltrans Standards Specification Section 72-2.03C Method B. Rocks will be placed by dumping and spreading in layers by bulldozers or other suitable equipment. Rocks will be placed in such a way that there will be minimum voids. Larger rocks will be placed in the toe course and on the outside surface of the slope protection. Voids will be filled in the footing trench with excavated material.
5. After completion of rock slope protection work, Contractor will clean up RSP debris and haul out off site.

### **SUPERSTRUCTURE CONSTRUCTION**

The bridge superstructure is made up of 22 precast prestressed concrete voided slabs with a composite cast-in-place concrete deck supported on 3 ft 6 in wide, 5 ft deep seat type abutments (see Attachment B – Volume Quantity Map). The proposed bridge will be 77 ft wide and 64 ft 6 in long. Installation of the precast voided slabs will require little to no falsework. For the cast in place concrete deck construction, the contractor will utilize conventional wood framing and plywood construction to form the deck. The contractor may stage small equipment underneath the bridge deck to install falsework, but this will take place when water is not present. Rebars will be installed and concrete will be poured, then concrete will be placed using concrete pump and concrete paving machine. After concrete is placed and cured, the contractor will remove the falsework, clean up the area of debris, and haul off site using dump trucks.

Falsework will be constructed in accordance to Section 48-2 of Caltrans Standard Specifications, 2015 edition. The contractor is responsible for designing and constructing safe and adequate falsework. Contractor will also be required to submit falsework shop drawings and calculations for approval of the engineer before proceeding.

**CONCRETE BARRIERS**

Length	Width	Height	Material Used	Qty. Materials Used
184 ft	1.5 ft	3 ft	Concrete	20 cy

Concrete bridge railing Caltrans Type 736 will be installed along both sides of the bridge edges and on top of the wingwalls. Concrete will be poured into formworks that have been set.

**ROADWAY APPROACH**

There will be a total of 1,184 linear feet of approach roadway that will first be reconstructed with hot mix asphalt, then object markers will be installed. Additionally, a 15-foot wide approach slab will be constructed on each end of the bridge. Drainage swales and pipes will be installed at the roadsides of the approach ways to allow for proper drainage, provide storage for water runoff, and reduce potential flooding from stormwater. This will require approximately 86 cy of concrete and will be completed during roadway construction. Roadway approach construction will be implemented in compliance with 2015 Caltrans Standard Specification Section 39-3.02C.

The contractor would perform Roadway approach construction in the following manner:

1. Demolition and Removal
  - Demolition and removal are completed using heavy machinery, including small bobcats and forklifts and when necessary, front loaders and large dump trucks. Debris is then removed.
2. Grading and Sloping
  - Using laser-guided transits and automatic motor graders, Contractor will grade the surface to be paved to ensure that water will run-off appropriately.
3. Prepare the Subbase
  - Install the subbase. Contractor ensures that proper base thickness, base stability and compaction is achieved for durability.
4. Proof Roll, Undercutting and Subbase Repair
  - Contractor will drive a smooth-wheel or pneumatic rubber-tired construction roller to identify areas of weak subgrade to test and correct minor compaction inadequacies. If the proof roll finds soft areas in the subbase, the contractor will make the necessary repairs in compromised areas to ensure the entire subbase is supportive.
5. Binder and Surface Course

- Once the subbase is laid, the binder is added.
6. Install New Asphalt Surface
    - Once the supportive structures of a new asphalt surface are installed, the top layer of fresh asphalt is added to provide a clean and smooth ride.
  7. Butt Joints and Transitions
    - Contractor will ensure a smooth transition from old surface to new. These transitional areas require special attention to ensure that the grading and water run-off is appropriate.
  8. Final Roll
    - Once the asphalt and butt joints have been laid, the entire surface is smoothed and compacted using a roller truck.

**CONSTRUCTION AND STAGING AREA**

Construction will be completed in two seasons. The first season will be from September 1, 2021 to November 30, 2021 with approximately 59 workdays. During this period, PG&E will be relocating overhead electrical poles along the north and south side of Manning Avenue. Tree removal will also occur during this time. The second season will be from September 1, 2022 to June 23, 2023 with approximately 200 workdays. Bridge replacement construction will occur during this time.

The staging area will be used to store equipment and materials and to provide parking areas for construction workers and equipment for the duration of construction. This temporary staging area will be restored to conditions equivalent to existing conditions after project construction has been completed. There are three potential staging areas (see Attachment 11A – Project Impacts Map).

**B. Proposed Equipment to be Used**

Typical construction equipment at the project site will include the following:

<b>Equipment</b>	<b>Purpose</b>
Backhoes	Excavation and drainage work; removal of existing bridge; placement of rock slope protection
Dump Trucks	Fill material delivery/surplus removal; placement of rock slope protection
Water Truck	Dust control; earthwork construction; clearing and grubbing
Excavator	Soil manipulation; removal of existing bridge
Front-end Loader	Dirt or gravel manipulation
Forklift	Materials movement
Roller/Compactor	Earthwork construction; backfill compaction
Grader	Ground leveling
Jackhammers	Bridge demolition
Pavement Saw	Sawcut existing pavements, sawcut in pieces elements to be demolished
Bulldozer	Earthwork construction, clearing and grubbing
Concrete Truck	Placement of concrete
Pile Drivers	Pile installation

## 11. Project Impacts

### B. Impacts to Vegetation

Vegetation Type	Temporary Impacts		Permanent Impacts	
	Acres	Linear Feet	Acres	Linear Feet
Riparian	0.004	15	0.01	115
Stream Channel	0.04	173	0.05	123

See Attachment 11A – Project Impacts Map.

### TREES TO BE REMOVED WITHIN THE FLOODPLAIN

#### *Non- Native Trees to be Removed/Trimmed*

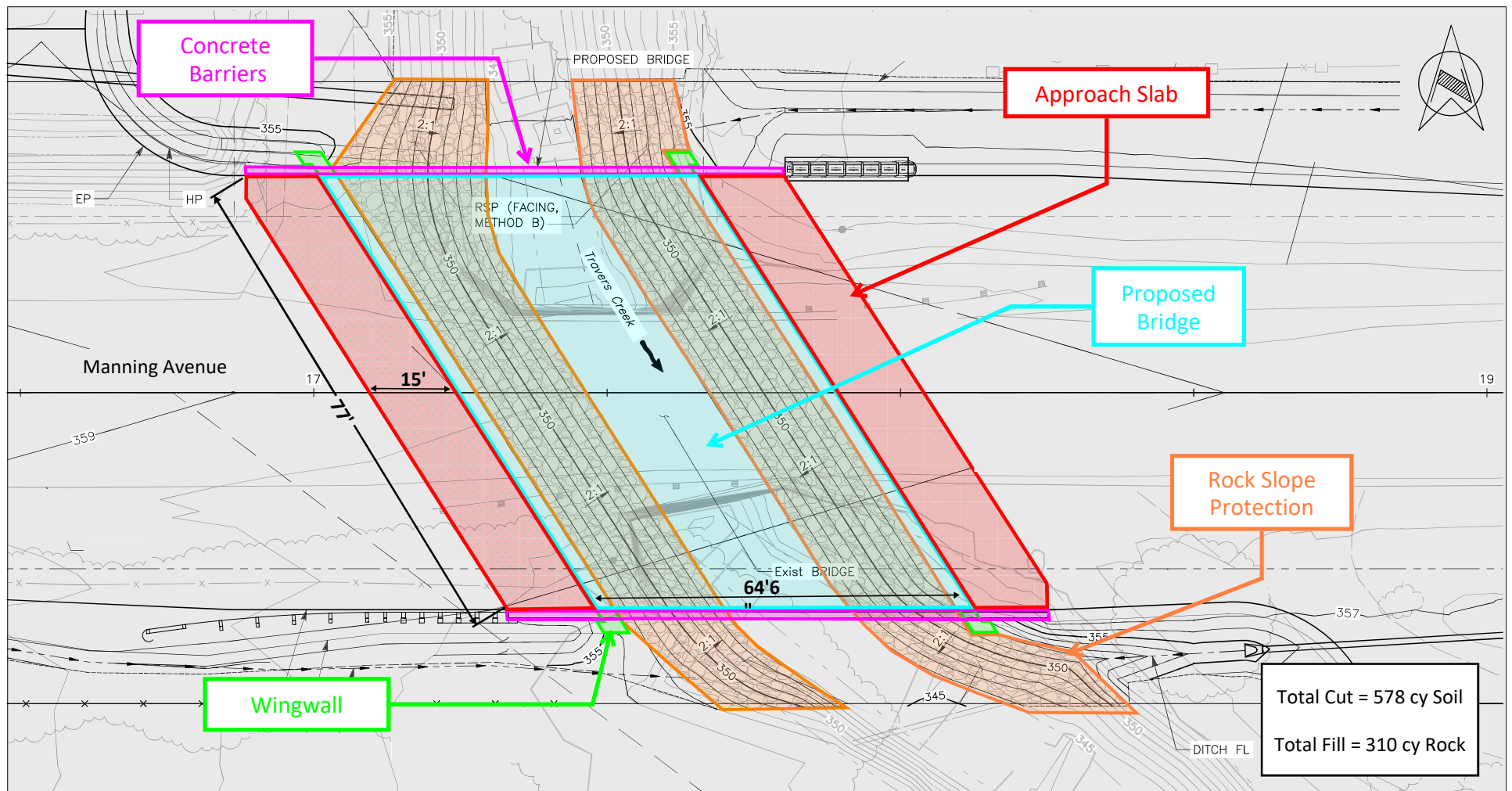
Species	DBH				Remove or Trim
	4" – 11.9"	12" – 23.9"	24" – 35.9"	36" or Greater	
Eucalyptus	22	10	2	2	Remove
Almond	1	2			Remove
	1	1			Trim
Bradford Pear (trim only)	2				Remove
	3				Trim
<b>Total: 41 Removed and 5 Trimmed</b>					

#### *Native Trees to be Removed/Trimmed*

Species	DBH			Remove or Trim
	4" – 11.9"	12" – 23.9"	24" or Greater	
Ash	9	2	2	Remove
	1			Trim
Willow	7	2		Remove
	1	2		Trim
Cottonwood		1	2	Remove
			1	Trim
<b>Total: 25 Removed and 5 Trimmed</b>				

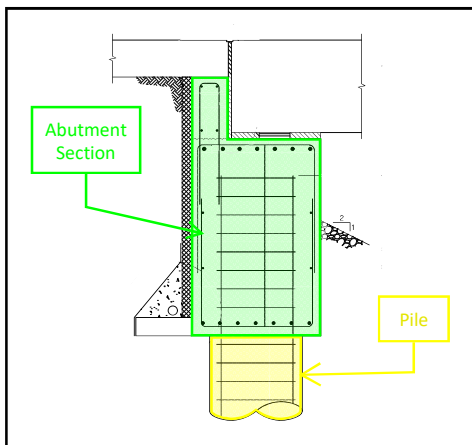
In total, approximately 66 trees will be removed within the floodplain with 10 trees that will be trimmed and approximately 35 trees outside of the floodplain that will be removed (see attached Project Impacts Map).

Fresno County shall submit a final revegetation plan for approval prior to commencement of the proposed work. Please see attached Mitigation Monitoring and Reporting Program (MMRP).









Total Cut = 578 cy Soil  
 Total Fill = 310 cy Rock

Bridge Abutment and Pile Detail



Legend and Volume Qty.

	Proposed Bridge 64.5 ft Long; 77 ft Wide Bridge Deck = 92 cy Concrete PS/PC Concrete Voids Slab = 22 Units		Concrete Barriers Total Length = 184 LF Concrete Volume = 20 cy
	Approach Slabs 77 ft Long; 15 ft Wide Concrete Volume = 86 cy		Wingwalls and Abutments Cut = 218 cy Soil Concrete Volume = 169 cy
	CIDH Piles (18 Units) D = 30 in; Length = 60 ft Concrete Volume = 200 cy		Rock Slope Protection Area = 3,900 sqft Cut = 360 cy Soil Volume = 310 cy Rock



Travers Creek Bridge  
 at  
 Manning Ave.  
 (42C0175)  
 Volume Qty. Map



# PLANS FOR CONSTRUCTION

## FEDERAL BRIDGE REPLACEMENT PROJECT

### TRIVERS CREEK BRIDGE ON E MANNING AVENUE

BRIDGE NO: 42C-0175, BRLS-5942 (198)

#### INDEX OF SHEETS

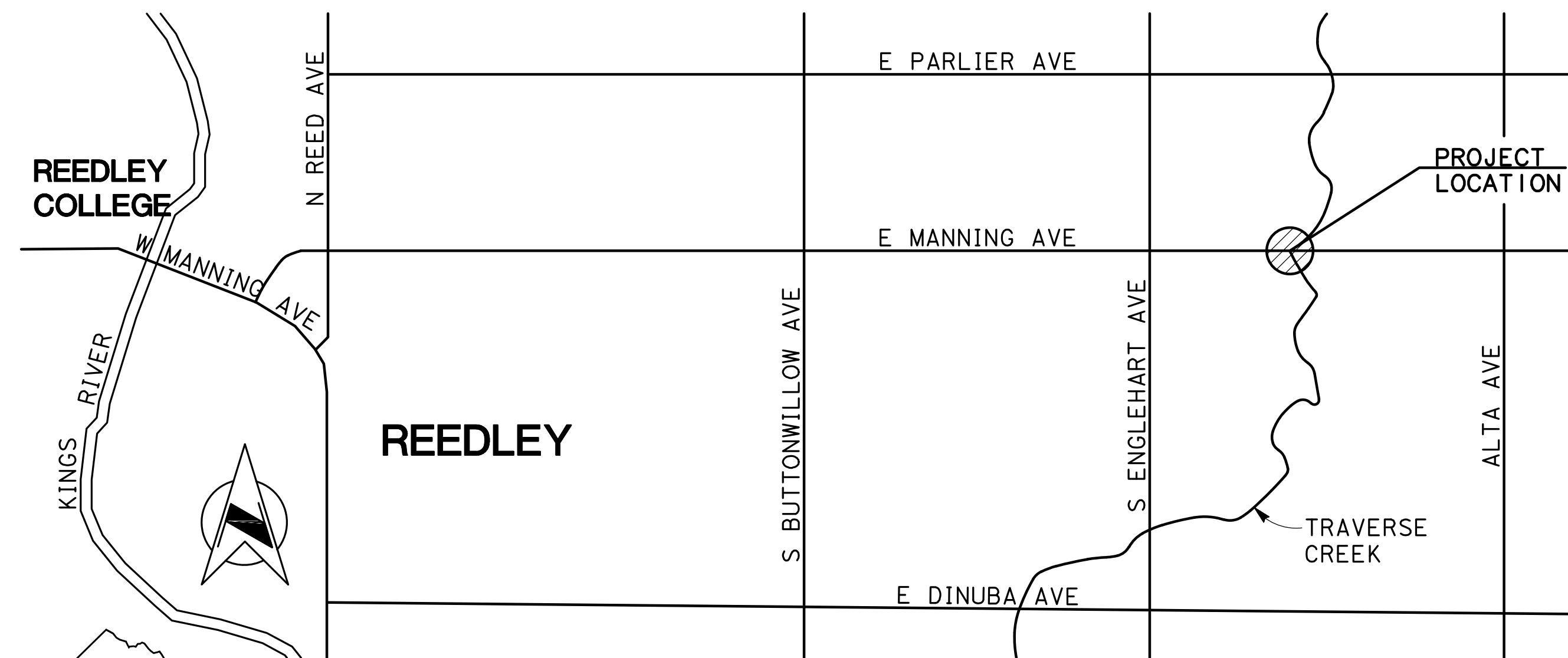
DRAWING NO.	TITLE
T-1	TITLE SHEET

#### ROAD PLANS

X-1 - X-3	TYPICAL CROSS SECTIONS
PC-1	PROJECT CONTROL
L1 - L4	LAYOUT
P-1 - P-2	PROFILE
CD-1 - CD-6	CONSTRUCTION DETAILS
WPC-1 - WPC-2	TEMPORARY WATER POLLUTION CONTROL PLAN
EC-1 - EC-3	EROSION CONTROL PLAN
CG-1 - CG-2	CONTOUR GRADING
D-1	DRAINAGE PLAN
DP-1	DRAINAGE PROFILES
U-1 - U-3	UTILITY PLAN
CS-1	CONSTRUCTION AREA SIGNS
SC-1 - SC6	STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGES
PD-1 - PD-3	PAVEMENT DELINEATION & SIGN PLAN

#### BRIDGE PLANS

S-1 - S-2	GENERAL PLAN
S-3	DECK CONTOURS AND GENERAL NOTES
S-4	FOUNDATION PLAN
S-5	ABUTMENT LAYOUT
S-6 - S-7	ABUTMENT DETAILS
S-8	TYPICAL SECTION
S-9	GIRDER LAYOUT
S-10 - S-11	PRESTRESSED CONCRETE SLAB DETAILS
S-12	APPROACH SLAB DETAILS
S-13	LOG OF TEST BORING



#### ABBREVIATIONS

AC	Asphalt Concrete	Max	Maximum
AB	Aggregate Base	MGS	Midwest Guardrail System
AP	Angle Point	Min	Minimum
Approx	Approximate	No.	Number
BB	Begin Bridge	OG	Original Ground
BC	Begin Curve	OUN	Unless Noted Otherwise
Beg	Begin	P	Pavement
BVC	Begin Vertical Curve	PCC	Point of Compound Curve
CFS	Cubic Feet per Second	P/L	Property Line
CL	Centerline	PG	Profile Grade
CMP	Corrugated Metal Pipe	PP	Power Pole
CP	Control Point	PRC	Point of Reverse Curve
Desc	Description	Prop	Proposed
Dwy	Driveway	PVI	Point of Vertical Intersection
E	Electric	Pvmt	Pavement
Ea	Each	R	Radius
EB	End Bridge	RCP	Reinforced Concrete Pipe
EB (CIVIL)	Eastbound	Rdwy	Roadway
EC	End Curve	RSP	Rock Slope Protection
Elev	Elevation	Rt	Right
EP	Edge of Pavement	R/W	Right of Way
ES	Edge of Shoulder	Sta	Station
ETW	Edge of Traveled Way	Std	Standard
Exist	Existing	Shld	Shoulder
EVC	End Vertical Curve	SQYD	Square Yard
FES	Flared End Section	TP	Telephone Pole
FG	Finished Grade	Typ	Typical
FL	Flowline	T	Tangent
GB	Grade Break	Tel	Telephone
HMA	Hot Mix Asphalt	TP	Telephone Pole
HP	Hinge Point	TCP	Temporary Construction Permit
HWL	High Water Line	Temp	Temporary
L	Length	Var	Varies
LF	Lineal Feet	VC	Vertical Curve
LP	Low Point	VPI	Vertical Point of Intersection
Lt	Left	WB	Westbound
		WSE	Water Surface Elevation

Adopted by the Fresno County Board of Supervisors

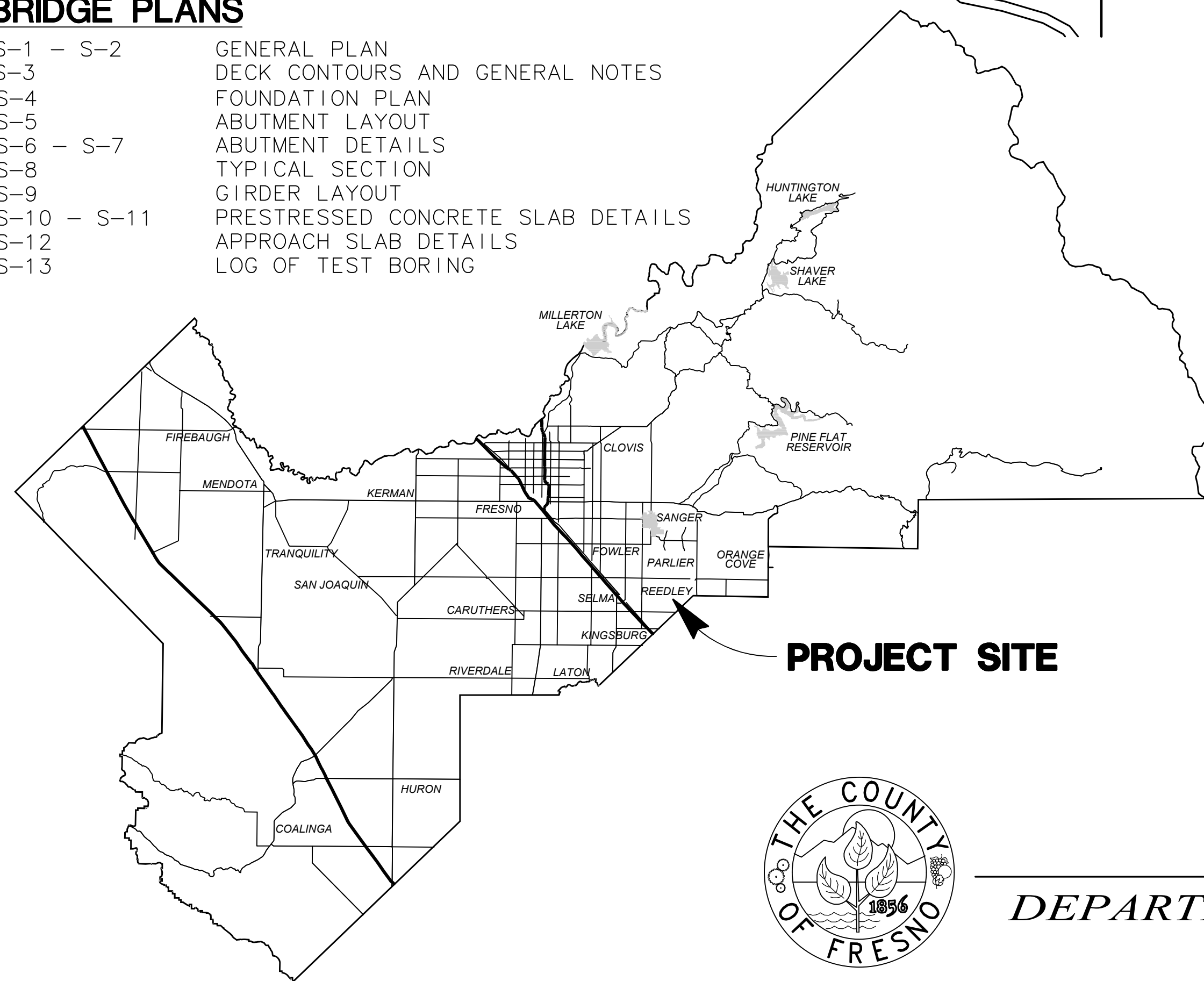
2015

Debbie Poochigian, Chairman 5th District  
 Henry Perea 3rd District  
 Andreas Borgeas 2nd District  
 Brian Pacheco 1st District  
 Buddy Mendes, Vice Chairman 4th District

John Navarrette  
 County Administrative Officer

APPROVED

Alan Weaver, Director  
 Department of Public Works and Planning



DEPARTMENT OF PUBLIC WORKS AND PLANNING

Note:

These plans shall be supplemented by the Standard Plans dated May 2010.

DESIGNED:	DATE	RECORD DRAWING	SCALE	PROJECT	TITLE SHEET
RBS	6/25/15	RESIDENT ENGINEER	NO SCALE	TRIVERS CREEK BRIDGE ON MANNING AVENUE	TITLE SHEET
MLT	6/25/15				
CHECKED:	6/25/15				

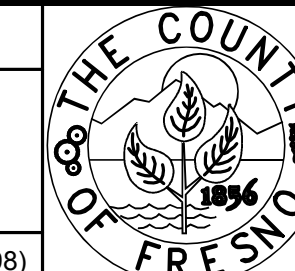
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**BIGGS CARDOSA ASSOCIATES INC**  
 STRUCTURAL ENGINEERS

5250 N. Palm Avenue, Suite 211  
 Fresno, California 93704  
 559-449-8686



ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING

DRAWING NO. T-1 SHEET NO. 1 TOTAL 52

20150151T

**NOTES:**

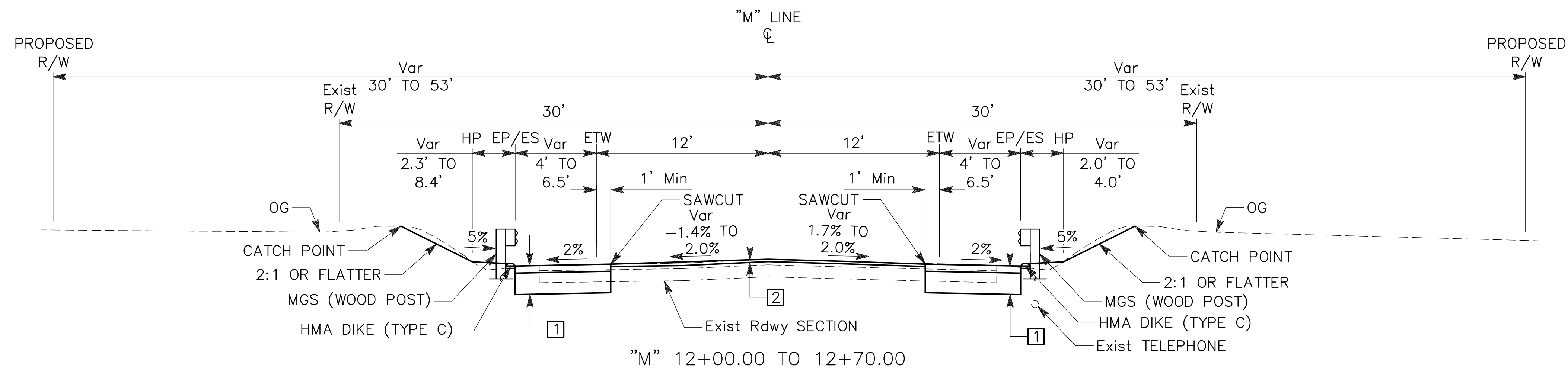
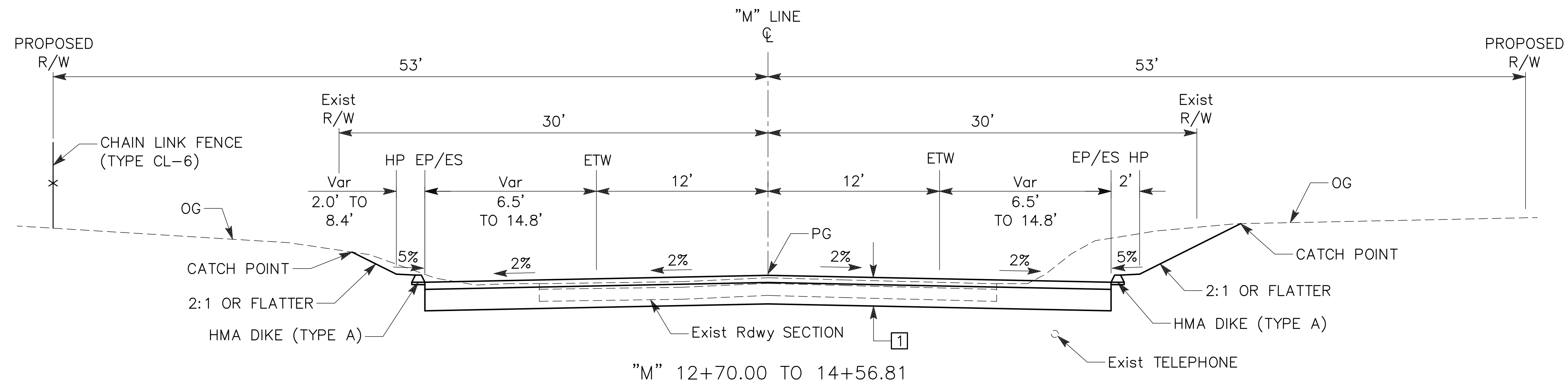
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2. SUBGRADE SLOPE TO BE THE SAME AS TYPICAL SURFACE SLOPE UNLESS OTHERWISE NOTED.
3. SEE LAYOUT SHEETS FOR REMOVALS, TRANSITIONS, MIDWEST GUARDRAIL SYSTEM (MGS), FENCE, DIKE AND SWALE LOCATIONS.

**TYPICAL PAVEMENT STRUCTURE SECTIONS**

- 1 6" HMA (TYPE A, 3/4")  
18" CLASS 2 AB
- 2 COLD PLANE AC PAVEMENT 2" Max  
2" HMA (TYPE A, 3/4") OVERLAY
- 3 6" CLASS 2 AB

**DESIGN DESIGNATION**

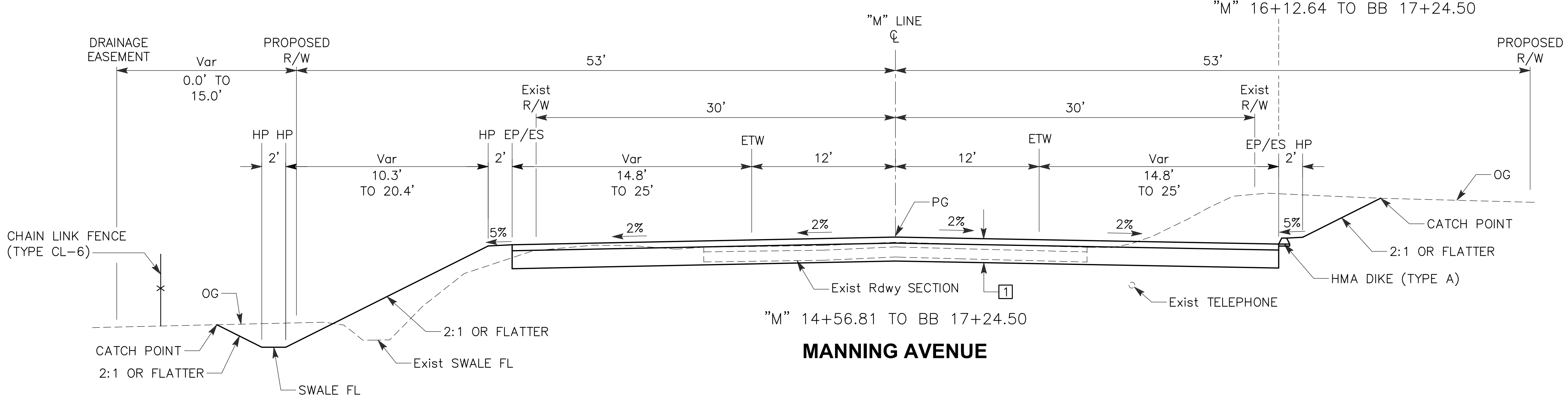
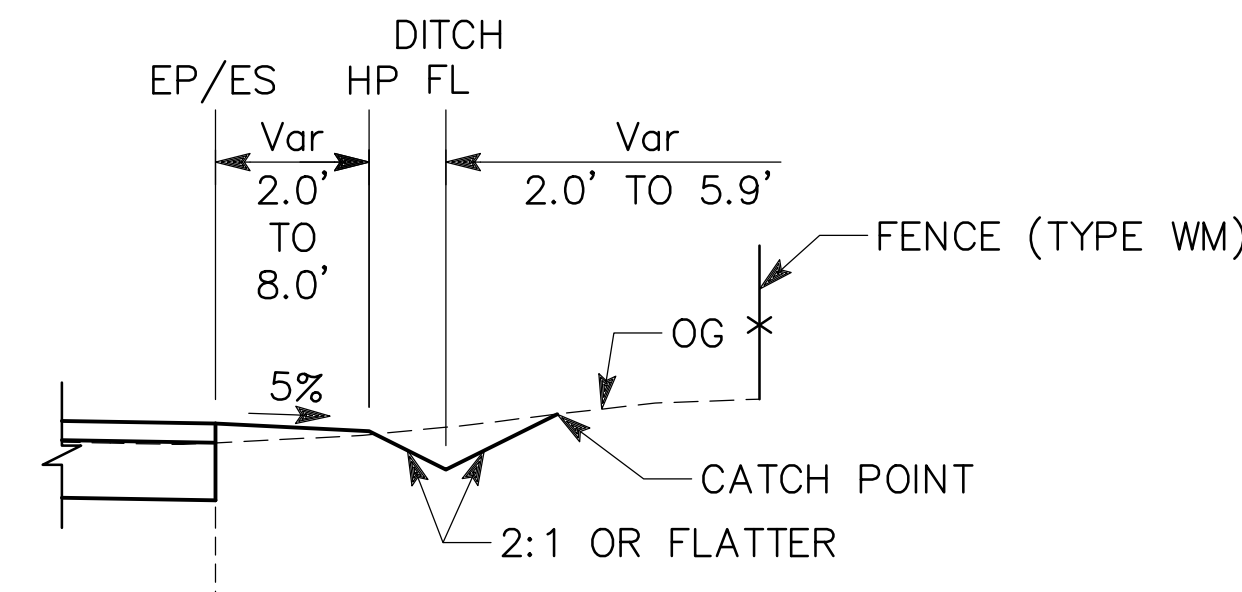
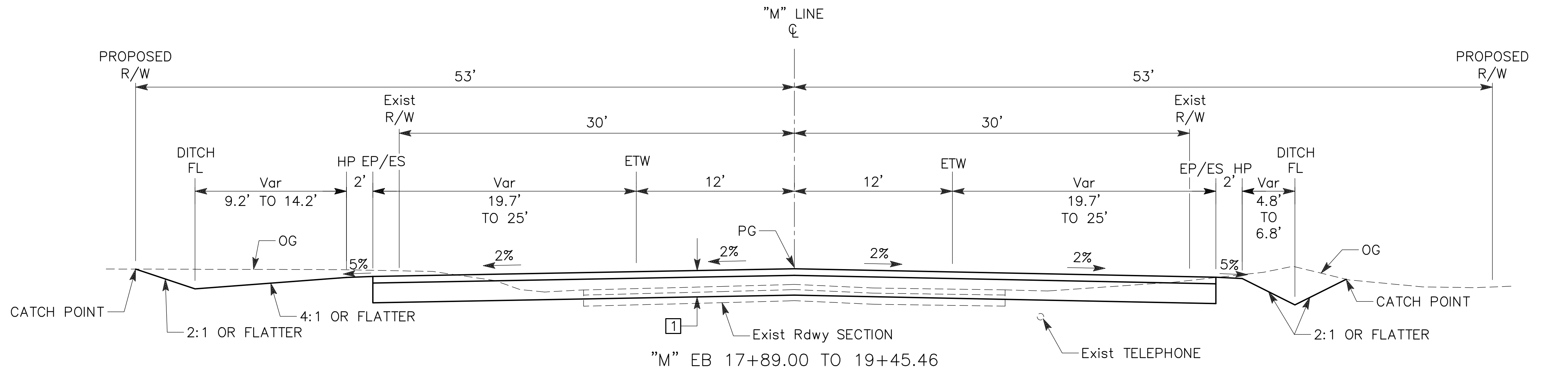
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ADT (2000)	6300
TRAFFIC INDEX	9



**MANNING AVENUE**

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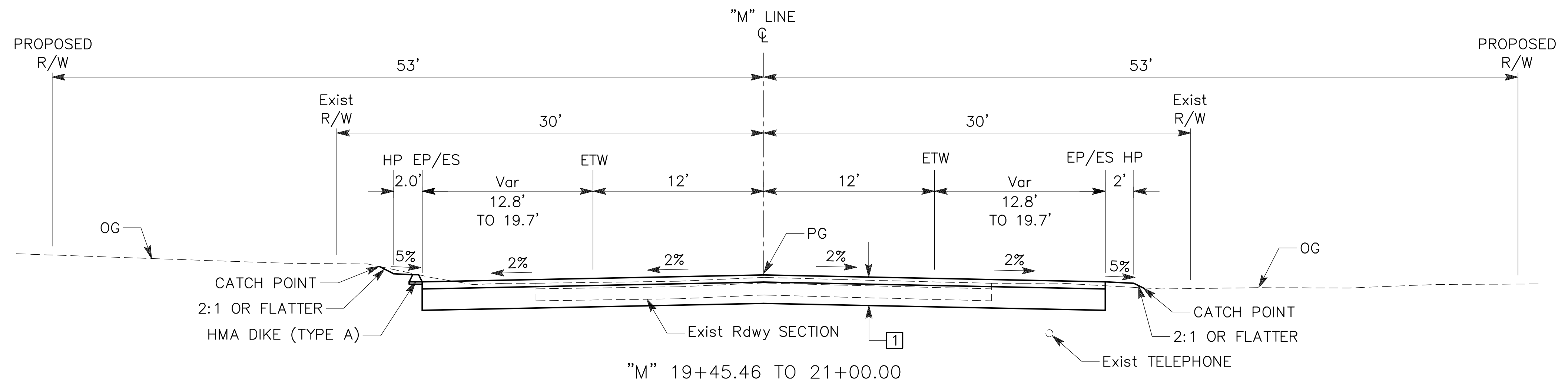
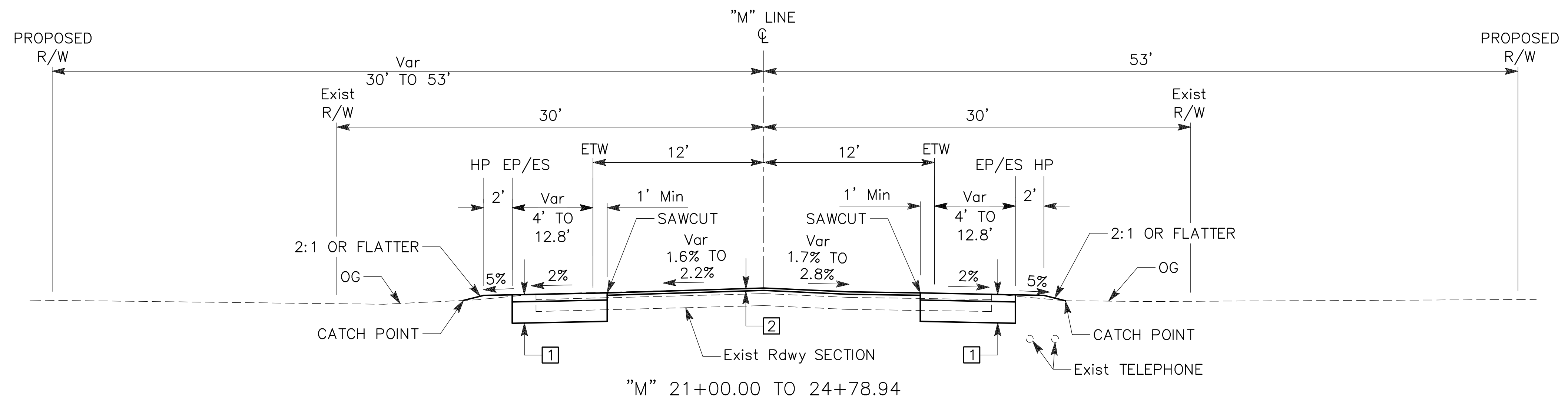
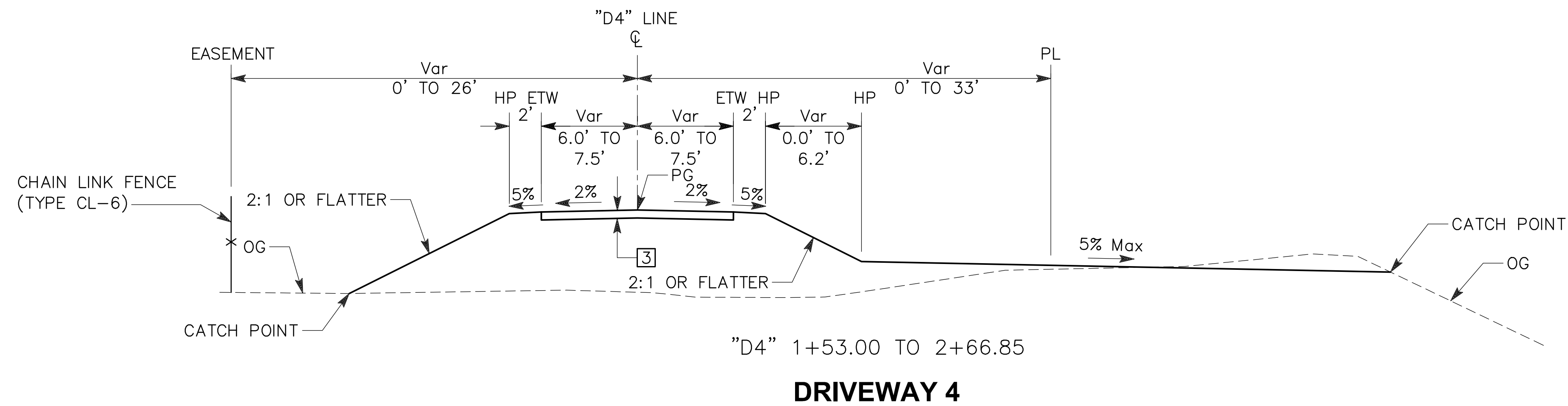
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CHECKED: MAS		DATE: 1/15/16					ROAD NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. X-1	
							BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 2	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.											
TOTAL 52											



**MANNING AVENUE**

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

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						TOTAL 52	



**MANNING AVENUE**

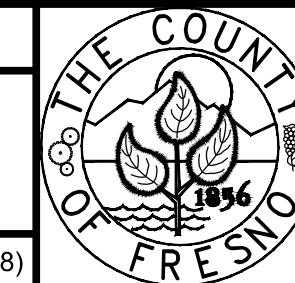
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CHECKED: MAS	1/15/16			
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				



**dh drake haglan**  
AND ASSOCIATES  
619 13th Street, Suite G  
Modesto, CA 95354

PROJECT	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



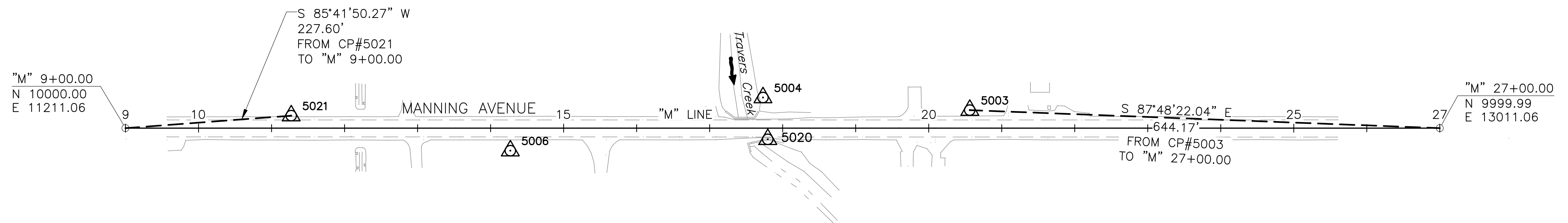
DEPARTMENT OF PUBLIC WORKS AND PLANNING			
<b>TYPICAL CROSS SECTIONS</b>			
DRAWING NO. X-3	SHEET NO. 4	TOTAL 52	

**NOTES:**

- FOR COMPLETE PROJECT CONTROL DATA, SEE THE SURVEY RECORDS ON FILE FROM THE RECORDERS OFFICE OF THE COUNTY OF FRESNO.
- BASIS OF BEARINGS AND COORDINATES:  
THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 30, T. 15 S., R. 24 E., MOUNT DIABLO BASELINE AND MERIDIAN HAS AN ASSUMED BEARING OF N 90° 00' 00" E.  
  
LOCAL AND ASSUMED COORDINATES.
- BASIS OF ELEVATIONS:  
COUNTY OF FRESNO BM LO 119  
FRESNO COUNTY BRASS CAP STAMPED LO 119, LOCATED ON A CONCRETE HEADWALL, 15.5' SOUTH OF MANNING AVENUE, EAST OF TRAVERS CREEK ELEV. = 358.08 NAVD 88 DATUM

**LEGEND:**

△ SURVEY CONTROL POINT



**CONTROL FOR DESIGN AND CONSTRUCTION**

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5003	10024.65	12367.36	356.79	"FD FC 5/8" RBR
5004	10041.87	12084.05	357.16	"FD FC 5/8" RBR
5006	9969.10	11738.10	363.56	"FD FC 5/8" RBR
5020	9984.71	12090.66	358.08	FD BM L0119
5021	10017.07	11438.02	358.07	SET 80/D

APPROVED FOR PROJECT CONTROL INFORMATION ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

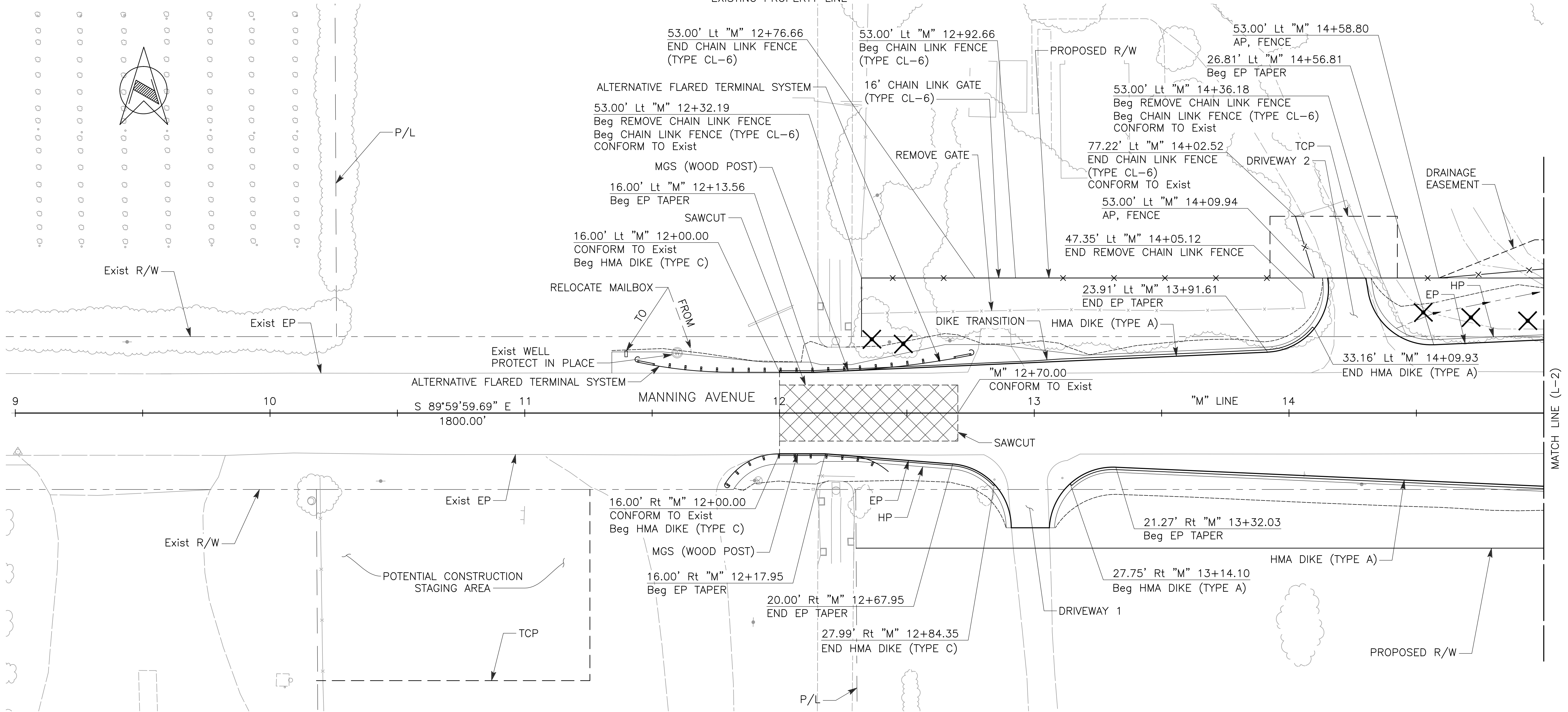
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CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. PC-1
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 5

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. ALL STATION/OFFSET CALLOUTS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
3. SEE UTILITY PLANS FOR UTILITY RELOCATIONS.
4. SEE CONSTRUCTION DETAILS FOR MGS, DRIVEWAY, AND DIKE TRANSITION INFORMATION.

**LEGEND:**

- CUT
- FILL
- PROPOSED R/W
- PROPOSED EASEMENT
- TEMPORARY CONSTRUCTION PERMIT (TCP)
- EXISTING PROPERTY LINE
- EXISTING R/W
- x-x- PROPOSED FENCE
- DITCH/SWALE FLOW LINE
- [Hatched Box] HMA OVERLAY
- X REMOVE TREE

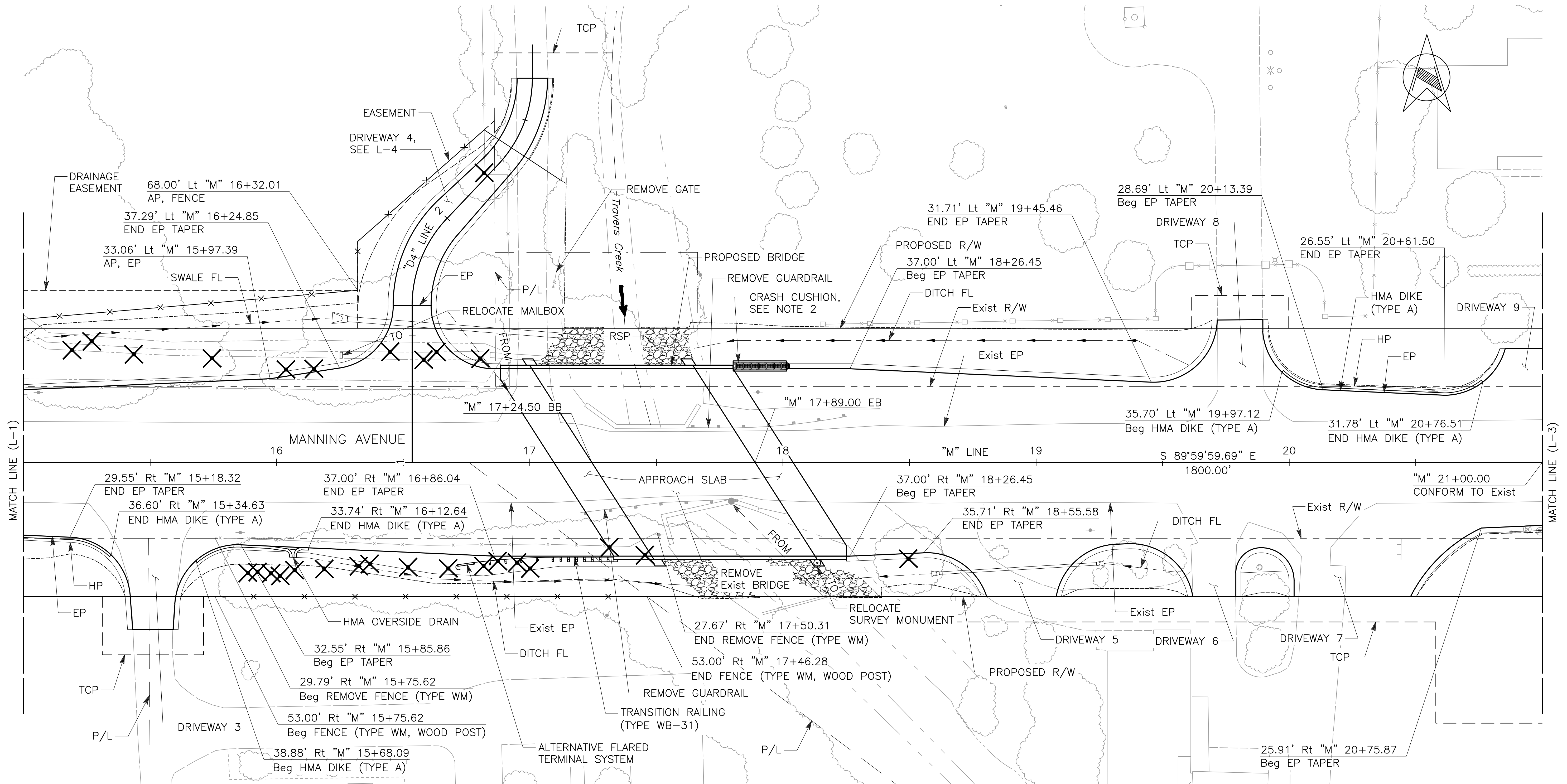


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DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE:	0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			LAYOUT	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. L-1 SHEET NO. 6 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

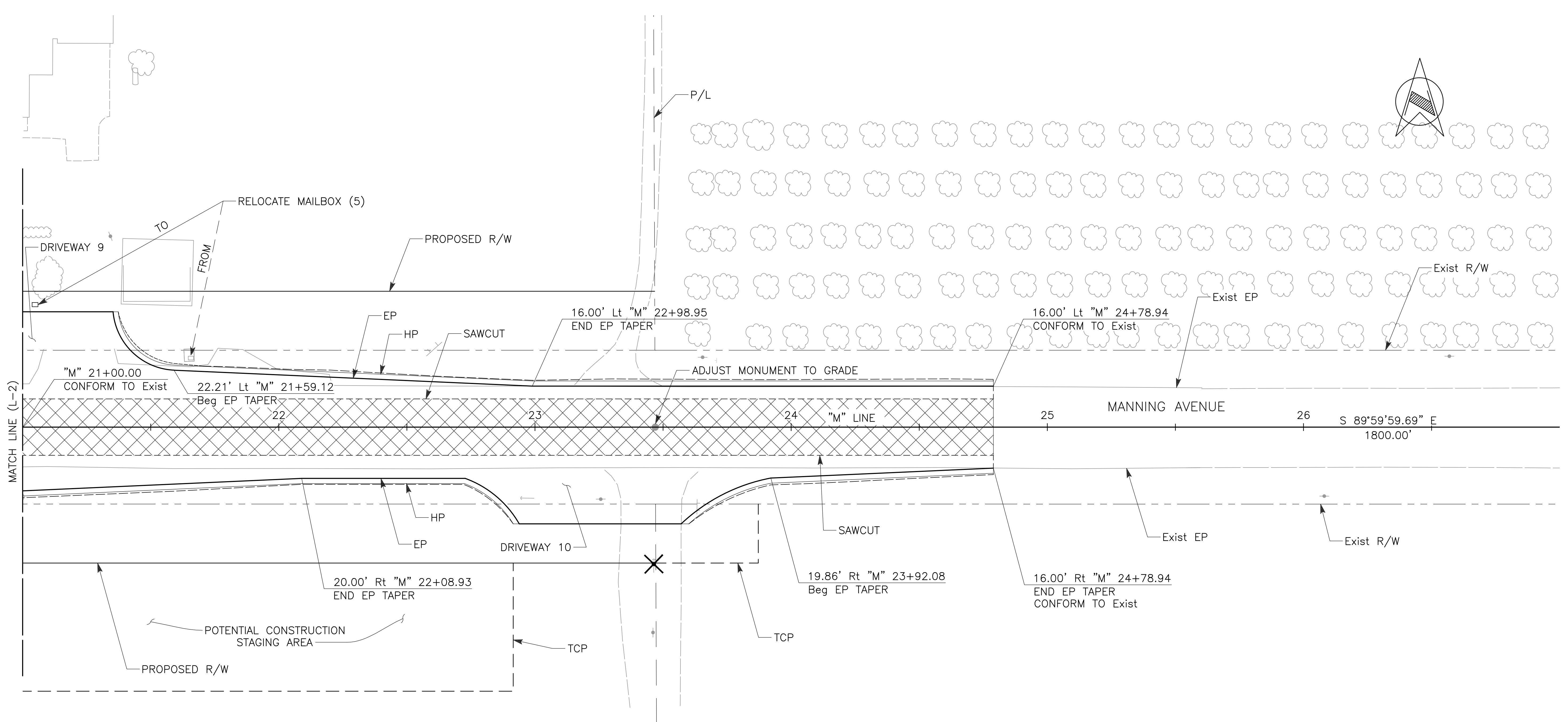
NOTES:

- FOR DRAINAGE INFORMATION, SEE DRAINAGE PLANS.
- QUADGUARD II MODEL QG210524 OR EQUIVALENT.



PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB DRAWN: AMS CHECKED: MAS		DATE: 1/15/16 1/15/16 1/15/16	<b>RECORD DRAWING</b> RESIDENT ENGINEER	DATE:	<b>SCALE</b> 0 PLAN 20' 40' HZ		<b>PROJECT</b> TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING  <b>LAYOUT</b>
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. L-2	SHEET NO. 7	TOTAL 52



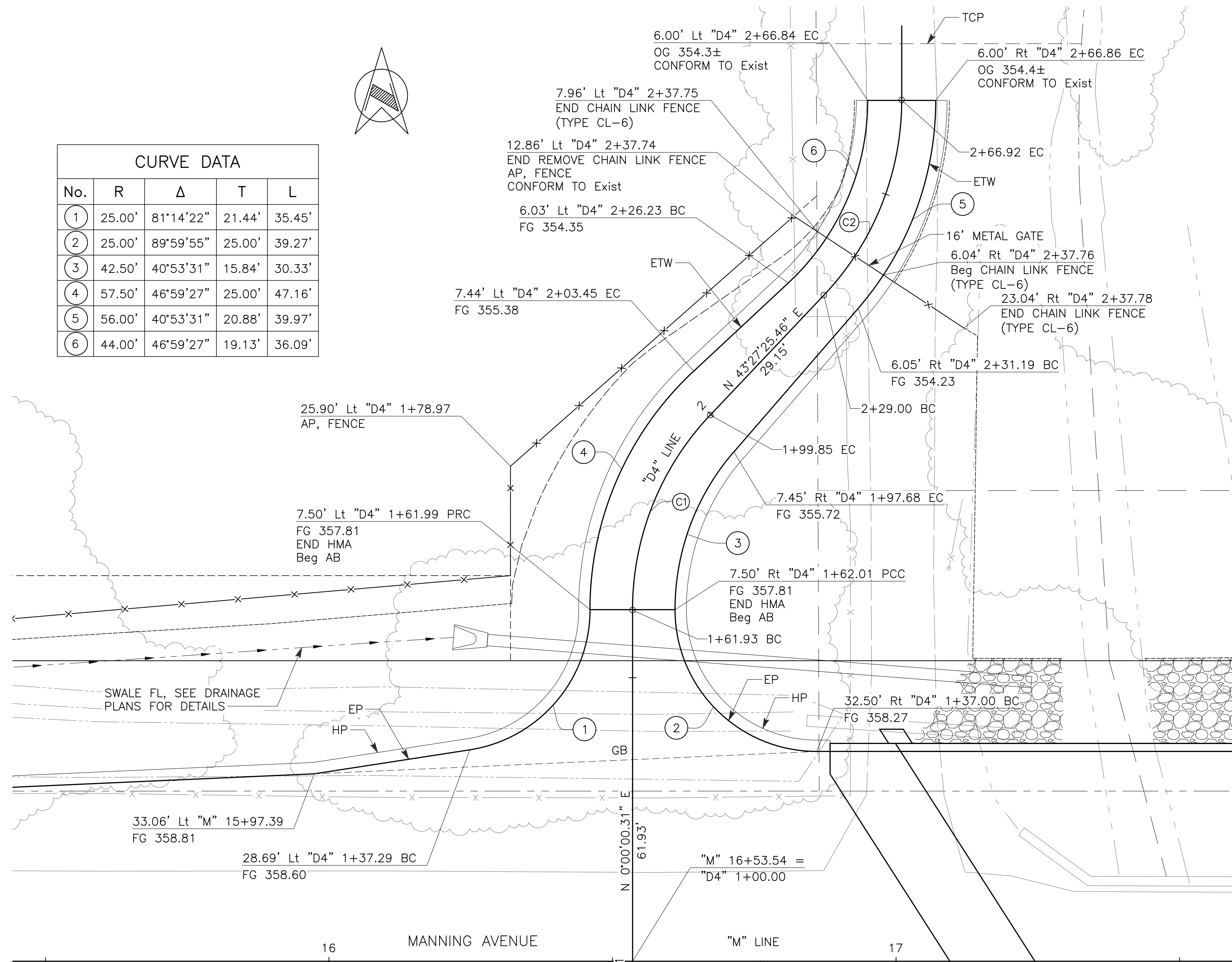
PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE:	0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			LAYOUT	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. L-3 SHEET NO. 8 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												



ALIGNMENT CURVE DATA				
No.	R	Δ	T	L
(C1)	50.00'	43°27'25"	19.93'	37.92'
(C2)	50.00'	43°27'25"	19.93'	37.92'

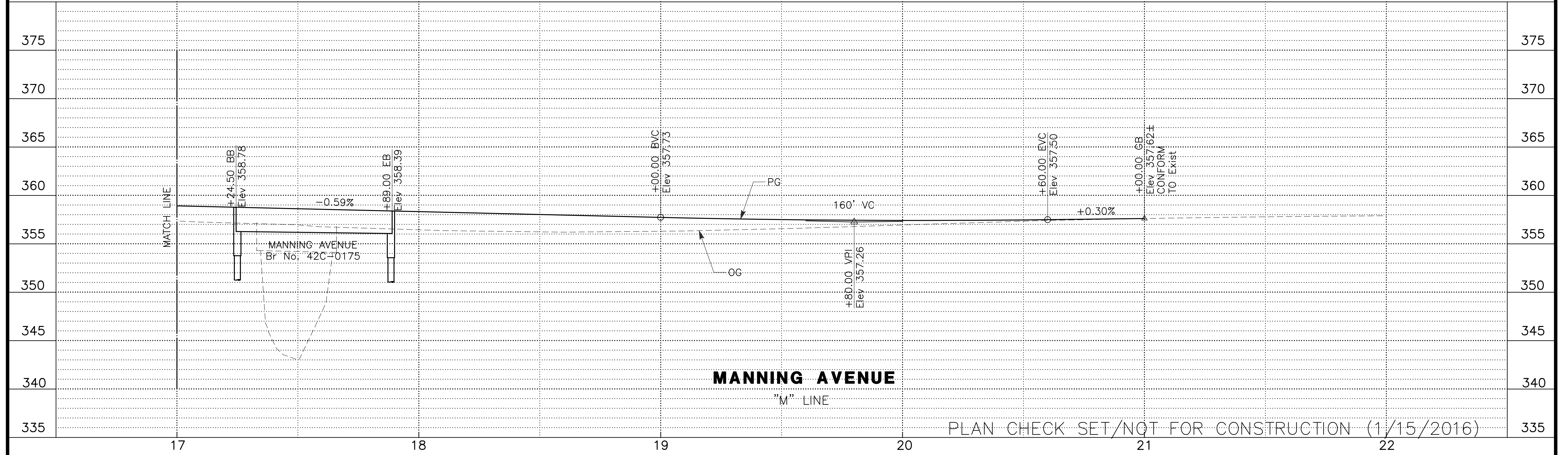
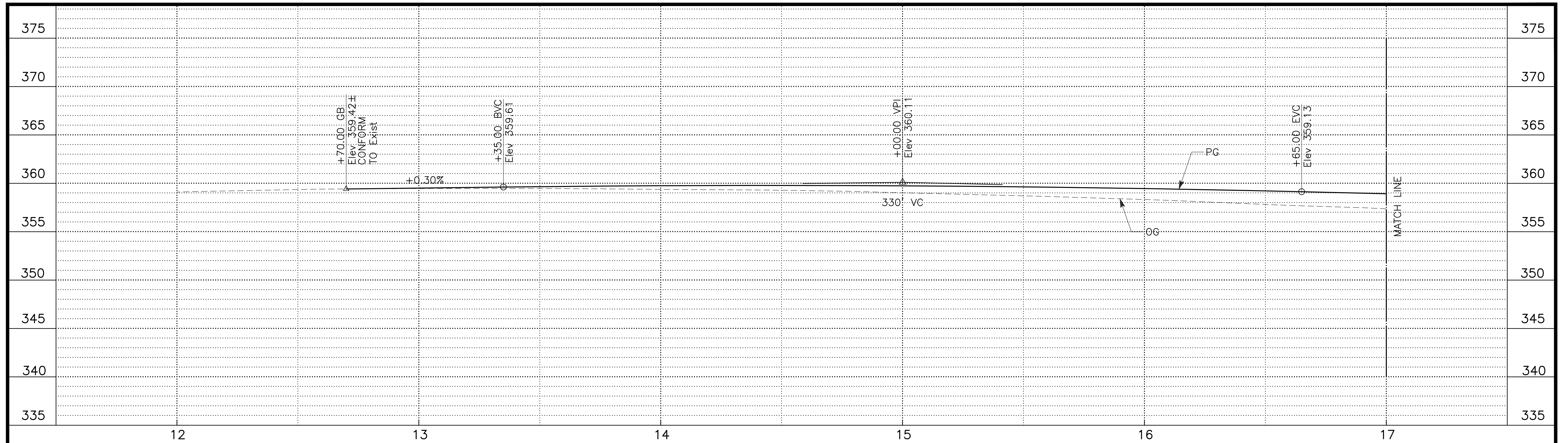
CURVE DATA				
No.	R	Δ	T	L
(1)	25.00'	81°14'22"	21.44'	35.45'
(2)	25.00'	89°59'55"	25.00'	39.27'
(3)	42.50'	40°53'31"	15.84'	30.33'
(4)	57.50'	46°59'27"	25.00'	47.16'
(5)	56.00'	40°53'31"	20.88'	39.97'
(6)	44.00'	46°59'27"	19.13'	36.09'



PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE: 0 PLAN 10' 20' HZ	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE	DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER			LAYOUT
CHECKED: MAS	DATE: 1/15/16				

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

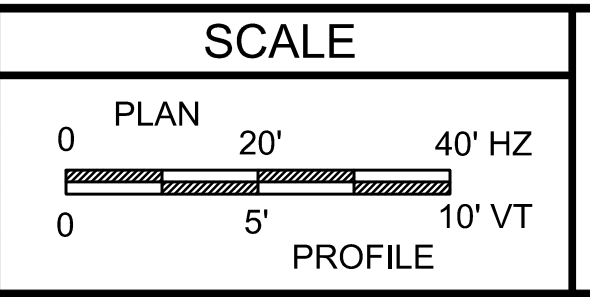


**MANNING AVENUE**

"M" LINE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DATE		RECORD DRAWING	
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	DATE
DRAWN: AMS	1/15/16		
CHECKED: MAS	1/15/16		

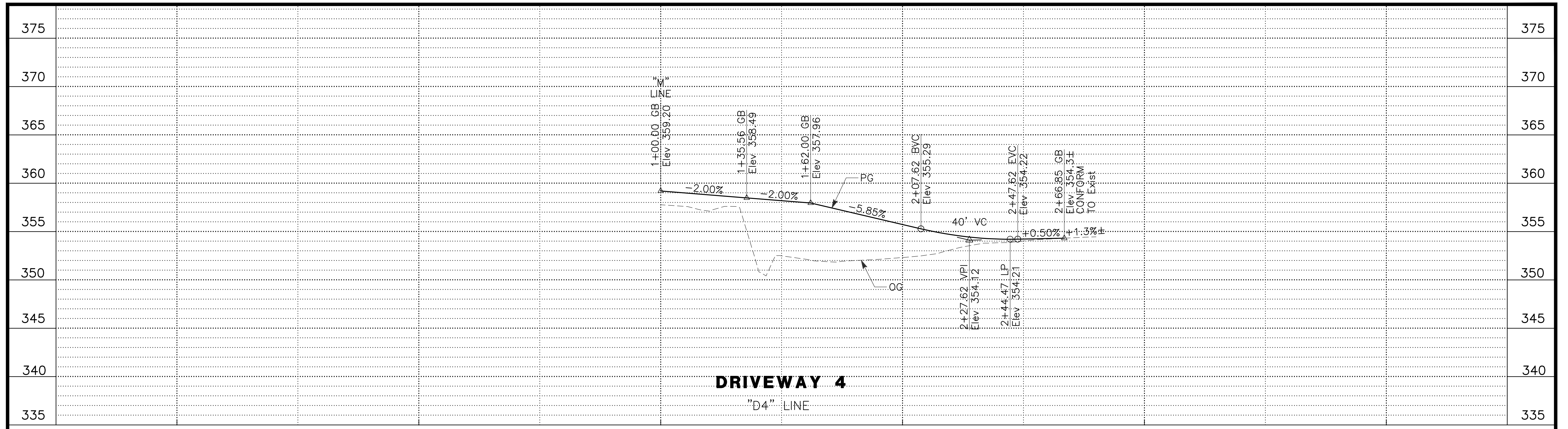


PROJECT	
TRAVERS CREEK BRIDGE ON MANNING AVENUE	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



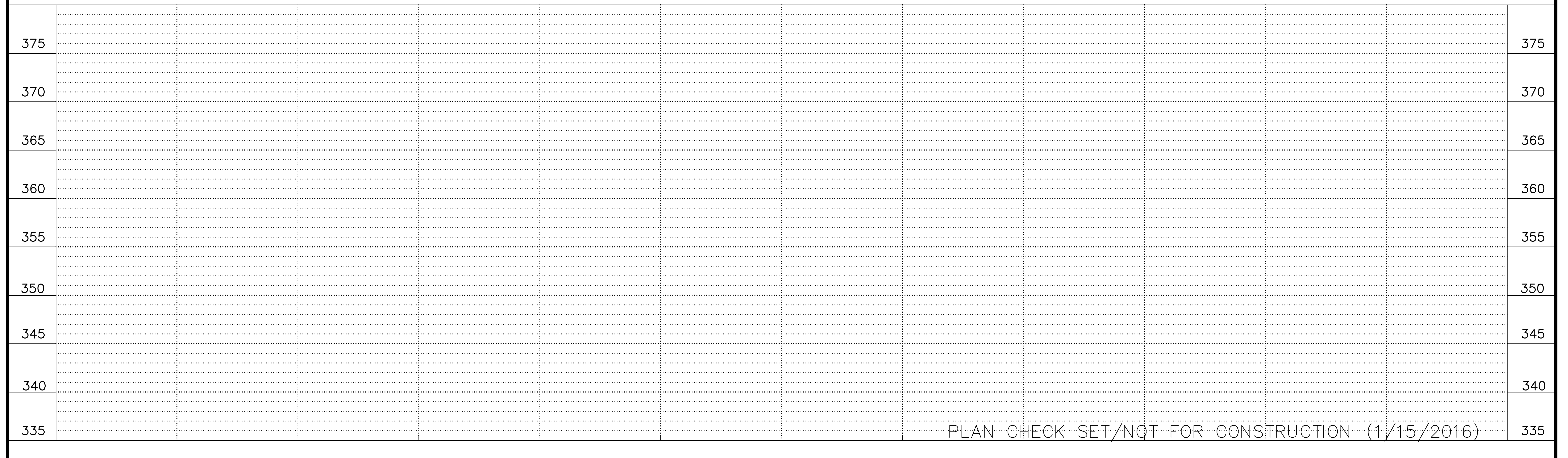
DEPARTMENT OF PUBLIC WORKS AND PLANNING		
PROFILE		
DRAWING NO. P-1	SHEET NO. 10	TOTAL 52

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

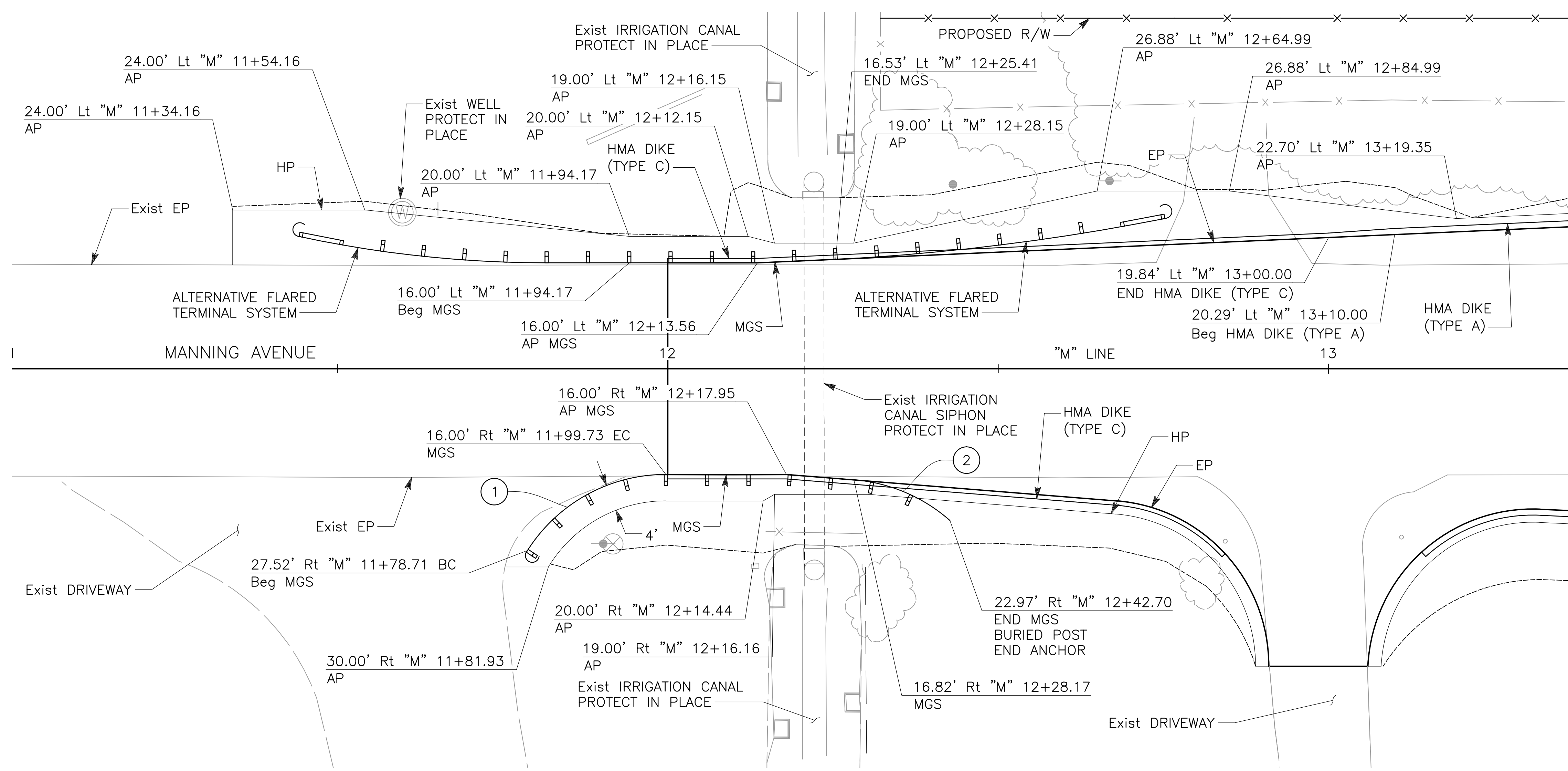


**DRIVEWAY 4**  
"D4" LINE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)



DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		PLAN: 0 20' 40' HZ PROFILE: 0 5' 10' VT			TRAVERS CREEK BRIDGE ON MANNING AVENUE			PROFILE		
CHECKED: MAS		DATE: 1/15/16						ROAD NO.			DRAWING NO. P-2		
								BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 11		
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												TOTAL 52	



**NOTES:**

1. FOR DRIVEWAY INFORMATION, SEE DRIVEWAY CONSTRUCTION DETAILS.
2. FOR BURIED POST END ANCHOR DETAILS AND INFORMATION, SEE CALTRANS RSP A77T2.
3. FOR HMA DIKE DETAILS AND INFORMATION, SEE CALTRANS RSP A87B.

CURVE DATA				
No.	R	Δ	T	L
①	25.00'	57°17'34"	13.66'	25.00'
②	25.00'	36°47'03"	8.31'	16.05'

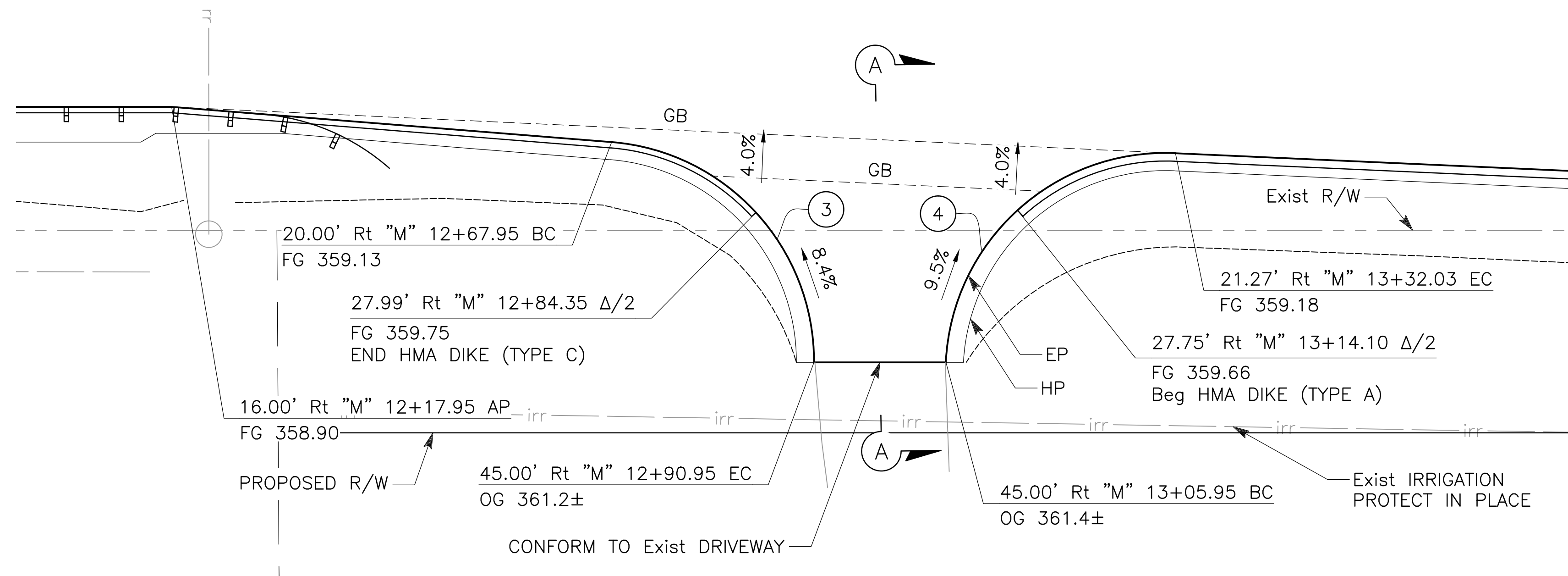
**MGS DETAIL**

SCALE: 1"=10'

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

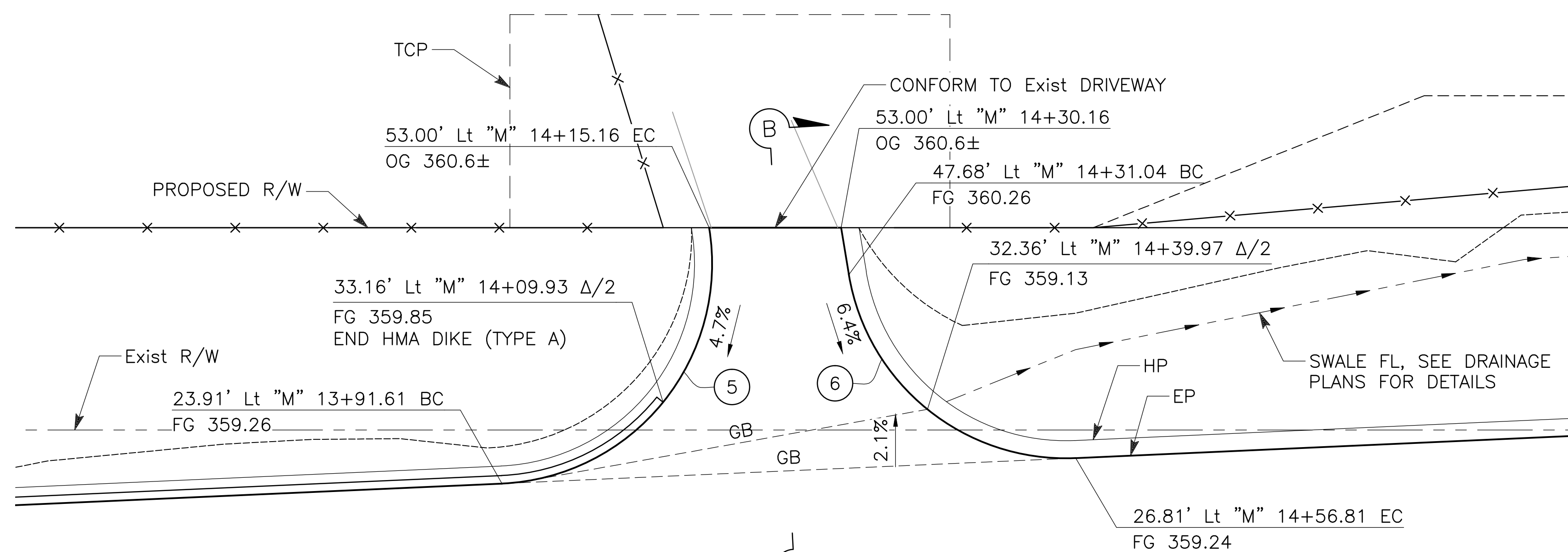
	DATE	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING					
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	AS SHOWN		<b>drake haglan</b> AND ASSOCIATES 619 13th Street, Suite G Modesto, CA 95354		CONSTRUCTION DETAILS					
DRAWN: AMS	1/15/16	DATE						ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. CD-1	SHEET NO. 12	TOTAL 52
CHECKED: MAS	1/15/16											

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



**DRIVEWAY 1 DETAIL**

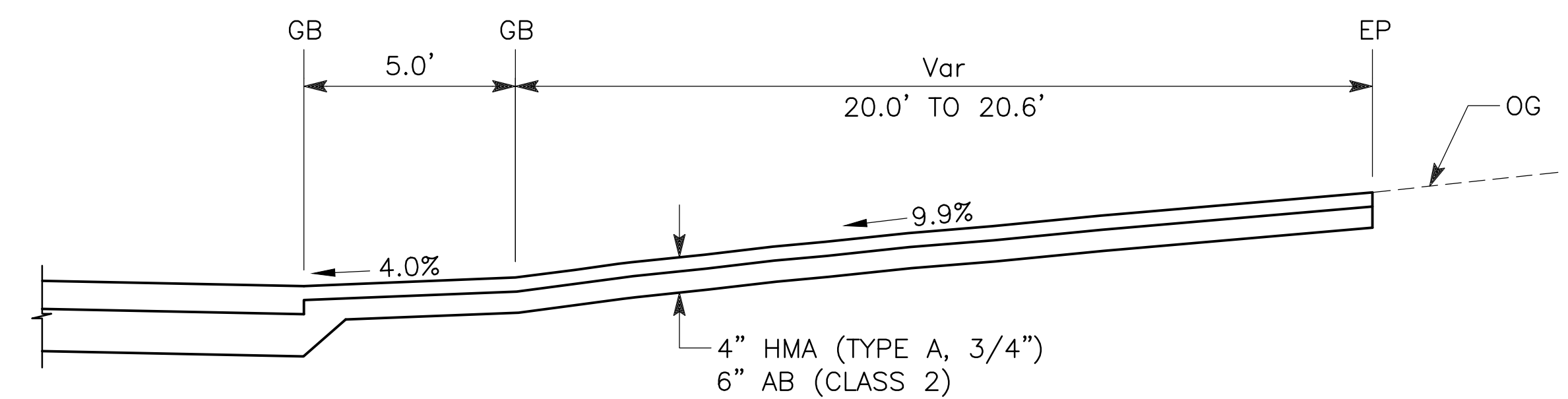
SCALE: 1"=10'



**DRIVEWAY 2 DETAIL**

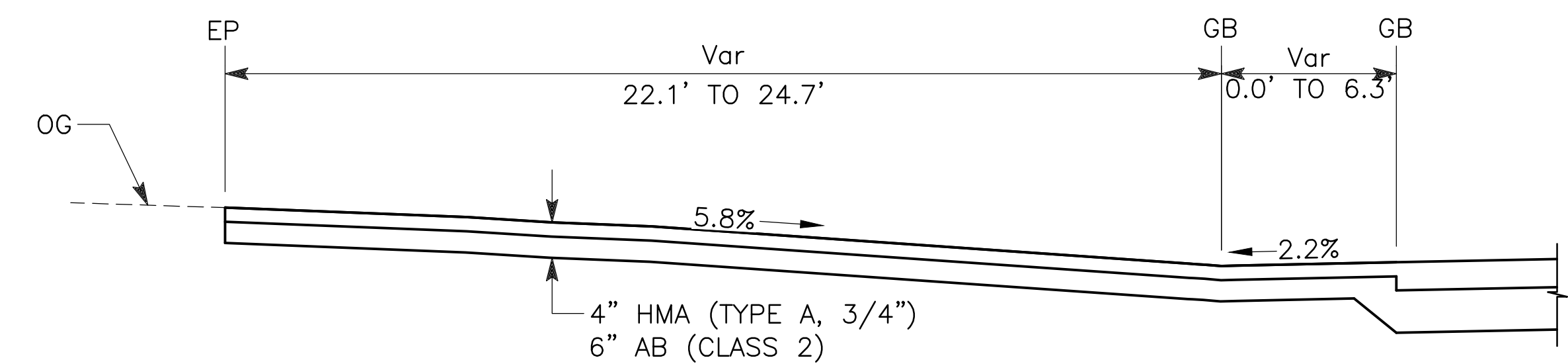
SCALE: 1"=10'

CURVE DATA				
No.	R	Δ	T	L
3	25.00'	85°36'31"	23.15'	37.35'
4	25.00'	89°41'59"	24.87'	39.14'
5	25.00'	96°55'13"	28.22'	42.29'
6	25.00'	83°04'47"	22.15'	36.25'



**SECTION A-A**

NO SCALE

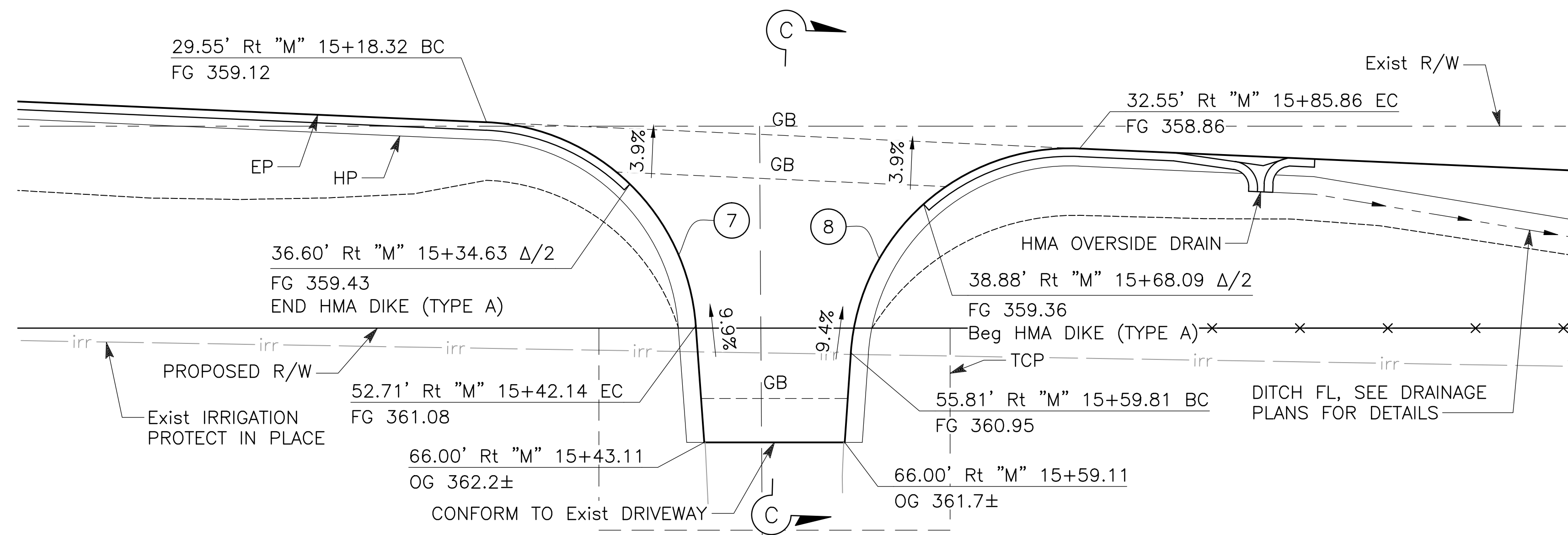


**SECTION B-B**

NO SCALE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

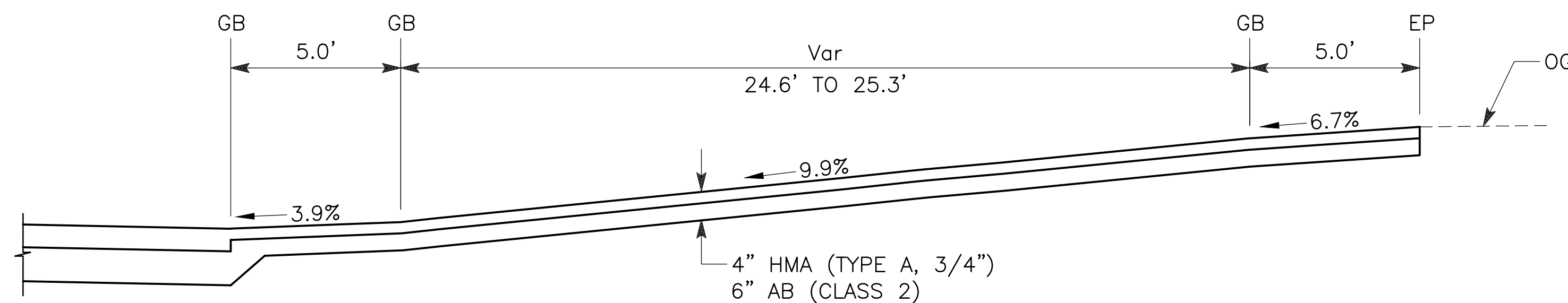
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS	1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS	
CHECKED: MAS	1/15/16				ROAD NO.		DRAWING NO. CD-2	SHEET NO. 13
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		TOTAL 52	



CURVE DATA				
No.	R	Δ	T	L
7	25.00'	83°17'36"	22.23'	36.34'
8	25.00'	88°37'24"	24.41'	38.67'

**DRIVEWAY 3 DETAIL**

SCALE: 1"=10'



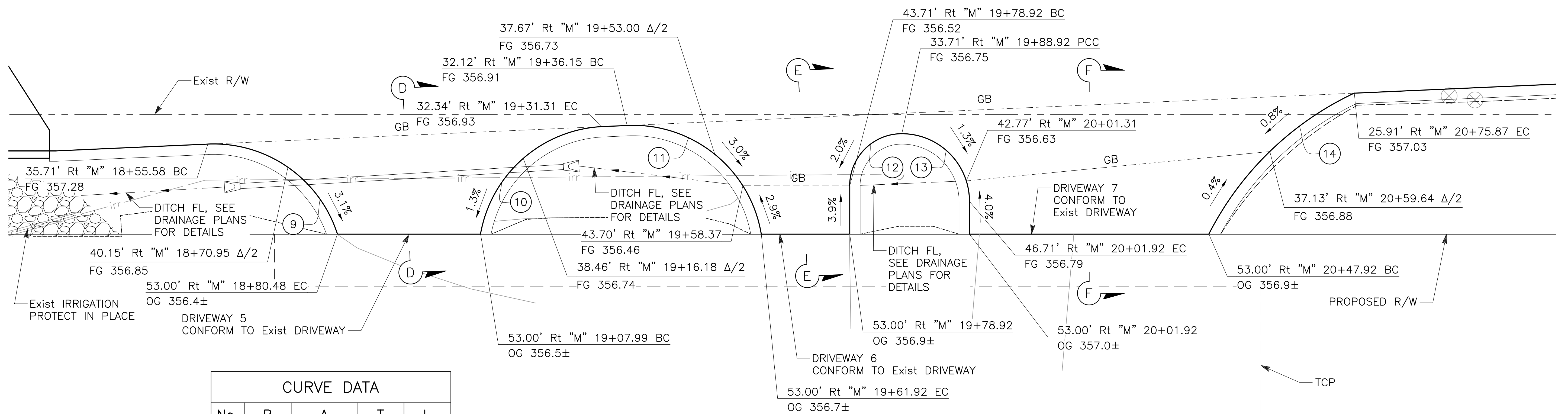
**SECTION C-C**

NO SCALE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: AS SHOWN			PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		CONSTRUCTION DETAILS			ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. CD-3 SHEET NO. 14 TOTAL 52		
CHECKED: MAS		DATE: 1/15/16	DATE										

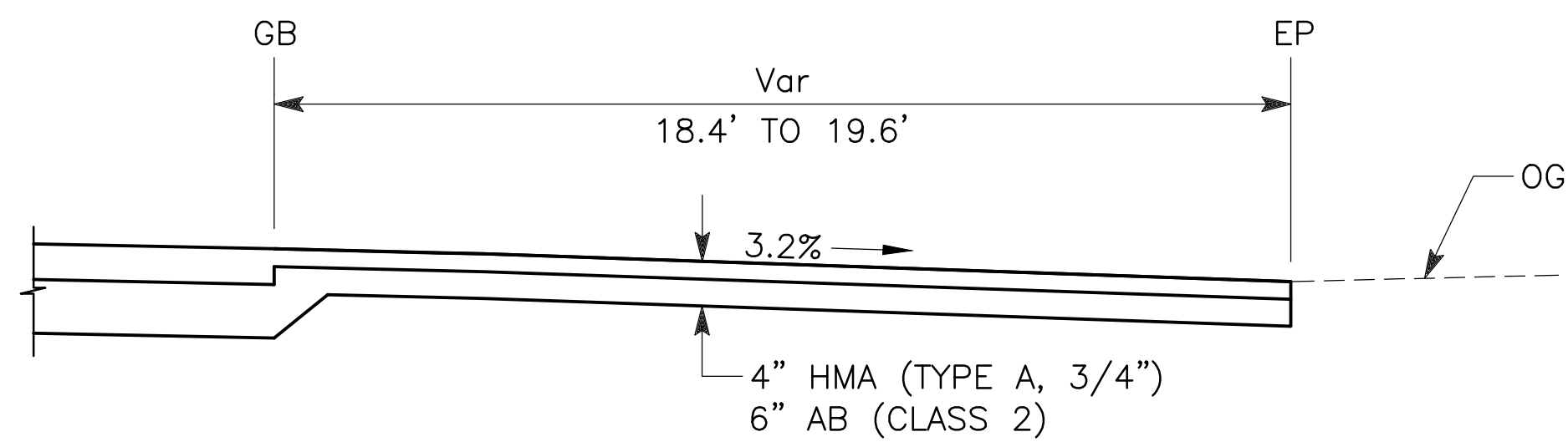
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



CURVE DATA				
No.	R	Δ	T	L
9	25.00'	74°39'12"	19.06'	32.57'
10	25.00'	77°05'49"	19.92'	33.64'
11	25.00'	83°05'47"	22.16'	36.26'
12	10.00'	90°00'00"	10.00'	15.71'
13	13.00'	90°00'00"	13.00'	20.42'
14	60.00'	37°51'00"	20.57'	39.64'

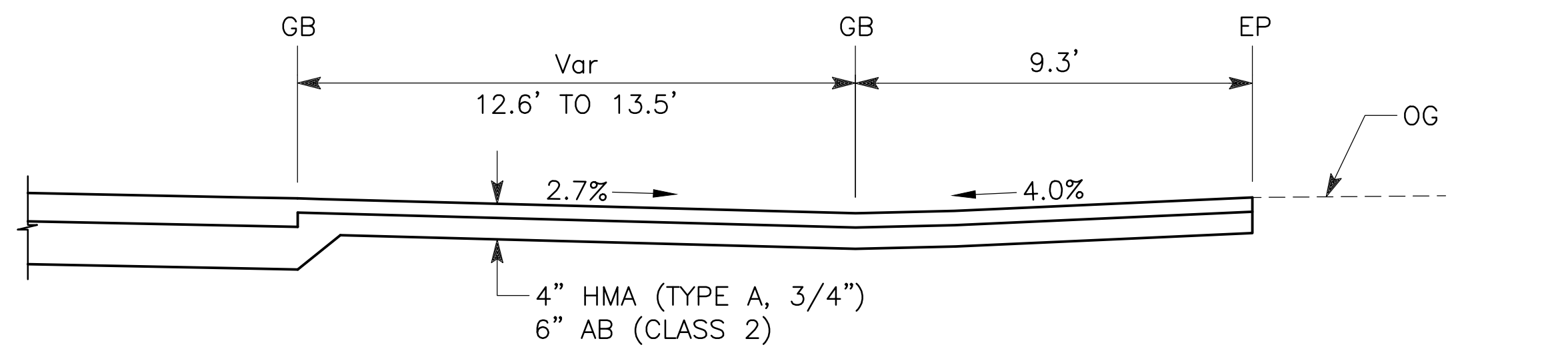
**DRIVEWAY 5, 6 & 7 DETAIL**

SCALE: 1"=10'



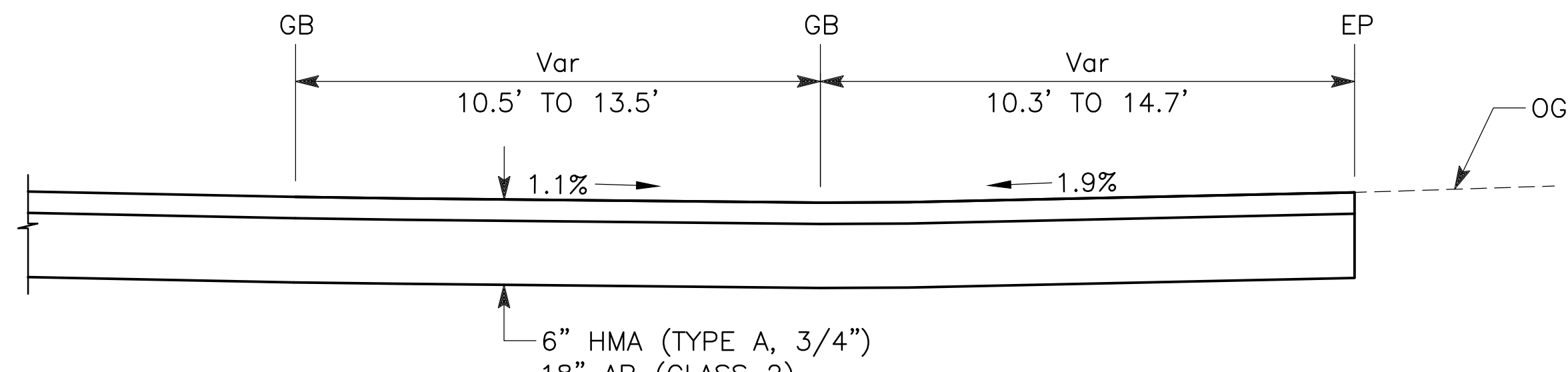
**SECTION D-D**

NO SCALE



**SECTION E-E**

NO SCALE

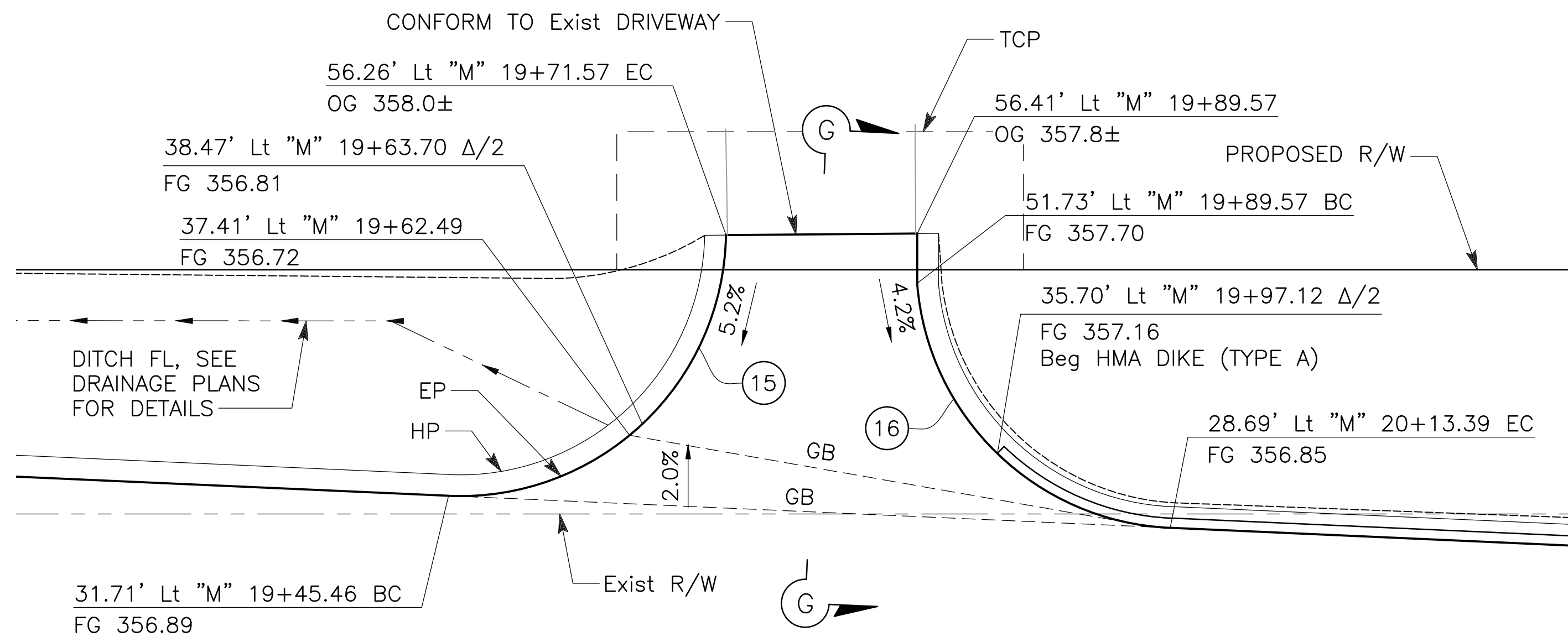


**SECTION F-F**

NO SCALE

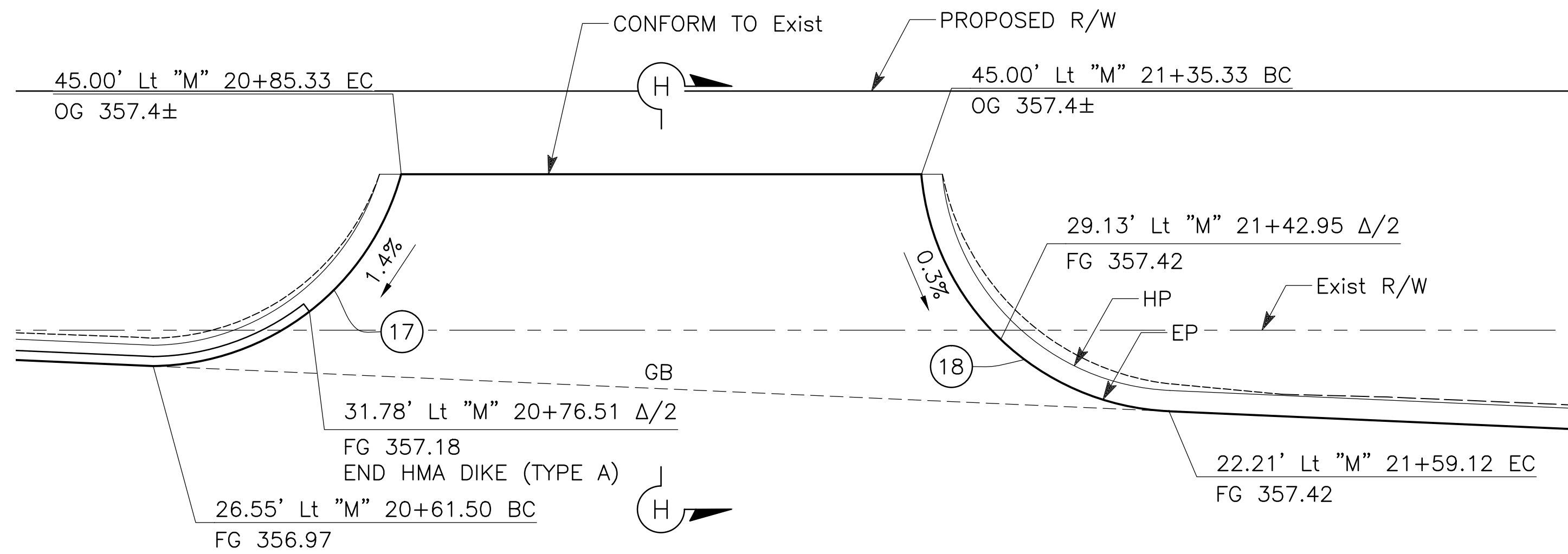
PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE	
CHECKED: MAS	DATE: 1/15/16				ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					DEPARTMENT OF PUBLIC WORKS AND PLANNING	
					CONSTRUCTION DETAILS	DRAWING NO. CD-4 SHEET NO. 15 TOTAL 52



**DRIVEWAY 8 DETAIL**

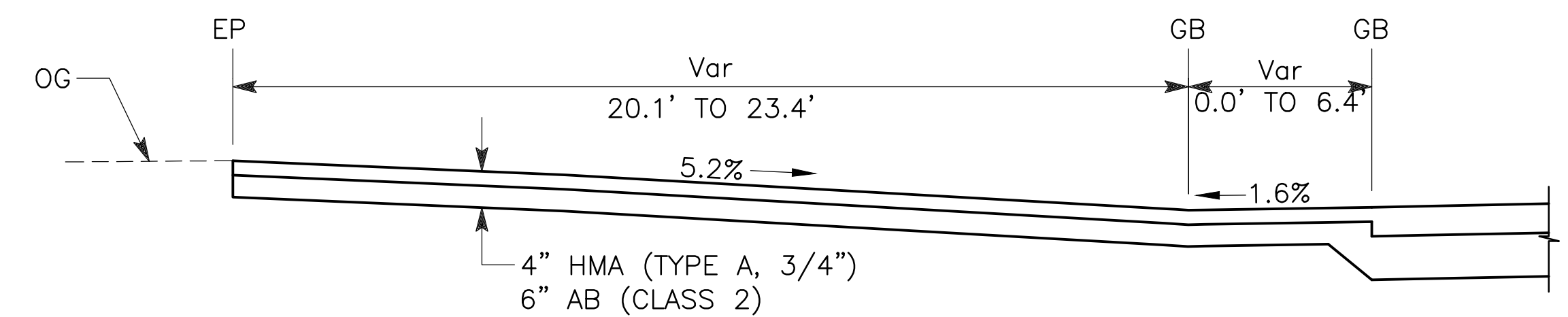
SCALE: 1"=10'



**DRIVEWAY 9 DETAIL**

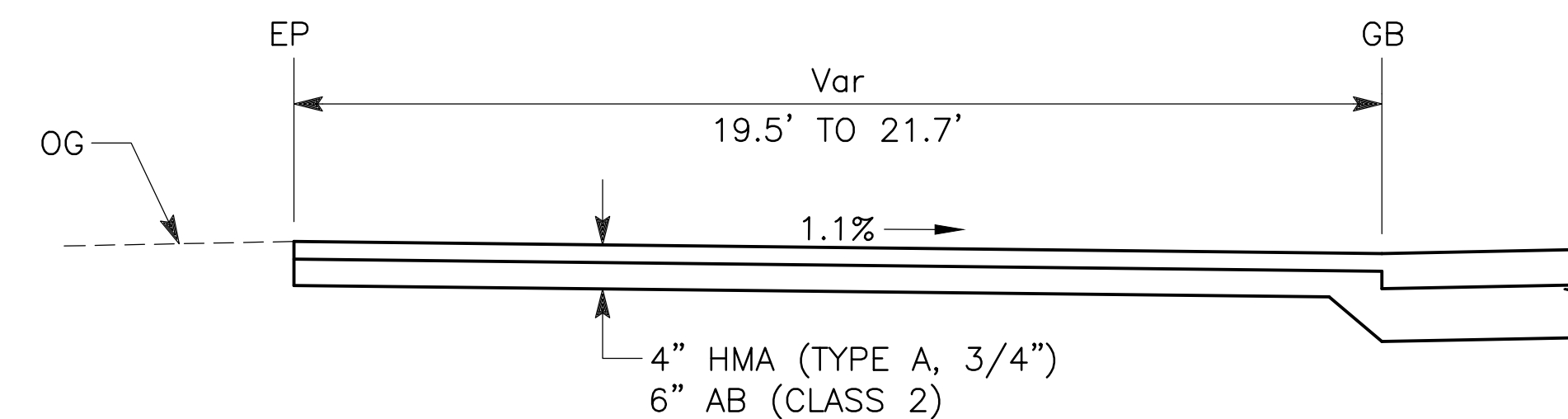
SCALE: 1"=10'

CURVE DATA				
No.	R	Δ	T	L
15	25.00'	91°33'46"	25.69'	39.95'
16	25.00'	83°01'04"	22.13'	36.22'
17	25.00'	74°07'26"	18.88'	32.34'
18	25.00'	82°24'43"	21.89'	35.96'



**SECTION G-G**

NO SCALE



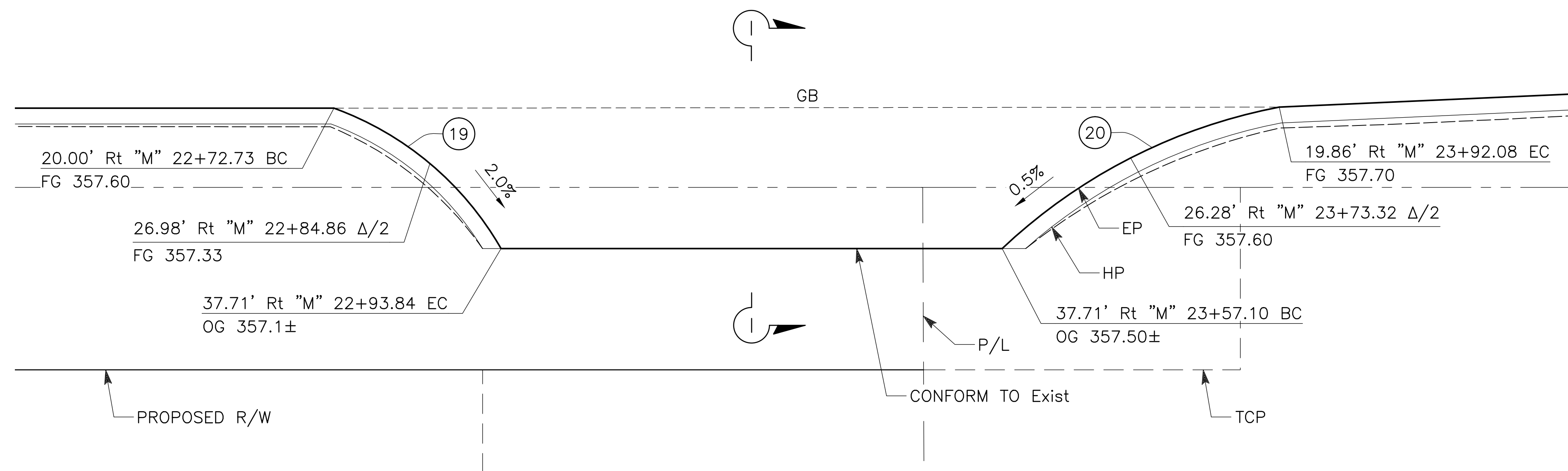
**SECTION H-H**

NO SCALE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE	
CHECKED: MAS	DATE: 1/15/16				ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					DRAWING NO. CD-5 SHEET NO. 16 TOTAL 52	

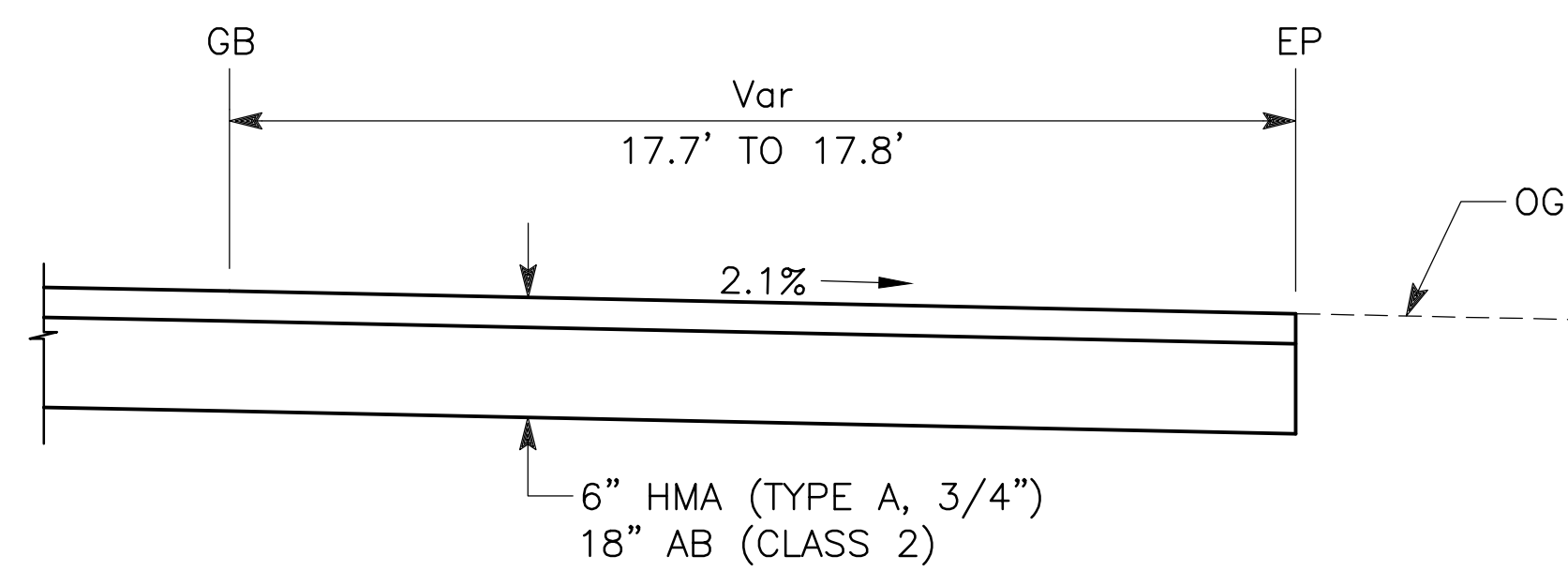




CURVE DATA				
No.	R	Δ	T	L
19	40.00'	40°17'10"	14.67'	28.12'
20	70.00'	32°34'45"	20.46'	39.80'

**DRIVEWAY 10 DETAIL**

SCALE: 1"=10'



**SECTION I-I**

NO SCALE

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

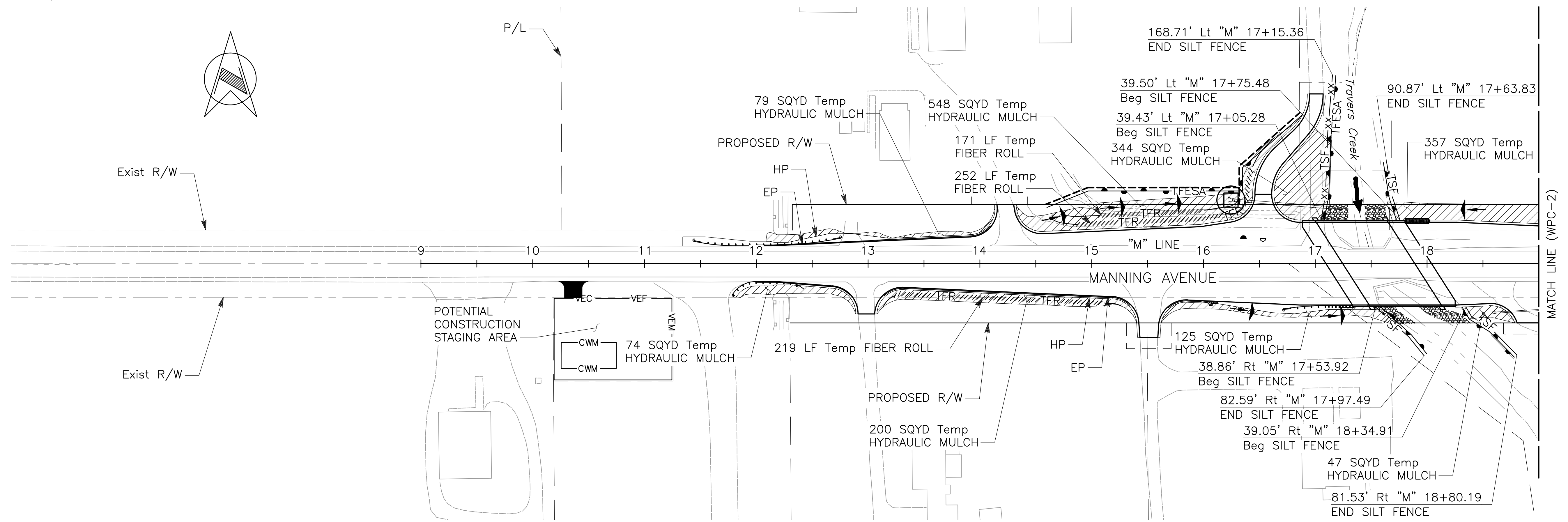
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE	<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT	<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CD-6
					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 17
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					TOTAL 52		

**LEGEND:**

	SC-1: TEMPORARY SILT FENCE
	TEMPORARY FENCE (TYPE ESA)
	SC-5: TEMPORARY FIBER ROLL
	WM-8: CONCRETE WASTE MANAGEMENT
	NS-8: VEHICLE AND EQUIPMENT CLEANING
	NS-9: VEHICLE AND EQUIPMENT FUELING
	NS-10: VEHICLE AND EQUIPMENT MAINTENANCE
	SC-4: TEMPORARY CHECK DAM
	SC-10: TEMPORARY DRAIN INLET PROTECTION
	SS-3: TEMPORARY HYDRAULIC MULCH
	TC-1: TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT

**WATER POLLUTION CONTROL NOTES:**

1. THE INFORMATION ON THESE PLANS IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATIONS THROUGHOUT THE SITE. THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. FIELD CONDITIONS MAY NECESSITATE MODIFICATIONS TO THESE DRAWINGS.
3. INSTALL PERMANENT EROSION CONTROL AS AREAS ARE DETERMINED TO BE SUBSTANTIALLY COMPLETE. SEE EROSION CONTROL PLANS FOR DETAILS.
4. SEE STAGE CONSTRUCTION PLANS FOR LOCATION AND LIMITS OF CONSTRUCTION.
5. DEPLOY LINEAR SEDIMENT CONTROLS ON DISTURBED SLOPES. APPLY LINEAR SEDIMENT CONTROLS ALONG THE TOE OF THE SLOPE AND AT THE GRADE BREAKS OF THE SLOPE. ADDITIONALLY, USE LINEAR SEDIMENT CONTROLS AS A PERIMETER CONTROL TO CONTAIN SEDIMENT WITHIN THE PROJECT AREA.
6. CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE/EXIT. CONSTRUCT ADDITIONAL ENTRANCES/EXITS AS NEEDED. LIMIT CONSTRUCTION ACTIVITY TO AND FROM THE PROJECT TO THESE STABILIZED CONSTRUCTION ENTRANCES/EXITS.
7. DESIGNATE A STAGING AREA AT THE PROJECT SITE THAT IS APPROVED BY THE PROJECT MANAGER. IMPLEMENT BMPS SELECTED FOR THE CONSTRUCTION SITE IN THE STAGING AREA. TAKE SPECIAL ATTENTION TO THE FOLLOWING BMPS AT THE STAGING AREA: TC-1, WE-1, NS-8, NS-9, NS-10, WM-1, WM-2, WM-3, WM-4, WM-5, WM-8, AND WM-9.
8. LOCATE ANY STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORM WATER AND DRAINAGE COURSES. INSTALL BERMS AT ALL STOCKPILES. ADDITIONALLY, COVER STOCKPILES AT ALL TIMES (TO PROTECT THEM FROM THE WIND AND RAIN) WHEN THEY ARE NOT ACTIVELY BEING USED. SPRAY STOCKPILES THAT ARE DESTABILIZED DURING CONSTRUCTION ACTIVITIES WITH WATER AS NEEDED FOR DUST CONTROL.
9. CONSTRUCT AN ABOVE GRADE OR MOBILE CONCRETE WASHOUT OR PLACE AT THE STAGING AREA IF CONCRETE TRUCKS OR CONCRETE EQUIPMENT WILL BE WASHED ON-SITE. LOCATE THE WASHOUT A MINIMUM 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORM WATER AND DRAINAGE COURSES. UTILIZE ADDITIONAL WASHOUTS AS NEEDED.
10. USE A LICENSED SERVICE TO DELIVER AND MAINTAIN PORTABLE RESTROOMS TO THE PROJECT AREA IF NEEDED. LOCATE THE RESTROOMS AWAY FROM DRAINAGE FACILITIES ON LEVEL HARD-PACKED OR PAVED SURFACES.

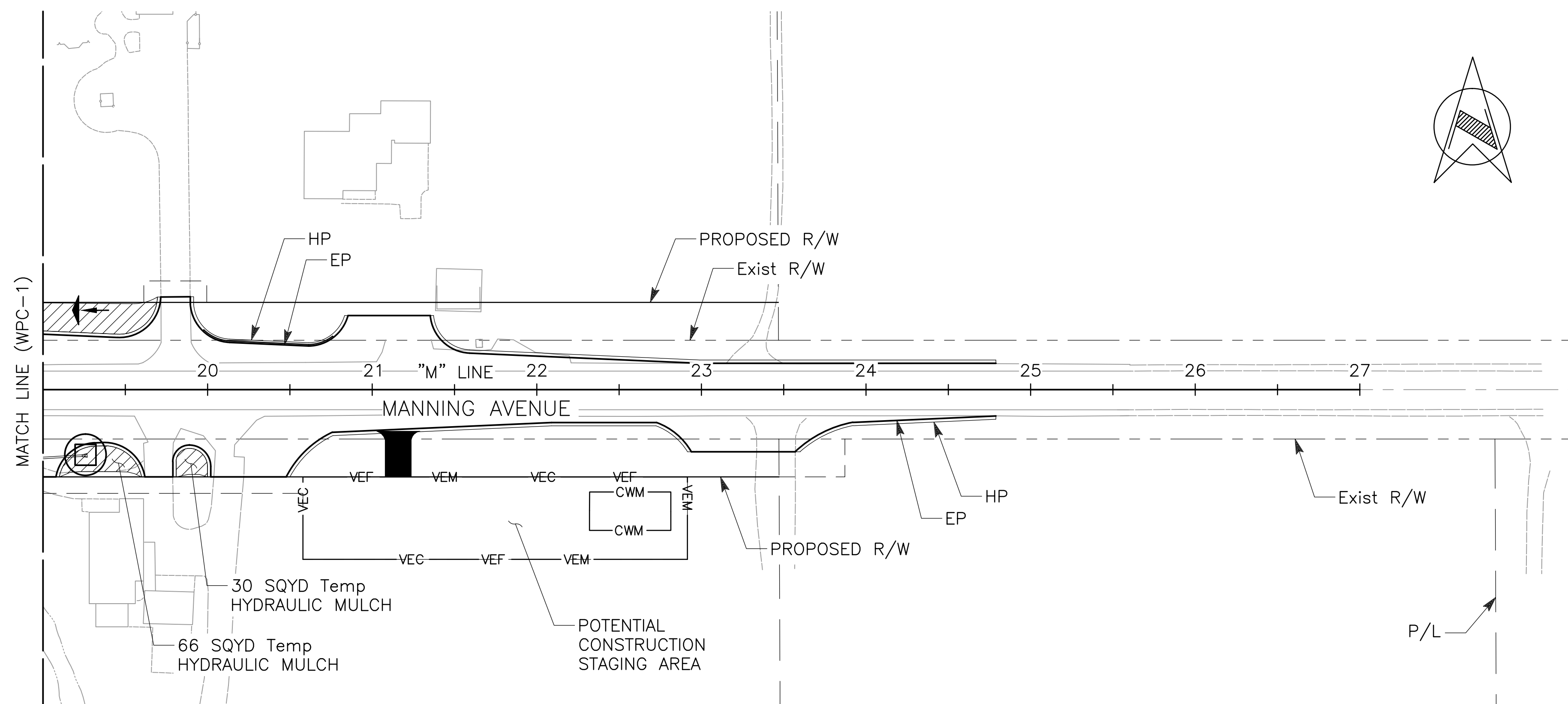


APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 50' 100' HZ	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER			ROAD NO.:		TEMPORARY WATER POLLUTION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16				BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. WPC-1 SHEET NO. 18 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.


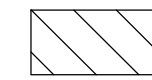


APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

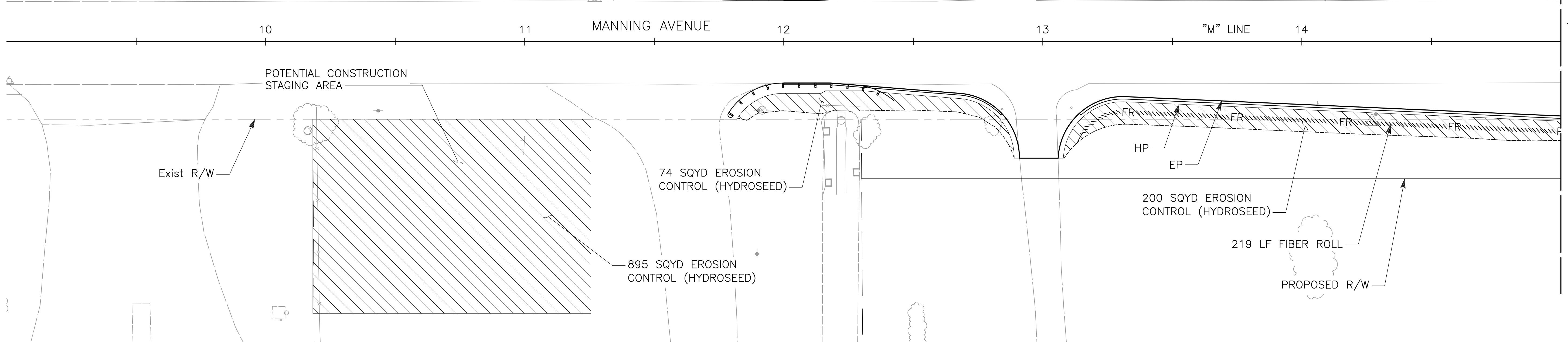
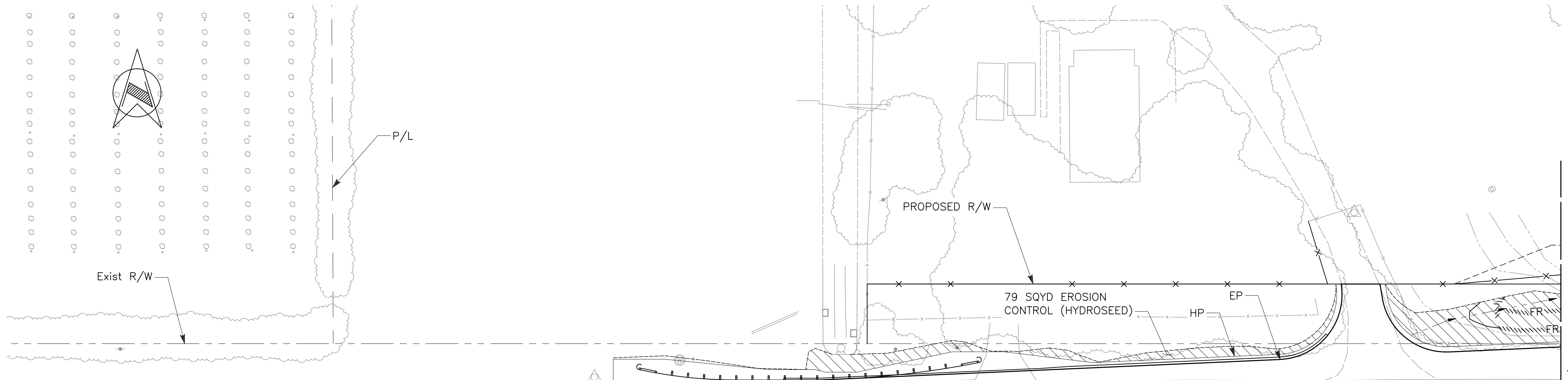
PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 50' 100' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TEMPORARY WATER POLLUTION CONTROL PLAN	
CHECKED: MAS		1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. WPC-2 SHEET NO. 19 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										

**LEGEND:**

-  SC-5: FIBER ROLL
-  SS-4: EROSION CONTROL (HYDROSEED)

EROSION CONTROL QUANTITIES		
SHEET No.	HYDROSEED SQYD	FIBER ROLL LF
EC-1	1248	219
EC-2	1517	423
EC-3	1298	—
TOTAL	4063	642



APPROVED FOR EROSION CONTROL WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED:	DATE	RECORD DRAWING	
AJB	1/15/16	RESIDENT ENGINEER	DATE
AMS	1/15/16		
MAS	1/15/16		

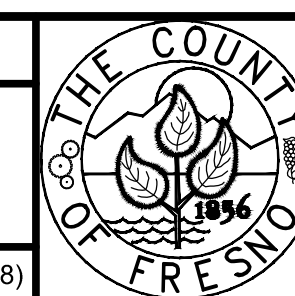
**SCALE**

0 PLAN 20' 40' HZ



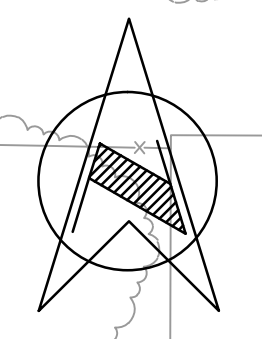
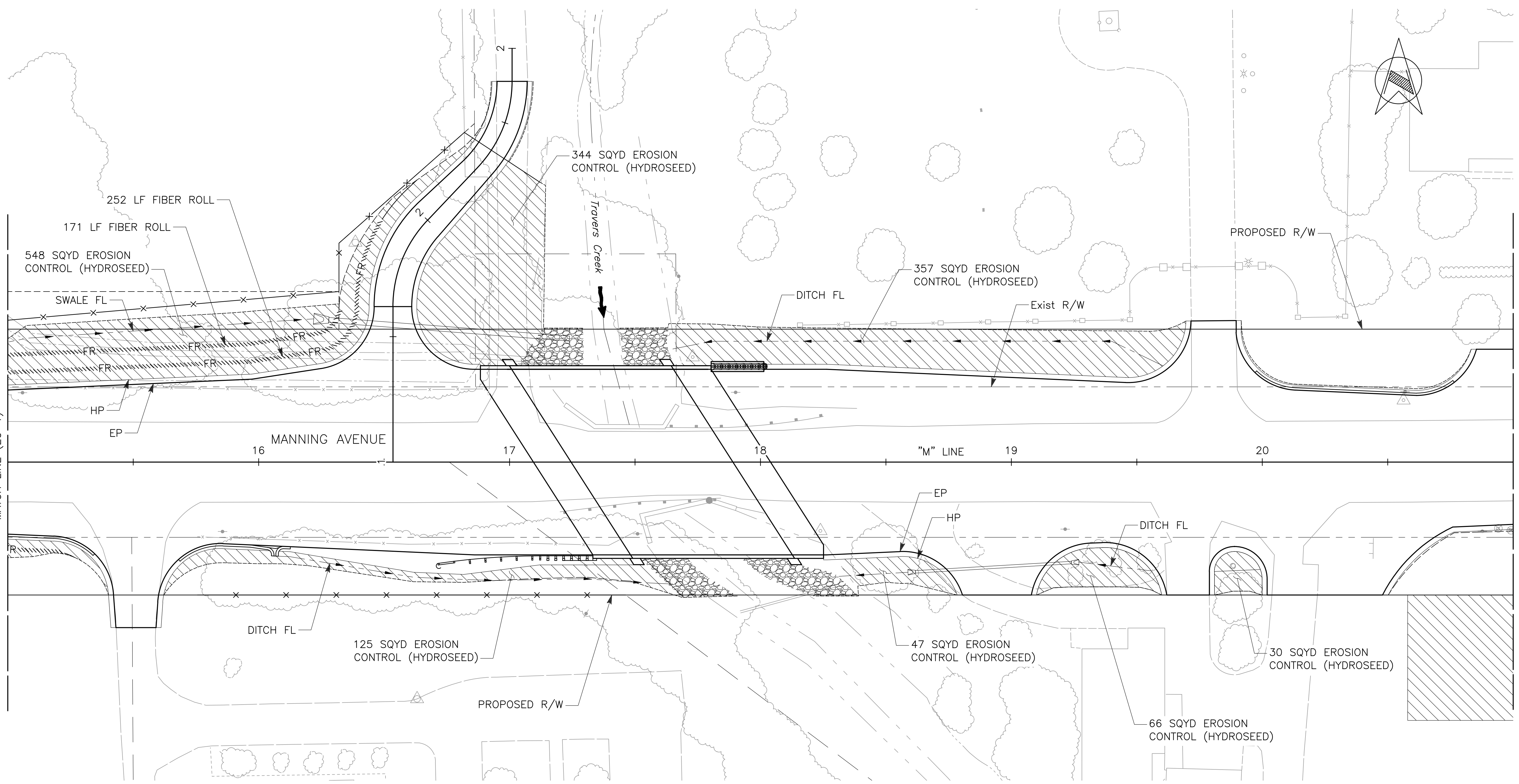
**drake haglan AND ASSOCIATES**  
619 13th Street, Suite G  
Modesto, CA 95354

PROJECT	
TRAVERS CREEK BRIDGE ON MANNING AVENUE	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING		
EROSION CONTROL PLAN		
DRAWING NO. EC-1	SHEET NO. 20	TOTAL 52

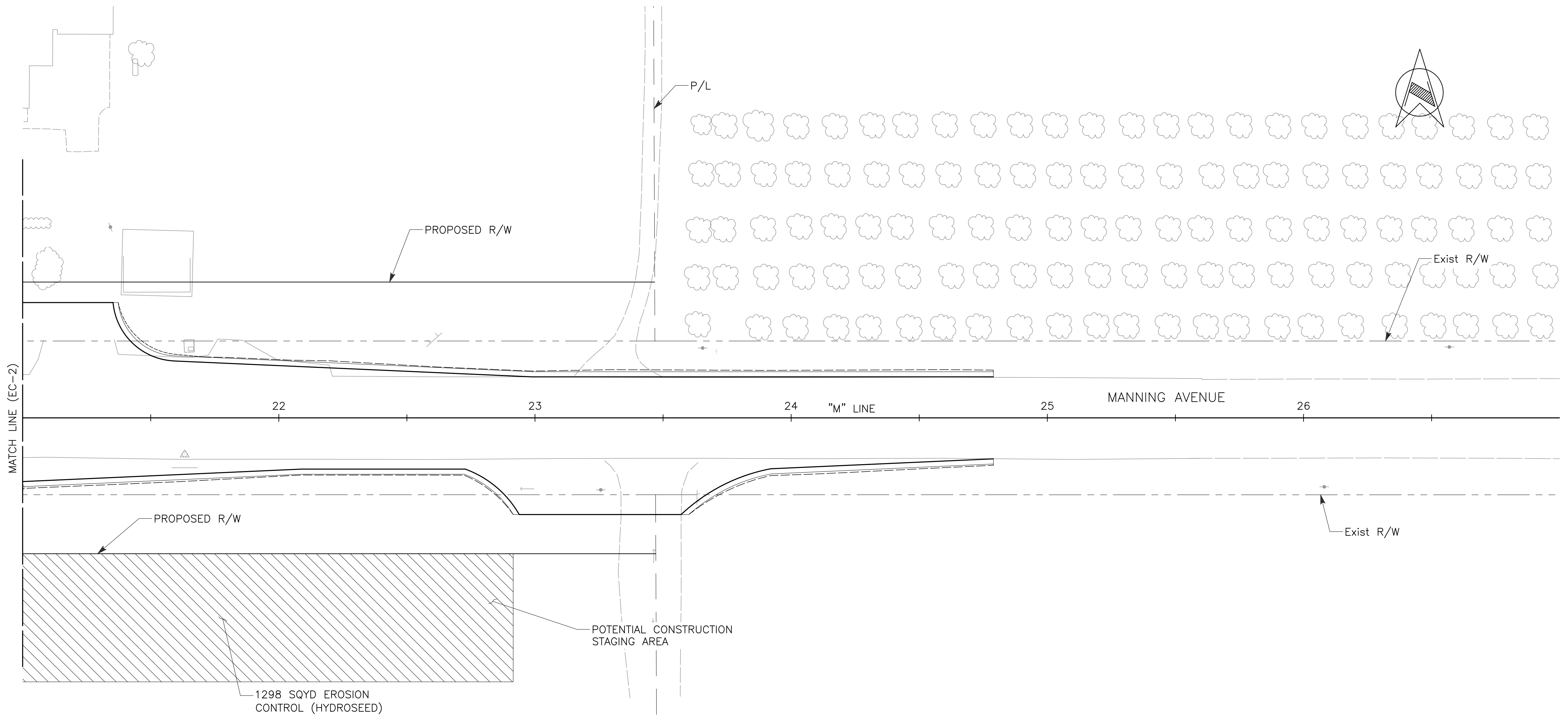
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR EROSION CONTROL WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			EROSION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. EC-2 SHEET NO. 21 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>												



APPROVED FOR EROSION CONTROL WORK ONLY

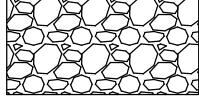
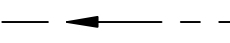
PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

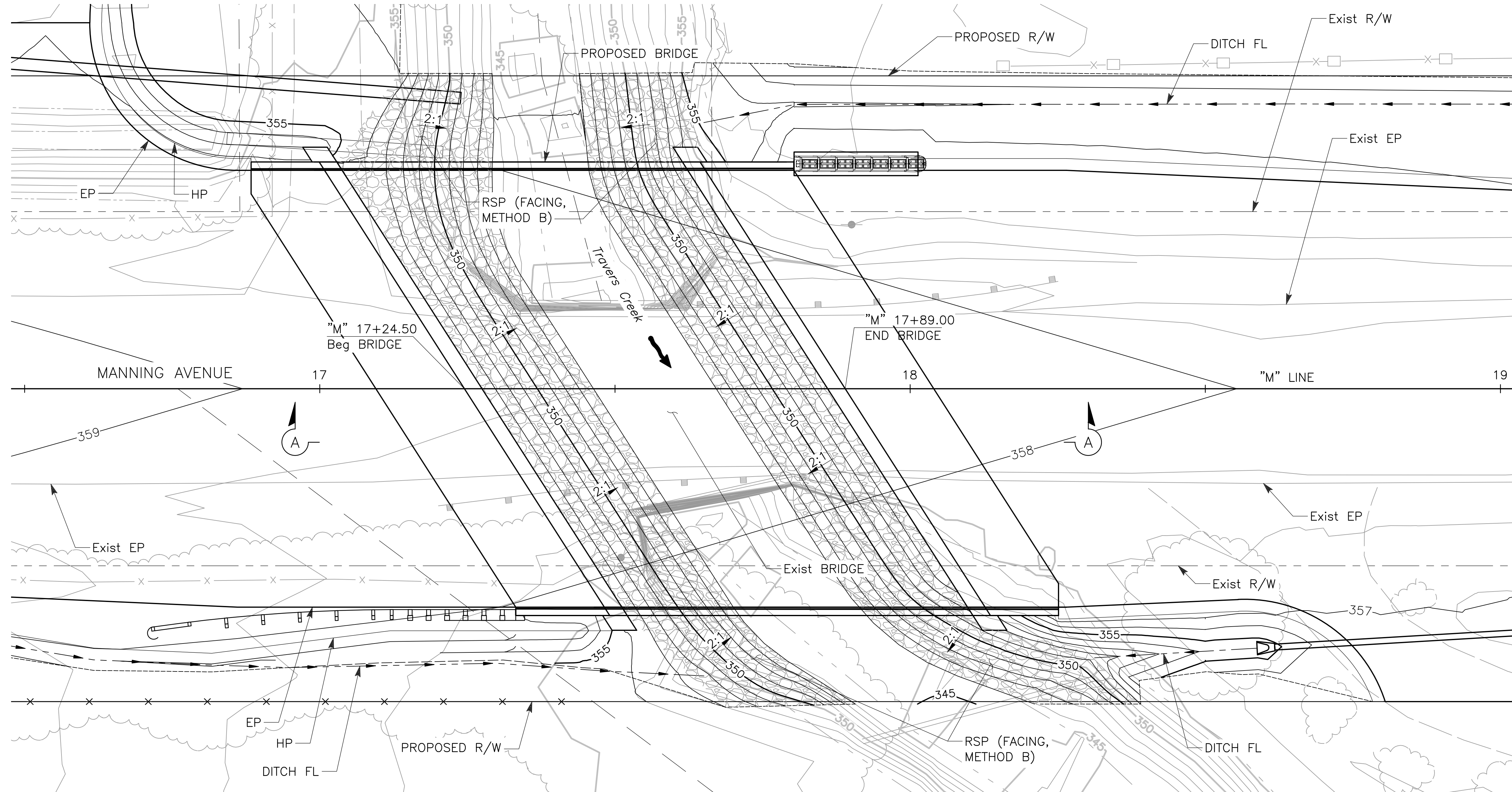
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DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		EROSION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. EC-3 SHEET NO. 22 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. CONTOUR GRADING REFLECTS TOP OF FINISHED GRADE.
3. SEE CG-2 FOR CONTOUR GRADING SECTION A-A.
4. SEE DRAINAGE PLAN FOR FLOWLINE AND CULVERT INFORMATION.

**LEGEND:**

-  ROCK SLOPE PROTECTION
-  DITCH FLOW LINE

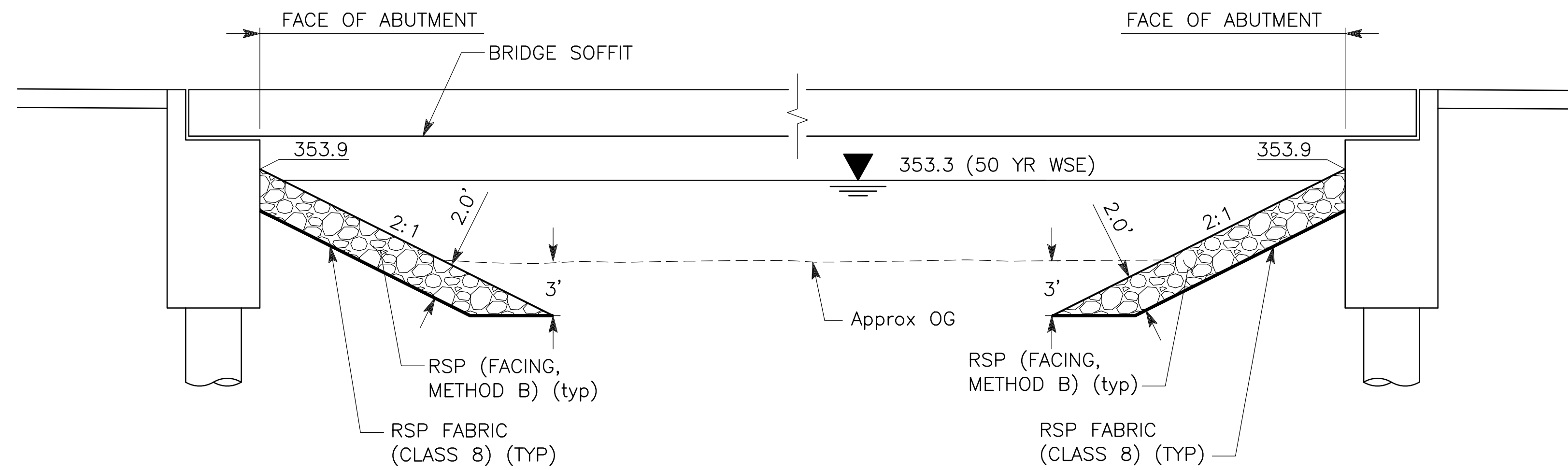


APPROVED FOR CONTOUR GRADING WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

	DATE	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING				
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	0 PLAN 10' 20' HZ	 <b>drake haglan</b> AND ASSOCIATES 619 13th Street, Suite G Modesto, CA 95354	TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONTOUR GRADING				
DRAWN: AMS	1/15/16		ROAD NO.					BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. CG-1	SHEET NO. 23	TOTAL 52
CHECKED: MAS	1/15/16										

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



**SECTION A-A**

NO SCALE

APPROVED FOR CONTOUR GRADING WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		1/15/16	RESIDENT ENGINEER		AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE			CONTOUR GRADING	
CHECKED: MAS		1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. CG-2 SHEET NO. 24 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

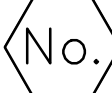

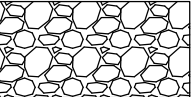
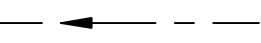


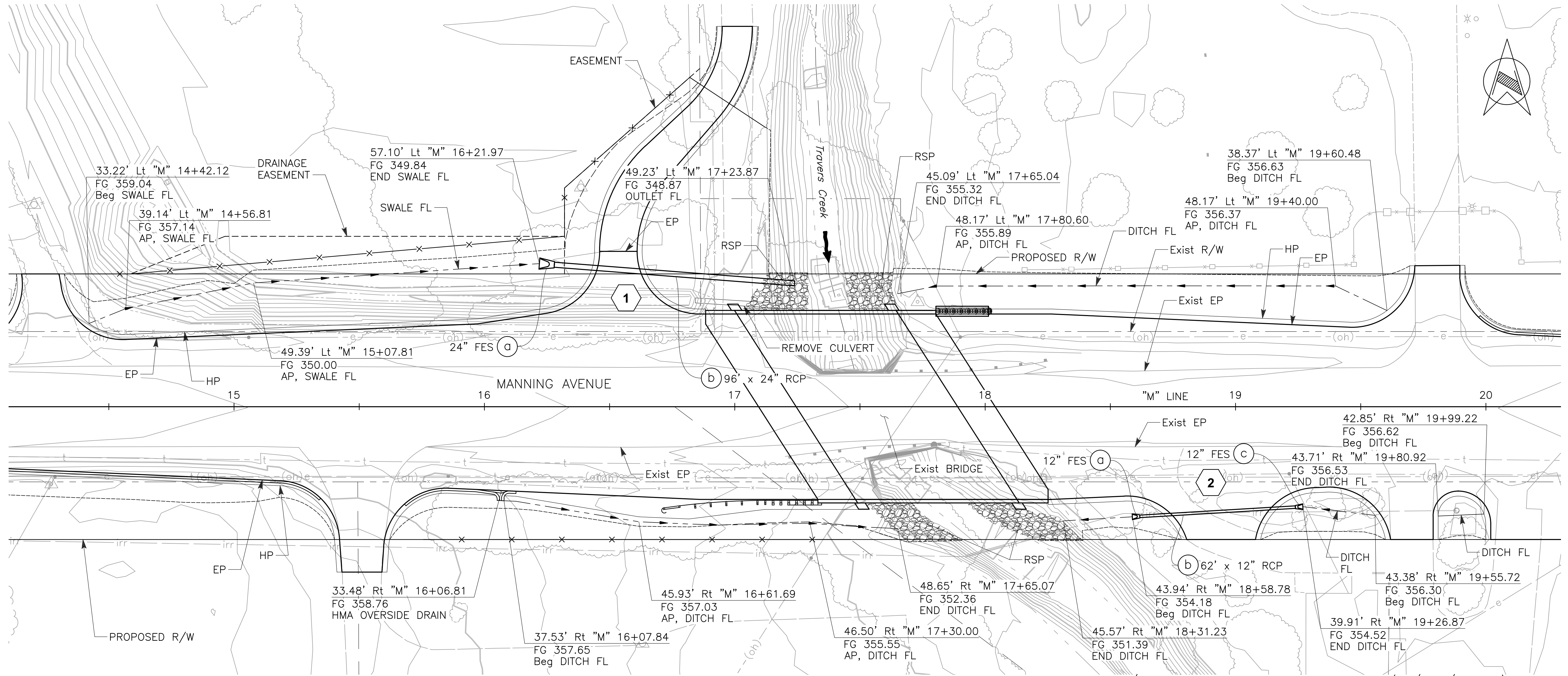
**NOTES:**

- FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
- SEE LAYOUT SHEETS FOR ALIGNMENT GEOMETRY INFORMATION.
- UTILITIES SHOWN FOR REFERENCE ONLY, SEE UTILITY PLANS FOR UTILITY RELOCATIONS.
- SEE DRAINAGE PROFILES FOR ADDITIONAL DRAINAGE INFORMATION.
- SEE CALTRANS STANDARD PLAN D87D FOR HMA OVERSIDE DRAIN DETAILS.

- SEE CONTOUR GRADING PLAN FOR RSP DETAILS AND INFORMATION.

**LEGEND:**

-  DRAINAGE SYSTEM NUMBER
-  DRAINAGE ITEM
-  ROCK SLOPE PROTECTION
-  DITCH FLOW LINE

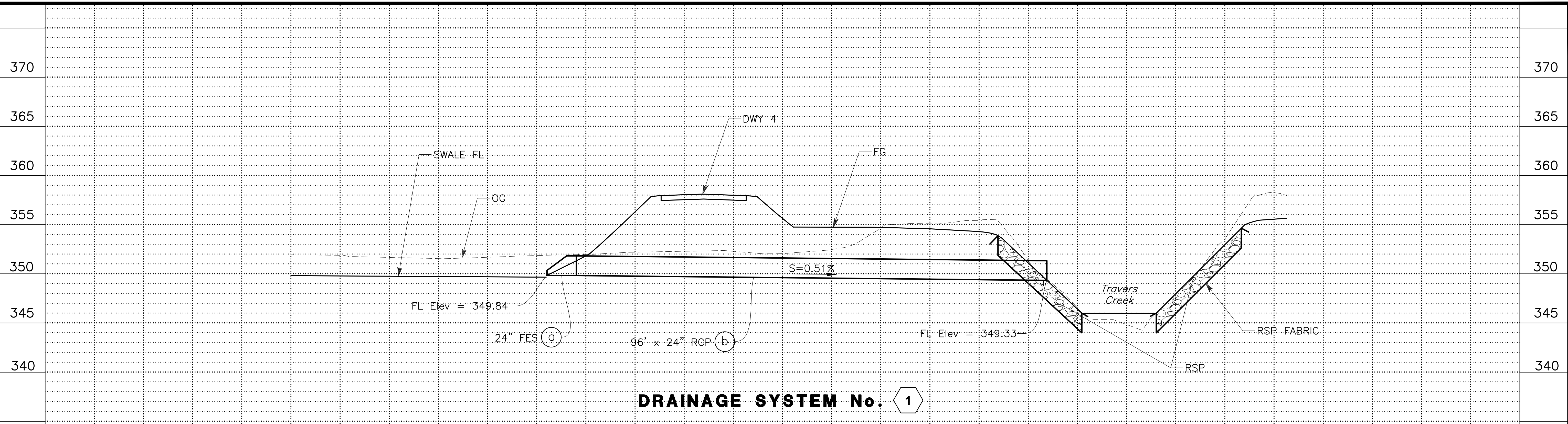


APPROVED FOR DRAINAGE WORK ONLY

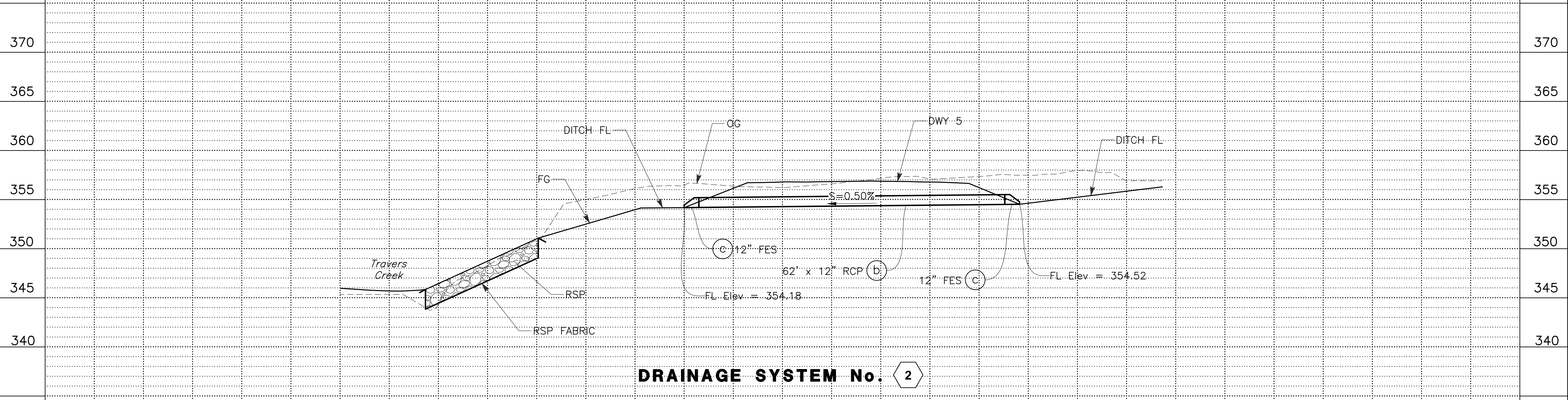
PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 20' 40' HZ	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE:	 619 13th Street, Suite G Modesto, CA 95354	ROAD NO.:		DRAINAGE PLAN	
CHECKED: MAS		DATE: 1/15/16				BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. D-1		SHEET NO. 25 TOTAL 52

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



**DRAINAGE SYSTEM No. 1**



**DRAINAGE SYSTEM No. 2**

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

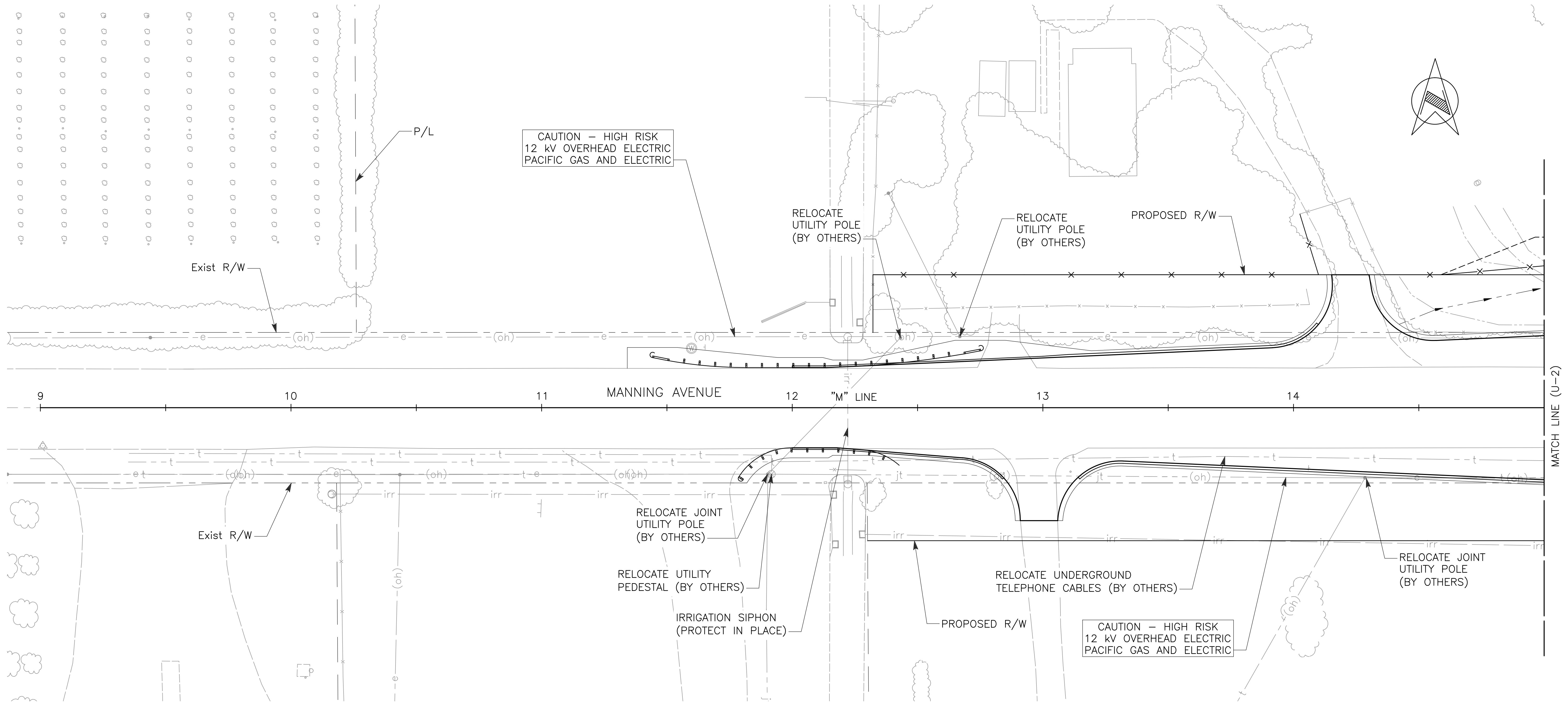
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 10' 20' HZ 0 5' 10' VT PROFILE			TRAVERS CREEK BRIDGE ON MANNING AVENUE			DRAINAGE PROFILES		
CHECKED: MAS		DATE: 1/15/16						ROAD NO.			DRAWING NO. DP-1		
								BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 26		
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												TOTAL 52	

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND MUST NOTIFY THE ENGINEER OF ANY CONFLICTS.
3. FOR STORM DRAIN LOCATIONS AND INFORMATION, SEE DRAINAGE PLAN.

**EXISTING UTILITY LEGEND:**

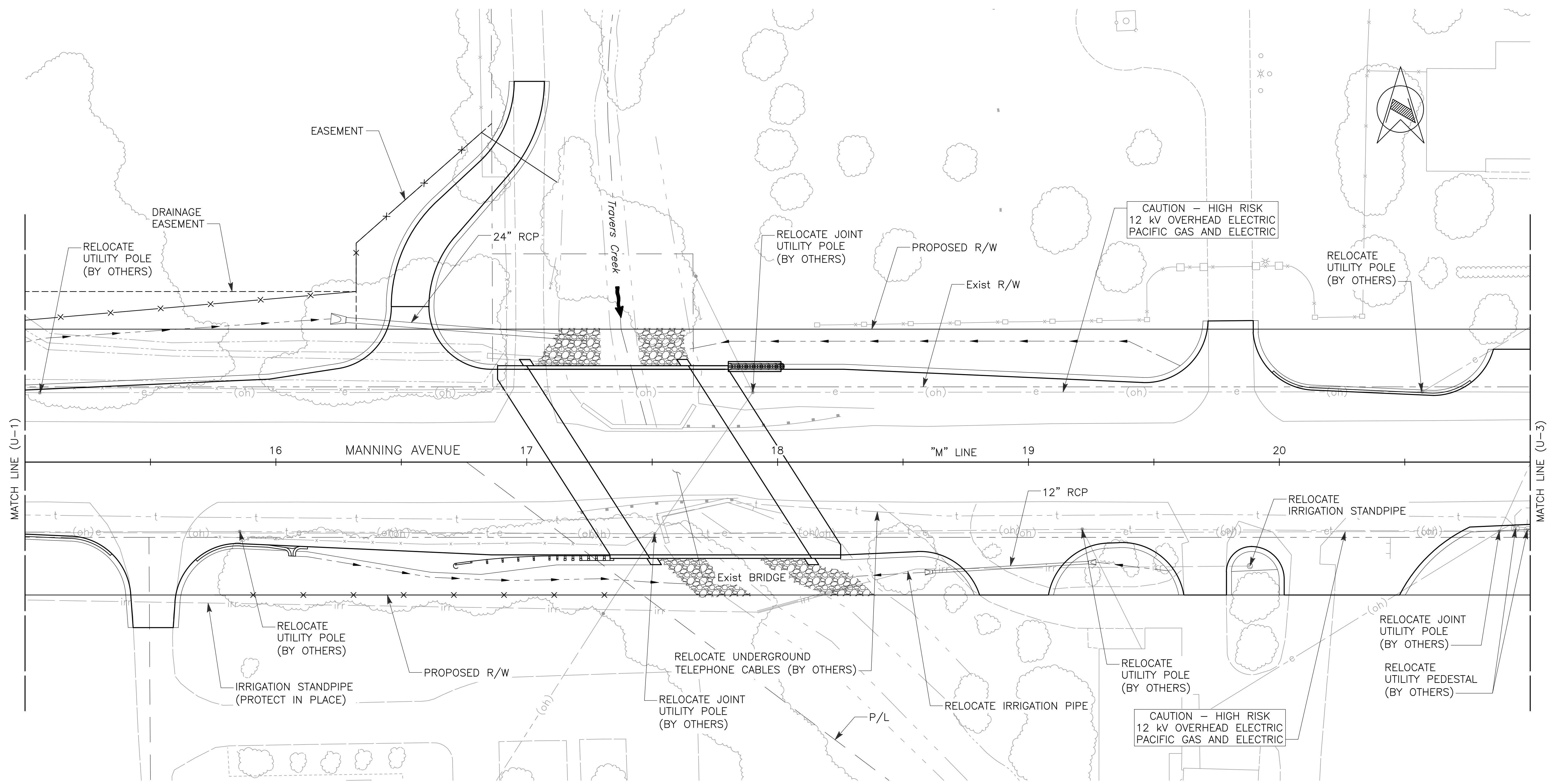
- jt --- (oh) --- Exist JOINT OVERHEAD (PG&E/VERIZON)
- e --- (oh) --- Exist ELECTRICAL OVERHEAD (PG&E)
- t --- (oh) --- Exist TELEPHONE OVERHEAD (VERIZON)
- t --- t --- Exist UNDERGROUND TELEPHONE (VERIZON)
- irr --- Exist IRRIGATION (ALTA IRRIGATION DISTRICT)



APPROVED FOR UTILITY WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			UTILITY PLAN
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.											
							DRAWING NO. U-1		SHEET NO. 27 TOTAL 52		



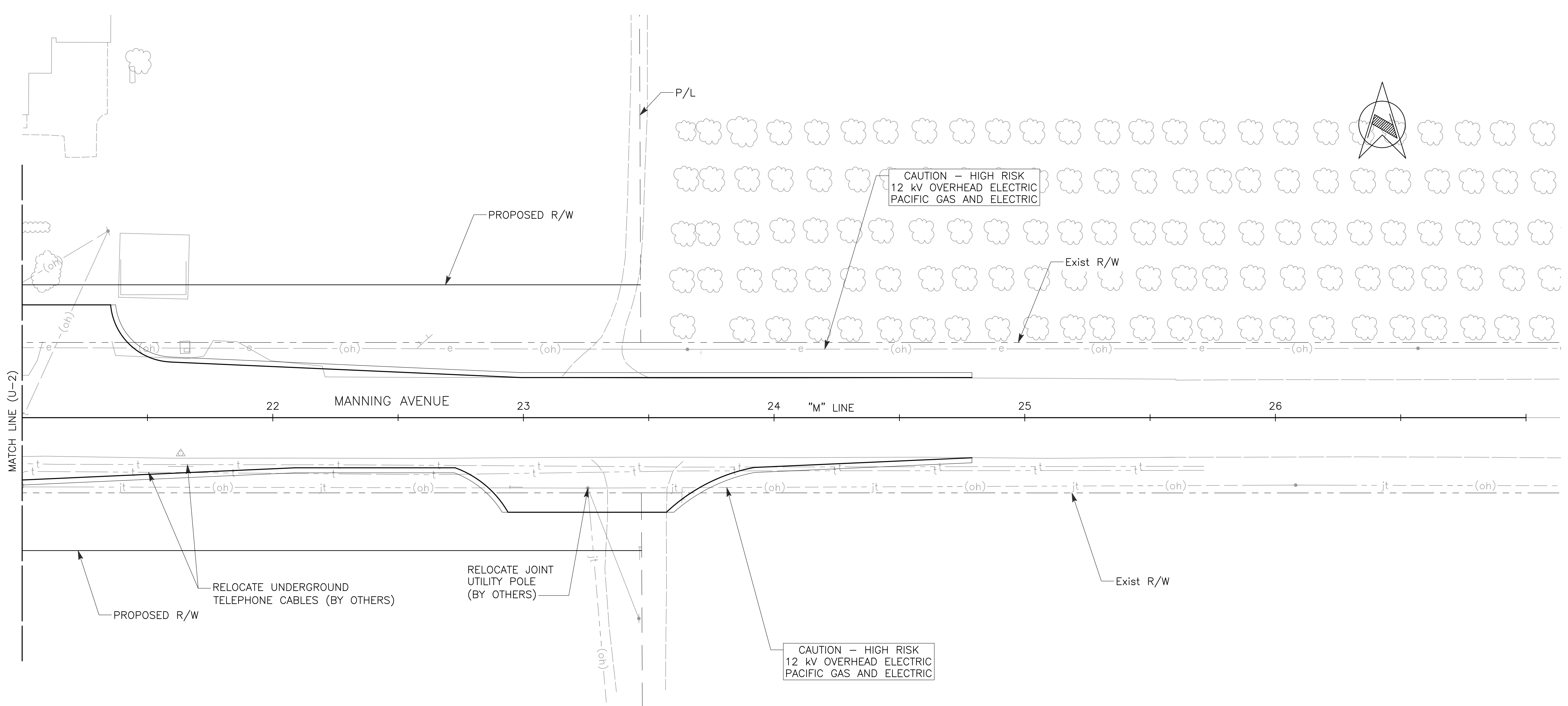
MATCH LINE (U-1)

MATCH LINE (U-3)

APPROVED FOR UTILITY WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			UTILITY PLAN	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. U-2 SHEET NO. 28 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												



MATCH LINE (U-2)

22 MANNING AVENUE 23 24 "M" LINE 25 26

RELOCATE UNDERGROUND TELEPHONE CABLES (BY OTHERS)

RELOCATE JOINT UTILITY POLE (BY OTHERS)

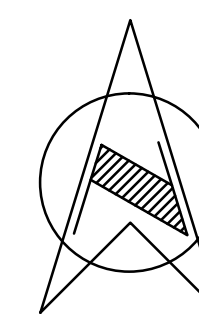
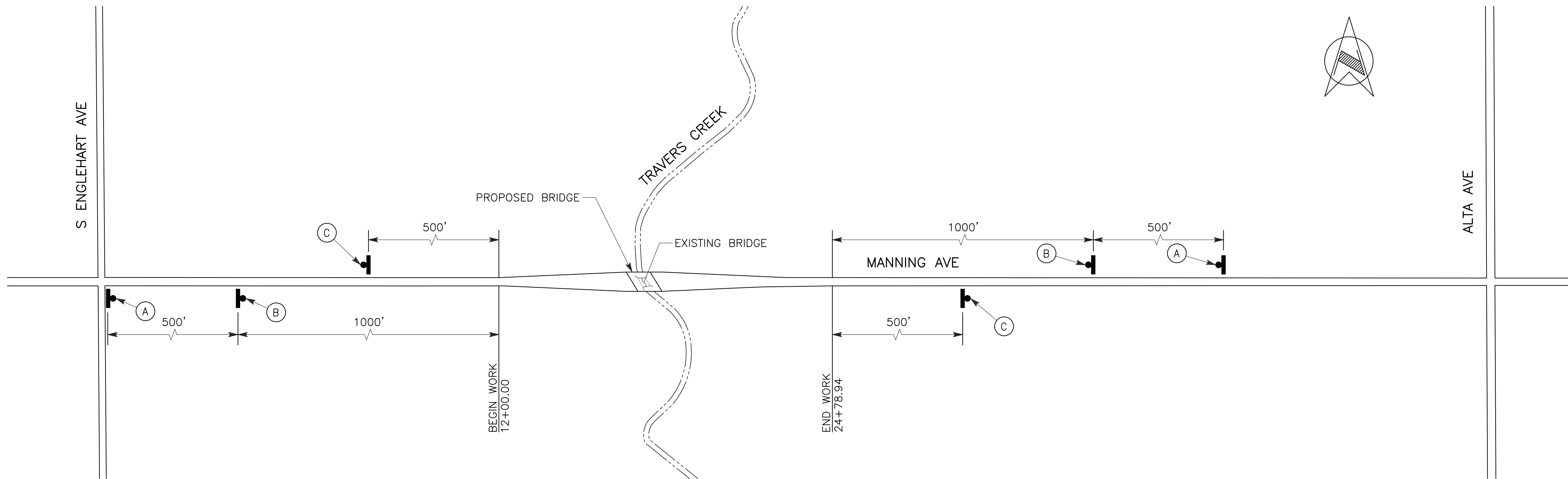
CAUTION - HIGH RISK 12 KV OVERHEAD ELECTRIC PACIFIC GAS AND ELECTRIC

CAUTION - HIGH RISK 12 KV OVERHEAD ELECTRIC PACIFIC GAS AND ELECTRIC

APPROVED FOR UTILITY WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			UTILITY PLAN	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. U-3 SHEET NO. 29 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>												



**NOTES:**

1. FOR ALL SIGN DETAILS REFER TO THE LATEST EDITION OF THE CALIFORNIA MUTCD.
2. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE NOTED WITH THE CALIFORNIA SIGN CODE DESIGNATION (CA).

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

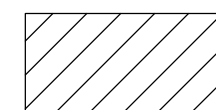
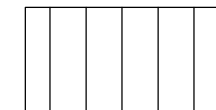

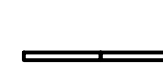

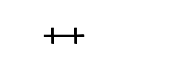



SIGN No.	SIGN CODE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS	SIGN MESSAGE
(A)	W20-1	36" x 36"	1 - 4" x 4"	2	ROAD WORK AHEAD
(B)	W3-5a	36" x 36"	1 - 4" x 4"	2	45 MPH SPEED ZONE AHEAD
(C)	G20-2	36" x 18"	1 - 4" x 4"	2	END ROAD WORK

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	NO SCALE		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION AREA SIGNS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CS-1
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 30

**LEGEND:**

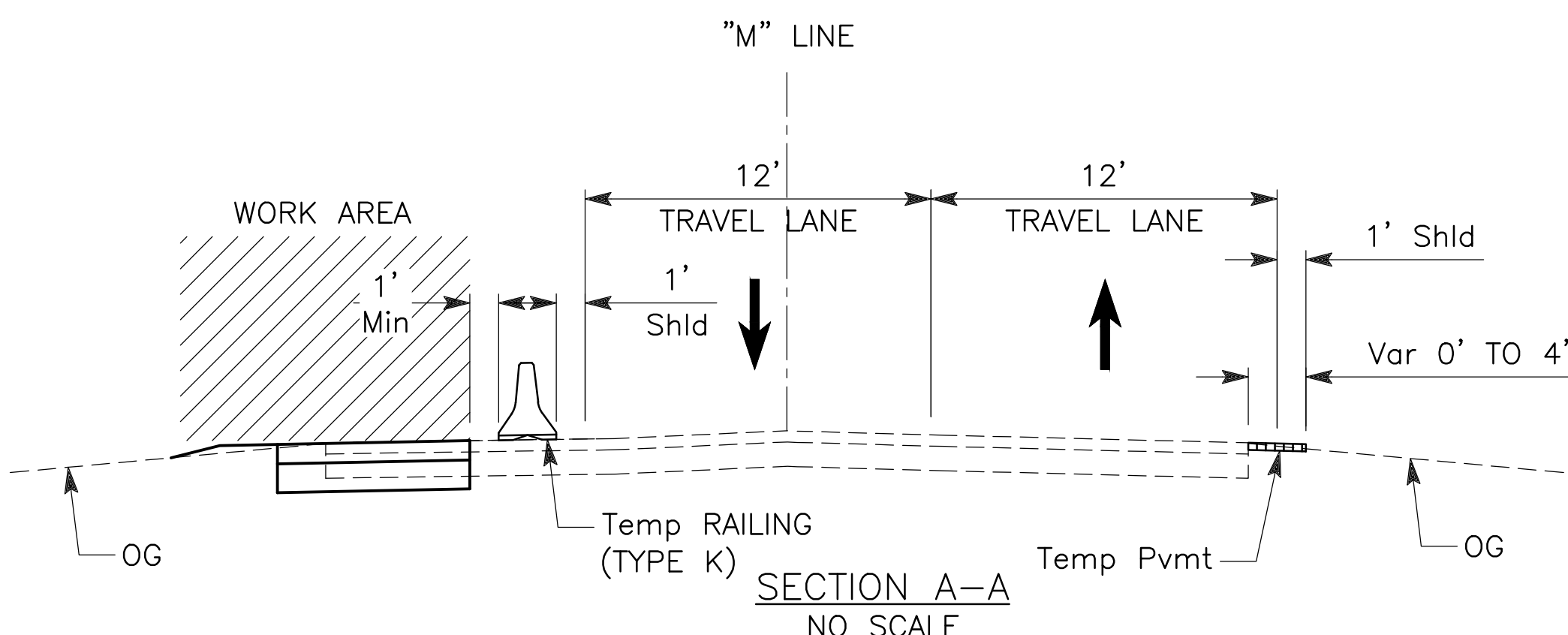
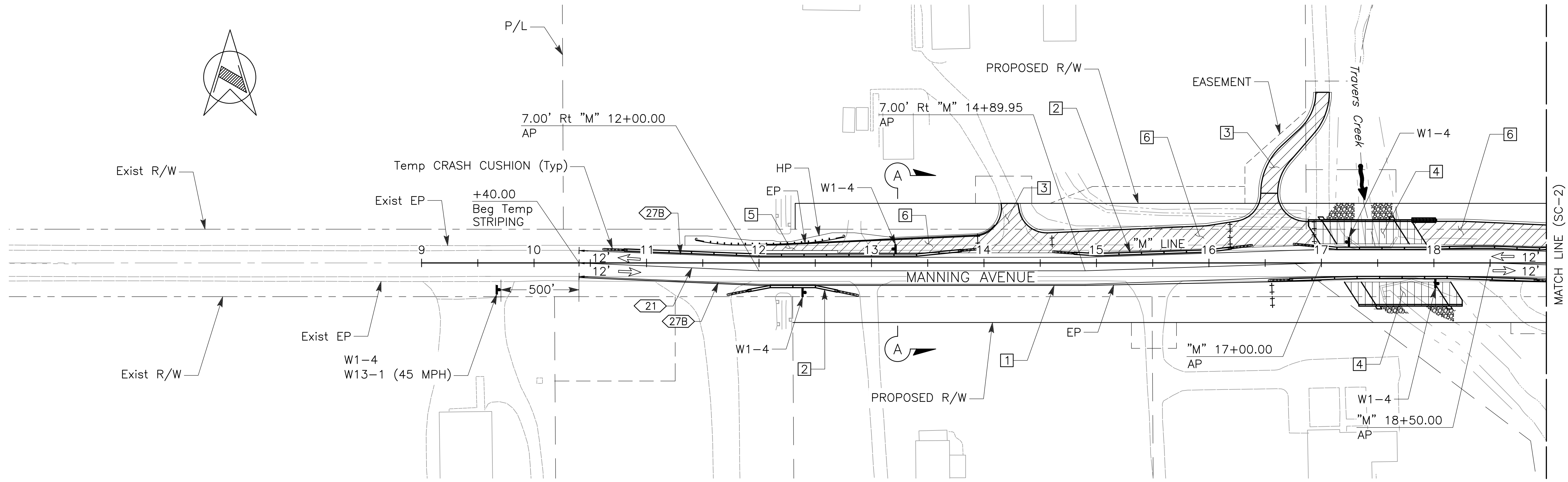
-  - ROADWAY WORK
-  - STRUCTURE WORK
-  - BRIDGE REMOVAL
-  - TEMPORARY RAILING (TYPE K)
-  - TEMPORARY CRASH CUSHION (ABSORB 350 OR EQUIVALENT)
-  - TYPE III BARRICADE
-  - DIRECTION OF TRAFFIC
-  - CHANNELIZER (SURFACE MOUNTED), SPACING 25' Max
-  - CONSTRUCTION AREA SIGN

**STAGE 1 TRAFFIC HANDLING NOTES:**

1. RELOCATE UTILITIES AS NEEDED (SEE UTILITY PLANS)
2. SHIFT TRAFFIC SOUTH ALONG MANNING AVENUE AFTER PLACING TEMPORARY PAVEMENT AND STRIPING.
3. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION. CONSOLIDATE DRIVEWAYS AS NEEDED.

**STAGE 1 CONSTRUCTION NOTES:**

- 1 PLACE TEMPORARY PAVEMENT ALONG SHOULDER OF EB MANNING AVENUE.
- 2 PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
- 3 CONSTRUCT DRIVEWAY.
- 4 CONSTRUCT EB AND WB BRIDGE PORTIONS.
- 5 CONSTRUCT SHOULDER WIDENING.
- 6 CONSTRUCT ROADWAY.

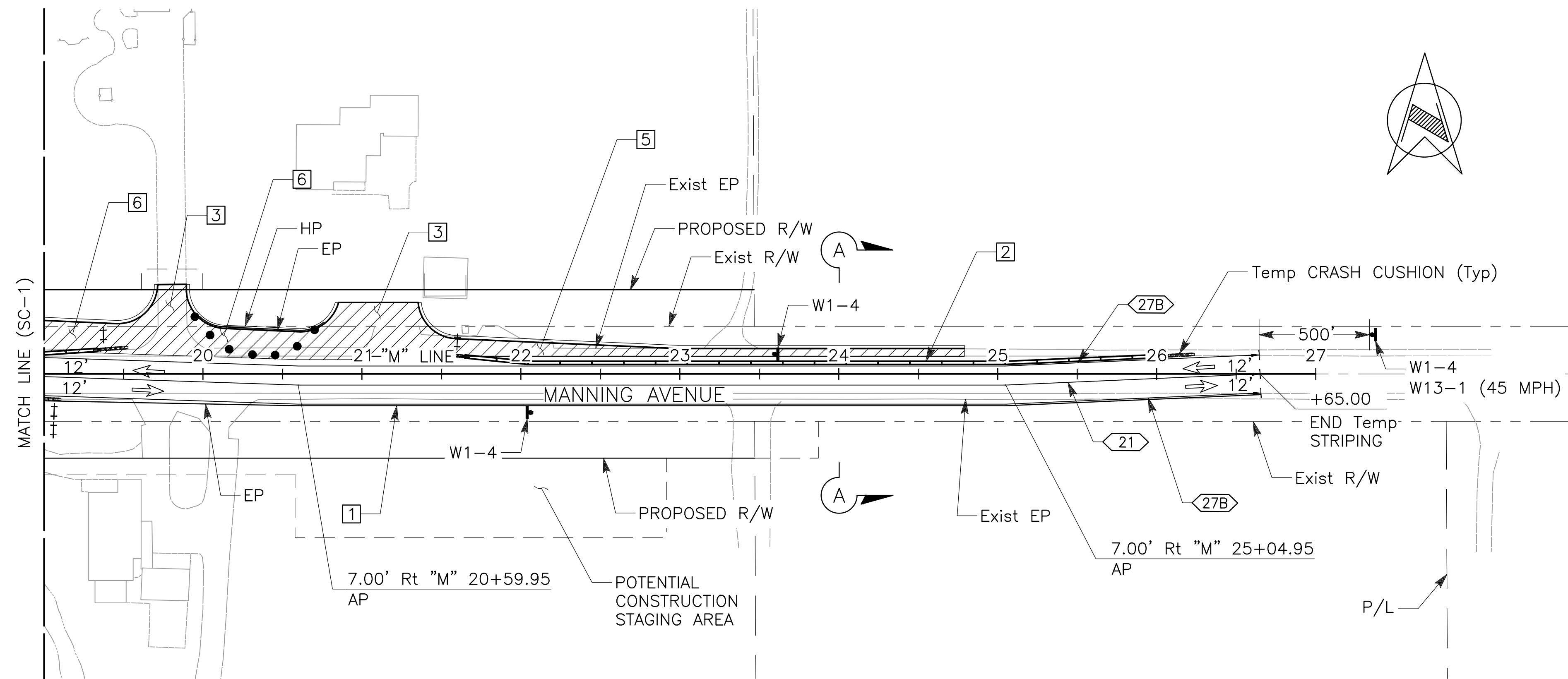


APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

	DATE	<b>RECORD DRAWING</b>	<b>SCALE</b>	<b>PROJECT</b>			
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	0 PLAN 50' 100' HZ 	<b>TRAVERS CREEK BRIDGE ON MANNING AVENUE</b>	<b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354	<b>DEPARTMENT OF PUBLIC WORKS AND PLANNING</b>	
DRAWN: AMS	1/15/16						<b>STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 1</b>
CHECKED: MAS	1/15/16						
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. SC-1      SHEET NO. 31      TOTAL 52	

NOTE:

- SEE SC-1 FOR SECTION A-A.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 50' 100' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 1	
CHECKED: MAS		1/15/16						ROAD NO.			DRAWING NO. SC-2	
								BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 32	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

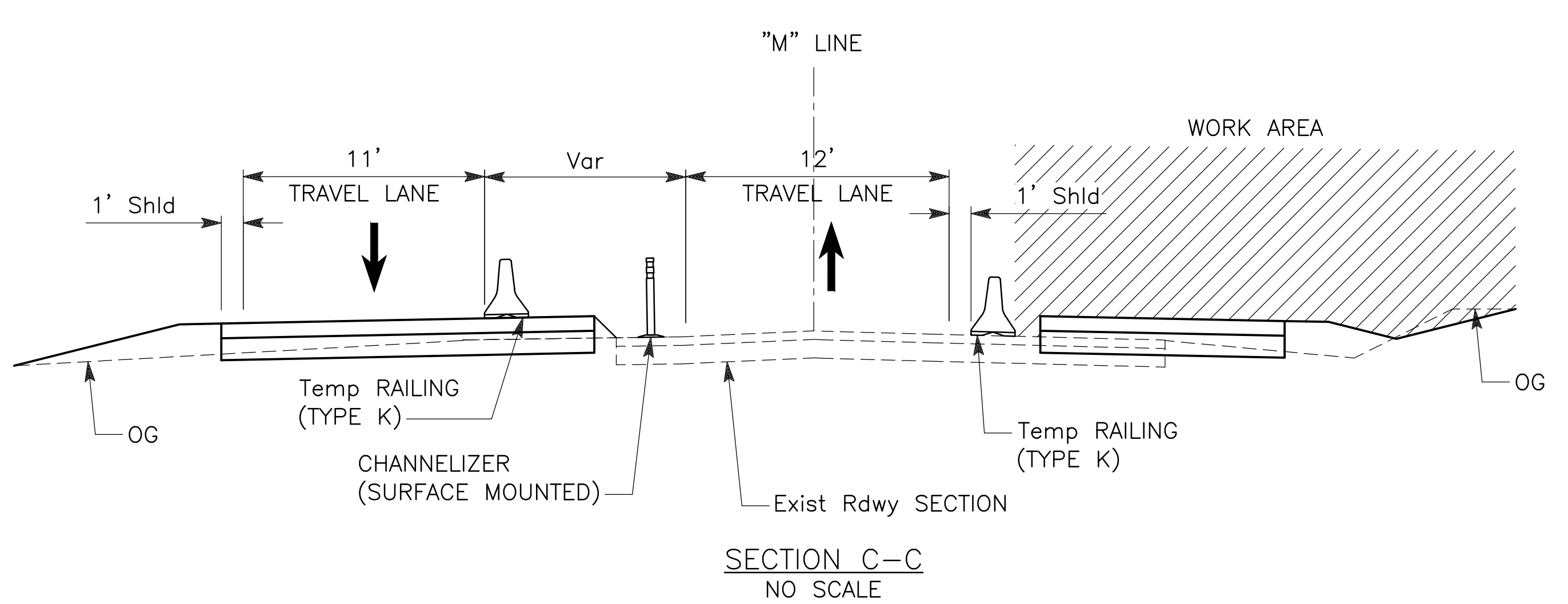
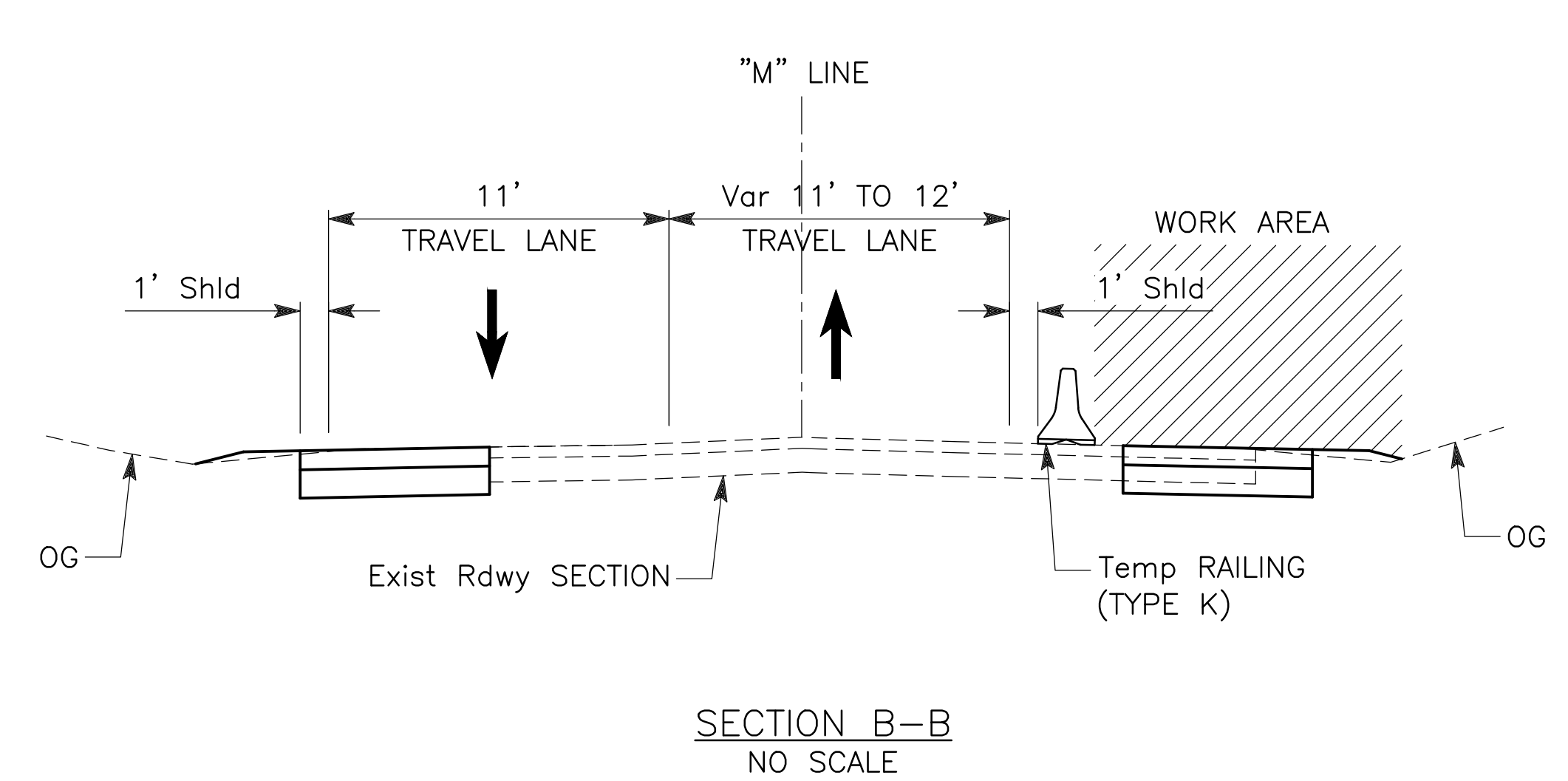
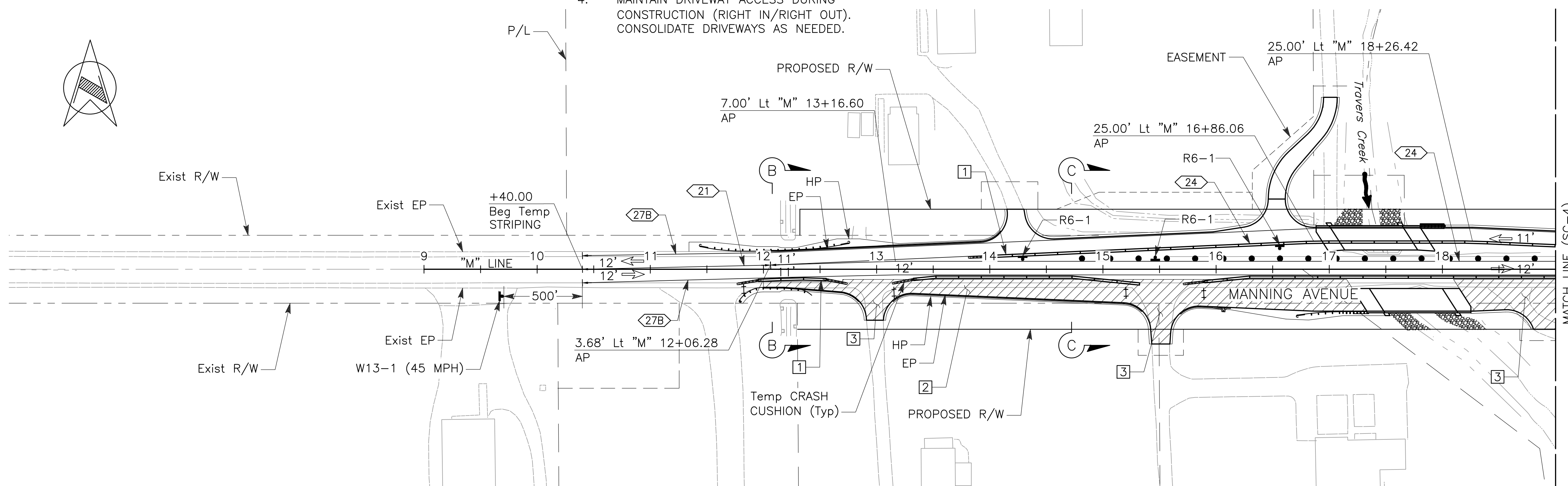


**STAGE 2 TRAFFIC HANDLING NOTES:**

1. RELOCATE UTILITIES AS NEEDED (SEE UTILITY PLANS)
2. SHIFT WB TRAFFIC NORTH ONTO NEWLY CONSTRUCTED BRIDGE AND ROADWAY.
3. SHIFT EB TRAFFIC NORTH ALONG EXISTING MANNING AVENUE.
4. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION (RIGHT IN/RIGHT OUT). CONSOLIDATE DRIVEWAYS AS NEEDED.

**STAGE 2 CONSTRUCTION NOTES:**

- 1 REMOVE CONFLICTING STRIPING FROM PREVIOUS STAGE. PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
- 2 REMOVE TEMPORARY PAVEMENT.
- 3 CONSTRUCT ROADWAY, SHOULDER WIDENING, AND DRIVEWAYS ALONG EB MANNING AVENUE.



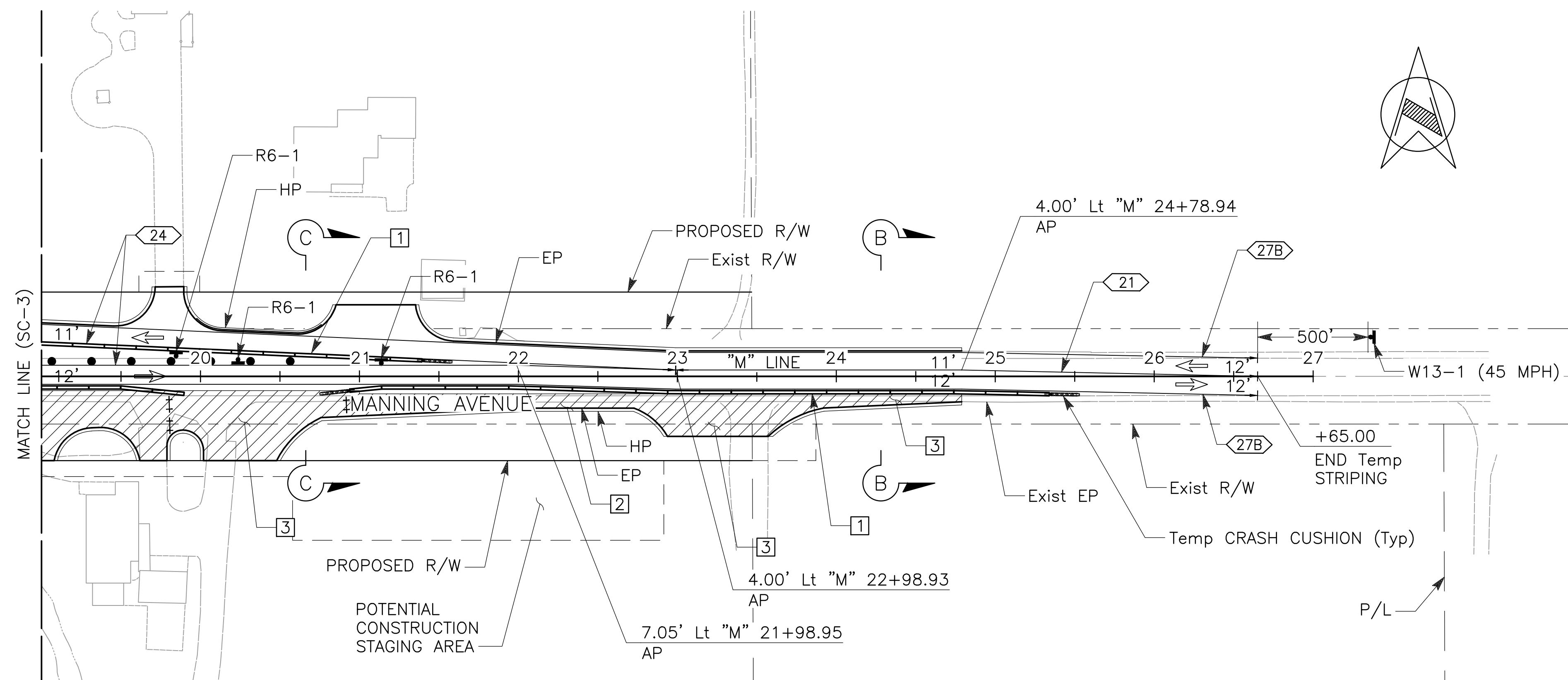
APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 50' 100' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 2	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. SC-3 SHEET NO. 33 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

NOTE:

1. SEE SC-3 FOR SECTIONS B-B AND C-C.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 50' 100' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 2	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. SC-4 SHEET NO. 34 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

STAGE 3 TRAFFIC HANDLING NOTES:

1. SHIFT EB TRAFFIC SOUTH ONTO NEWLY CONSTRUCTED BRIDGE AND ROADWAY.
2. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION (RIGHT IN/RIGHT OUT).

STAGE 3 CONSTRUCTION NOTES:

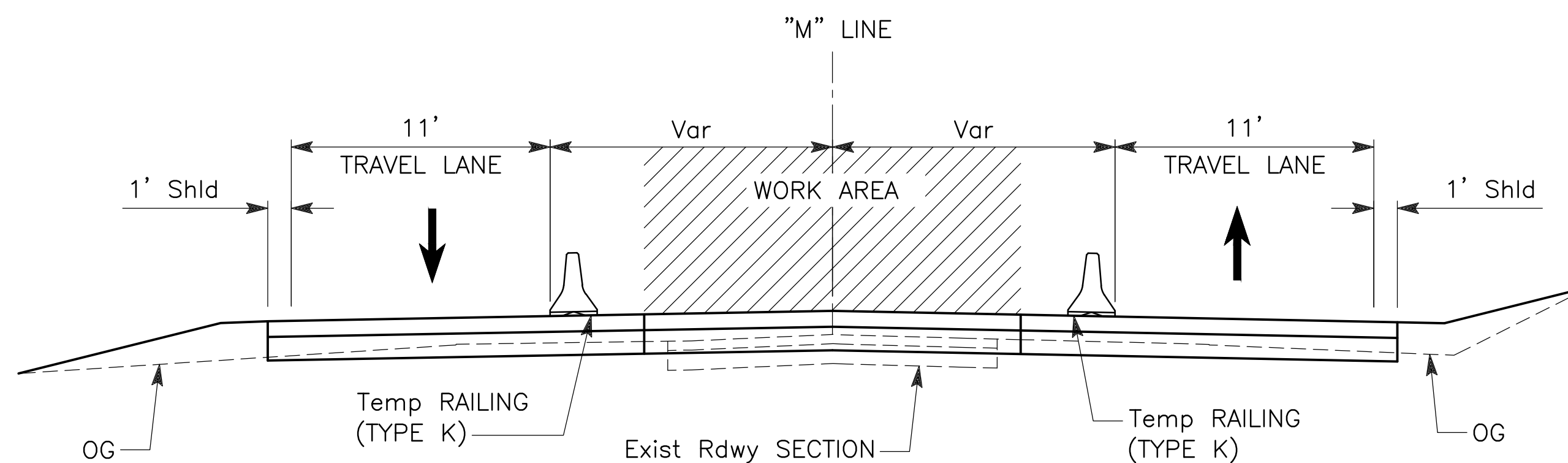
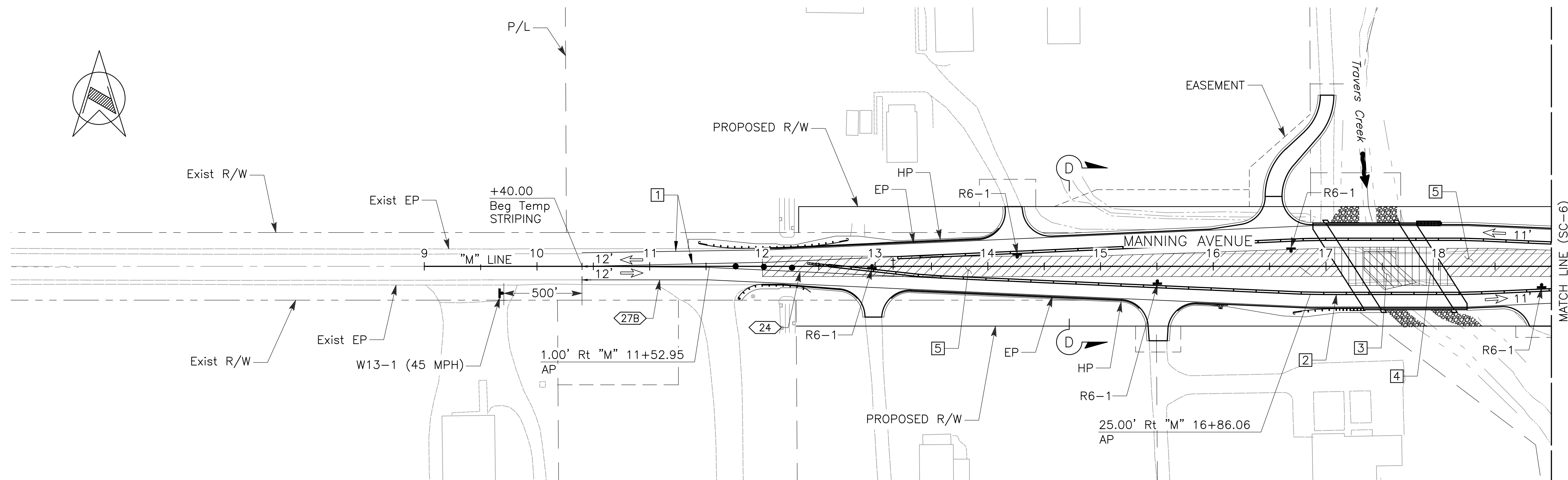
1. WB STRIPING FROM PREVIOUS STAGE TO REMAIN.
2. REMOVE CONFLICTING STRIPING FROM PREVIOUS STAGE. PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
3. REMOVE BRIDGE.
4. CONSTRUCT BRIDGE.
5. CONSTRUCT REMAINING ROADWAY AND PLACE OVERLAY.

STAGE 4 TRAFFIC HANDLING NOTES:

1. OPEN ALL LANES TO TRAFFIC.

STAGE 4 CONSTRUCTION NOTES:

1. PLACE FINAL STRIPING, SEE PAVEMENT DELINEATION AND SIGN PLAN FOR LOCATIONS.



SECTION D-D  
NO SCALE

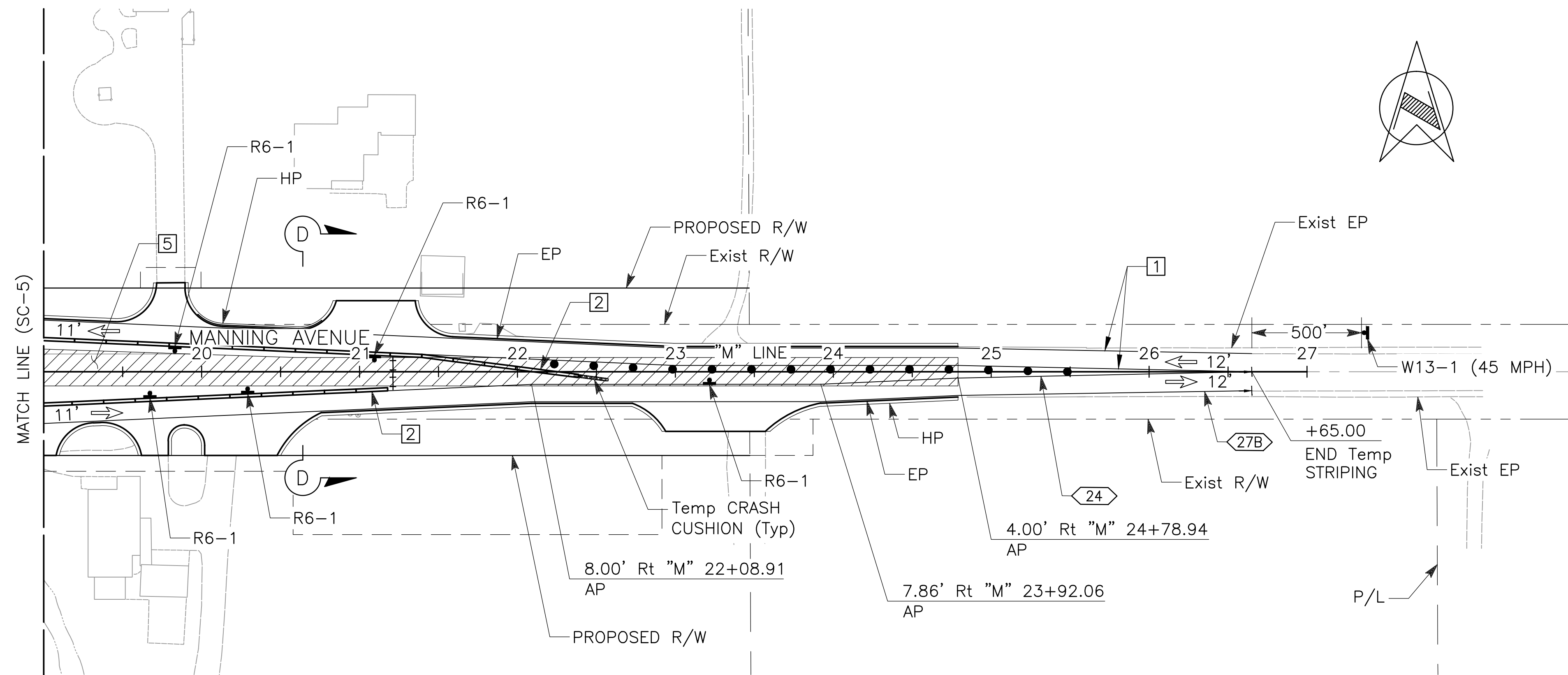
APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		<b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354	PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 50' 100' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 3 & 4	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. SC-5 SHEET NO. 35 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

NOTE:

- SEE SC-5 FOR SECTION D-D.






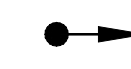

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

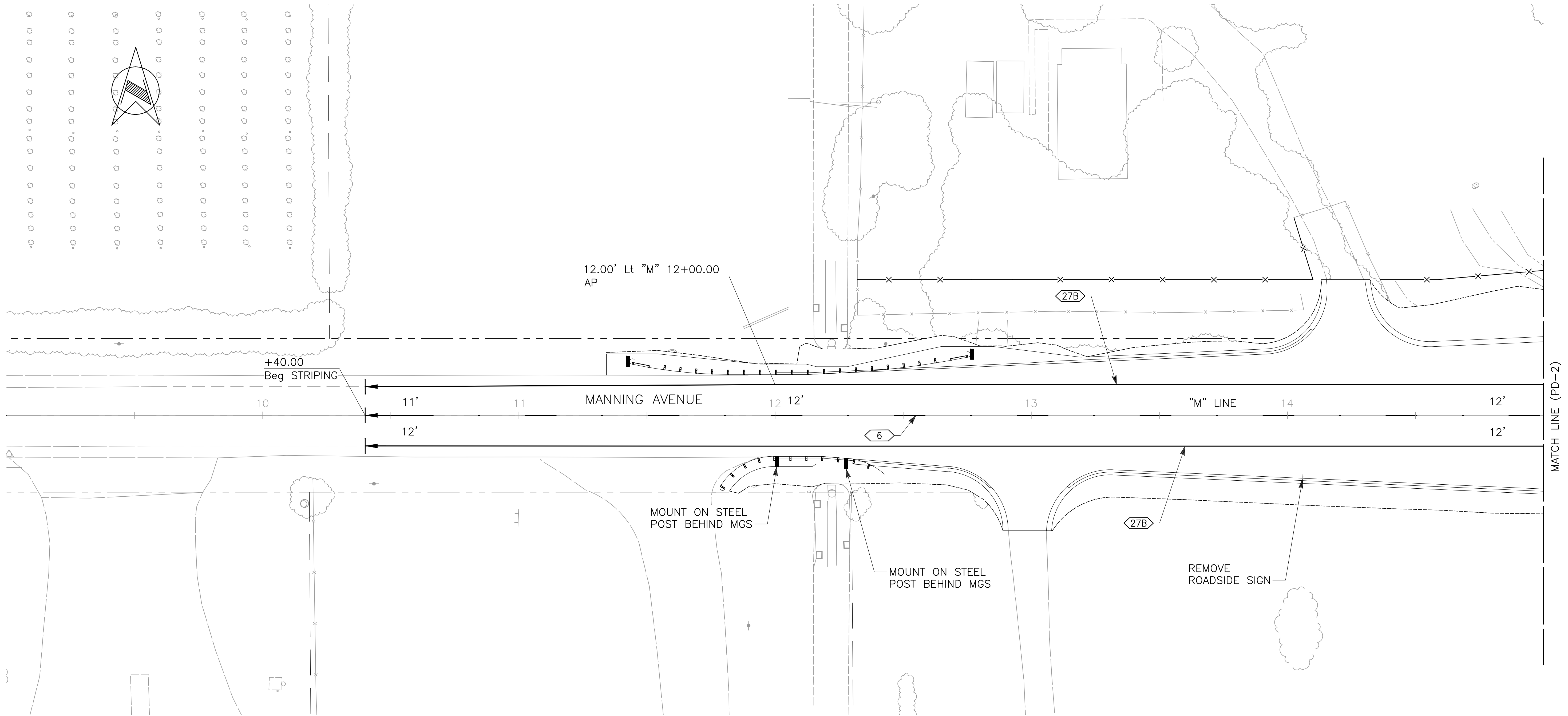
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING		SCALE	<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT	<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	DATE	TRAVERS CREEK BRIDGE ON MANNING AVENUE		STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 3 & 4		
CHECKED: MAS	DATE: 1/15/16			ROAD NO.				BRIDGE NO. 42C-0175, BRLS-5942 (198)
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				DRAWING NO. SC-6				SHEET NO. 36

**NOTES:**

- FOR ALL PAVEMENT STRIPING DETAILS, REFER TO CALTRANS STANDARD PLANS DATED 2010.

**LEGEND:**

-  STRIPING DETAIL NUMBER
-  BEGIN OR END OF STRIPING DETAIL
-  RELOCATE ROADSIDE SIGN - TWO POST
-  OBJECT MARKER TYPE L-1 (CA)
-  OBJECT MARKER TYPE P (CA)  
(MOUNTED TO GUARDRAIL NOSE)

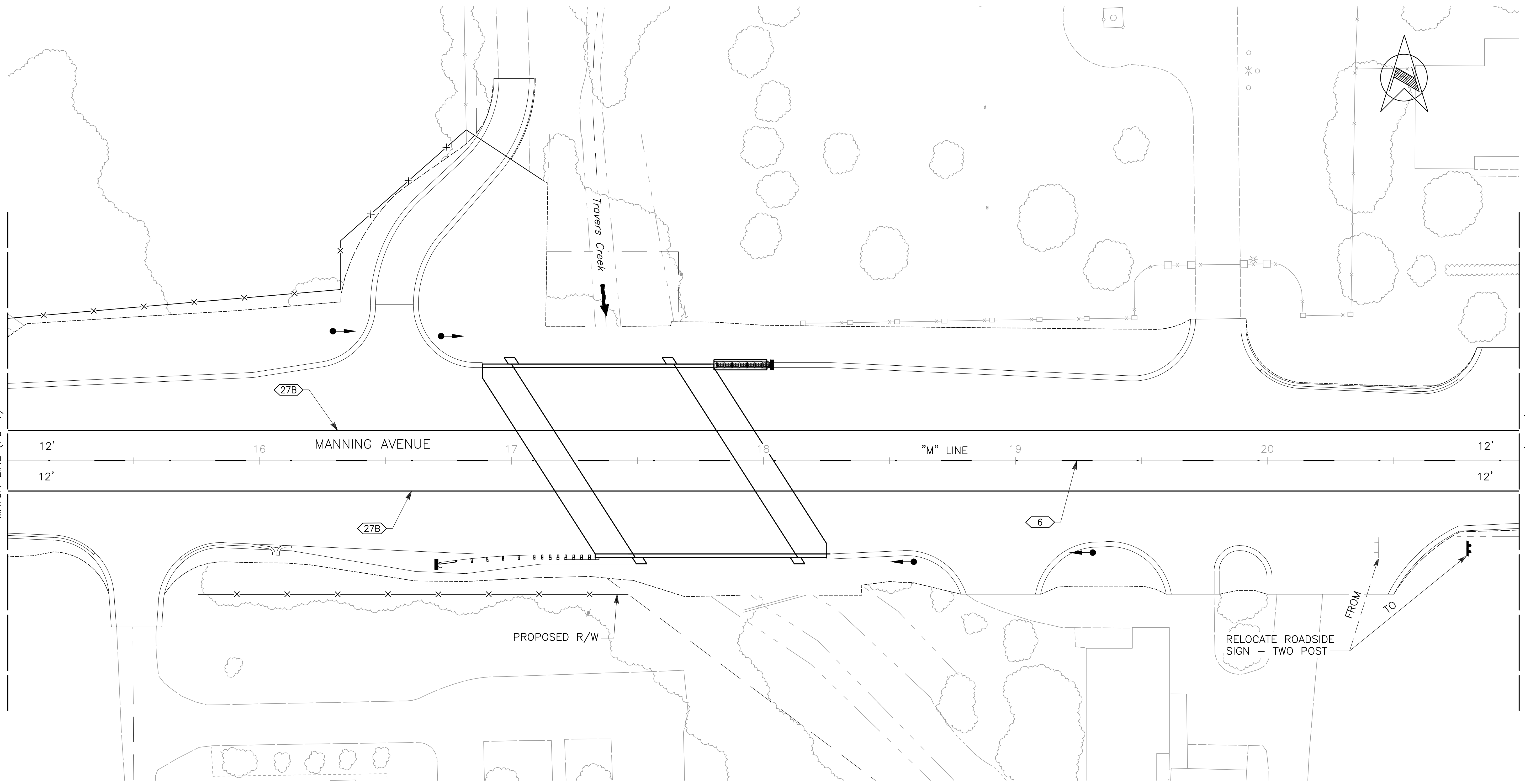


APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		 <b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354	PROJECT		 DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			PAVEMENT DELINEATION AND SIGN PLAN
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			
								DRAWING NO. PD-1 SHEET NO. 37 TOTAL 52			

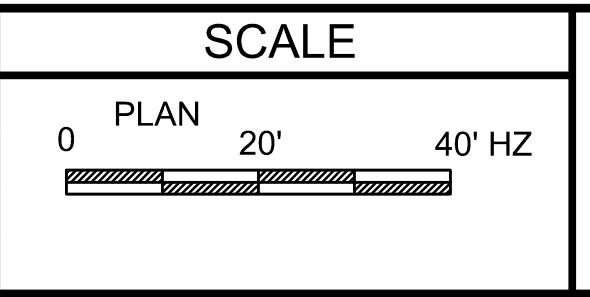
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED:	DATE	RECORD DRAWING	
AJB	1/15/16	RESIDENT ENGINEER	DATE
AMS	1/15/16		
MAS	1/15/16		



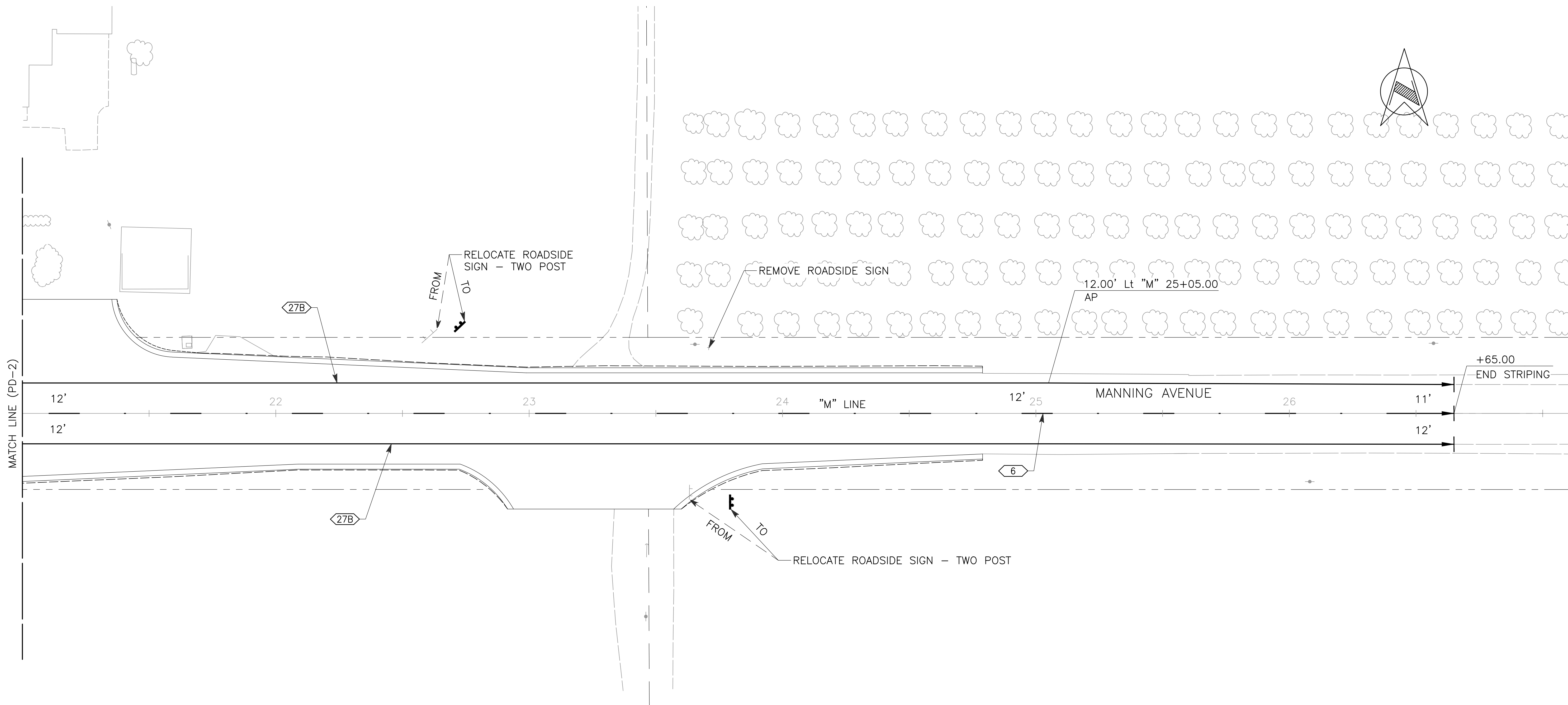
**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

PROJECT	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING		
PAVEMENT DELINEATION AND SIGN PLAN		
DRAWING NO. PD-2	SHEET NO. 38	TOTAL 52

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PLAN CHECK SET/NOT FOR CONSTRUCTION (1/15/2016)

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			PAVEMENT DELINEATION AND SIGN PLAN		
CHECKED: MAS		DATE: 1/15/16						ROAD NO.			DRAWING NO. PD-3		
								BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 39		
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												TOTAL 52	

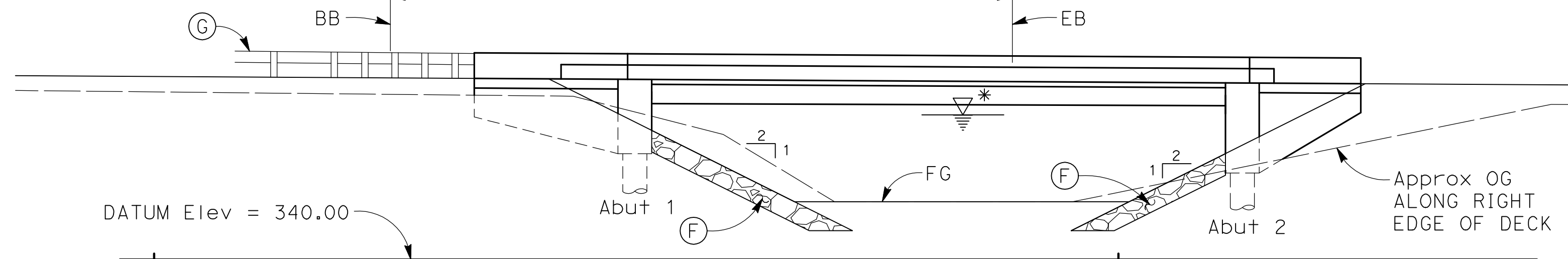
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, SEE "ROAD PLANS"

EVC 16+65.00 Elev 359.13  
 BVC 19+00.00 Elev 357.73  
 -0.59%

**PROFILE GRADE**

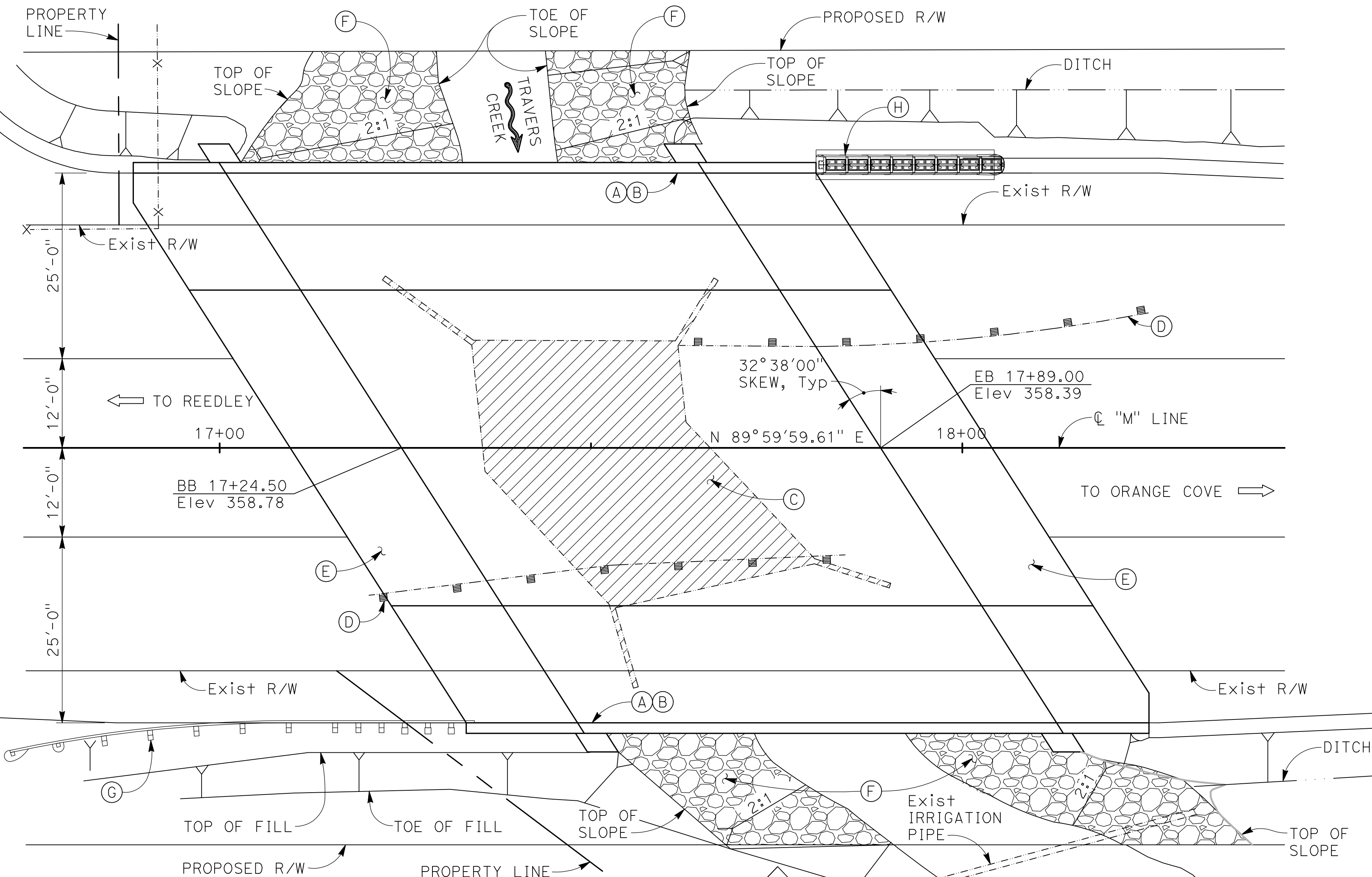
NO SCALE

64'-6" MEASURED ALONG C "M" LINE



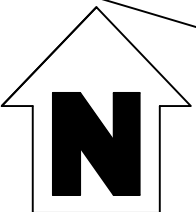
**ELEVATION**

1" = 10'

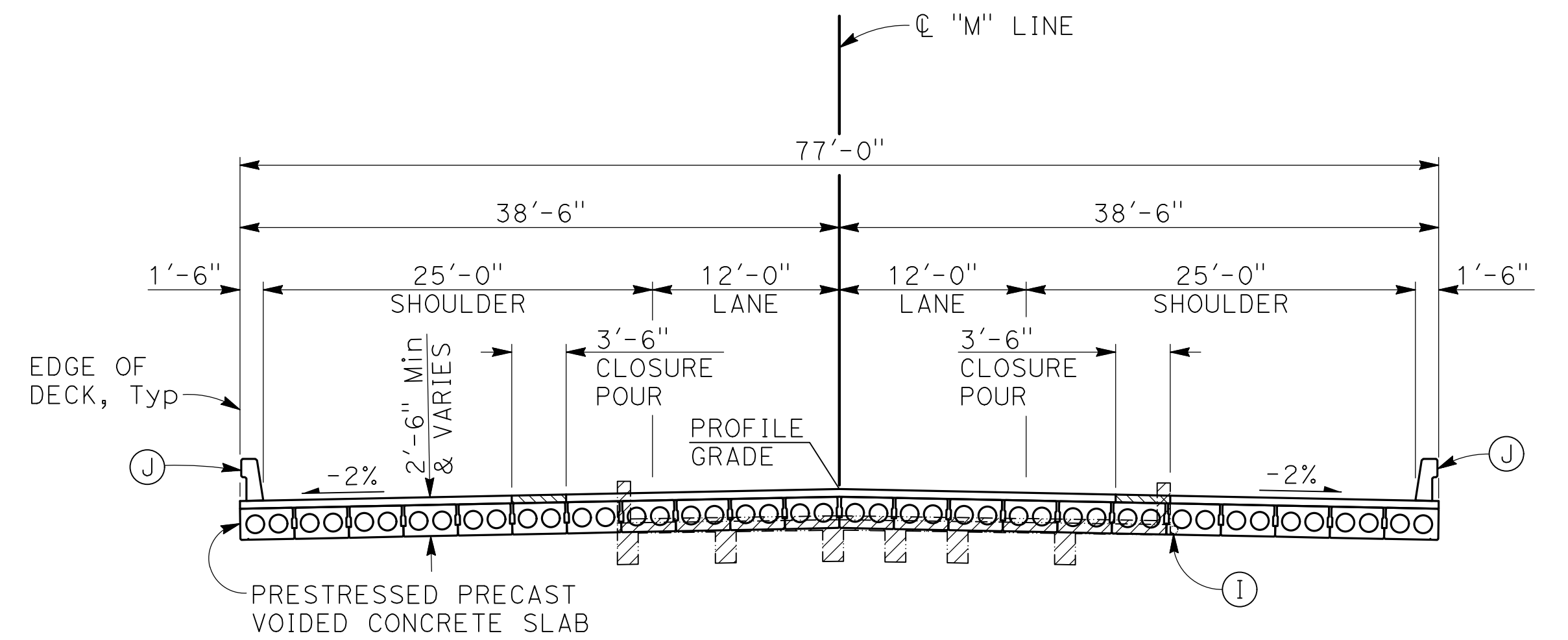


**PLAN**

1" = 10'



NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



**TYPICAL SECTION**

1/8" = 1'-0"

NOTES:

- (A) Paint "BRIDGE No. 42C-0175"
  - (B) Paint "TRAVERS CREEK BRIDGE"
  - (C) Remove existing TRAVERS CREEK BRIDGE
  - (D) Remove existing MBGR
  - (E) Approach Slab
  - (F) Rock Slope Protection
  - (G) MGS, see "Civil Plans"
  - (H) TAU II Crash Cushion
  - (I) Existing telephone cable to be relocated
  - (J) Concrete Barrier Type 732
1. For "GENERAL NOTES" and "INDEX TO BRIDGE PLANS", see "GENERAL NOTES" sheet.
  2. For "PILE DATA TABLE", see "FOUNDATION PLAN" sheet.

LEGEND:

- Indicates Bridge Removal
- Indicates Existing Structure
- Indicates Traffic Direction

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/19/16)

RECORD DRAWING		SCALE
DESIGNED: RBS	DATE: 6/25/15	AS SHOWN
DRAWN: MLT	DATE: 6/25/15	
CHECKED: [ ]	DATE: 6/25/15	

SCALE  
 AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
 STRUCTURAL ENGINEERS

5250 N. Palm Avenue, Suite 211  
 Fresno, California 93704  
 559-449-8686

PROJECT  
**TRAVERS CREEK BRIDGE ON MANNING AVENUE**

ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)

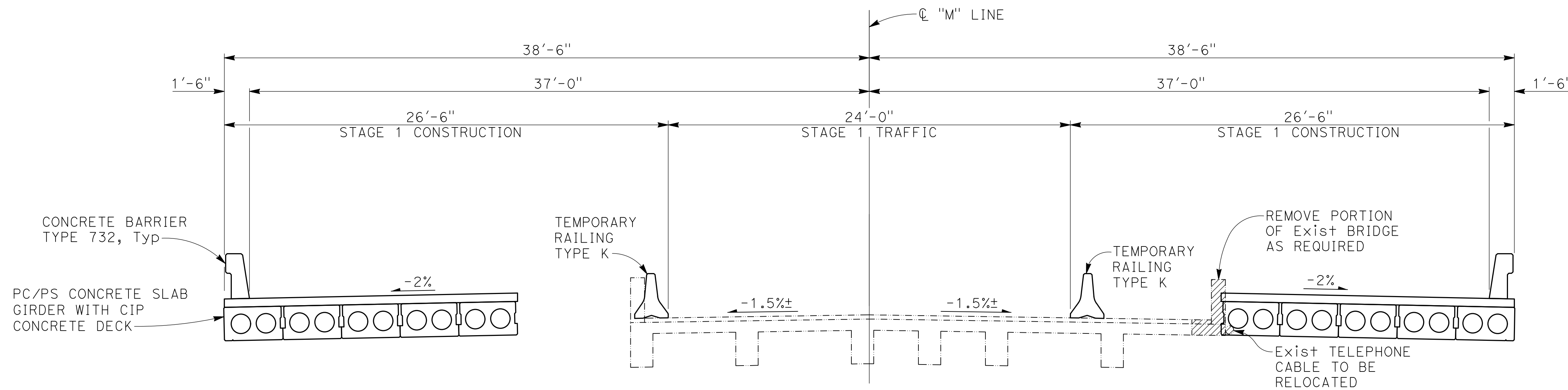
DEPARTMENT OF PUBLIC WORKS AND PLANNING

**GENERAL PLAN No. 1**

DRAWING NO. S-1 SHEET NO. 40 TOTAL 52

201301551

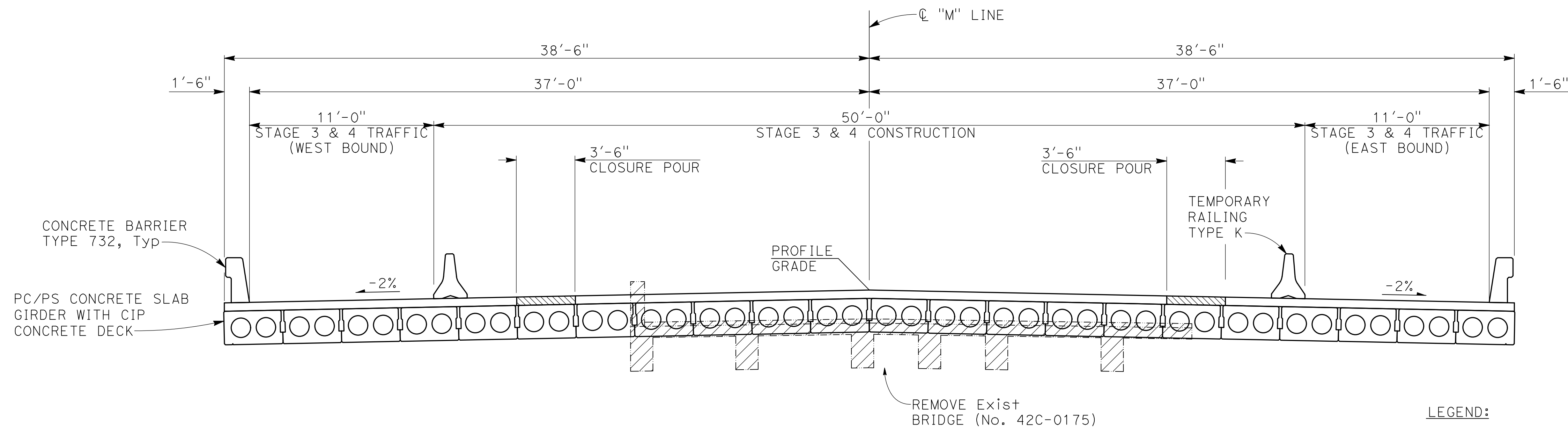




**STAGE 1 CONSTRUCTION**

1/4" = 1'-0"

NOTE:  
No bridge work during  
Stage 2 Construction



**STAGE 3 & 4 CONSTRUCTION**

1/4" = 1'-0"

LEGEND:

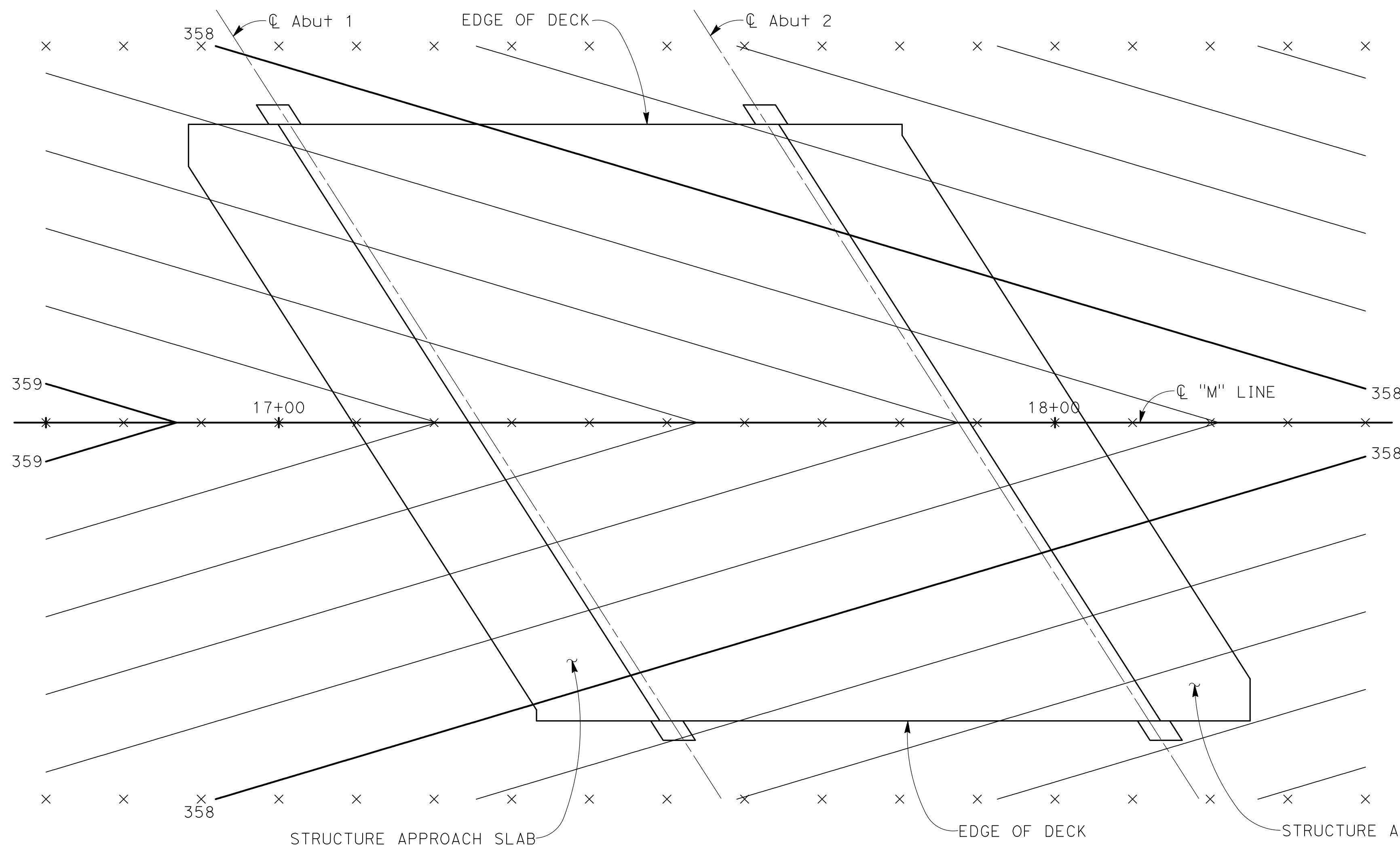
- Indicates Bridge Removal
- Indicates Existing Structure

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/15)

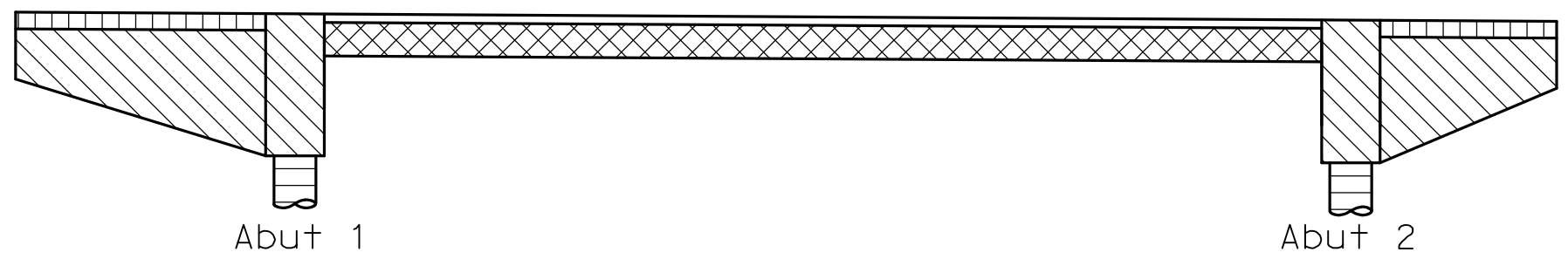
DESIGNED: RBS		DATE: 6/25/15	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING				
DRAWN: MLT		DATE: 6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE			GENERAL PLAN No. 2				
CHECKED:		DATE: 6/25/15						ROAD NO.			BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. S-2	SHEET NO. 41	TOTAL 52
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.															

201301552



- NOTES:**
1. Contours indicate top of deck elevation.
  2. x Indicates 10 foot intervals measured along "M" Line.
  3. Contour interval = 0.2'
  4. Contours do not include camber or falsework settlement.

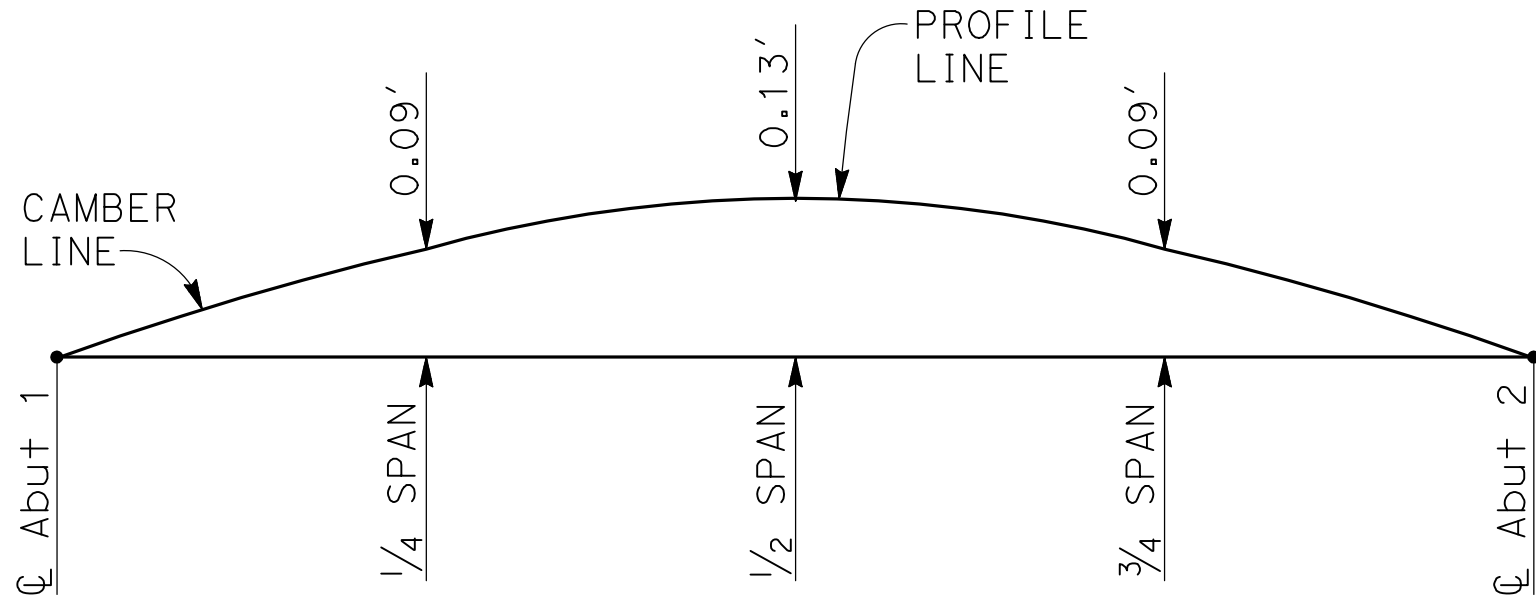
**PLAN**  
1" = 10'  
N



- LEGEND:**
- STRUCTURAL CONCRETE, APPROACH SLAB (f'c = 3600 psi)
  - CAST-IN-DRILLED HOLE CONCRETE (f'c = 4000 psi)
  - STRUCTURAL CONCRETE, BRIDGE (f'c = 4000 psi)
  - STRUCTURAL CONCRETE, BRIDGE (f'c = 3600 psi)
  - PC/PS CONCRETE SLAB; SEE "PRESTRESSING NOTES" ON "PRESTRESSED CONCRETE SLAB DETAILS No. 1" SHEET

**CONCRETE STRENGTH AND TYPE LIMITS**  
NO SCALE

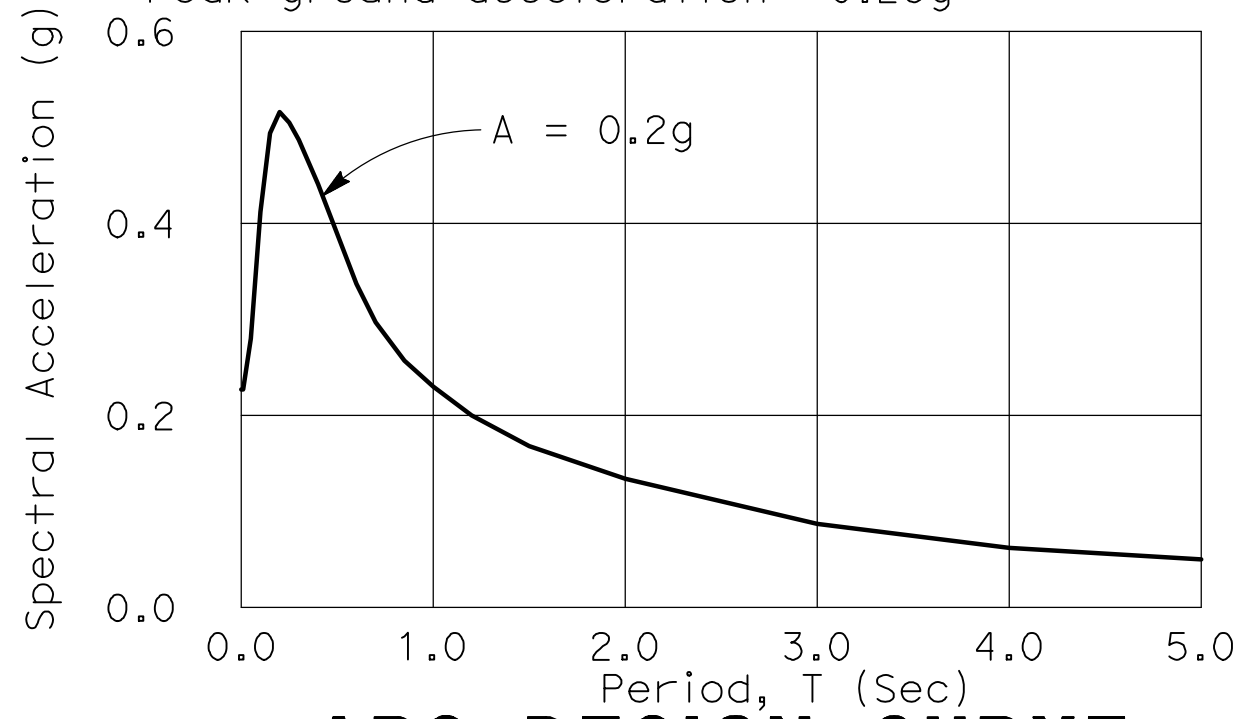
**NOTE:**  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



**CAMBER DIAGRAM**  
NO SCALE

**GENERAL NOTES**  
**LOAD & RESISTANCE FACTOR DESIGN**

**DESIGN:** AASHTO LRFD Bridge Design Specifications, 6th Edition and California Amendments, preface dated January 2014;  
**SEISMIC DESIGN:** Caltrans Seismic Design Criteria (SDC) Version 1.7  
**DEAD LOAD:** Includes 35 psf for future wearing surface.  
**LIVE LOAD:** HL93 and permit design load  
**SEISMIC LOAD:** Soil profile: Vs30 = 1000 FPS  
 Moment magnitude: 7.9  
 Peak ground acceleration: 0.23g



**ARS DESIGN CURVE**

**CONCRETE:** fy = 60 ksi  
 f'c = 3.6 ksi (except as shown on "CONCRETE STRENGTH & TYPE LIMITS" diagram)  
 n = 8  
**PRESTRESSED CONCRETE:** See "Prestressing Notes" on "PRESTRESSED CONCRETE SLAB DETAILS" sheet

**2010 STANDARD PLANS**

- RSP A10A ABBREVIATIONS (SHEET 1 OF 2)
- RSP A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10C LINES AND SYMBOLS (SHEET 1 OF 3)
- A10D LINES AND SYMBOLS (SHEET 2 OF 3)
- A10E LINES AND SYMBOLS (SHEET 3 OF 3)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- A10H LEGEND - ROCK
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-13 BRIDGE DETAILS
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- RSP B11-55 CONCRETE BARRIER TYPE 732 (SHEET 1 OF 2)

**ABBREVIATION**  
EQ EQUAL

- LEGEND**
- INDICATES STANDARD PLAN SHEET No.
  - INDICATES DETAIL No.
  - INDICATES SECTION No.
  - INDICATES SHEET SHOWN ON
  - INDICATES DETAIL No.
  - INDICATES SHEET SHOWN ON

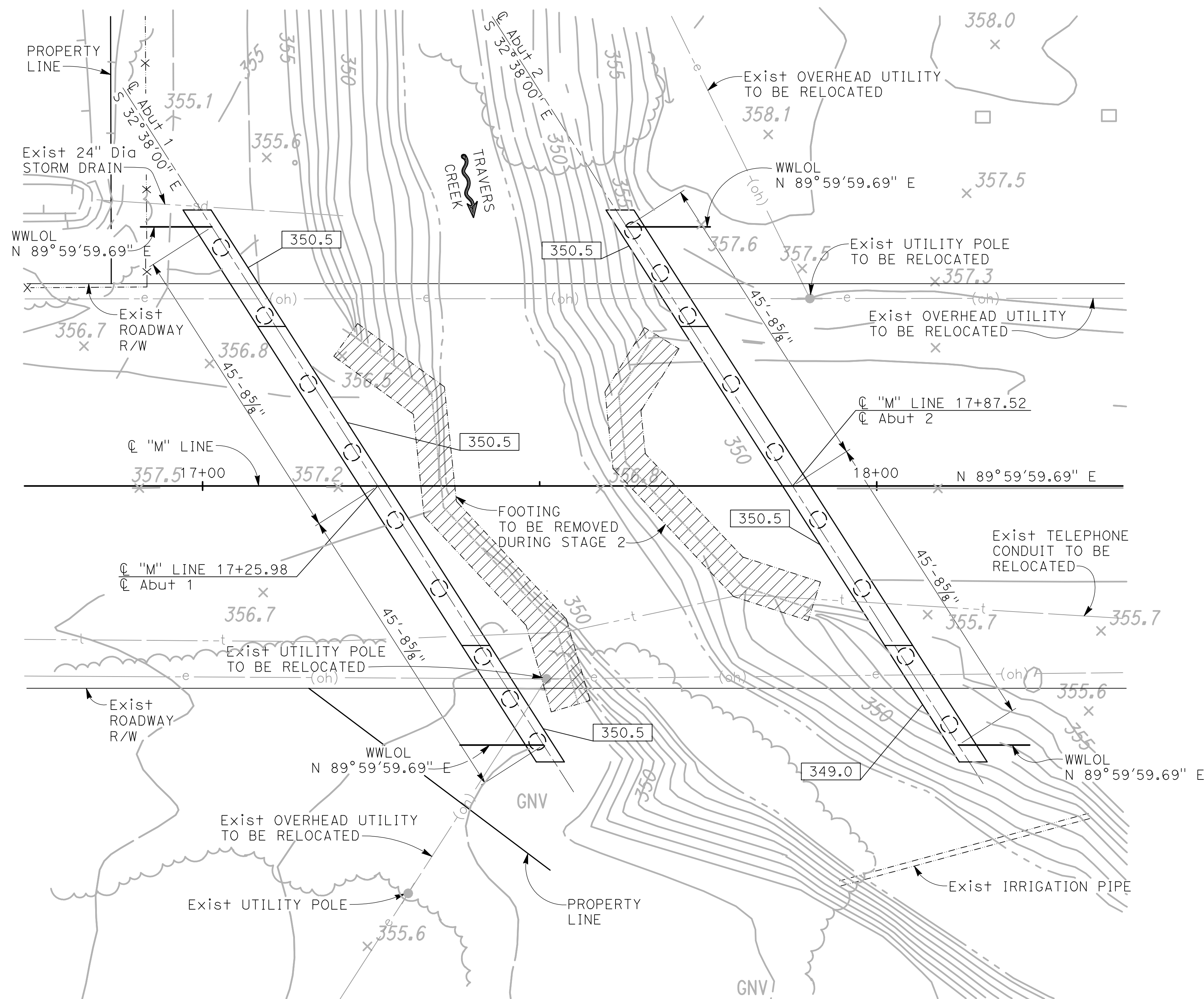
PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/19/16)

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		DECK CONTOURS AND GENERAL NOTES
CHECKED:	DATE: 6/25/15					ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

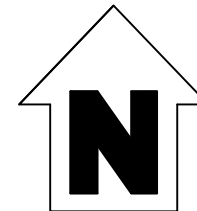
20130153

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, SEE "ROAD PLANS"



**FOUNDATION PLAN**

1" = 10'



NOTES:

1. Indicates bottom of footing elevation
2. Indicates spot elevation
3. Indicates CIDH pile
4. The Contractor shall verify that WWLOL matches edge of deck considering construction tolerances in precast slab units once precast slab units have been fabricated
5. Indicates Bridge Removal

HYDROLOGIC SUMMARY

(PROVIDED BY AVILA & ASSOCIATES - JANUARY 20, 2015)

DRAINAGE AREA: <u>33.9</u> SQUARE MILES	DESIGN FLOOD	BASE FLOOD
FREQUENCY (YEARS)	50	100
DISCHARGE (CUBIC FEET PER SECOND)	1,090	1,340
WATER SURFACE (ELEVATION AT BRIDGE)	353.3	354.1
VELOCITY (FEET PER SECOND)	3.40	3.40

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY BIGGS CARDOSA ASSOCIATES AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATION.

**BENCH MARK AND DATUM**

Monument	Coordinates		Elev	Description/Location
	North	East		
5003	10024.65	12367.36	356.79	"FD FC 5/8" RBR
5004	10041.87	12084.05	357.16	"FD FC 5/8" RBR
5006	9969.10	11738.10	363.56	"FD FC 5/8" RBR
5020	9984.71	12090.66	358.08	FD BM L0119
5021	10017.07	11438.02	358.07	SET 80/D

**PILE DATA TABLE**

Location	Pile Type	Nominal Resistance		Design Tip Elev	Specified Tip Elev
		Compression	Tension		
Abutment 1	30" Dia CIDH	560 Kips	0	289.0 Ft	289.0 Ft
Abutment 2	30" Dia CIDH	560 Kips	0	289.0 Ft	289.0 Ft

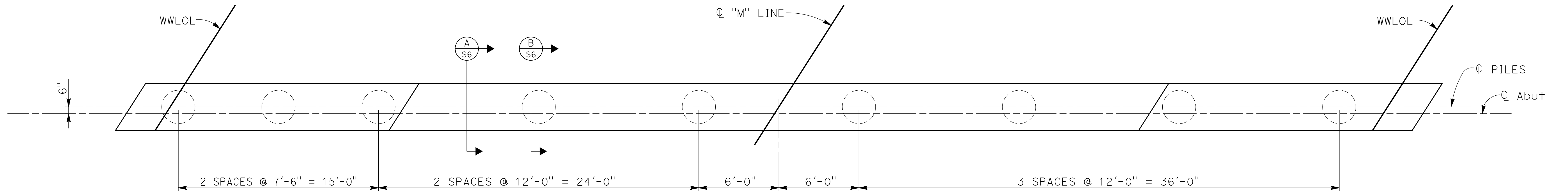
design tip elevation is controlled by the following demands:  
 (1) Compression; (2) Tension; (3) Lateral loads

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/16)

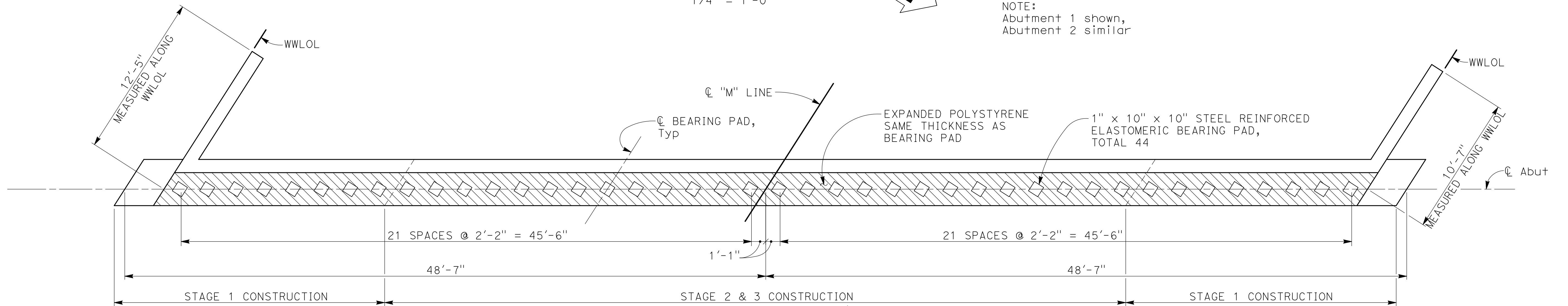
<b>DESIGNED:</b> RBS	DATE: 6/25/15	<b>RECORD DRAWING</b>	<b>SCALE</b>	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS	<b>PROJECT</b>	<b>DEPARTMENT OF PUBLIC WORKS AND PLANNING</b>
<b>DRAWN:</b> MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN	5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686	<b>TRAVERS CREEK BRIDGE ON MANNING AVENUE</b>	<b>FOUNDATION PLAN</b>
<b>CHECKED:</b>	DATE: 6/25/15				ROAD NO.	DRAWING NO. S-4
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)	SHEET NO. 43
					TOTAL 52	

2013015

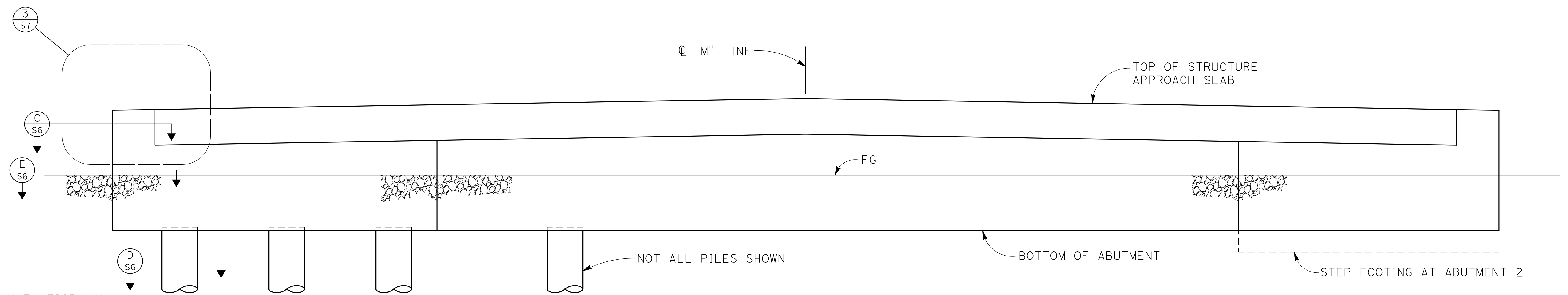


**ABUTMENT PILE LAYOUT**  
1/4" = 1'-0"

NOTE:  
Abutment 1 shown,  
Abutment 2 similar



**ABUTMENT PLAN**  
1/4" = 1'-0"



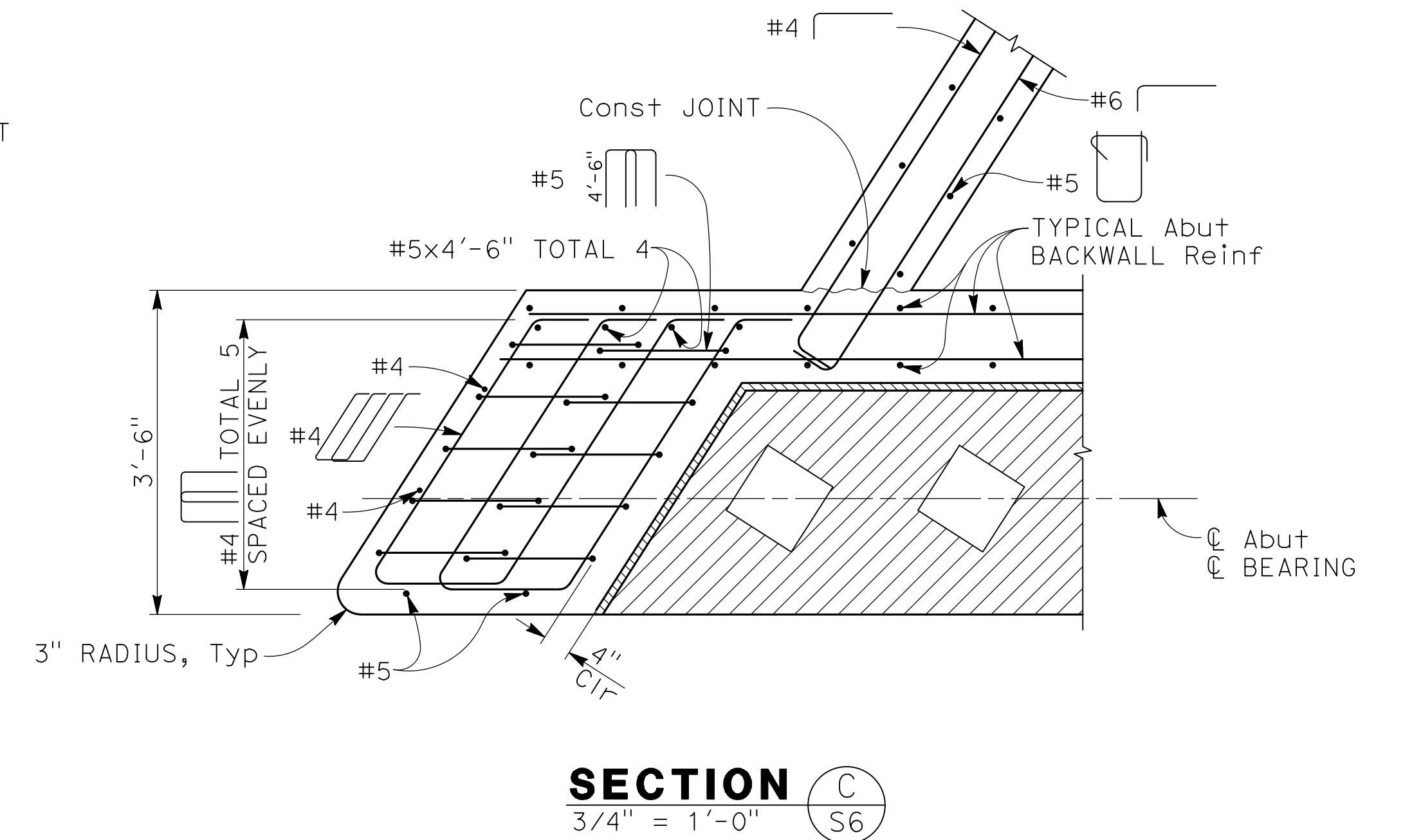
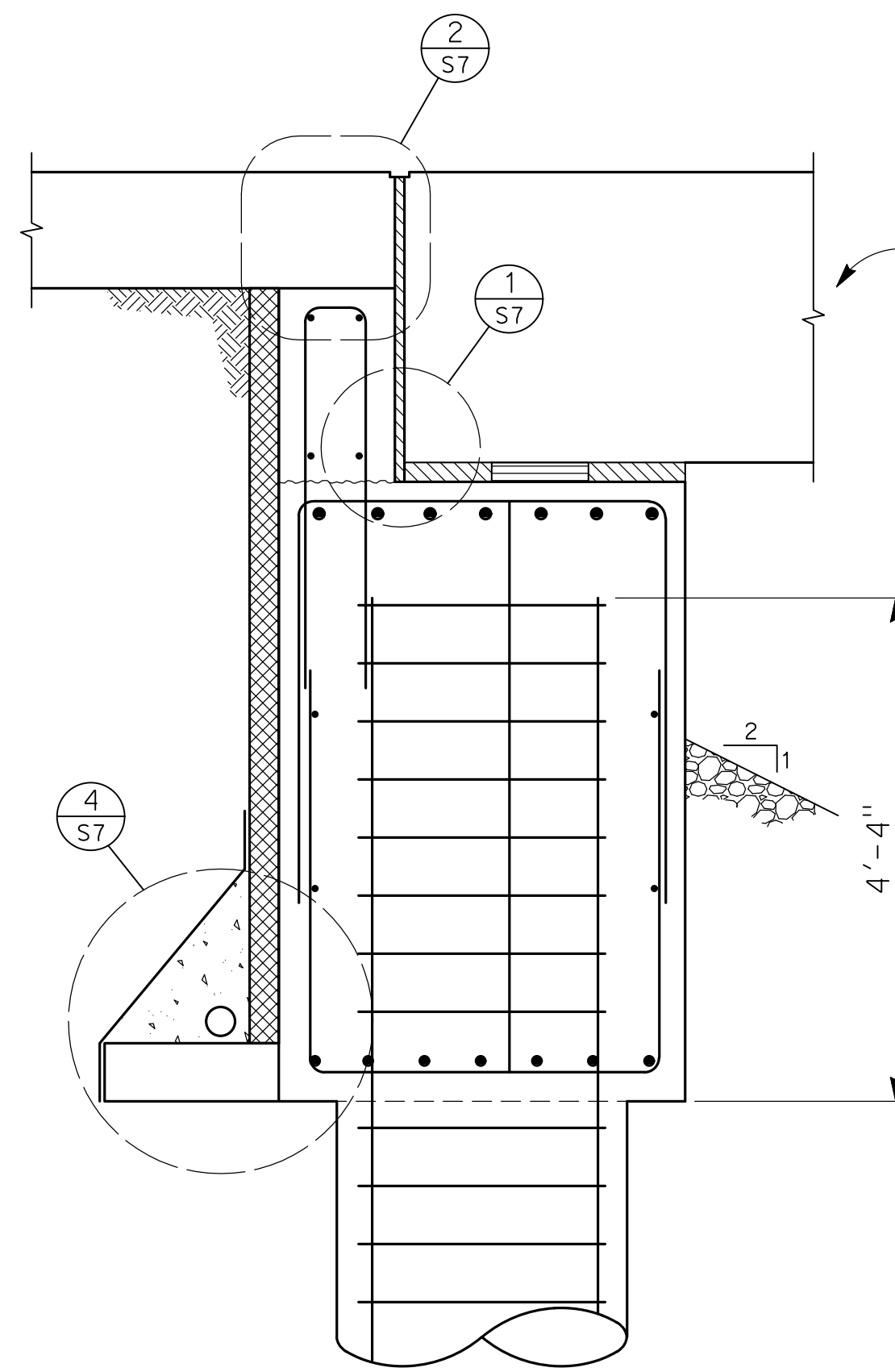
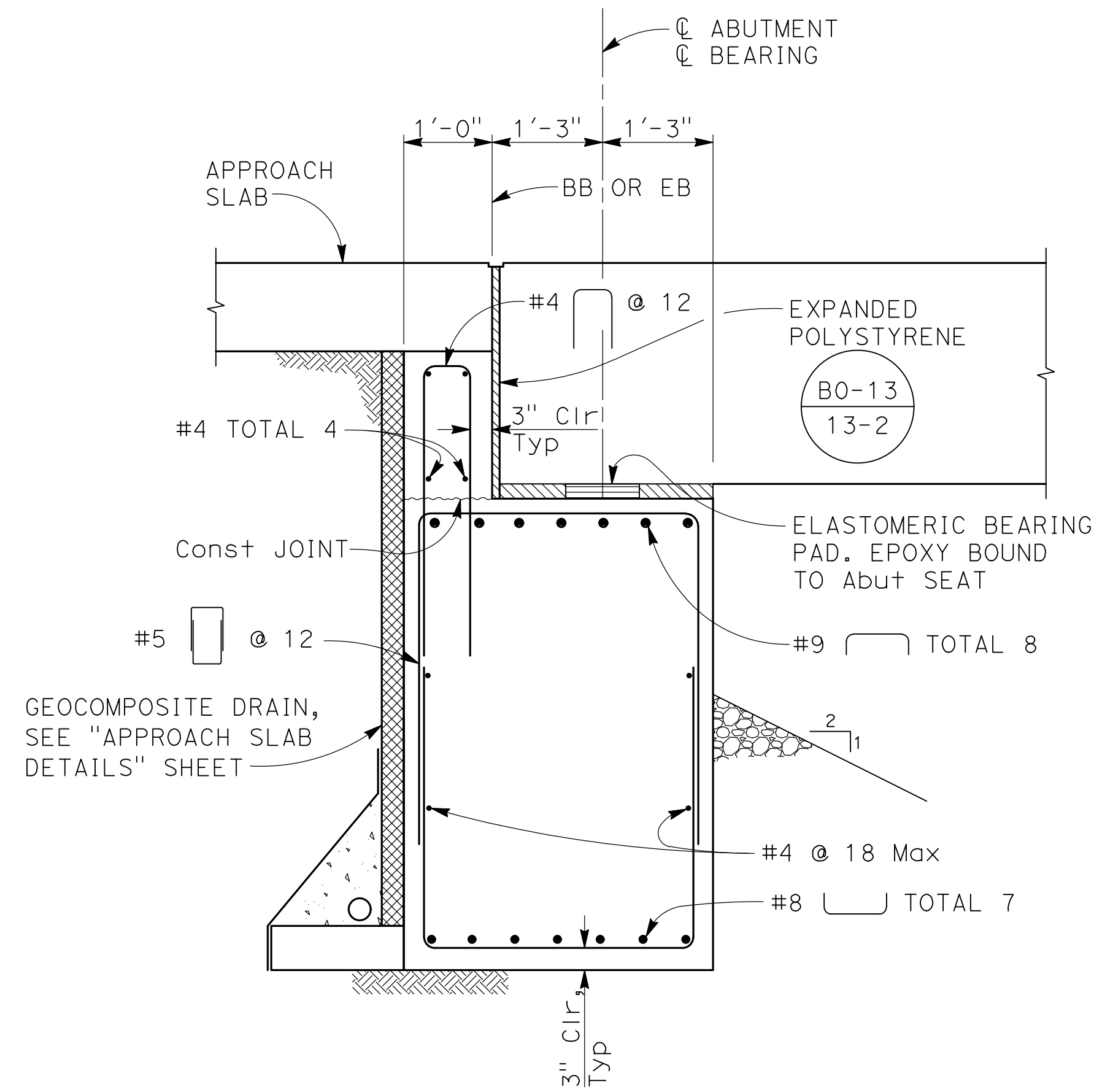
**ABUTMENT ELEVATION**  
1/4" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

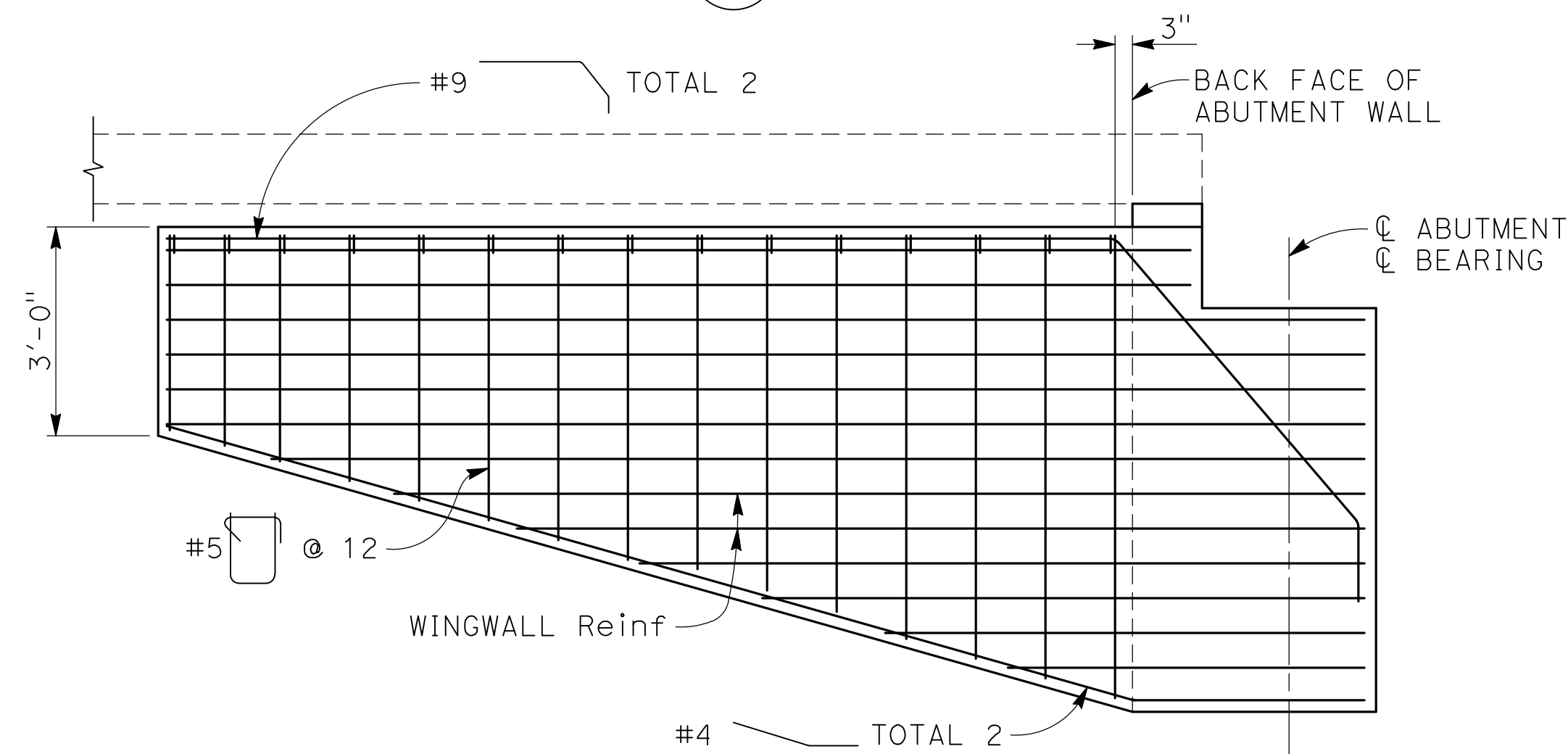
PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/16)

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING			
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		ABUTMENT LAYOUT			
CHECKED:	DATE: 6/25/15						ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-5	SHEET NO. 44	TOTAL 52
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

201301555

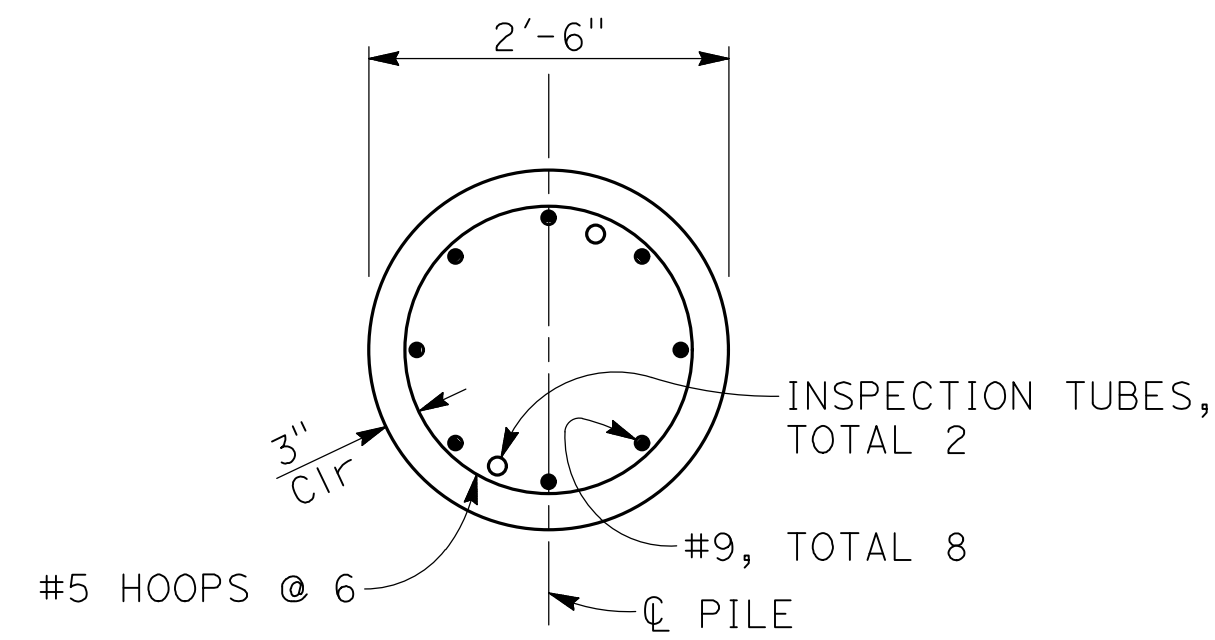


**SECTION A**  
3/4" = 1'-0" S6

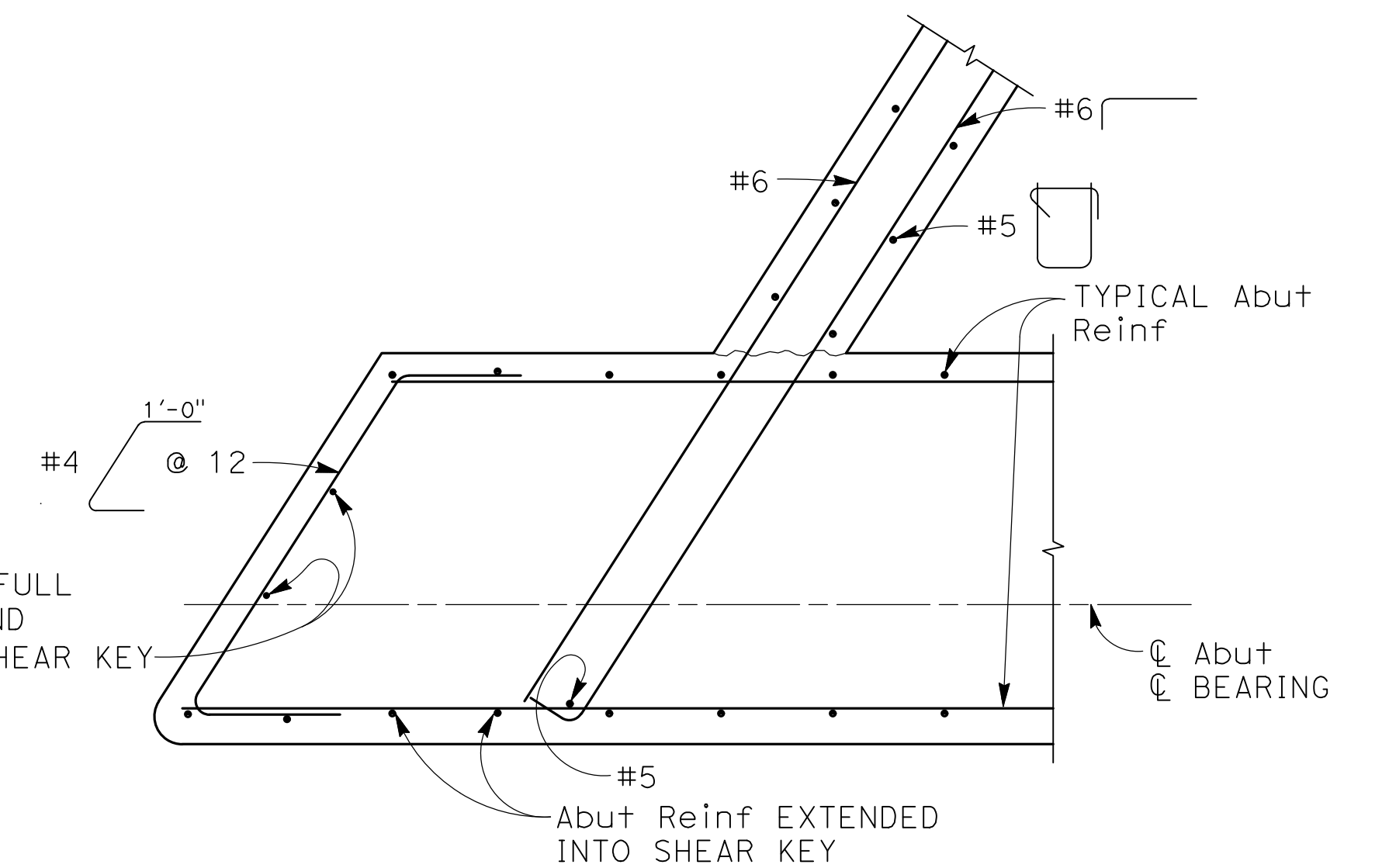


**WINGWALL ELEVATION**  
1/2" = 1'-0"

**SECTION B**  
3/4" = 1'-0" S6



**SECTION D**  
3/4" = 1'-0" S6



**SECTION E**  
3/4" = 1'-0" S6

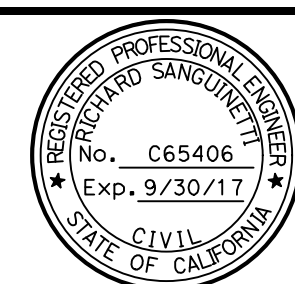
NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/19/16)

DESIGNED:	DATE	RECORD DRAWING	SCALE
RBS	6/25/15	RESIDENT ENGINEER	AS SHOWN
DRAWN:	6/25/15		
CHECKED:	6/25/15		

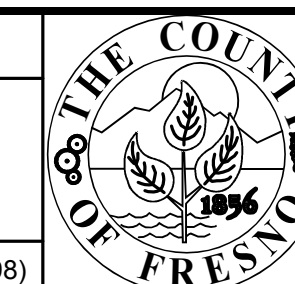
**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

5250 N. Palm Avenue, Suite 211  
Fresno, California 93704  
559-449-8686



PROJECT  
**TRAVERS CREEK BRIDGE ON  
MANNING AVENUE**

ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)

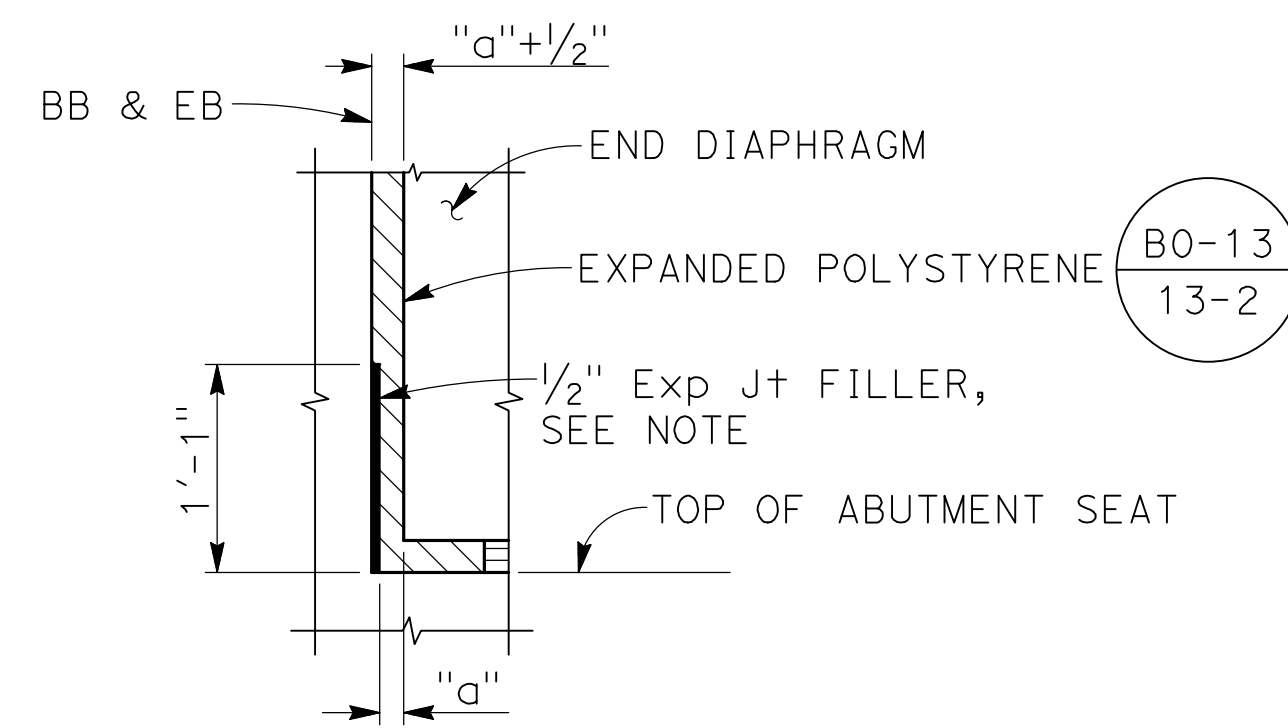


DEPARTMENT OF PUBLIC WORKS AND PLANNING

ABUTMENT DETAILS No. 1

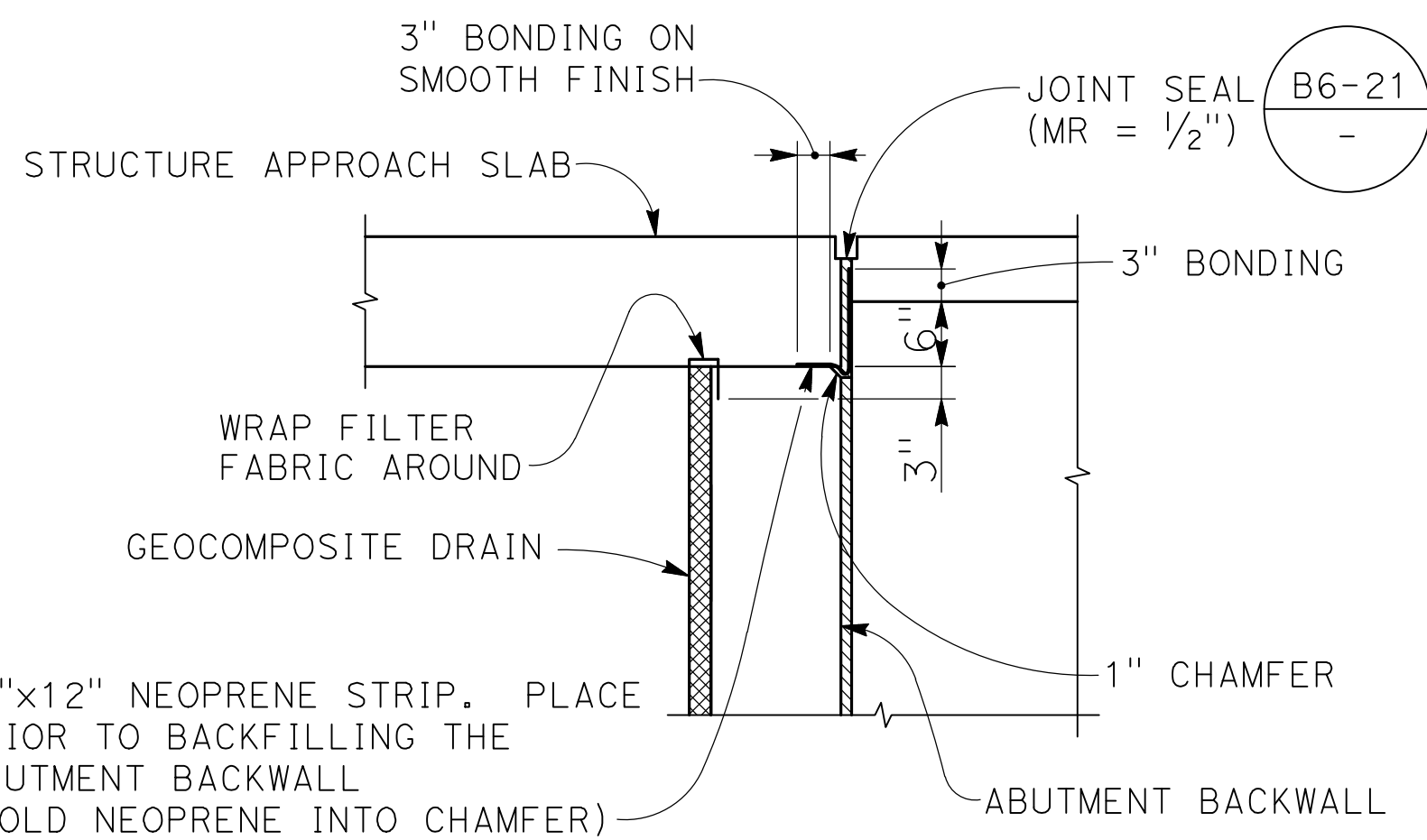
DRAWING NO. S-6 SHEET NO. 45 TOTAL 52

201301556

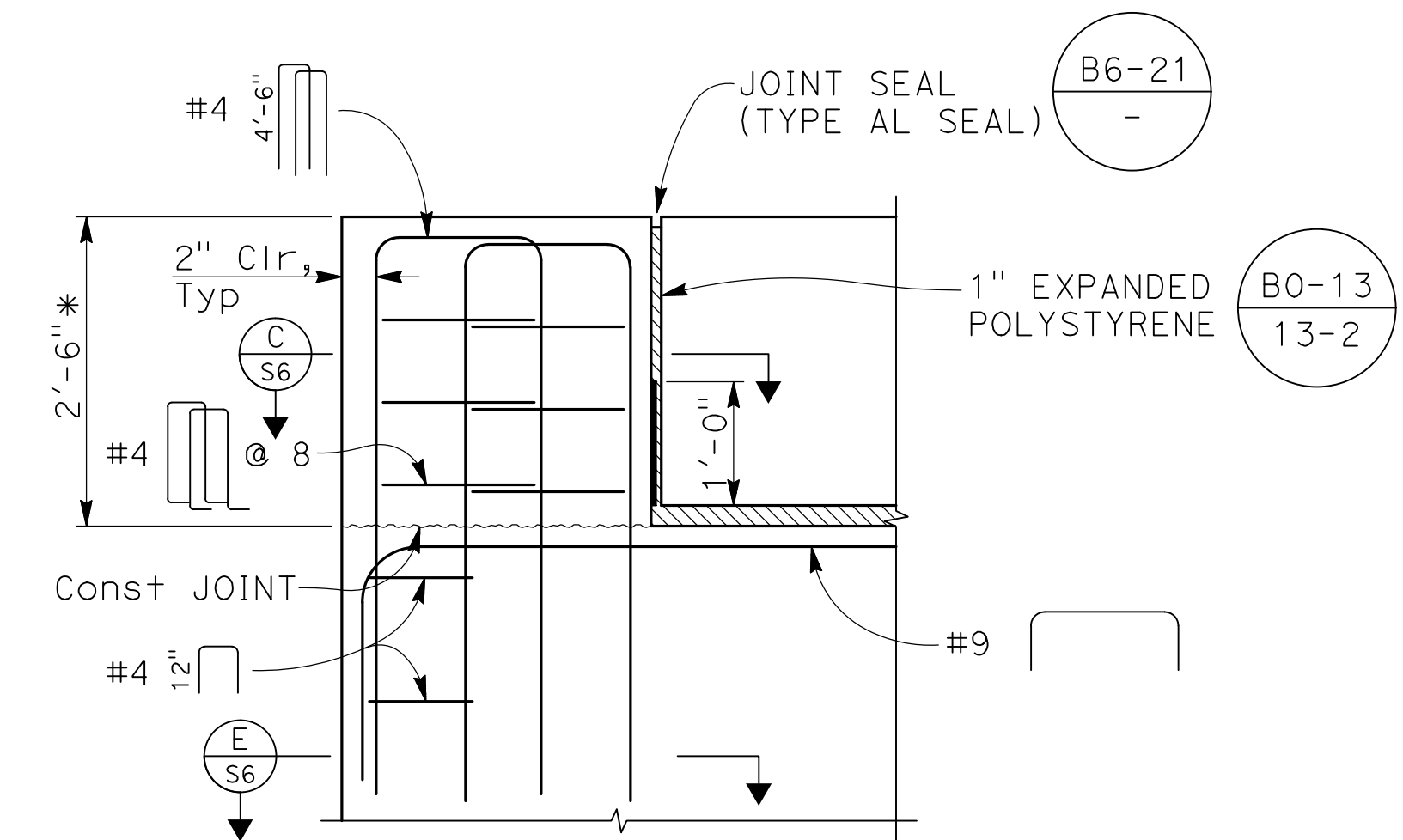


NOTE:  
See "JOINT SEAL ASSEMBLY (Max MR=4") sheet for dimension "a".

**DETAIL 1**  
NO SCALE (S7)

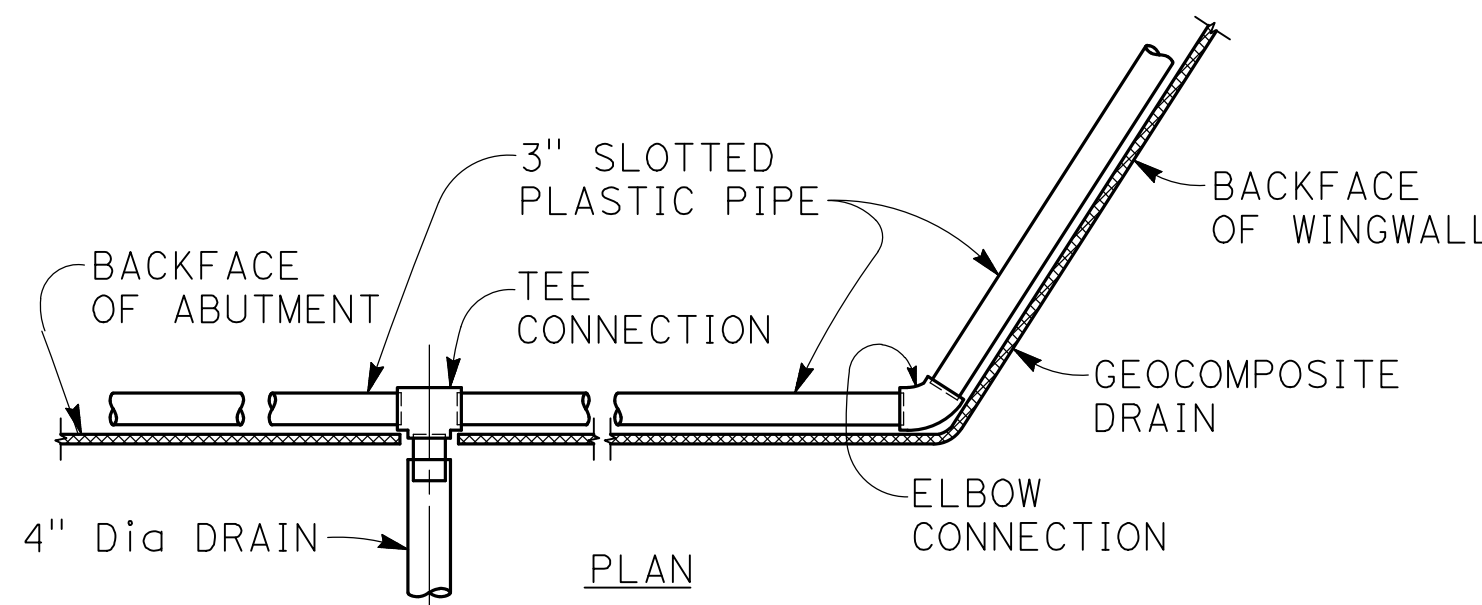
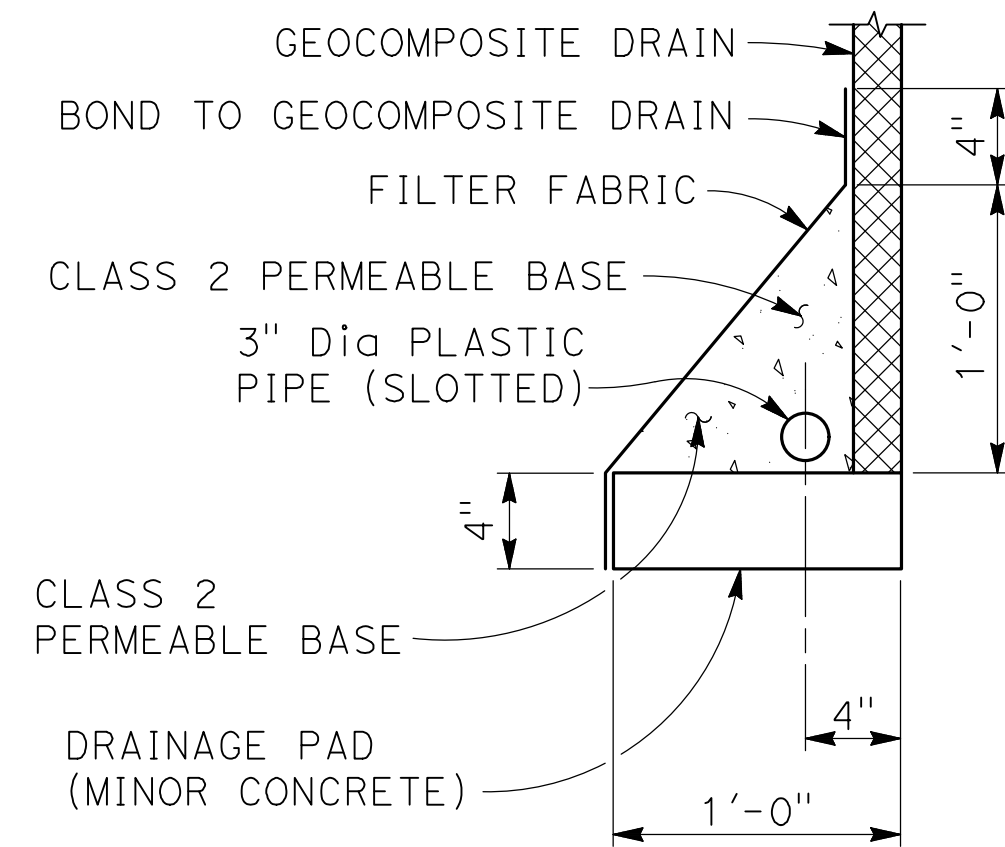


**JOINT PROTECTION DETAIL 2**  
3/4" = 1'-0" (S7)



NOTE:  
\* CAST SHEAR KEYS AFTER SLAB UNITS HAVE BEEN PLACED.

**DETAIL 3**  
3/4" = 1'-0" (S7)



**TEE CONNECTION**

- NOTES:
1. Geocomposite drain, treated permeable base, and 3" dia slotted plastic pipe continuous behind abutment and wingwalls.
  2. Provide 'Tee' connection at each 4" dia drain.
  3. 4" dia drain sloped to drain and outlet to daylight.

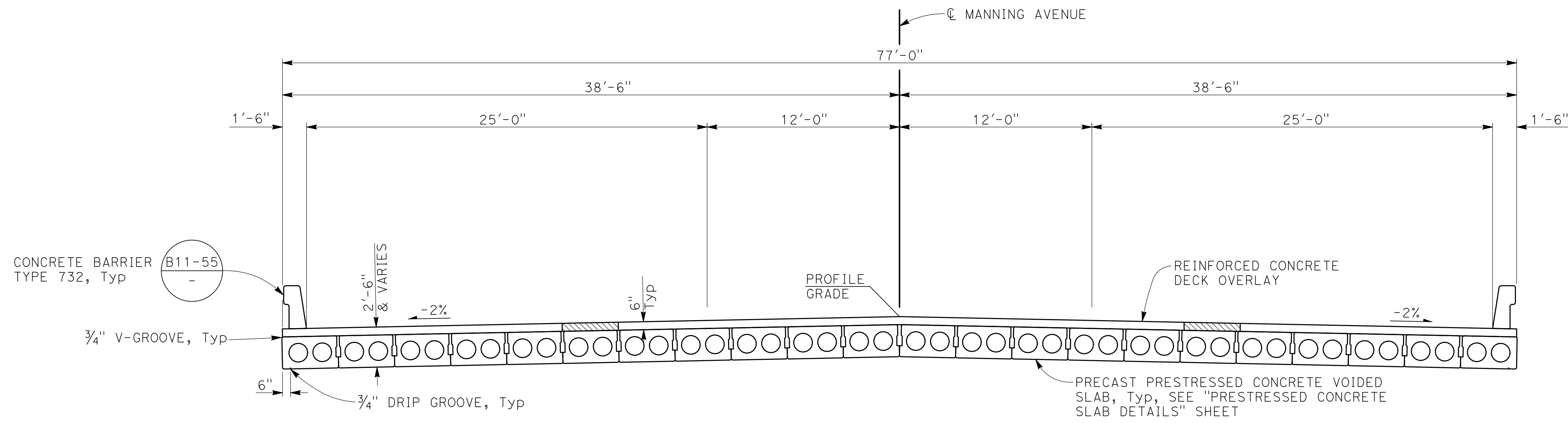
**DRAINAGE DETAIL 4**  
NO SCALE (S7)

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

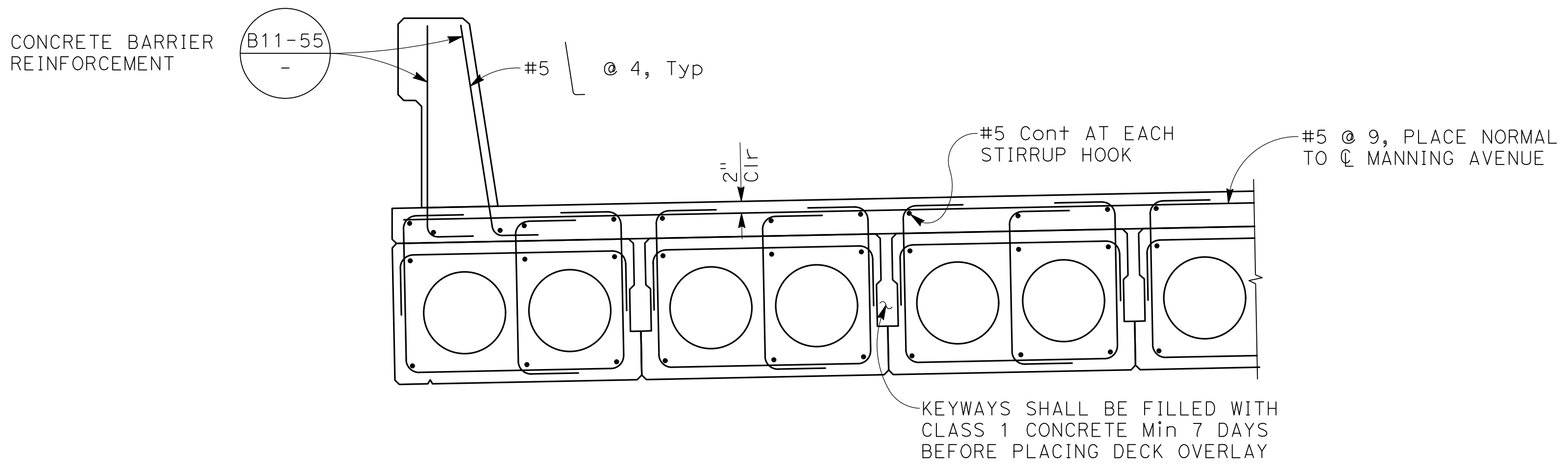
PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/16)

DESIGNED: RBS DRAWN: MLT CHECKED:		DATE: 6/25/15 RESIDENT ENGINEER	DATE:	SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DEPARTMENT OF PUBLIC WORKS AND PLANNING <b>ABUTMENT DETAILS No. 2</b>
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.									DRAWING NO. S-7 SHEET NO. 46 TOTAL 52

201301557



**TYPICAL SECTION**  
1/4" = 1'-0"



**PARTIAL TYPICAL SECTION**  
3/4" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/16)

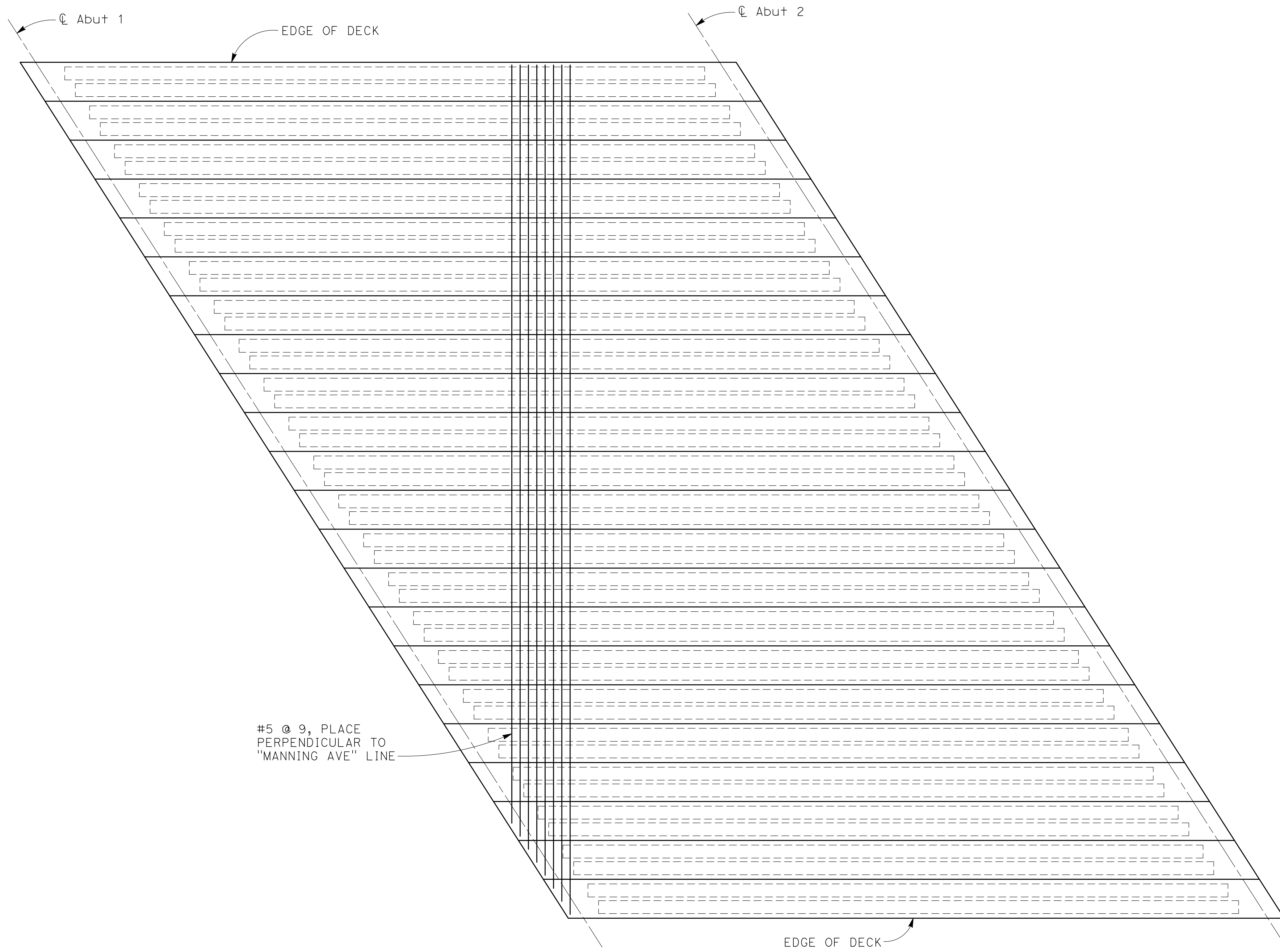
DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		TYPICAL SECTION
CHECKED:	DATE: 6/25/15					ROAD NO.		DRAWING NO. S-8

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

BRIDGE NO. 42C-0175, BRLS-5942 (198)

SHEET NO. 47 TOTAL 52

201301558



**PRESTRESSED CONCRETE SLAB LAYOUT**

3/16" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

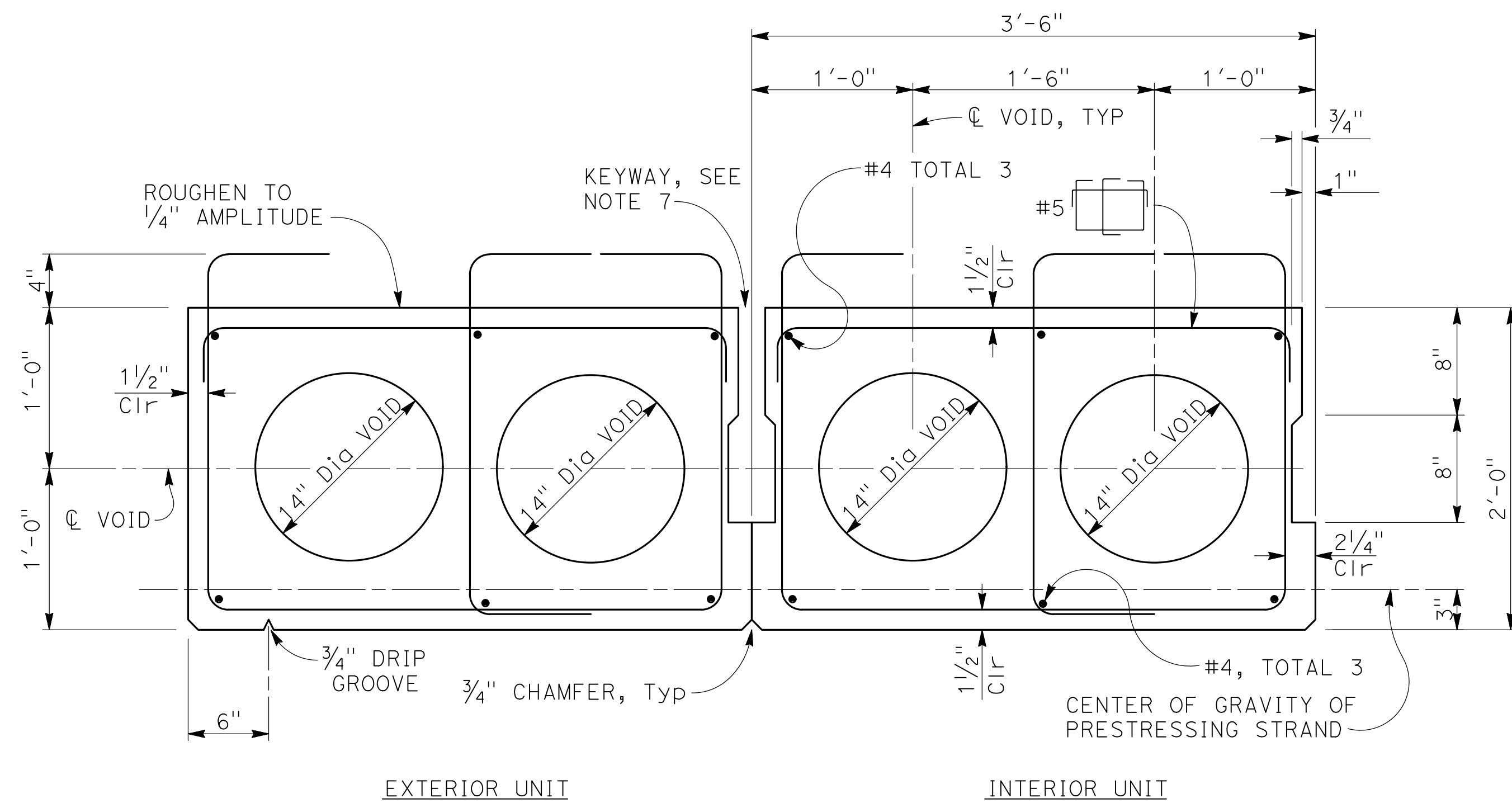
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DESIGNED: RBS		DATE: 6/25/15	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS  5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: MLT		DATE: 6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE			GIRDER LAYOUT	
CHECKED:		DATE: 6/25/15						ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. S-9	SHEET NO. 48

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

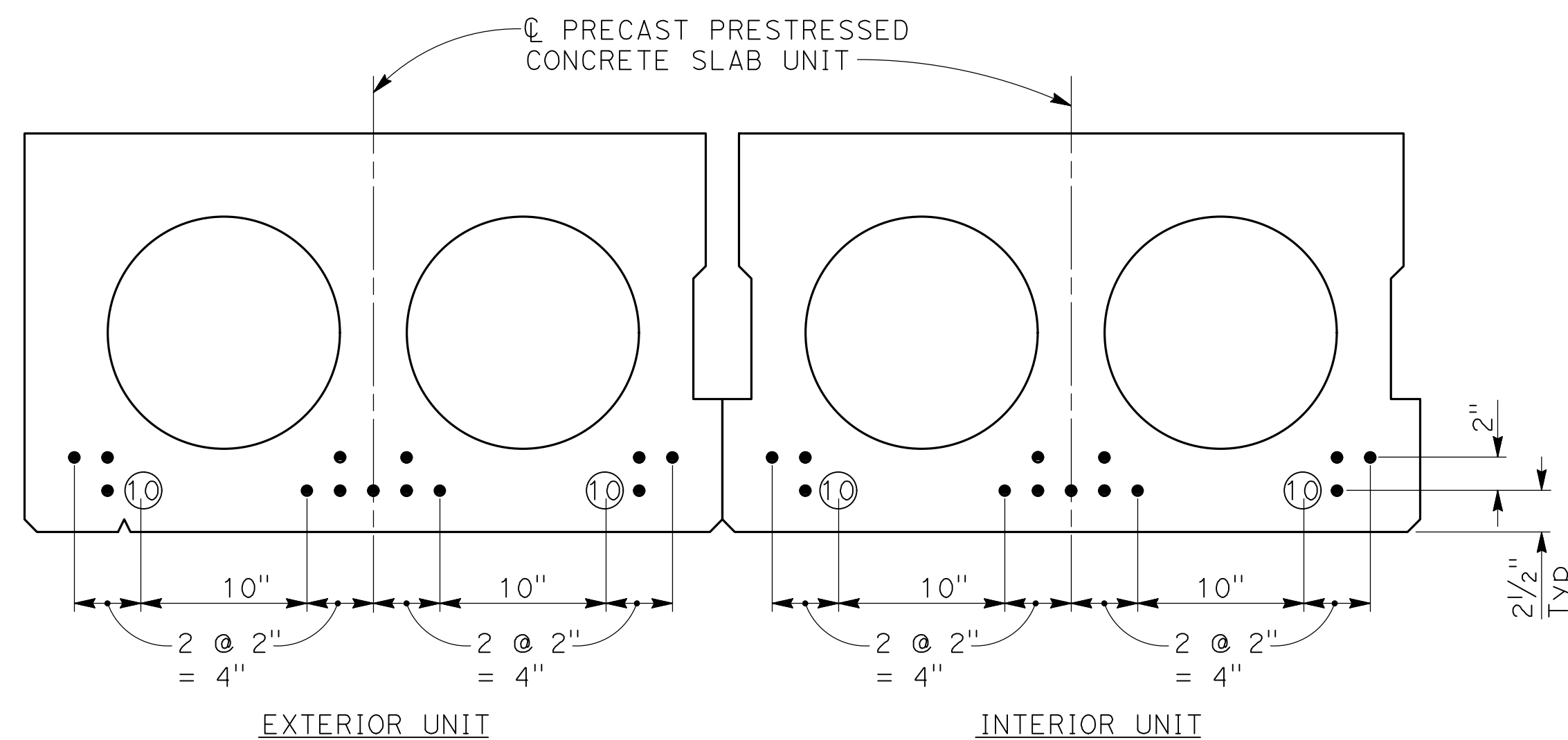
201301559





**TYPICAL PRECAST/PRESTRESSED CONCRETE SLAB UNITS**

1 1/2" = 1'-0"



**LEGEND:**

- ⑩ • Denotes continuously bonded strand.
- ⑤ ◦ Denotes debonded strand and debonded length in feet, measured from the ends of the Precast Prestressed Concrete Slab Unit.

**STRAND LAYOUT CONCRETE SLAB**

1 1/2" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

**PRESTRESSING NOTES**

- The Jacking Force (P) is the jacking force required at the point of control along the span. The jacking force does not include any fabrication specific losses.
- The maximum tensile stress in the prestressing steel upon release shall not exceed 75% of the specified minimum ultimate tensile strength of the prestressing steel.
- The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80% of the specified minimum ultimate tensile strength of the pre-stressing steel.
- Concrete strength:  
f'ci is at time of initial stressing  
f'c is at 28 days
- Deflection components are informational and will be used to set screed line elevations.
- Screed line elevations for deck concrete will be determined by the Contractor.
- Contractor may interpolate "P" and "X" values between the limits shown, as approved by the Engineer
- There shall be a minimum of two hold downs per girder for the prestressing.
- Pre-stressing strand shall be 270 ksi low relaxation.
- As, Min is the minimum area required of prestressing steel.
- Keyways to be filled with Class 1 Concrete (4000 psi @ 28 days) a minimum of 14 days prior to placement of composite concrete slab.

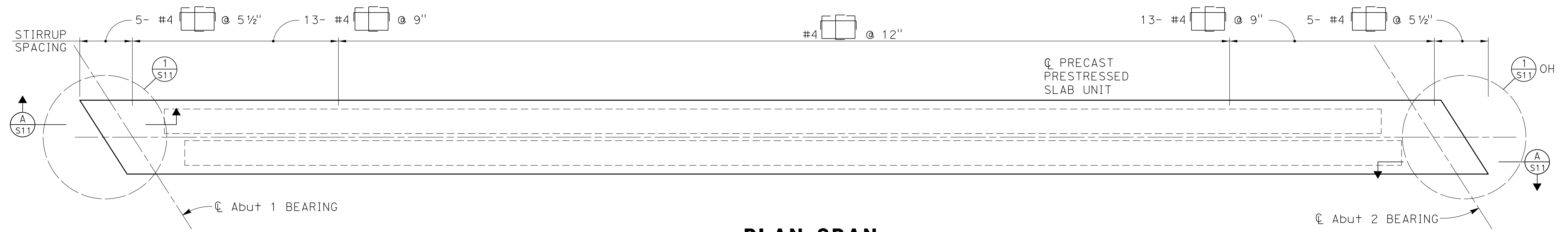
LOCATION	SLAB UNIT LENGTH (L)	SLAB UNIT DEPTH (D)	NUMBER OF 0.6" Dia STRANDS	JACKING FORCE (P) (kips)	CONCRETE STRENGTH (ksi)		MIDSPAN DEAD LOAD DEFLECTION (in)		ADDITIONAL TOP BAR (EACH END)
					f'ci	f'c	DECK	RAIL	
EXTERIOR UNIT	64'-6"	2'-0"	15	44 kips/STRAND = 660 kips	4	6	1.07	0.89	#5 x6'-2" TOTAL 4
INTERIOR UNIT	64'-6"	2'-0"			4	6	1.07	0.89	#5 x6'-2" TOTAL 4

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/18/16)

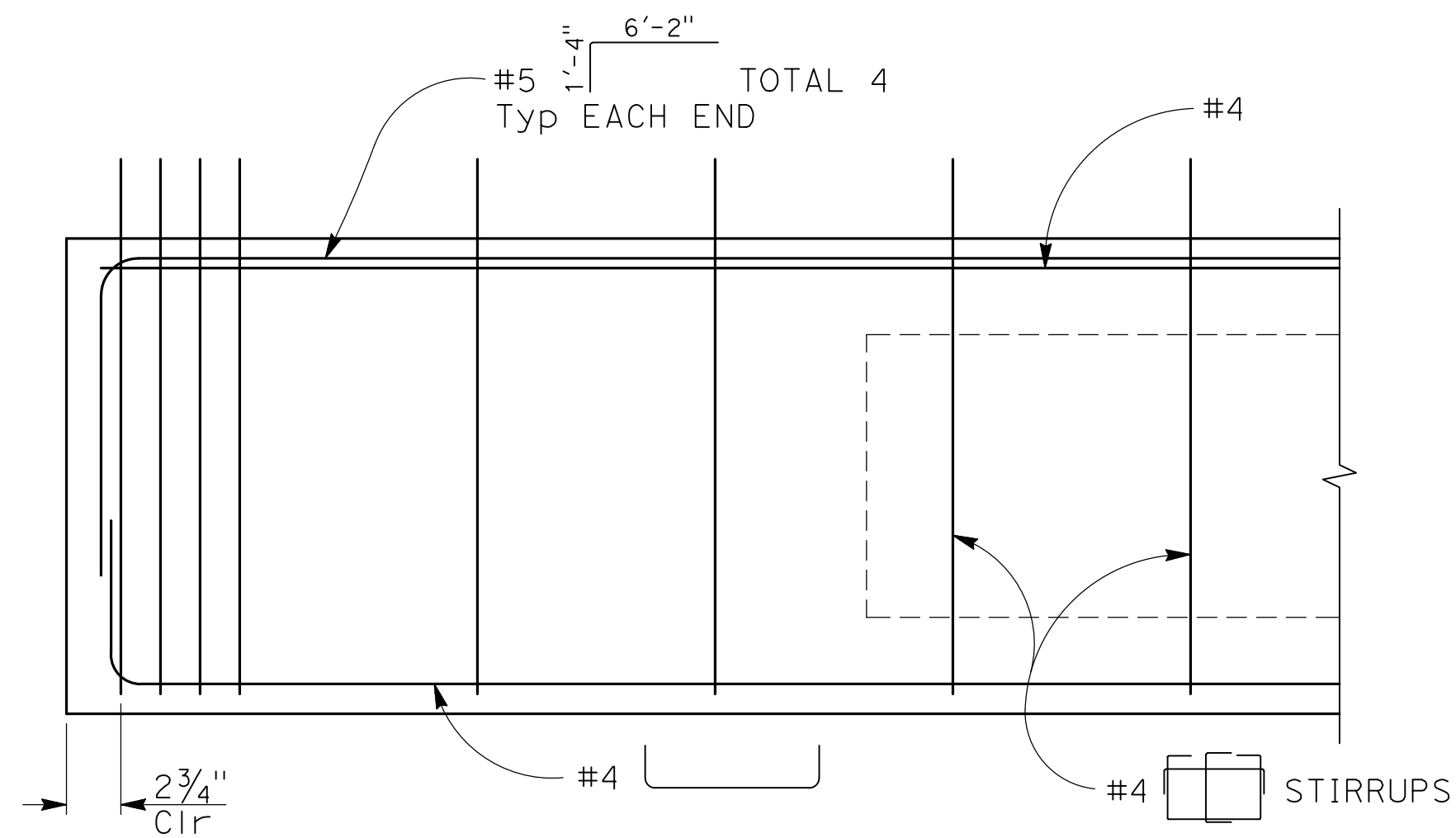
DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		PRESTRESSED CONCRETE SLAB DETAILS No. 1
CHECKED:	DATE: 6/25/15	DATE				ROAD NO.		DRAWING NO. S-10

BRIDGE NO. 42C-0175, BRLS-5942 (198) SHEET NO. 49 TOTAL 52

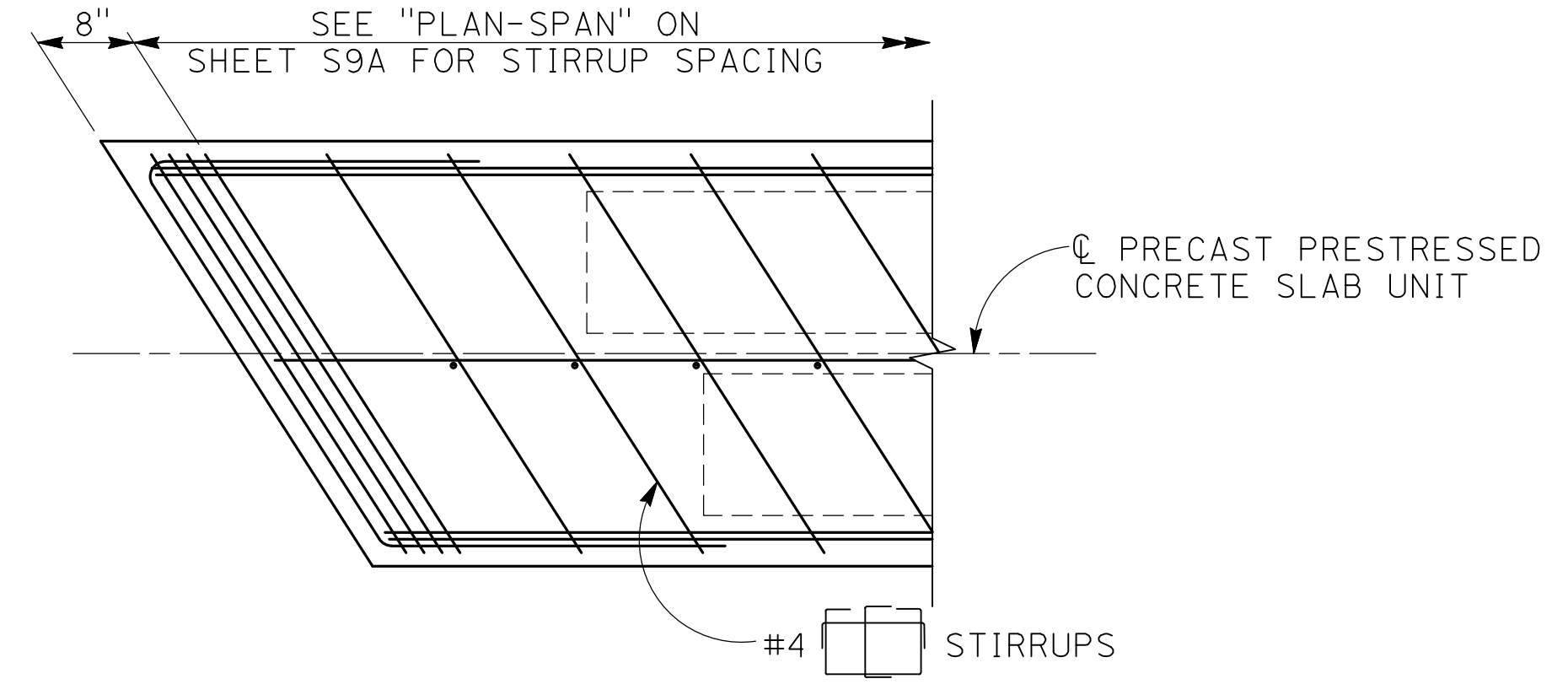
2013015510



**PLAN-SPAN**  
3/8" = 1'-0"



**SECTION A**  
1 1/2" = 1'-0" S11



**DETAIL 1**  
3/4" = 1'-0" S11

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

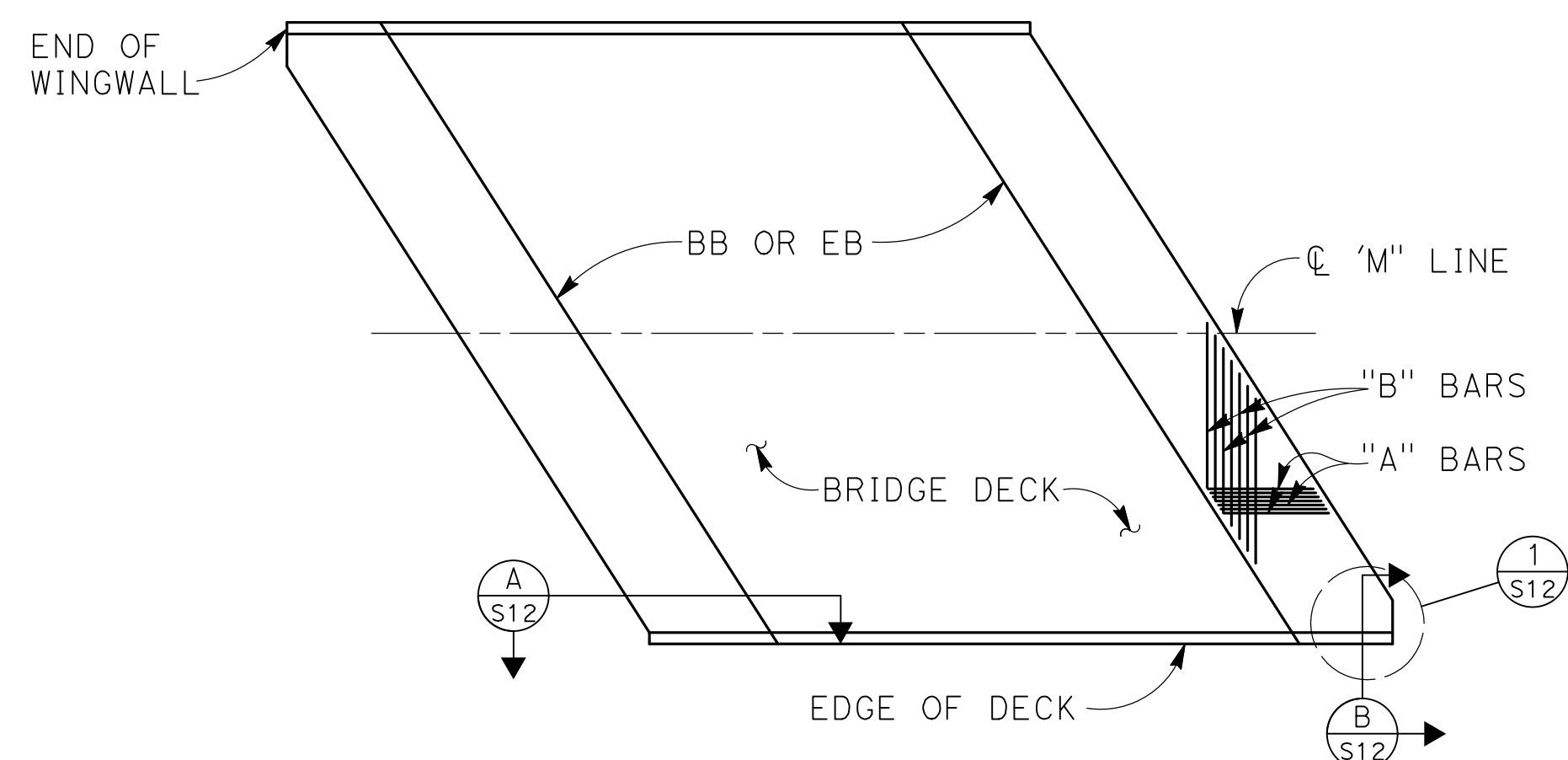
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DESIGNED: RBS DRAWN: MLT CHECKED:		DATE: 6/25/15 RESIDENT ENGINEER DATE: 6/25/15 DATE: 6/25/15	<b>RECORD DRAWING</b>	SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: <b>TRAVERS CREEK BRIDGE ON MANNING AVENUE</b> ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DEPARTMENT OF PUBLIC WORKS AND PLANNING <b>PRESTRESSED CONCRETE SLAB DETAILS No. 2</b> DRAWING NO. S-11 SHEET NO. 50 TOTAL 52
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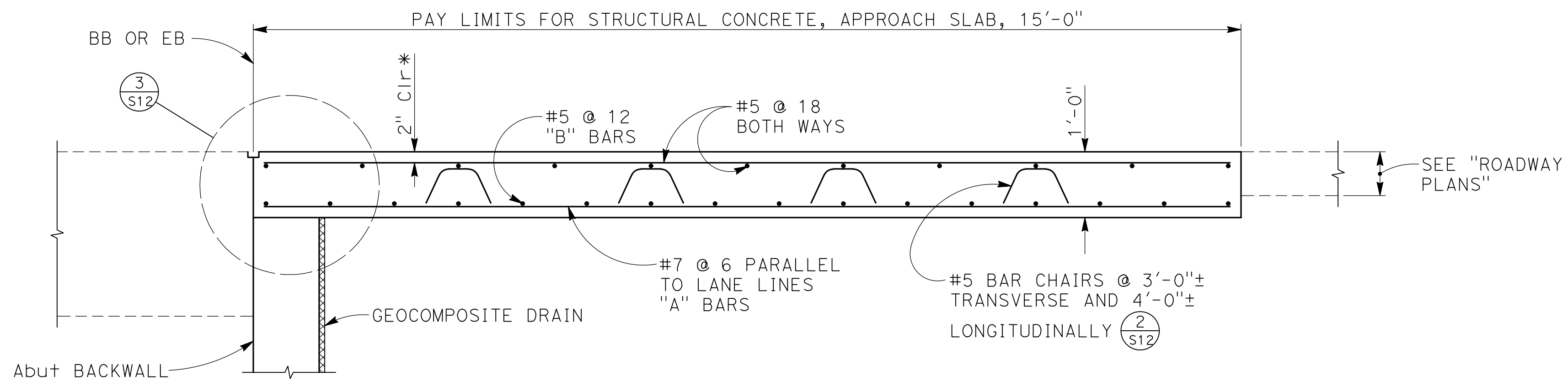
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



2013015 (2013015S11)

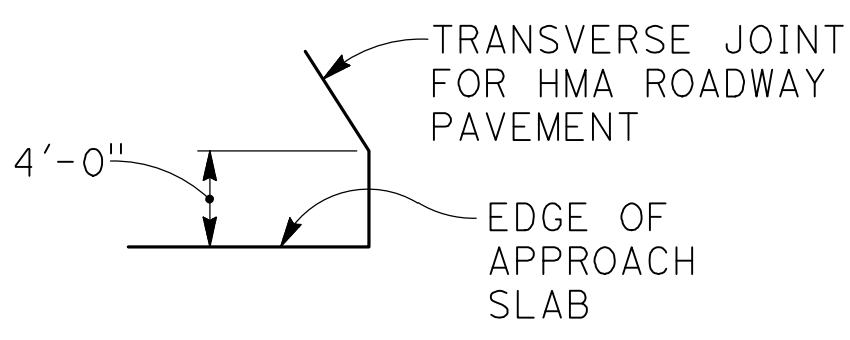


**PLAN**  
1" = 20'  
N

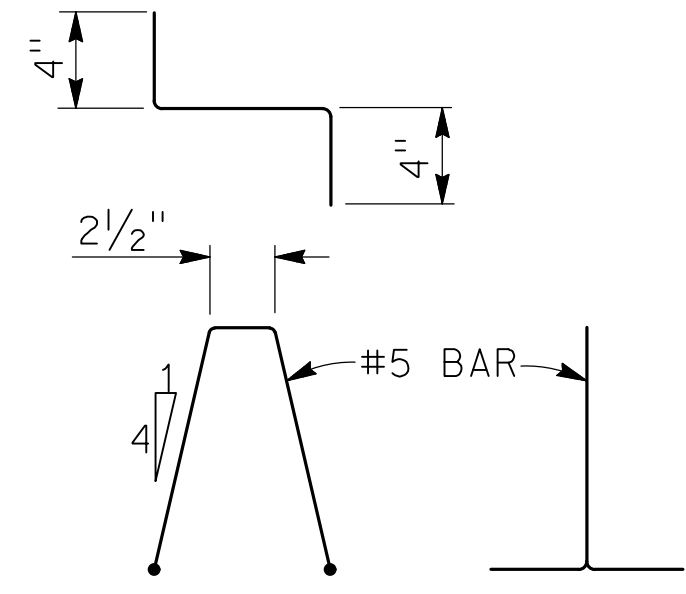


**SECTION A**  
3/4" = 1'-0" S12

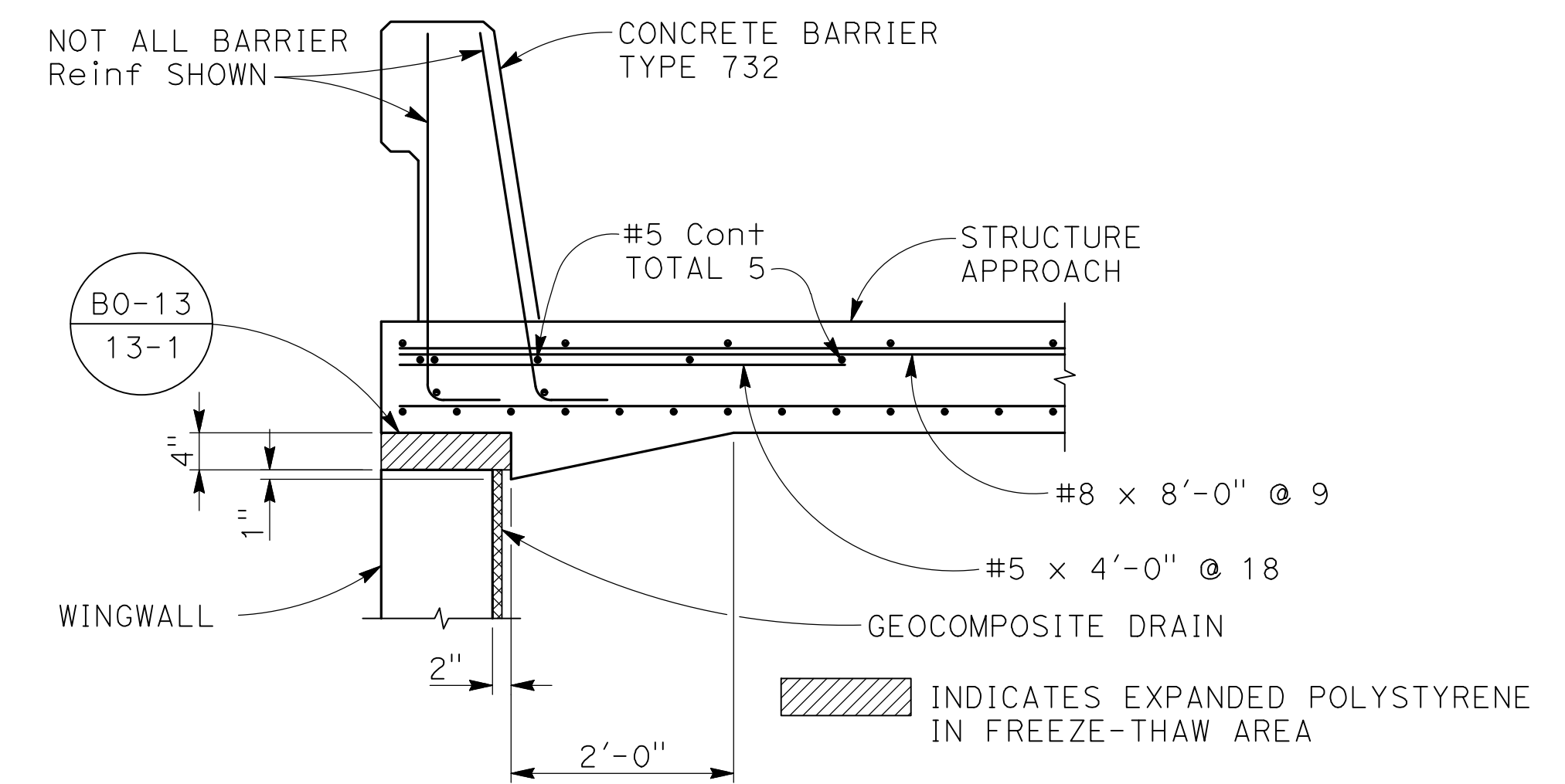
\* MIN COVER MUST BE 2 1/2" IN FREEZE-THAW AREA



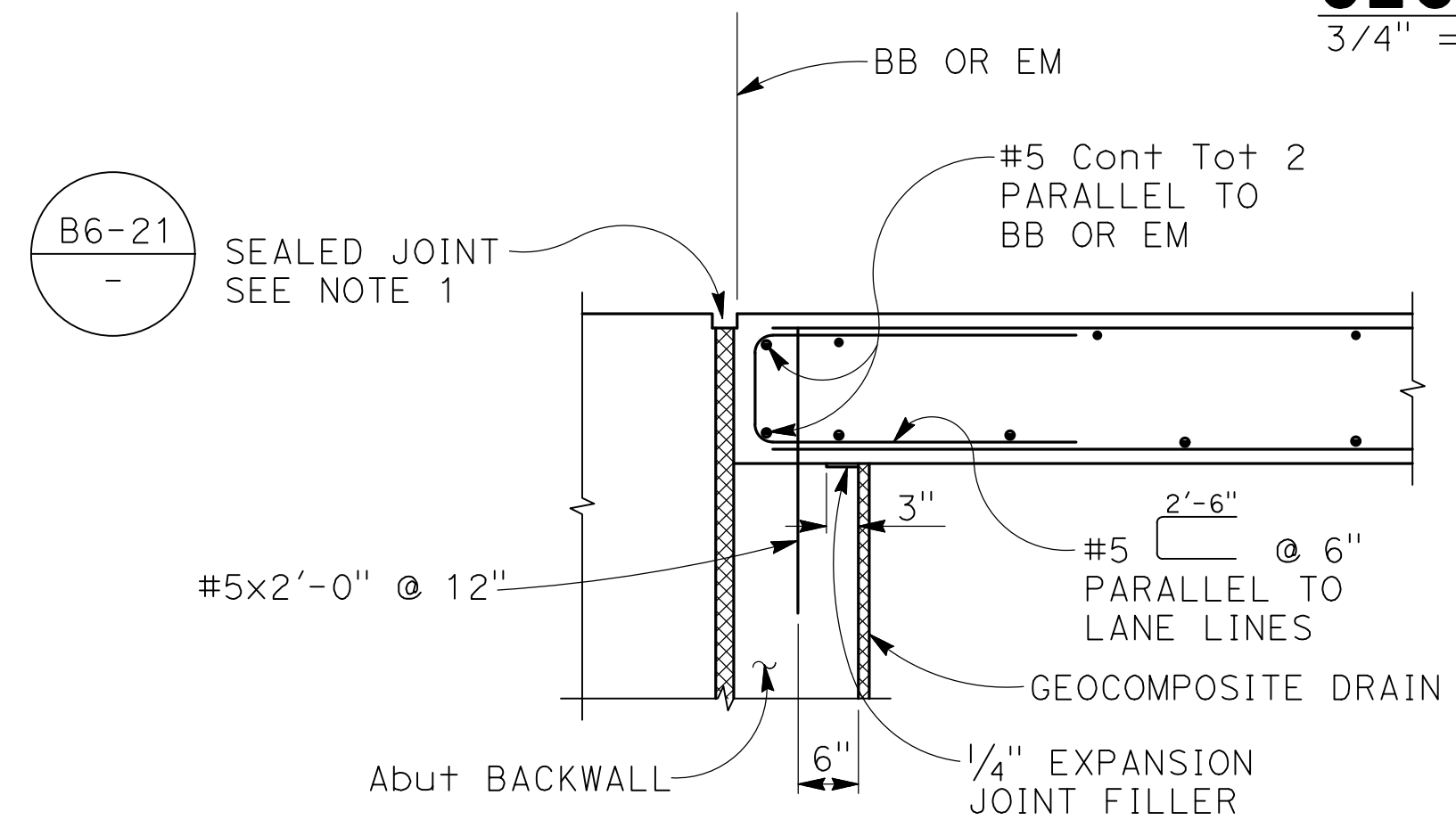
**DETAIL 1**  
NO SCLAE S12



**BAR CHAIR DETAIL 2**  
1 1/2" = 1'-0" S12



**SECTION B**  
3/4" = 1'-0" S12



**SEAL TYPE ABUTMENT TIE DETAILS 3**  
3/4" = 1'-0" S12

- NOTES:
- For details not shown, see Structure Plans.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - For transverse contact joint with new PCC paving, refer to P10.
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along roadway.
  - Provide cross slope to match deck surface grade. See "TYPICAL SECTION" and "DECK CONTOURS" sheets.

LEGEND:  
 Remove all polystyrene after concrete is cured.

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

PLAN CHECK SET/NOT FOR CONSTRUCTIONS (1/19/16)

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING			
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		STRUCTURE APPROACH DETAILS			
CHECKED:	DATE: 6/25/15					ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-12	SHEET NO. 51	TOTAL 52
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.											

2013015512

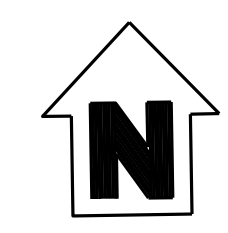
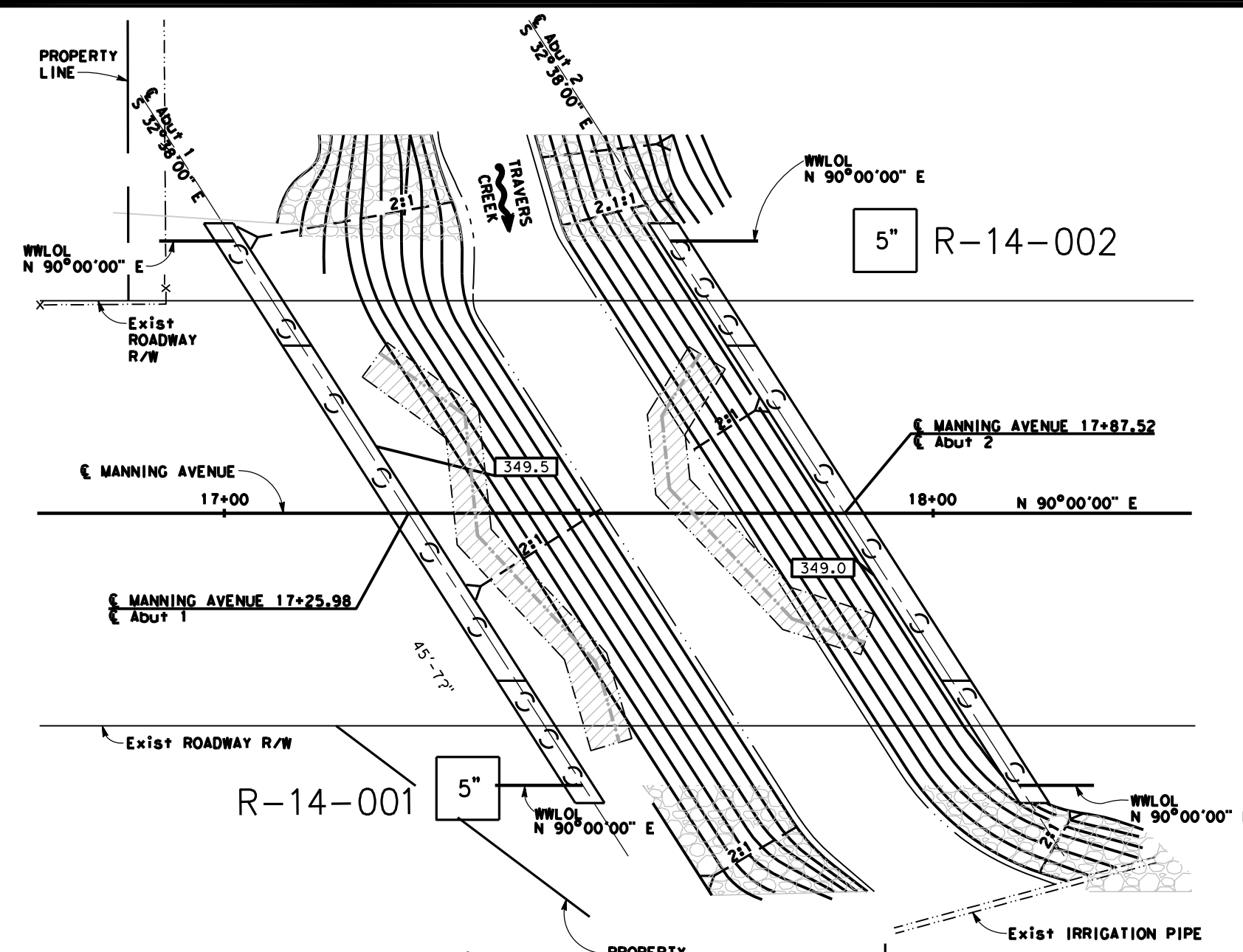
Notes:  
 Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"  
 Modified California Sampler: I.D. = 2.5"; O.D. = 3"  
 Hammer Assembly: A 140 lb hammer with a 30" drop  
 (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010)

See Caltrans 2010 Standard Plans A10F, A10G and A10H for Soil and Rock Legends.

All dimensions are in feet unless otherwise shown.

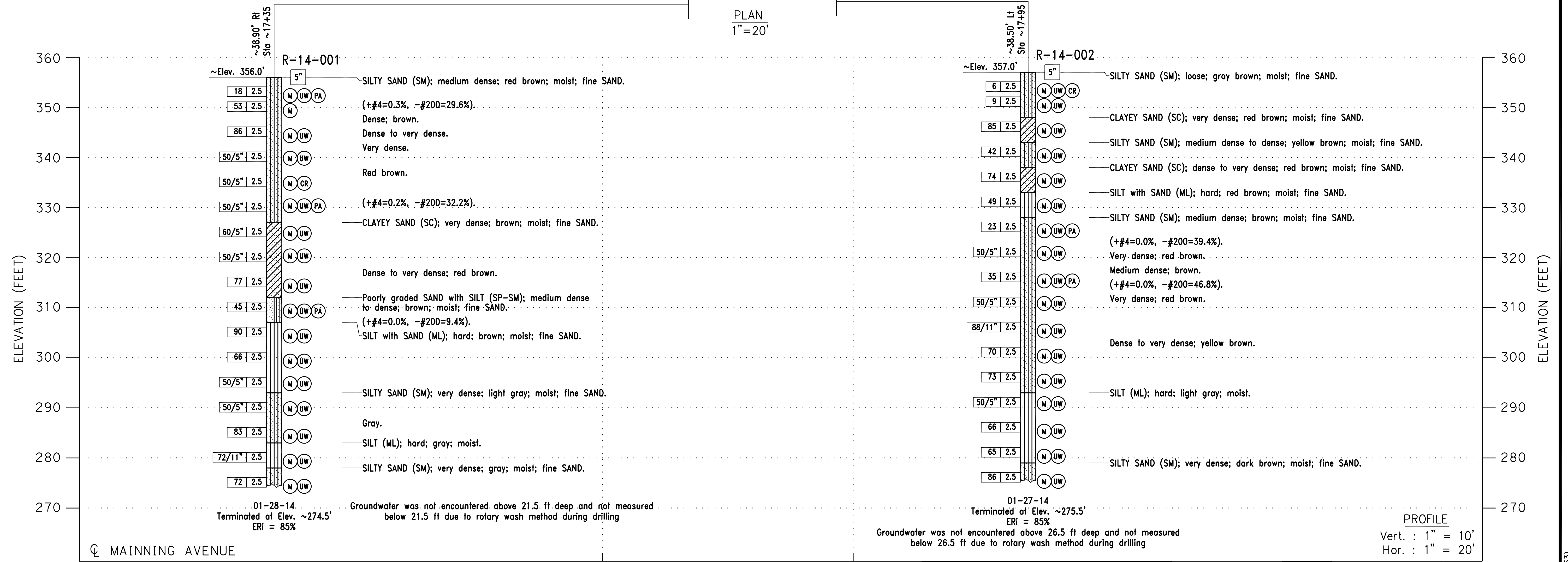
Base map is provided by Biggs Cardosa Associates Inc 2016.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
6	FR	LOCAL			

1/8/16  
 GEOTECHNICAL PROFESSIONAL DATE  
 GARY PARIKH  
 No. G.E. 666  
 Exp. 12/31/17  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA  
 GEOTECHNICAL

PLANS APPROVAL DATE  
 The County of Fresno or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 PARIKH CONSULTANTS, INC.  
 2360 OUME DRIVE, SUITE A  
 SAN JOSE, CA 95131



DRAWN BY	KIM OUYANG	V.SANTOS	PETER WEI
CHECKED BY	PETER WEI	FIELD INVESTIGATION BY:	PROJECT ENGINEER
		DATE: JANUARY 2014	

BIGGS CARDOSA ASSOCIATES INC  
 STRUCTURAL ENGINEERS  
 5250 N. Palm Avenue, Suite 211  
 Fresno, California 93704  
 559-449-8686

PROJECT	
TRAVERS CREEK BRIDGE ON MANNING AVENUE	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING		
LOG OF TEST BORINGS		
DRAWING NO.	SHEET NO.	TOTAL

(11/30/15)

2013015



- LEGEND :**
- Area of Potential Effect (APE)
  - Rock Slope Protection (RSP)
  - Temporary Staging Area
  - Temporary Equipment Access Area
  - 100 yr. Flood Plain Area

- Riparian
- Potential Temporary Bypass

**Impacts:**

*Riparian*  
 Permanent = 0.01 ac  
 Temporary = 0.004 ac

*Stream Channel*  
 Permanent = 0.05 ac  
 Temporary = 0.04 ac

**Total:**  
 Permanent = 0.06 ac  
 Temporary = 0.044 ac

**Trees to be Removed**

● Approximately 101 trees  
 - 66 Within Floodplain  
 - 35 Outside Floodplain

*Traver Creek Bridge  
 on  
 Manning Avenue  
 (C42C0175)*

Permanent and Temporary  
 Impacts

# **Travers Creek Bridge at Manning Avenue Replacement Project**



## **Natural Environment Study (NES)**

**Fresno County, California**  
Caltrans District 6 – Route 201 – FRE

BRLO-5942(198)

**April 2015**



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**Natural Environment Study**  
**TRAVERS CREEK BRIDGE AT MANNING AVENUE**  
**REPLACEMENT PROJECT**

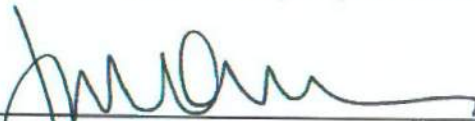
Caltrans District 6 – Route 201 – FRE

BRLO-5942 (198)

**April 2015**

California Department of Transportation  
and  
Fresno County Department of Public Works & Planning

Prepared By:



Date: 5/4/2015

Jeannette Owen, Biologist  
(916) 447-1100  
FirstCarbon Solutions

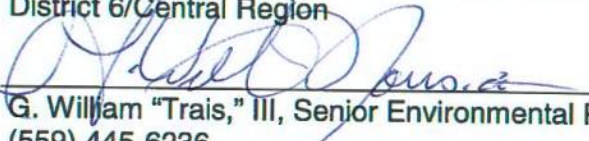
Recommended  
for Approval By:



Date: 5/4/2015

Primavera Parker, Associate Environmental Planner (Biologist)  
(559) 445-5502  
Southern San Joaquin Management Branch  
District 6/Central Region

Approved By:



Date: 5/4/2015

G. William "Trais," III, Senior Environmental Planner  
(559) 445-6236  
Southern San Joaquin Management Branch  
District 6/Central Region



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## Summary

This Natural Environment Study (NES) was prepared for the County of Fresno (County) Travers Creek Bridge at Manning Avenue Replacement Project (project) in Fresno County. This document identifies and quantifies biological resources that may be affected by project implementation. Field studies were undertaken in June 2014 to identify and map biological resources within the Biological Study Area (BSA). An additional field study was undertaken in October 2014 to identify biological resources within proposed staging areas. The following impacts on biological resources may result from the proposed project.

### ***Special-status Species Impacts***

The database searches identified 12 special-status wildlife species that could potentially occur in the region. Of these 12 species, two special-status wildlife species have the potential to occur in the BSA and proposed staging areas. The following special-status species have the potential to occur within the BSA and were considered in the impact analysis of this document:

- Pallid bat (*Antrozous pallidus*);
- Hoary bat (*Lasiurus cinereus*); and
- Birds protected by the Migratory Bird Treaty Act (MBTA).

### ***Special-status Bats***

Special-status bat species have the potential to occur within and adjacent to the BSA and proposed staging areas within large trees, including pallid bat and hoary bat. Other common bat species such as Yuma myotis (*Myotis yumaensis*), fringed myotis bat (*Myotis thysanodes*), and long-legged myotis bat (*Myotis volans*) may also occur in and adjacent to the BSA and proposed staging areas. The existing bridge and trees within the BSA and proposed staging areas were evaluated for the presence or sign of bat species. No roosting bats or signs of roosting bats were found during the project survey, and minimization measures will be implemented during bat maternity roosting season (April 15 through August 31) to reduce potential impacts to bats.

### ***Other Nesting Raptors and Migratory Birds***

Trees, riparian areas adjacent to Travers Creek, and/or a man-made bridge may provide potential nesting habitat for birds protected under the MBTA and other special-status birds, including raptors. Several common species of raptors may nest in suitable habitat within and

adjacent to the BSA and proposed staging areas including common raptors such as Cooper's hawk (*Accipiter cooperii*) and red-tailed hawk (*Buteo jamaicensis*).

If construction occurs during the non-nesting season (typically September 1 through February 14), no impacts are expected; however, if construction activities are scheduled to occur during the nesting season, mitigation would be necessary to avoid potential impacts to migratory birds and their nests. Implementation of avoidance and minimization measures will reduce direct and indirect impacts raptors and other migratory birds.

### ***Special-status Species Avoidance and Minimization Measures***

Pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), the County has proposed a number of reasonable and prudent measures to minimize and/or avoid impacts to threatened or endangered animal species. These measures are considered part of the project design. As a result, the proposed project is not anticipated to result in the take of any of the listed species as defined by Section 86 of the California Fish and Game Code. The project effects are primarily temporary and discountable with the implementation of avoidance and minimization measures, and the permanent effects are insignificant and limited to very small discreet locations.

### ***Biological Community Impacts***

Table S-1 presents the amount of biological communities that occur within the BSA and will be permanently or temporarily impacted by project construction.

**Table S-1. Estimated Areas of Temporary and Permanent Impact to Biological Communities**

<b>Vegetation Types</b>	<b>Acres within the BSA</b>	<b>Temporary Vegetation Impacts (Acres)</b>	<b>Permanent Vegetation Impacts (Acres)</b>
Agricultural	0.080	0.000	0.000
Travers Creek*	0.070	0.029	0.036
Riparian	0.060	0.018	0.032
Ruderal/Disturbed	0.830	0.112	0.062
Urban/Developed	3.330	0.397	1.226
<b>Total</b>	<b>4.370</b>	<b>0.556</b>	<b>1.356</b>
Note: * Vegetation communities do not necessarily equal limits of USACE jurisdiction.			

Table S-2 presents the acreage of biological communities that occur in the staging areas that may be temporarily impacted during project construction. No permanent impacts are anticipated.

**Table S-2. Potential Impacts to Communities within the Proposed Staging Areas**

Proposed Staging Area	Vegetation Type	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Area 1	Ruderal/Disturbed	0.500	0.000
Area 2	Ruderal/Disturbed	0.500	0.000
Area 3	Ruderal/Disturbed	0.500	0.000
<b>Total</b>		<b>1.500</b>	<b>0.000</b>
Note: * One or more of the proposed staging areas may be used by the Contractor.			

### ***Wetlands/Waters of the United States and State Impacts***

The proposed project will temporarily impact 0.021 acre and permanently impact 0.029 acre of intermittent creek habitat below the OHWM. The intermittent creek is a water of the United States under the jurisdiction of the United States Army Corps of Engineers (USACE). Authorization for such fill would be secured from USACE via the Section 404 permitting process prior to project implementation. Because a Section 404 permit would be required from the USACE, a Section 401 permit would be also required from the Regional Water Quality Control Board (RWQCB). CDFW also maintains jurisdiction over creeks and their associated riparian habitat. The County shall obtain authorization from the USACE, RWQCB, and CDFW to fill/disturb these features prior to project implementation.

### ***Plant Impacts***

A total of three special-status plant species were determined to have at least some potential to occur within the region of the BSA: San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), and California satintail (*Imperata brevifolia*). All areas within the BSA and proposed staging areas were evaluated for suitable habitat that may support special-status plant species; however, all three species could be eliminated from having potential to occur on site because of a lack of suitable habitat to support these species. No individuals or populations of special-status plants were identified within the BSA or proposed staging areas; therefore, no impacts to special-status plants are anticipated.

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## **List of Abbreviated Terms**

BMP	Best Management Practice
BSA	Biological Study Area
Cal IPC	California Invasive Plant Counsel
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranking
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship
ESA	Environmentally Sensitive Area
FCS	FirstCarbon Solutions
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
GPS	Global Positioning System
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Association
OHWM	Ordinary High Water Mark

PG&E	Pacific Gas and Electric
Project	Travers Creek Bridge at Manning Avenue Replacement Project
PIA	Project Impact Area
RWQCB	Regional Water Quality Control Board
SR	State Route
TCZ	Temporary Construction Zone
TNW	Traditionally Navigable Water
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WEAP	Worker Environmental Awareness Program

# **Chapter 1. Introduction**

---

The purpose of this Natural Environment Study (NES) is to describe the existing biological environment and to determine to what extent the Travers Creek Bridge at Manning Avenue Replacement Project (project) may affect biological resources. The NES summarizes technical documents and studies (e.g., focused species studies, wetland delineation, biological assessments, etc.) related to biological resources in the Biological Study Area (BSA). The BSA was developed with the coordination of the project engineers and the biological resources technical staff to include all project elements and activities as well as potential effects. The BSA was developed to be at least 50 feet away from project construction, when possible within the California Department of Transportation (Caltrans) right of way, to ensure full disclosure of potential biological impacts. The BSA encompasses approximately 4.37 acres of mostly rural and residential areas of Fresno County (Figure 1). This document presents technical information upon which later decisions regarding project design will be developed.

## **1.1. Project History**

### **1.1.1. Existing Facilities**

The BSA is predominantly located within the footprint of the existing Travers Creek Bridge and its associated right-of-way, on Manning Avenue. Vegetation within and around the existing bridge is primarily characterized by riparian tree and shrub vegetation associated with Travers Creek. The topography within the vicinity of the proposed project is generally flat. Nearby land uses are predominantly agricultural and/or rural residential in nature. The existing bridge is a two-lane, single span, cast-in-place reinforced concrete T-Beam structure with asphalt overlay supported on reinforced concrete abutments. The bridge, originally constructed in 1925 and widened in 1942, is approximately 33 feet long and 28 feet wide from curb to curb. In a routine Bridge Inspection Report by Caltrans dated December 9, 2010, the bridge was given a sufficiency rating of 48.4 and flagged as structurally deficient.

### **1.1.2. Purpose and Need**

The primary purpose of the proposed project is to replace the structurally deficient East Manning Avenue Bridge (Bridge No. 42C0175) to improve public safety. In a routine Bridge Inspection Report completed by Caltrans in December 2010, the bridge was given a sufficiency rating of 48.4 and flagged as structurally deficient. According to the Feasibility Study prepared by Biggs Cardoza Engineering, all portions of the existing structure will require replacement. The original 1925 structure and the widened 1942 structure require

replacement due to the existing deficiencies. The specific objectives of the project are the following:

- Improve bridge performance in the event of the maximum credible earthquake;
- Accommodate existing and projected future traffic volumes by providing the infrastructure necessary to widen Manning Avenue from 2 to 4 lanes within 10 years;
- Reduce maintenance costs; and
- Improve public safety by replacing the structurally deficient bridge.

## **1.2. Project Description**

The proposed project is located in unincorporated Fresno County, approximately 1.4 miles east of the City Of Reedley and approximately 2.0 miles north of Tulare County border (Figure 1). The project site is generally located by Alta Avenue (east), agricultural operations (north and south), and South Englehart Avenue (west) (Figure 2 and Figure 3). The proposed project is located on the Reedley 7.5-minute United States Geological Survey topographic quadrangle map, Township 15 South, Range 24 East, Section 19 (Latitude 36° 36' 14.45" North; Longitude 119° 24' 21.40" West).

The County of Fresno (County) proposes to replace the existing the Travers Creek Bridge on East Manning Avenue. The proposed bridge replacement project is eligible for federal Highway Bridge Program funding. This project includes the construction of a new bridge solving the functional and structural deficiencies of the existing bridge. The current Travers Creek Bridge is approximately 33 feet long and 28 feet wide. The proposed project would replace the structurally deficient two-lane bridge with a new widened bridge that would be striped for two lanes, but would be wide enough to accommodate the County's future plan to widen Manning Avenue from two to four lanes within 10 years. The new bridge would be 60 feet long and 77 feet wide. The bridge would be constructed according to current Caltrans standards.

A number of other agencies in addition to the County will serve as Responsible and Trustee Agencies, pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15381 and Section 15386, respectively. Federal, state, and regional agencies that may have jurisdiction over specific activities associated with the BSA include but are not necessarily limited to:

- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)
- California Department of Fish and Wildlife (CDFW)
- Regional Water Quality Control Board (RWQCB)

### **1.2.1. Project Phasing**

Construction of the project could span two construction seasons. It is anticipated that construction activities would commence in fall of 2016 or spring of 2017, and are anticipated to take eight months to complete. The timing of construction requires further coordination with the appropriate Regulatory Agencies such as US Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). It is anticipated that the Travers Creek Bridge and its associated improvements would be constructed over two stages. A description of each phase follows.

#### **1.2.1.1. STAGE 1**

During Stage 1, traffic would be maintained on the existing bridge. The outer portions of the new bridge will be constructed on the north and south sides of the existing bridge. The use of a precast voided slab bridge will minimize impacts by eliminating the need for falsework in the creek. The precast voided slab units could be lifted into place from cranes located on the creek banks without entering the creek.

#### **1.2.1.2. STAGE 2**

Once Stage 1 is completed, the traffic would be shifted to the two new outer portions. The existing bridge would be removed, the creek would be excavated, rock slope protection would be placed, and the center portion of the new bridge would be constructed. Once the bridge is complete, traffic would be shifted back to the existing alignment. Construction activities, which require accessing the creek, would be planned for the dry season.

### **1.2.2. Project Access and Staging Areas**

To allow equipment to access the project site, vegetation would be removed within the footprint of the proposed bridge, and temporary access would be constructed. Equipment staging would likely occur in one or more of the following three areas: (1) on an approximately 0.5-acre area of land on a property to the southwest, which provides a large flat area but does not provide creek access; (2) on an approximately 0.5-acre area of land on a property to the southeast, which provides a large flat area but does not provide creek access; or (3) directly adjacent to the bridge within a property to the northwest, which provides a large flat area adjacent to the project and also allows for creek access. The contractor will

lease or rent the property from adjacent property owners for construction staging. The staging location may have to shift during the second stage of construction, however. Ideally, staging areas would allow the contractor to access the project site without having to cross lanes of traffic. The County will need to acquire temporary rights of access for traffic staging during construction.

### **1.2.3. Anticipated Construction Equipment**

Project components would be designed and constructed in accordance with applicable provisions of the latest edition of the Standard Specifications issued by Caltrans (California Standard Specifications or CSS) and the American Association of State Highway and Transportation Officials standards. Components of the project would require general construction activities including grading, excavating, trenching, placement of backfill, and asphalt patching. The project would result in approximately 1,200 cubic yards of soil excavation and export from the site (channel), 700 cubic yards of soil fill import to the site (roadway), and 500 cubic yards of rock slope protection fill import to the site (channel).

### **1.2.4. Methods**

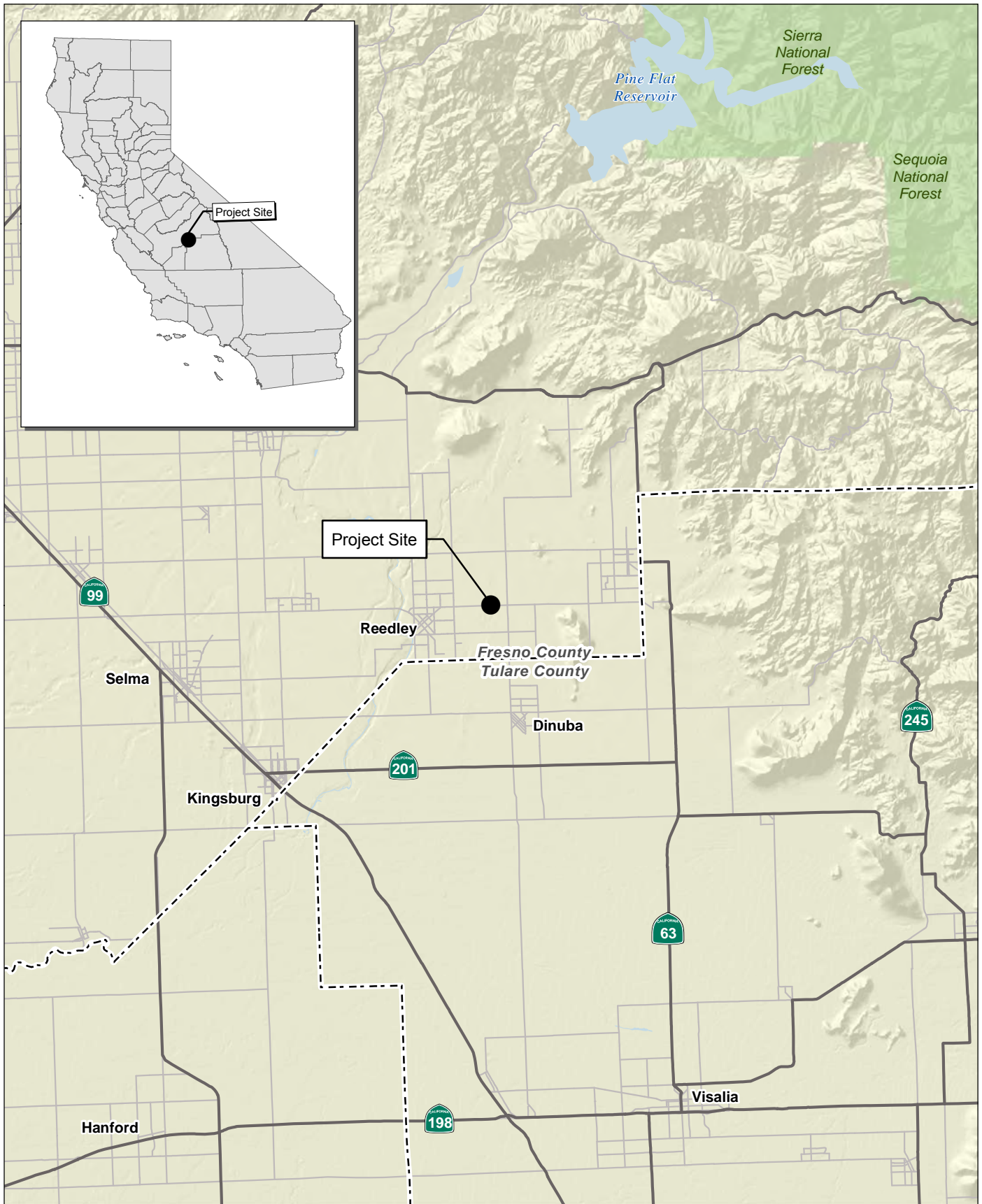
#### **1.2.4.1. BRIDGE REMOVAL**

The project would include the removal of the existing bridge, which includes concrete barriers, bridge deck, bridge abutments, and traffic striping. Structures built before 1978 have the potential to contain asbestos-containing materials and/or lead-based paint. Since the Travers Creek Bridge was constructed in 1925 and widened in 1942, there is potential for asbestos-containing material to be in bridge joints and concrete and potential that lead-based paint would be in the pavement markings. A lead and asbestos survey would be completed by a licensed specialist prior to the commencement of construction, and lead and asbestos containing materials found in during this process would be disposed of in compliance with Caltrans specifications.

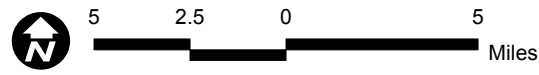
To remove the existing bridge, the bridge deck and girders could be broken using jackhammers. The material would be removed from the creek, and hauled off-site. Once the superstructure is removed, the piers would be broken into pieces with demolition hammers and removed from the site. The existing foundations would be removed to one foot below the original ground level and remain in place.

#### **1.2.4.2. CREEK DIVERSION**

It is anticipated that low flow creek diversion through the project site may be required for the project. Fill and culverts may be used to divert the stream through the project site for the installation of new foundations and removal of existing foundations. Water could be diverted through the work site using a corrugated metal pipe, then discharged downstream.



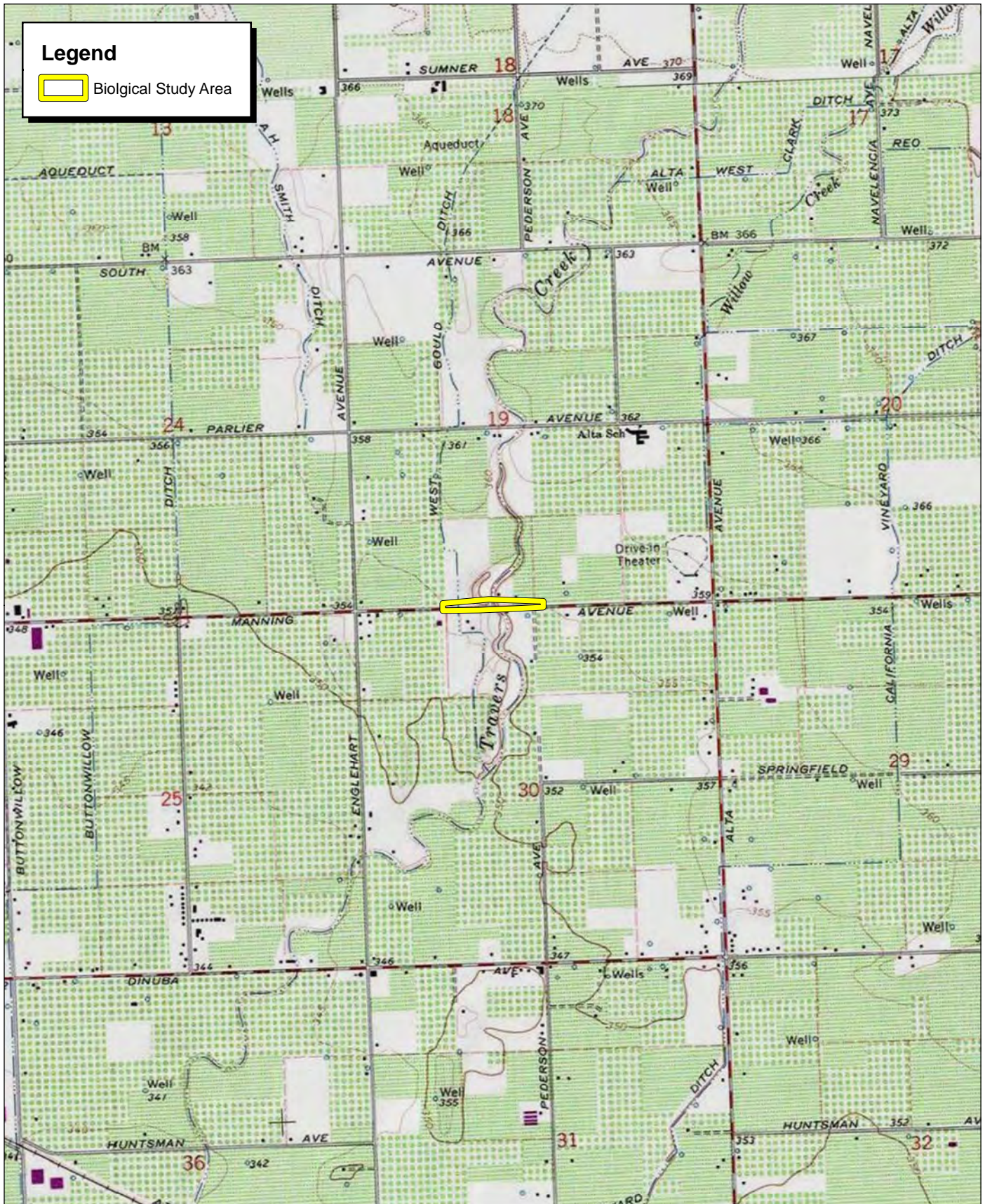
Source: Census 2000 Data, The CaSIL



**Figure 1**  
**Regional Location Map**



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Source: ESRI, National Geographic

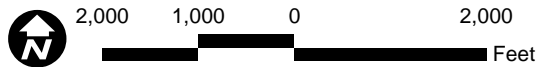


Figure 2  
Local Vicinity Map  
Topographic Base

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Source: ESRI Imagery



Figure 3  
Local Vicinity Map  
Aerial Base

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#### **1.2.4.3. FOUNDATION INSTALLATION**

New bridge supports would consist of 30-inch diameter drilled concrete piles. The bridge would span over the creek. The piles would be installed on top of the creek banks. The piles would be approximately 50 feet deep. An auger would be used to drill the piles to the tip elevation. A steel rebar cage would be placed in the hole, which would be filled with concrete.

#### **1.2.4.4. DRAINAGE FACILITIES**

The existing bridge does not have any drainage facilities. The proposed bridge replacement would be designed per Caltrans and American Association of State Highway and Transportation Officials standards. It is assumed drainage facilities would not be required.

#### **1.2.4.5. UTILITIES**

Existing public and private utilities located throughout the project area will be relocated or removed as necessary in coordination with responsible companies and private landowners. It is anticipated the project would involve the relocation of the following public utilities along certain segments of the roadway:

- Overhead electrical along the north side of Manning Ave (Pacific Gas and Electric [PG&E])
- Overhead electrical along the south side of Manning Ave (PG&E)
- Overhead telecom along the north side of Manning Ave (Verizon)
- Overhead telecom along the south side of Manning Ave (Verizon)
- Telecom attached to the south of the bridge (Verizon)
- Ditch and 24 in Reinforced Concrete Pipe (RCP) Storm Drain to the north- west of the bridge
- Irrigation pipe across the creek 40 feet to the south of the bridge

#### **1.2.5. Avoidance and Minimization Measures**

Implementation of the following avoidance and minimization measures are proposed to ensure the conservation and preservation of all natural resources within the identified BSA:

##### **1.2.5.1. SEASONAL WORK RESTRICTION**

Construction shall be timed to coincide with avoidance windows for nesting swallows and other birds as well as roosting bats. Upland construction efforts shall be concentrated between August 1 and March 1, as feasible. Vegetation removal for staging areas and

construction work shall occur between the end of August and the middle of February, and measures to exclude roosting bats from construction areas shall be implemented between mid-February and mid-April.

**1.2.5.2. CONSTRUCTION MONITORING AND PRE-CONSTRUCTION SURVEYS**

The County will enlist a qualified biological monitor to conduct a pre-construction survey for bats and nesting raptors. The biological monitor will remain on-call for the duration of construction activities to provide guidance regarding these species and address other biological concerns that may arise. If bats or nesting raptors are observed during the course of active construction, all construction activities within 50 feet of the animal(s) shall be stopped until the biological monitor is consulted. The County's biological monitor will coordinate with the USFWS and/or CDFW as appropriate. At no time shall work occur within 50 feet of the animal(s) without a qualified biologist present. The animal(s) shall not be captured or handled, and shall be allowed to move away on its own.

**1.2.5.3. ENVIRONMENTALLY SENSITIVE AREA FENCING**

Environmentally Sensitive Area (ESA) fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall clearly describe acceptable fencing material and proper installation and maintenance. The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.

**1.2.5.4. EROSION CONTROL MATERIALS**

The County shall employ appropriate sediment and erosion control Best Management Practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project. To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar fibers.

**1.2.5.5. WORKER ENVIRONMENTAL AWARENESS PROGRAM**

A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species that may occur near the BSA, including bats and birds protected by the MBTA. During the WEAP training,

construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work areas; the potential for special-status species to be present; the associated habitat for special-status species; and that it is unlawful to take, harm, or harass special-status species.

**1.2.5.6. REVEGETATION**

A Revegetation Plan shall be prepared for restoration of temporary work areas. Temporary Construction Zones (TCZs) for this project include a 15-foot buffer outside of all permanent impacts. Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan. A separate revegetation plan for impacts within Travers Creek will be prepared for CDFW approval during the permitting phase of the project.



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## Chapter 2. Study Methods

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As of January 1, 2013, the agency formerly known as the California Department of Fish and Game (CDFG) changed its name to the CDFW. Some publications written prior to the change refer to the CDFG; therefore, this document refers to CDFG and the CDFW, as appropriate, referring to the same state agency.

### 2.1. Regulatory Requirements

#### 2.1.1. Federal Laws and Regulations

The **National Environmental Policy Act (NEPA)** declares a continuing federal policy “. . . to use all practicable means and measures . . . to create and maintain conditions under which [humans] and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations.” NEPA directs a “. . . systematic, interdisciplinary approach . . .” to planning and decision making and requires environmental statements for “. . . major federal actions significantly affecting the quality of the human environment.” Implementing regulations by the Council of Environmental Quality (40 Code of Federal Regulations [CFR] Parts 1500–1508) require federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts.

The **Federal Endangered Species Act (FESA)** protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the Act for all terrestrial species. The first pathway, Section 10(a) incidental take permit, applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the Act. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

The **Migratory Bird Treaty Act (MBTA)** implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The USFWS administers the MBTA. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code (FGC).

All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC], section 703, et seq.) and California statute (FGC section 3503.5). The golden eagle and bald eagle are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC, section 669, et seq.).

**Section 401 of the Clean Water Act (CWA)** requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. The appropriate RWQCB regulates section 401 requirements.

**Section 404 of the CWA** prohibits the discharge of dredged or fill material into “waters of the United States” without a permit from the USACE. The USACE and the United States Environmental Protection Agency administer the Act. In addition to streams with a defined bed and bank, the definition of waters of the United States includes wetland areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b).

Small-scale projects may require a nationwide permit, which typically has an expedited process compared to the individual permit process. Mitigation of wetland impacts is required as a condition of the 404 permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

**Executive Order 11990 for the Protection of Wetlands** (May 24, 1977) establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific “Wetlands Only Practicable Alternative Finding” in the final environmental document. An additional requirement is to provide early public involvement for projects affecting wetlands.

**Executive Order 13112 - Invasive Species** directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded

ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. As part of the proposed action, USFWS and USACE would issue permits and therefore would be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species.

### **2.1.2. State Laws and Regulations**

**Porter-Cologne Water Quality Control Act and Section 401 of the CWA.** Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a state certification administered by the RWQCB that the discharge complies with other provisions of CWA. The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters that may not be regulated by other programs, such as Section 404 of the CWA. Projects that require a Section 404 CWA permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Section 401 Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

**Sections 2050 through 2098 of the FGC** outline the protection provided to California’s rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the California Endangered Species Act (CESA). Section 2081 established an incidental take permit program for state-listed species. In addition, the Native Plant Protection Act of 1977 (FGC Section 1900, et seq.) gives the CDFW authority to designate state endangered, threatened, and rare plants and provides specific protection measures for designated populations.

The CDFW has also identified many “Species of Special Concern.” Species with this status have limited distribution, or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory

protection, they may be considered rare under CEQA and thereby warrant specific protection measures.

Sensitive species, which would qualify for listing but are not currently listed, are afforded protection under CEQA. CEQA Guidelines Section 15065 (“Mandatory Findings of Significance”) identifies a substantial reduction in numbers of a rare or endangered species as a significant effect. CEQA Guidelines Section 15380 (“Rare or Endangered Species”) provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Rare Plant Ranking (CRPR) system lists 1A, 1B, and 2 would typically be considered under CEQA.

**Sections 1601 to 1606 of the FGC** require that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

**Sections 3500 to 5500 of the FGC** outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these Sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the “take” of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Specific sections of the FGC pertinent to the current project include:

- Section 3503 (which prohibits the taking, possession, or needless destruction of the nest or eggs of any bird),
- Section 3503.5 (which prohibits the taking, possession, or destruction of any bird in the order Falconiformes or Strigiformes (birds-of-prey) or the taking, possession, or destruction of the nest or eggs of any such bird), and
- Section 3513 (which prohibits the taking or possession of any migratory non-game bird as designated in the MBTA).

### **2.1.3. Non-Governmental Agency**

#### **2.1.3.1. CALIFORNIA NATIVE PLANT SOCIETY**

The California Native Plant Society (CNPS) is a non-governmental agency that classifies native plant species according to current population distribution and threat-level, in regards to extinction. The following description of the CNPS classification system, CRPR, is relevant to identifying potential impacts to biological resources due to implementation of the project.

The CNPS maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This CRPR list is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2015).

Potential impacts to populations of listed plants receive consideration under CEQA review.

The following identifies the definitions of the CRPR listings:

- CRPR 1A: Plants presumed to be extinct in California
- CRPR 1B: Plants that are rare, threatened, or endangered in California and elsewhere
- CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
- CRPR 2B: Plants that are rare, threatened, or endangered in California but more common elsewhere

Classifications for plants listed under “CRPR 3: Plants about which we need more information (a review list)” and/or “CRPR 4: Plants of limited distribution (a watch list),” as defined by the CRPR, are not discussed in this report since they are not considered special-status species.

## **2.2. Studies Required**

A habitat survey was performed to identify the habitat present within the BSA in June 2014, and an additional habitat survey was performed to identify the habitat present within three proposed staging areas in October 2014. Additionally, a wetland delineation survey was performed in June 2014 in compliance with Section 404 of the CWA and is being submitted separately to USACE. The purpose of the surveys and subsequent analysis provided in this study includes the following:

- To characterize vegetation and habitats within the BSA;
- To identify known or potential wildlife and fish migration corridors that may be affected by the proposed work;

- To identify wetlands and waters under the jurisdiction of the USACE;
- To evaluate the need for CDFW permits for impacts to streambeds (Streambed Alteration Agreement);
- To identify the known or potential presence of federally listed special-status plant and wildlife species or designated critical habitat;
- To identify the known or potential presence of California-listed special-status plant and animal species; and
- To identify sensitive species including state species of concern and other protection under federal and state regulations (i.e., fully protected species).

### **2.2.1. Literature Search**

A list of special-status species and habitats that have the potential to occur within the BSA or vicinity was prepared using information provided by the CDFW's California Natural Diversity Database (CNDDDB) Rarefind program (CDFW 2015a), CNDDDB online Quickviewer (CDFW 2015b), and the CNPS online inventory (CNPS 2015). The database searches were queried for the Reedley California United States Geological Service (USGS) 7.5-minute quadrangle. Special-status species from the literature search (Appendix A) are listed and evaluated individually in Table 3 and Table 4.

When the USFWS lists a species as threatened or endangered under FESA, areas of habitat considered essential to its conservation and survival may be designated as critical habitat. These areas may require special consideration and/or protection because of their ecological importance.

Potential critical habitat designations within the general vicinity of the BSA were checked using the USFWS Critical Habitat Portal (USFWS 2014a).

In addition to the database searches, project biologists reviewed project plans, literature describing biological resources in the region, and special-status species data for the BSA. Data sources included the following:

- CDFW Habitat Conservation Planning Branch (CDFW 2014)
- Western Bat Working Group's Regional Priority Matrix (WBWG 2007)

### 2.2.2. Field Surveys

The wetland delineation was conducted for the entire BSA according to the methodology outlined in the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). During the wetland delineation, data on vegetation, soils, and hydrology were collected using a Trimble GEO-XH<sup>®</sup> global positioning system (GPS) unit and handwritten notes. These data were used to document portions of the BSA that are potentially jurisdictional.

Special-status plants were assessed within the BSA during a June 2014 field survey and within the proposed staging areas during an October 2014 field survey. All areas within the BSA and proposed staging areas were evaluated for suitable habitat that may support special-status plant species. Three plants were identified as having the potential to occur within the BSA: San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), and California satintail (*Imperata brevifolia*). Although the BSA and proposed staging areas are devoid of suitable habitat, surveys for these plants were conducted during their blooming period.

### 2.2.3. Habitat Mapping

During the field surveys, the biologist identified the location, composition, and extent of plant communities, and the significant wildlife habitats within and surrounding the BSA and proposed staging areas. Vegetation types were noted and digitized using ArcGIS software ESRI<sup>®</sup> ArcMap 10.2. By incorporating collected field data and interpreting aerial photos, a map of habitat types and other biological resources within the BSA was prepared. Habitat types are generally based on the classification system from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Photographs of the BSA are included in Appendix B.

## 2.3. Personnel and Survey Dates

FirstCarbon Solutions (FCS) biologist Jeannette Owen and assistants Devin Barry and Cory Phillips performed biological surveys and wildlife habitat assessments within the BSA on June 18, 2014. Concurrently, a routine on-site determination of jurisdictional waters, including wetlands, was conducted within the BSA. FCS Biologist Cory Phillips performed an additional biological survey and wildlife habitat assessment within three proposed staging areas on October 2, 2014.

**Jeannette Owen** –a senior biologist with 20 years of experience performing detailed field studies, including data analysis and reporting on environmental impacts. She designs and



implements protocols and methodologies for both plant and wildlife surveys. Ms. Owen has experience working with Geographic Information Systems, including image analysis, digitizing, image rectification, and projection. She has worked both independently and in conjunction with several government and private agencies as project manager. Ms. Owen has a technical talent for conducting ecological/biological assessments, interweaving transportation goals, and providing solutions to complex environmental challenges. She is familiar with state, federal, and local laws and regulations pertaining to the conservation of natural resources and endangered species. Ms. Owen is experienced in CEQA and NEPA compliance and environmental permitting. She prepares environmental permit applications for USACE Clean Water Act 404 Nationwide Permits, RWQCB Section 401 Water Quality Certifications, CDFW 1602 Streambed Alteration Agreements, and FESA Section 7 Biological Assessments for both the USFWS and National Marine Fisheries Service (NMFS).

**Cory Phillips** – a biologist with more than 3 years of experience inventorying plant and wildlife species, vegetation mapping, sensitive species habitat assessment, and jurisdictional feature evaluations. His area of expertise includes special-status avian surveys, and protocol level surveys for birds and raptors protected by the MBTA.

**Devin Barry** – a biologist with more than 4 years of experience performing detailed field studies including data analysis and research report writing. Her areas of expertise include plant identification and botanical surveys.

## **2.4. Agency Coordination and Professional Contacts**

The preliminary wetland delineation of wetlands and waters of the United States, for the proposed project was conducted concurrently with other biological survey efforts and was submitted to Caltrans as a standalone document. The preliminary wetland delineation includes all area within the BSA. The preliminary wetland delineation is pending verification by the USACE.

## **2.5. Limitations that may Influence Results**

The results of this analysis and the mitigation measures presented are based on the information obtained from various sources (e.g., USFWS, CDFW, and Caltrans) and the relevant life history information regarding wildlife species that are known to exist in the BSA.

While the studies employed in this investigation were designed to give a comprehensive overview of the biological resources found within the BSA, no focused surveys for wildlife were conducted during this effort. As such, methods employed would not necessarily rule out

some special-status species, such as roosting bats or nesting birds. However, based on the surveys conducted to date, an assessment of habitats within the BSA, the populations in the region, certain plant and wildlife species are not expected to occur or can be entirely ruled out.

The presence of living organisms is difficult to detect daily or seasonally, and it is otherwise based on a wide range of variables, particularly individual behavior (e.g., age, health, and wariness), migration or dispersal patterns, activity patterns (such as flowering and growing periods, breeding, or nesting), tolerance to disturbance or human presence, and climatic conditions; therefore, this report reflects the best professional judgment of the authors, based on consultation and coordination with resource agencies and literature review, and it includes BMPs within the science and engineering fields applicable to this project. Finally, pre-construction surveys are recommended prior to construction activities.

The jurisdictional delineation was conducted during the dry season (June 2014), when indicators of wetland hydrology are often the most difficult to detect or may be absent because of a long period without precipitation. Dry conditions can make assessing wetlands difficult where other wetland indicators are present, because areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changes due to natural events or human activities (USACE 2008). However, despite the dry period prior to the delineation, no problematic areas were found that had hydrophytic vegetation and hydric soils but lacked signs of hydrology.

The 2014 vegetation response in the vicinity of the BSA during the June survey was typical of a very dry late spring. Botanical survey results in the spring of 2014 were anticipated to be by and large representative of the flora of the BSA. Although plant species diversity is low within the BSA, the degraded nature of the BSA generally limits species diversity.

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## **Chapter 3. Results: Environmental Setting**

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### **3.1. Description of the Existing Biological and Physical Conditions**

The BSA is located on an existing road and bridge in Fresno County, and is surrounded by aquatic habitat, riparian habitat, single-family rural residential homes, and agricultural operations. The physical and biological conditions occurring within the BSA are discussed in further detail below.

#### **3.1.1. Study Area**

The BSA consists of the approximately 0.28 mile of existing Manning Avenue roadway at Travers Creek, which includes the existing bridge and approaching roadway. The area immediately surrounding the bridge includes aquatic habitat, riparian habitat, and ruderal disturbed areas.

The BSA is located in Fresno County east of State Route 99 (SR-99) and approximately 2 miles east of Reedley. The location of the project corresponds to Township 15 South, Range 24 East, Section 19 of the, California Reedley USGS 7.5-minute topographic quadrangle.

Four single-family rural residential homes and their associated ancillary buildings are located within the vicinity of the BSA along the east and west banks of Travers Creek. Regionally, the BSA is surrounded by open space, agricultural operations, and rural residential development.

#### **3.1.2. Physical Conditions**

The approximately 4.37-acre BSA is located in a rural area of Fresno County. The site is bisected by a north-south trending ravine with moderately steep slopes. The ravine formed by Travers Creek is roughly “V” shaped. The bottom of the ravine lies at approximately 340 feet above mean sea level (msl) within the BSA. Travers Creek is an intermittent creek that flows into Kings River approximately 3 miles downstream of the BSA. Elevations at the site range from approximately 340 to 361 feet msl. Residential homes and related structures are located in or adjacent to the BSA. The remainder of the BSA includes the roadway infrastructure of Manning Avenue, aquatic and riparian habitat, agricultural activities, and ruderal/disturbed habitat.

The average yearly rainfall for the BSA is approximately 10.63 inches (WRCC 2014). The BSA received below average rainfall during the 2013–2014 rainfall year with no rainfall recorded during June. The weather during the June 18, 2014 survey was sunny and hot with a high of 92 degrees Fahrenheit (Weather.com 2014).

Three different soil types fall within the BSA for the project (Figure 4). Soils within the BSA include Tujunga loamy sand series (0–3% slopes), Atwater loamy sand series (0-3% slopes), and Greenfield sandy loam (0–3% slopes). These soil types and their descriptions are discussed in greater detail in the standalone Wetland Delineation Report.

### **3.1.2.1. HYDROLOGICAL RESOURCES**

The BSA is located within the Upper King Watershed, the second smallest watershed in California, which serves as a tributary to the Tulare-Buena Vista Lakes. The Kings River originates in the high western Sierra Nevada Mountains and extends west-southwest approximately 20 miles into Fresno before it splits and feeds into Wahtoke Lake, six miles outside of Reedley.

The BSA is located within the Travers Creek Hydrologic Sub-Area. French Gulch is the sole drainage feature within the BSA; the proposed project will be designed to cross it. Travers Creek flows south-southwest approximately 16 miles prior to discharging into King River. Travers Creek is not listed as Traditionally Navigable Water (TNW) by the USACE.

### **3.1.3. Biological Conditions in the Biological Study Area**

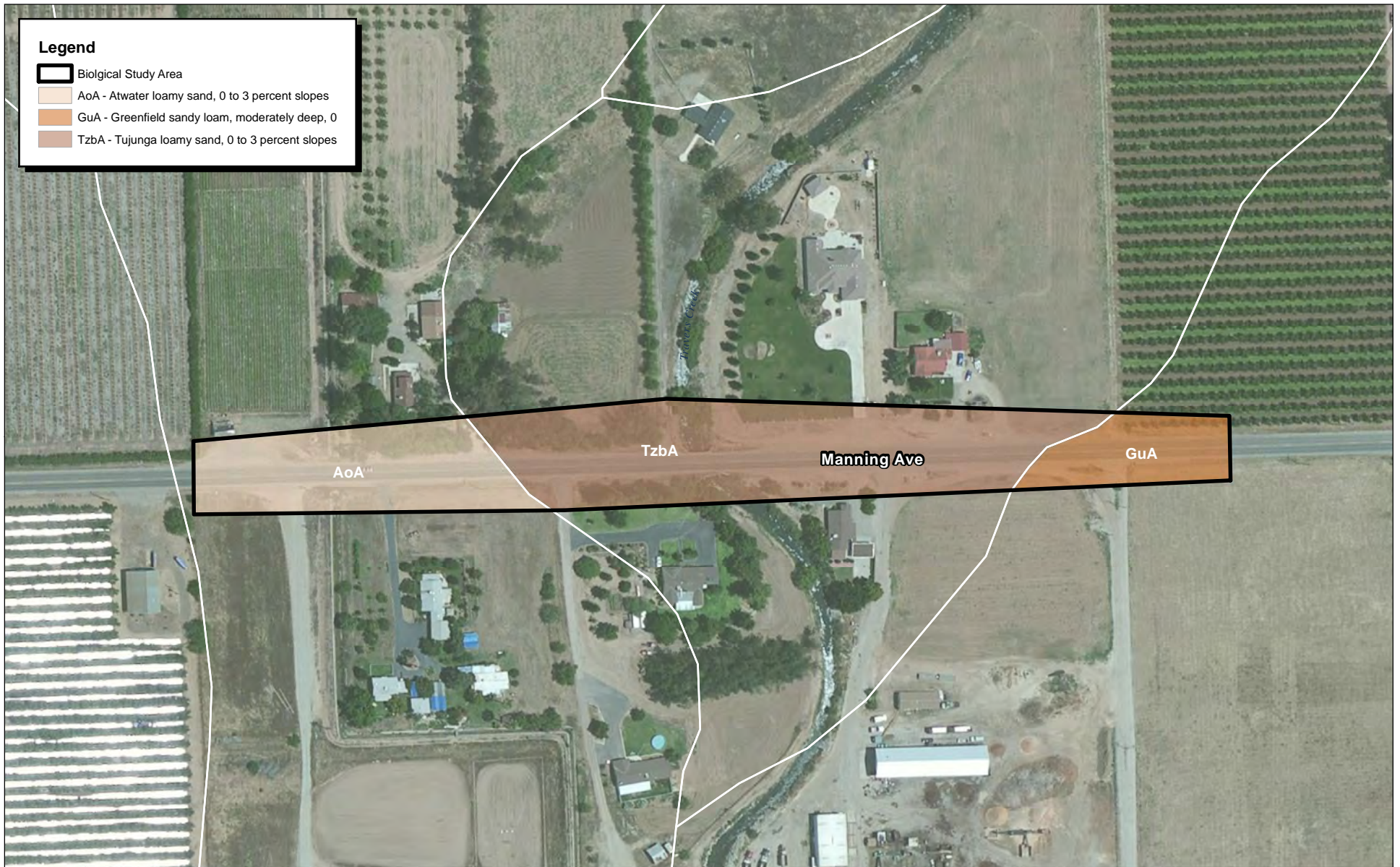
Developed habitats dominate the project BSA. Developed habitats are dominated by numerous ornamental plant species occurring in landscaped areas and annual, nonnative plants that thrive in disturbed areas. The predominant upland species include common wild oats (*Avena fatua*), bull thistle (*Cirsium vulgare*), rip-gut (*Bromus diandrus*), and jimson weed (*Datura stramonium*). Common animal species occurring within the BSA include but are not limited to American cliff swallow (*Petrochelidon pyrrhonota*), American bullfrog (*Lithobates catesbeianus*), turkey vulture (*Cathartes aura*), western gray squirrel (*Sciurus carolinensis*), and black-tailed jackrabbit (*Lepus californicus*).

The plant communities that occur within the BSA include four plant communities: agricultural, ruderal/disturbed, urban developed, and riparian (Figure 5). In addition to these plant communities, the BSA also contains developed and ruderal areas such as Manning Avenue, as well as adjacent residences and their related infrastructure. Invasive plant species and vegetation communities occurring within the BSA are discussed in greater detail below.

#### **3.1.3.1. DESCRIPTION OF VEGETATION COMMUNITIES**

##### ***Agricultural***

The agricultural portion of the BSA consists entirely of almond (*Prunus dulcis*) and encompasses 0.08 acre of the total 4.37 acres.



Source: ESRI Imagery

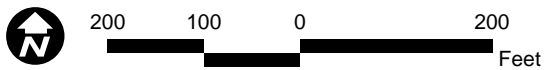
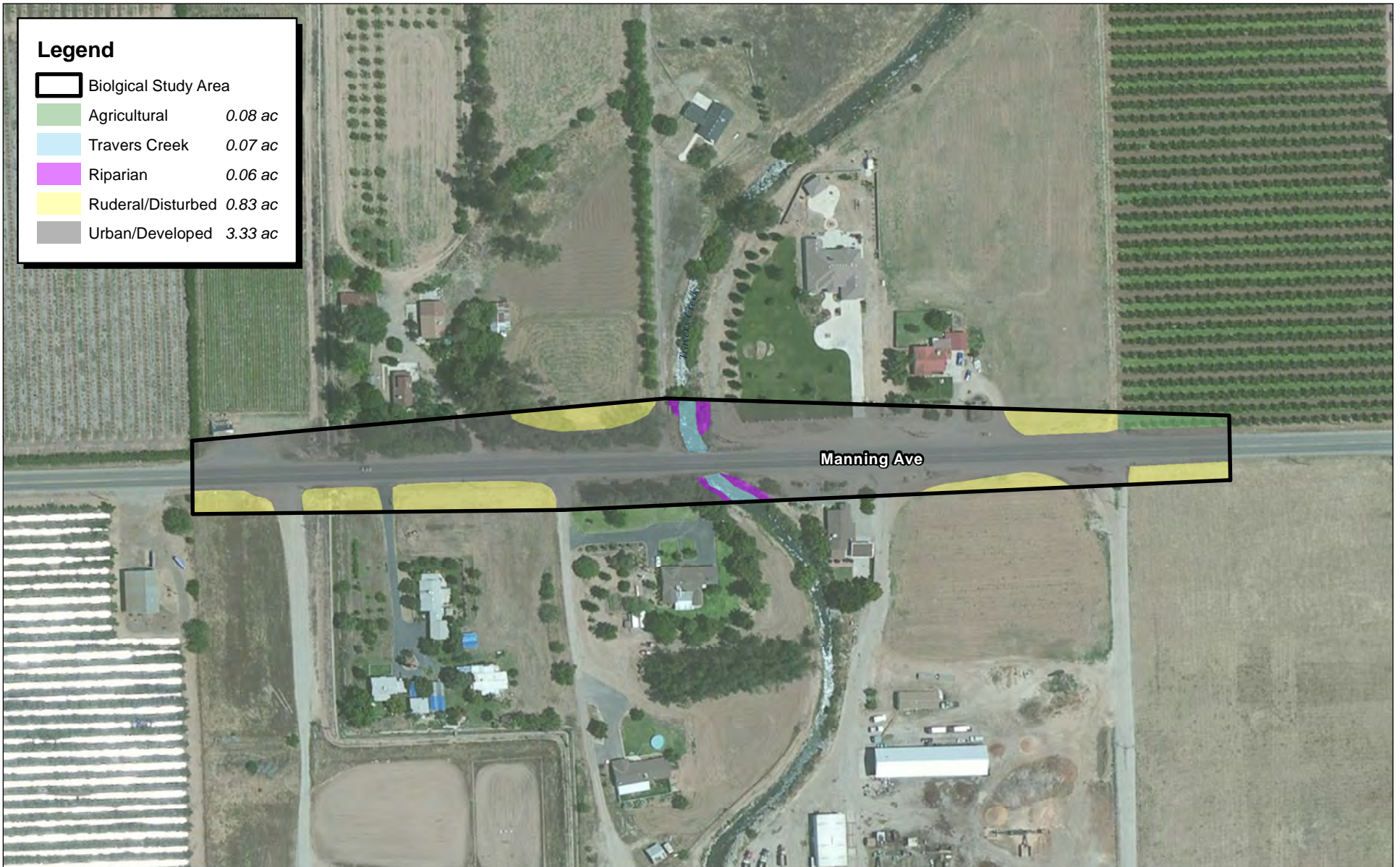


Figure 4  
USDA Soils

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Source: ESRI Imagery

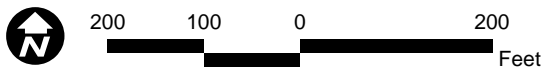


Figure 5  
Vegetation Communities



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***Ruderal/Disturbed***

The disturbed portion of the BSA was dominated by weedy herbs and non-native grasses. It encompasses 0.83 acre of the BSA. The dominant vegetation consisted of bull thistle, rip-gut, and jimson weed.

Additionally, three areas adjacent to the BSA have been selected for potential staging areas. It has not yet been determined if one or all three areas will be used as staging areas during construction. Each of the three staging areas are approximately 0.5 acre in size and are composed entirely of ruderal/disturbed vegetation for a total of 1.5 acres, but are not included in Table 1.

***Urban Developed***

The developed portion of the BSA encompasses 3.33 acres of the total 4.37 acres in the BSA. Urban developed areas within the BSA consist of roadways, landscaping, and housing.

***Riparian***

Travers Creek is a small intermittent creek that comprises approximately 0.07 acre of the BSA. The creek has an average width at the ordinary high water mark (OHWM) of approximately three feet on the north side of the bridge and one foot on the south side of the bridge. The riparian habitat associated with Travers Creek encompasses approximately 0.06 acre of the BSA. Riparian plant species observed within the creek and its banks include brewer’s willow (*Salix breweri*), curly dock (*Rumex crispus*), and Himalayan blackberry (*Rubus armeniacus*).

**3.1.3.2. OCCURRENCE OF VEGETATION COMMUNITIES**

Table 1 summarizes the mapped vegetation types. Figure 5 illustrates the vegetation types within the BSA.

**Table 1. Acreage of Vegetation Types Mapped within the Biological Study Area**

Vegetation Types	Acres
Agricultural	0.08
Travers Creek*	0.07
Riparian	0.06
Ruderal/Disturbed	0.83
Urban/Developed	3.33
<b>Total</b>	<b>4.37</b>
Note: * Vegetation communities do not necessarily equal limits of USACE jurisdiction.	

Additionally, 3 staging areas have been identified adjacent to the BSA. Each staging area is 0.5 acre in size and consist entirely of ruderal/disturbed vegetation. These areas are discussed later in this document and are illustrated on Figure 8.

**3.1.3.3. INVASIVE PLANT SPECIES**

A vast majority of plant species that were found within the BSA were invasive species. This is most likely due to the adjacency to Manning Avenue and residential driveways that act as vectors to transport the seeds of invasive species.

**3.1.4. Potential Jurisdictional Wetlands and Waters of the U.S.**

Within the BSA, there is a total of 0.055 acre of potentially jurisdictional water features. Travers Creek, an intermittent creek, flows through the BSA south to southwest. Rainfall within the BSA drains towards the creek channel following the natural topography. Travers Creek has an ordinary high water mark (OHWM), making it a “water of the U.S.,” and it is the only water of the United States identified within the BSA. The extent of Travers Creek within the BSA is 0.055 acre and 180.5 linear feet. Travers Creek is a tributary to Kings River, which is classified as a TNW by the USACE. As such, Travers Creek was mapped as being under the jurisdiction of the USACE, due to its connectivity to a TNW.

A jurisdictional determination has been prepared of the potential waters of the United States occurring within the BSA (Figure 6). All areas within the BSA were assessed to the degree necessary to determine the presence or absence of jurisdictional wetlands and waters of the United States per the guidelines established by the USACE. A table summarizing areas of Section 404 jurisdiction within the BSA is provided below (Table 2 and Table 6 in Chapter 4). The results of this jurisdictional determination are preliminary until verified by the USACE.

**Table 2. Summary of Potential Section 404 Jurisdictional Waters within the Biological Study Area**

Map Feature ID	Water Type	Area of Potential Section 404 Jurisdiction		
		Square Feet (sf)	Linear Feet (lf)	Acres (A)
Waters of the U.S.	Freshwater Intermittent Creek	2,406.2	180.5	0.055

All water features identified within the BSA may also be regulated by the RWQCB as Waters of the State through Section 401 of the CWA and/or the State Porter-Cologne Act. All ecological systems associated with drainages (i.e., riparian wetlands) and drainage features with bed and bank topography may be regulated by Sections 1600–1616 of the FGC.



Source: ESRI Imagery

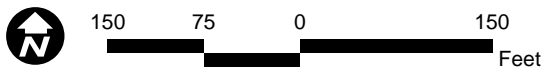


Figure 6  
Impacts to Jurisdictional Features

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## **3.2. Regional Species and Habitats of Concern**

Habitats of concern include (a) areas of special concern to resource agencies, (b) areas protected under CEQA, (c) areas designated as sensitive natural communities by CDFW, (d) areas outlined in Section 1600 of the FGC, (e) areas regulated under Section 404 of the Federal CWA, and (f) areas protected under local regulations and policies. Sensitive habitats present in the BSA include riparian habitat (waters of the United States).

Range and habitat information used to determine the potential for occurrence of special-status wildlife and plant species in the BSA was obtained from the California Wildlife Habitat Relationships (CWHR) program version 8 (CDFG 2005).

Habitat assessments were conducted to evaluate the potential for presence/absence of special-status species. Historic records of surveys performed in the surrounding area (2-mile radius from the BSA) reveal the presence of special-status species as shown in Figure 7. Other species contained in the literature search were considered for further analysis based on whether or not habitat existed for the species within the BSA as well as whether the BSA was within range of the species. The results of the literature search, habitat assessments, and project level evaluations are detailed below.

### **3.2.1. Special-status Plant and Animal Species Potentially Occurring within the Biological Study Area**

Special-status plant and animal species are those that are afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and generally require specialized habitat conditions.

Listed and special-status species are defined as:

- Species listed or proposed for listing as threatened or endangered under FESA or the CESA
- Species considered as candidates for listing as threatened or endangered under FESA or CESA.
- Plants listed as endangered or rare under the California Native Plant Protection Act.
- CRPR 1B, (plants, rare, threatened, or endangered in California and elsewhere), CRPR 2A (plants presumed extirpated in California, but more common elsewhere), or CRPR 2B (plants rare, threatened or endangered in California but more common elsewhere).

- Species identified by the CDFW as California Species of Special Concern.
- Wildlife fully protected in California under the FGC.
- Species that meet the definition of rare or endangered under the CEQA (14 CCR §15380).

Special-status plants and wildlife documented by the CNDDDB (CDFW 2015a) provide the main source of information regarding potential protected species in the area. Other sources of information include CNPS (CNPS 2015) and the USFWS (USFWS 2014b). Appendix A contains the results of the special-status species database searches.

Figure 7 shows the locations of previously recorded occurrences of special-status species within a two-mile radius of the BSA according to CNDDDB. Table 3 and Table 4 show the special-status plant and wildlife species, respectively, from the database searches.



Source: ESRI, CNDDDB 2014



**Figure 7**  
**Previously Recorded Occurrences**  
**of Special-status Species**



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**Table 3. Special-status Plant Species Potentially Occurring within the Biological Study Area**

<i>Scientific Name</i> Common Name	Status			Habitat Description <sup>4</sup>	Habitat Present/ Absent	Rationale
	Federal <sup>1</sup>	State <sup>2</sup>	CRPR <sup>3</sup>			
<i>Imperata brevifolia</i> California satintail	~	~	2B.1	Mesic sites in chaparral, coastal scrub, Mojavean desert scrub, riparian scrub, meadows, and seeps. 0–3,986 feet. Bloom Period: September–May.	No	Suitable habitat and known habitat components not found within the BSA.
<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	FT	SE	1B.1	San Joaquin Valley Orcutt grass is an annual herb that occurs in vernal pools. 30–2,477 feet. Bloom period April–September.	No	Suitable habitat and known habitat components not found within the BSA.
<i>Pseudobahia peirsonii</i> San Joaquin adobe sunburst	FT	SE	1B.1	Occurs in adobe clay soils in cismontane woodland, valley, and foothill grasslands. 295–3,510 feet. Bloom period March–April.	No	Suitable habitat and known habitat components not found within the BSA.

CODE DESIGNATIONS		
1. Federal status: June 2014 USFWS Listing	2. State status: June 2014 USFWS and CDFW Listing	3. CRPR: June 2014 CNPS Listing
<b>FE</b> = Listed as endangered under the FESA	<b>SE</b> = Listed as endangered under the CESA	<b>1A</b> = Plants species that presumed extinct in California.
<b>FT</b> = Listed as threatened under the FESA	<b>ST</b> = Listed as threatened under the CESA	<b>1B</b> = Plant species that are rare, threatened, or endangered in California and elsewhere.
<b>FC</b> = Candidate for listing (threatened or endangered) under FESA	<b>CSC</b> = Species of Concern as identified by CDFG	<b>2A</b> = Plants presumed extirpated in California, but more common elsewhere

<b>CODE DESIGNATIONS</b>		
<b>FD</b> = Delisted in accordance with the FESA	<b>CFP</b> = Listed as fully protected under CDFG code	<b>2B</b> = Plant species that are rare, threatened, or endangered in California, but more common elsewhere.
	<b>CR</b> = Species identified as rare by CDFG	<b>Threat Ranks</b> 0.1-Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat) 0.2-Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat) 0.3-Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
		<b>Other</b>
<b>SLC</b> = Species of Local or Regional Concern or conservation significance		
<b>4. Habitat description: Habitat description adapted from CNDDDB (CDFW 2015a) and CNPS online inventory (CNPS 2015)</b>		

**Table 4. Special-status Wildlife Species Potentially Occurring within the Biological Study Area**

Common Name ( <i>Scientific Name</i> )	Status		Habitat Description <sup>3</sup>	Habitat Present/ Absent	Rationale
	Federal <sup>1</sup>	State <sup>2</sup>			
<b>Invertebrates</b>					
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT	ST	Occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Although the species has been collected from large vernal pools, including one exceeding 25 acres, it tends to occur in smaller pools. It is most frequently found in pools measuring less than 0.05 acre most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May.	No	Suitable habitat and known habitat components not found within the BSA.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	SE	From Redding south to Bakersfield and from western foothills of the Sierra Nevada to the eastern foothills of the Coast Ranges Requires elderberry shrubs for all stages of its life cycle	No	No elderberry shrubs were observed within the BSA.
<b>Fish</b>					
<i>Hypomesus transpacificus</i> Delta smelt	FT	ST	Occurs in the Sacramento-San Joaquin Delta; and seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay.	No	Suitable habitat and known habitat components not found within the BSA.
<b>Amphibians</b>					
<i>Ambystoma californiense</i> California tiger salamander	FT	ST	Habitat is limited to the vicinity of large, fishless vernal pools or similar water bodies. It occurs at elevations up to 3,200 ft. Adults migrate at night from upland habitats to aquatic breeding sites during the first major rainfall events of fall and early winter, and return to upland habitats after breeding.	No	No vernal pool, seasonal wetland, or stock pond habitat was observed within the BSA.

Common Name (Scientific Name)	Status		Habitat Description <sup>3</sup>	Habitat Present/ Absent	Rationale
	Federal <sup>1</sup>	State <sup>2</sup>			
<i>Rana draytonii</i> California red-legged frog	FT	~	Deep permanent water sources including ponds, perennial creeks, seeps, and natural and artificial springs that support stands of dense emergent vegetation and are free from predators.	No	Suitable habitat and known habitat components not found within the BSA.
<b>Reptiles</b>					
<i>Gambelia sila</i> Blunt-nosed leopard lizard	FE	SE	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief.	No	Suitable habitat and known habitat components not found within the BSA.
<i>Thamnophis gigas</i> Giant garter snake	FT	ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals & irrigation ditches.	No	Suitable habitat and known habitat components not found within the BSA.
<b>Birds</b>					
<i>Athene cunicularia</i> Burrowing owl	~	SSC	This species is known to occur within open, dry annual or perennial grasslands, and in deserts and scrublands characterized by low-growing vegetation. The burrowing owl is a subterranean nester, dependent upon burrowing	No	Suitable habitat and known habitat components not found within the BSA.
<b>Mammals</b>					
<i>Antrozous pallidus</i> Pallid bat	~	SSC	Pallid bats roost in rock crevices, tree hollows, mines, caves, and a variety of anthropogenic structures, including vacant and occupied buildings and buildings, mines, and natural caves are utilized as roosts. Occurrence is primarily in arid habitats. Colonies are usually small and may contain 12-100 bats. Sole specimen from Angels Camp area collected in June 12, 1895.	Yes	Suitable roosting habitat such as the bridge and trees was observed within and surrounding the BSA.
<i>Dipodomys nitratoides exilis</i> Fresno kangaroo rat	FE	SE	Alkali sink-open grassland habitats in western Fresno County.	No	Suitable habitat and known habitat components not found within the BSA.

Common Name ( <i>Scientific Name</i> )	Status		Habitat Description <sup>3</sup>	Habitat Present/ Absent	Rationale
	Federal <sup>1</sup>	State <sup>2</sup>			
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE	ST	Annual grasslands or grassy open stages with scattered shrubby vegetation.	No	Suitable habitat and known habitat components not found within the BSA.
<i>Lasiurus cinereus</i> Hoary bat	~	~	This species prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. It roosts in dense foliage of medium to large trees and feeds primarily on moths. Requires water.	Yes	Suitable roosting habitat such as the bridge and trees was observed within and surrounding the BSA.

CODE DESIGNATIONS	
<b>1. Federal status: June 2014 USFWS Listing</b>	<b>2. State status: June 2014 USFWS and CDFW Listing</b>
<b>ESU</b> = Evolutionary Significant Unit is a distinctive population.	<b>SE</b> = Listed as endangered under the CESA
<b>FE</b> = Listed as endangered under the Endangered Species Act	<b>ST</b> = Listed as threatened under the CESA
<b>FT</b> = Listed as threatened under the Endangered Species Act	<b>SSC</b> = Species of Special Concern as identified by the CDFW
<b>FC</b> = Candidate for listing (threatened or endangered) under Endangered Species Act	<b>CFP</b> = Listed as fully protected under CDFW code
<b>FD</b> = Delisted in accordance with the Endangered Species Act	<b>CR</b> = Rare in California
<b>FPD</b> = Federally Proposed to be Delisted	<b>Other</b>
<b>MNBMC</b> = Migratory Nongame Bird of Management Concern, protected under the MBTA	<b>SLC</b> = Species of Local or Regional Concern or conservation significance
<b>3. Habitat description: Habitat description information adapted from CNDDDB and <a href="http://www.natureserve.org">www.natureserve.org</a></b>	

### **3.2.2. Raptors and Other Migratory Birds**

Many bird species are migratory and fall under the jurisdiction of the MBTA. Various migratory birds and raptor species, in addition to those described in detail above, have the potential to inhabit the BSA. Some raptor species, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), are not considered special-status species because they are not rare or protected under FESA or CESA; however, the nests of all raptor species are protected under the MBTA and Section 3503.5 of the FGC. Migratory birds forage and nest in multiple habitats. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. The existing bridge and trees found within the BSA provide suitable nesting habitat for raptors and migratory birds that occur in the region.

### **3.2.3. Sensitive Habitats**

Sensitive habitats include (a) areas of special concern to resource agencies, (b) areas protected under CEQA, (c) areas designated as sensitive natural communities by CDFW, (d) areas outlined in Section 1600 of the FGC, (e) areas regulated under Section 404 of the federal CWA, (f) areas protected under Section 402 of the CWA, and (g) areas protected under local regulations and policies. No terrestrial habitats recognized by CDFW as sensitive occur within the BSA. Other potential waters of the United States occur within the BSA and are considered sensitive by USACE.

No critical habitat occurs within the BSA. Potential critical habitat designations in the vicinity of the BSA were checked using the USFWS Critical Habitat Portal (USFWS 2014a). The BSA is not located within an area designated as critical habitat by USFWS. The nearest area designated as critical habitat is located 8 miles northeast of the BSA, and is an area designated as critical habitat for California tiger salamander (*Ambystoma californiense*) (USFWS 2014a). Critical habitat and its proximity to the BSA are discussed in greater detail in Chapter 4 for all federally listed species.

Within the BSA, no creeks or streams considered habitat for special-status anadromous fish species will be affected.

## Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

### 4.1. Natural Communities of Special Concern

Natural communities of special concern are habitats that have been determined by natural resource agencies to be sensitive or rare. The USACE only considers direct impacts (temporary and permanent) to jurisdictional features and does not define indirect impacts to jurisdictional features; therefore, there is no discussion of indirect impacts to jurisdictional features in the analysis, except as they pertain to listed species. Riparian habitat is regulated under the streambed alteration agreement by CDFW and may also be governed by activities through NMFS/National Oceanic and Atmospheric Association (NOAA) because of potential impacts to listed fish species.

Table 5 and Figure 8 demonstrate the potential quantitative effects of the project to biological communities, none of which are considered Natural Communities of Special Concern.

**Table 5. Impacts to Biological Communities within the Biological Study Area**

Vegetation Type	Acres in BSA	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Agricultural	0.080	0.000	0.000
Travers Creek*	0.070	0.029	0.036
Riparian	0.060	0.018	0.032
Ruderal/Disturbed	0.830	0.112	0.062
Urban/Developed	3.330	0.397	1.226
<b>Total</b>	<b>4.370</b>	<b>0.556</b>	<b>1.356</b>
Note: * Vegetation communities do not necessarily equal limits of USACE jurisdiction.			

As discussed in Section 1.2.2, equipment staging would likely occur in one or more of three areas surrounding the BSA. It is possible that more than one of the three staging areas could be used. It is also possible that none of these staging areas are used and that the contractor negotiates with a different nearby property owner to rent their space. All impacts occurring within the proposed staging areas would be considered temporary, and would occur within ruderal/disturbed habitat. Table 6 and Figure 9 demonstrate the potential quantitative effects of the project to natural communities within the proposed staging area.



**Table 6. Potential Impacts to Biological Communities within the Proposed Staging Areas**

Proposed Staging Area	Vegetation Type	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Area 1	Ruderal/Disturbed	0.500	0.000
Area 2	Ruderal/Disturbed	0.500	0.000
Area 3	Ruderal/Disturbed	0.500	0.000
<b>Total</b>		<b>1.500</b>	<b>0.000</b>

Ruderal/disturbed and urban/developed habitat are not considered to be natural communities of special concern and, therefore, will not be discussed further unless in the context of habitat for special-status species. Travers Creek is described as potential USACE jurisdictional features below.

## 4.2. Discussion of Potential USACE Jurisdictional Features

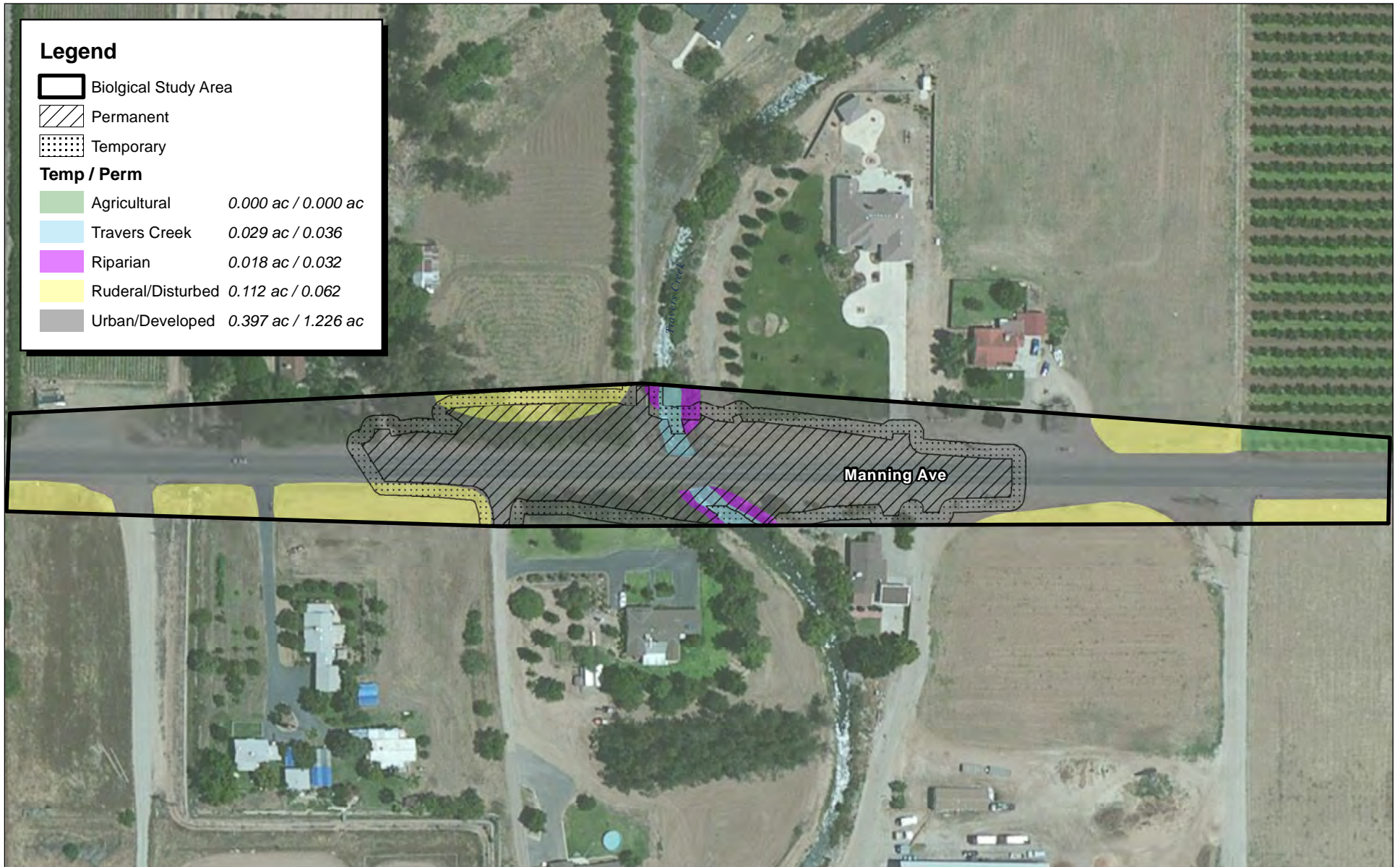
### 4.2.1. Survey Results

Travers Creek is an intermittent creek that flows from north to south through the BSA. Biologists conducted a jurisdictional delineation of all potential waters of the United States, including wetlands, occurring within the BSA. All areas within the BSA were assessed to the degree necessary to determine the presence or absence of jurisdictional wetlands and waters of the United States per the guidelines established by the USACE. A table summarizing areas of Section 404 jurisdiction within the BSA is provided below (Table 7). The results of this jurisdictional determination are preliminary until verified by the USACE.

**Table 7. Summary of Potential Section 404 Jurisdictional Waters within Biological Study Area**

Map Feature ID	Water Type	Area of Potential Section 404 Jurisdiction		
		Square Feet (sf)	Linear Feet (lf)	Acres (A)
Waters of the U.S.	Freshwater Intermittent Creek	2,406.2	180.5	0.055

Within the BSA, Travers Creek exhibits bed-and-bank characteristics with an OHWM. The BSA lacks both hydrophytic vegetation and hydric-soils. There is approximately 0.055 acre of intermittent creek within the OHWM within the BSA.



Source: ESRI Imagery

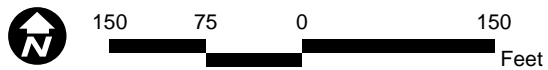
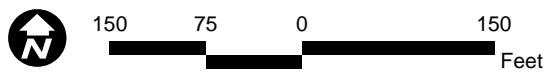


Figure 8  
Impacts to Vegetation Communities

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Source: ESRI Imagery



**Figure 9**  
**Impacts within Potential Staging Areas**

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#### **4.2.1.1. AVOIDANCE AND MINIMIZATION EFFORTS**

Standard construction BMPs shall be implemented to minimize effects to water quality, including placement of straw wattles or silt fencing along the boundary in the BSA according to an erosion control plan that shall be prepared to avoid discharge into aquatic features. Other construction BMPs that will be reviewed and coordinated with the RWQCB, as necessary, for implementation during construction may include the following:

- In order to minimize the proposed project's impacts, the project design has been modified to minimize impacts to waters of the United States;
- Staging areas shall be located on existing roadways or other disturbed areas where they would not affect sensitive resources;
- Sensitive resources will be identified and protected from harm during construction to the extent possible through use of ESA fencing. The integrity and effectiveness of ESA fencing and erosion control measures shall be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches and ineffective BMPs;
- The County shall restrict construction activities to the minimum area necessary to safely conduct proposed project activities to the extent possible;
- No litter, debris, or sidecasts shall be dumped or permitted to enter aquatic habitats. Trash and debris shall be removed from the site(s) daily;
- Vehicles and equipment shall be driven only within established roads and crossings;
- The boundary of aquatic habitats that are to be avoided shall be clearly marked with brightly colored fencing, staking, or flagging for work crew avoidance;
- Worker education and awareness training shall be conducted for work crews regarding aquatic habitats and special-status species;
- Fueling, washing, and maintenance of vehicles or other construction equipment shall occur 100 feet or more away from aquatic habitats; and
- Equipment shall be regularly maintained to avoid fluid leaks.

#### ***Environmentally Sensitive Area Fencing***

ESA fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall

clearly describe acceptable fencing material and proper installation and maintenance. The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.

**Revegetation**

A Revegetation Plan shall be prepared for restoration of temporary work areas. TCZs for this project include a 15-foot buffer outside of all permanent impacts. Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan. A separate revegetation plan for impacts within Travers Creek will be prepared for CDFW approval during the permitting phase of the project.

**4.2.1.2. PROJECT IMPACTS**

**Direct Impacts**

A total of 0.055 acre of intermittent creek habitat (below the OHWM) occurs within the BSA. The proposed project will temporarily affect 0.021 acre and permanently affect (or fill) 0.029 acre of intermittent creek habitat below the OHWM (Figure 6). Table 8 demonstrates the temporary and permanent impacts to jurisdictional features within the BSA from the proposed project. The intermittent creek is a water of the United States under the jurisdiction of the USACE.

**Table 8. Potential Quantitative Effects of the Project on Jurisdictional Features**

Aquatic Communities	Total Area in BSA (acre)	Approximate Area of Disturbance (acre)	
		Permanent Direct (within Project Footprint)	Temporary Direct (within TCZ)
Open Water (Intermittent Creek)	0.055	0.029	0.021

Authorization for such fill would be secured from USACE via the Section 404 permitting process prior to project implementation. Because a Section 404 permit would be required from the USACE, a Section 401 permit would be also required from the RWQCB. The County would obtain authorization from both the USACE and the RWQCB to fill/disturb these features prior to project implementation.

**Indirect Impacts**

Construction of the proposed project will result in localized loss of vegetation, general disturbance to the soil and an increase in impervious surfaces. Removal of vegetation and soil can accelerate erosion processes within the BSA and increase the potential for sediment

to enter into the intermittent creek. Aquatic organisms are generally not directly affected by suspended solids and turbidity unless they reach extremely high levels (i.e., levels of suspended solids reaching 25 mg/L) (Bilotta and Brazier 2008). At these high levels, suspended solids can adversely affect the physiology of aquatic organisms and may suppress photosynthetic activity at the base of food webs, thereby impacting aquatic organisms either directly or indirectly.

Construction of the proposed project could result in the release of high levels of sedimentation and debris into downstream aquatic habitat. Temporary construction activities could increase sediment and urban runoff into waterways that could result in impacts to the aquatic environment.

Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills may occur with a risk of larger releases. Without rapid containment and clean-up, these materials could be potentially toxic depending on the location of the spill in proximity to water features, including Travers Creek. Oils, fuels, and other contaminants could directly affect aquatic organisms, including special-status species that inhabit the creek within and beyond the BSA. Accidental spills within the project work site and into the creek could result in adverse impacts to the aquatic environment. The avoidance and minimization measures would reduce affects from erosion, sedimentation, runoff, and accidental spills.

#### **4.2.1.3. COMPENSATORY MITIGATION**

For permanent removal of 0.029 acre of jurisdictional intermittent creek, the County shall require either replacement of affected acreage at a 1:1 ratio (one acre must be created for every acre lost) or payment of in-lieu fees.

For temporary removal of 0.021 acre of jurisdictional intermittent creek the County shall restore the area to pre-construction conditions. This may require revegetation of the area using native vegetation appropriate for drainages. Restoration plans shall be coordinated by a qualified biologist pursuant to, and through consultation with, USACE.

#### **4.2.1.4. CUMULATIVE IMPACTS**

Although there will be some impacts to creek habitat as a result of the proposed project, these impacts are minimal. Permanent, direct impacts will be mitigated with restoration and creation of riparian habitat. In addition, temporary and indirect impacts will be reduced with the implementation of the mitigation measures stated above; therefore, no cumulative impacts to creek habitat is expected.



### 4.3. Special-status Plant Species

Special-status plant species include those listed as endangered, threatened, rare, or as candidates for listing by the USFWS, CDFW, and CNPS. Federally listed plants are not protected against “take” under the FESA. However, the FESA prohibits the removal and collection of endangered species from lands under Federal jurisdiction. In addition, the FESA prohibits the removal, cutting, digging, damage, or destruction of endangered plants on any other lands in knowing violation of state laws and regulations.

Based on a review of special-status plant species within the Reedley California USGS 7.5-minute quadrangle (CDFW 2015a, CNPS 2015, and USFWS 2014b) and a broad knowledge of the regional flora, a total of three special-status plant species were determined to have at least some potential to occur within the region of the BSA: San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, and California satintail. However, all three species could be eliminated from having potential to occur on site because of a lack of suitable habitat to support these species. A summary of status, habitat affinities, blooming period, and rationale for consideration in the impact analysis are included in Table 3. Despite a lack of suitable habitat, all three plant species were considered target species to be surveyed for during the June 2014 survey. All areas within the BSA were surveyed during the blooming period of these species; however, no individuals or populations of special-status plants were identified within the BSA. Based on the negative findings during focused botanical surveys during the blooming period, special-status plant species are presumed absent for the BSA. Therefore, special-status plant species are not discussed further in this report.

### 4.4. Special-status Animal Species Occurrences

The database searches identified 12 special-status wildlife species that could potentially occur in the region. Of these 12 species, two special-status wildlife species have the potential to occur in the BSA. The following special-status species have the potential to occur within the BSA and were considered in the impact analysis of this document:

- Pallid bat (*Antrozous pallidus*);
- Hoary bat (*Lasiurus cinereus*); and
- Birds protected by the MBTA.

Individual discussions of these species are presented below. These discussions detail the extent of suitable habitat within the BSA, potential impacts to these species from the

development of the proposed project, and recommended measures to avoid, minimize, and mitigate for project-related impacts.

#### **4.4.1. Discussion of Special-status Bats**

##### **4.4.1.1. LIFE HISTORY**

There are 12 species of bats that are classified as California species of special concern (CDFG 2011). Special-status bat species have the potential to occur within the BSA including pallid bat and hoary bat. Other common (not listed by CDFW) bat species such as Yuma myotis (*Myotis yumaensis*), fringed myotis bat (*Myotis thysanodes*), and long-legged myotis bat (*Myotis volans*) may also occur in the BSA and proposed staging areas.

These species use mature trees, snags, crevices, and human-made structures (such as buildings) for roosting, either for winter roosting (hibernacula) or for forming nursery colonies. Bats are generally site faithful and will not abandon an established roosting area unless disturbed.

##### **4.4.1.2. SURVEY RESULTS**

The existing bridge and trees within the BSA and proposed staging areas were evaluated for the presence or sign of bat species. No roosting bats or signs of roosting bats were found during the project survey. Potential roosting bat sites are present in trees within and adjacent to the BSA and proposed staging areas.

##### **4.4.1.3. AVOIDANCE AND MINIMIZATION EFFORTS**

The following avoidance and minimization measures will be implemented during bat maternity roosting season (April 15 through August 31) to reduce impacts to bats:

- No more than 14 days prior to start of ground-disturbing activities, a qualified biologist will survey trees within the BSA, as well as all staging areas, for evidence of bat roosts (e.g., bat guano). If bat roosts are located during pre-construction surveys, the roosts will be flagged and avoided during construction.

##### **4.4.1.4. PROJECT IMPACTS**

Implementation of the project could result in the disturbance of marginally suitable roosting and nesting sites for bat species. Disruption of roosting and nesting sites would potentially have a temporary negative effect on bats; however, the project would not permanently remove bat habitat and with the avoidance and minimization measures identified above, there would be no long-term effects on bats. Additionally, the project will not contribute to the permanent loss of roosting habitat, habitat fragmentation, or a loss of suitable foraging habitat.

#### **4.4.1.5. COMPENSATORY MITIGATION**

No compensatory mitigation is proposed.

#### **4.4.1.6. CUMULATIVE EFFECTS**

With the avoidance and minimization measures identified above, there would be no long-term effects on bats; therefore, the project does not contribute to cumulative effects to these species.

#### **4.4.2. Discussion of Raptors and Migratory Birds**

Most raptors, such as red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), and Cooper's hawk (*Accipiter cooperii*), nest in mature, large coniferous or deciduous trees and use twigs and branches as nesting material. Smaller raptors may nest in cavities in anthropogenic structures and trees. Common raptors such as Cooper's hawk, and red-tailed hawk could nest on-site and are afforded protection under the MBTA and CDFW Code. The nesting period for raptors generally occurs between February 15 and August 31.

Large trees within and adjacent to the BSA and proposed staging areas provide suitable nesting habitat for common raptor species such as red-tailed hawk and red-shouldered hawk. Cliff swallow, tri-colored blackbird (*Agelaius tricolor*), and other migratory birds were also considered during the preparation of this report because nesting sites and suitable nesting habitat were observed within the BSA and proposed staging areas.

The nests of all raptor species are protected under the MBTA and Section 3503.5 of the FGC. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Trees and structures found within the BSA and proposed staging areas provide potential nesting habitat for raptors and migratory birds that occur in the region.

##### **4.4.2.1. SURVEY RESULTS**

Migratory birds were observed foraging and nesting within the BSA and proposed staging areas. The list of migratory birds comprises many different bird species, including many common species. Therefore, it is likely that the BSA and proposed staging areas will have several species of migratory birds at one time. Potential nesting locations within the BSA, and proposed staging areas include roadside trees, shrubs, and man-made structures along the margins of the corridor. Migratory birds nesting within the BSA will likely be tolerant of the disturbances and noise associated with Manning Avenue and the surrounding urban area. During the June, 2014 site visit, evidence of numerous active cliff swallow nests were observed underneath the existing bridge on Manning Avenue.

#### **4.4.2.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Implementation of the following avoidance and minimization measures, in conjunction with the measures for nesting raptors as described in this document, would avoid or minimize potential effects to migratory birds and habitat in and adjacent to the BSA, as well as all staging areas used during construction. The measures below would be implemented for all construction work within temporary and permanent impact areas during the nesting season (February 15 through August 31).

- If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 15 through August 31), a qualified biologist will conduct pre-construction surveys for migratory birds within the BSA and all staging areas, including a 250-foot survey buffer, no more than 30 days prior to the start of ground-disturbing activities in the BSA and all staging areas.
- If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 250 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.
- A qualified biologist will delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.

#### **4.4.2.3. PROJECT IMPACTS**

By following the avoidance and minimization measures described in Section 4.4.4.2 for nesting raptors, in addition to the specific measures above, direct impacts to migratory birds leading to take of individuals will be avoided.

#### **4.4.2.4. COMPENSATORY MITIGATION**

Because disturbance of individuals would be minimized, no compensatory mitigation is proposed.

#### **4.4.2.5. CUMULATIVE EFFECTS**

No cumulative impacts to raptors and migratory birds will occur as a result of the proposed project with the implementation of the aforementioned avoidance and mitigation measures and all impacts to nesting and foraging habitat will be temporary.

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## **Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions**

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Below is a discussion of the regulatory requirements that pertain to the proposed project.

### **5.1. Federal Endangered Species Act Consultation Summary**

The United States Congress passed the FESA in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with NEPA to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). “Harass” is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

The FESA directs all federal agencies to participate in endangered species conservation. Specifically, Section 7 of the FESA charges federal agencies to aid in the conservation of listed species (Section 7(a)(1)), and requires federal agencies to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats (Section 7(a)(2)). The FESA requires federal agencies to consult with the USFWS to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats.

In the context of the proposed project, FESA consultation with USFWS would be initiated if development could result in take of a threatened or endangered species or adversely modify critical habitat of such a species.

## **5.2. Federal Fisheries and Essential Fish Habitat Consultation Summary**

There are no federally listed species of fish or essential fish habitat that may be impacted by the proposed project; therefore, no consultation with NMFS/NOAA is required.

## **5.3. California Endangered Species Act Consultation Summary**

The State of California enacted the CESA in 1984. CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (FGC §2080). The CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC §2081).

## **5.4. Wetlands and Other Waters Coordination Summary**

### **5.4.1. Federal Jurisdictional Waters**

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” is defined as the addition of fill material into waters of the United States, including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines (33 CFR §328.2(f)). In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the RWQCB that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety

of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR §328.3(b)). Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site. The lateral extent of non-tidal waters is determined by delineating the OHWM (33 CFR §328.4(c)(1)). The OHWM is defined by the USACE as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR §328.3(e)).

A Preliminary Wetland Delineation is pending approval from the USACE. Jurisdictional features within the BSA are found on Figure 6. Prior to construction of the proposed project the County will obtain CWA Section 401 and 404 permits from the RWQCB and USACE, respectively.

#### **5.4.2. State Jurisdiction over Streambeds and Waterways**

The CDFW is a trustee agency that has jurisdiction under Section 1600, et seq. of the FGC. Under Section 1602, a party must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, except when the department has been notified pursuant to Section 1602.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures. Prior to construction of the proposed project, Caltrans shall obtain a Streambed Alteration Agreement from CDFW if the project proposes impacts to waters of the State under the provision of CDFW 1602 Streambed Alteration Agreement.

### **5.5. Invasive Species**

Executive Order 13112 calls for Executive Branch agencies to work to prevent the introduction and control the spread of invasive species and eliminate or minimize their economic, ecological, and human health impacts. To prevent the introduction and spread of



invasive species identifies within the BSA (Section 3.1.8), Caltrans has issued policy guidelines, which provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs.

## **5.6. Trees and Other Mature Vegetation**

California State Senate Concurrent Resolution No. 17 was filed with the Secretary of State on September 1, 1989. This resolution addresses the protection of native Valley/Coast live oak woodlands with respect to land use/transportation planning projects. The resolution specifically calls for state agencies to “preserve and protect native oak woodlands to the maximum extent feasible,” or “provide for replacement plantings where designated oak species are removed from oak woodlands.”

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## **Appendix A. Database Search Results**

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## Plant List

2 matches found. *Click on scientific name for details*

### Search Criteria

Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quad 36119E4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<a href="#">Imperata brevifolia</a>	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3
<a href="#">Pseudobahia peirsonii</a>	San Joaquin adobe sunburst	Asteraceae	annual herb	1B.1	S1	G1

### Suggested Citation

CNPS, Rare Plant Program. 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 16 April 2015].

#### Search the Inventory

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#### Contributors

[The Calflora Database](#)

[The California Lichen Society](#)



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Query Criteria: Quad is (Reedley (3611954))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
<i>Imperata brevifolia</i> California satintail	PMPOA3D020	None	None	G3	S3	2B.1
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Pseudobahia peirsonii</i> San Joaquin adobe sunburst	PDAST7P030	Threatened	Endangered	G1	S1	1B.1

Record Count: 6

**U.S. Fish & Wildlife Service**  
**Sacramento Fish & Wildlife Office**  
**Federal Endangered and Threatened Species that Occur in**  
**or may be Affected by Projects in the**  
**REEDLEY (356C)**  
**U.S.G.S. 7 1/2 Minute Quad**

Report Date: June 17, 2014

Listed Species

Invertebrates

Branchinecta lynchi  
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus  
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus  
delta smelt (T)

Amphibians

Ambystoma californiense  
California tiger salamander, central population (T)

Rana draytonii  
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila  
blunt-nosed leopard lizard (E)

Thamnophis gigas  
giant garter snake (T)

Mammals

Dipodomys nitratooides exilis  
Fresno kangaroo rat (E)

Vulpes macrotis mutica  
San Joaquin kit fox (E)

Plants

Orcuttia inaequalis



## San Joaquin Valley Orcutt grass (T)

*Pseudobahia peirsonii*

San Joaquin adobe sunburst (T)

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### Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

## **Appendix B. Site Photographs**

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**Photo #1. Travers Creek, north of the existing bridge (photo taken on top of bridge).**



**Photo #2. Travers Creek, underneath the bridge (facing south).**



**Photo #3. Travers Creek, south of the existing bridge (photo taken beneath the bridge).**



**Photo #4. Active cliff swallow nests observed underneath the bridge.**

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**Photo #5. The project site (photo taken from the northern boundary of the Biological Study Area).**



**Photo #6. Travers Creek, north of the existing bridge (photo taken beneath the bridge).**

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## Inter Office Memo

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DATE: June 1, 2015  
TO: Mohammad Alimi, Design Division  
FROM: Briza Sholars, Development Services *BS*  
SUBJECT: Initial Study No. 6965 – Manning Avenue, Travers Creek Bridge Replacement Project Mitigation Measures

This Department and reviewing agencies can recommend a Mitigated Negative Declaration for the above-referenced project if the mitigation measures identified on the attached Mitigation Monitoring and Reporting Program and Conditional Compliance Matrix are incorporated into the project.

In addition, this project is subject to a Fish and Wildlife fee of \$2,260.00 (including the \$50 filing fee) that must be paid prior to when the Board of Supervisors makes a decision on the project. California laws require that specific fees be paid to the California Department of Fish and Wildlife for projects, which must be reviewed for potential adverse effect on wildlife resources. Should the County deny your project, these fees will be refunded. Please note we are required to file the Notice of Determination within five days of project approval.

If you agree to accept the mitigation measures, please sign, date and return this document to my attention. If you have questions regarding information in this memo, please call me at (559) 600-4207.

*This project has been modified to incorporate the following provisions to mitigate potential adverse environmental effects identified in the referenced environmental document. A change in these provisions may affect the validity of the current environmental document, and a new or amended environmental document may be required. The mitigation measures must be included as project conditions and be identified so they can be readily identified as mandatory mitigation measures for this project.*

The mitigation measures attached shall be included in all design plans and specifications and are offered as conditions of project approval.

  
\_\_\_\_\_  
Signature of Applicant or  
Authorized Representative

*6-4-2015*  
\_\_\_\_\_  
Date





**CEQA Mitigation Monitoring and Reporting Plan  
for the  
Initial Study/Mitigated Negative Declaration  
Travers Creek Bridge at Manning Avenue Replacement Project  
County of Fresno, California**

Prepared for:  
**County of Fresno**  
Department of Public Works & Planning  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
559.600.4505

Contact: Mohammad Alimi, Design Division Manager

Prepared by:  
**FirstCarbon Solutions**  
7265 N. First Street, Suite 101  
Fresno, CA 93721  
559.497.0310

Contact: Mary Bean, Project Director  
Elena Nuño, Project Manager

May 28, 2015

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## INTRODUCTION

In compliance with the California Environmental Quality Act (CEQA), the County of Fresno (County) has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Travers Creek Bridge at Manning Avenue Replacement Project (proposed project). The IS/MND identifies potentially significant impacts that would potentially affect the resource areas listed below, along with mitigation measures to reduce those impacts.

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Noise
- Transportation/Traffic

Public Resources Code Section 21081.6 specifies that when a public agency makes findings required by paragraph (1) of subdivision (a) of Section 21081, it “shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.” Public Resources Code Section 21081.6 further specifies that the Mitigation Monitoring and Reporting Plan (MMRP) “ensure compliance during project implementation.”

### Travers Creek Bridge at Manning Avenue Replacement Project Mitigation Monitoring and Reporting Plan

This MMRP for the project lists the mitigation measures identified within the IS/MND, the timing of each measure, and the parties responsible for implementing and monitoring the measures. This MMRP is intended to ensure the effective implementation of mitigation measures that are within the County’s authority to implement, including monitoring where identified, throughout all phases of development of the proposed project. Where the responsibility of implementing the mitigation is listed as belonging to Fresno County, the County may choose to delegate that responsibility to the construction contractor or other qualified individual as deemed appropriate by the County and any other regulatory agency.

**Table 1: Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<b>Biological Resources</b>					
<b>MM BIO-1:</b> Construction efforts shall be concentrated between August 1 and March 1, as feasible; vegetation removal for staging areas and construction work should occur between the end of August and the middle of February, and measures (as approved by CDFW) to exclude roosting bats from construction areas shall be implemented between mid-February and mid-April.	Fresno County Public Works and Planning to verify construction period.	Prior to construction	Fresno County Department of Public Works and Planning		
<b>MM BIO-2:</b> The County will enlist a qualified biological monitor to conduct a pre-construction survey for bats and nesting raptors. The biological monitor will remain on call for the duration of construction activities to provide guidance regarding these species and address other biological concerns that may arise. If bats or nesting raptors are observed during the course of active construction, all construction activities within 50 feet of the animal(s) shall be stopped until the biological monitor is consulted. The County's biological monitor will coordinate with the USFWS and/or CDFW as appropriate. At no time shall work occur within 50 feet of the animal(s) without a qualified biologist present. The animal(s) shall not be captured or handled, and shall be allowed to move away on its own.	Pre-construction survey	No more than 14 days prior to start of ground-disturbing activities, if construction occurs between April and August.	Fresno County Department of Public Works and Planning		
<b>MM BIO-3:</b> ESA fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall clearly describe acceptable fencing material and proper installation and maintenance.	Fresno County Department of Public Works and Planning to verify this condition is included in bid solicitation for the project	Prior to and during construction	Fresno County Department of Public Works and Planning		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p>The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.</p> <p><b>MM BIO-4:</b> To prevent animals from becoming entangled or trapped in erosion control materials, plastic mono-filament netting (i.e., erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine or other similar fibers.</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts and conduct site visits as needed</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM BIO-5:</b> A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species near the BSA, including bats and birds protected by the MBTA. During the WEAP training, construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work area; the potential for special-status species to be present; the associated habitat for special-status species; and that is unlawful to take, harm, or harass special-status species.</p>	<p>Fresno County Department of Public Works and Planning to verify this condition is included in bid solicitation for the project</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM BIO-6:</b> A Revegetation Plan shall be prepared for restoration of temporary work areas. Temporary Construction Zones (TCZs) for this project include a 15-foot buffer outside of all permanent impacts. Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan. A separate revegetation plan for impacts within Travers Creek will be prepared for CDFW approval during the permitting phase of the project.</p>	<p>Approval of plan by Fresno County Department of Public Works and Planning</p>	<p>After construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p><b>MM BIO-7:</b> The following avoidance and minimization measures shall be implemented during bat maternity roosting season (April 15 through August 31) to reduce impacts to bats:</p> <ul style="list-style-type: none"> <li>No more than 14 days prior to start of ground-disturbing activities, a qualified biologist will survey trees within the BSA, as well as all staging areas, for evidence of bat roosts (e.g., bat guano). If bat roosts are located during pre-construction surveys, the roosts will be flagged and avoided during construction.</li> </ul>	<p>Fresno County Department of Public Works and Planning to verify inclusion of measures if construction occurs during April 15 through August 31</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM BIO-8:</b> Implementation of avoidance and minimization measures listed below will reduce direct and indirect impacts to raptors and other migratory birds and habitat in and adjacent to the BSA as well as all staging areas used during construction. The measures below would be implemented for all construction work within temporary and permanent impact areas during the nesting season (February 15 through August 31).</p> <ul style="list-style-type: none"> <li>Removal of trees will be limited to only those necessary to construct the project.</li> <li>If construction or tree removal is proposed during the breeding/nesting season (typically February 15 through August 31), a qualified biologist shall conduct pre-construction surveys for migratory birds within the BSA and all staging areas, including a 250-foot survey buffer, no more than 30 days prior to the start of ground-disturbing activities in the BSA and all staging areas.</li> <li>If an active nest is located during pre-construction surveys, United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to</li> </ul>	<p>Fresno County Department of Public Works and Planning to verify inclusion of measures if construction occurs during February 15 through August 31</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p>avoid disturbance of the nest until it is abandoned or the qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 250 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.</p> <ul style="list-style-type: none"> <li>A qualified biologist will delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.</li> </ul> <p>No action is necessary if no active nests are found or if construction will occur during the non-breeding season (typically September 1 through February 14).</p>					
<p><b>MM BIO-9:</b> A Section 1600 SAA shall be obtained from CDFW for impacts to riparian habitat, and all conditions and requirements of the permit shall be adhered to. As a condition of the Section 1600 SAA, the following mitigation measure shall be implemented to compensate for the removal of 0.029 acre of riparian habitat: Riparian habitat shall be created at not less than a 1:1 ratio in an area within reasonable proximity of the project site, and a Riparian Restoration and Monitoring Plan shall be established. Additionally, Environmentally Sensitive Area (ESA) fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall clearly describe acceptable fencing material and proper installation and</p>	<p>Fresno County Department of Public Works and Planning to submit Section 1600 SAA and receive approval</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p>maintenance. The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.</p>					
<p><b>MM BIO-10:</b> The County shall obtain a Section 404 CWA Nationwide Permit from the USACE for impacts to wetlands and waters of the U.S. and comply with the mitigation measures identified in the Hydrology and Water Quality Section to prevent discharge of pollutants to surface waters during construction. This shall include complying with the State's National Pollution Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit) issued by the Regional Water Quality Control Board (RWQCB). The County shall also obtain a 401 Water Quality Certification from the RWQCB.</p>	<p>Fresno County Department of Public Works and Planning to submit Section 404 CWA and receive approval</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM BIO-11:</b> Standard construction best management practices (BMPs) will be implemented to minimize effects to water quality, including placement of straw wattles or silt fencing along the boundary in the BSA according to an erosion control plan that shall be prepared to avoid discharge into aquatic features. Other construction BMPs that will be reviewed and coordinated with the RWQCB, as necessary, for implementation during construction may include the following:</p> <ul style="list-style-type: none"> <li>• In order to minimize the proposed project's impacts, the project design has been modified to minimize impacts to waters of the United States;</li> <li>• Staging areas shall be located on existing roadways or other disturbed areas where they would not affect sensitive resources;</li> </ul>	<p>Fresno County Department of Public Works and Planning to verify inclusion of measures in construction contracts</p>	<p>Prior to and during construction</p>	<p>Fresno County Department of Public Works and Planning</p>		



**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<ul style="list-style-type: none"> <li>• Sensitive resources will be identified and protected from harm during construction to the extent possible through use of ESA fencing. The integrity and effectiveness of ESA fencing and erosion control measures shall be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches and ineffective BMPs;</li> <li>• The County shall restrict construction activities to the minimum area necessary to safely conduct proposed project activities to the extent possible;</li> <li>• No litter, debris, or sidecasts shall be dumped or permitted to enter aquatic habitats. Trash and debris shall be removed from the site(s) daily;</li> <li>• Vehicles and equipment shall be driven only within established roads and crossings;</li> <li>• The boundary of aquatic habitats that are to be avoided shall be clearly marked with brightly colored fencing, staking, or flagging for work crew avoidance;</li> <li>• Worker education and awareness training shall be conducted for work crews regarding aquatic habitats and special-status species;</li> <li>• Fueling, washing, and maintenance of vehicles or other construction equipment shall occur 100 feet or more away from aquatic habitats; and</li> <li>• Equipment shall be regularly maintained to avoid fluid leaks.</li> </ul>					

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<b>Cultural Resources</b>					
<p><b>MM CUL-1:</b> If a potentially significant historical or archaeological resource is encountered during subsurface construction activities (e.g., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. Upon the County's approval of the recommended mitigation measures, the project developer shall implement said measures. The developer shall fund the costs of the qualified archaeologist and required analysis, and shall include this mitigation measure in every construction contract to inform contractors of this requirement.</p>	<p>Site inspection (if historic or archaeological resources are discovered)</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM CUL-2:</b> In the event a fossil or fossil formations are discovered during any subsurface construction activities for the project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the County of Fresno, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is</p>	<p>Site inspection (if fossils or fossil formations are discovered)</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p>determined to be significant under CEQA, the County shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.</p> <p><b>MIM CUL-3:</b> If ground-disturbing activities uncover previously unknown human remains, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed:</p> <ul style="list-style-type: none"> <li>There shall be no further excavation or disturbance of the area where the human remains were found or within 50 feet of the find until the Fresno County Coroner and the appropriate County representative are contacted. Duty authorized representatives of the Coroner and the County shall be permitted onto the project site and shall take all actions consistent with Health and Safety Code Section 7050.5 and Government Code Section 27460, et seq.</li> </ul> <p>Excavation or disturbance of the area where the human remains were found or within 50 feet of the find shall not be permitted to re-commence until the Coroner determines that the remains are not subject to the provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the Coroner determines the remains are Native American, the Coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the “most likely descendant” (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.</p>	<p>Site inspection (if human remains are discovered)</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<b>Geology and Soils</b>					
<p><b>MM-SOIL-1:</b> The County shall review and approve all plans and permits for structures and improvements prior to issuance of building permits. Plans submitted shall be based upon the current adopted edition of the California Codes at the time of plan check submittal. This includes but is not limited to all off-site improvements. The County shall also conduct inspections for all structures and improvements prior to operation.</p>	<p>Fresno County Department of Public Works to review all plans and permits during plan check submittal</p>	<p>Prior to issuance of building permits for plan and permit checks and prior to operation for inspections</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM-SOIL-2:</b> The County shall employ appropriate sediment and erosion control Best Management Practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project. To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar fibers.</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts</p>	<p>Prior to and during construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<b>Hazards and Hazardous Materials</b>					
<p><b>MM-HAZ-1:</b> Prior to commencement of construction, the County shall have a hazardous materials survey completed by a licensed specialist. The survey shall test for lead, asbestos, chromium, zinc, and other hazardous materials that may have been used in the preservation of wood (creosols, tars, etc.) on the guardrail posts adjacent to the bridge. If such substances are found to be present, the County shall have a licensed contractor properly remove and dispose of these hazardous materials in accordance with federal, state, and local laws. These substances shall be disposed of at an approved disposal facility as determined by the materials' characteristics. All removal activities shall be completed prior to commencement of demolition activities.</p>	<p>Completed lead and asbestos surveys by licensed specialists</p>	<p>Prior to start of construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM-HAZ-2:</b> Construction contractors shall ensure that during construction, staging areas and building areas, using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fuel for combustion. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak.</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts and conduct site inspections as needed.</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM-HAZ-3:</b> Construction contractors shall ensure that any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes but is not limited to vehicles, heavy equipment, and chainsaws.</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts and conduct site inspections as needed.</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<p><b>MM NOI-1:</b> Implementation of the following multi-part mitigation measure is required to reduce the potential construction period noise impacts:</p> <ul style="list-style-type: none"> <li>• The construction contractor shall comply with all local sound control and noise level rules, regulations, and ordinances that apply to any work performed pursuant to the contract;</li> <li>• Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without a muffler;</li> <li>• The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel;</li> <li>• During all demolition or construction phases of the project, the construction contractor shall limit all on-site, noise-producing activities to the hours of 6:00 a.m. to 9:00 p.m., Monday through Friday, and to the hours of 7:00 a.m. to 5:00 p.m. on Saturday and Sunday; and</li> <li>• As directed by Caltrans and the County, the construction contractor shall implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources if needed.</li> </ul>	<p>Submittal of construction contracts with time limitations and measures included in the contract.</p>	<p>During construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

**Table 1 (cont.): Mitigation Monitoring and Reporting Plan, Travers Creek Bridge at Manning Avenue Replacement Project**

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
<b>Transportation/Traffic</b>					
<p><b>MM-TRANS-1:</b> At least one week prior to the commencement of work, the County's contractor' will be required to provide changeable message signs at each end of the project limits to notify drivers of the upcoming project and potential delays.</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts and conduct site inspections as needed.</p>	<p>Prior to and during construction</p>	<p>Fresno County Department of Public Works and Planning</p>		
<p><b>MM-TRANS-2:</b> During project construction, the County's contractor will use standard cones and barricades to protect the public and the work areas. The contractor will also install advance warning signs to alert approaching motorists of the work zones consistent with the most recent edition of the California Manual of Traffic Control Devices (MUTCD) for sign placement, etc. Advance warning signs may be reflective signs, changeable message boards, cones and barricades. Roadway traffic will have at least one lane open to allow for movement through the project area and across the creek. The contractor will provide flaggers as needed to temporarily hold traffic for staging equipment or construction. The work will be limited to 6:00 a.m. to 9:00 p.m., with weekend work occurring between the hours of 7:00 a.m. to 5 p.m., if approved by the County of Fresno Division of Public Works and Planning; no work would occur on national holidays. Where possible, the work will progress in localized sections. Work will be performed in a manner that is least disruptive to the public. Flagging and other means of traffic control will be required to allow for the movement of traffic through the work zone. Cones, signing and flagging for traffic control will conform to the requirements of the California Manual of Uniform Traffic Control Devices (MUTCD).</p>	<p>Fresno County Department of Public Works and Planning to ensure inclusion of this provision in construction contracts and conduct site inspections as needed.</p>	<p>Prior to and during construction</p>	<p>Fresno County Department of Public Works and Planning</p>		

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**Travers Creek Bridge at Manning Avenue Replacement Project  
Initial Study/Mitigated Negative Declaration  
County of Fresno, California**

Prepared for:  
**County of Fresno**  
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Report Date: May 28, 2015

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## SECTION 1: INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to identify any potential environmental impacts from implementation of the Travers Creek Bridge at Manning Avenue Replacement Project, in unincorporated Fresno County, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the County of Fresno (County) is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the project. The County has discretionary authority over the project. The intended use of this document is to determine the level of environmental analysis required to adequately prepare the project IS/MND and to provide the basis for input from public agencies, organizations, and interested members of the public.

The remainder of this section provides a brief description of the project location and the characteristics of the project. Section 2 includes an environmental checklist giving an overview of the potential impacts that may result from project implementation. Section 2 elaborates on the information contained in the environmental checklist, along with justification for the responses provided in the environmental checklist.

The County of Fresno (County), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the East Manning Avenue Bridge (Bridge No. 42C0175) over Travers Creek. The existing bridge is rated structurally deficient.

It was determined that the preparation of an IS/MND would ensure compliance with CEQA on all environmental issues associated with the project. An MND is proposed for this project because it has been determined that the project, with mitigation measures implemented, would not have a significant effect on the environment.

### 1.1 - Purpose

The primary purpose of the project is to replace the structurally deficient Manning Avenue Bridge to improve public safety. In a routine Bridge Inspection Report (BIR) completed by Caltrans in December 2010, the bridge was given a sufficiency rating of 48.4 and flagged as structurally deficient. The existing bridge is structurally deficient due to a reduced load rating. The BIR also noted substandard bridge and approach guardrails and cracks in the original bridge piers.

### 1.2 - Need

The specific objectives of the project are the following:

- Improve bridge performance in the event of the maximum credible earthquake,
- Accommodate existing and projected future traffic volumes by providing the infrastructure necessary to widen Manning Avenue from 2 to 4 lanes within 10 years,

- Reduce maintenance costs, and
- Improve public safety by replacing the structurally deficient bridge.

### 1.3 - Project Location

The bridge replacement project is located in unincorporated Fresno County, approximately 1.4 miles east of the City of Reedley and approximately 2 miles north of Tulare County border (Exhibit 1). The project site is generally located by Alta Avenue (east), agricultural operations (north and south), and South Englehart Avenue (west) (Exhibit 1 and Exhibit 2). The project is located on the Reedley 7.5-minute United States Geological Survey topographic quadrangle map, Township 15 South, Range 24 East, Section 19 (Latitude 36° 36' 14.45" North; Longitude 119° 24' 21.40" West) (Exhibit 3).

### 1.4 - Environmental Setting

The project site is predominantly located within the footprint of the existing Travers Creek Bridge and its associated right-of-way, on East Manning Avenue. The existing Travers Creek Bridge is surrounded by aquatic habitat, riparian habitat, single-family rural residential homes, and agricultural operations. The topography within the vicinity of the project is generally flat. Nearby land uses are predominantly agricultural and/or rural residential in nature.

Overhead utility lines are located along the north and south sides of Manning Avenue within the County of Fresno’s right-of-way. There is a telephone utility conduit attached to the bridge along the south side and a 24-inch storm drain to the northeast of the bridge located within the County of Fresno’s right-of-way. In addition, an irrigation pipe runs across the creek to the south of the bridge in private property.

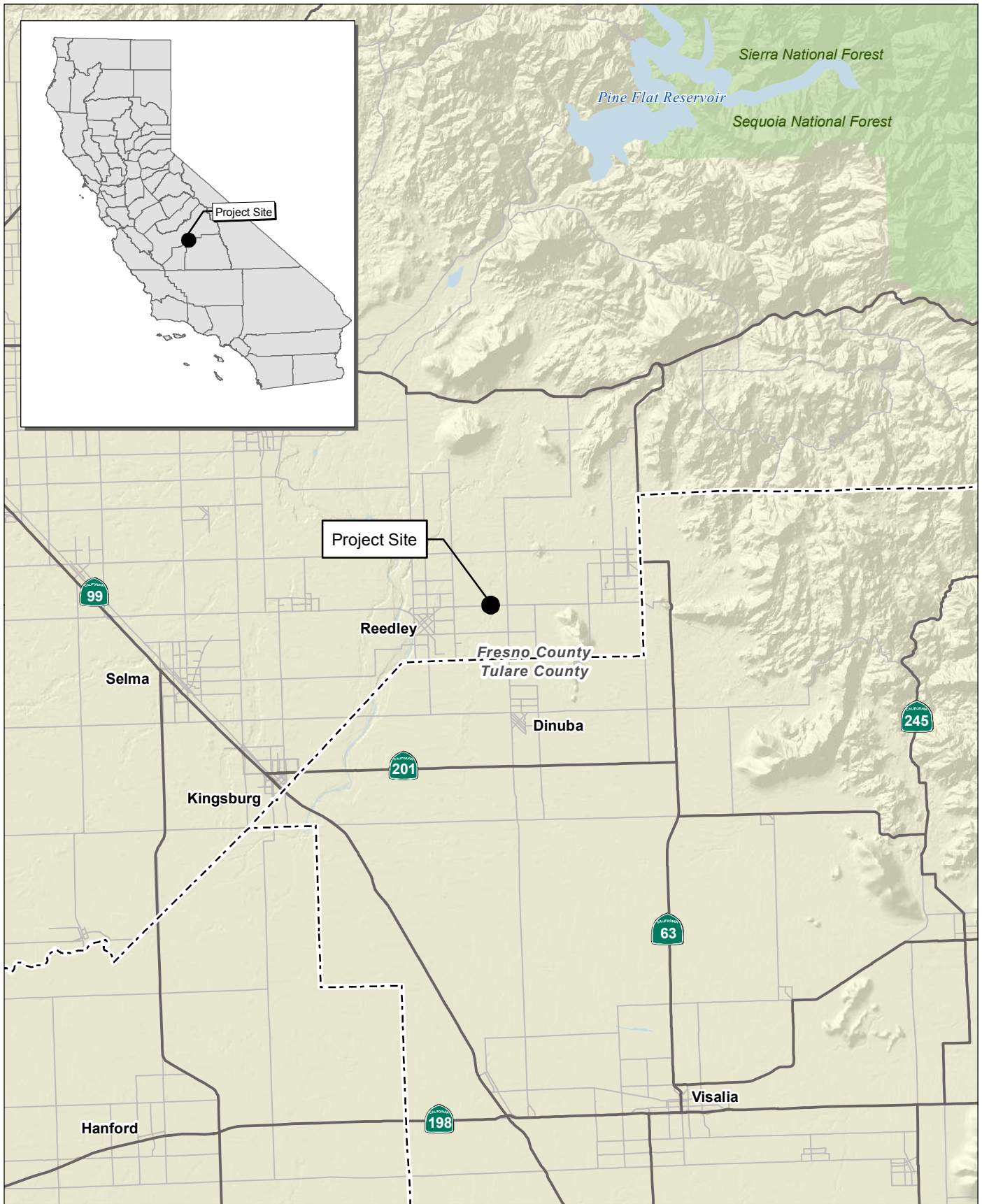
### 1.5 - Surrounding Land Uses and Designations

As shown in Table 1, the project site is bounded by agricultural and rural residential development to the north, south, east, and west.

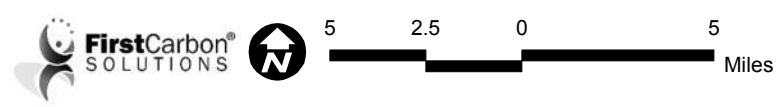
**Table 1: Land Use and Zoning Designations**

Area	Jurisdiction	Land Use Designation	Zoning Designation
Project Site	County of Fresno	Agricultural	AE-20; “Exclusive Agriculture”
West	County of Fresno	Agricultural	AE-20; “Exclusive Agriculture”
North	County of Fresno	Agricultural	AE-20; “Exclusive Agriculture”
East	County of Fresno	Agricultural	AE-20; “Exclusive Agriculture”
South	County of Fresno	Agricultural	AE-20; “Exclusive Agriculture”

Source: Fresno County General Plan, 2000.



Source: Census 2000 Data, The CaSIL



# Exhibit 1 Regional Location Map

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Source: ESRI Imagery

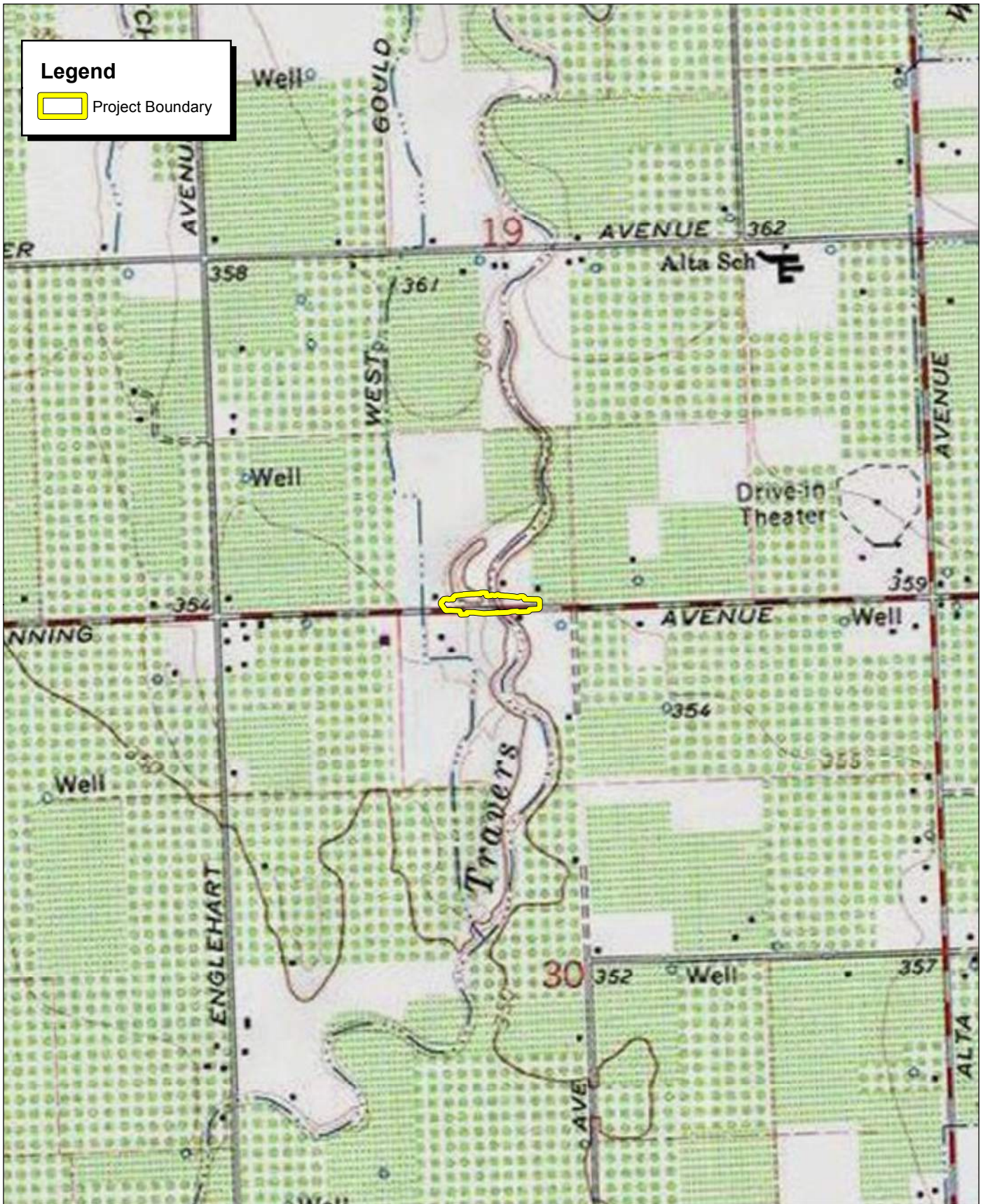


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## Exhibit 2 Local Vicinity Map Aerial Base

COUNTY OF FRESNO  
TRAVERS CREEK BRIDGE AT MANNING AVENUE REPLACEMENT PROJECT  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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Source: ESRI, National Geographic

Exhibit 3

Local Vicinity Map  
Topographic Base



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Exhibit 4 and Exhibit 5 summarize the land use and zoning designations for the project site and the surrounding area. The project site has a General Plan designation of Agricultural, and is zoned AE-20, "Exclusive Agriculture," 20-acre minimum, by the County of Fresno.

## 1.6 - Project Description

The County of Fresno proposes to replace the existing the Travers Creek Bridge on East Manning Avenue. The bridge replacement project is eligible for federal Highway Bridge Program funding. The Highway Bridge Program will provide 88.53 percent of the right-of-way and construction funding to replace all portions of the existing bridge. The County will provide the remaining 11.47 percent of the funding.

The existing bridge is a two-lane single span cast-in-place (CIP), reinforced concrete (RC) T-beam structure with asphalt overlay supported on RC abutments. The bridge, originally constructed in 1925 and widened in 1942, is approximately 33 feet long and 28 feet wide from curb to curb. In a routine BIR by Caltrans dated December 9, 2010, the bridge was given a sufficiency rating of 48.4 and flagged as structurally deficient.

The project would remove the structurally deficient two-lane bridge and replace it with a precast, prestressed concrete, voided slab bridge with a concrete deck supported on concrete columns and piles (Exhibits 6a, 6b, and 6c). The new bridge would be approximately 60-feet long and 77-feet wide covering a total project area of 1.70 acres. The new Travers Creek Bridge would be striped for two lanes, but wide enough to accommodate the County of Fresno's future plans to widen East Manning Avenue from two to four lanes within the next 10 years. The bridge would be constructed according to current Caltrans and American Association of State Highway and Transportation Officials (ASSHTO) standards.

### 1.6.1 - Construction Phasing, Access, Staging, and Methods

#### Project Phasing

Construction of the project is anticipated to be complete in one season. Construction activities would commence in fall of 2016, and are anticipated to take 8 months to complete. The timing of construction requires further coordination with the appropriate regulatory agencies such as United States Army Corps of Engineers (USACE), the Regional Water Quality Control Board (CRWCB), and California Department of Fish and Wildlife (CDFW). It is anticipated that the Travers Creek Bridge and its associated improvements would be constructed over two stages. A description of each stage is as follows.

#### Phase 1

During Phase 1, traffic would be maintained on the existing bridge. The outer portions of the new bridge will be constructed on the north and south sides of the existing bridge. The use of a precast voided slab bridge will minimize impacts by eliminating the need for falsework in the creek. The precast voided slab units could be lifted into place from cranes located on the creek banks without entering the creek.

## **Phase 2**

Once Phase 1 is completed, the traffic would be shifted to the two new outer portions. The existing bridge would be removed, the creek would be excavated, rock slope protection would be placed, and the center portion of the new bridge would be constructed. Once the bridge is complete, traffic would be shifted back to the existing alignment. Construction activities, which require accessing the creek, would be planned for the dry season.

Construction would also be timed, as much as possible, to coincide with avoidance windows for nesting swallows and other birds as well as roosting bats. Upland construction efforts would be concentrated between August 1 and March 1, as feasible. Vegetation removal for staging areas and construction work would occur between the middle of August and the end of February, and measures to exclude roosting bats from construction areas would be implemented between mid-February and mid-April.

## **Project Access and Staging Areas**

To allow equipment to access the project site, vegetation would be removed within the footprint of the bridge, and temporary access would be constructed. Equipment staging would likely occur directly adjacent to the bridge within a property that provides a large flat area adjacent to the project. Potential staging areas are depicted on Exhibit 7. The contractor will lease or rent the property from the property owners for construction staging. Ideally, staging areas would allow the contractor to access the project site without having to cross lanes of traffic. The County will need to acquire temporary rights of access for traffic staging during construction.

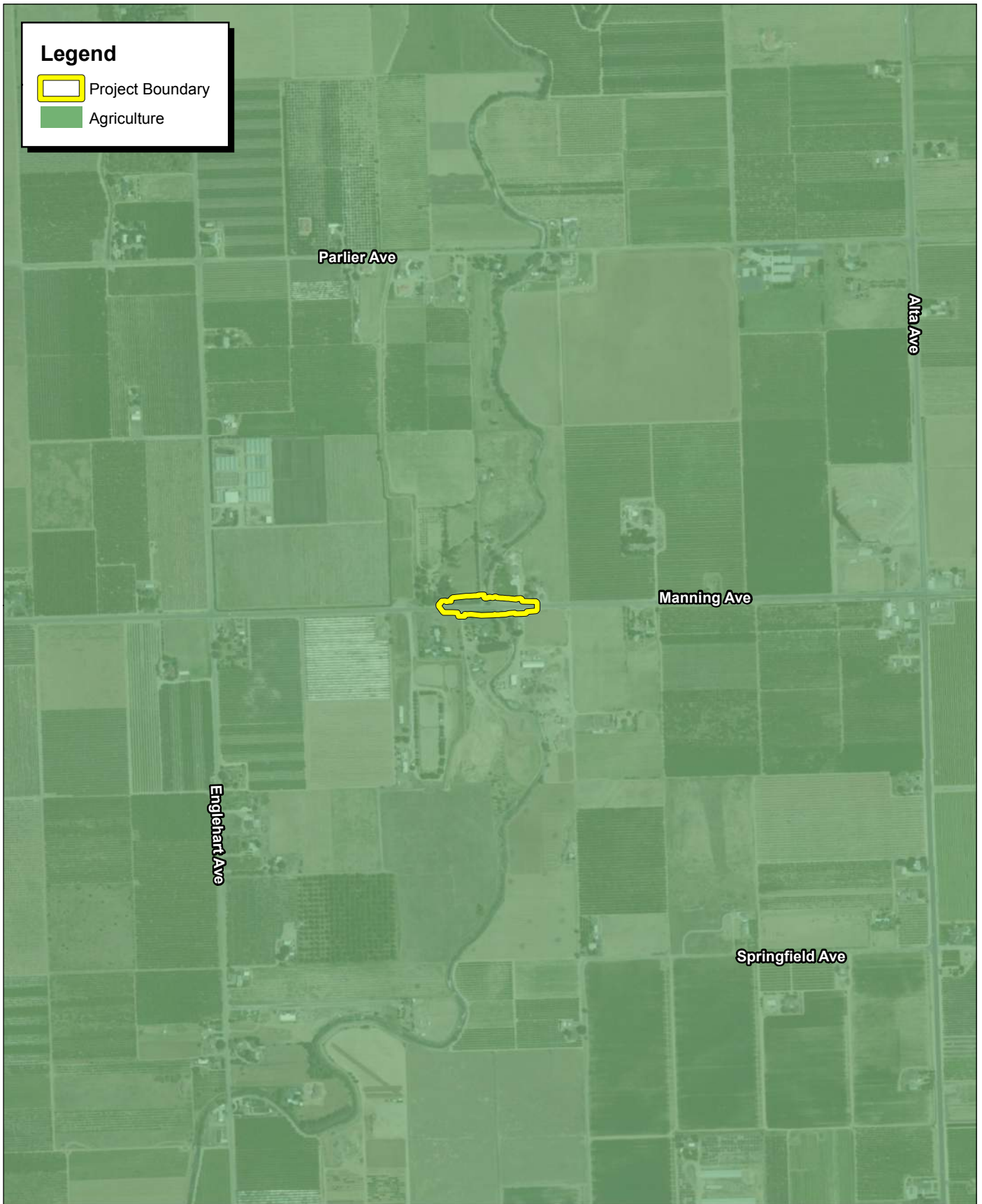
## **Right-of-Way Acquisition**

Future design improvements are being considered in the design of the bridge replacement, the roadway will likely be widened within the next 10 years. To the extent practicable and economical, the design of the current project shall be such that the new bridge will be sufficient for future roadway widening. As such, right-of-way acquisition from surrounding landowners is necessary in order to complete the project.

## **Anticipated Construction Equipment**

Project components would be designed and constructed in accordance with applicable provisions of the latest edition of the Standard Specifications issued by Caltrans (California Standard Specifications or CSS) and the ASSHTO. Components of the project would require general construction activities including grading, excavating, trenching, placement of backfill, and asphalt patching. The project would result in approximately 1,200 cubic yards of soil excavation and export from the site (channel), 700 cubic yards of soil fill import to the site (roadway), and 500 cubic yards of rock slope protection fill import to the site (channel).

Less polluting construction equipment in the form of newer equipment or retrofits would be utilized to the extent feasible.



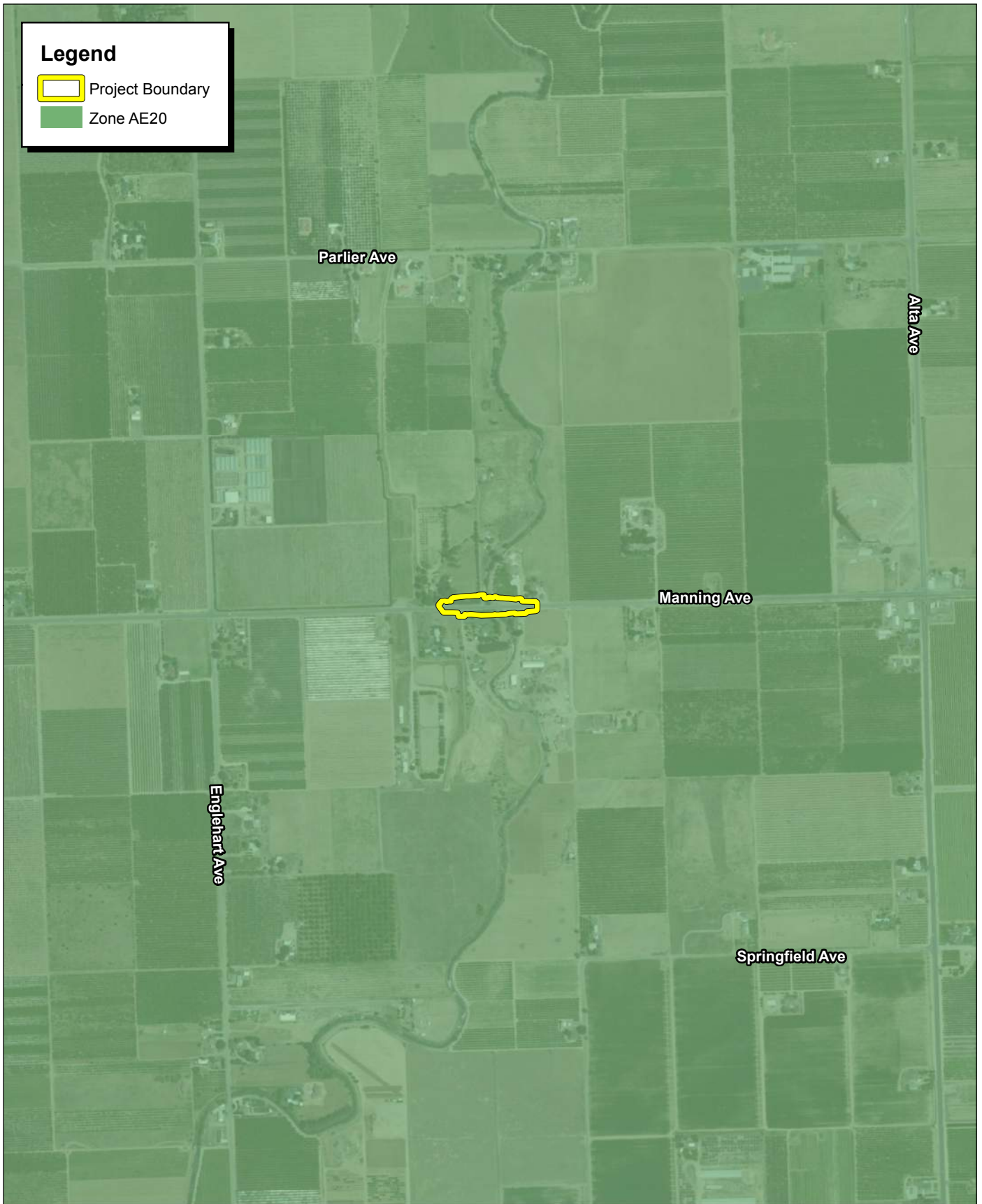
Source: ESRI Imagery, CA Dept of Conservation



## Exhibit 4 General Plan Land Use Map

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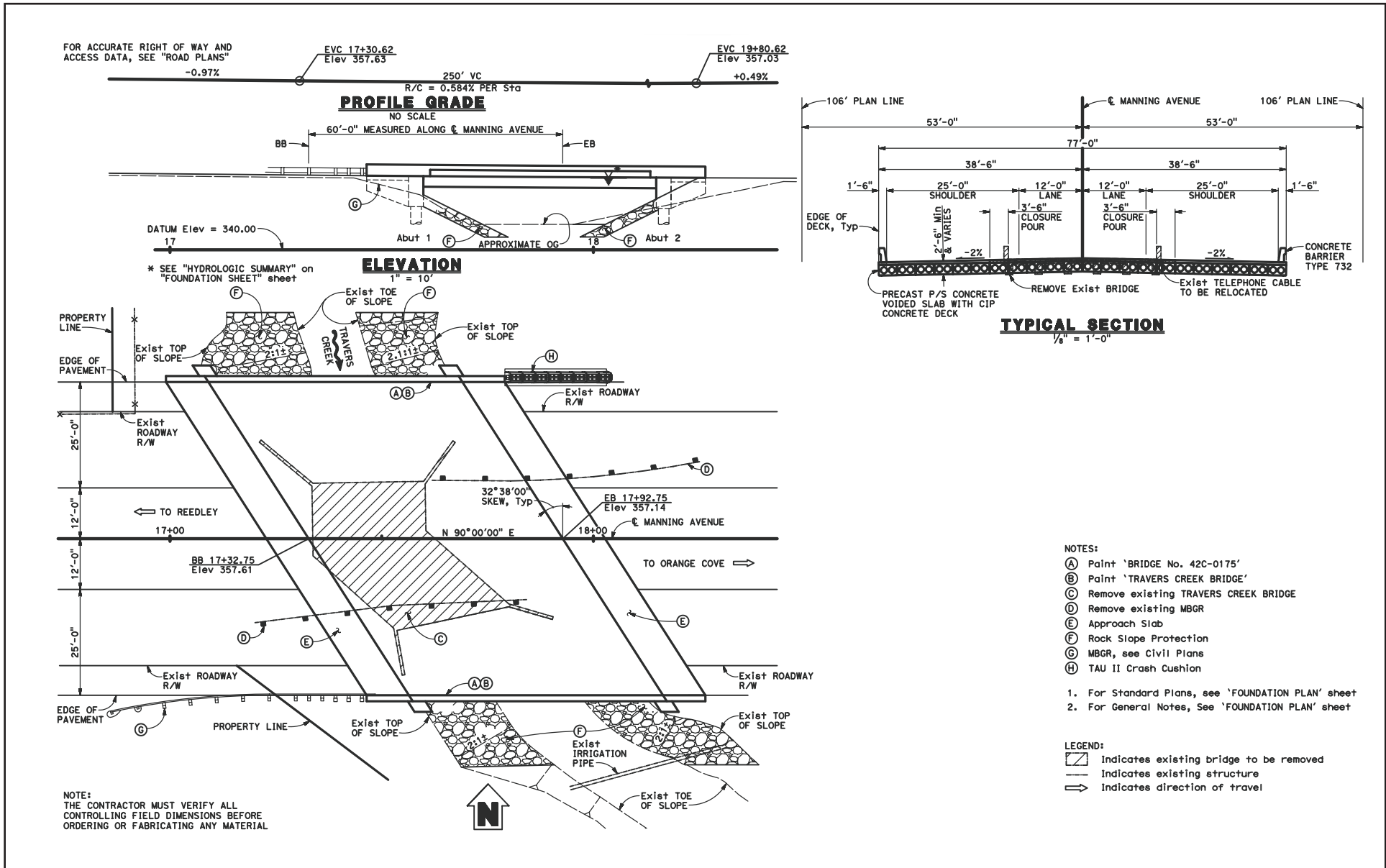


Source: ESRI Imagery, Fresno County



## Exhibit 5 Zoning Map

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Source: Biggs Cardosa Engineering Inc, 2014

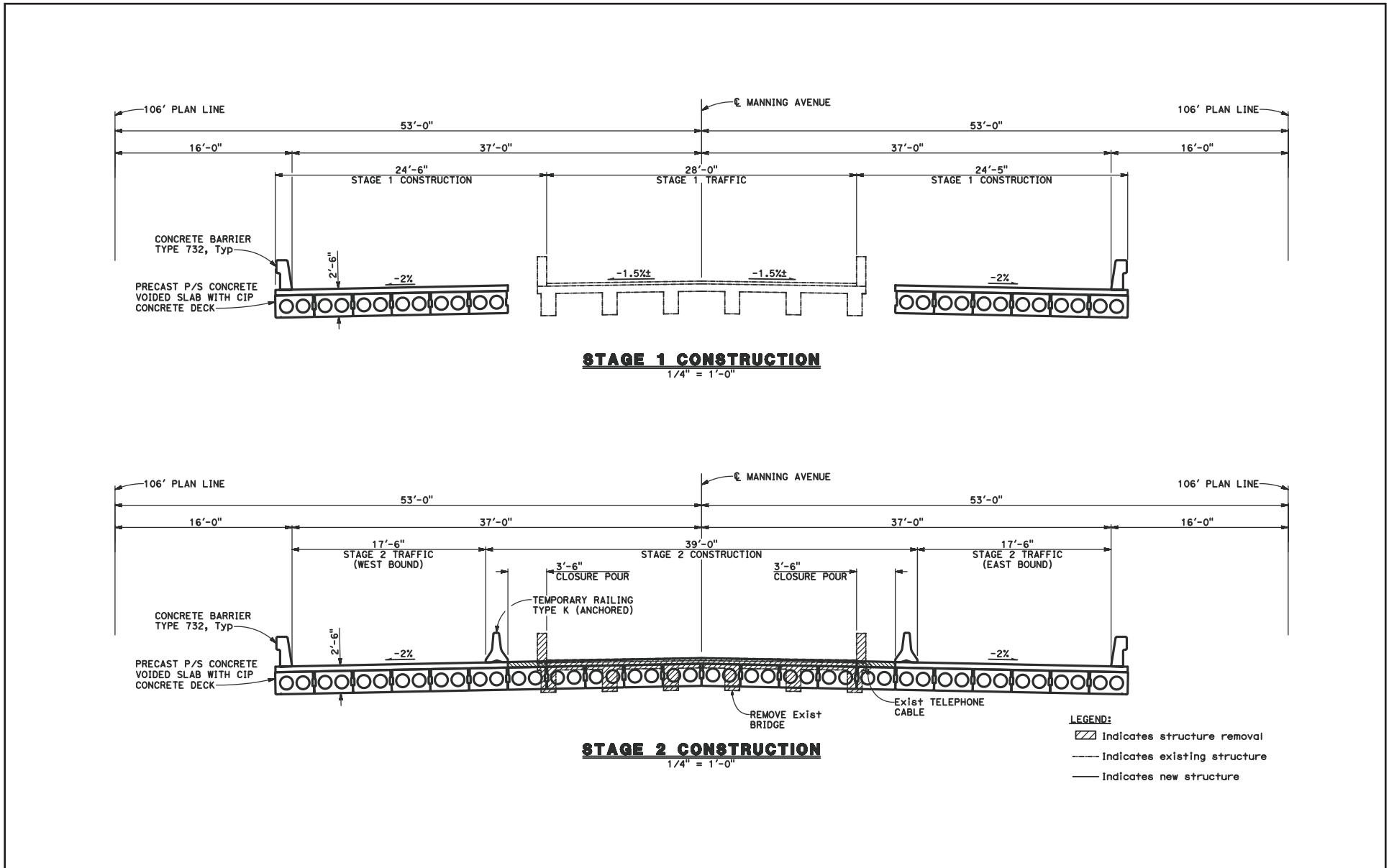


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## Exhibit 6a Engineering Plans

COUNTY OF FRESNO  
 TRAVERS CREEK BRIDGE AT MANNING AVENUE REPLACEMENT PROJECT  
 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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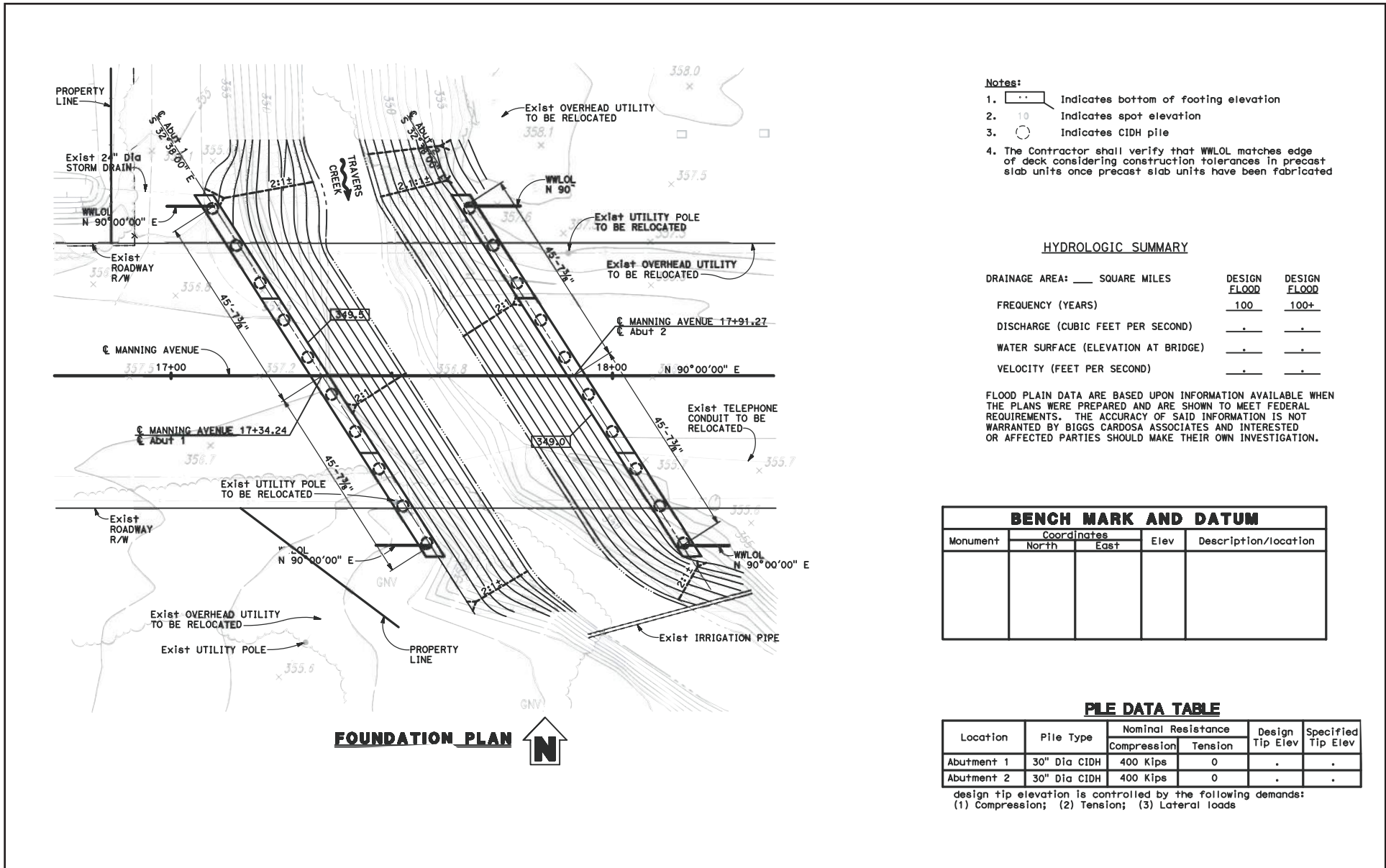


Source: Biggs Cardosa Engineering Inc, 2014



## Exhibit 6b Engineering Plans

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Source: Biggs Cardosa Engineering Inc, 2014



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Source: Drake Haglan and Associates, 2014



## Exhibit 7 Potential Staging Areas

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The following equipment may be utilized during construction of the project:

- Pavement saw
- Jack Hammers
- Excavators
- Front-end loaders
- 10-wheel dump trucks
- Crane
- Bulldozers
- Water truck
- Trench shields
- Air Compressors
- Flat-back delivery truck
- Concrete Trucks
- Sweepers
- Road grader
- Paving equipment: back hoe, asphalt hauling trucks, compactors, paving machine, rollers
- Concrete pumper trucks
- Earth mover

## Methods

### **Bridge Removal**

The project would include the removal of the existing bridge, which includes concrete barriers, bridge deck, bridge abutments, and traffic striping. Structures built before 1978 have the potential to contain asbestos-containing materials (ACMs) and/or lead-based paint. Since the Travers Creek Bridge was constructed in 1925 and widened in 1942, there is potential for ACMs to exist in bridge joints and concrete, and there is potential that lead-based paint would be in the pavement markings. A lead and asbestos survey would be completed by a licensed specialist prior to the commencement of construction, and lead-containing and ACMs found in during this process would be disposed of in compliance with Caltrans specifications.

To remove the existing bridge, the bridge deck and girders would be dismantled using jackhammers. The material would be removed from the creek, and hauled off-site. Once the superstructure is removed, the piers would be broken into pieces with demolition hammers and removed from the site. The existing foundations would be removed to 1 foot below the original ground level and remain in place.

### **Creek Diversion**

It is anticipated that low-flow creek diversion through the project site may be required for the project. Fill and culverts may be used to divert the stream through the project site for the installation of new foundations and removal of existing foundations. Water would be diverted through the work site using a corrugated metal pipe and then discharged downstream.

### **Foundation Installation**

New bridge supports would consist of 30-inch-diameter drilled concrete piles. The bridge would span over the creek, and the piles would be installed on top of the creek banks. The piles would be approximately 50 feet deep, and an auger would be used to drill the piles to the tip elevation. A steel rebar cage would be placed in the hole, which would be filled with concrete.

***Drainage Facilities***

The existing bridge does not have any drainage facilities. The bridge replacement would be designed in accordance with Caltrans and AASHTO standards. It is assumed drainage facilities would not be required.

***Utilities***

Existing public and private utilities located throughout the project area will be relocated or removed as necessary in coordination with responsible companies and private landowners. It is anticipated the project would involve the relocation of the following public utilities along certain segments of the roadway:

- Overhead electrical along the north side of Manning Ave (Pacific Gas and Electric [PG&E])
- Overhead electrical along the south side of Manning Ave (Pacific Gas and Electric [PG&E])
- Overhead telecom along the north side of Manning Ave (Verizon)
- Overhead telecom along the south side of Manning Ave (Verizon)
- Telecom attached to the south of the bridge (Verizon)
- Ditch and 24 in Reinforced Concrete Pipe (RCP) Storm Drain to the northwest of the bridge
- Irrigation pipe across the creek 40 feet to the south of the bridge

***Erosion Control***

The County will employ appropriate sediment and erosion control best management practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project.

**1.7 - Necessary Permits and Approvals**

Permit or Approval	Administered By
Adoption of IS/MND	County of Fresno
Design Review	County of Fresno
Section 404 Nationwide Permit	U.S. Army Corps of Engineers
Section 401 Water Quality Certification	Regional Water Quality Control Board
National Pollutant Discharged Elimination System	Regional Water Quality Control Board
Section 1602 Streambed Alteration Agreement	California Department of Fish and Game

**1.8 - Intended Uses of this Document**

This IS/MND has been prepared to determine the appropriate scope and level of detail required in completing the environmental analysis for the project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the project. The Draft IS/MND will be circulated for a minimum of 30 days, during which period comments concerning the analysis contained in the IS/MND should be sent to:

Mohammad Alimi, Senior Engineer – Design Division  
County of Fresno  
Department of Public Works and Planning  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: 559.600.4505  
Fax: 559.600.4548  
Email: malimi@co.fresno.ca.us

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## SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected					
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.					
<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input checked="" type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards/Hazardous Materials	<input type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input checked="" type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Services Systems	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

### Environmental Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: \_\_\_\_\_ Signed: \_\_\_\_\_

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>1. Aesthetics</b> <i>Would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

Fresno County is located in a geographically diverse region with the peaks of the Sierra Nevada Mountains framing its eastern region, while its western portion includes the San Joaquin Valley floor. Although eastern portions of the county are less developed, they provide opportunities for a variety of year-round recreation destinations, including snow sports, golfing, hiking, camping, fishing and road and mountain bicycling.

The project is located in an area that has been previously disturbed by roadway infrastructure and contains surrounding rural residential development. The project would be developed at ground level within and directly adjacent to the existing roadway alignment, and would be consistent with the existing Manning Avenue land use.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The project site itself does not provide any visual resources that would be considered a scenic vista or part of a scenic vista, because it is within and directly adjacent to the existing roadway alignment with a viewshed dominated by the roadway, vegetation, and surrounding rural residential development. Neither the project site nor any adjacent land uses contain features typically associated with scenic vistas (e.g., ridgelines,



peaks, overlooks). Any minor grade change resulting from the new bridge would not substantially change the bridge's overall appearance compared with the existing bridge. Because the project site does not include scenic vista features impacts would be less than significant.

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

**No impact.** The project site is not located on or near a state designated scenic highway. State Route 168 (SR-168) and SR-180, which are identified in the Caltrans Scenic Highway Mapping System as Eligible State Scenic Highways (DOT 2014), are located approximately 21.74 miles and 8.41 miles respectively from the project site. Neither roadway is visible from the project site. No buildings, historic or otherwise, exist on the project site. The project would not damage scenic resources within a state scenic highway; therefore, no impact would occur.

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

**Less than significant impact.** The area surrounding the project site is primarily privately owned, rural residential land. The vegetation within and around the existing bridge is primarily characterized by riparian tree and shrub vegetation. The majority of the surrounding property owners experience obstructed view exposure to the project site due to existing vegetation. The new bridge would be consistent with the existing visual character of the project vicinity and would not substantially alter the visual character or quality of Manning Avenue. However, in order to allow equipment to access the project site, some vegetation would be removed within the project boundary. A Revegetation Plan shall be prepared for restoration of temporary work areas. The project would therefore not significantly change the existing visual setting and would not introduce visual elements that are uncommon in the area; impacts to visual character would be less than significant.

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

**No impact.** Currently there are no sources of substantial light or glare within the area surrounding the project site beyond vehicles traveling along East Manning Avenue and the rural residential homes. The project does not include the installation of any light sources. It is not anticipated that traffic along East Manning Avenue would increase beyond its existing capacity with the replacement of the existing bridge and therefore, increased lighting from additional vehicles would not be expected. The bridge would be constructed of concrete, a non-reflective material, which would not introduce additional glare to the environment. In addition, the project site is surrounded by trees and vegetation that would continue to obstruct views from surrounding rural residences located within the vicinity of the roadway. Therefore the project would not create a new source of substantial light or glare, and no impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p><b>2. Agriculture and Forestry Resources</b>  <i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</i></p>				
<p>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

The BSA is located on an existing road and bridge in Fresno County and is surrounded by aquatic habitat, riparian habitat, single-family rural residential homes, and agricultural operations. The BSA is located in Fresno County east of State Route 99 (SR-99) and approximately 2 miles east of Reedley. The location of the project corresponds to Township 15 South, Range 24 East, Section 19 of the, California Reedley USGS 7.5-minute topographic quadrangle. Fresno County is located in one of the most agriculturally productive regions in California. The project site is located in an area that is primarily developed with rural residential and agricultural uses.

## Environmental Evaluation

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land—including the Forest and Range Assessment Project and the Forest Legacy Assessment project—and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (ARB).

Would the project:

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

**No impact.** Based upon a review of maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, the area immediately surrounding the bridge is classified as "Rural Residential Land." In addition, the project site is not used for any agricultural purposes.

The project would replace an existing bridge, and thus involves no land use conversions. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and no impacts would occur.

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

**No impact.** The area immediately surrounding the project site is zoned AE-20, "Exclusive Agriculture," with a 20 acre minimum. As shown on Exhibit 5, lands adjacent to the project site are also zoned for AE-20, "Exclusive Agriculture." This land will not be affected by the implementation of the project. The project would replace an existing bridge, and construction will be concentrated within and directly adjacent to the existing roadway, thus remaining consistent with existing development. The project is not expected to encourage the non-renewal or cancellation of any possible nearby Williamson Act contracted lands. Furthermore, because the project would replace the existing roadway, the project would not have an effect on potential future agricultural uses identified under the designated AE-20 zoning. Therefore the project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

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

**No impact.** The area immediately surrounding the project site is zoned as zoned AE-20, "Exclusive Agriculture," which has a 20-acre minimum and permits some of the following uses: the maintaining breeding, and raising of livestock and poultry; the raising of plant life crops; family dwellings and farm buildings; the harvesting, curing, processing, packaging packing, shipping, and selling of agricultural products; and the use storage, repair, and maintenance of tractors, scrapers, and land leveling and development equipment. Forest land, timberland, and Timberland Production are not among the permitted uses. Furthermore, the project is located within and directly adjacent to the existing roadway, replacing an existing bridge, and would remain consistent with current zoning and land uses. Therefore, the project would not conflict with existing zoning of forest land or timberland, and no impacts would occur.

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

**No impact.** The area immediately surrounding the project site is zoned as AE-20, "Exclusive Agriculture," which has a 20-acre minimum and does not permit forest land, timberland, or Timberland Production. This condition precludes the possibility of conflicts with forestland zoning as a result of project implementation. Therefore the project would not result in the loss or conversion of forest land to non-forest use, and no impacts would occur.

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

**No impact.** The project site is located within and directly adjacent to the existing roadway and would replace an existing bridge. It is surrounded by rural residential development and will remain consistent with current land uses. Therefore, it is unlikely that the project would create the conversion of farmland to non-agricultural use or the conversion of forestland to non-forest use. Therefore, no impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>3. Air Quality</b>				
<i>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.</i>				
<i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

The project is located in unincorporated Fresno County, within the San Joaquin Valley Air Basin (SJVAB). SJVAB lies within the central portion of the San Joaquin Valley, approximately 300 miles long and shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the south boundary (6,000 to 8,000 feet in elevation). The project is located within the San Joaquin Valley Air Pollution Control District (SJVAPCD), which includes eight counties in the Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern.

The basin is designated as nonattainment for state ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards and federal ozone and PM<sub>2.5</sub> standards. Therefore, the pollutants of concern for the project are ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Ozone is not emitted directly into the air; rather, it is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and NO<sub>x</sub>, react in the atmosphere in the presence of sunlight to form ozone. Significant ozone formation

generally requires an adequate amount of ozone precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. The conditions for ozone formation are prevalent during the summer when thermal inversions are most likely to occur. PM levels tend to be highest during the winter months when the meteorological conditions favor the accumulation of localized pollutants. This occurs when relatively low inversion levels trap pollutants near the ground and concentrate the pollution.

The SJVAPCD has issued a Guide for Assessing Air Quality Impacts (GAMAQI). The SJVAPCD recommends the following thresholds be used to determine significant impacts:

- ROG – 10 tons per year
- NO<sub>x</sub> – 10 tons per year
- PM<sub>10</sub> – 15 tons per year
- PM<sub>2.5</sub> – 15 tons per year

## Environmental Evaluation

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

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

**Less than significant impact.** The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI does not provide specific guidance on analyzing conformity with the Air Quality Plan (AQP). Therefore, this document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project conform to the assumptions in the AQPs?
3. Will the project comply with applicable control measures in the AQPs?

The use of the criteria listed above is a standard approach for CEQA analysis of projects in the District's jurisdiction, as well as within other air districts, for the following reasons:

- Significant contribution to existing or new exceedances of the air quality standards would be inconsistent with the goal of attaining the air quality standards.

- AQP emissions inventories and attainment modeling are based on growth assumptions for the area within the air district's jurisdiction.
- AQPs rely on a set of air district-initiated control measures as well as implementation of federal and state measures to reduce emissions within their jurisdictions, with the goal of attaining the air quality standards.

AQPs are plans for reaching attainment of air quality standards. The assumptions, inputs, and control measures are analyzed to determine if the Air Basin can reach attainment for the ambient air quality standards. In order to show attainment of the standards, the District analyzes the growth projections in the valley, contributing factors in air pollutant emissions and formations, and existing and future emissions controls. The District then formulates a control strategy to reach attainment.

### **Contribution to Air Quality Violations**

A measure of determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Because of the region's nonattainment status for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, if project-generated emissions of either of the ozone precursor pollutants (ROG or NO<sub>x</sub>), PM<sub>10</sub>, or PM<sub>2.5</sub> would exceed the District's significance thresholds and were not included in the plan's growth forecast, then the project may be considered to conflict with the attainment plans. Projects requiring a General Plan Amendment may not be included in the air quality plans growth forecast. However, adding additional vacant land to the inventory may not result in an increase in the actual amount of land developed by the plan's attainment year.

As discussed in question 3(c) below, emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> associated with the construction and operation of the project would not exceed the District's significance thresholds. As shown in question 3(b) below, the project would not result in carbon monoxide (CO) hotspots that would violate CO standards. Therefore, the project would not make a significant contribution to air quality violations.

### **Consistency with Assumptions in AQPs**

The primary way of determining consistency with the AQP's assumptions is determining consistency with the applicable General Plan to ensure that the project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin. The project does not propose additional land for development. As a bridge replacement project, there would not be an increase in population or vehicle miles traveled in the region. Therefore, the project is consistent with the assumptions of the AQPs and has a less than significant impact for this criterion.

### **Control Measures**

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. The project will comply with all of the District's applicable rules and regulations. Therefore, the project complies with this criterion and would not conflict with or

obstruct implementation of the applicable air quality attainment plan. Impacts are less than significant.

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

**Less than significant impact.** Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions compared with District thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are also assessed using concentration based thresholds compared with ambient air quality standards or significance thresholds.

The primary pollutants of concern during project construction and operation are ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The SJVAPCD's current GAMAQI adopted in 2002 contains thresholds for ROG and NO<sub>x</sub>; however, pending completion of an update to the GAMAQI, the SJVAPCD recommends using thresholds for PM<sub>10</sub>, and PM<sub>2.5</sub> that are based on Rule 2201 New Source Review offset thresholds. The Draft 2014 GAMAQI is currently out for public review and continues to include the same thresholds of significance for criteria pollutants ROG and NO<sub>x</sub>, and add thresholds for PM<sub>10</sub>, and PM<sub>2.5</sub>.

Ozone is a secondary pollutant that is formed in the atmosphere sometimes miles away from the source of emissions through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard.

The Basin also exceeds air quality standards for PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The District annual emission significance thresholds used for the project to define substantial contribution from both construction and operational emissions are as follows:

- 10 tons per year ROG
- 10 tons per year NO<sub>x</sub>
- 15 tons per year PM<sub>10</sub>
- 15 tons per year PM<sub>2.5</sub>

*Construction Emissions*

The Sacramento Metropolitan Air Quality Management District's Road Construction model was used to estimate emissions from the project. The Roadway Construction Emissions Model is a Microsoft Excel worksheet designed to assess the emissions of linear construction projects. The SJVAPCD recommends the use of this model for linear construction projects.

Construction activities would commence in fall 2016, and are anticipated to take 8 months to complete. If construction dates are extended to later years, emissions would decline because of ongoing advancements in off-road construction equipment technology as a result of state and



federal regulations. The Air Quality Technical Memorandum included with this Initial Study as Appendix A contains detailed information on the assumptions used in estimating the project’s construction emissions.

Table 2 provides the estimated maximum daily emissions during the project and compares them with the thresholds of significance.

**Table 2: Construction Emissions (Tons per Year)**

Year	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2016	0.3	2.9	0.45	0.2
2017	0.3	2.9	0.45	0.2
Total	<b>0.6</b>	<b>5.8</b>	<b>0.9</b>	<b>0.4</b>
Threshold (ton/year)	10	10	15	15
Exceed Threshold?	No	No	No	No
Significant?	No	No	No	No
Source: Sacramento Air Quality Management District, Road Construction Model, 2013				

As shown in Table 2, the construction emissions would be less than significant based on the SJVAPCD’s thresholds of significance. It is important to note that the emissions shown above assume compliance with the SJVAPCD’s Regulation VIII – Fugitive PM<sub>10</sub> Prohibitions. Regulation VIII is a series of rules designed to reduce fugitive dust from construction sites, parking and staging areas, open areas, material storage areas, etc. No permits are required by this regulation, but failure to comply can result in fines and penalties. Construction contracts would require the incorporation of BMPs to reduce fugitive dust.

The project is not a capacity increasing project; therefore, no increase in the existing operational emissions is associated with existing traffic. Accordingly, operational emissions were not estimated for the project.

**Localized Pollutant Analysis**

The SJVAPCD has requested that projects analyze the potential to generate or substantially contribute to a localized exceedance of criteria pollutants. A significant impact would result if the change in the NO<sub>2</sub>, SO<sub>2</sub>, or CO pollutant impacts from the addition of the project plus the background concentrations of these pollutants contributed by other local and regional emission sources exceeds the most restrictive ambient air quality standards. In locations that already exceed standards for these pollutants, significance is based on a significant impact level (SIL) that represents the amount that is considered a cumulatively considerable contribution to an existing violation of an air quality standard. Although the Air Basin has not violated the national ambient air quality standards or PM<sub>10</sub> in the past 5 years, it has violated the state standard for PM<sub>10</sub> during the past several years. The Air Basin also exceeds both the national and state PM<sub>2.5</sub> air standards. However,

the District has not adopted local significance thresholds specifically for either  $PM_{10}$  or  $PM_{2.5}$ . For  $PM_{10}$  and  $PM_{2.5}$ , a significant impact would occur if the net change in  $PM_{10}$  or  $PM_{2.5}$  exceeds the respective SILs.

The SJVAPCD has provided guidance for screening localized impacts in its 2014 Draft Guidance document that establishes a screening threshold of 100 pounds per day of any criteria pollutant. If a project exceeds 100 pounds per day of any criteria pollutant, then ambient air quality modeling would be necessary. If the project does not exceed 100 pounds per day of any criteria pollutant, then it can be assumed that it would not cause a violation of an ambient air quality standard.

***Construction: Localized Concentrations of  $PM_{10}$ ,  $PM_{2.5}$ , CO, and  $NO_2$***

Local construction impacts would be short-term in nature lasting only during the duration of construction. Because of the short duration and limited amount of construction anticipated for the project, application of BMPs to minimize construction emissions, and levels of emissions less than the SJVAPCD's emission significance thresholds, localized construction concentrations are considered less than significant. It should also be noted that the construction emissions would be less than 100 pounds per day for each of the criteria pollutants. Therefore, based on the District's 2014 Draft Guidance document, the construction emissions would not cause an ambient air quality standard violation.

***Operation: Localized Concentrations of  $PM_{10}$ ,  $PM_{2.5}$ , CO, and  $NO_2$***

Localized impacts could occur in areas with a single large source of emissions such as a power plant or with multiple sources concentrated in a small area such as a distribution center. The project would not increase capacity and, as a result, operational emissions were not estimated for the project. It can be conservatively determined that criteria pollutant emissions would not exceed 100 pounds per day. Therefore, the operational emissions would not cause an ambient air quality standard violation.

**CO Hotspot**

Carbon monoxide (CO) "hot spot" thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecasted regional traffic do not exceed state or national ambient air quality standards for CO at any traffic intersection impacted by a project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project generated CO concentrations cause a localized violation of the state CO 1-hour standard of 20 parts per million (ppm), state CO 8-hour standard of 9 ppm, national CO 1-hour standard of 35 ppm, or national CO 8-hour standard of 9 ppm.

The SJVAPCD's 2002 GAMAQI states that a CO hot spot analysis should be conducted if (1) a traffic study for a project indicates that the LOS on one or more streets or at one or more intersection in the project vicinity will be reduced to LOS E or F; or (2) a traffic study indicates that a project will substantially worsen an already existing LOS F at one or more intersections. East Manning Avenue currently has a traffic volume of 3,550 vehicles per day and does not experience significant traffic congestion or volumes needed to generate a CO hotspot. The project would not affect the level of

service, since it would replace an existing structure with a new structure of similar capacity. Therefore, the project does not have the potential to generate a CO hotspot.

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

**Less than significant impact.** The cumulative air quality analysis prepared for the project follows guidance from the SJVAPCD. In general, to result in a less than significant impact, the following must be true:

1. *Emissions analysis:* emissions of nonattainment pollutants must be below the SJVAPCD's project level significance thresholds. This is an approach recommended by the SJVAPCD in its 2002 GAMAQI.
2. *Summary of projections:* the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA guidelines.
3. *Cumulative health impacts:* the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

## Emissions Analysis

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. The Air Basin often exceeds the ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The District established significance thresholds for ozone precursors, ROG and NO<sub>x</sub>, and has published them in its GAMAQI. For typical projects, operation-related emissions that exceed the threshold of 10 tons per year for ROG or NO<sub>x</sub> would be considered significant. The July 2014 Draft Guidance document contains thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> of 15 tons per year each, which are used in this impact analysis. Cumulative health impacts of ozone and/or particulate matter would result if these thresholds are exceeded.

The criteria pollutant emissions analysis assessed whether the project would exceed District thresholds of significance. As shown in Table 1, criteria pollutant emissions would not exceed any threshold of significance during project construction. In addition, operational emissions were not modeled as the project is not a capacity increasing project so there is no increase in the existing operational emissions. Therefore, project emissions would not cumulatively contribute to a significant impact according to this criterion.

## Summary of Projections

Section 15130(b) of the CEQA Guidelines states:

The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines Section 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. Under the amended CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The air quality attainment plans describe and evaluate the future projected emissions sources in the Basin and set forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Therefore, the plans are relevant plans for a CEQA cumulative impacts analysis. As discussed in question 3(a), the project is consistent with the air quality attainment plans. Therefore, according to this criterion, this impact is less than significant.

### **Cumulative Health Impacts from Criteria Pollutants**

The Basin is in nonattainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects.

However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

ROG and NO<sub>x</sub> have significance thresholds because they are ozone precursor emissions. The significance thresholds for ROG and NO<sub>x</sub> are not designed to be indicators of health effects from ROG and NO<sub>x</sub> individually. However, one could conclude that a project would make cumulatively considerable contribution to the existing health impacts of ozone and/or secondary particulate matter if the thresholds are exceeded. The impacts are not considered a project-specific impact because project emissions of ROG and NO<sub>x</sub> emissions from a single project would not result in a measurable change in ozone or particulate concentrations; however, the combined effects of many projects dispersed throughout the region could potentially increase concentrations or slow progress toward achieving the air quality standards. The combination of project emissions with pollutants from other sources within the Basin could cumulatively contribute to a significant impact.

The emissions analysis shown above indicates that the increase in emissions would not exceed the District's regional significance thresholds. The project would not result in significant cumulative health impacts.

**d) Expose sensitive receptors to substantial pollutant concentrations?**

**Less than significant impact.** This discussion addresses whether the project would expose sensitive receptors to naturally occurring asbestos, construction-generated fugitive dust (PM<sub>10</sub>), construction-generated diesel particulate matter (DPM), operational related toxic air contaminants (TACs), or operational CO hotspots.

A sensitive receptor is a person in a population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are typically located:

- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences
- Schools, playgrounds and childcare centers

The project site itself is not a sensitive receptor. However, the closest sensitive receptor to the project site is the single family residence located approximately 110 feet south of the bridge construction limits.

**Naturally Occurring Asbestos**

The California Department of Conservation maps naturally occurring asbestos (NOA) areas throughout the State of California. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The risk of disease is dependent upon the intensity and duration of exposure. California Division of Mines Open File Report 2011-1188 maps areas of the State with reported occurrences of NOA based on the location of ultramafic rock and previous asbestos mines. The mapping does not show the project site within an ultramafic rock area or mine. As such, disturbance of NOA is not a concern for the project. Therefore, potential health hazards resulting from NOA dust would be less than significant.

**Asbestos-Containing Materials (ACMs), Arsenic, and Lead-Based Paint**

As indicated in the Initial Site Assessment prepared by FirstCarbon Solutions and included in this Initial Study as Appendix E, it is possible that asbestos was used during the construction of the original roadway and/or bridge structure and is in the roadway sub grade. There is potential for exposure when ACMs become damaged to the extent that asbestos fibers become airborne and are inhaled. In addition, the paint on the steel girders and in the roadway markings may be lead-based; deterioration, damage, or disturbance of lead-based paint may result in hazardous exposure and can cause lead poisoning when consumed or inhaled. There is also the potential for other metals to be present, such as chromium and zinc. Additionally, other hazardous substances used in the

preservation of wood (creosols, tars, etc.) may have been used on the guardrail posts adjacent to the bridge.

Mitigation Measure HAZ-1 requires the completion of hazardous materials survey prior to commencement of construction to determine if these materials are present. If hazardous materials are deemed to be present, Mitigation Measure HAZ-1 requires the removal and disposal of those materials by licensed contractors in accordance with federal, state, and local laws. Implementation of this mitigation measure would reduce potential exposure to hazardous materials to a less than significant level.

### **Construction: Localized Emissions**

Air pollutant emissions from project construction could create localized health impacts if the ambient air quality standards are exceeded. As shown in question 3(b) above, the project would not exceed the SJVAPCD's localized significance thresholds for construction-generated emissions. Therefore, the project would not expose receptors to substantial air pollutant concentrations from construction activities.

### **Construction: Diesel Particulate Matter**

Equipment used during construction of the project would emit DPM, which is a carcinogen. However, the DPM emissions are short-term in nature. Determination of risk from DPM is considered over a 70-year exposure time. Guidance published by the California Air Pollution Control Officers Association (CAPCOA), Health Risk Assessments for Proposed Land Use Projects, does not currently include guidance for health risks from construction projects addressed in CEQA documents; standards for receptors near construction projects are expected to be included later when the toxic emissions from construction activities are better understood. However, given the brief duration of the construction period and the 70-year exposure time recommended for health risk assessment of DPM health impacts, and considering the dispersion of the emissions, exposure to potential health impacts caused by DPM would be considered less than significant.

### **Operation: CO Hotspot**

As shown in 3(b), above, the project would not create a localized CO hotspot. Therefore, the project would not expose receptors to substantial CO concentrations from operational activities.

### **Conclusion**

The project would not expose receptors to substantial quantities or significant concentrations of asbestos from soils disturbance; asbestos, lead, and arsenic from demolition activities; construction-generated emissions; construction-generated DPM; or CO hotspots. Therefore, the project would result in a less than significant impact.

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

**Less than significant impact.** Odors are generally regarded as an annoyance rather than a health hazard. People may have different reactions to the same odor. An odor that is offensive to one person may be acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily

detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity of the odor. Typically, odor impacts are recommended to be addressed in a qualitative manner. Such an analysis shall determine whether a project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

Diesel exhaust and reactive organic compounds (ROG from paving off-gassing) would be emitted during demolition and construction activities to replace the bridge. However, emissions would disperse rapidly from the bridge location, and thus would not reach an objectionable level at the nearest sensitive receptors.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>4. Biological Resources</b> <i>Would the project:</i>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

A Natural Environment Study (NES) and a Jurisdictional Wetland Delineation were prepared for the project and are included in this IS/MND as Appendix B. The impact analysis below is based on these technical studies.



A Biological Study Area (BSA) was established for the project site. The BSA was developed with the coordination of the project engineers and the biological resources technical staff to include all project elements and activities as well as potential effects. The BSA was developed to be at least 50 feet away from project construction, when possible within the Caltrans right-of-way (ROW), to ensure full disclosure of potential biological impacts. The BSA encompasses approximately 4.37 acres.

## Vegetation

Developed habitats dominate the project BSA. Developed habitats are dominated by numerous ornamental plant species occurring in landscaped areas and annual, nonnative plants that thrive in disturbed areas. The predominant upland species include common wild oats (*Avena fatua*), bull thistle (*Cirsium vulgare*), rip-gut (*Bromus diandrus*), and jimson weed (*Datura stramonium*). Common animal species occurring within the BSA include but are not limited to American cliff swallow (*Petrochelidon pyrrhonota*), American bullfrog (*Lithobates catesbeianus*), turkey vulture (*Cathartes aura*), western gray squirrel (*Sciurus carolinensis*), and black-tailed jackrabbit (*Lepus californicus*).

The vegetation communities that occur within the BSA include four plant communities: agricultural, ruderal/disturbed, urban developed, and riparian (Exhibit 8). In addition to these vegetation communities, the BSA also contains developed and ruderal areas such as Manning Avenue, as well as adjacent residences and their related infrastructure. Table 3 summarizes the mapped vegetation types within the Biological Study Area. Exhibit 9 shows the vegetation communities within three potential staging areas for the project. Table 4 summarizes the mapped vegetation types within the three potential staging areas.

**Table 3: Acreage of Vegetation Types Mapped within the Biological Study Area**

Vegetation Types	Acres
Agricultural	0.08
Travers Creek	0.07
Riparian	0.06
Ruderal/Disturbed	0.83
Urban/ Developed	3.33
<b>Total</b>	<b>4.37</b>

**Table 4: Acreage of Vegetation Types Mapped within the Proposed Staging Areas**

Proposed Staging Area	Vegetation Types	Acres
1	Ruderal/Disturbed	0.50
2	Ruderal/Disturbed	0.50
3	Ruderal/Disturbed	0.50
<b>Total</b>	<b>Ruderal/Disturbed</b>	<b>1.50</b>

Ruderal/disturbed and urban/developed habitat are not considered to be natural communities of special concern and, therefore, will not be discussed further unless in the context of habitat for special-status species.

Invasive plant species and vegetation communities also occur within the BSA. This is most likely due to the adjacency to Manning Avenue and residential driveways that act as vectors to transport the seeds of invasive species.

Exhibit 10 shows the temporary and permanent impacts that would occur to the vegetation communities within the BSA as a result of project implementation.

### Wetlands

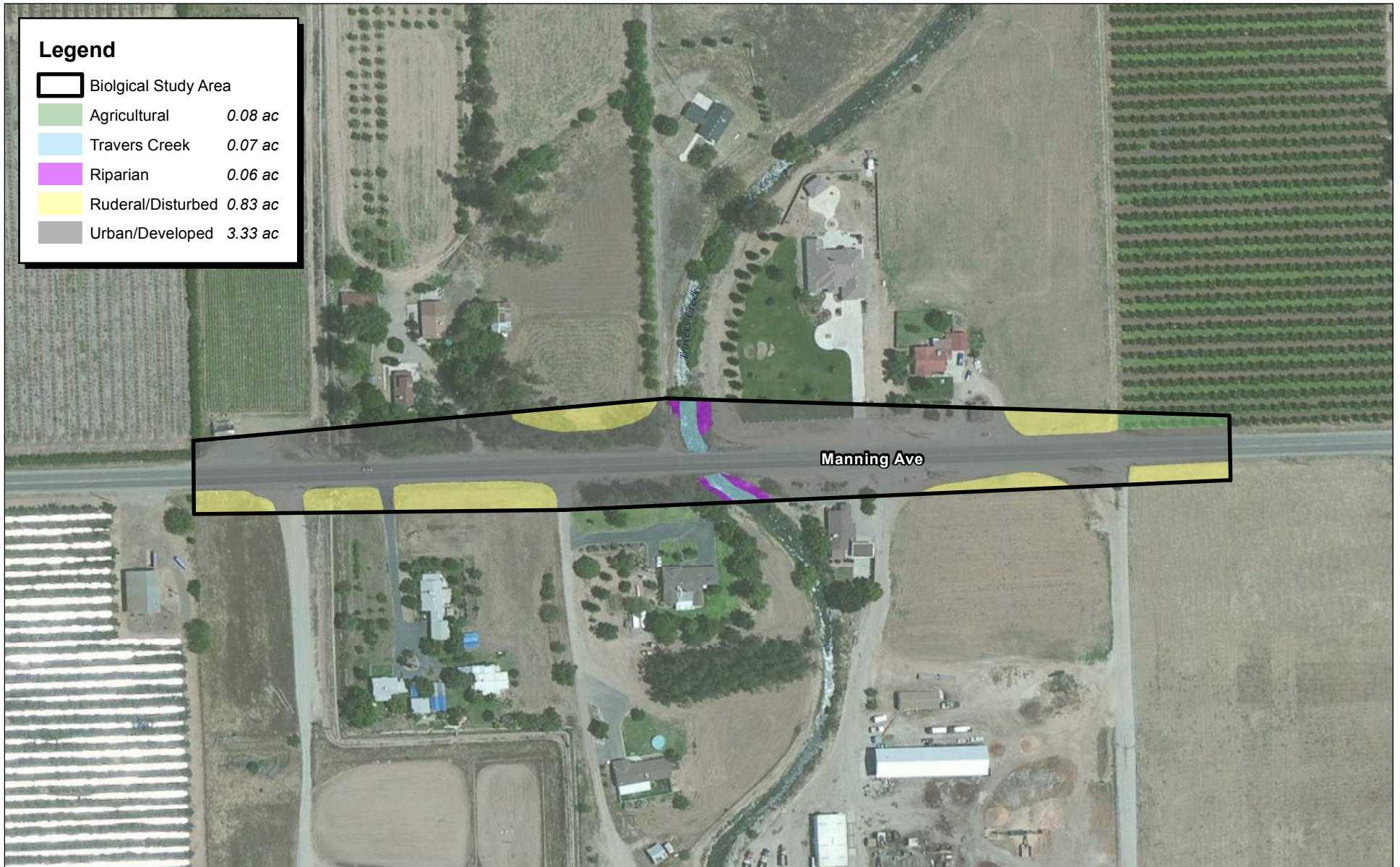
Within the BSA, there is a total of 0.055 acre of potential water features. Travers Creek, an intermittent creek, flows through the BSA south to southwest. Rainfall within the BSA drains towards the creek channel following the natural topography. Travers Creek has an ordinary high water mark (OHWM), making it a “water of the U.S.,” and it is the only water of the United States identified within the BSA. The extent of Travers Creek within the BSA is 0.055 acre and 55.0 meters (180.5 linear feet). Travers Creek is a tributary to Kings River, which is classified as a traditional navigable water (TNW) by the USACE. As such, Travers Creek was mapped as being under the jurisdiction of the USACE, due to its connectivity to a TNW.

A jurisdictional determination has been prepared of the potential waters of the United States occurring within the BSA (Exhibit 11). All areas within the BSA were assessed to the degree necessary to determine the presence or absence of jurisdictional wetlands and waters of the United States per the guidelines established by the USACE. Table 5 summarizes the areas of Section 404 jurisdiction within the BSA. The results of this jurisdictional determination are preliminary until verified by the USACE.

**Table 5: Summary of Potential Section 404 Jurisdictional Other Waters within the Biological Study Area**

Map Feature ID	Water Type	Area of Potential Section 404 Jurisdiction		
		Square Feet (sf)	Linear Feet (lf)	Acres (A)
Waters of the U.S.	Freshwater Intermittent Creek	2,406.2	180.5	0.055

Within the BSA, Travers Creek exhibits bed-and-bank characteristics with an Ordinary High Water Mark (OHWM). The BSA lacks both hydrophytic vegetation and hydric-soils. There is approximately 0.055 acre of intermittent creek within the OHWM within the BSA.

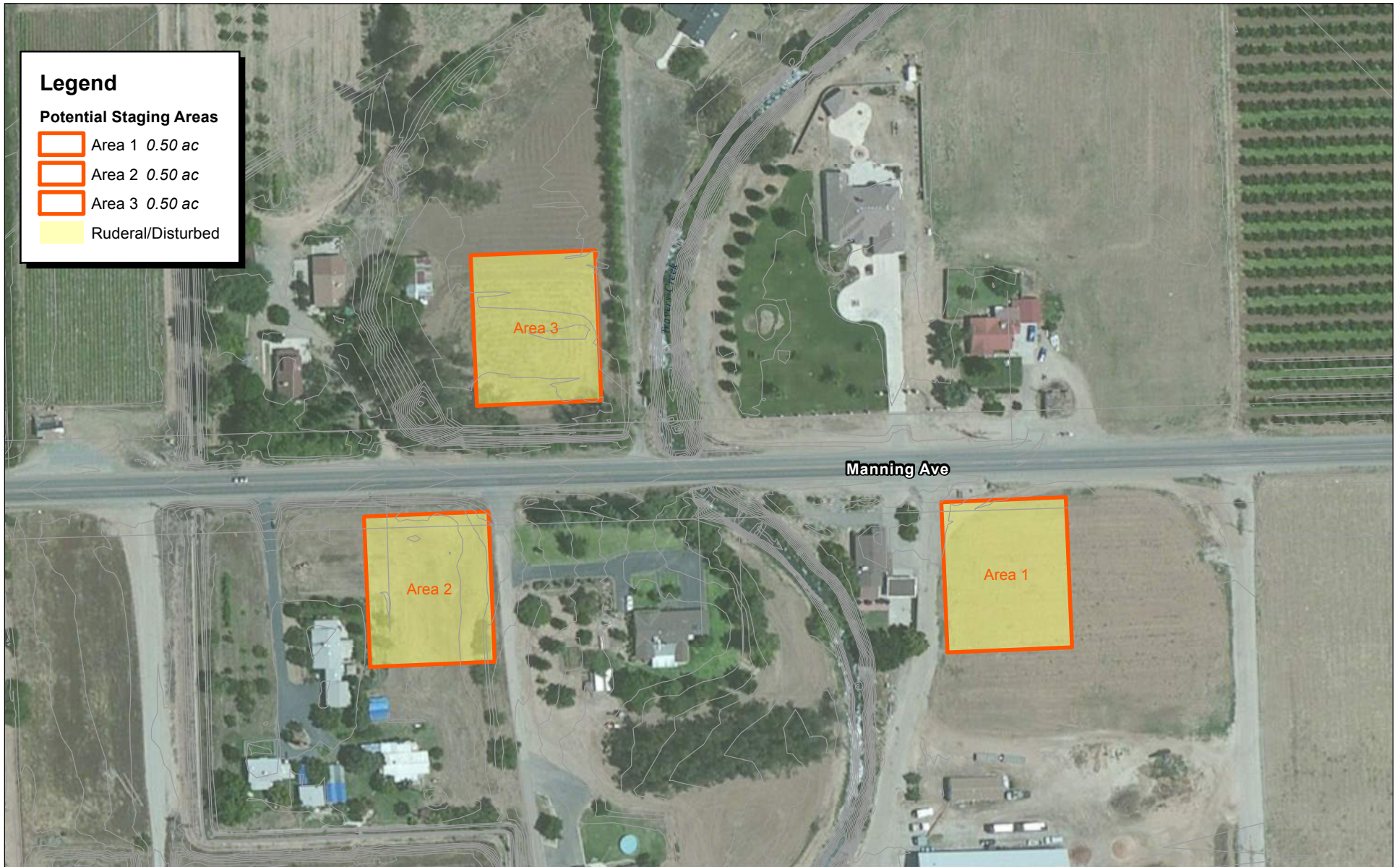


Source: ESRI Imagery

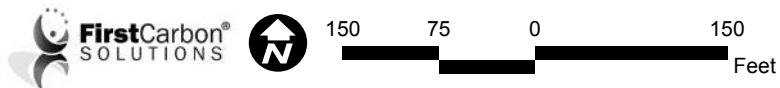


## Exhibit 8 Vegetation Communities

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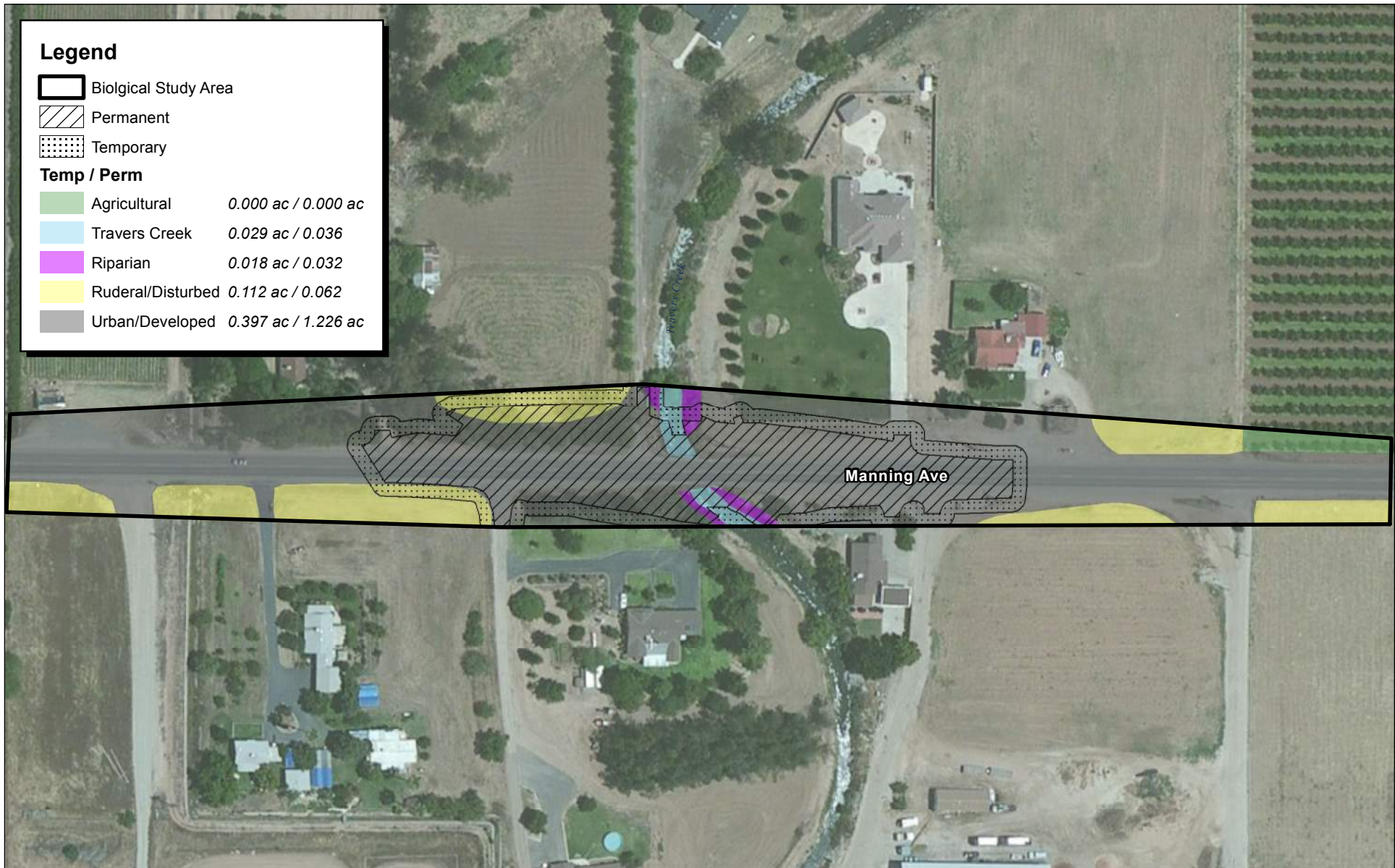


Source: ESRI Imagery



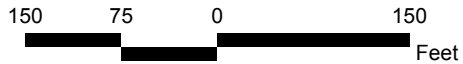
## Exhibit 9 Vegetation Communities within Proposed Staging Areas

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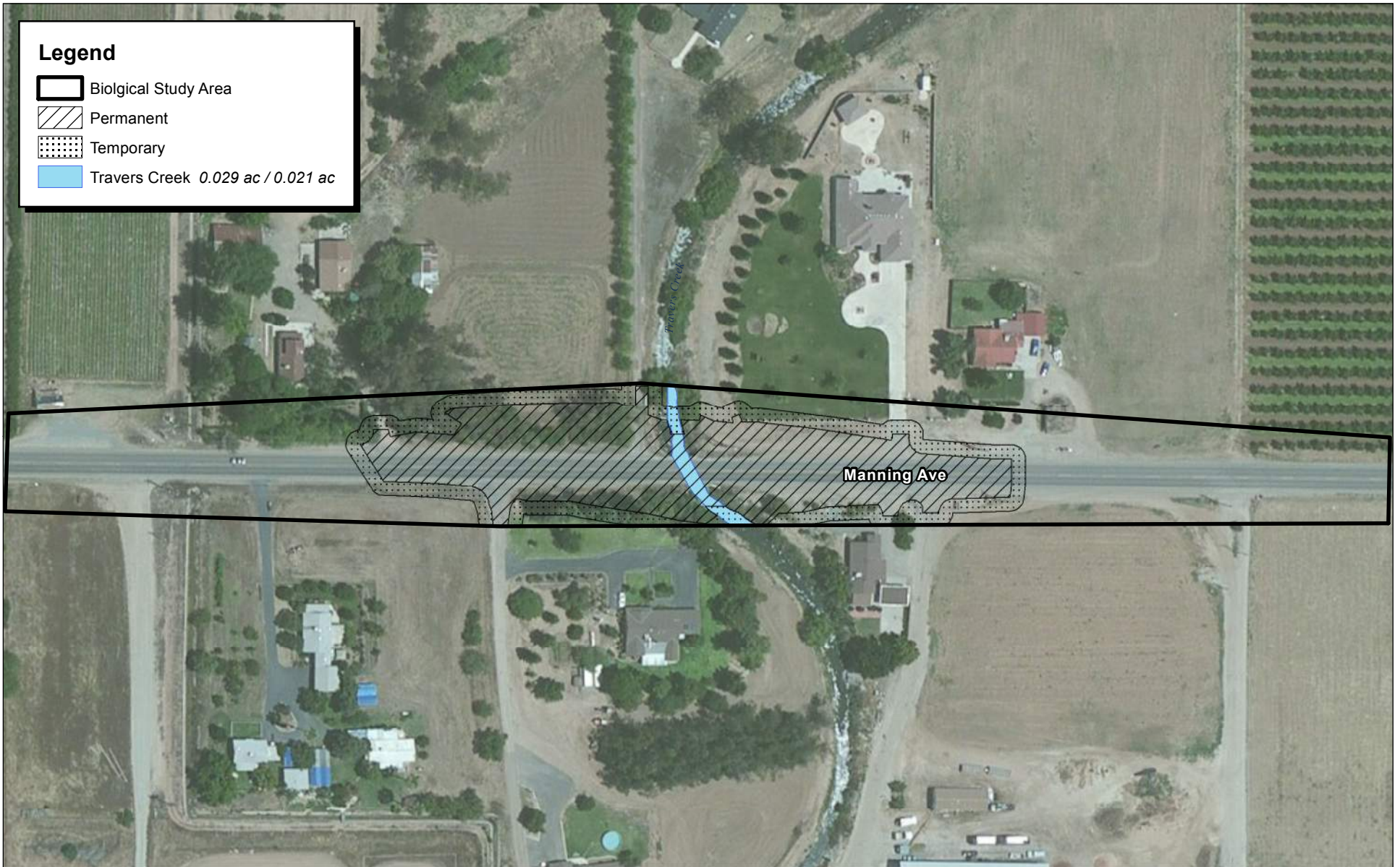
Source: ESRI Imagery

## Exhibit 10 Impacts to Vegetation Communities within Biological Study Area

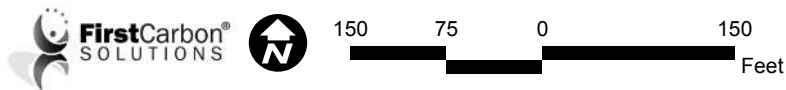


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## Exhibit 11 Impacts to Jurisdictional Features

COUNTY OF FRESNO  
 TRAVERS CREEK BRIDGE AT MANNING AVENUE REPLACEMENT PROJECT  
 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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All water features identified within the BSA may also be regulated by the Regional Water Quality Control Board (RWQCB) as Waters of the State through Section 401 of the Clean Water Act (CWA) and/or the State Porter-Cologne Act. All ecological systems associated with drainages (i.e., riparian wetlands) and drainage features with bed and bank topography may be regulated by Sections 1600–1616 of the Fish and Game Code (FGC).

## Environmental Evaluation

Would the project:

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

Less than significant impact with mitigation incorporated. Analysis of potential impacts to biological resources is based on the NES.

### Special Status Species and Habitats of Concern

Habitat assessments were conducted to evaluate the potential for presence/absence of special-status species. Other species contained in the literature search were considered for further analysis based on whether or not habitat existed for the species within the BSA as well as whether the BSA was within range of the species.

A total of three special-status plant species were determined to have at least some potential to occur within the region of the BSA: San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), and California satintail (*Imperata brevifolia*). All areas within the BSA and proposed staging areas were evaluated for suitable habitat that may support special-status plant species; however, all three species could be eliminated from having potential to occur on-site because of a lack of suitable habitat to support these species. Despite a lack of suitable habitat, all three plant species were considered target species to be surveyed for during the June 2014 survey. All areas within the BSA were surveyed during the blooming period of these species; however, no individuals or populations of special-status plants were identified within the BSA. Therefore, no impacts to special-status plants are anticipated.

The database searches identified 12 special-status wildlife and fish species that could potentially occur in the region. Of these 12 species, two special-status wildlife species have the potential to occur in the BSA. The following special-status species have the potential to occur within the BSA and were considered in the impact analysis of this document:

- Pallid bat (*Antrozous pallidus*);
- Hoary bat (*Lasiurus cinereus*); and
- Birds protected by the Migratory Bird Treaty Act (MBTA).

Impacts to each of these species are discussed separately below.

### **Special-Status Bats**

There are 12 species of bats that are classified as California species of special concern (CDFG 2011). Special-status bat species have the potential to occur within the BSA including pallid bat and hoary bat. Other common (not listed by CDFW) bat species such as Yuma myotis (*Myotis yumaensis*), fringed myotis bat (*Myotis thysanodes*), and long-legged myotis bat (*Myotis volans*) may also occur in the BSA and proposed staging areas.

These species use mature trees, snags, crevices, and human-made structures (such as buildings) for roosting, either for winter roosting (hibernacula) or for forming nursery colonies. Bats are generally site faithful and will not abandon an established roosting area unless disturbed.

The existing bridge and trees within the BSA and proposed staging areas were evaluated for the presence or sign of bat species. No roosting bats or signs of roosting bats were found during the project survey. Potential roosting bat sites are present in trees and man-made structures that exist within and adjacent to the BSA and proposed staging areas.

Implementation of the project could result in the disturbance of marginally suitable roosting and nesting sites for bat species. Disruption of roosting and nesting sites would potentially have a temporary negative effect on bats; however, the project would not permanently remove bat habitat, and with the implementation of Mitigation Measures BIO-1 through BIO-6 and Mitigation Measure BIO-7, there would be no long-term effects on bats and the impact would be reduced to a less than significant level. Additionally, the project would not contribute to the permanent loss of roosting habitat, habitat fragmentation, or a loss of suitable foraging habitat.

### **Birds protected by the Migratory Bird Treaty Act (MBTA)**

Most raptors, such as red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), and Cooper's hawk (*Accipiter cooperii*), nest in mature, large coniferous or deciduous trees and use twigs and branches as nesting material. Smaller raptors may nest in cavities in anthropogenic structures and trees. Common raptors such as Cooper's hawk and red-tailed hawk could nest on-site and are afforded protection under the MBTA and CDFW Code. The nesting period for raptors generally occurs between February 15 and August 31.

Large trees within and adjacent to the BSA and the proposed staging areas provide suitable nesting habitat for common raptor species such as red-tailed hawk and red-shouldered hawk. Cliff swallow, tri-colored blackbird (*Agelaius tricolor*), and other migratory birds were also considered during the preparation of this report because nesting sites and suitable nesting habitat were observed within the BSA and proposed staging areas.

The nests of all raptor species are protected under the MBTA and Section 3503.5 of the FGC. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Trees and structures found within the BSA and proposed staging areas provide potential nesting habitat for raptors and migratory birds that occur in the region.

Migratory birds were observed foraging and nesting within the BSA and proposed staging areas. The list of migratory birds comprises many different bird species, including many common species.

Therefore, it is likely that the BSA and proposed staging areas will have several species of migratory birds at one time. Potential nesting locations within the BSA and proposed staging areas include roadside trees, shrubs, and man-made structures along the margins of the corridor. Migratory birds nesting within the BSA will likely be tolerant of the disturbances and noise associated with Manning Avenue and the surrounding urban area. During the June, 2014 site visit, evidence of numerous active cliff swallow nests were observed underneath the existing bridge on Manning Avenue.

If construction occurs during the non-nesting season (typically September 1 through February 14), no impacts are expected; however, if construction activities are scheduled to occur during the nesting season, mitigation would be necessary to avoid potential impacts to migratory birds and their nests. Implementation of Mitigation Measures BIO-1 through BIO-5 and Mitigation Measure BIO-8 would reduce potential impacts to a less than significant level.

### **Mitigation Measures**

- MM BIO-1** Construction efforts shall be concentrated between August 1 and March 1, as feasible; vegetation removal for staging areas and construction work should occur between the end of August and the middle of February, and measures (as approved by CDFW) to exclude roosting bats from construction areas shall be implemented between mid-February and mid-April.
- MM BIO-2** The County will enlist a qualified biological monitor to conduct a pre-construction survey for bats and nesting raptors. The biological monitor will remain on call for the duration of construction activities to provide guidance regarding these species and address other biological concerns that may arise. If bats or nesting raptors are observed during the course of active construction, all construction activities within 50 feet of the animal(s) shall be stopped until the biological monitor is consulted. The County's biological monitor will coordinate with the USFWS and/or CDFW as appropriate. At no time shall work occur within 50 feet of the animal(s) without a qualified biologist present. The animal(s) shall not be captured or handled, and shall be allowed to move away on its own.
- MM BIO-3** ESA fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall clearly describe acceptable fencing material and proper installation and maintenance. The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.
- MM BIO-4** To prevent animals from becoming entangled or trapped in erosion control materials, plastic mono-filament netting (i.e., erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which

can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine or other similar fibers.

- MM BIO-5** A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species near the BSA, including bats and birds protected by the MBTA. During the WEAP training, construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work area; the potential for special-status species to be present; the associated habitat for special-status species; and that is unlawful to take, harm, or harass special-status species.
- MM BIO-6** A Revegetation Plan shall be prepared for restoration of temporary work areas. Temporary Construction Zones (TCZs) for this project include a 15-foot buffer outside of all permanent impacts. Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan. A separate revegetation plan for impacts within Travers Creek will prepared for CDFW approval during the permitting phase of the project.
- MM BIO-7** The following avoidance and minimization measures shall be implemented during bat maternity roosting season (April 15 through August 31) to reduce impacts to bats:
- No more than 14 days prior to start of ground-disturbing activities, a qualified biologist will survey trees within the BSA, as well as all staging areas, for evidence of bat roosts (e.g., bat guano). If bat roosts are located during pre-construction surveys, the roosts will be flagged and avoided during construction.
- MM BIO-8** Implementation of avoidance and minimization measures listed below will reduce direct and indirect impacts to raptors and other migratory birds and habitat in and adjacent to the BSA as well as all staging areas used during construction. The measures below would be implemented for all construction work within temporary and permanent impact areas during the nesting season (February 15 through August 31).
- Removal of trees will be limited to only those necessary to construct the project.
  - If construction or tree removal is proposed during the breeding/nesting season (typically February 15 through August 31), a qualified biologist shall conduct pre-construction surveys for migratory birds within the BSA and all staging areas, including a 250-foot survey buffer, no more than 30 days prior to the start of ground-disturbing activities in the BSA and all staging areas.
  - If an active nest is located during pre-construction surveys, United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the qualified biologist deems disturbance potential to

be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 250 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.

- A qualified biologist will delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.

No action is necessary if no active nests are found or if construction will occur during the non-breeding season (typically September 1 through February 14).

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

**Less than significant impact with mitigation incorporated.** Natural communities of special concern are habitats that have been determined by natural resource agencies to be sensitive or rare. No terrestrial habitats recognized by CDFW as sensitive occur within the BSA. No critical habitat occurs within the BSA. Potential critical habitat designations in the vicinity of the BSA were checked using the USFWS Critical Habitat Portal (USFWS 2014a). The BSA is not located within an area designated as critical habitat by USFWS. The nearest area designated as critical habitat is located 8 miles northeast of the BSA, and is an area designated as critical habitat for California tiger salamander (*Ambystoma californiense*) (USFWS 2014a). Within the BSA, no creeks or streams considered habitat for special-status anadromous fish species will be affected.

**Riparian Habitat**

The CDFW considers riparian habitat to be a sensitive community. Table 6 shows the potential quantitative effects of the project to natural communities.

**Table 6: Impacts to Natural Communities within the Biological Study Area**

Vegetation Type	Acres in BSA	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Agricultural	0.080	0.000	0.000
Travers Creek	0.070	0.029	0.036
Riparian	0.060	0.018	0.032
Ruderal/Disturbed	0.830	0.112	0.062
Urban/Developed	3.330	0.397	1.226
<b>Total</b>	<b>4.370</b>	<b>0.556</b>	<b>1.356</b>

As shown in Exhibit 11, the project would directly impact 0.029 acre of riparian habitat adjacent to Travers Creek. Construction equipment staging would likely occur in one or more of three areas

surrounding the BSA. It is possible that more than one of the three staging areas could be used. It is also possible that none of these staging areas are used and that the contractor negotiates with a different nearby property owner to rent their space. All impacts occurring within the proposed staging areas would be considered temporary, and would occur within ruderal/disturbed habitat. The estimated maximum temporary impacts for all three proposed staging areas is 1.5 acres. Ruderal/disturbed and urban/developed habitat are not considered to be natural communities of special concern.

Mitigation Measure BIO-9 requires that a Streambed Alteration Agreement (SAA) be obtained from CDFW and that riparian habitat be created within the vicinity of the site to offset impacts. With implementation of Mitigation Measure BIO-9, impacts to riparian habitat would be considered less than significant.

### Mitigation Measures

**MM BIO-9** A Section 1600 SAA shall be obtained from CDFW for impacts to riparian habitat, and all conditions and requirements of the permit shall be adhered to. As a condition of the Section 1600 SAA, the following mitigation measure shall be implemented to compensate for the removal of 0.029 acre of riparian habitat: Riparian habitat shall be created at not less than a 1:1 ratio in an area within reasonable proximity of the project site, and a Riparian Restoration and Monitoring Plan shall be established. Additionally, Environmentally Sensitive Area (ESA) fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans. The construction special provisions shall clearly describe acceptable fencing material and proper installation and maintenance. The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.

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

**Less than significant impact with mitigation incorporated.** A total of 0.055 acre of intermittent creek habitat (below the OHWM) occurs within the BSA. The proposed project will temporarily affect 0.029 acre and permanently affect (or fill) 0.036 acre of intermittent creek habitat below the OHWM (Exhibit 11). Table 7 demonstrates the temporary and permanent impacts to jurisdictional features within the BSA from the project. The intermittent creek is a water of the United States under the jurisdiction of the USACE.



**Table 7: Potential Quantitative Effects of the Project on Jurisdictional Features**

Aquatic Communities	Total Area in BSA (acres)	Approximate Area of Disturbance	
		Permanent Direct (within Project Footprint) (acres)	Temporary Direct (within TCZ) (acres)
Open Water (Intermittent Creek)	0.055	0.036	0.029

Authorization for such fill would be secured from USACE via the Section 404 permitting process prior to project implementation. Because a Section 404 permit would be required from the USACE, a Section 401 permit would be also required from the RWQCB. The County would obtain authorization from both the USACE and the RWQCB to fill/disturb these features prior to project implementation. This requirement has been incorporated into the project as Mitigation Measure BIO-10.

For permanent removal of 0.029 acre of jurisdictional intermittent creek, the County shall require either replacement of affected acreage at a 1:1 ratio (one acre must be created for every acre lost) or payment of in-lieu fees.

For temporary removal of 0.021 acre of jurisdictional intermittent creek the County shall restore the area to pre-construction conditions. This may require revegetation of the area using native vegetation appropriate for drainages. Restoration plans shall be coordinated by a qualified biologist pursuant to, and through consultation with, USACE.

Construction of the project will result in localized loss of vegetation, general disturbance to the soil and an increase in impervious surfaces. Removal of vegetation and soil can accelerate erosion processes within the BSA and increase the potential for sediment to enter into the intermittent creek, which has the potential to contain special-status species. Sensitive areas would be protected through implementation of Mitigation Measure BIO-3, and a revegetation plan would be implemented through Mitigation Measure BIO-6.

Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills may occur with a risk of larger releases. Without rapid containment and clean-up, these materials could be potentially toxic depending on the location of the spill in proximity to water features, including Travers Creek. Accidental spills within the project work site and into the creek could result in adverse impacts to the aquatic environment. Implementation of Mitigation Measure BIO-13 would reduce impacts from erosion, sedimentation, runoff, and accidental spills to a less than significant level.

**Mitigation Measures**

Implement MM BIO-3 and MM BIO-6 and the following:

- MM BIO-10** The County shall obtain a Section 404 CWA Nationwide Permit from the USACE for impacts to wetlands and waters of the U.S. and comply with the mitigation measures

identified in the Hydrology and Water Quality Section to prevent discharge of pollutants to surface waters during construction. This shall include complying with the State's National Pollution Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Permit) issued by the Regional Water Quality Control Board (RWQCB). The County shall also obtain a 401 Water Quality Certification from the RWQCB.

**MM BIO-11** Standard construction best management practices (BMPs) will be implemented to minimize effects to water quality, including placement of straw wattles or silt fencing along the boundary in the BSA according to an erosion control plan that shall be prepared to avoid discharge into aquatic features. Other construction BMPs that will be reviewed and coordinated with the RWQCB, as necessary, for implementation during construction may include the following:

- In order to minimize the proposed project's impacts, the project design has been modified to minimize impacts to waters of the United States;
- Staging areas shall be located on existing roadways or other disturbed areas where they would not affect sensitive resources;
- Sensitive resources will be identified and protected from harm during construction to the extent possible through use of ESA fencing. The integrity and effectiveness of ESA fencing and erosion control measures shall be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches and ineffective BMPs;
- The County shall restrict construction activities to the minimum area necessary to safely conduct proposed project activities to the extent possible;
- No litter, debris, or sidecasts shall be dumped or permitted to enter aquatic habitats. Trash and debris shall be removed from the site(s) daily;
- Vehicles and equipment shall be driven only within established roads and crossings;
- The boundary of aquatic habitats that are to be avoided shall be clearly marked with brightly colored fencing, staking, or flagging for work crew avoidance;
- Worker education and awareness training shall be conducted for work crews regarding aquatic habitats and special-status species;
- Fueling, washing, and maintenance of vehicles or other construction equipment shall occur 100 feet or more away from aquatic habitats; and
- Equipment shall be regularly maintained to avoid fluid leaks.

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

**Less than significant impact.** The project site does not support native resident or migratory fish species. Movements of wildlife generally fall into three basic categories: (a) movements along corridors or habitat linkages associated with home range activities such as foraging, territory

defense, and breeding; (b) seasonal dispersal movements—typically one-way movements (e.g., juvenile animals leaving their natal areas or individuals colonizing new areas); and (c) temporal migratory movements—these movements are generally seasonal and involve a return to the place of origin (e.g., deer moving from winter grounds to summer ranges and fawning areas).

Use of the Travers Creek for a movement corridor is a possibility; however, since the bridge is already in existence, it is unlikely that construction would alter any existing movement corridors. The project site contains no designated wildlife corridors within its boundaries. Accordingly, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites.

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less than significant impact with mitigation incorporated.** The County of Fresno's General Plan includes various policies for the protection of biological resources. In accordance with General Plan policies, a biological resource evaluation has been prepared. The potentially significant impacts to special-status species, wetlands, and riparian habitat would result in a conflict with local policies; however, implementation of Mitigation Measures BIO-1 through BIO-13 would reduce potentially significant impacts to a less than significant level. Accordingly, the proposed project would not conflict with any of the adopted policies.

**Mitigation Measures**

Implement MM BIO-1 through 11.

**f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No impact.** There are no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan that are applicable to the project area. Therefore, the project would not conflict with the provisions of said plans.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>5. Cultural Resources</b> <i>Would the project:</i>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

Fresno County lies within a culturally rich province of the San Joaquin Valley. Studies of the prehistory of the area show inhabitants of the San Joaquin Valley and foothills maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. Fresno County was inhabited by a number of aboriginal California Native American groups. Of the main groups inhabiting the Fresno County area, the Yokuts occupied the largest territory.

### Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR)

A Historic Property Survey Report (HPSR) and an Archaeological Survey Report (ASR) for the project's Area of Potential Effect (APE) were prepared in October 2014. The APE encompasses all areas subject to construction-related impacts, including staging areas and grading limits.

The APE was established to extend approximately 700 feet east of the eastern edge of the bridge and 662 feet west of the western edge of the bridge, with a width that slopes from the center of the APE to the edges approximately 75 feet to 25 feet along either side of Manning Avenue (~150 feet to 100 feet total).

The APE includes three potential staging areas, all approximately 162.5 by 125 feet. The staging areas are approximately 100 feet northwest, 175 feet west, and 200 feet east of the bridge, and extend approximately 225 feet, 187 feet, and 200 feet respectively, from the centerline of Manning Avenue. These boundaries are considered more than adequate to include all of the areas that may be expected to be disturbed by the project.

The HPSR and ASR were based on a pedestrian survey of the APE performed by a qualified archaeologist on August 28, 2014; a records search; and outreach to the Native American Heritage Commission (NAHC), local Native American representatives and/or tribal contacts, and the Reedley Historical Society as detailed below.

**Native American Consultation**

On October 7, 2014, a request for a Sacred Lands Information Request was sent via email to the Native American Heritage Commission (NAHC), and a response letter was received from the NAHC on October 14, 2014. The response letter indicated that the search of the sacred land file failed to indicate the presence of Native American cultural resources in the immediate project area. The response included a list of 14 Native American representatives who might be able to provide additional information concerning the project APE. Information request letters were sent to each of the 14 tribal representatives on the NAHC list via mail on October 23, 2014. As of this date, no responses have been received from any of the 14 tribal representatives.

**Other Historical Organizations**

FCS archaeologist Arabesque Said-Abdelwahed contacted Mr. Marvin of the Reedley Historical Society on September 23, 2014. Mr. Marvin explained that the project site does not have significant historical properties or resources. He mentioned there is not a lot of information about the specific project area. However, he did mention there was a water wheel brought in by a Mr. Traver in the 1800s for grinding grain. The water wheel is currently located several miles north of the project area.

**Record Search and Literature Review**

On August 28, 2014, FCS Archaeologist Arabesque Said-Abdelwahed conducted a records search at the Southern San Joaquin Valley Information Center (SSJVIC) at Cal State University, Bakersfield. Records consulted at the SSJVIC included the NRHP, the California Register of Historic Resources (CR), the California Historic Landmarks list, topographic maps showing the locations of sites and surveys. A 0.5-mile search radius was used. FCS reviewed a series of historic topographic maps and aerial photographs prepared by Environmental Data Resources, Inc. (EDR). Based on the review of these maps, the APE and general project area have not changed substantially since 1924.

Research showed that portions of the APE were previously surveyed in 1980 and 1990 (see Table 8). No other archaeological studies have taken place within 0.5-mile radius of the APE.

**Table 8: Surveys Performed in the Records Search Radius**

Report #-	Author, Year undertaken	Title	In APE?
FR-00411	Soria, 1990	An Intensive Archaeological Reconnaissance of the Robert Soria Property, Fresno County, California	Yes
FR-00587	California State University, Fresno, 1980	Archaeological Survey of the Manning Avenue right-of-way at Travers Creek, Fresno County, California	Yes

No cultural resources have been recorded within a 0.5-mile radius.

## Field Survey

FCS Archaeologist Arabesque Said-Abdelwahed conducted a field survey of the project APE on August 28, 2014. The survey consisted of examining all of the areas mentioned in the APE.

Because of the limited nature of the site, existing residences, vegetation cover, and asphalt cover, a combination of transects and spot analysis of the ground surfaces was completed. The survey included East Manning Avenue and extended approximately 24 to 75 feet on either side of the East Manning Avenue centerline. The survey was expanded to include each of the three staging areas. Accessible portions of the creek bottom were examined, and the banks of the creek were examined.

The survey originated in the eastern portion of the APE along East Manning Avenue and continued to one of the staging areas south of East Manning Avenue. The survey continued onto where East Manning Avenue and the bridge expansion location connect down towards the western end and to the other staging area located south of East Manning Avenue. The survey continued east along westbound East Manning Avenue and to the existing bridge and Travers Creek. The Creek bottom and accessible banks were inspected. The survey continued east to the staging area located north of East Manning Avenue and onto the eastern end of the APE.

The area seemed a likely area for Native American populations to have inhabited, but no Native American features, artifacts, or resources were discovered during the course of the field survey. Additionally, no areas of bedrock mortars were observed in the Creek areas within the APE. No historic resources were discovered during the survey.

## Environmental Evaluation

Would the project:

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

**Less than significant impact with mitigation incorporated.** No prehistoric or historic resources were discovered during the course of the field survey, and no previously recorded resources are located within the APE or within 0.25-mile radius beyond the APE. According to a preliminary review of the Caltrans Structure Maintenance & Investigations Bridge List of Historical Significance (October 2013), the bridge is not eligible for listing in the National Register of Historic Places (NRHP) and is not considered a historic resource for the purposes of Section 4(f) of the Department of Transportation Act of 1966.

Although there are residences nearby, the closest is approximately 110 feet south of the bridge construction limits; there would be no permanent impacts to these residences other than the short-term inconvenience of the construction activities. Replacement of the bridge would not cause any viewshed issues, as the replacement would be similar to the existing bridge.

Although considered unlikely since there is no indication of any historic resources within the APE, subsurface construction activities such as trenching and grading associated with the project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce potential impacts to previously undiscovered subsurface historic resources. With the implementation of this mitigation measure, potential impacts would be reduced to a level of less than significant.

### Mitigation Measures

**MM CUL-1** If a potentially significant historical or archaeological resource is encountered during subsurface construction activities (e.g., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. Upon the County's approval of the recommended mitigation measures, the project developer shall implement said measures. The developer shall fund the costs of the qualified archaeologist and required analysis, and shall include this mitigation measure in every construction contract to inform contractors of this requirement.

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

**Less than significant impact with mitigation incorporated.** No archaeological resources were discovered during the course of the field survey, and no previously recorded resources are located within the APE.

Although considered unlikely since there is no indication of any archeological resources within the APE, subsurface construction activities such as trenching and grading associated with the project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact. Mitigation is proposed requiring implementation of standard inadvertent discovery procedures to reduce potential impacts to previously undiscovered subsurface archaeological resources. With the implementation of this mitigation measure, potential impacts would be reduced to a level of less than significant.

### Mitigation Measures

Implement MM CUL-1.

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

**Less than significant impact with mitigation incorporated.** Based on the above-described investigation and analysis, no paleontological resources or unique geological sites are known to exist within the project site or within 0.25-mile radius beyond the project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Such resources may include but are not limited to fossils from mammoths, saber-toothed cats, camels, rodents, reptiles, and birds. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of less than significant.

**Mitigation Measures**

**MM CUL-2** In the event a fossil or fossil formations are discovered during any subsurface construction activities for the project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the County of Fresno, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the County shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.

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

**Less than significant impact with mitigation incorporated.** The area seemed a likely area for Native American populations to have inhabited, but no Native American features, artifacts, or resources were discovered during the course of the field survey. However, subsurface construction activities, such as trenching and grading, associated with the project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. Mitigation is proposed to reduce this potentially significant impact to a level of less than significant.

**Mitigation Measures**

**MM CUL-3** If ground-disturbing activities uncover previously unknown human remains, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed:

- There shall be no further excavation or disturbance of the area where the human remains were found or within 50 feet of the find until the Fresno County Coroner and the appropriate County representative are contacted. Duly authorized representatives of the Coroner and the County shall be permitted onto the project site and shall take all actions consistent with Health and Safety Code Section



7050.5 and Government Code Section 27460, et seq. Excavation or disturbance of the area where the human remains were found or within 50 feet of the find shall not be permitted to re-commence until the Coroner determines that the remains are not subject to the provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the Coroner determines the remains are Native American, the Coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>6. Geology and Soils</b> <i>Would the project:</i>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

The project is located in unincorporated Fresno County, which is located in the San Joaquin Valley and includes a part of the Sierra Nevada Mountains and foothills. The project is located in a seismically active part of northern California. Many faults in the San Francisco Bay Area are capable of producing earthquakes, which may cause strong ground shaking at the site. The nearest fault to

the project site is the Great Valley 13 fault located approximately 50.19 miles southwest of the project site.

According to the Preliminary Foundation Report (PFR) for the Travers Creek Bridge, the project site and its vicinity are generally underlain by late Tertiary to Quaternary sediment including geologic units of Q (Pleistocene to Holocene alluvium, lake, playa, and terrace deposits) and Qoa (older Pleistocene to Holocene alluvium, lake, playa, and terrace deposits).

## Environmental Evaluation

The impact analysis is based on various sources including the Fresno County General Plan Background Report, the Fresno County Multi-Hazard Mitigation Plan, and the PFR.

Would the project:

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:**
  - i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

**Less than significant impact.** The 1972 Alquist-Priolo Earthquake Fault Zoning Act required the State Geologist to establish regulatory “Earthquake Fault Zones” around the surface ruptures of active faults, in order to mitigate the hazard of surface fault rupture to structures for human occupancy. A fault is considered active if it has ruptured within the last 11,000 years. According to the PFR, the project site is not located within or near an Alquist-Priolo Earthquake Fault Zone, and no mapped evidence of active or potentially active faulting was found for the site. In addition, the project would adhere to construction recommendations in the Caltrans Design Manual and the current design parameters of the Structural Engineers of California Uniform Building Code. Therefore, the project would not expose people or structures to potential substantial adverse effects involving the rupture of a known earthquake fault, and impacts would be less than significant.

- ii) **Strong seismic ground shaking?**

**Less than significant impact with mitigation incorporated.** Ground shaking—motion that occurs as a result of energy released during faulting—could result in damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion. Other factors that determine the amount of potential damage from strong seismic ground shaking are the characteristics of the underlying soil and rock, the building materials used, and the workmanship of the structure. Ground shaking is expressed in terms of peak ground acceleration (PGA) using a percentage of gravity (g) or a percentage of the earth’s normal gravitational strength. The intensity of ground shaking depends on the distance from

the earthquake epicenter to the site, the magnitude of the earthquake, site soil conditions, and the characteristic of the source.

According to the PFR, the project site has a peak ground acceleration (PGA) of an estimated 0.23g with a moment magnitude estimated to be 7.8, representing a 5 percent probability of being exceeded in 50 years (PFR 2014). The Modified Mercalli (MM) scale is commonly used to measure earthquake intensity due to ground shaking, measured in increments from I to XII, where I indicates earthquake not felt and XII indicates damage nearly total. Using the MM scale, an average PGA of 0.23g is classified as “felt only by a couple people that are sensitive” (USGS 2013).

The bridge would be constructed using Caltrans Bridge Design Specifications, which require that all bridges follow the Seismic Design Criteria (SDC) (Caltrans 2008). In addition, the project would adhere to the current design parameters of the Structural Engineers of California Uniform Building Code. Although the likelihood is minimal, the project area can experience low levels of ground shaking; implementation of these design guidelines would ensure that the project would withstand any potential seismic events. Furthermore, if approved the County would require plans, permits, and inspections for all structures and improvements through Mitigation Measure SOIL-1. Therefore, the project would not expose people or structures to potential substantial adverse effects related to seismic shaking, and impacts would be less than significant.

### iii) Seismic-related ground failure, including liquefaction?

**No impact.** Liquefaction is a process by which water-saturated materials (including soil, sediment, and certain types of volcanic deposits) lose strength and may fail during strong ground shaking. Liquefaction occurs when granular material is transformed from a solid state into a liquefied state as a consequence of increased pore-water pressure. Liquefaction is most commonly induced by strong ground shaking associated with earthquakes. In some cases, a complete loss of strength occurs and catastrophic ground failure may result. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. As mentioned previously in Section a)i) and a)ii) above, the project site is not located in a seismic hazard zone and is not susceptible to strong ground shaking and thus would not be considered to be at risk from liquefaction hazards. In addition, the Caltrans Bridge Design Specifications require an assessment of the potential for liquefaction prior to selecting foundation type to ensure that the foundation would provide adequate support. Therefore, the project would not expose people or structures to potential substantial adverse effects related to liquefaction, and no impact would occur.

### iv) Landslides?

**Less than significant impact.** Ground failure including landslides is dependent on slope and geology as well as the amount of rainfall, excavation, or seismic activities. As discussed above in Section 6.a)ii), Fresno County is not located in a seismic hazard zone; thus, the project site is not considered at risk from landslides as a result of active faulting. Areas with slopes greater than 20 percent have an elevated risk of landslide and erosion. According to the Fresno County Multi-Hazard Mitigation Plan, a Fresno County General Plan Background Report was performed, which concluded that there

is no risk of large landslides caused by earthquakes in the valley area of the County, due to its relatively flat topography (Fresno County 2009). However, there is the potential for small slides and slumping along the steep banks of rivers and creeks. The bridge is above a creek, but the majority of slopes in the project area are covered with vegetation, and landslides are unlikely to occur. Any small areas of slopes exceeding 20 percent can potentially be located along the roadway shoulders due to roadway cut. Should they be disturbed the soils would be engineered and replanted as necessary to minimize the potential for landslides. Therefore the project would not expose people or structures to potential substantial adverse effects related to landslides, and impacts would be less than significant.

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

**Less than significant impact with mitigation incorporated.** Construction activities associated with the project would involve minimal grading and excavation activities. These activities could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the project site. The County plans to complete construction at the end of the irrigation season and before the winter rain season starts to minimize the amount of creek flow during construction. During this period, the creek may experience nuisance flow caused by minor rain or residential watering. Nuisance flow will be carried through the construction area by a temporary canal flow diversion system. Furthermore, the County would employ appropriate sediment and erosion control BMPs as described in Mitigation Measure SOIL-2 to minimize the potential for erosion and sedimentation as part of a Stormwater Pollution Prevention Plan (SWPPP) in accordance with contract specification and with California National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with construction activity. Therefore, the project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

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

**Less than significant impact.** Subsidence is typically related to over extraction of groundwater from certain types of geologic formations, such as fine-grained sediments where the water is partly responsible for supporting the ground surface. According to the PFR, significant deposits of loose sandy soils do not exist at the project site. Furthermore, as discussed in Section 6. a)iii) and a)iv), the project site is not located in an area susceptible to liquefaction or landslides, and it would adhere to construction recommendations in the Caltrans Design Manual and the current design parameters of the Structural Engineers of California Uniform Building Code. Therefore, the project would not be located on unstable soils or geologic unit. Impacts would be less than significant.

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

**Less than significant impact.** Soils with high clay content are usually expansive. Minerals in certain clays swell with increased moisture content and then contract during dry periods. The soil's volume

changes can damage shallow building foundations and pavement. On slopes, the continuous shrinking and swelling of expansive soils can cause the soil to migrate downslope.

The General Plan Background Report indicates that the project site is not located in an area with soils exhibiting moderately high to high expansion potential. The Caltrans Bridge Design Specifications require an assessment of the potential for soil swelling prior to selecting foundation type to ensure that the foundation would provide adequate support. Furthermore, the project would adhere to construction recommendations in the Caltrans Design Manual and the current design parameters of the Structural Engineers of California Uniform Building Code to reduce any expansive soil risks. As such, impacts related to expansive soils would be less than significant.

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

**No impact.** The project does not include the construction, replacement, or disturbance of septic tanks or alternative wastewater disposal systems. No impact would occur.

### **Mitigation Measures**

**MM SOIL-1** The County shall review and approve all plans and permits for structures and improvements prior to issuance of building permits. Plans submitted shall be based upon the current adopted edition of the California Codes at the time of plan check submittal. This includes but is not limited to all off-site improvements. The County shall also conduct inspections for all structures and improvements prior to operation.

**MM SOIL-2** The County shall employ appropriate sediment and erosion control Best Management Practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project. To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar fibers.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>7. Greenhouse Gas Emissions</b> <i>Would the project:</i>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

The project is located in unincorporated Fresno County, which is located in the San Joaquin Valley Air Basin under the jurisdiction of the SJVAPCD.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** The project may contribute to climate change impacts through its contribution of greenhouse gases. The project would generate a variety of greenhouse gases during construction and operation, including several defined by Assembly Bill (AB) 32, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous dioxide (N<sub>2</sub>O) from the exhaust of equipment and the exhaust of vehicles for employees, visitors, and construction hauling trips. The project may also emit greenhouse gases that are not defined by AB 32. For example, the project may generate aerosols from DPM exhaust. Aerosols are short-lived greenhouse gases, as they remain in the atmosphere for approximately one week. The project would emit NO<sub>x</sub> and reactive organic compounds (ROG), which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and is being reduced in the troposphere on a daily basis.

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons (PFCs) and sulfur hexafluoride (SF<sub>6</sub>) are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit PFCs or SF<sub>6</sub>.

The SJVAPCD does not have a recommendation for assessing the significance of construction-related emissions. Most construction-related emissions would occur prior to the year 2020, which is the

year the State is required to reduce its greenhouse gas emissions to 1990 levels. Additionally, emissions from construction would be temporary.

The Sacramento Metropolitan Air Quality Management District's Road Construction model was used to estimate emissions from the project. Detailed information on the assumptions included in the modeling are included in this Initial Study as Appendix A, Air Quality Technical Memorandum.

Table 9 shows the estimated annual metric tons of carbon dioxide equivalents (MTCO<sub>2</sub>e).

**Table 9: Greenhouse Gas Construction Emissions (Annual MTCO<sub>2</sub>e)**

Year	MTCO <sub>2</sub> e
2016	305.6
2017	305.5
Total	611.1

Source: CalEEMod Version 2013.2.2

The construction-related emissions would occur prior to the year 2020, which is the year the State is required to reduce its greenhouse gas emissions to 1990 levels. The total greenhouse gases from construction would be 611.1 MTCO<sub>2</sub>e. It should be noted that the annual construction emissions would be significantly less than the 25,000 MTCO<sub>2</sub>e reporting threshold in the ARB's cap and trade program. Therefore, any construction-related emissions would be less than significant.

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

**Less than significant impact.** There are currently no adopted local or regional greenhouse gas reduction plans applicable to the project.

The Scoping Plan states, "The 2020 goal was established to be an aggressive, but achievable, mid-term target, and the 2050 GHG emissions reduction goal represents the level scientists believe is necessary to reach levels that would stabilize climate" (ARB 2008). The year 2020 greenhouse gas emission reduction goal of AB 32 corresponds with the mid-term target established by Executive Order S-3-05, which aims to reduce California's fair-share contribution of greenhouse gases in 2050 to levels that would stabilize the climate.

Construction of the project is estimated to generate greenhouse gases. However, AB 32 requires that greenhouse gas emissions generated in California in year 2020 be equal to or less than California's statewide inventory from 1990. Construction emissions would occur before the year 2020, so the project's construction would not contribute to year 2020 emissions. Therefore, construction emissions would not conflict with the AB 32 Scoping Plan.



Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>8. Hazards and Hazardous Materials</b> <i>Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

A Phase I Initial Site Assessment (ISA) was prepared by FirstCarbon Solutions in September 2014 for the project and is included in this Initial Study as Appendix E. The analysis herein is summarized from the ISA.

Hazardous materials are defined by the California Code of Regulations as substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic: causes human health effects
- Ignitable: has the ability to burn
- Corrosive: causes severe burns or damage to materials
- Reactive: causes explosions or generates toxic gases

The criteria that define a material as hazardous also define a waste as hazardous. If improperly handled, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. The project site is currently not listed on any federal, state, regional, or local hazardous materials databases.

## Environmental Evaluation

Would the project:

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

**Less than significant impact with mitigation incorporated.** The project is located in an area dominated by rural residential development and is not located adjacent to any current or past land uses that would indicate presence of hazardous materials. Likewise, East Manning Avenue and its historic traffic volumes would not be expected to have generated significant amounts of aerially deposited lead (ADL) on roadway shoulders. Construction of the project would involve the routine transport and handling of hazardous substances such as diesel fuels, lubricants, solvents, and asphalt. Handling and transport of these materials could result in the exposure of workers to hazardous materials. However, the project would not create a significant hazard to the public or the environment because project construction would comply with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials, and BMPs would include spill prevention and cleanup measures applicable to hazardous waste.

The California Department of Conservation maps naturally occurring asbestos (NOA) areas throughout the State of California. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The risk of disease is dependent upon the intensity and duration of exposure. The California Department of Conservation, Division of Mines and Geology (DMG) has published a guide for generally identifying

areas that are likely to contain NOA. The DMG map indicates NOA is not known to occur within the project area. In California, NOA is most likely to occur in areas of serpentinite, ultramafic rock (igneous rock composed of greater than 90 percent iron-magnesium minerals), and fault/shear zones. Rock units considered to have a moderate likelihood of containing NOA include mafic rock (igneous rock rich in iron-magnesium minerals). According to the Initial Site Assessment prepared by FirstCarbon Solutions and included in this Initial Study as Appendix E, the site does not contain rock units considered to have a moderate likelihood of containing NOA. However, the site is located approximately 0.63 mile from a District Operation Site, which is composed of ultramafic rock that may contain serpentine. A Preliminary Environmental Assessment (PEA) was conducted for the District Operation Site. The samples analyzed for NOA were non-detect and the PEA recommended No Further Action for the site. As such, disturbance of NOA is not a concern for the project. Therefore, potential health hazards resulting from NOA dust would be less than significant.

As indicated in the ISA, it is possible that asbestos were used during the construction of the original roadway and/or bridge structure and is in the roadway sub grade. There is potential for exposure when ACMs become damaged to the extent that asbestos fibers become airborne and are inhaled. In addition, the paint in the pavement marking may be lead-based; deterioration, damage, or disturbance of lead-based paint may result in hazardous exposure and can cause lead poisoning when consumed or inhaled. However, a lead and asbestos survey would be completed by a licensed specialist prior to the commencement of construction, and hazardous materials found during this process would be removed and disposed of in compliance with Caltrans specifications, as well as local and state regulations, including the California Health and Safety Code. These requirements have been incorporated into the project as a mitigation measure.

The ISA also indicated that there is a possibility that pesticides, herbicides, and other common agricultural chemicals were applied to the adjacent properties prior to the 1970s. Surface water runoff from these adjacent properties could have entered into the Travers Creek Channel and could have potentially impacted the soils around the project site. However, it is not expected that chemical levels would be at levels that would cause adverse impacts since there is no evidence of large quantities of these chemicals being formulated or stored nearby. Soil testing for pesticides, herbicides, and other common agricultural chemicals would not be required.

With the implementation of mitigation as identified in the ISA, the project would not create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant with mitigation incorporated.

## Mitigation Measures

**MM HAZ-1** Prior to commencement of construction, the County shall have a hazardous materials survey completed by a licensed specialist. The survey shall test for lead, asbestos, chromium, zinc, and other hazardous materials that may have been used in the preservation of wood (creosols, tars, etc.) on the guardrail posts adjacent to the bridge. If such substances are found to be present, the County shall have a licensed contractor properly remove and dispose of these hazardous materials in accordance with federal, state, and local laws. These substances shall be disposed of

at an approved disposal facility as determined by the materials' characteristics. All removal activities shall be completed prior to commencement of demolition activities.

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

**Less than significant impact with mitigation incorporated.** As mentioned in Section 8.a) above, the project may result in the release of hazardous materials during the demolition of the existing bridge and/or construction of the replacement bridge. While the project would involve the short-term handling of hazardous materials during construction, the handling and storage of said materials during construction would comply with all applicable local state and federal standards. In addition, the project includes implementation of a lead and asbestos survey and the removal and disposal of identified hazardous materials in compliance with Caltrans specifications as well as local and state regulations including the California Health and Safety Code. As such, the project would not create a significant hazard to the public involving the release of hazardous materials into the environment, and impacts would be less than significant.

### Mitigation Measures

Implement Mitigation Measure HAZ-1.

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

**No impact.** The closest school is Alta Elementary School, which is located approximately 0.60 mile northeast of the project site. No schools are located within 0.25 mile of the project site. This condition precludes the possibility of activities associated with the proposed project exposing schools within a 0.25-mile radius of the project site to hazardous materials. No impact would occur.

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

**No impact.** As indicated by the records search included in the Initial Site Assessment (Appendix E), the project site is not listed on any county, state, or federal databases searched by Environmental Data Resources, Inc. (EDR). The project site is not listed as a Resource Conservation and Recovery Act generator of hazardous wastes, according to the United States Environmental Protection Agency's (EPA's) Envirofacts database (EPA 2013a). In addition, the project site is not listed on California's Department of Toxic Substances Control Hazardous Waste and Substances List (DTSC 2013) or the EPA's Superfund National Priorities List (EPA 2013b), nor is it located in the vicinity of any listed sites. Because the project is not listed as a hazardous materials site, the project would not create a significant hazard to the public or the environment, and thus, no impact would occur.

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

**No impact.** The nearest public airport is the Reedley Municipal Airport located approximately 5.02 miles northwest of the project site. The project site is not located within the airport's safety zones as identified in the Reedley Municipal Airport Land Use Compatibility Plan. No impact would occur.

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

**No impact.** The project is located 3.15 miles from the Reedley College Airport; however, it does not appear to be within the safety zone of the airport. Accordingly, the project would not result in a safety hazard for people residing or working in the project area. No impact would occur.

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

**Less than significant impact.** The project may require lane closures to enable construction activities to proceed safely. The project does not require total road closure, and project construction activities would be coordinated with local law enforcement and emergency services providers. Because road closure is not required, construction would not significantly impact the circulation of emergency services through the construction site or evacuation in the event of a major emergency. Therefore, the project does not impair implementation of or physically interfere with an adopted emergency response or evacuation plan, and impacts would be less than significant.

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

**Less than significant impact with mitigation incorporated.** According to the California Department of Forestry and Fire Protection, the project site is not located in either a State Responsibility Area (SRA) or Local Responsibility (LRA) for Fresno County (DFFP 2007, 2008).

Heavy equipment used during project construction has the potential start a fire. Although the residential homes in the vicinity of the project site are set back away from the project site, as a precaution, Mitigation Measure HAZ-2 would require the removal of dried vegetation or other materials that could serve as fuel for combustion to the extent feasible. Such vegetation removal would reduce the potential of wildland fires by providing a clearing, reducing fire fuels and removing fire sustaining litter. In addition, during construction, spark arrestors or turbochargers (which eliminate sparks in exhaust) and fire extinguishers would be required for all heavy equipment pursuant to Mitigation Measure HAZ-3. With the implementation of Mitigation Measures HAZ-2 and HAZ-3, the impacts from wildland fires would be reduced to a less than significant impact.

## **Mitigation Measures**

- MM HAZ-2** Construction contractors shall ensure that during construction, staging areas and building areas, using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fuel for combustion. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak.
- MM HAZ-3** Construction contractors shall ensure that any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes but is not limited to vehicles, heavy equipment, and chainsaws.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>9. Hydrology and Water Quality</b> <i>Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

According to the EPA, The project is located within the Tulare-Buena Vista Lakes watershed, and more specifically the South Valley Floor Sub-watershed (EPA 2014). This sub-watershed comprises the entire valley floor. The Tulare Buena Vista Lakes Watershed encompasses areas of Fresno, Kern, Kings, and Tulare counties and includes four major rivers: the Kings, Kaweah, Tule, and Kern, in addition to smaller creeks. The project site is located within the Travers Creek channel and the project is designed to cross it. Travers Creek runs north to south and seems to originate from Pine Flat Lake, approximately 16.13 miles northeast of the project site.

## Environmental Evaluation

Would the project:

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

**Less than significant impact.** Replacement of the Travers Creek Bridge and the associated road improvements would require ground-disturbing work within and adjacent to Travers Creek. Construction and staging areas would be disturbed by vehicles and various construction-related activities (e.g., grading) that would make these areas susceptible to erosion by stormwater runoff. Grading involved in construction of the bridge would temporarily decrease vegetative cover and increase the potential for soil erosion until vegetation is re-established, and thereby could cause a temporary increase in suspended solids in runoff and local receiving waters. The County plans to complete construction at the end of the irrigation season and before the winter rain season starts to minimize the amount of creek flow during construction. During this period, the creek may experience nuisance flow caused by minor rain or residential watering. Nuisance flow will be carried through the construction area by a temporary canal flow diversion system.

In addition to impacts from erosion, impacts to runoff water quality during construction could potentially result from leaks or spills of fuel or hydraulic fluid used in construction equipment; outdoor storage of construction materials; or spills of paints, solvents, or other potentially hazardous materials commonly used in construction.

A Storm Water Pollution Prevention Plan (SWPPP), in accordance with contract specification and with California NPDES General Permit for Stormwater Discharges associated with construction activity would be implemented as part of the project. The SWPPP would require the implementation of appropriate construction BMPs, in accordance with Caltrans' Construction Site Best Management Practices Manual and would ensure no water quality standards or waste discharge requirements would be violated. In addition, the project is subject to the Clean Water Act Sections 401 and 404 and a CDFW Streambed Alteration Agreement.

The intent of the NPDES, Clean Water Act Sections 401 and 404, and CDFW Streambed Alteration Agreement provisions is to enforce federal, state, and other local agencies regulations designed to eliminate storm water pollution. Implementation of regulatory permit requirements (NPDES, Clean



Water Act Sections 401 and 404, and CDFW Streambed Alteration Agreement), along with construction BMPs identified below minimize any construction effects on local water quality.

As indicated in the Water Quality Memorandum (Appendix F), a number of water quality and erosion control requirements would be included as part of the contract documents for the project and would reduce the potential for water quality impacts.

Prior to in-channel construction activities, the County will complete the Section 404 Clean Water Act Nationwide Permitting Process, complete Regional Water Quality Control board Certification, and obtain a Streambed Alteration Agreement with California Department of Fish and Wildlife. Conditions of Approval outlined in the respective permits would help to alleviate any potential water quality impacts resulting from bridge replacement activities occurring within Travers Creek. As such, impacts would be less than significant.

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

**Less than significant impact.** The project is not located in a groundwater recharge area as identified by Fresno County. The primary land use in the area is agricultural or rural residential, such that percolation occurs freely without a formal backbone drainage system. The soil in the project area are comprised of Tujunga loamy sand, Atwater loamy sand, and Greenfield loamy sand. These soils are characterized as well-drained, with low runoff and high permeability. Bridge replacement would result in 1.13 acres of new impervious surface; however, it would not significantly alter groundwater recharge and result in a net deficit or lowering of the local groundwater table level. In addition, the project would not use or draw on existing groundwater supplies. Therefore, the project would not substantially deplete groundwater supplies and would not affect groundwater recharge such that a net deficit would occur. Impacts would be less than significant.

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

**Less than significant impact.** The project site naturally drains into Travers Creek, which is part of the Tulare-Buena Vista Lakes watershed. The bridge and road widening would not add a significant amount of impervious surfaces, and would not substantially alter the existing topography or drainage patterns. In addition, standard construction erosion control measures, permit Conditions of Approval as well as the SWPPP would be implemented as a part of the project and would ensure that potential construction erosion and siltation would not affect drainages. Therefore, impacts would be less than significant.

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

**Less than significant impact.** While the project would potentially result in temporary minor alterations to local drainage patterns, as described above in Section 9.c), implementation of the SWPPP, permit Conditions of Approval, and construction BMPs would help to alleviate any potential impacts resulting from the bridge construction. Therefore, the project would not substantially alter the existing drainage pattern of the site or area including through the alteration of the course of a stream or river, and would not substantially increase the rate or amount of surface runoff that would result in flooding. Impacts would be less than significant.

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

**Less than significant impact.** Vegetation within and around the existing bridge is primarily characterized by riparian tree and shrub vegetation associated with Travers Creek. Nearby land uses are predominantly agricultural and/or rural residential in nature. There are no existing or planned stormwater drainage systems surrounding the project area. The project would include a relatively minor increase in the amount of impervious surfaces, which would result in an insignificant increase in runoff. Implementation of the SWPPP, permit Conditions of Approval, and construction BMPs would reduce any potential sedimentation and pollution impacts during construction. Therefore, the project would not provide substantial additional sources of polluted runoff, and impacts would be less than significant.

- f) Otherwise substantially degrade water quality?**

**Less than significant impact.** As previously indicated, standard construction erosion control measures, permit Conditions of Approval, as well as the SWPPP would be implemented as a part of the project and would ensure that potential construction erosion would be minimized and would not degrade water quality. Impacts would be less than significant.

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

**No impact.** The Federal Emergency Management Agency (FEMA) provides information on flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps (FIRM). The project area is within a 100-year flood hazard area according to the FEMA Flood zones in the Fresno County Map. Specifically, where the project site crosses Travers Creek, the site is located in an area designated as Zone A, indicating that the site is within a 100-year flood inundation area that would experience 100-year floodwater. (However, no base flood elevations have been identified.) However, the project does not include any housing and, therefore, no impact would occur.

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

**Less than significant impact.** The project area is within a 100-year flood hazard area according to the FEMA Flood zones in the Fresno County Map. The project includes the replacement of an existing bridge over Travers Creek, which could impede flood flows. Construction of the project will follow provisions in the Fresno County Code of Ordinances, Title 15 Building and Construction, Chapter 15.48 Flood Hazard Areas. The structure will also be designed to meet Caltrans hydraulic requirements. Based on a preliminary hydraulic analysis included as Appendix F of this Initial Study, except for a small localized area immediately downstream of the proposed bridge, the water surface elevation for the 50-year and 100-year discharges is decreased by the proposed bridge. This is due to the increase in the soffit elevation and the increase in the available channel area caused by laying back the slopes in lieu of vertical abutments. Therefore, the project would not cause an increased risk of flooding or reduction in channel capacity.

The final profile and length of the bridge will be based upon additional hydraulic analysis to ensure that the 50-year design storm flow will have 2 feet of freeboard (2 feet of clearance from below the soffit of the bridge) and the 100-year design storm flow will be able to pass under the bridge. Accordingly, the structure would not impede or redirect flood flows, and impacts would be less than significant.

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

**No impact.** While the project is located within the 100-year flood zone, the bridge would be designed following provisions outlined in the Fresno County Code of Ordinances regarding building and constructing in a Flood Hazard Area. According to the Dam Failure Inundation Areas Map of the General Plan, the project site is located just outside a dam failure inundation area. Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur.

**j) Inundation by seiche, tsunami, or mudflow?**

**No impact.** The project site is located over 100 miles away from the Pacific Ocean and therefore would not be subject to tsunami hazards. There are no bodies of water near the project site capable of producing seiches. Areas surrounding the project site consist primarily of vegetated slopes and therefore would not be likely to produce mudflows. As such, site inundation by a seiche, tsunami, or mudflow is unlikely, and no impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>10. Land Use and Planning</b> <i>Would the project:</i>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

The project site is located in a rural, unincorporated area of Fresno County. Rural residential and agricultural development surround the project site.

## Environmental Evaluation

Would the project:

**a) Physically divide an established community?**

**No impact.** The project would replace the structurally deficient Travers Creek bridge. The replacement of the bridge would not physically divide an established community. No impact would occur.

**b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

**No impact.** The project would include the replacement of an existing bridge, and would be consistent with the plans and goals adopted by the community. According to the County's General Plan Transportation and Circulation Element, the County has a goal to "plan and provide a unified, coordinated, and cost-efficient countywide street and highway system that ensures the safe, orderly, and efficient movement of people and goods" (Goal TR-A). The project would enhance the structural adequacy and safety of the bridge and is therefore consistent with the plans to promote safety within the County's transportation system.

c) **Conflict with any applicable habitat conservation plan or natural communities conservation plan?**

**No impact.** There are no applicable habitat conservation plans or natural community conservation plans for the project area. No impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>11. Mineral Resources</b> <i>Would the project:</i>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

Fresno County produces several significant mineral resources including aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction and various industry (asbestos, high-grade clay, diatomite, granite, gypsum and limestone). Several active sand and gravel mining quarries operate along the San Joaquin River. The California Geological Survey has classified the Fresno Production Consumption (P-C) Region according to the presence of significant Portland cement-concrete (PCC)-grade aggregate deposits. The Fresno P-C Region is approximately 1,400 square miles and is primarily located along the San Joaquin River, beginning southwest of Friant Dam at the Madera and Fresno County line; continuing southwest toward the City of Fresno. According to the 2000 Fresno County General Plan Background Report, there are no significant mineral resources present within the Millerton Road study area.

## Environmental Evaluation

Would the project:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**
- b) **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

This impact analysis addresses both checklist questions a) and b).

**No impact.** There are no current mineral extraction activities on the project site. The project site is not located in a Mineral Resource Zone designated by the State, and the Fresno County General Plan does not identify any locally significant mineral resources near the project site. Therefore, the development of the project would not result in the loss of a mineral resource of statewide or local significance. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>12. Noise</b> <i>Would the project result in:</i>				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

This noise impact analysis is based, in part, on the Noise Analysis Technical Memorandum prepared by FirstCarbon Solutions, dated September 15, 2014. This technical memorandum, documenting potential noise impacts associated with the construction and operation of the new Travers Creek Bridge on Manning Avenue on nearby sensitive receptors, is included in Appendix G of this initial study.

### Characteristics of Noise

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to

be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level ( $L_{dn}$ ) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night.<sup>1</sup> In addition, the equivalent continuous sound level ( $L_{eq}$ ) is the average sound energy of time-varying noise over a sample period and the  $L_{max}$  is the maximum instantaneous noise level occurring over a sample period.

### Noise Regulatory Framework

Fresno County regulates noise related to construction activities through Chapter 8.40 Noise Control of its Code of Ordinances.<sup>2</sup> According to the Noise Ordinance, noise from construction activity is exempt from the County's noise performance standards provided that all noise producing construction activities are limited to the daytime hours between 6:00 a.m. and 9:00 p.m., Monday through Friday, and between 7:00 a.m. and 5:00 p.m. on Saturday and Sunday. The County does not have any established performance standards regarding groundborne vibration levels due to construction activities. Therefore, for purposes of this analysis, the construction vibration impact criteria of the Federal Transit Administration<sup>3</sup> will be utilized. For example, the vibration damage impact criteria for buildings constructed of non-engineered timber or masonry is 0.2 inch per second peak particle velocity (PPV).

### Sensitive Receptors

The closest sensitive noise receptors consist of rural residences located approximately 110 feet south of the bridge construction limits.

## Environmental Evaluation

Would the project:

- a) **Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**Less than significant impact with mitigation incorporated.** Implementation of the project could result in potential noise impacts from short-term construction activities and from long-term operational noise sources as discussed below.

<sup>1</sup>  $L_{dn}$  is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. CNEL is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. Source: Harris, Cyril M. 1998. Handbook of Acoustical Measurement and Noise Control.

<sup>2</sup> Fresno County, Ordinance Code of Fresno County. January 28, 2014.

<sup>3</sup> Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment. May.



## Short-Term Construction Noise Impacts

Two types of short-term noise impacts typically occur during construction of a project. The first type includes noise generated by construction crew commutes and the transport of construction equipment and materials to and from a project site. This activity would incrementally increase noise levels on access roads (or roadways in the vicinity) leading to a project site. Typically, pieces of heavy equipment would be moved on-site to a construction staging area and would remain for the duration of each necessary construction phase. This equipment would not add to the daily traffic volume on roadways in the vicinity of a project.

The second type of short-term noise impact is related to noise generated during on-site construction. Specifically for the project, bridge construction is performed in discrete steps; each step of bridge replacement has its own mix of equipment and, consequently, its own noise characteristics. These various construction operations would change the character of the noise generated at the project site and, therefore, the noise levels as construction progresses.

The closest noise-sensitive receptor to the project site is the single family residence located approximately 110 feet south of the bridge construction limits. At this distance, under a worst case scenario with a direct line of sight to multiple pieces of construction equipment operating simultaneously at the edge of the bridge construction limits, construction noise levels would attenuate to below 85 dBA  $L_{max}$ . The worst case maximum noise levels would be expected to range up to 60 dBA  $L_{max}$  in interior spaces of the nearest residential unit, when windows are closed, which could result in sleep disturbance of nearby residential sensitive receptors unless activities are restricted to daytime hours.

According to Caltrans Standard Specification Section 14-8.02, "Noise Control," and also Caltrans Standard Special Provisions S5-310, "Noise Control," noise levels generated during construction shall comply with applicable local, state, and federal regulations. According to the County's Noise Ordinance, noise from construction activity is exempt from the County's noise performance standards provided that all noise producing construction activities are limited to the daytime hours between 6:00 a.m. and 9:00 p.m., Monday through Friday, and between 7:00 a.m. and 5:00 p.m. on Saturday and Sunday. Therefore, restrictions on the permissible hours of construction, as well as implementation of Mitigation Measure NOI-1, which would ensure compliance with Caltrans and County construction noise standards (including construction BMPs and restrictions on permissible hours of construction) would reduce potentially significant impacts to a less than significant level.

## Mitigation Measures

**MM NOI-1** Implementation of the following multi-part mitigation measure is required to reduce the potential construction period noise impacts:

- The construction contractor shall comply with all local sound control and noise level rules, regulations, and ordinances that apply to any work performed pursuant to the contract;

- Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without a muffler;
- The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel;
- During all demolition or construction phases of the project, the construction contractor shall limit all on-site, noise-producing activities to the hours of 6:00 a.m. to 9:00 p.m., Monday through Friday, and to the hours of 7:00 a.m. to 5:00 p.m. on Saturday and Sunday; and
- As directed by Caltrans and the County, the construction contractor shall implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources if needed.

Because construction noise is temporary and the construction contractor would be required to implement the noise mitigation measure listed above, construction noise impacts would be reduced to less than significant.

### **Long-Term Operational Noise Impacts**

Implementation of the project would not result in added travel lanes along the project alignment, nor would it move travel lanes substantially closer to any sensitive receptor in the project vicinity. In addition, implementation of the project would not result in any increase in traffic volumes along the project alignment. As such, the project would not result in any new long-term operational noise sources, nor would it move existing operational noise sources (i.e., traffic) closer to existing sensitive land uses. In the future, when the County moves forward with the widening of Manning Avenue, that project would be subject to additional environmental review that would analyze potential impacts from traffic-related noise. Therefore, operational noise impacts would be less than significant.

#### **b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

**Less than significant impact.** Implementation of the project would not result in the introduction of any new permanent noise sources that would expose persons to excessive groundborne vibration or noise levels.

However, during development of the project, construction equipment such as cranes, excavators, graders, loaders backhoes, and bulldozers may be used as close as 110 feet from the closest sensitive receptor (located south of the project site). Of the construction equipment that is expected to be used during project construction, the roller compactor would generate the highest groundborne vibration levels of up to 0.138 PPV as measured at a distance of 25 feet from the operating

machinery. The closest noise-sensitive receptor to the project site is the single family residence located approximately 110 feet south of the bridge construction limits. At this distance, when the heaviest construction equipment operates at the edge of the bridge construction limits, this closest residential structure may be exposed to groundborne vibration levels ranging up to 0.015 PPV. This vibration level is well below the FTA vibration damage impact criteria of 0.2 PPV for buildings of non-engineered timber or masonry construction. It can similarly be shown that groundborne vibration levels from construction operations would attenuate at all nearby residential structures to well below the FTA vibration damage impact criteria. Therefore, construction-related groundborne vibration impacts would be less than significant and no mitigation would be required.

**c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Less than significant impact.** As shown in the operational impact discussion in Section 12.a), implementation of the project would not move travel lanes substantially closer to any sensitive receptor in the project vicinity, nor would it result in any increase in traffic volumes along the project alignment. Therefore, traffic noise after implementation of the project would not result in a perceptible permanent increase in ambient noise levels along the project alignment. In the future, when the County moves forward with the widening of Manning Avenue, that project would be subject to additional environmental review that would analyze potential impacts from traffic-related noise. Therefore, project-related traffic noise would result in a less than significant impact.

**d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

**Less than significant impact with mitigation incorporated.** As discussed in Section 12.a), project-related construction activities could result in high intermittent noise levels of up to 85 dBA  $L_{max}$  at the closest noise-sensitive land uses. This noise would result from the temporary use of heavy construction equipment. Temporary construction noise is exempted from the County's daytime noise performance standards provided that all construction in or adjacent to residential areas shall be limited to the daytime hours between 6:00 a.m. and 9:00 p.m., Monday through Friday, and between 7:00 a.m. and 5:00 p.m. on Saturday and Sunday. In addition, implementation of Mitigation Measure NOI-1, including BMP noise reducing measures, would ensure that temporary construction noise impacts are reduced to less than significant.

## Mitigation Measures

Implement Mitigation Measure NOI-1.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

**No impact.** While aircraft noise is occasionally audible on the project site, due to the distance from area airports and the orientation of runways and flight patterns the project site is not located within

the 55 dBA CNEL noise contours of any airport. Therefore, no impact would occur related to excessive aviation noise.

- f) **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

**Less than significant impact.** The project is located 3.15 miles from the Reedley College Airport, the nearest private airstrip. Given the temporary nature of the bridge construction and the distance to this airstrip it is not anticipated that workers would be exposed to excessive noise levels. Impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>13. Population and Housing</b> <i>Would the project:</i>				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

Fresno County is located in the San Joaquin Valley of Central California. In January 2014, the County had an estimated population of 964,040. Homes surrounding the project site are rural residential homes.

## Environmental Evaluation

Would the project:

- a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**No impact.** As discussed in Section 1, Introduction, the project would involve the replacement of a structurally deficient bridge with the same number of lanes, but would be built to accommodate the future widening of Manning Avenue pursuant to County of Fresno circulation plans. The project would alleviate existing traffic safety concerns and would not provide new housing or additional infrastructure that could induce substantial population growth within Fresno County. Therefore, no impact associated with growth inducement would occur.

- b) **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**
- c) **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

This impact analysis addresses checklist questions b) and c) above.

**No impact.** The Travers Creek Bridge Replacement Project would replace a structurally deficient bridge with the existing number of lanes, but would be built to accommodate the future widening of Manning Avenue. Project construction would occur directly adjacent to the existing bridge and Manning Avenue alignment east and west of the bridge. No residences or other structures would be displaced as result of the project. No impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>14. Public Services</b>				
<i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

### Fire Protection/Emergency Medical Service

The Fresno County Fire Protection District (FCFPD) provides primary fire protection and emergency medical services to the project site. Service along the Travers Creek Bridge is provided by Parlier Station 71, approximately 7.45 miles west of the project site.

### Police Services

The Fresno County Sheriff’s Department provides police services to the project site. The project site is within substation Area 3. The substation is located 11.5 miles southwest from the project site in Selma. Area 3 comprises half of the Southwest Field Services Bureau and encompasses 559 square miles. It provides law enforcement services for about 150,000 residents in the southern Fresno County area.

### Schools

The project site is within the Kings Canyon Unified School District service area. The nearest schools are:

- Alta Elementary School – Approximately 0.65 mile northeast of the project site
- Navelencia Middle School – Approximately 5.7 mile northeast of the project site
- Reedley High School – Approximately 2.75 miles west of the project site

### Parks

Camacho Park and Mueller Park are the closest parks to the project site and are located 1.77 miles and 2.0 miles west of the project site, respectively.

## Libraries

The Fresno County Library – Reedley Branch Library located 2.5 miles west of the project site is the closest library facility to the project site

## Environmental Evaluation

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

### a) Fire protection?

**Less than significant impact.** No additional housing or development is proposed as a part of project activities. As such, no impacts to fire protection services related to population growth and the need for new or altered fire facilities would occur. The construction phase of the project would be temporary and is unlikely to significantly increase needs for emergency fire services. Manning Avenue would remain open during the construction phase. Upon completion, the new bridge would provide a more reliable crossing of Travers Creek, thereby increasing circulation and fire protection access in the project vicinity. The impact would be less than significant.

### b) Police protection?

**Less than significant impact.** No additional housing or development is proposed as a part of project activities. As such, no impacts to police protection services related to population growth and the need for new or altered fire facilities would occur. The construction phase of the project would be temporary and is unlikely to increase needs for emergency police services. Manning Avenue would remain open during the construction phase. Upon completion, the new bridge would provide a more reliable crossing of Travers Creek, thereby increasing circulation and police access in the project vicinity. The impact would be less than significant.

### c) Schools?

**No impact.** The project does not contain any residential uses and would not directly induce population growth. The new construction employment opportunities created by the project would not induce substantial population growth into the Fresno County area from outside areas. Therefore, the project would not result in the need for new or expanded school facilities, and no impacts would occur.

### d) Parks?

**No impact.** The project does not contain any residential uses and would not directly induce population growth. The new construction employment opportunities created by the project would not induce substantial population growth into the Fresno County area from outside areas.



Therefore, the project would not result in the need for new or expanded park facilities, and no impacts would occur.

**e) Other public facilities?**

**No impact.** The project does not contain any residential uses and would not directly induce population growth. The new construction employment opportunities created by the project would not induce substantial population growth into the Fresno County area from outside areas. Therefore, the project would not result in an increased demand or need for other public facilities, and no impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>15. Recreation</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

Camacho Park and Mueller Park, located in the City of Reedley are the closest parks to the project site. Camacho Park is 1.77 miles west of the project site and Mueller Park is 2 miles west of the project site.

## Environmental Evaluation

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**
- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

This impact analysis addresses both checklist questions a) and b) above.

**No impact.** The project involves the replacement of the existing Travers Creek Bridge and does not include any residential development that would directly induce population growth. The project may result in new construction jobs; however, given the 10.8 percent unemployment rate (EED July 2014) in the County, it is anticipated that potential job opportunities could be filled locally; accordingly, the project would not induce substantial population growth into the Fresno County area from outside areas. Therefore, the project would not result in the need for new or expanded recreational facilities or cause physical deterioration of existing recreational facilities from increased usage. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>16. Transportation/Traffic</b> <i>Would the project:</i>				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Environmental Setting

Consideration of potential transportation and circulation impacts that may result from the project primarily involves determining whether a net change would occur in vehicular traffic generated by personnel commuting to or from the project site related to project construction or operations. Because the project is designed to replace the existing, structurally deficient bridge, it is not anticipated that the project would generate additional vehicular traffic during project operations. Construction traffic commuting to and from the project site would be minimal and temporary.

## Environmental Evaluation

Would the project:

- a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

**Less than significant impact with mitigation incorporated.** The project is in compliance with multiple circulation system improvement plans and initiatives, and implementation of the project would help to improve the circulation system in the area. The project includes replacement of a structurally deficient bridge on East Manning Avenue and would not negatively impact the performance of the circulation system.

The replacement bridge would be built to meet current design standards for lane and shoulder widths, providing a safer crossing for motorists, pedestrians, and emergency response vehicles. The project is included in both the Fresno County's Road Improvement Program and the Regional Transportation Plan. The project is being implemented as part of the Caltrans Local Highway Bridge Program, which is a federally and state-sponsored program that provides funding for projects that replace bridges that have been deemed functionally obsolete. The Fresno County Regional Bicycle and Recreational Trails Master Plan designates East Manning Avenue, where the bridge is located, as a Class II Planned Rural Bikeway. The bridge would complement the Class II Rural Bikeway route plans.

Construction of the project would be staged to allow the roadway to remain open. Temporary traffic controls may be required to accommodate project construction. As an added precaution, Mitigation Measures TRANS-1 and TRANS-2 will be implemented to ensure that the project would remain consistent with County requirements regarding traffic control. Therefore with the implementation of Mitigation Measures TRANS-1 and TRANS-2, the project would not conflict with any applicable plans, ordinances or policies establishing measures of effectiveness for the performance of the circulation system, and impacts would be less than significant.

### Mitigation Measures

**MM TRANS-1** At least one week prior to the commencement of work, the County's contractor' will be required to provide changeable message signs at each end of the project limits to notify drivers of the upcoming project and potential delays.

**MM TRANS-2** During project construction, the County's contractor will use standard cones and barricades to protect the public and the work areas. The contractor will also install advance warning signs to alert approaching motorists of the work zones consistent with the most recent edition of the California Manual of Traffic Control Devices (MUTCD) for sign placement, etc. Advance warning signs may be reflective signs,

changeable message boards, cones and barricades. Roadway traffic will have at least one lane open to allow for movement through the project area and across the creek. The contractor will provide flaggers as needed to temporarily hold traffic for staging equipment or construction. The work will be limited to 6:00 a.m. to 9:00 p.m., with weekend work occurring between the hours of 7:00 a.m. to 5 p.m., if approved by the County of Fresno Division of Public Works and Planning; no work would occur on national holidays. Where possible, the work will progress in localized sections. Work will be performed in a manner that is least disruptive to the public. Flagging and other means of traffic control will be required to allow for the movement of traffic through the work zone. Cones, signing and flagging for traffic control will conform to the requirements of the California Manual of Uniform Traffic Control Devices (MUTCD).

- b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

**Less than significant impact with mitigation incorporated.** As indicated in the Fresno County General Plan Background Report Fresno County Transportation System map, East Manning Avenue is classified as an arterial. Arterials are defined by the Fresno County Circulation Element as providing mobility within the county and its cities, carrying through traffic on continuous routes and joining major traffic generators, freeways, expressways, super arterials, and other arterials. According to the California Environmental Health Tracking Program, East Manning Avenue currently has a traffic volume of 3,550 vehicles per day. The project would not affect the average daily trips or level of service since it would replace an existing structure with a new structure of similar capacity. Within the next 10 years it is planned that the road will be widened from a two-lane to a four-lane highway; however, the impacts from that project will be analyzed separately. Traffic resulting from workers commuting to and from the project site, as well as delivery of construction material and equipment, would result in a temporary increase in traffic on East Manning Avenue. However, because of its temporary nature and the existing daily trips, construction-related traffic would not be expected to result in significant congestion.

Construction of the project may require temporary road detours, which would not be expected to generate significant traffic impacts. However, implementation of Mitigation Measures TRANS-1 and TRANS-2 would ensure construction delays are minimized. Therefore, with the implementation of Mitigation Measures TRANS-1 and TRANS-2, the project would not conflict with any applicable congestion management programs, and impacts would be less than significant.

### **Mitigation Measures**

Implement Mitigation Measures TRANS-1 and TRANS-2.

**c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

**No impact.** The Reedley Municipal Airport is located approximately 5.02 miles from the project site, and the Reedley College Airport is located approximately 3.15 miles from the project site. Neither construction nor operation of the project would result in features or actions that would affect air traffic patterns. No impact would occur.

**d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No impact.** The project has been designed in accordance with County standards and Caltrans's 2008 Highway Design Manual (last updated in 2014). The Highway Design Manual includes minimum standards to ensure traffic safety; therefore, no hazardous design features would be included in the project. No impact would occur.

**e) Result in inadequate emergency access?**

**Less than significant impact.** The project would improve emergency access through widening the bridge. Construction of the project would be staged to allow the roadway to remain open, which may temporarily narrow the roadway; but would not be expected to restrict emergency access. Additionally, the project would require consultation with emergency service providers in the event of complete street closures (which are not anticipated). Because no permanent changes in emergency access or access to nearby uses would occur as a result of the project, impacts associated with emergency vehicle access would be considered less than significant.

**f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

**Less than significant impact.** As mentioned in Section 16.a) above, the project is consistent with the Fresno County Regional Bicycle and Recreational Trails Master Plan, which lists East Manning Avenue as a Class II Planned Rural Bikeway. The bridge will also be wider than the existing bridge; therefore, the road provides a safer crossing for bicyclists, pedestrians, and motorists alike. East Manning Avenue is part of a Rural Transit Route; however, because of the limited nature of the project, the performance of the transit facility will not be affected. Therefore, the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, and no impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>17. Utilities and Service Systems</b> <i>Would the project:</i>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> c
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Setting

Fresno County and special districts provide many services to County residents and businesses in unincorporated communities and hamlets such as water, wastewater, storm drainage, solid waste removal, utilities, and communications. Nearby residences utilize groundwater via private wells and dispose of wastewater in private septic systems. There are no developed storm drainage facilities in the project area. Stormwater is conveyed via sheet flow and natural contours/swales which drain to Travers Creek. Solid waste collection in the County is provided by a variety of providers. Pacific Gas and Electric (PG&E) provides both gas and electric service to the County.

Existing public and private utilities located throughout the project area include:

- Overhead electrical along the north and south side of Manning Avenue (Pacific Gas and Electric [PG&E])
- Overhead telecom along the north and south side of Manning Avenue (Verizon)
- Telecom attached to the south of the bridge (Verizon)
- Ditch and 24 in Reinforced Concrete Pipe (RCP) Storm Drain to the northwest of the bridge
- Irrigation pipe across the creek 40 feet to the south of the bridge

## Environmental Evaluation

Would the project:

- a) **Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

**Less than significant impact.** The project would not have any permanent on-site employees; as such, the project would not require any wastewater utilities during operations. During construction, a maximum of 28 workers may be on-site; however, wastewater would be contained within portable toilet facilities and disposed of at an approved site according to regulations. The construction contractor would enter into an agreement with a local service provider to dispose of the wastewater at an approved wastewater disposal location. A negligible amount of wastewater would be generated during construction, but it would not affect the wastewater treatment facilities' ability to meet their applicable wastewater treatment requirements; therefore, this impact would be less than significant.

- b) **Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**No impact.** As a bridge replacement, the project would not require a permanent connection to water or wastewater facilities. Water and wastewater facilities required during construction would be temporary and would consist of water trucked on-site as needed for construction and portable toilet facilities. Accordingly, the project would not require the construction of new water or wastewater treatment facilities. No impact would occur.

- c) **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**Less than significant impact.** There are no existing or planned stormwater drainage systems surrounding the project area. The project would include an increase of 1.13 acres of impervious surfaces, which would result in an insignificant increase in runoff that would be accommodated by existing natural drainages. Therefore, the project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. The impact would be less than significant.



**d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

**Less than significant impact.** During construction, all non-potable water required would be supplied by truck. Bottled water for employees would be brought to the project site as well. Water would be obtained from persons with existing entitlements to water, and no new entitlements would be required. Upon project completion, no water source would be required for project operation. Therefore, the project would have sufficient water supplies available and no new or expanded entitlements would be needed. No impact would occur.

**e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

**Less than significant impact.** During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site according to regulations. The negligible amount of wastewater generated during construction would not be expected to exceed wastewater treatment capacity. No other sources of wastewater are anticipated during the project construction activities, and operation of the project would not result in the production of wastewater. As such, impacts would be less than significant.

**f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

**Less than significant impact.** The County of Fresno operates the regional American Avenue Landfill and a small transfer station at Shaver Lake. The American Avenue landfill has a permitted capacity of 32.7 million cubic yards. According to the most recent available data from 2005, the landfill had a remaining capacity of 29.4 million cubic yards. On July 25, 2012, Fresno County staff submitted its Annual Report to CalRecycle on details of the County's efforts to achieve Assembly Bill 939 diversion mandates. The County's target calculated disposal rate (pounds per person per day) is 14.2 pounds per person per day by employment. The report indicated that based on the annual tonnage allocated to the jurisdiction, the County achieved a 13.5 pounds per person per day-employment rate. Accordingly, the County met its diversion target for employment.

The project would result in some construction and demolition waste. All the construction and demolition waste would be separated, recycled to the extent feasible, and eventually disposed of at the American Avenue facility. Given the minor amount of construction waste and the remaining capacity of the landfill, impacts would be less than significant.

**g) Comply with federal, state, and local statutes and regulations related to solid waste?**

**No impact.** Solid waste disposal must follow the requirements of the contracted waste hauler and disposal facility, which follow federal, state, and local statutes and regulations related to the collection and disposal of solid waste. Therefore, the project would comply with all state and local waste diversion requirements regarding trash and recycling areas, and no impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>18. Mandatory Findings of Significance</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Environmental Evaluation

Would the project:

- a) **Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

**Less than significant impact with mitigation incorporated.** As evaluated in this IS/MND, the project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. Mitigation measures have been included herein to lessen the significance of potential impacts to special-status species and habitat through the incorporation of Mitigation Measures BIO-1 through BIO-13. Mitigation Measures CUL-1 through CUL-2 have also

been included herein to lessen the significance of potential impacts to cultural resources. The County through its construction contractor(s) has agreed to implement all required mitigation measures; therefore, less than significant impacts from the project implementation would occur.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

**Less than significant with mitigation incorporated.** As described in the impact analysis in Sections 2.1 through 2.17 of this IS/MND, any potentially significant impacts of the project would be reduced to a less than significant level following incorporation of the mitigation measures listed herein. Projects completed in the past have also implemented mitigation as necessary. Future projects would similarly be required to mitigation potential impacts. Accordingly, the project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the region, and impacts would be considered less than significant.

- c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?**

**Less than significant impact with mitigation incorporated.** The project would not directly or indirectly cause substantial adverse effects on human beings. Air quality, greenhouse gasses, hazardous materials, and/or noise would have the only potential effects through which the project could have a substantial effect on human beings. However, all potential effects of the project related to air quality, greenhouse gases, noise, and hazardous materials are identified as less than significant or less than significant with the implementation of mitigation. The impact analysis included in this IS/MND indicates that for all other resource areas, the project would either have no impact, no significant impact, or—for impacts that would not affect human beings—less than significant impact with mitigation incorporated.

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## SECTION 3: REFERENCES

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## SECTION 4: LIST OF PREPARERS

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**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**

**Fresno County** **BRLS-5942(198)**  
 Dist.-Co.-Rte. (or Local Agency) P.M./P.M. E.A/Project No. Federal-Aid Project No. (Local Project)/Project No.

**PROJECT DESCRIPTION:** (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. Use Continuation Sheet, if necessary.)

Replace the existing two-lane Travers Creek Bridge on Manning Avenue, 0.6 miles west of Alta Avenue, in Fresno County. The project is needed to replace the structurally deficient bridge that was constructed in 1925. Right-of-way acquisition will be required.

**CEQA COMPLIANCE** (for State Projects only)

Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply (See 14 CCR 15300 et seq.):

- If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped and officially adopted pursuant to law.
- There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource within an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse change in the significance of a historical resource.

**CALTRANS CEQA DETERMINATION** (Check one)

**Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)

Based on an examination of this proposal, supporting information, and the above statements, the project is:

- Categorically Exempt Class** . (PRC 21084; 14 CCR 15300 et seq.)
- Categorically Exempt General Rule exemption.** [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061[b][3].)]

Print Name: Environmental Branch Chief

Print Name: Project Manager/DLA Engineer

Signature

Date

Signature

Date

**NEPA COMPLIANCE**

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).

**CALTRANS NEPA DETERMINATION** (Check one)

**23 USC 326:** The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding dated June 07, 2013, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- 23 CFR 771.117(c): activity (c)(28) Bridge Replacement
- 23 CFR 771.117(d): activity (d)( )
- Activity \_\_\_ listed in Appendix A of the MOU between FHWA and the State

**23 USC 327:** Based on an examination of this proposal and supporting information, the State has determined that the project is a CE under 23 USC 327.

Print Name: Environmental Branch Chief

Print Name: Project Manager/DLA Engineer

Signature

Date

Signature

Date

Date of Categorical Exclusion Checklist completion: 6/29/15 Date of ECR or equivalent: 6/29/15

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**  
**Continuation Sheet**

<b>Fresno County</b>			<b>BRLS-5942(198)</b>
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

Continued from page 1:

**Biology**

**PERMITS**

- Obtain a 1600 Permit from the California Department of Fish and Wildlife

**SEASONAL WORK RESTRICTION**

- Construction shall be timed to coincide with avoidance windows for nesting swallows and other birds as well as roosting bats. Construction efforts shall be concentrated between August 1 and March 1, as feasible.
- Measures to exclude roosting bats from construction areas shall be implemented between mid-February and mid-April.
- Vegetation removal for staging areas and construction work shall occur between the end of August and the middle of February.

**CONSTRUCTION MONITORING AND PRE-CONSTRUCTION SURVEYS**

- From April 15 through August 31, no more than 14 days prior to the start of ground disturbing activities, the County will enlist a qualified biological monitor to conduct a pre-construction survey for bats and nesting raptors. The biological monitor will remain on-call for the duration of construction activities to provide guidance regarding these species and address other biological concerns that may arise.
- If bats or nesting raptors are observed during the course of active construction, all construction activities within 50 feet of the animal(s) shall be stopped until the biological monitor is consulted. The County's biological monitor will coordinate with the USFWS and/or CDFW as appropriate.
- If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 15 through August 31), a qualified biologist will conduct pre-construction surveys for migratory birds within the BSA and all staging areas, including a 250-foot survey buffer, no more than 30 days prior to the start of ground-disturbing activities in the BSA and all staging areas.
- If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 250 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.
- A qualified biologist will delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.
- At no time shall work occur within 50 feet of the animal(s) without a qualified biologist present. The animal(s) shall not be captured or handled, and shall be allowed to move away on its own.

**ENVIRONMENTALLY SENSITIVE AREA FENCING**

- Environmentally Sensitive Area (ESA) fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans.
- The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.

**EROSION CONTROL**

- The County shall employ appropriate sediment and erosion control Best Management Practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project.
- To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar fibers.

**WORKER ENVIRONMENTAL AWARENESS PROGRAM**

- A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species that may occur near the BSA, including bats and birds protected by the MBTA.
- During the WEAP training, construction personnel shall be informed of the importance of avoiding ground-disturbing activities outside of the designated work areas; the potential for special-status species to be present; the associated habitat for special-status species; and that is unlawful to take, harm, or harass special-status species.

**REVEGETATION**

- A Revegetation Plan shall be prepared for restoration of temporary work areas. Temporary Construction Zones (TCZs) for this project include a 15-foot buffer outside of all permanent impacts.
- Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan.
- A separate revegetation plan for impacts within Travers Creek will be prepared for CDFW approval during the permitting phase of the project.
- For *permanent removal* of 0.029 acre of jurisdictional intermittent creek, the County shall require either replacement of affected acreage at a 1:1 ratio (one acre must be created for every acre lost) or payment of in-lieu fees.
- Restoration plans shall be coordinated by a qualified biologist pursuant to, and through consultation with the USACE.

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**  
**Continuation Sheet**

- For *temporary removal* of 0.021 acre of jurisdictional intermittent creek, the County shall restore the area to pre-construction conditions. This may require revegetation of the area using native vegetation appropriate for drainages.

**Cultural Resources**

- If buried cultural resources are unearthed during construction, work in that area shall stop until a qualified archeologist can evaluate the nature and significance of the find.

**Hazardous Waste**

- The bridge must be inspected by a Certified Asbestos Consultant (CAC) or similar qualified individual.
- Per the National Emissions Standard for Hazardous Air Pollutants (NESHAP), the contractor must submit a NESHAP Notification of Demolition to the San Joaquin Valley Air Pollution Control District (SJVAPCD) at least 10 days prior to the start of work.
- Comply with Standard Special Provision (SSP) 14-11.09 TREATED WOOD WASTE (attached) for the treated wood posts supporting the galvanized guardrail.
- A Preliminary Site Investigation (PSI) is recommended for the project for potential lead based paint. Comply with SSP 14-11.08 DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES (attached) as an example of what to include for a project that might remove paint with spot blasting or other method.
- A lead compliance plan is recommended. Non Standard Special Provision (NSSP) 15-027 EARTH MATERIAL CONTAINING LEAD (attached) applies to this work which includes handling earth material containing lead.

**Air**

Implement best management practices as needed to reduce fugitive dust:

- Apply water to unpaved surfaces and areas.
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas.
- Limit or reduce vehicle speed on unpaved roads and traffic areas.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers.
- During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently wet when handling.
- Store and handle materials in a three-sided structure.
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Do not overload haul trucks.
- Cover haul trucks with a tarp or other suitable cover, or, wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent trackout by installing a trackout control device.
- Clean up trackout at least one a day. If along a busy road or highway, clean up trackout immediately.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

**Noise**

Implement best management practices as needed to reduce noise:

- Comply with the local noise ordinance.
- Internal combustion engines shall be equipped with a muffler recommended by the manufacture.
- The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.
- During all demolition or construction phases of the project, limit all noise activities to the hours of 6:00am to 9:00pm, Monday through Friday, and 7:00am to 5:00pm on Saturday and Sunday.
- If needed, change location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notify adjacent property owners in advance of construction activities, and install noise barriers around stationary noise sources if needed.

**Water**

**PERMITS**

- Obtain a 404 Permit from the US Army Corp of Engineers (USACE)
- Obtain a 401 Permit from the Regional Water Quality Control Board (RWQCB)

**SWPPP**

- The contractor will be responsible for preparing and submitting to the County of Fresno a Storm Water Pollution Prevention Plan (SWPPP) in accordance with contract specification and with California National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with construction activity.

**BEST MANAGEMENT PRACTICES**

- 1) **Limit Impacts to Travers Creek from Construction Activities.** Temporary disturbance to Travers Creek will be limited to the minimum areas necessary for construction. Following construction, all disturbed areas will be returned to pre-project conditions. Disturbed soil areas will be stabilized to prevent erosion after construction. Construction activities will be limited in or near Travers Creek where possible as provided in the corresponding regulatory permits.

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**  
**Continuation Sheet**

- 2) **Material Storage.** Storage and exposure of raw materials, by-products, finished products and containers shall be controlled as described below.
- All construction materials shall be stored at least ten feet away from Travers Creek's top-of-bank. With the exception of material allowed by regulatory permits, the Contractor shall not allow any material to enter the stream. At the end of the working day, the Contractor shall collect and dispose of all scrap, debris, and waste material.
  - During wet weather or when 50 percent chance of rain is forecast, the Contractor shall cover with a tarp or other waterproof material any materials that can contaminate rainwater or be transported by stormwater or other runoff to the stream. The covered materials shall be secured with counter weights to prevent contact with rain.
  - The Contractor shall be reminded that storage and disposal of all hazardous materials such as paints, thinners, solvents, and fuels; and all hazardous wastes such as oil must meet all federal, state and local standards and requirements.
- 3) **Street Sweeping.** At the end of each working day or as directed by the Engineer, the Contractor shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The Contractor shall not use water to flush down streets in place of street sweeping.
- 4) **Pavement Saw-Cutting Operations.** The Contractor shall prevent any saw-cutting debris from entering the stream. The Contractor, preferably, shall use dry cutting techniques and sweep up residue. If wet methods are used, the Contractor shall vacuum the slurry as cutting proceeds or collect all wastewater by constructing a sand bag sediment barrier. The bermed area shall be of adequate size to collect all wastewater and solids. The Contractor shall allow collected water to evaporate if the wastewater volume is minimal and if maintaining the ponding area does not interfere with public use of the street area or create a safety hazard. If approved by the Engineer, the Contractor may direct or pump saw-cutting wastewater to a dirt area and allow it to infiltrate. The dirt area shall be adequate to contain all the wastewater. After wastewater has infiltrated, all remaining saw-cutting residue must be removed and disposed of properly. Remaining silt and debris from the ponding or bermed area shall be removed or vacuumed and disposed of properly. If a suitable dirt area is not available, the Contractor shall filter the saw cutting wastewater through filtering materials and methods meeting the Grading and Drainage Ordinance of Fresno County for Erosion and Sedimentation Control Measures before discharging.
- 5) **Pavement Operations.** The Contractor shall prevent the discharge of pollutants from paving operations by using measures to prevent run-on and run-off pollution, disposing of wastes properly, and by implementing the procedures in the Best Management Practices Handbook. In addition, the Contractor shall observe the following guidelines:
- No paving during wet weather.
  - Ensure proper material storage as previously discussed in item number 2.
  - Place drip pans or absorbent materials under paving equipment when not in use. During wet weather, store contaminated paving equipment indoors or cover with tarp or other waterproof covering.
  - Sweep site daily using mechanical methods to prevent sand, gravel or excess asphalt from entering or being transported by rain into Travers Creek.
  - If paving involves Portland cement concrete, refer to item number 6.
  - All of the above guidelines are at the discretion of the County Engineer or designee.
- 6) **Concrete Operations.** The Contractor shall prevent the discharge of pollutants from concrete operations by using measures to prevent run-on and run-off pollution, properly disposing of wastes, and by implementing the following BMPs:
- The Contractor(s) will not wash out concrete trucks into open ditches, streets, streams, etc.
  - Store all materials in waterproof containers or under cover away from drainage areas.
  - Avoid mixing excess amounts of Portland cement materials. Dispose of any excess materials properly.
  - Whenever possible, perform washout of concrete trucks off-site. For on-site washout:
    - Locate washout area at least fifty feet from open ditches or other water bodies, preferably in a dirt area. Confine run-off from this area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.
    - Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the wash water to infiltrate and/or evaporate, if possible. Remove or vacuum the remaining silt and debris from the ponding or bermed area and dispose of it properly.
    - Dispose of wastewater from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the wastewater and once the wastewater has infiltrated, any remaining residue must be removed.
    - Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash container.
- 7) **Spill Prevention and Control.** The Contractor shall take any and all precautions to prevent accidental spills during the work. However, in the event of a spill:
- The Contractor shall immediately contain and prevent leaks and spills from entering Travers Creek and properly clean-up and dispose of the waste and clean-up materials. The Contractor shall comply with all federal, state and local hazardous waste requirements. All work sites shall be equipped with spill response kits.
  - The Contractor shall not wash any spilled material into the streets, gutters, or creeks.
  - The Contractor shall report any hazardous material spills immediately to the Fresno County Office of Emergency Services including, Fresno County Fire Protection District (FCFPD) or the Fresno County Sheriff's Office and other State and local agencies as required by state and local regulations.
- 8) **Vehicle/Equipment Cleaning.** The Contractor shall not perform vehicle or equipment cleaning or maintenance on-site or in the street using soaps, solvents, de-greasers, steam cleaning or power washing equipment or equivalent methods. The Contractor shall perform vehicle or equipment cleaning with water only in a designated, bermed area that will not

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**Continuation Sheet**

allow rinse water to run off-site or into Travers Creek. The rinse-water shall be permitted to infiltrate in dirt area with the approval of the Engineer. The Contractor shall properly dispose of wash water from the cleaning of water base paint equipment and tools. If using oil-based paint, the Contractor shall, to the maximum extent practicable, filter the paint thinner and solvents for reuse. The contractor shall properly dispose of waste thinner, solvents, and sludge from the cleaning of equipment and tools.

- 9) **Contractor Training and Awareness.** The Contractor shall train all employees on the water pollution prevention requirements contained in these Specifications. The Contractor shall inform all Subcontractors of the water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
- 10) **Good Housekeeping Practices.** In addition to the practices and procedures discussed above, the Contractor shall implement the following applicable good housekeeping practices.
- Any materials that have the potential to be transported to Travers Creek by run-off or by a spill shall be stored under cover in a contained area or in sealed waterproof containers.
  - Use tarps on the ground to collect fallen debris or splatters that could contribute to storm water pollution.
  - Secure opened bags of cement, and of other light or powdered materials which can be transported by wind.
  - Pick up litter, construction debris and other wastes daily from outside areas including the street pavement and drainages impacted by the project. All wastes shall be stored in covered containers or disposed of or recycled immediately.
  - Reject access to any vehicles and equipment arriving on-site that are leaking fluids. Vehicles leaking fluids will not be allowed on the construction site.
  - Avoid spills by handling materials carefully. Keep a stockpile of spill control materials, such as rags or absorbents, readily accessible on-site. Clean up all spills immediately to prevent any material from being discharged to Travers Creek (refer to item number 7).
  - Train employees regularly on good housekeeping practices and BMPs. Assign responsibility to specific employees on BMPs, good housekeeping practices, and what to do in the event of a spill (refer to item number 9).
  - Maintain and replace all sediment and water pollution control devices as necessary to ensure that said controls are working effectively (e.g. inspect all sediment ponds or sandbag sedimentation/filtering systems after each rain. Remove accumulated sediment and debris and replace or repair damaged sandbags immediately).

# Local Assistance NEPA Environmental Commitment Record

**Project Name** Travers Creek Bridge on Manning Avenue **Name of Local Agency** County of Fresno  
**Federal Aid Number** BRLS-5942(198) **Local Agency Contact and Phone** Mohammad Alimi, P.E. (559) 600-4505

**Project Description** Replace the existing two-lane Travers Creek Bridge on Manning Avenue, 0.6 miles west of Alta Avenue, in Fresno County. The project is needed to replace the structurally deficient bridge that was constructed in 1925. Right-of-way acquisition will be required

Task and Brief Description	Page of ED or CE	Responsible Party	Timing/Phase	Specific Action(s) Taken to Comply with Task	Local Agency Certification of Task Completion		Remarks
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<b>PERMITS</b>  <u>BIOLOGICAL COMMITMENTS</u>	(Could include regulatory permits/agreements; ESAs; preconstruction surveys; species awareness training; bio. monitoring; purchase of mitigation bank credits; etc.)						
<u>SEASONAL WORK RESTRICTION</u>	NES Pgs. 45-57	Local Agency Project Manager, Resident Engineer, Hired Contractor  Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction, Construction  Pre-Construction, Construction	<ul style="list-style-type: none"> <li>Obtain a 1600 Permit from the California Department of Fish and Wildlife</li> <li>Construction shall be timed to coincide with avoidance windows for nesting swallows and other birds as well as roosting bats. Construction efforts shall be concentrated between August 1 and March 1, as feasible.</li> <li>Measures to exclude roosting bats from construction areas shall be implemented between mid-February and mid-April.</li> <li>Vegetation removal for staging areas and construction work shall occur between the end of August and the middle of February.</li> <li>From April 15 through August 31, no more than 14 days prior to the start of ground disturbing activities, the County will enlist a qualified biological monitor to conduct a pre-construction survey for bats and nesting raptors. The biological monitor will remain on-call for the duration of construction activities to provide guidance regarding these species and address other biological concerns that may arise.</li> </ul>			
<u>MONITORING AND PRE-CONSTRUCTION SURVEYS</u>		Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction, Construction				



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<p style="text-align: center;"><u>ENVIRONMENTALLY SENSITIVE AREA FENCING</u></p>		<p>Local Agency Project Manager, Resident Engineer, Hired Contractor</p>	<p>Pre-Construction</p>	<ul style="list-style-type: none"> <li>• If bats or nesting raptors are observed during the course of active construction, all construction activities within 50 feet of the animal(s) shall be stopped until the biological monitor is consulted. The County's biological monitor will coordinate with the USFWS and/or CDFW as appropriate.</li> <li>• If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 15 through August 31), a qualified biologist will conduct pre-construction surveys for migratory birds within the BSA and all staging areas, including a 250-foot survey buffer, no more than 30 days prior to the start of ground-disturbing activities in the BSA and all staging areas.</li> <li>• If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 250 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.</li> <li>• A qualified biologist will delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently.</li> <li>• At no time shall work occur within 50 feet of the animal(s) without a qualified biologist present. The animal(s) shall not be captured or handled, and shall be</li> </ul>			

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<u>EROSION CONTROL</u>		Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre- Construction, Construction	<p>allowed to move away on its own.</p> <ul style="list-style-type: none"> <li>Environmentally Sensitive Area (ESA) fencing shall be placed around the limits of Travers Creek and the associated riparian habitat. The installation of the fencing shall be directed by the qualified biologist or Resident Engineer and shown on the project design plans.</li> <li>The fencing shall remain in place throughout the duration of project-related construction activities and shall be regularly inspected and maintained. The fencing shall be completely removed upon completion of construction activities.</li> <li>The County shall employ appropriate sediment and erosion control Best Management Practices (BMPs) to minimize sediment from entering the creek to protect water quality during the construction of the project.</li> <li>To prevent animals from becoming entangled or trapped in erosion control materials, plastic monofilament netting (such as erosion control matting) or similar material shall not be used. Several commercially available products that are marketed as photodegradable and biodegradable contain synthetic netting, which can take several months to decompose. These products shall not be used within the BSA. Acceptable erosion control materials are those that use natural fibers such as jute, coconut, twine, or other similar fibers.</li> <li>A Worker Environmental Awareness Program (WEAP) shall be implemented to educate construction workers about the presence of special-status species that may occur near the BSA, including bats and birds protected by the MBTA.</li> <li>During the WEAP training, construction personnel shall be informed of the</li> </ul>			
<u>WORKER ENVIRONMENTAL AWARENESS PROGRAM</u>		Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre- Construction				

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<p><u>REVEGETATION</u></p>		<p>Local Agency Project Manager, Resident Engineer, Hired Contractor</p>	<p>Pre- Construction, Post- Construction</p>	<p>importance of avoiding ground-disturbing activities outside of the designated work areas; the potential for special-status species to be present; the associated habitat for special-status species; and that is unlawful to take, harm, or harass special-status species.</p> <ul style="list-style-type: none"> <li>• A Revegetation Plan shall be prepared for restoration of temporary work areas. Temporary Construction Zones (TCZs) for this project include a 15-foot buffer outside of all permanent impacts.</li> <li>• Areas where there is temporary disturbance caused during project construction, shall be restored as described by the Revegetation Plan.</li> <li>• A separate revegetation plan for impacts within Travers Creek will be prepared for CDFW approval during the permitting phase of the project.</li> <li>• For <i>permanent removal</i> of 0.029 acre of jurisdictional intermittent creek, the County shall require either replacement of affected acreage at a 1:1 ratio (one acre must be created for every acre lost) or payment of in-lieu fees.</li> <li>• Restoration plans shall be coordinated by a qualified biologist pursuant to, and through consultation with the USACE.</li> <li>• For <i>temporary removal</i> of 0.021 acre of jurisdictional intermittent creek, the County shall restore the area to pre-construction conditions. This may require revegetation of the area using native vegetation appropriate for drainages.</li> </ul>			
<b>Cultural Resource Commitments</b>	(Could include ESAs; archaeo. and/or Native American monitoring; preparation/execution of an MOA; cultural resource excavations; artifact preservation/analysis, etc)						
Cultural Resources	ASR PG. 2	Local Agency Project Manager, Resident Engineer, Hired Contractor	Construction	<ul style="list-style-type: none"> <li>• If buried cultural resources are unearthed during construction, work in that area shall stop until a qualified archeologist can evaluate the nature and significance of the find.</li> </ul>			

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<b>Hazardous Waste Commitments</b> (Could include implementing a lead compliance plan and/or health and safety measures; provisions for proper handling/disposal of haz. materials; monitoring wells; etc.)							
<u>Hazardous Waste</u>	SSP's 14-11.09, 14-11.08, NSSP 15-027	Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction, Construction	<ul style="list-style-type: none"> <li>The bridge must be inspected by a Certified Asbestos Consultant (CAC) or similar qualified individual.</li> <li>Per the National Emissions Standard for Hazardous Air Pollutants (NESHAP), the contractor must submit a NESHAP Notification of Demolition to the San Joaquin Valley Air Pollution Control District (SJVAPCD) at least 10 days prior to the start of work.</li> <li>Comply with Standard Special Provision (SSP) 14-11.09 TREATED WOOD WASTE (attached) for the treated wood posts supporting the galvanized guardrail.</li> <li>A Preliminary Site Investigation (PSI) is recommended for the project for potential lead based paint. Comply with SSP 14-11.08 DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES (attached) as an example of what to include for a project that might remove paint with spot blasting or other method.</li> <li>A lead compliance plan is recommended.</li> <li>Non Standard Special Provision (NSSP) 15-027 EARTH MATERIAL CONTAINING LEAD (attached) applies to this work which includes handling earth material containing lead.</li> </ul>			
<b>Visual/Scenic Commitments</b> (Could include replacement landscaping; erosion control measures; use of decorative treatments or materials; special lighting; etc)							
None							

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<b>Water PERMITS</b>	(Could include retention/detention basins; swales; storm water BMPs; rock slope protection; erosion control fabric; etc)						
	WQ Tech Memo Pgs. 3-7	Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction	<ul style="list-style-type: none"> <li>Obtain a 404 Permit from the US Army Corp of Engineers (USACE)</li> <li>Obtain a 401 Permit from the Regional Water Quality Control Board (RWQCB)</li> </ul>			
		Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction	<ul style="list-style-type: none"> <li>The contractor will be responsible for preparing and submitting to the County of Fresno a Storm Water Pollution Prevention Plan (SWPPP) in accordance with contract specification and with California National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with construction activity.</li> </ul>			
<b>BEST MANAGEMENT PRACTICES</b>		Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction, Post-Construction	<ol style="list-style-type: none"> <li><b>Limit Impacts to Travers Creek from Construction Activities.</b> Temporary disturbance to Travers Creek will be limited to the minimum areas necessary for construction. Following construction, all disturbed areas will be returned to pre-project conditions. Disturbed soil areas will be stabilized to prevent erosion after construction. Construction activities will be limited in or near Travers Creek where possible as provided in the corresponding regulatory permits.</li> <li><b>Material Storage.</b> Storage and exposure of raw materials, by-products, finished products and containers shall be controlled as described below. <ul style="list-style-type: none"> <li>- All construction materials shall be stored at least ten feet away from Travers Creek's top-of-bank. With the exception of material allowed by regulatory permits, the Contractor shall not allow any material to enter the stream. At the end of the working day, the Contractor shall collect and dispose of all scrap, debris, and waste material.</li> </ul> </li> </ol>			

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				<p>- During wet weather or when 50 percent chance of rain is forecast, the Contractor shall cover with a tarp or other waterproof material any materials that can contaminate rainwater or be transported by stormwater or other runoff to the stream. The covered materials shall be secured with counter weights to prevent contact with rain.</p> <p>- The Contractor shall be reminded that storage and disposal of all hazardous materials such as paints, thinners, solvents, and fuels; and all hazardous wastes such as oil must meet all federal, state and local standards and requirements.</p> <p>3. <b>Street Sweeping.</b> At the end of each working day or as directed by the Engineer, the Contractor shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The Contractor shall not use water to flush down streets in place of street sweeping.</p> <p>4. <b>Pavement Saw-Cutting Operations.</b> The Contractor shall prevent any saw-cutting debris from entering the stream. The Contractor, preferably, shall use dry cutting techniques and sweep up residue. If wet methods are used, the Contractor shall vacuum the slurry as cutting proceeds or collect all wastewater by constructing a sand bag sediment barrier. The bermed area shall be of adequate size to collect all wastewater and solids. The Contractor shall allow collected water to evaporate if the wastewater volume is minimal and if maintaining the ponding area does not interfere with public use of the street area or create a safety hazard. If approved by the Engineer, the Contractor may direct or pump saw-cutting wastewater to a dirt area and allow it to infiltrate. The dirt area shall be adequate to contain all the wastewater. After wastewater has infiltrated, all remaining</p>			

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				<p>saw-cutting residue must be removed and disposed of properly. Remaining silt and debris from the ponding or bermed area shall be removed or vacuumed and disposed of properly. If a suitable dirt area is not available, the Contractor shall filter the saw cutting wastewater through filtering materials and methods meeting the Grading and Drainage Ordinance of Fresno County for Erosion and Sedimentation Control Measures before discharging.</p> <p>5. <b>Pavement Operations.</b> The Contractor shall prevent the discharge of pollutants from paving operations by using measures to prevent run-on and run-off pollution, disposing of wastes properly, and by implementing the procedures in the Best Management Practices Handbook. In addition, the Contractor shall observe the following guidelines:</p> <ul style="list-style-type: none"> <li>- No paving during wet weather.</li> <li>- Ensure proper material storage as previously discussed in item number 2.</li> <li>- Place drip pans or absorbent materials under paving equipment when not in use. During wet weather, store contaminated paving equipment indoors or cover with tarp or other waterproof covering.</li> <li>- Sweep site daily using mechanical methods to prevent sand, gravel or excess asphalt from entering or being transported by rain into Travers Creek.</li> <li>- If paving involves Portland cement concrete, refer to item number 6.</li> <li>- All of the above guidelines are at the discretion of the County Engineer or designee.</li> </ul> <p>6. <b>Concrete Operations.</b> The Contractor shall prevent the discharge of pollutants from concrete operations by using measures to prevent run-on and run-off pollution, properly disposing of wastes, and by implementing the following BMPs:</p> <ul style="list-style-type: none"> <li>- The Contractor(s) will not wash out</li> </ul>			

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				<p>concrete trucks into open ditches, streets, streams, etc.</p> <ul style="list-style-type: none"> <li>- Store all materials in waterproof containers or under cover away from drainage areas.</li> <li>- Avoid mixing excess amounts of Portland cement materials. Dispose of any excess materials properly.</li> <li>- Whenever possible, perform washout of concrete trucks off-site. For on-site washout: <ul style="list-style-type: none"> <li>• Locate washout area at least fifty feet from open ditches or other water bodies, preferably in a dirt area. Confine run-off from this area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.</li> <li>• Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the wash water to infiltrate and/or evaporate, if possible. Remove or vacuum the remaining silt and debris from the ponding or bermed area and dispose of it properly.</li> <li>• Dispose of wastewater from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the wastewater and once the wastewater has infiltrated, any remaining residue must be removed.</li> <li>• Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash container.</li> </ul> </li> </ul> <p>7. <b>Spill Prevention and Control.</b> The Contractor shall take any and all precautions to prevent accidental spills during the work. However, in the event of</p>			



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				<p>a spill:</p> <ul style="list-style-type: none"> <li>- The Contractor shall immediately contain and prevent leaks and spills from entering Travers Creek and properly clean-up and dispose of the waste and clean-up materials. The Contractor shall comply with all federal, state and local hazardous waste requirements. All work sites shall be equipped with spill response kits.</li> <li>- The Contractor shall not wash any spilled material into the streets, gutters, or creeks.</li> <li>- The Contractor shall report any hazardous material spills immediately to the Fresno County Office of Emergency Services including, Fresno County Fire Protection District (FCFPD) or the Fresno County Sheriff's Office and other State and local agencies as required by state and local regulations.</li> </ul> <p><b>8. Vehicle/Equipment Cleaning.</b> The Contractor shall not perform vehicle or equipment cleaning or maintenance on-site or in the street using soaps, solvents, de-greasers, steam cleaning or power washing equipment or equivalent methods. The Contractor shall perform vehicle or equipment cleaning with water only in a designated, bermed area that will not allow rinse water to run off-site or into Travers Creek. The rinse-water shall be permitted to infiltrate in dirt area with the approval of the Engineer. The Contractor shall properly dispose of wash water from the cleaning of water base paint equipment and tools. If using oil-based paint, the Contractor shall, to the maximum extent practicable, filter the paint thinner and solvents for reuse. The contractor shall properly dispose of waste thinner, solvents, and sludge from the cleaning of equipment and tools.</p>			

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				<p>9. <b>Contractor Training and Awareness.</b> The Contractor shall train all employees on the water pollution prevention requirements contained in these Specifications. The Contractor shall inform all Subcontractors of the water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.</p> <p>10. <b>Good Housekeeping Practices.</b> In addition to the practices and procedures discussed above, the Contractor shall implement the following applicable good housekeeping practices.</p> <ul style="list-style-type: none"> <li>- Any materials that have the potential to be transported to Travers Creek by run-off or by a spill shall be stored under cover in a contained area or in sealed waterproof containers.</li> <li>- Use tarps on the ground to collect fallen debris or splatters that could contribute to storm water pollution.</li> <li>- Secure opened bags of cement, and of other light or powdered materials which can be transported by wind.</li> <li>- Pick up litter, construction debris and other wastes daily from outside areas including the street pavement and drainages impacted by the project. All wastes shall be stored in covered containers or disposed of or recycled immediately.</li> <li>- Reject access to any vehicles and equipment arriving on-site that are leaking fluids. Vehicles leaking fluids will not be allowed on the construction site.</li> <li>- Avoid spills by handling materials carefully. Keep a stockpile of spill control materials, such as rags or absorbents, readily accessible on-site. Clean up all spills immediately to prevent any material from being</li> </ul>			

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				<p>discharged to Travers Creek (refer to item number 7).</p> <ul style="list-style-type: none"> <li>- Train employees regularly on good housekeeping practices and BMPs. Assign responsibility to specific employees on BMPs, good housekeeping practices, and what to do in the event of a spill (refer to item number 9).</li> <li>- Maintain and replace all sediment and water pollution control devices as necessary to ensure that said controls are working effectively (e.g. inspect all sediment ponds or sandbag sedimentation/filtering systems after each rain. Remove accumulated sediment and debris and replace or repair damaged sandbags immediately).</li> </ul>			
<b>Air Quality Commitments</b>							
				(Could include dust control measures; emission control devices; etc.)			
<u><b>Air</b></u>	AQ Tech Memo Pg. 4	Local Agency Project Manager, Resident Engineer, Hired Contractor	Pre-Construction, Construction	<p>Implement best management practices as needed to reduce fugitive dust:</p> <ul style="list-style-type: none"> <li>• Apply water to unpaved surfaces and areas.</li> <li>• Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas.</li> <li>• Limit or reduce vehicle speed on unpaved roads and traffic areas.</li> <li>• Maintain areas in a stabilized condition by restricting vehicle access.</li> <li>• Install wind barriers.</li> <li>• During high winds, cease outdoor activities that disturb the soil.</li> <li>• Keep bulk materials sufficiently wet when handling.</li> <li>• Store and handle materials in a three-sided structure.</li> <li>• When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.</li> </ul>			

Task and Brief Description	Page of ED or CE	Responsible Party	Timing/Phase	Specific Action(s) Taken to Comply with Task	Local Agency Certification of Task Completion		Remarks
					Initial	Date	
				<ul style="list-style-type: none"> <li>Do not overload haul trucks.</li> <li>Cover haul trucks with a tarp or other suitable cover, or, wet the top of the load enough to limit visible dust emissions.</li> <li>Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.</li> <li>Prevent trackout by installing a trackout control device.</li> <li>Clean up trackout at least one a day.</li> <li>If along a busy road or highway, clean up trackout immediately.</li> <li>Monitor dust-generating activities and implement appropriate measures for maximum dust control.</li> </ul>			
<b>Noise Commitments</b>							
				<ul style="list-style-type: none"> <li>Implement best management practices as needed to reduce noise:</li> <li>Comply with the local noise ordinance.</li> <li>Internal combustion engines shall be equipped with a muffler recommended by the manufacturer.</li> <li>The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.</li> <li>During all demolition or construction phases of the project, limit all noise activities to the hours of 6:00am to 9:00pm, Monday through Friday, and 7:00am to 5:00pm on Saturday and Sunday.</li> <li>If needed, change location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notify adjacent property owners in advance of construction activities, and install noise barriers around stationary noise sources if needed.</li> </ul>			

(Could include restrictions on nighttime work; portable noise screens; sound walls; public notification; etc.)

**Noise**

Noise Tech Memo Pgs. 6-7

Local Agency Project Manager, Resident Engineer, Hired Contractor

Pre-Construction, Construction

Task and Brief Description	Page of ED or CE	Responsible Party	Timing/Phase	Specific Action(s) Taken to Comply with Task	Local Agency Certification of Task Completion		Remarks
					Initial	Date	
<b>Other Commitments</b>							
(Other issues could include community impacts, floodplains, paleontology, etc.)							
None							

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Standard Special Provision (SSP) 14-11.08 – DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES

**14-11.08A General**

Section 14-11.08 includes specifications relating to the disturbance of existing paint systems.

The existing paint system on bridge number \_\_\_\_ contains \_\_\_\_\_. Any work that disturbs the existing paint system exposes workers to health hazards and produces:

1. Debris containing heavy metal in amounts that exceed the thresholds established in 8 CA Code of Regs and 22 CA Code of Regs. This debris is a Department-generated hazardous waste.
2. Toxic fumes when heated.

Grime and detritus already on the bridge before the start of work may also contain lead. Consider this grime and detritus part of the existing paint system. The Department is the hazardous waste generator if the Engineer accepts waste-characterization test results demonstrating that the debris is a hazardous waste.

Contain all debris produced when the existing paint system is disturbed. If containment measures are inadequate to contain and collect debris produced when the existing paint system is disturbed, stop the work and do not perform additional work until:

1. Revised debris containment and collection plan has been authorized
2. Released material has been collected and contained

Handle, store, transport, and dispose of debris produced when the existing paint system is disturbed under applicable federal, state, and local hazardous waste laws.

**14-11.08B Submittals**

**14-11.08B(1) General**

Not Used

**14-11.08B(2) Debris Containment and Collection Plan**

Submit a debris containment and collection plan. The plan must:

1. Identify materials, equipment, and methods to be used when the existing paint system is disturbed
2. Include shop drawings of:
  - 2.1. Containment systems complying with section 59-2.03B(3)
  - 2.2. Components that provide ventilation, air movement, and visibility for worker safety
3. Include the name and location of the analytical laboratory that will perform the analyses
4. Identify the hazardous waste transporter that will haul the debris and provide documentation of
  - 4.1 Current DTSC registration
  - 4.2 Compliance with the CA Highway Patrol Biennial Inspection of Terminals Program
5. Include the name and location of the disposal facility that will accept the hazardous waste

Allow 20 days for review.

If required, submit a revised debris containment and collection plan.

**14-11.08B(3) Lead Compliance Plan**

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii).

**14-11.08B(4) Air Monitoring Reports**

Air monitoring reports, including test results for samples taken after corrective action, must be prepared by the CIH and submitted:

1. Verbally within 48 hours after sampling
2. As an informational submittal within 5 days after sampling

Air monitoring reports must include:

1. Date and location of sample collection, sample number, contract number, bridge number, full name of the structure, and District-County-Route-Post mile
2. Name and address of the certified laboratory that performed the analyses
3. Chain of custody documentation
4. List of emission control measures in place when air samples were taken
5. Air sample results compared to the appropriate permissible exposure limit (PEL)
6. Corrective action recommended by the CIH to ensure exposure to airborne metals outside containment systems and work areas is within specified limits
7. Signature of the CIH who reviewed the data and made recommendations

Not Used

#### **14-11.08B(5) Soil Sampling Results for Debris Containment Verification**

Submit test results of soil analysis verifying debris containment, including results for soil samples taken after corrective action:

1. Verbally within 48 hours after sampling
2. Within 5 days after sampling

Soil sampling results must include:

1. Date and location of sample collection, sample number, contract number, bridge number, full name of the structure and District-County-Route-Post mile
2. Concentrations of heavy metals expressed in mg/kg and mg/L
3. Name and address of the certified laboratory that performed the analyses
4. Chain of custody documentation

Not Used

#### **14-11.08B(6) Waste-Characterization Test Results**

Submit waste-characterization test results for the debris and chain of custody documentation before:

1. Requesting the Engineer's signature on the disposal facility's waste profile document
2. Requesting a generator's EPA Identification Number
3. Removing the debris from the site

#### **14-11.08B(7) Request for U.S. Environmental Protection Agency Identification Number**

Submit a request for the generator's EPA Identification Number when the Engineer accepts waste-characterization test results documenting that the debris is a hazardous waste.

#### **14-11.08B(8) Disposal Documentation**

Submit documentation from the receiving landfill or recycling facility confirming proper disposal within 5 business days of transporting debris from the project.

#### **14-11.08C Safety and Health Provisions**

##### **14-11.08C(1) General**

Comply with 8 CA Code of Regs, including § 1532.1.

##### **14-11.08C(2) Protective Work Clothing and Washing Facilities**

Supply clean protective work clothing for 5 Department personnel:

1. Whenever there is possible exposure to heavy metals or silica dust
2. During application of paint undercoats

Replace protective work clothing as needed.

Protective work clothing and washing facilities must be inspected and authorized for use by Department personnel before starting any activity with the potential for lead exposure.

Protective work clothing remains your property upon completion of the Contract.

#### **14-11.08D Work Area Monitoring**

##### **14-11.08D(1) General**

Monitor the ambient air and soil in and around the work area to verify the effectiveness of the containment system. Work area monitoring includes:

1. Collecting, analyzing, and reporting air and soil test results
2. Recommending corrective action when specified air or soil concentrations are exceeded

Collect air and soil samples at locations designated by the Engineer.  
Not Used

#### **14-11.08D(2) Air Monitoring**

Air monitoring must be performed under the direction of a CIH.

Collect and analyze air samples to detect lead under the National Institute of Occupational Safety and Health (NIOSH) Method 7082 using a detection limit of at least  $0.05 \mu\text{g}/\text{m}^3$ . Collect and analyze air samples to detect other metals under NIOSH Method 7300 using a detection limit of at least 1 percent of the appropriate PEL specified by Cal/OSHA. You may use alternative methods of sampling and analysis with equivalent detection limits.

Concentrations of airborne metals outside containment systems and work areas must not exceed any of the following:

1. Average of  $1.5 \mu\text{g}/\text{m}^3$  of air per day and  $0.15 \mu\text{g}/\text{m}^3$  per day on a rolling 90-day basis. Calculate average daily concentrations based on monitoring to date and projections based on monitoring trends for the next 90 days or to the end of work subject to the lead compliance plan if less than the specified averaging period.
2. 10 percent of the action level specified for lead by 8 CA Code of Regs §1532.1.
3. 10 percent of the appropriate PELs specified for other metals by Cal/OSHA.

Collect air samples daily during work activities that disturb the existing paint system. Air samples must be analyzed within 48 hours by a facility accredited by the Environmental Lead Laboratory Accreditation Program of the American Industrial Hygiene Association. If concentrations of airborne metals exceed allowable levels, modify the containment system or work activities to prevent further release of metals. If the CIH recommends corrective action, collect and analyze additional samples after implementing the corrective action unless directed otherwise.

Not Used

#### **14-11.08D(3) Soil Sampling for Debris Containment**

Collect \_\_\_ soil samples before starting work and collect \_\_\_ soil samples within 36 hours after cleaning existing steel. A soil sample consists of 5 plugs, each  $3/4$  inch in diameter and  $1/2$  inch deep, taken at each corner and center of a 1 sq yd area. Analyze soil samples for:

1. Total \_\_\_\_\_ by US EPA Method 6010B or US EPA Method 7000 Series
2. Soluble \_\_\_\_\_ by California Waste Extraction Test (CA WET)

The laboratory that analyzes the samples must be certified by CDPH's Environmental Laboratory Accreditation Program (ELAP) for all analyses to be performed.

Concentrations of heavy metals in the work area soil must not increase when the existing paint system is disturbed. If soil sampling shows an increase in the concentrations of heavy metals after completing the work:

1. Clean the affected area
2. Resample until soil sampling and testing shows concentrations of heavy metals less than or equal to the concentrations collected before the start of work

In areas without exposed soil, the concentrations of heavy metals in the work area must not increase when the existing paint system is disturbed. Any visible increase in the concentrations of heavy metals must be removed.

Not Used

#### **14-11.08E Debris Management**

##### **14-11.08E(1) Debris Storage**

Debris produced when the existing paint system is disturbed must not be temporarily stored on the ground. Before the end of each work shift, remove accumulated debris from the containment system. Store the debris as a hazardous waste.

##### **14-11.08E(2) Debris Waste Characterization**

Perform waste characterization testing on the debris as required by the disposal facility including:

1. Total \_\_\_\_\_ by US EPA Method 6010B
2. Soluble \_\_\_\_\_ by California Waste Extraction Test (CA WET)
3. Soluble \_\_\_\_\_ by Toxicity Characteristic Leaching Procedure (TCLP)



From the first 220 gal of hazardous waste or portion thereof, if less than 220 gal of hazardous waste are produced, a minimum of 4 randomly selected samples must be taken and analyzed individually. Samples must not be composited. From each additional 880 gal of hazardous waste or portion thereof, if less than 880 gal are produced, a minimum of 1 additional random sample must be taken and analyzed.

Use chain of custody procedures consistent with chapter 9 of US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) while transporting samples from the job site to the analytical laboratory. The laboratory must be certified by the CDPH's Environmental Laboratory Accreditation Program (ELAP) for all analyses to be performed.

Before performing the analyses, the laboratory must homogenize each sample. The homogenization process must not include grinding of the samples. A sample aliquot must be:

1. Obtained in an amount large enough for all analyses to be performed
2. Homogenized a 2nd time
3. Used for the total and soluble analyses after the 2nd homogenization

### **14-11.08E(3) Debris Transport and Disposal**

#### **14-11.08E(3)(a) General**

For bidding purposes, assume the debris is a hazardous waste.

#### **14-11.08E(3)(b) Hazardous Waste Debris**

After the Engineer accepts the waste-characterization test results, dispose of the debris:

1. Within \_\_ days after accumulating 220 lb of debris
2. At an appropriately permitted Class I facility located in California

Make all arrangements with the operator of the disposal facility.

If less than 220 lb of hazardous waste is generated in total, dispose of it within \_\_ days after the start of accumulation of the debris.

Use a hazardous waste manifest and a transporter using vehicles with current DTSC registration certificate when transporting hazardous waste. The Engineer provides the generator's EPA Identification Number and signs all manifests as the hazardous waste generator within 2 business days of accepting the waste-characterization test results and receiving your request for the generator's EPA Identification Number.

#### **14-11.08E(3)(c) Nonhazardous Waste Debris**

If waste characterization test results demonstrate that the debris is a nonhazardous waste and the Engineer accepts the results, dispose of the debris at an appropriately permitted CA Class II or CA Class III facility or recycle it. Make all arrangements with the operator of the disposal facility and comply with the facility's requirements.

You may dispose of nonhazardous debris at a facility equipped to recycle the debris if:

1. Copper slag abrasive blended by the supplier with a calcium silicate compound is used for blast cleaning.
2. You make all arrangements with the recycling facility's operator and perform any facility-required testing of the debris.

The Department does not adjust payment for disposal of nonhazardous debris at a recycling facility.

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**SSP: 14-11.09 TREATED WOOD WASTE**

**14-11.09A(1) Summary**

Section 14-11.09 includes specifications for handling, storing, transporting, and disposing of treated wood waste (TWW).

Wood removed from \_\_\_\_\_ is TWW. Manage TWW under 22 CA Code of Regs, Div. 4.5, Chp. 34.

**14-11.09A(2) Submittals**

For disposal of TWW, submit as an informational submittal a copy of each completed shipping record and weight receipt within 5 business days.

**14-11.09B Materials**

Not Used

**14-11.09C Construction**

**14-11.09C(1) General**

**14-11.09C (2) Training**

Provide training to personnel who handle TWW or may come in contact with TWW. Training must include:

1. All applicable requirements of 8 CA Code of Regs
2. Procedures for identifying and segregating TWW
3. Safe handling practices
4. Requirements of 22 CA Code of Regs, Div. 4.5, Chp. 34
5. Proper disposal methods

Maintain records of personnel training for 3 years.

**14-11.09C(3) Storage**

Store TWW before disposal using the following methods:

1. Elevate on blocks above a foreseeable run-on elevation and protect from precipitation for no more than 90 days.
2. Place on a containment surface or pad protected from run-on and precipitation for no more than 180 days.
3. Place in water-resistant containers designed for shipping or solid waste collection for no more than 1 year.
4. Place in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C).

Prevent unauthorized access to TWW using a secured enclosure such as a locked chain link fenced area or a lockable shipping container located within the job site.

Resize and segregate TWW at a location where debris from the operation including sawdust and chips can be contained. Collect and manage the debris as TWW.

Provide water-resistant labels that comply with 22 CA Code of Regs, Div. 4.5, Chp. 34, §67386.5, to clearly mark and identify TWW and accumulation areas. Labels must include:

1. Caltrans, District number, Construction, Construction Contract number
2. District office address
3. Engineer's name, address, and telephone number
4. Contractor's contact name, address and telephone number
5. Date placed in storage

**14-11.09C(4) Transporting and Disposal**

Before transporting TWW, obtain an agreement from the receiving facility that the TWW will be accepted.

Protect shipments of TWW from loss and exposure to precipitation. For projects with 10,000 pounds or more of TWW, request a US EPA Generator Identification Number from the Engineer at least 5 business days before the first shipment. Each shipment must be accompanied by a shipping record such as a bill of lading or invoice that includes:

1. Caltrans with district number
2. Construction Contract number
3. District office address
4. Engineer's name, address, and telephone number

5. Contractor's contact name and telephone number
6. Receiving facility name and address
7. Waste description: Treated Wood Waste with preservative type if known or unknown/mixture
8. Project location
9. Estimated quantity of shipment by weight or volume
10. Date of transport
11. Date of receipt by the receiving TWW facility
12. Weight of shipment as measured by the receiving TWW facility
13. For projects with 10,000 pounds or more of TWW include the USA EPA Generator Identification Number.

The shipping record must be at least a 4-part carbon or carbonless 8 1/2 by 11-inch form to allow retention of copies by the Engineer, transporter, and disposal facility.

Dispose of TWW at an approved TWW facility. A list of currently approved TWW facilities is available at: <http://www.dtsc.ca.gov/HazardousWaste/upload/lanfillapr11pdated1.pdf>

Dispose of TWW within:

1. 90 days of generation if stored on blocks
2. 180 days of generation if stored on a containment surface or pad
3. 1 year of generation if stored in a water-resistant container, or within 90 days after the container is full, whichever is shorter
4. 1 year of generation if storing in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C)

#### **14-11.09D Payment**

Not Used

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#### **NSSP: 15-027**

#### **EARTH MATERIAL CONTAINING LEAD**

##### **General**

This work includes handling earth material containing lead under the Standard Specifications and these special provisions.

##### ***Submittals***

Submit a lead compliance plan under Section 7-1.07, "Lead Compliance Plan," of the Standard Specifications.

##### ***Project Conditions***

Lead is present in earth material within the project limits at average concentrations below 1,000 mg/kg total lead and below 5 mg/l soluble lead. Earth material within the project limits:

1. Is not a hazardous waste
2. Does not require disposal at a permitted landfill or solid waste disposal facility

Lead is typically found within the top 2 feet of material in unpaved areas of the highway. Reuse all excavated earth material within the project limits.

##### **Construction**

Handle earth material containing lead under all applicable laws, rules, and regulations, including those of the following agencies:

1. Cal/OSHA
2. CA Regional Water Quality Control Board, Region \_ – \_\_\_\_\_
3. CA Department of Toxic Substances Control
4. \_\_\_\_\_

If earth material is disposed of:

1. Dispose of under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications
2. You are responsible for any sampling and analysis required by the receiving property owner

If you choose to dispose of earth material at a commercial landfill:

1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
2. You are responsible for identifying the appropriately permitted landfill to receive the earth material and for all associated trucking and disposal costs including any sampling and analysis required by the receiving landfill. Provide Engineer with record of disposal.

### **Measurement and Payment**

Full compensation for handling earth material containing lead is included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

Notice of Determination

E201510000170

To: [ ] Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814
[X] County Clerk
County of Fresno
2221 Kern Street
Fresno, CA 93721

From: County of Fresno
2220 Tulare Street, Suite B
Fresno, CA 93721

FILED
AUG 26 2015
9:39 AM
FRESNO COUNTY CLERK
DEPUTY

SUBJECT: Filing of Notice of Determination in compliance with Section 21152 of the Public Resource Code.

Initial Study Application No. 6965, Travers Creek Bridge Replacement Project on Manning Avenue
Project Title

N/A Briza Sholars (559) 600-4207
State Clearinghouse Number Contact Person Area Code/Number/Ext.

The project is located on Manning Avenue, 0.6 miles west of Alta Avenue, approximately 1.4 miles east of the City of Reedley in Fresno County. (SUP. DIST.: 4)

Project Location (include County)

Project Description: The proposed project would allow replacement of the existing structurally deficient two-lane Travers Creek Bridge on Manning Avenue with a new concrete bridge that meets current standards. The bridge, originally constructed in 1925 and widened in 1942, is approximately 33 feet long and 28 feet wide from curb to curb. The new bridge would be approximately 60-feet long and 77-feet wide covering a total project area of 1.70 acres. The new Travers Creek Bridge on Manning would be striped for two lanes, but wide enough to accommodate the County of Fresno's future plans to widen East Manning Avenue from two to four lanes within the next 10 years.

This is to advise that the County of Fresno has approved the above described projects on [X] Lead Agency [ ] Responsible Agency

August 25, 2015 and has made the following determination regarding the above described project(s). (Date)

- 1. The project [ ] will [X] will not have a significant effect on the environment.
2. [ ] An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. [X] A Mitigated Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation Measures [X] were [ ] were not made a condition of the approval of the project.
4. A Statement of Overriding Consideration [ ] was [X] was not adopted for this project.

This is to certify that the Initial Study with comments and responses and record of project approval is available to the General Public at the County of Fresno Department of Public Works and Planning, 2220 Tulare Street, Suite 'B', Fresno, CA 93721.

Eric VonBerg, Senior Planner Date 8/25/2015

E201510000170

FILED

AUG 26 2015

TIME 9:30 AM

File original and one copy with:

Fresno County Clerk  
2221 Kern Street  
Fresno, California 93721

Space Below For County Clerk Only.

CLK-2046.00 E04-73 R00-00

By [Signature]  
FRESNO COUNTY CLERK  
DEPUTY

Agency File No:  
I.S. 6965

**LOCAL AGENCY  
MITIGATED NEGATIVE  
DECLARATION**

County Clerk File No:  
**E201510000170**

Responsible Agency (Name):  
Fresno County

Address (Street and P.O. Box):  
2220 Tulare St. Sixth Floor

City:  
Fresno

Zip Code:  
93721

Agency Contact Person (Name and Title):  
Briza Sholars, Planner

Area Code:  
559

Telephone Number:  
600-4207

Extension:  
-0-

Applicant (Name):  
Fresno County Design Division

Project Title: HCD 1998-1999 Community Development Block Grant Program  
Travers Creek Bridge Replacement Project on Manning Avenue

Project Description:

The proposed project would allow replacement of the existing structurally deficient two-lane Travers Creek Bridge on Manning Avenue with a new concrete bridge that meets current standards. The bridge, originally constructed in 1925 and widened in 1942, is approximately 33 feet long and 28 feet wide from curb to curb. The new bridge would be approximately 60-feet long and 77-feet wide covering a total project area of 1.70 acres. The new Travers Creek Bridge on Manning would be striped for two lanes, but wide enough to accommodate the County of Fresno's future plans to widen East Manning Avenue from two to four lanes within the next 10 years. The project is federally funded and located on Manning Avenue, 0.6 miles west of Alta Avenue, approximately 1.4 miles east of the City of Reedley in Fresno County. (SUP. DIST.: 4)

Justification for Negative Declaration:

Initial Study Application No. 6965 indicates there is no evidence in the record that demonstrates that the project will have a significant effect on the environment. Potential impacts regarding biology have been addressed by mitigation measures for fencing, a WEAP, re-veg plan, pre-construction surveys for birds and bats if work is to occur within nesting season. This will reduce potential impacts to biological resources to a level of less than significant. Potential impacts to cultural and archaeological resources were addressed by the applicant accepting mitigation measures requiring that archaeological resources remain undisturbed and any construction work be halted in the event archaeological resources or human remains are unearthed until an archaeologist and the Fresno County Coroner can evaluate the findings. Potential impacts to geology and soils will be addressed by the proper permits to be obtained from the County. Potential impacts to hazardous materials were addressed by a hazardous materials survey of the bridge to be demolished. Potential impacts to noise and transportation have been addressed by compliance with County Noise Standards and construction hours. Based on the Initial Study, staff has concluded that preparation of an Environmental Impact Report is not required. A Notice of Intent of Mitigated Negative Declaration was published on July 29, 2015 and the project was approved by the Board of Supervisors on August 25, 2015.

FINDING:

The proposed project will not have a significant impact on the environment.

Newspaper and Date of Publication:  
Fresno Business Journal, July 29, 2015

Review Date Deadline: August 19, 2015

Date: July 24, 2015

Type or Print Signature:  
Eric VonBerg, Senior Planner

Submitted by (Signature):

[Signature]

FRESNO COUNTY  
CLERK'S OFFICE  
BRANDI L. ORTH

2221 KERN STREET  
FRESNO, CA 93721

Finalization 2015197927  
08/26/2015 09:18am  
79 jkeyes

Item Title	Count
2 EIRNO EIR - Negative Declaration	2

1 EIRA EIR Administrative Fee	1
----------------------------------	---

Document ID	Amount
DOC# E201510000230 Time Recorded 09:17 am	0.00

2 EIRNO EIR - Negative Declaration	2
--	---

Document ID	Amount
DOC# E201510000231 Time Recorded 09:18 am	2210.00

3 EIRA EIR Administrative Fee	3
----------------------------------	---

Document ID	Amount
DOC# E201510000232 Time Recorded 09:18 am	50.00

Total	4520.00
Payment Type	Amount
Check tendered # 120298707	2260.00
No Fee	2260.00
Amount Due	0.00

Thank You  
Please Retain This Receipt  
For Your Records

STATE OF CALIFORNIA - THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME  
**ENVIRONMENTAL FILING FEE CASH RECEIPT**

**Receipt # E201510000170**

Lead Agency: FRESNO COUNTY DESIGN DIVISION Date: 07/08/2015

County Agency of Filing: FRESNO COUNTY CLERK Document No: E201510000170


Project Title: INITIAL STUDY APPLICATION NO. 6965

Project Applicant Name: FRESNO COUNTY DESIGN DIVISION Phone Number: (559) 600-4207

Project Applicant Address: 2220 TULARE STREET, SUITE A, FRESNO, CA 93721

Project Applicant: LOCAL PUBLIC AGENCY

<b>NOTICE OF INTENT</b>	\$	0.00
<b>MITIGATED NEGATIVE DECLARATION</b>	\$	2210.00
<b>NOTICE OF DETERMINATION</b>	\$	0.00
<b>ADMINISTRATION FEE</b>	\$	50.00
<b>Total Received</b>	\$	<b>2260.00</b>

Signature and title of person receiving payment: 





# INCOMPLETE LETTER AND RESPONSES



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4593  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



January 20, 2021

Alexis Rutherford  
County of Fresno  
2220 Tulare Street, 6<sup>th</sup> Floor  
Fresno, California 93721  
[arutherford@fresnocountyca.gov](mailto:arutherford@fresnocountyca.gov)

Subject: Incomplete Notification of Lake or Streambed Alteration  
EPIMS Notification No. FRE-14726-R4  
Travers Creek Bridge Replacement Project on Manning Avenue  
Travers Creek – Fresno County

Dear Ms. Rutherford:

On December 17, 2020, the California Department of Fish and Wildlife (CDFW) received your Notification of Lake or Streambed Alteration (Notification) through the Environmental Permitting Information Management System (EPIMS). On January 20, 2021, CDFW determined that your Notification was incomplete because the information on one or more of the forms below is either missing or insufficient. To complete your Notification, please review the [EPIMS Permitting Portal Instructions \(PDF\)](#) available on the [EPIMS internet page](#) to complete the necessary forms and resubmit your application.

- Form 1: General Information
- Form 2: Contact Information
- Form 3: Project Location and Category
- Form 4: Project Description, Term, and Impacts
- Form 5: Environmental Review
- Form 6: Measures to Protect Fish, Wildlife, and Plant Resources
- Form 7: Prior Notification, Orders, and Permits
- Form 8: Documents and Maps
- Form 9: Fee Schedule
- Form 10: Acknowledgement and Signature

Alexis Rutherford  
January 20, 2021  
EPIMS Notification No. FRE-14726-R4  
Page 2 of 2

Forms 4 and 8: The Notification indicates that PG&E will relocate power poles. Please describe any other required utility work associated with the project. Additional information is needed about the postconstruction restoration of the river channel to preconstruction condition. Describe how baseline contours will be determined and how equipment operators will know that the target elevations have been achieved.

The plans state that they are not for construction; please indicate if substantial changes may be made to the plans before commencement of the project. If design plans that are more current and/or for construction are available, they may be provided.

Form 9: The submitted payment of \$5,430.50 corresponds to a project costing \$350,000 or more. The project cost is listed as \$285,000 and that fee is \$4,559.25. Please clarify the project cost; if it is determined to be less than \$350,000 when all project information is completed, a refund for any overpayment will be issued.

Please note that you may not proceed with your project until your Notification is deemed complete and you have obtained a Lake or Streambed Alteration Agreement, if required. If you have questions regarding this letter, please contact Jim Kitch, Environmental Scientist, at (559) 243-4014 extension 233 or by email at James.Kitch@wildlife.ca.gov.

Sincerely,

DocuSigned by:



BDD884BB1205430...

Linda Connolly  
Senior Environmental Scientist Supervisor



# PLANS FOR CONSTRUCTION

## FEDERAL BRIDGE REPLACEMENT PROJECT

### TRAVERS CREEK BRIDGE ON E MANNING AVENUE

BRIDGE NO: 42C-0175, BRLS-5942 (198)

#### INDEX OF SHEETS

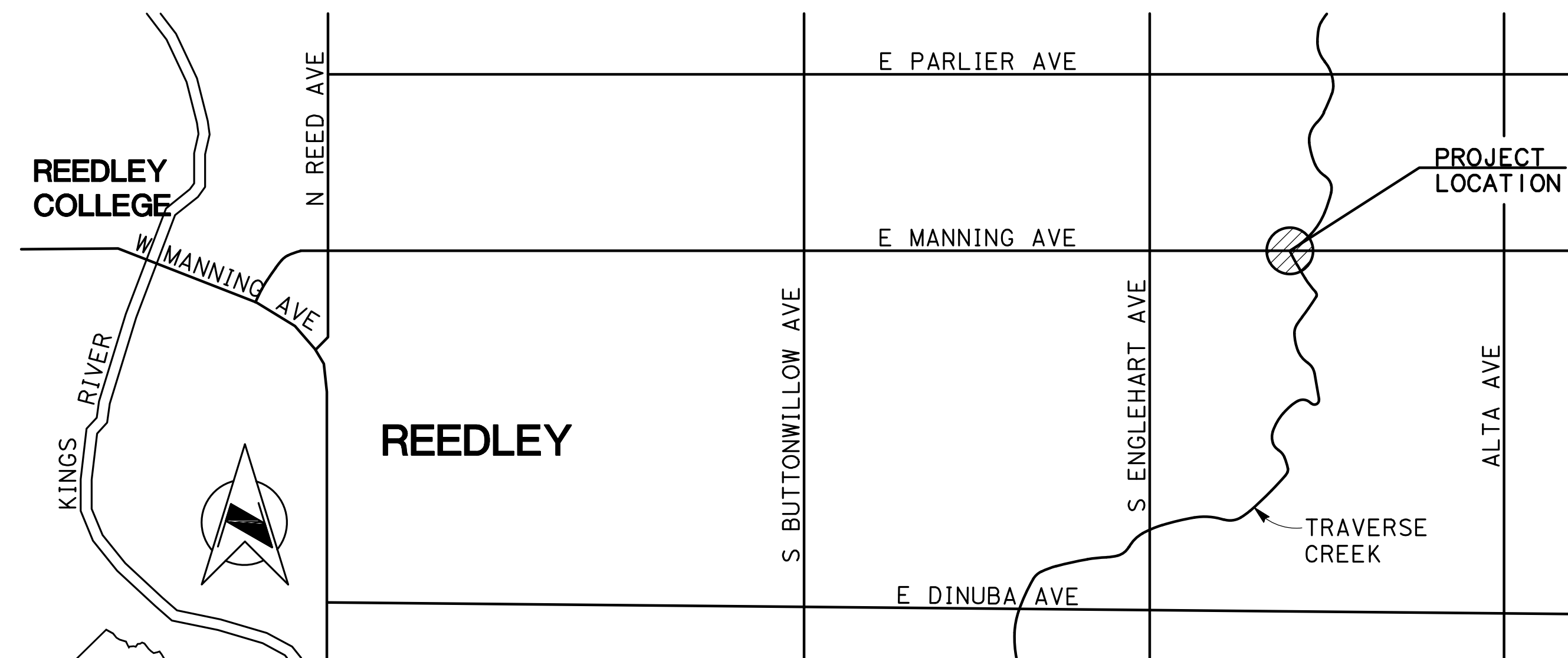
DRAWING NO.	TITLE
T-1	TITLE SHEET

#### ROAD PLANS

X-1 - X-3	TYPICAL CROSS SECTIONS
PC-1	PROJECT CONTROL
L1 - L4	LAYOUT
P-1 - P-2	PROFILE
CD-1 - CD-6	CONSTRUCTION DETAILS
WPC-1 - WPC-2	TEMPORARY WATER POLLUTION CONTROL PLAN
EC-1 - EC-3	EROSION CONTROL PLAN
CG-1 - CG-2	CONTOUR GRADING
D-1	DRAINAGE PLAN
DP-1	DRAINAGE PROFILES
U-1 - U-3	UTILITY PLAN
CS-1	CONSTRUCTION AREA SIGNS
SC-1 - SC6	STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGES
PD-1 - PD-3	PAVEMENT DELINEATION & SIGN PLAN

#### BRIDGE PLANS

S-1 - S-2	GENERAL PLAN
S-3	DECK CONTOURS AND GENERAL NOTES
S-4	FOUNDATION PLAN
S-5	ABUTMENT LAYOUT
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S-8	TYPICAL SECTION
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S-10 - S-11	PRESTRESSED CONCRETE SLAB DETAILS
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S-13	LOG OF TEST BORING



#### ABBREVIATIONS

AC	Asphalt Concrete	Max	Maximum
AB	Aggregate Base	MGS	Midwest Guardrail System
AP	Angle Point	Min	Minimum
Approx	Approximate	No.	Number
BB	Begin Bridge	OG	Original Ground
BC	Begin Curve	OUN	Unless Noted Otherwise
Beg	Begin	P	Pavement
BVC	Begin Vertical Curve	PCC	Point of Compound Curve
CFS	Cubic Feet per Second	P/L	Property Line
CL	Centerline	PG	Profile Grade
CMP	Corrugated Metal Pipe	PP	Power Pole
CP	Control Point	PRC	Point of Reverse Curve
Desc	Description	Prop	Proposed
Dwy	Driveway	PVI	Point of Vertical Intersection
E	Electric	Pvmt	Pavement
Ea	Each	R	Radius
EB	End Bridge	RCP	Reinforced Concrete Pipe
EB (CIVIL)	Eastbound	Rdwy	Roadway
EC	End Curve	RSP	Rock Slope Protection
Elev	Elevation	Rt	Right
EP	Edge of Pavement	R/W	Right of Way
ES	Edge of Shoulder	Sta	Station
ETW	Edge of Traveled Way	Std	Standard
Exist	Existing	Shld	Shoulder
EVC	End Vertical Curve	SQYD	Square Yard
FES	Flared End Section	TP	Telephone Pole
FG	Finished Grade	Typ	Typical
FL	Flowline	T	Tangent
GB	Grade Break	Tel	Telephone
HMA	Hot Mix Asphalt	TP	Telephone Pole
HP	Hinge Point	TCP	Temporary Construction Permit
HWL	High Water Line	Temp	Temporary
L	Length	Var	Varies
LF	Lineal Feet	VC	Vertical Curve
LP	Low Point	VPI	Vertical Point of Intersection
Lt	Left	WB	Westbound
		WSE	Water Surface Elevation

Adopted by the Fresno County Board of Supervisors

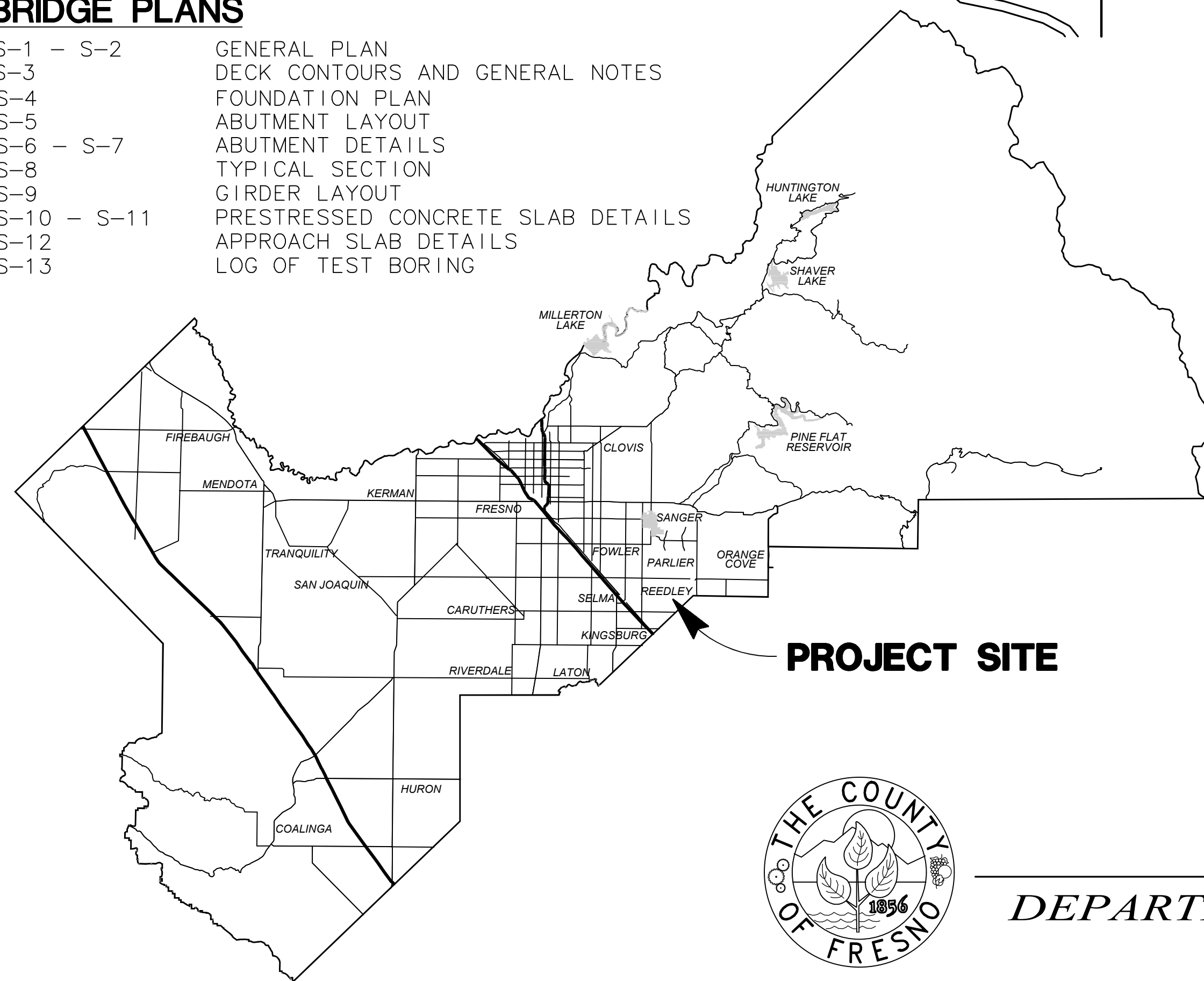
2015

Debbie Poochigian, Chairman 5th District  
 Henry Perea 3rd District  
 Andreas Borgeas 2nd District  
 Brian Pacheco 1st District  
 Buddy Mendes, Vice Chairman 4th District

John Navarrette  
 County Administrative Officer

APPROVED

Alan Weaver, Director  
 Department of Public Works and Planning



DEPARTMENT OF PUBLIC WORKS AND PLANNING

Note:  
 These plans shall be supplemented by the Standard Plans dated May 2010.

DESIGNED:	DATE	RECORD DRAWING	SCALE	PROJECT	TITLE SHEET
RBS	6/25/15	RESIDENT ENGINEER	NO SCALE	TRAVERS CREEK BRIDGE ON MANNING AVENUE	TITLE SHEET
MLT	6/25/15				
CHECKED:	6/25/15				

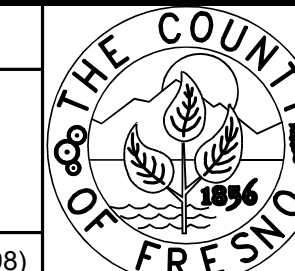
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**BIGGS CARDOSA ASSOCIATES INC**  
 STRUCTURAL ENGINEERS

5250 N. Palm Avenue, Suite 211  
 Fresno, California 93704  
 559-449-8686



ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING

DRAWING NO. T-1 SHEET NO. 1 TOTAL 52

201501511

**NOTES:**

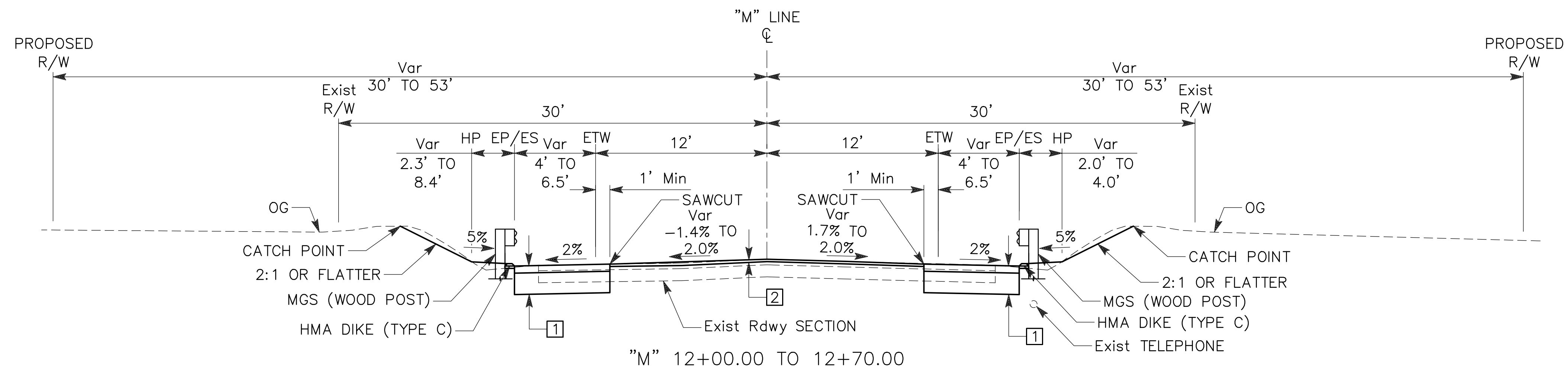
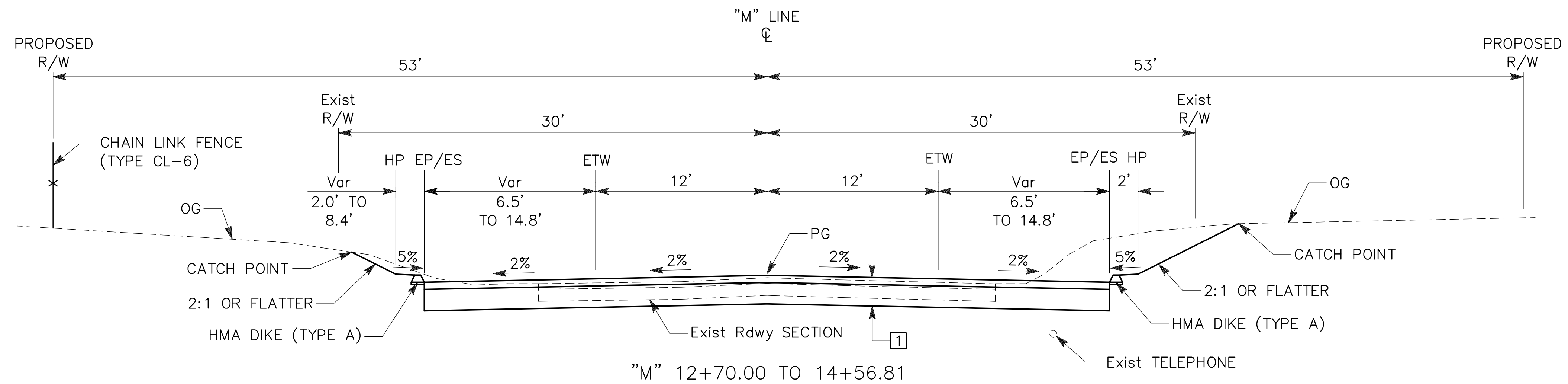
1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUBGRADE SLOPE TO BE THE SAME AS TYPICAL SURFACE SLOPE UNLESS OTHERWISE NOTED.
3. SEE LAYOUT SHEETS FOR REMOVALS, TRANSITIONS, MIDWEST GUARDRAIL SYSTEM (MGS), FENCE, DIKE AND SWALE LOCATIONS.

**TYPICAL PAVEMENT  
STRUCTURE SECTIONS**

- 1 6" HMA (TYPE A, 3/4")  
18" CLASS 2 AB
- 2 COLD PLANE AC PAVEMENT 2" Max  
2" HMA (TYPE A, 3/4") OVERLAY
- 3 6" CLASS 2 AB

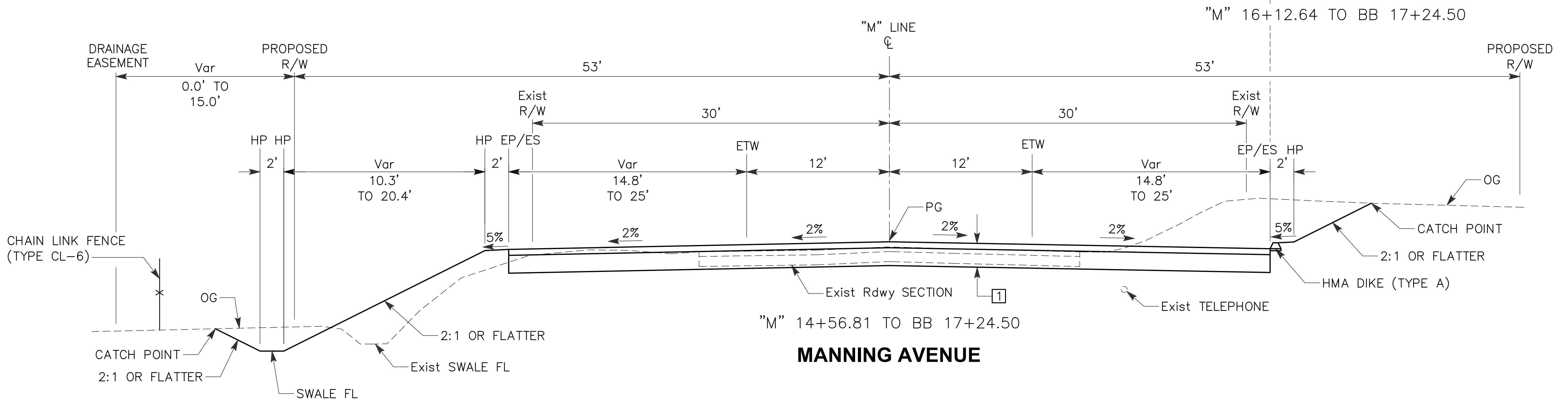
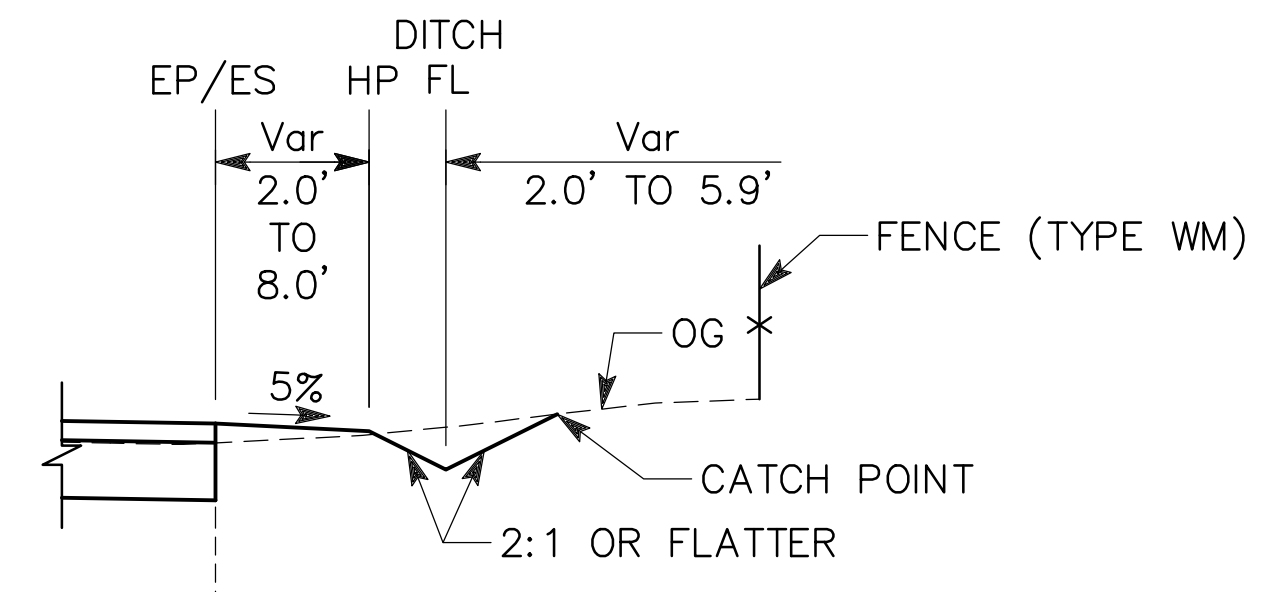
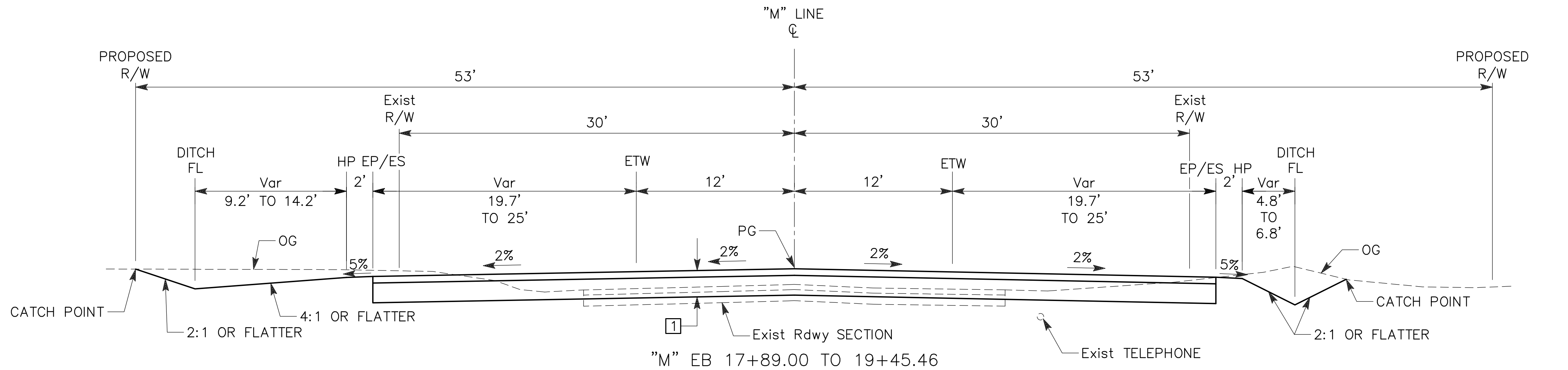
**DESIGN DESIGNATION**

ROADWAY CLASSIFICATION	MAJOR COLLECTOR
DESIGN SPEED	65 MPH
ADT (2000)	6300
TRAFFIC INDEX	9



**MANNING AVENUE**

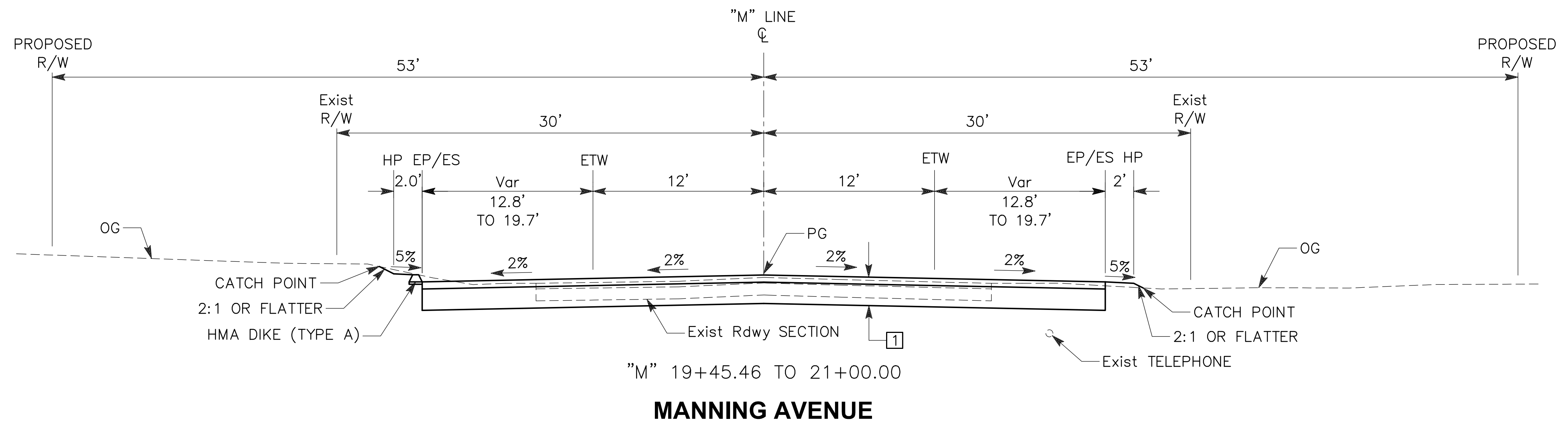
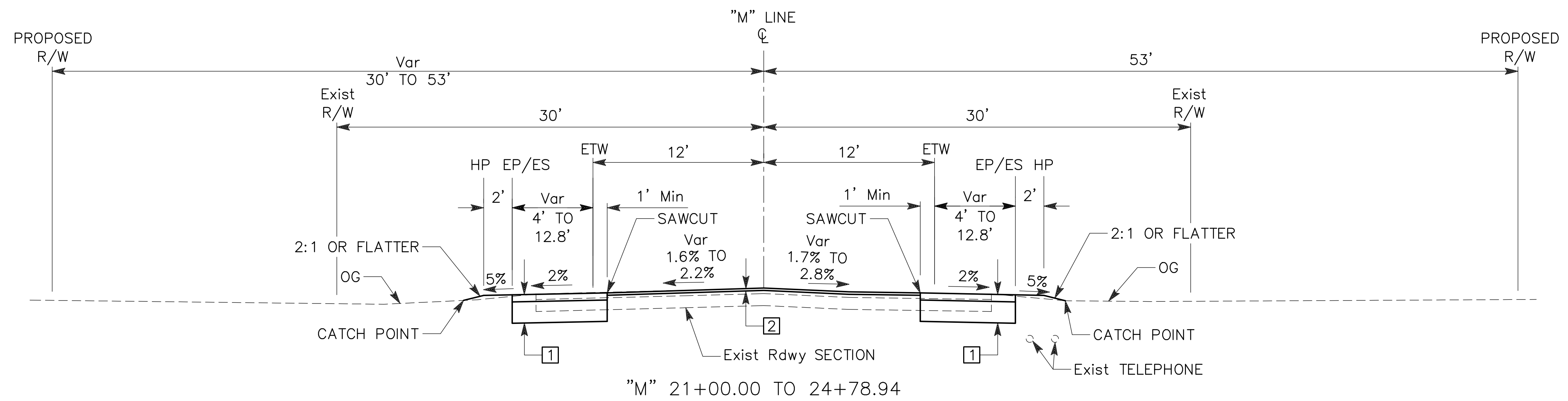
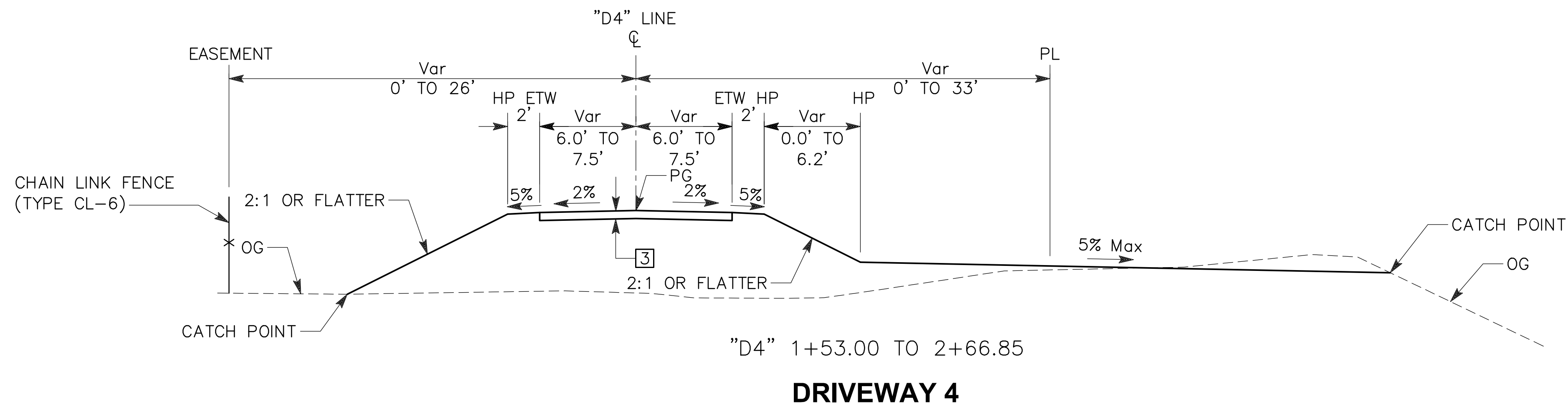
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DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	NO SCALE		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TYPICAL CROSS SECTIONS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. X-1
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 2
				619 13th Street, Suite G Modesto, CA 95354	TOTAL 52		



**MANNING AVENUE**

DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	NO SCALE		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TYPICAL CROSS SECTIONS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. X-2
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 3
				619 13th Street, Suite G Modesto, CA 95354		TOTAL 52	





	DATE	<b>RECORD DRAWING</b>	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	NO SCALE		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TYPICAL CROSS SECTIONS	
DRAWN: AMS	1/15/16				ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. X-3
CHECKED: MAS	1/15/16				619 13th Street, Suite G Modesto, CA 95354		SHEET NO. 4	TOTAL 52

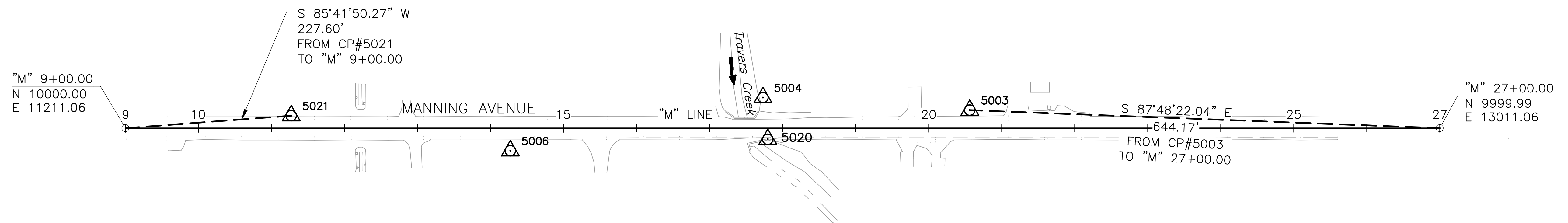
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**NOTES:**

- FOR COMPLETE PROJECT CONTROL DATA, SEE THE SURVEY RECORDS ON FILE FROM THE RECORDERS OFFICE OF THE COUNTY OF FRESNO.
- BASIS OF BEARINGS AND COORDINATES:  
THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 30, T. 15 S., R. 24 E., MOUNT DIABLO BASELINE AND MERIDIAN HAS AN ASSUMED BEARING OF N 90° 00' 00" E.  
  
LOCAL AND ASSUMED COORDINATES.
- BASIS OF ELEVATIONS:  
COUNTY OF FRESNO BM LO 119  
FRESNO COUNTY BRASS CAP STAMPED LO 119, LOCATED ON A CONCRETE HEADWALL, 15.5' SOUTH OF MANNING AVENUE, EAST OF TRAVERS CREEK ELEV. = 358.08 NAVD 88 DATUM

**LEGEND:**

△ SURVEY CONTROL POINT



**CONTROL FOR DESIGN AND CONSTRUCTION**

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5003	10024.65	12367.36	356.79	"FD FC 5/8" RBR
5004	10041.87	12084.05	357.16	"FD FC 5/8" RBR
5006	9969.10	11738.10	363.56	"FD FC 5/8" RBR
5020	9984.71	12090.66	358.08	FD BM L0119
5021	10017.07	11438.02	358.07	SET 80/D

APPROVED FOR PROJECT CONTROL INFORMATION ONLY

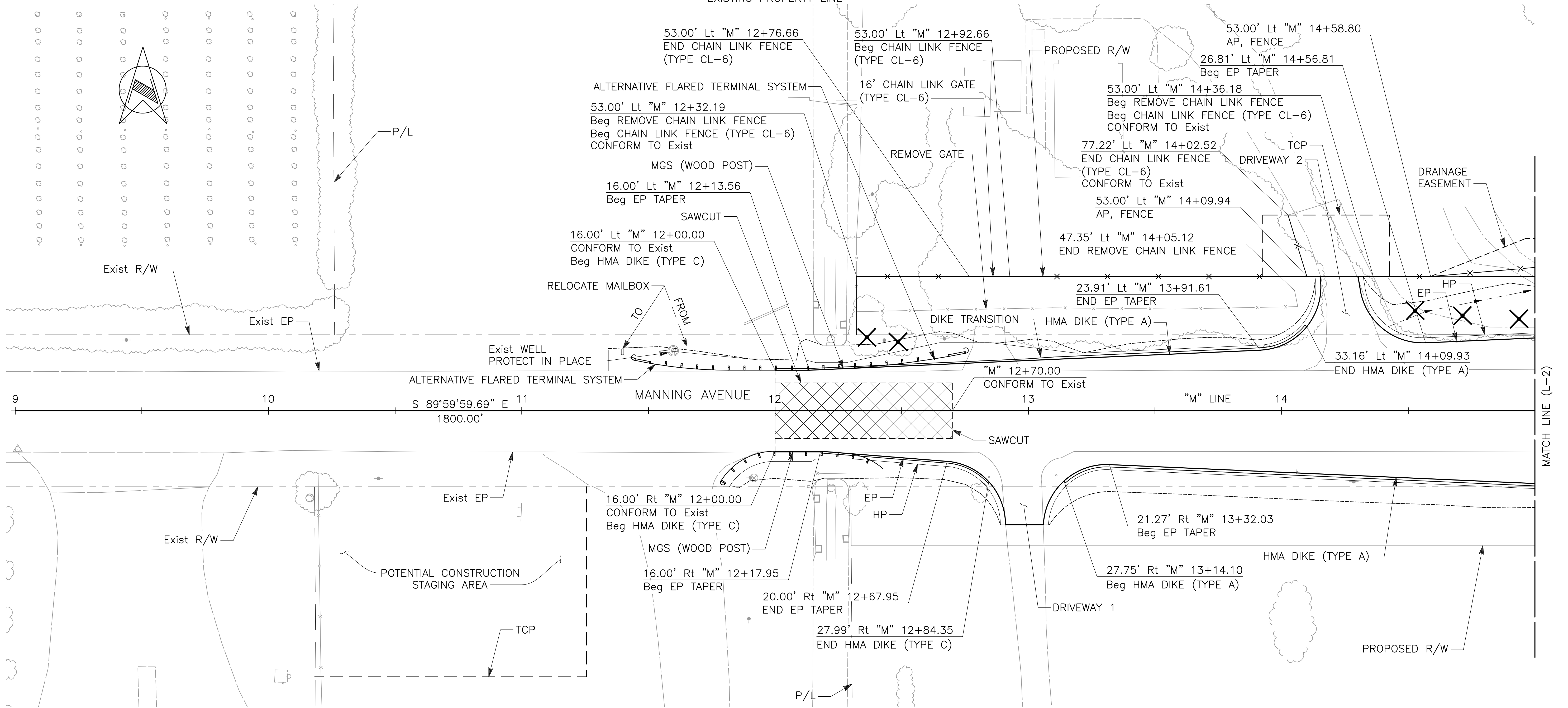
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DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	NO SCALE	<b>dh drake haglan</b> AND ASSOCIATES 619 13th Street, Suite G Modesto, CA 95354	TRAVERS CREEK BRIDGE ON MANNING AVENUE	PROJECT CONTROL	PROJECT CONTROL
DRAWN: AMS	1/15/16	DATE					
CHECKED: MAS	1/15/16						
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.							
				ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. PC-1 SHEET NO. 5 TOTAL 52	

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. ALL STATION/OFFSET CALLOUTS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
3. SEE UTILITY PLANS FOR UTILITY RELOCATIONS.
4. SEE CONSTRUCTION DETAILS FOR MGS, DRIVEWAY, AND DIKE TRANSITION INFORMATION.

**LEGEND:**

- CUT
- FILL
- PROPOSED R/W
- PROPOSED EASEMENT
- TEMPORARY CONSTRUCTION PERMIT (TCP)
- EXISTING PROPERTY LINE
- EXISTING R/W
- PROPOSED FENCE
- DITCH/SWALE FLOW LINE
- HMA OVERLAY
- REMOVE TREE

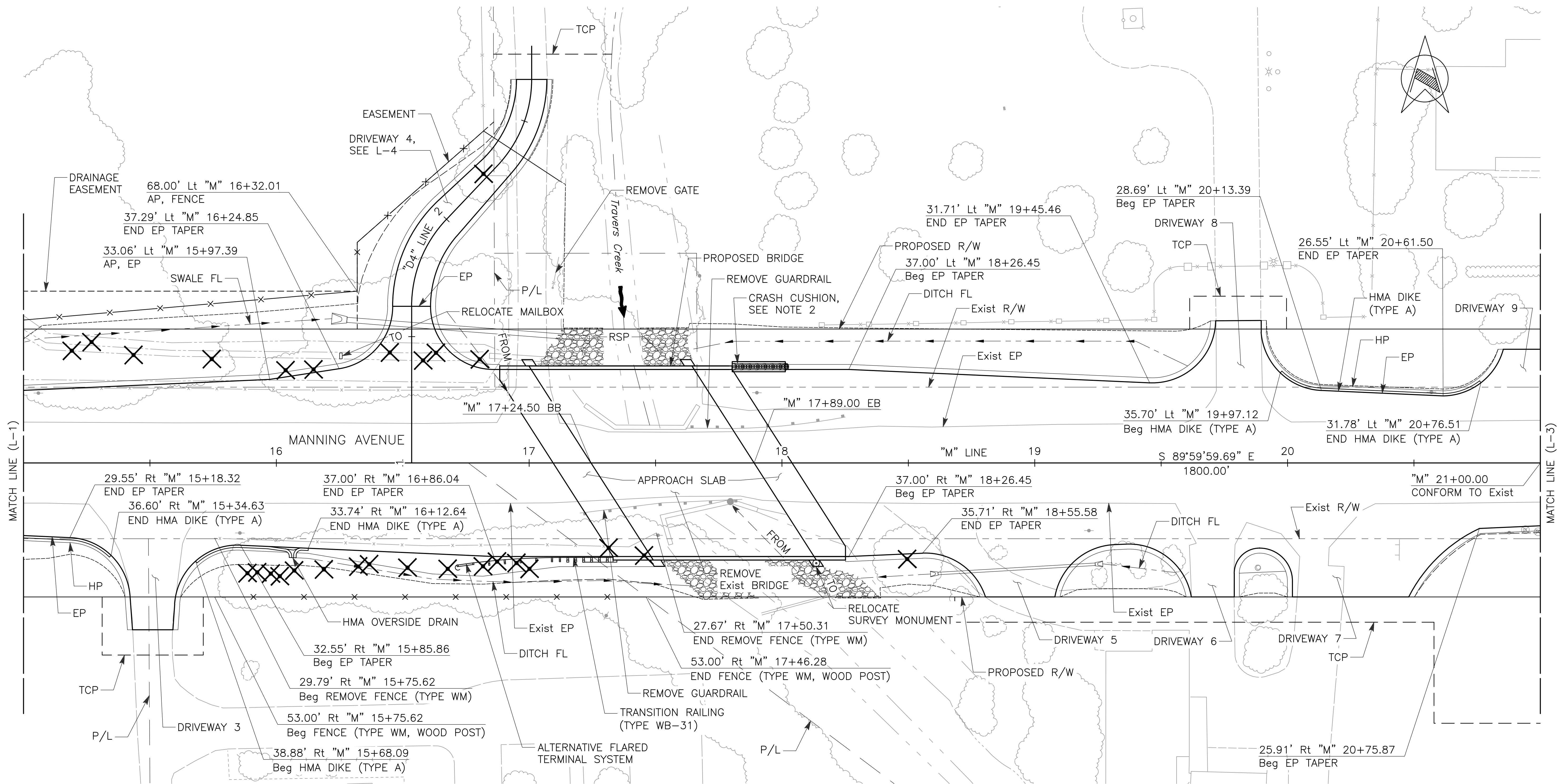


DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 20' 40' HZ		<p><b>drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			LAYOUT		
CHECKED: MAS		DATE: 1/15/16	DATE		DRAWING NO. L-1 SHEET NO. 6 TOTAL 52					

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

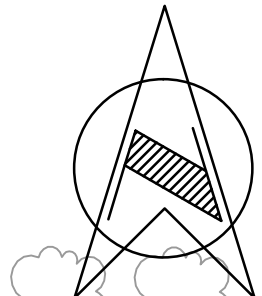
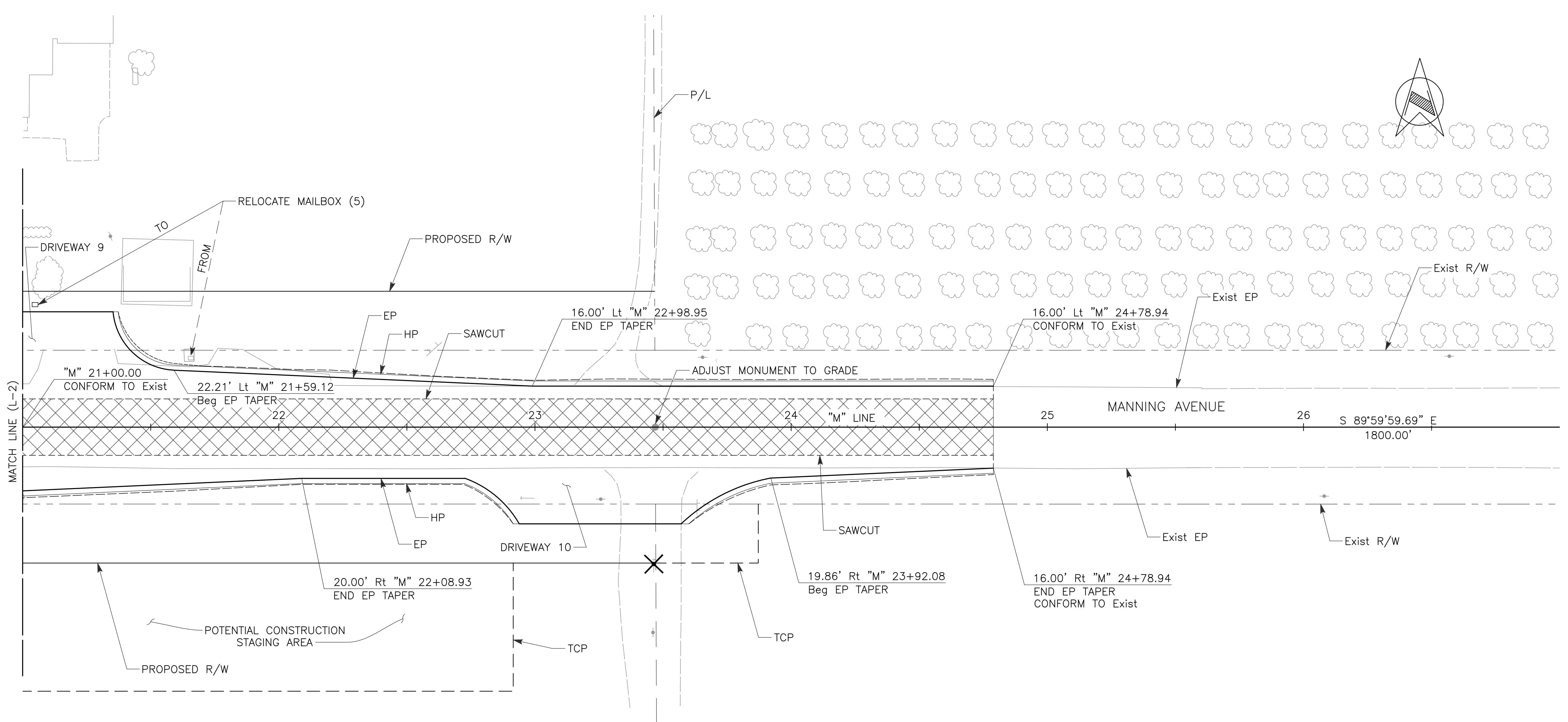
NOTES:

- FOR DRAINAGE INFORMATION, SEE DRAINAGE PLANS.
- QUADGUARD II MODEL QG210524 OR EQUIVALENT.



DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		LAYOUT	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. L-2 SHEET NO. 7 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

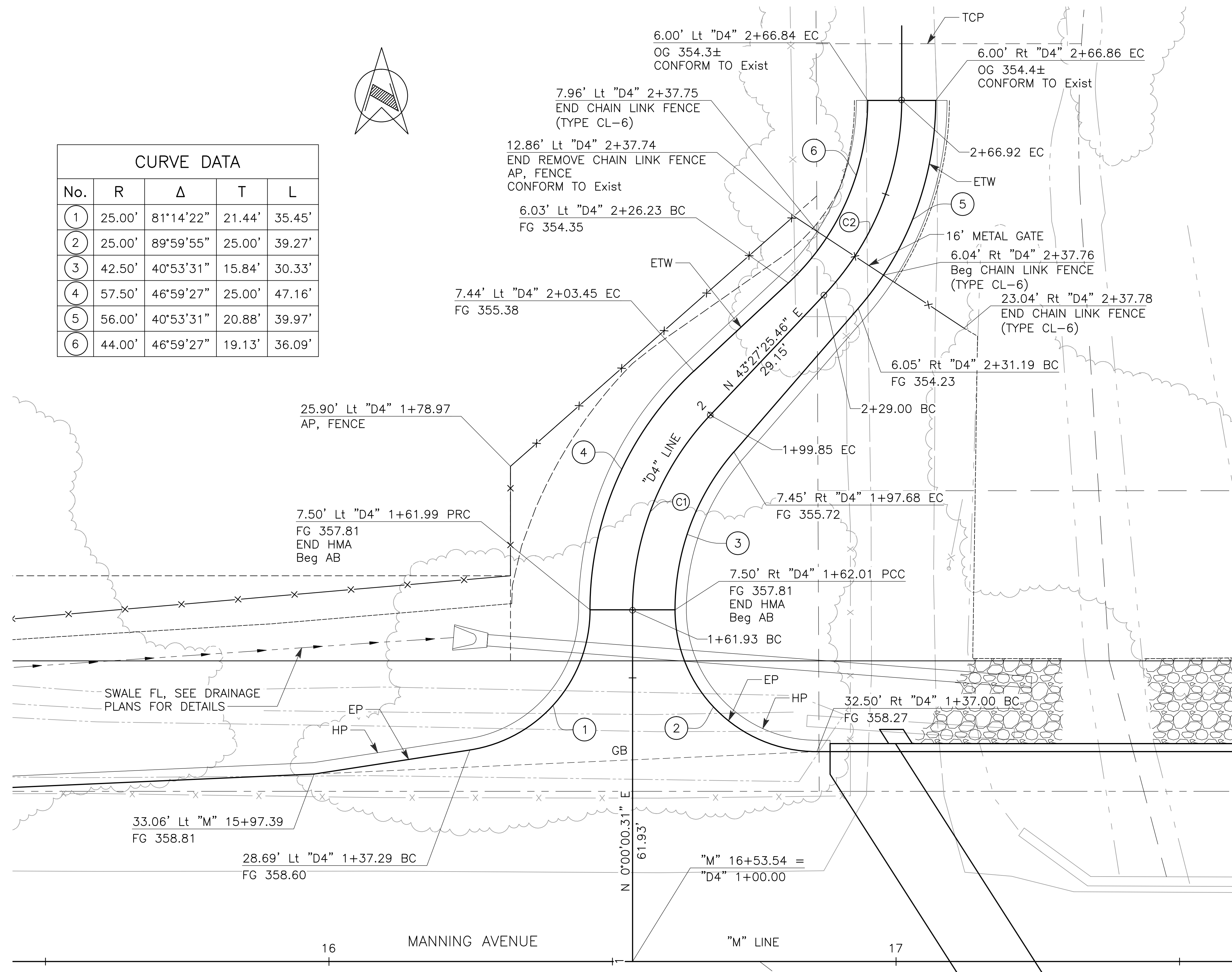


DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 20' 40' HZ		<p><b>drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		ROAD NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. L-3		
CHECKED: MAS		DATE: 1/15/16	DATE		BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 8		
					TOTAL 52			LAYOUT		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

ALIGNMENT CURVE DATA				
No.	R	Δ	T	L
(C1)	50.00'	43°27'25"	19.93'	37.92'
(C2)	50.00'	43°27'25"	19.93'	37.92'

CURVE DATA				
No.	R	Δ	T	L
(1)	25.00'	81°14'22"	21.44'	35.45'
(2)	25.00'	89°59'55"	25.00'	39.27'
(3)	42.50'	40°53'31"	15.84'	30.33'
(4)	57.50'	46°59'27"	25.00'	47.16'
(5)	56.00'	40°53'31"	20.88'	39.97'
(6)	44.00'	46°59'27"	19.13'	36.09'

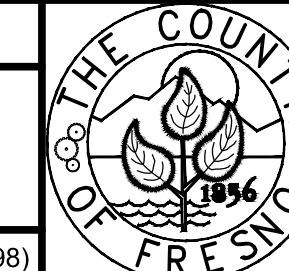


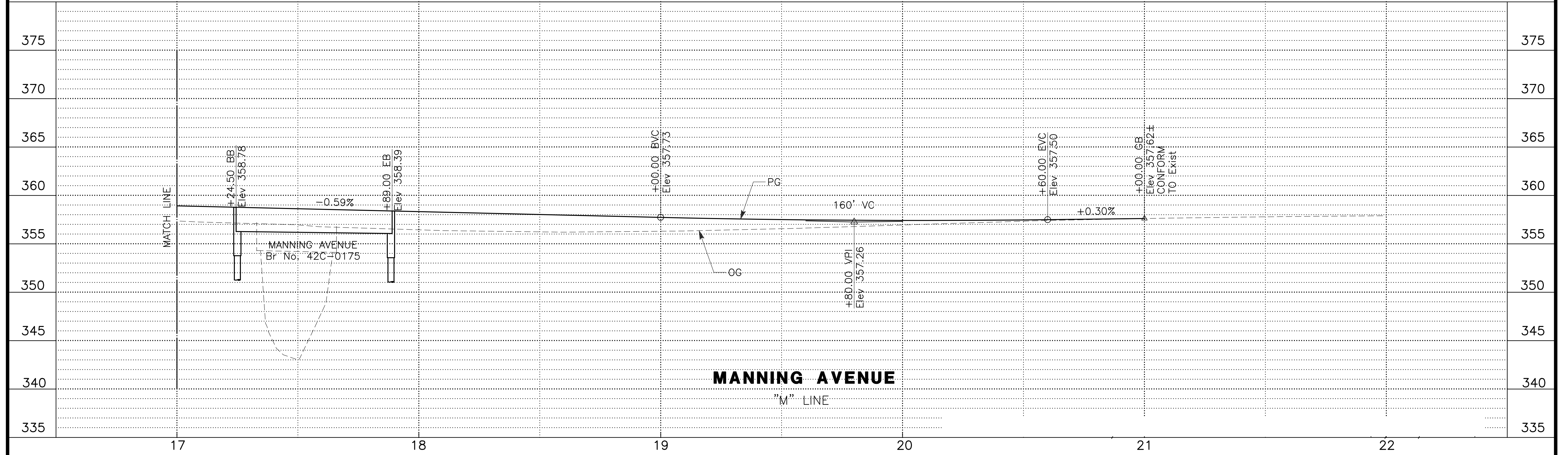
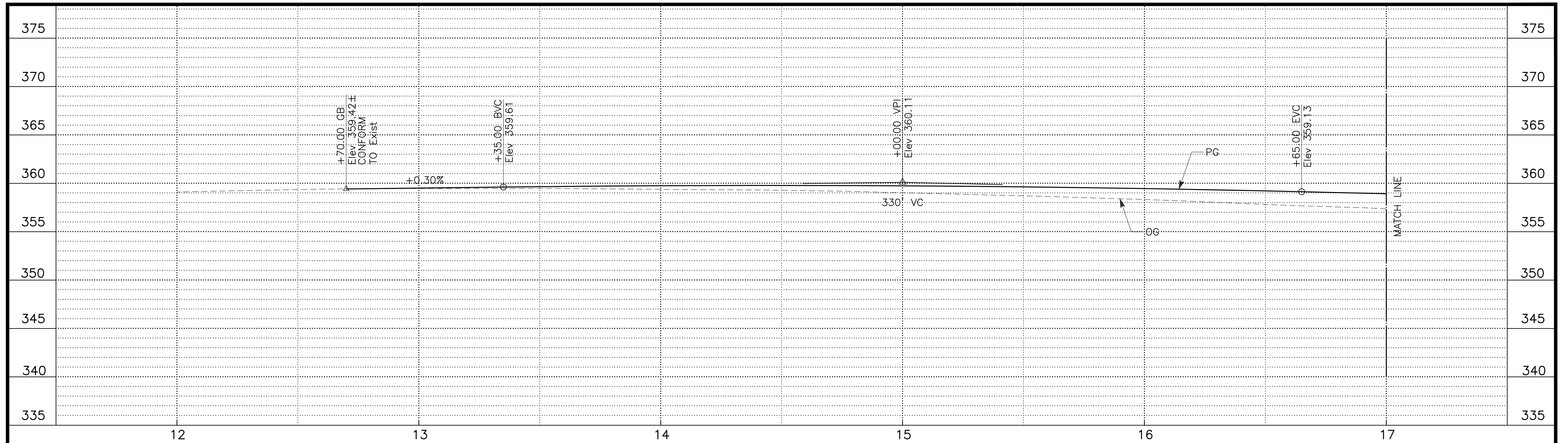
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DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		SCALE: 0 PLAN 10' 20' HZ		ROAD NO.:		LAYOUT	
CHECKED: MAS		DATE: 1/15/16			SCALE: 0 PLAN 10' 20' HZ		BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. L-4 SHEET NO. 9 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

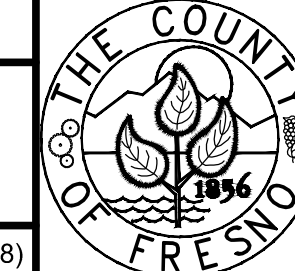




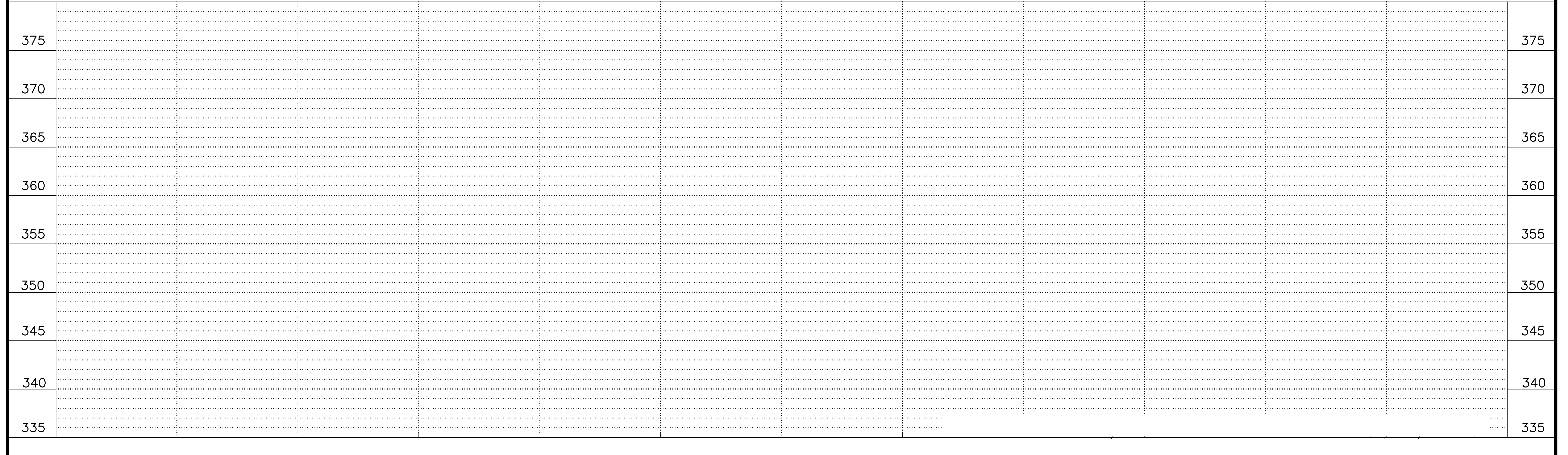
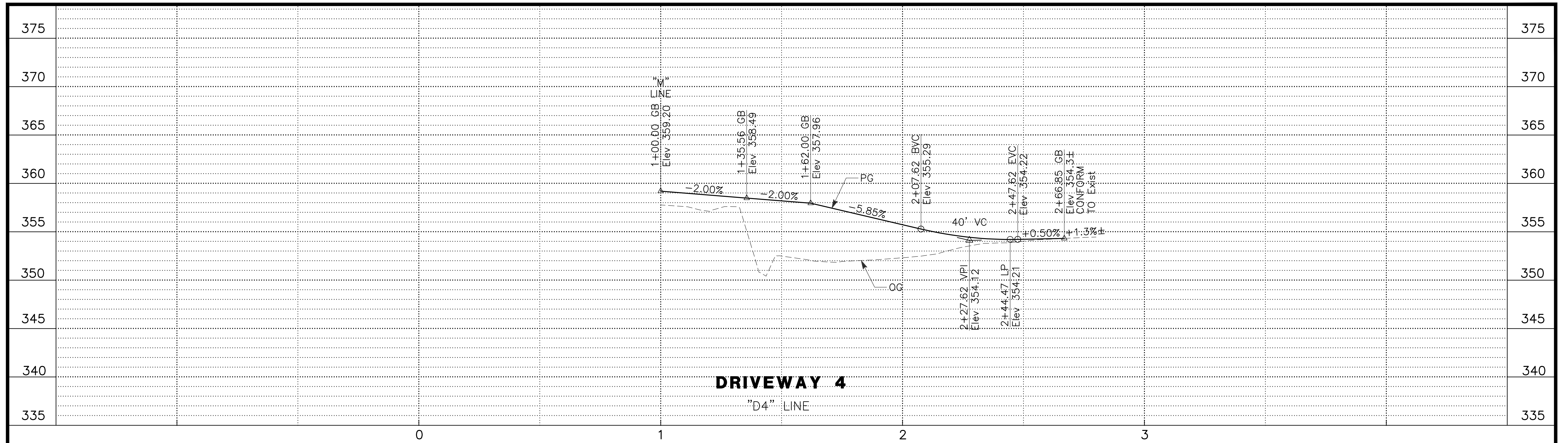
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DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		FRESNO COUNTY	
CHECKED: MAS		DATE: 1/15/16			0 5' 10' VT		ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		PROFILE	
					PROFILE				DRAWING NO. P-1 SHEET NO. 10 TOTAL 52	



**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

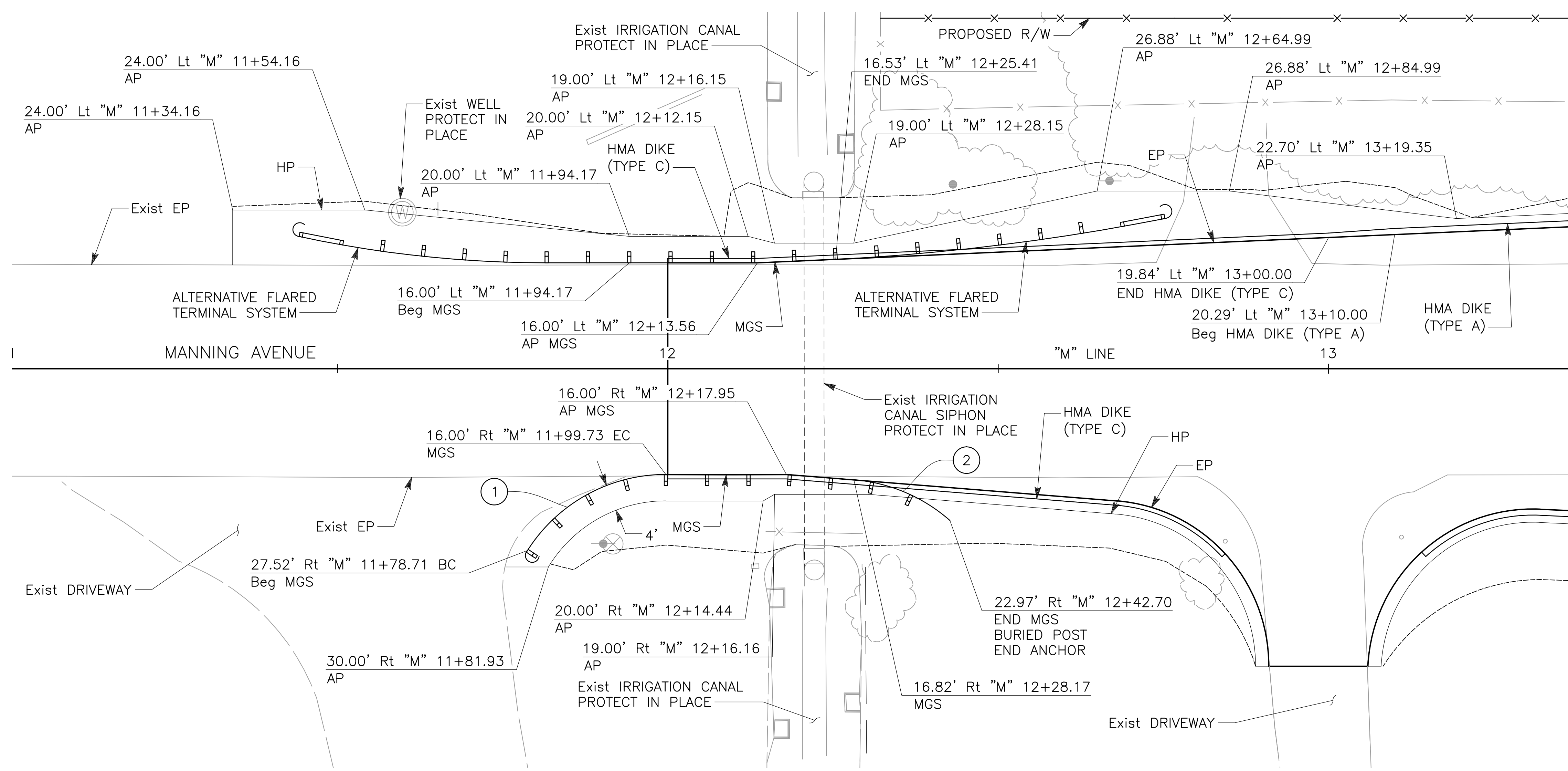


FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		PLAN: 0 20' 40' HZ PROFILE: 0 5' 10' VT			TRAVERS CREEK BRIDGE ON MANNING AVENUE			PROFILE		
CHECKED: MAS		DATE: 1/15/16						ROAD NO.			DRAWING NO. P-2		
								BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 11		
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												TOTAL 52	





**NOTES:**

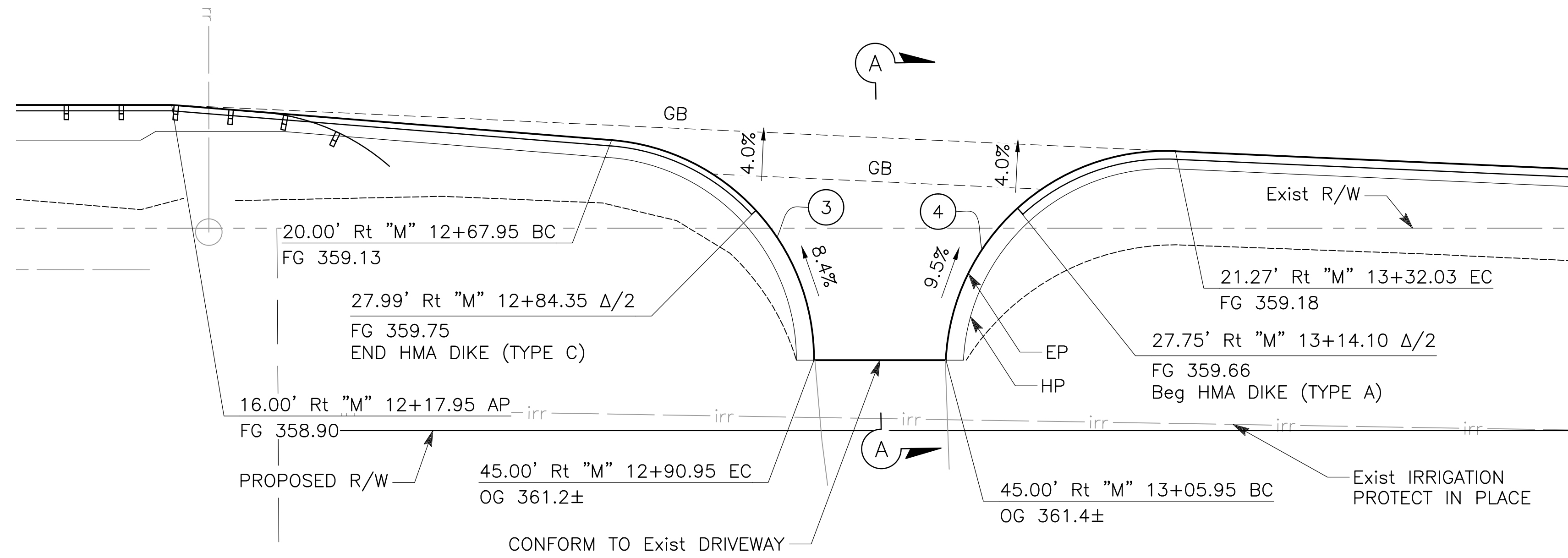
1. FOR DRIVEWAY INFORMATION, SEE DRIVEWAY CONSTRUCTION DETAILS.
2. FOR BURIED POST END ANCHOR DETAILS AND INFORMATION, SEE CALTRANS RSP A77T2.
3. FOR HMA DIKE DETAILS AND INFORMATION, SEE CALTRANS RSP A87B.

CURVE DATA				
No.	R	Δ	T	L
①	25.00'	57°17'34"	13.66'	25.00'
②	25.00'	36°47'03"	8.31'	16.05'

**MGS DETAIL**

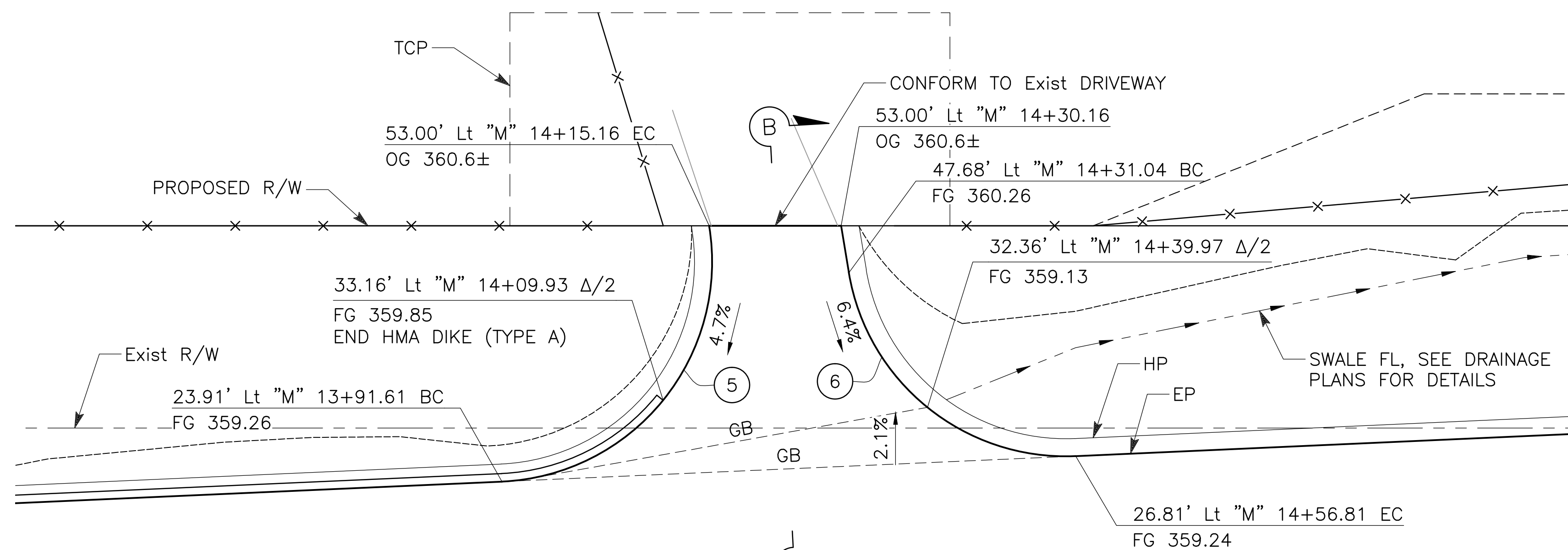
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DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE			PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE			CONSTRUCTION DETAILS	
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. CD-1 SHEET NO. 12 TOTAL 52	
<p>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</p>												



**DRIVEWAY 1 DETAIL**

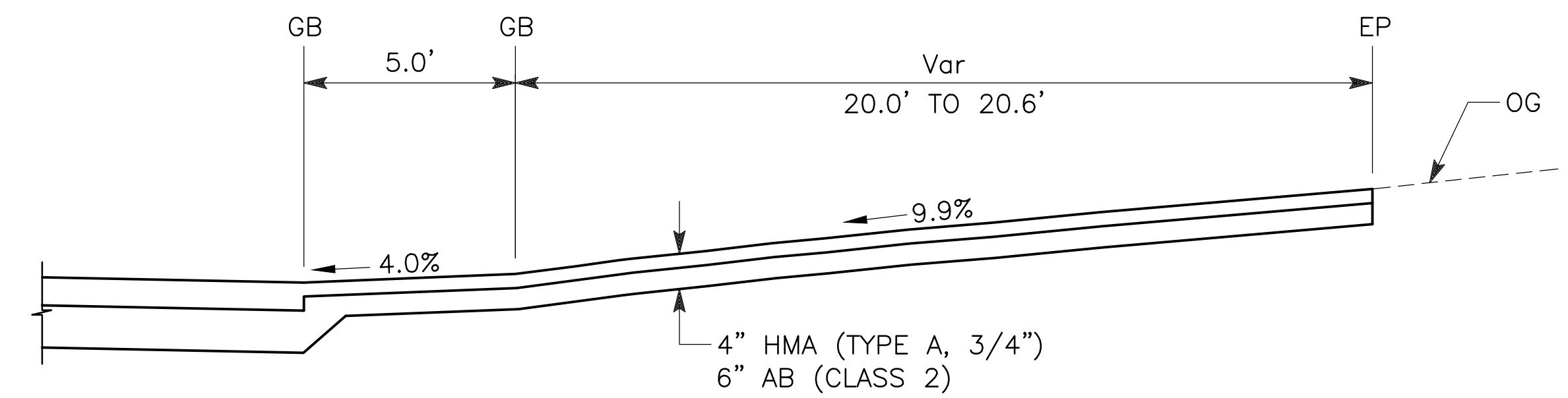
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**DRIVEWAY 2 DETAIL**

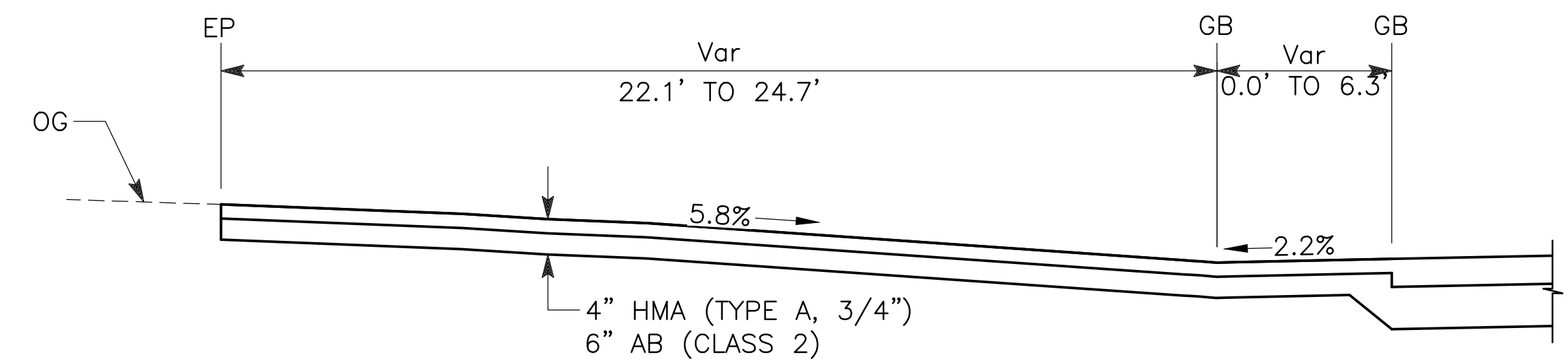
SCALE: 1"=10'

CURVE DATA				
No.	R	Δ	T	L
3	25.00'	85°36'31"	23.15'	37.35'
4	25.00'	89°41'59"	24.87'	39.14'
5	25.00'	96°55'13"	28.22'	42.29'
6	25.00'	83°04'47"	22.15'	36.25'



**SECTION A-A**

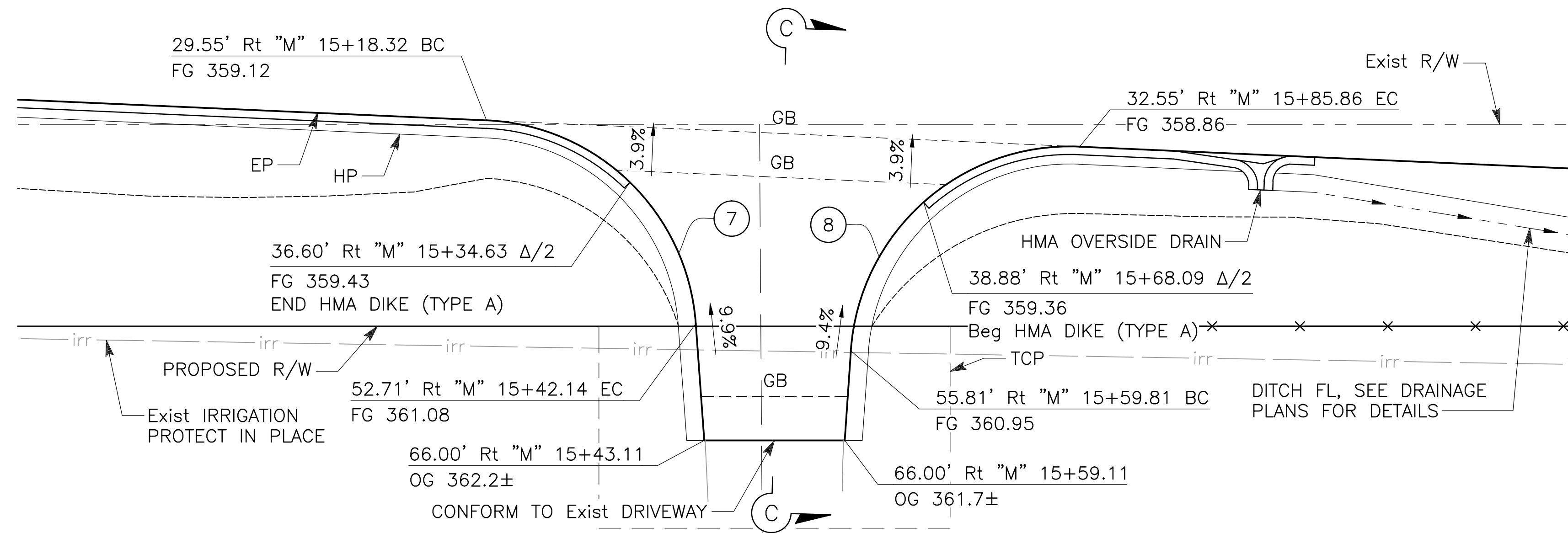
NO SCALE



**SECTION B-B**

NO SCALE

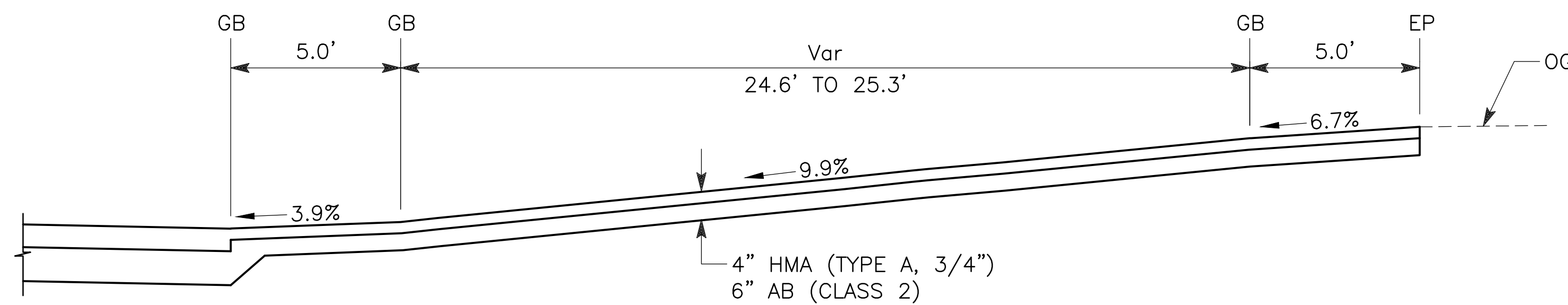
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DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CD-2
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 13
					TOTAL 52		



CURVE DATA				
No.	R	Δ	T	L
7	25.00'	83°17'36"	22.23'	36.34'
8	25.00'	88°37'24"	24.41'	38.67'

**DRIVEWAY 3 DETAIL**

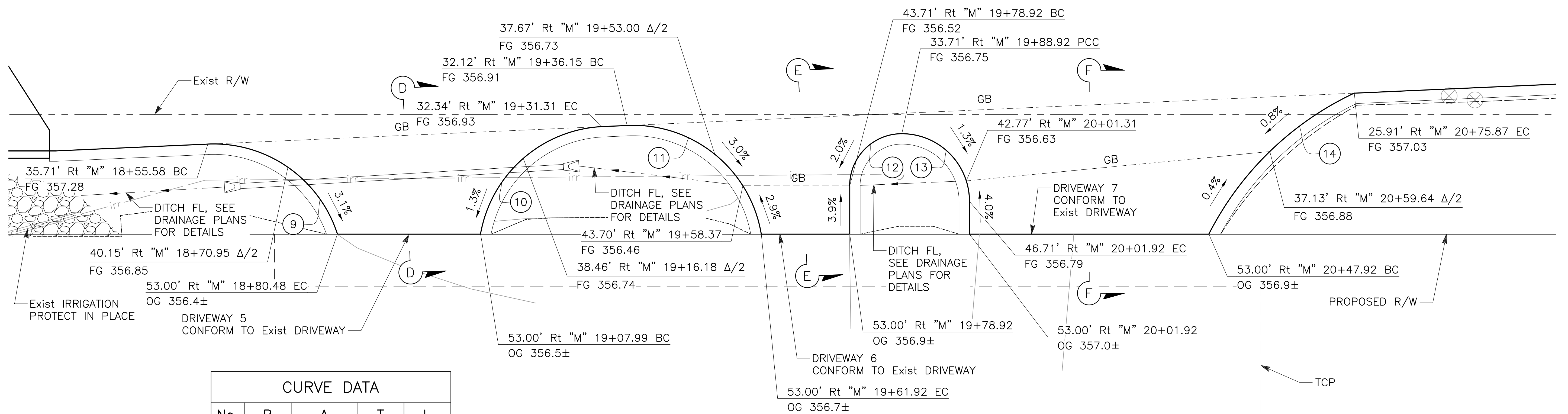
SCALE: 1"=10'



**SECTION C-C**

NO SCALE

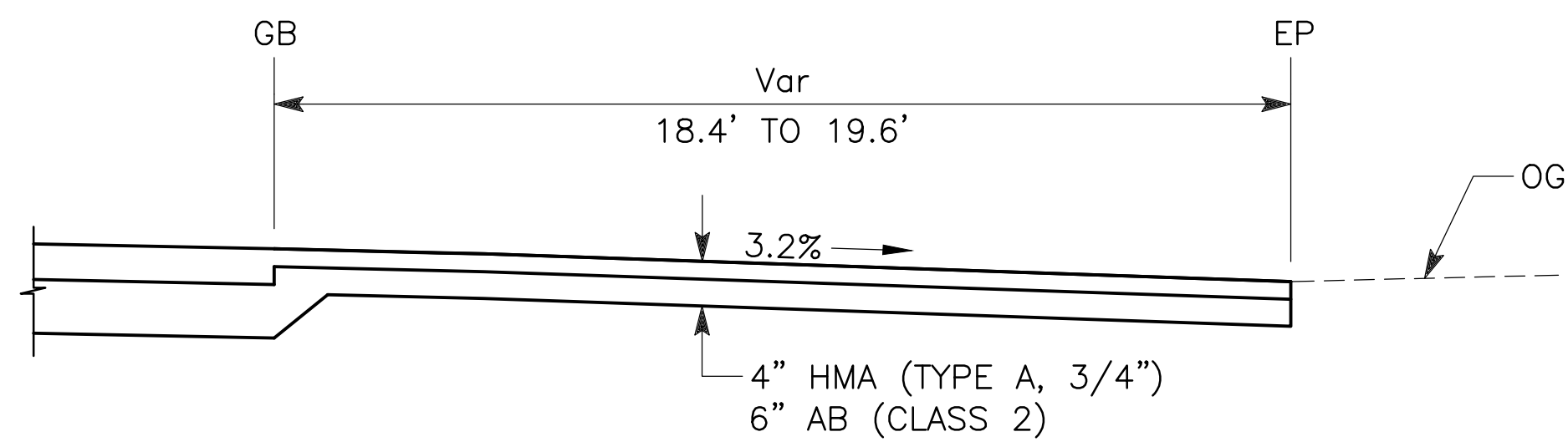
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE	<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT	<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CD-3
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 14
					TOTAL 52		



CURVE DATA				
No.	R	$\Delta$	T	L
9	25.00'	74°39'12"	19.06'	32.57'
10	25.00'	77°05'49"	19.92'	33.64'
11	25.00'	83°05'47"	22.16'	36.26'
12	10.00'	90°00'00"	10.00'	15.71'
13	13.00'	90°00'00"	13.00'	20.42'
14	60.00'	37°51'00"	20.57'	39.64'

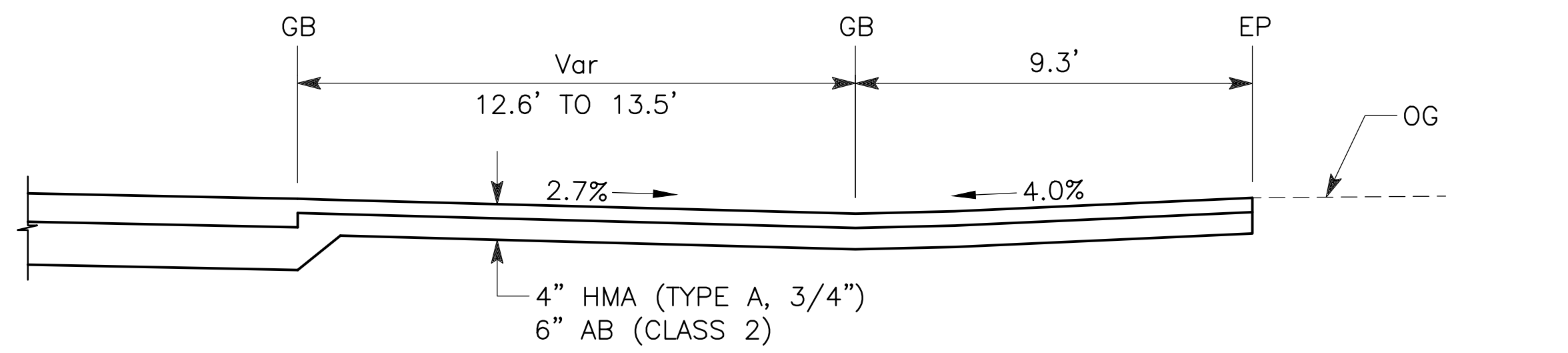
**DRIVEWAY 5, 6 & 7 DETAIL**

SCALE: 1"=10'



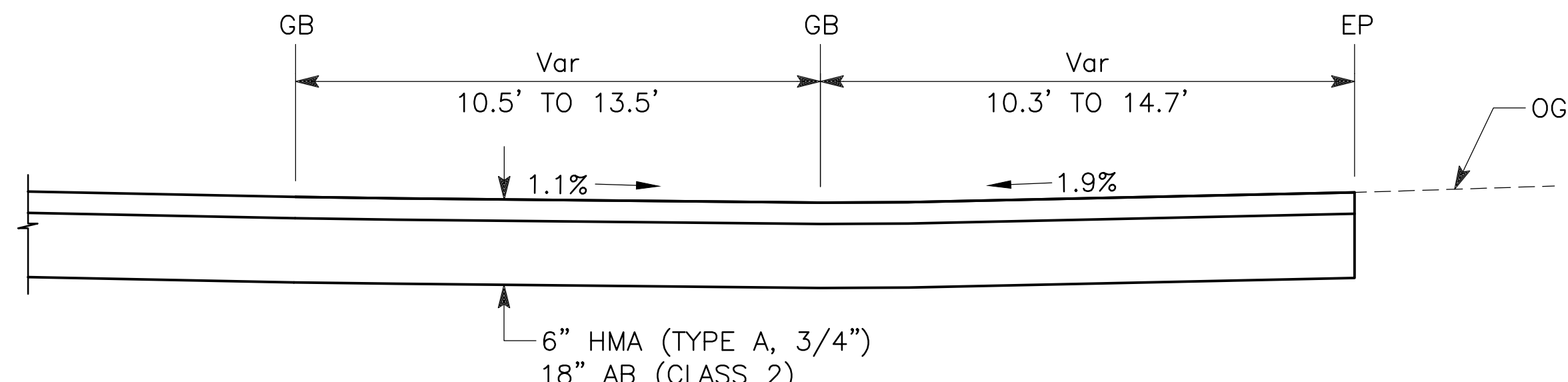
**SECTION D-D**

NO SCALE



**SECTION E-E**

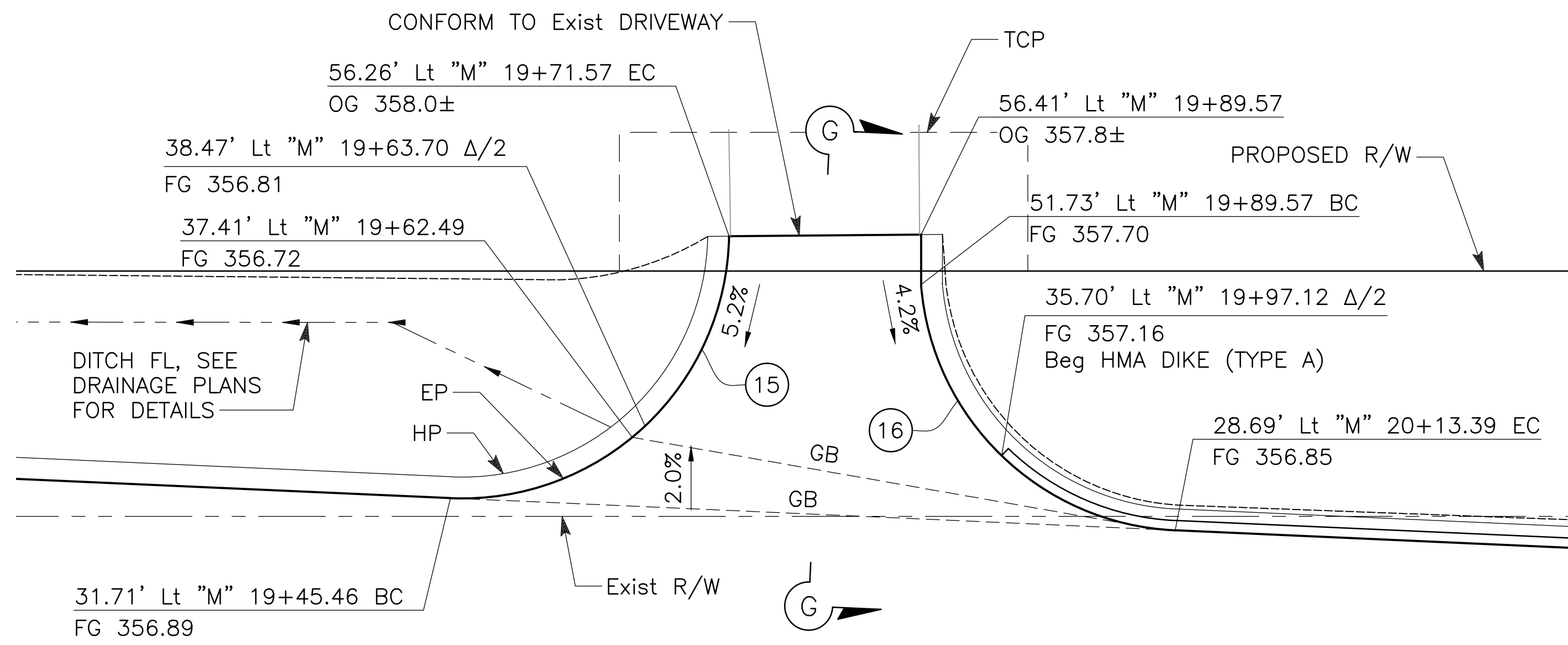
NO SCALE



**SECTION F-F**

NO SCALE

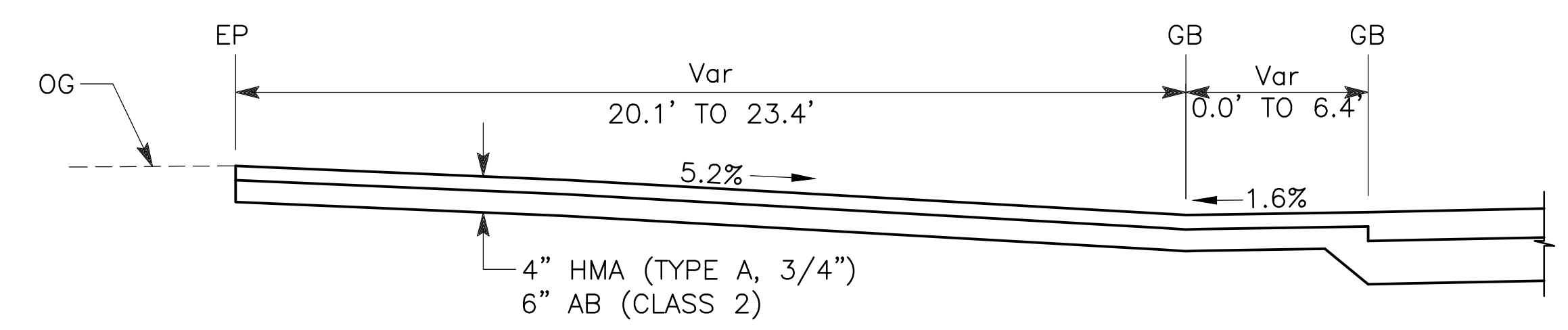
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT	
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE	
CHECKED: MAS	DATE: 1/15/16				ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					DRAWING NO. CD-4 SHEET NO. 15 TOTAL 52	



**DRIVEWAY 8 DETAIL**

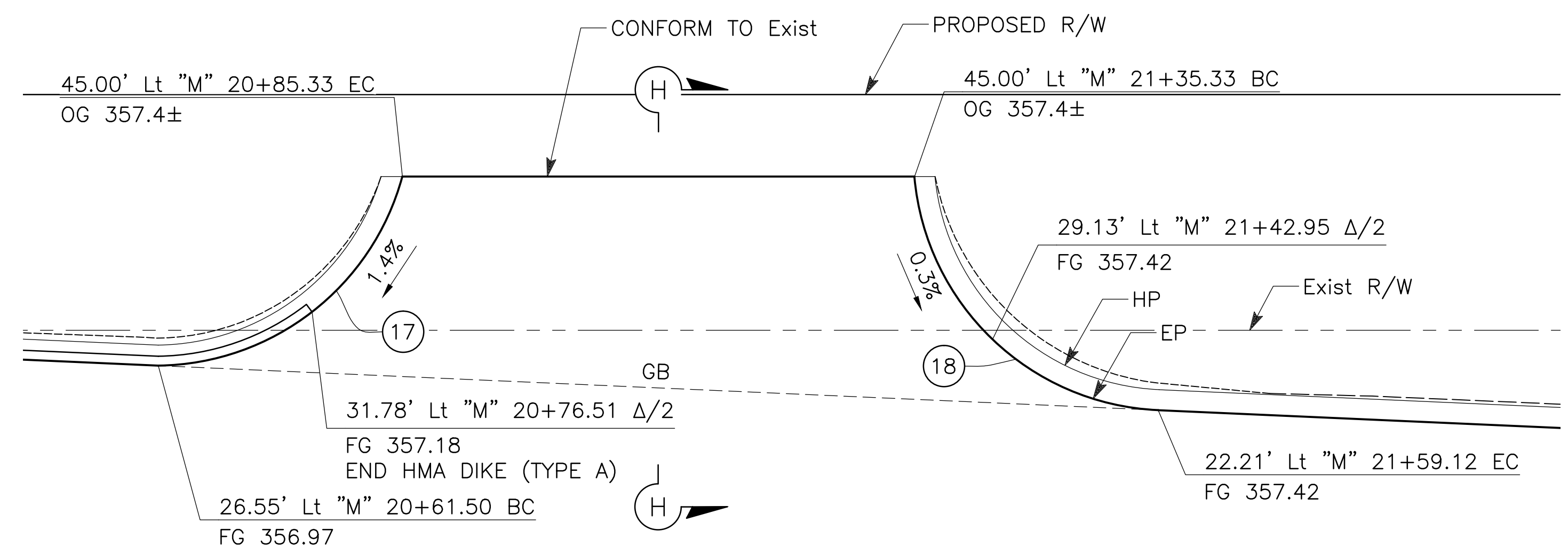
SCALE: 1"=10'

CURVE DATA				
No.	R	Δ	T	L
15	25.00'	91°33'46"	25.69'	39.95'
16	25.00'	83°01'04"	22.13'	36.22'
17	25.00'	74°07'26"	18.88'	32.34'
18	25.00'	82°24'43"	21.89'	35.96'



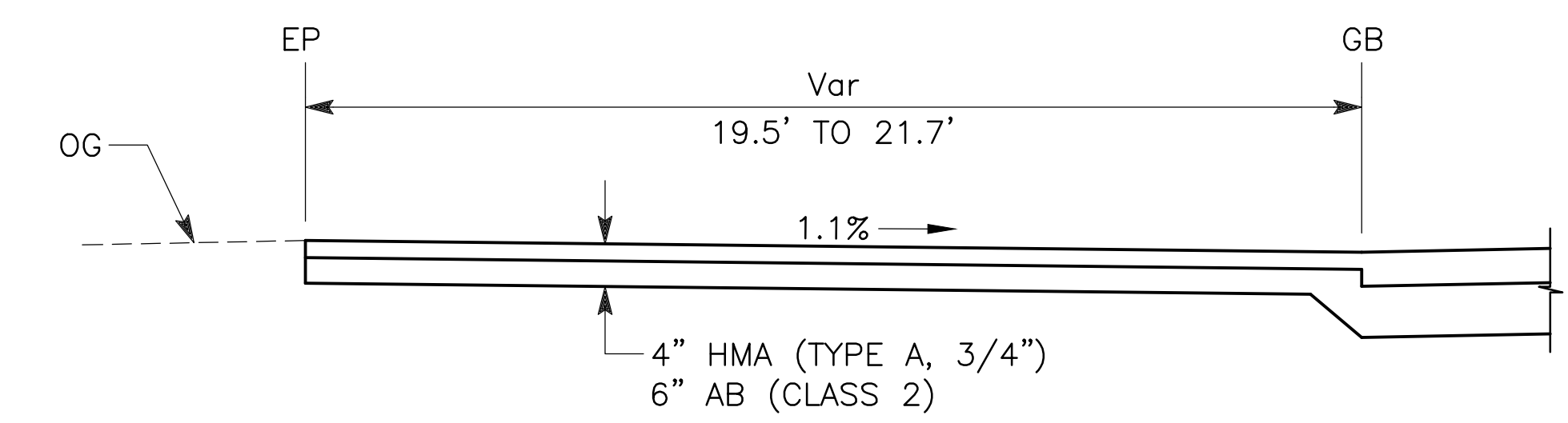
**SECTION G-G**

NO SCALE



**DRIVEWAY 9 DETAIL**

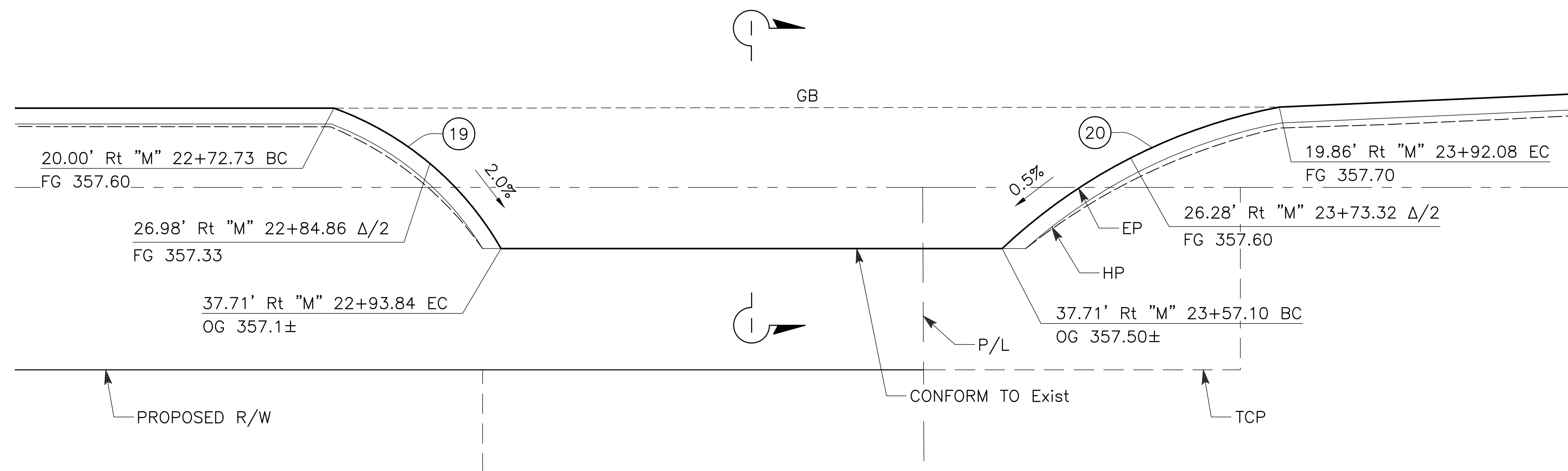
SCALE: 1"=10'



**SECTION H-H**

NO SCALE

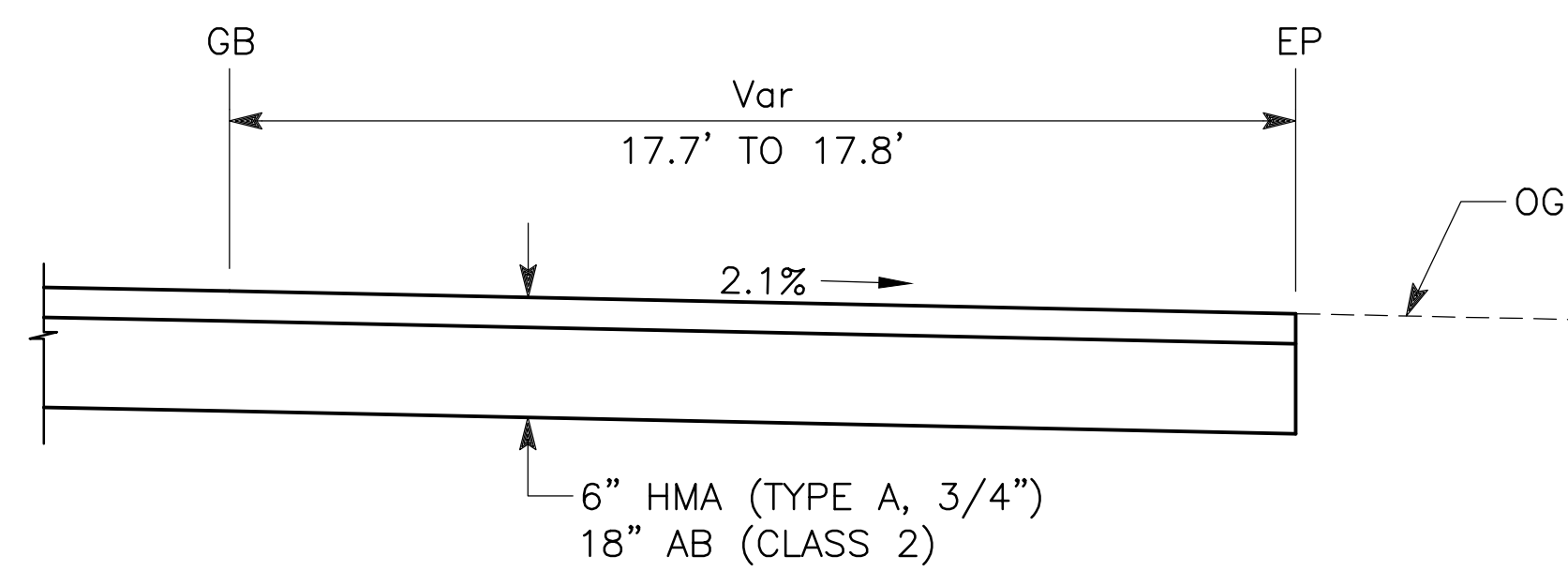
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CD-5
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 16



CURVE DATA				
No.	R	Δ	T	L
19	40.00'	40°17'10"	14.67'	28.12'
20	70.00'	32°34'45"	20.46'	39.80'

**DRIVEWAY 10 DETAIL**

SCALE: 1"=10'



**SECTION I-I**

NO SCALE

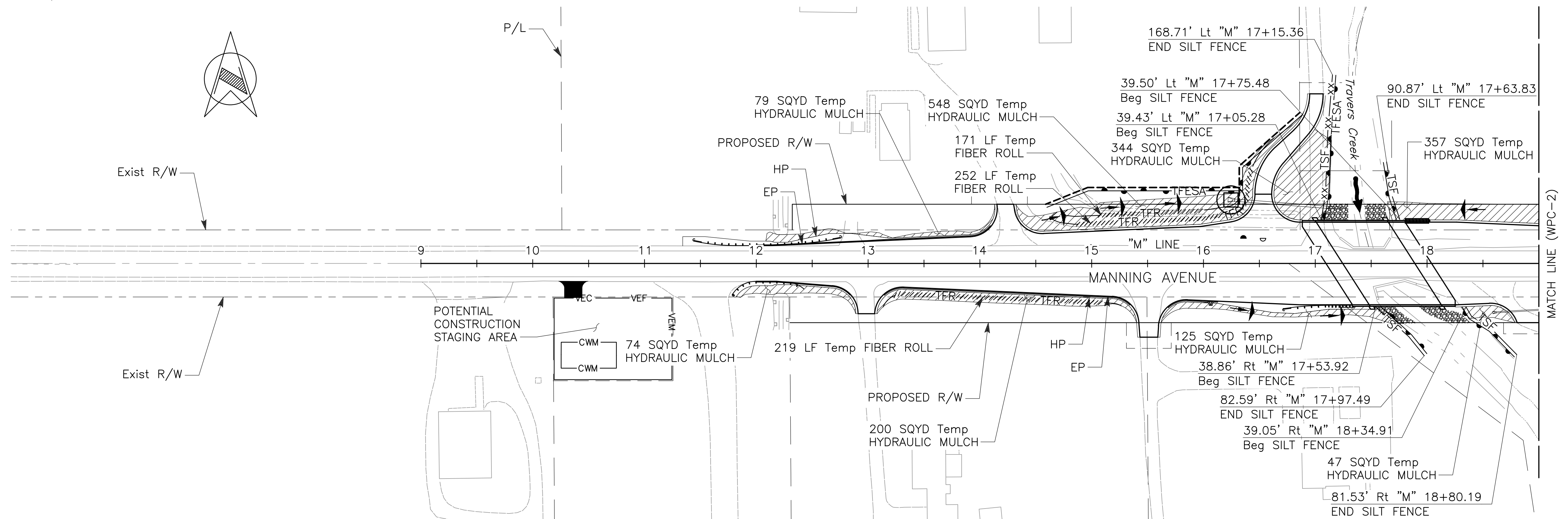
DESIGNED: AJB	DATE: 1/15/16	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: AMS	DATE: 1/15/16	RESIDENT ENGINEER	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE		CONSTRUCTION DETAILS
CHECKED: MAS	DATE: 1/15/16				ROAD NO.		DRAWING NO. CD-6
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.					BRIDGE NO. 42C-0175, BRLS-5942 (198)		SHEET NO. 17
						TOTAL 52	

**LEGEND:**

	SC-1: TEMPORARY SILT FENCE
	TEMPORARY FENCE (TYPE ESA)
	SC-5: TEMPORARY FIBER ROLL
	WM-8: CONCRETE WASTE MANAGEMENT
	NS-8: VEHICLE AND EQUIPMENT CLEANING
	NS-9: VEHICLE AND EQUIPMENT FUELING
	NS-10: VEHICLE AND EQUIPMENT MAINTENANCE
	SC-4: TEMPORARY CHECK DAM
	SC-10: TEMPORARY DRAIN INLET PROTECTION
	SS-3: TEMPORARY HYDRAULIC MULCH
	TC-1: TEMPORARY STABILIZED CONSTRUCTION ENTRANCE/EXIT

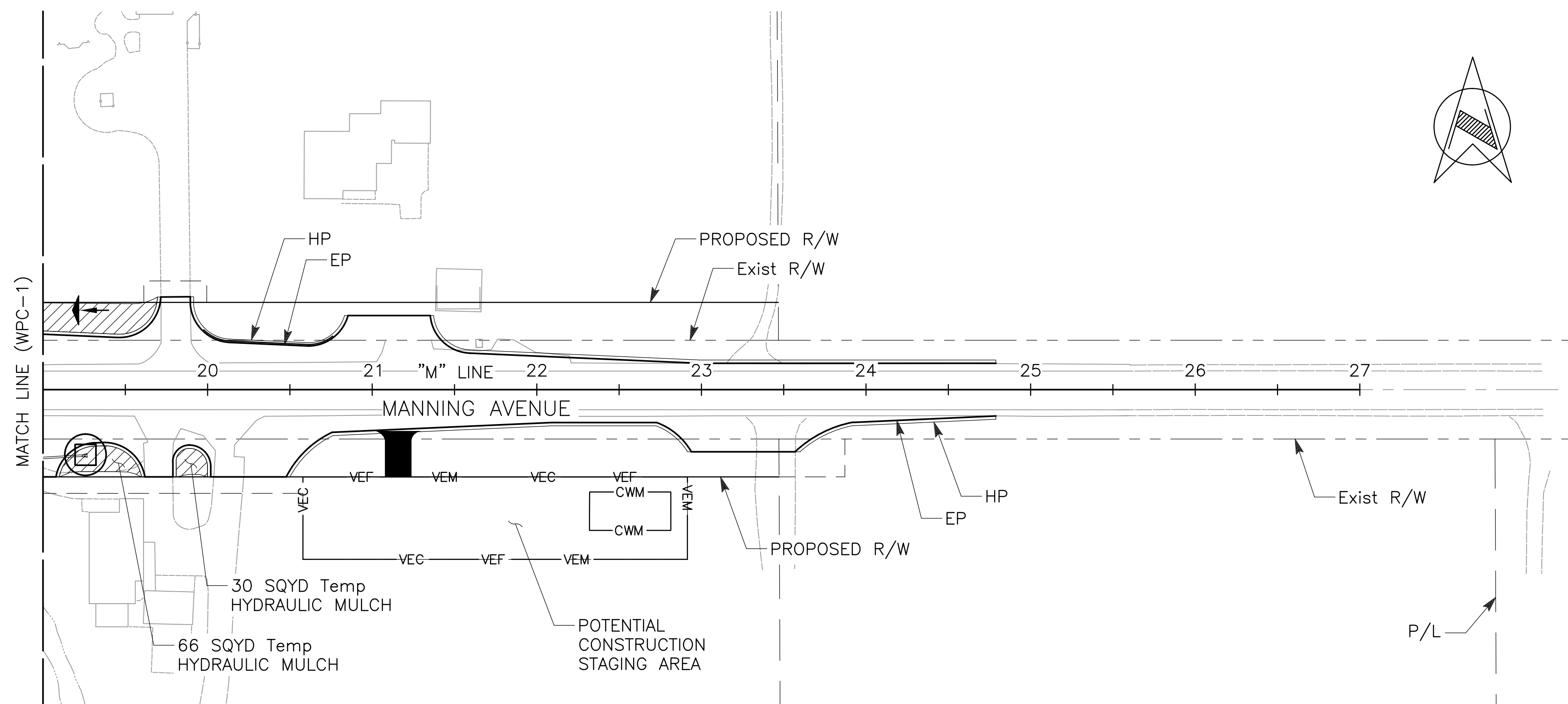
**WATER POLLUTION CONTROL NOTES:**

1. THE INFORMATION ON THESE PLANS IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATIONS THROUGHOUT THE SITE. THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. FIELD CONDITIONS MAY NECESSITATE MODIFICATIONS TO THESE DRAWINGS.
3. INSTALL PERMANENT EROSION CONTROL AS AREAS ARE DETERMINED TO BE SUBSTANTIALLY COMPLETE. SEE EROSION CONTROL PLANS FOR DETAILS.
4. SEE STAGE CONSTRUCTION PLANS FOR LOCATION AND LIMITS OF CONSTRUCTION.
5. DEPLOY LINEAR SEDIMENT CONTROLS ON DISTURBED SLOPES. APPLY LINEAR SEDIMENT CONTROLS ALONG THE TOE OF THE SLOPE AND AT THE GRADE BREAKS OF THE SLOPE. ADDITIONALLY, USE LINEAR SEDIMENT CONTROLS AS A PERIMETER CONTROL TO CONTAIN SEDIMENT WITHIN THE PROJECT AREA.
6. CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE/EXIT. CONSTRUCT ADDITIONAL ENTRANCES/EXITS AS NEEDED. LIMIT CONSTRUCTION ACTIVITY TO AND FROM THE PROJECT TO THESE STABILIZED CONSTRUCTION ENTRANCES/EXITS.
7. DESIGNATE A STAGING AREA AT THE PROJECT SITE THAT IS APPROVED BY THE PROJECT MANAGER. IMPLEMENT BMPS SELECTED FOR THE CONSTRUCTION SITE IN THE STAGING AREA. TAKE SPECIAL ATTENTION TO THE FOLLOWING BMPS AT THE STAGING AREA: TC-1, WE-1, NS-8, NS-9, NS-10, WM-1, WM-2, WM-3, WM-4, WM-5, WM-8, AND WM-9.
8. LOCATE ANY STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORM WATER AND DRAINAGE COURSES. INSTALL BERMS AT ALL STOCKPILES. ADDITIONALLY, COVER STOCKPILES AT ALL TIMES (TO PROTECT THEM FROM THE WIND AND RAIN) WHEN THEY ARE NOT ACTIVELY BEING USED. SPRAY STOCKPILES THAT ARE DESTABILIZED DURING CONSTRUCTION ACTIVITIES WITH WATER AS NEEDED FOR DUST CONTROL.
9. CONSTRUCT AN ABOVE GRADE OR MOBILE CONCRETE WASHOUT OR PLACE AT THE STAGING AREA IF CONCRETE TRUCKS OR CONCRETE EQUIPMENT WILL BE WASHED ON-SITE. LOCATE THE WASHOUT A MINIMUM 50 FEET AWAY FROM CONCENTRATED FLOWS OF STORM WATER AND DRAINAGE COURSES. UTILIZE ADDITIONAL WASHOUTS AS NEEDED.
10. USE A LICENSED SERVICE TO DELIVER AND MAINTAIN PORTABLE RESTROOMS TO THE PROJECT AREA IF NEEDED. LOCATE THE RESTROOMS AWAY FROM DRAINAGE FACILITIES ON LEVEL HARD-PACKED OR PAVED SURFACES.



APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 50' 100' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TEMPORARY WATER POLLUTION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. WPC-1 SHEET NO. 18 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.										



APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

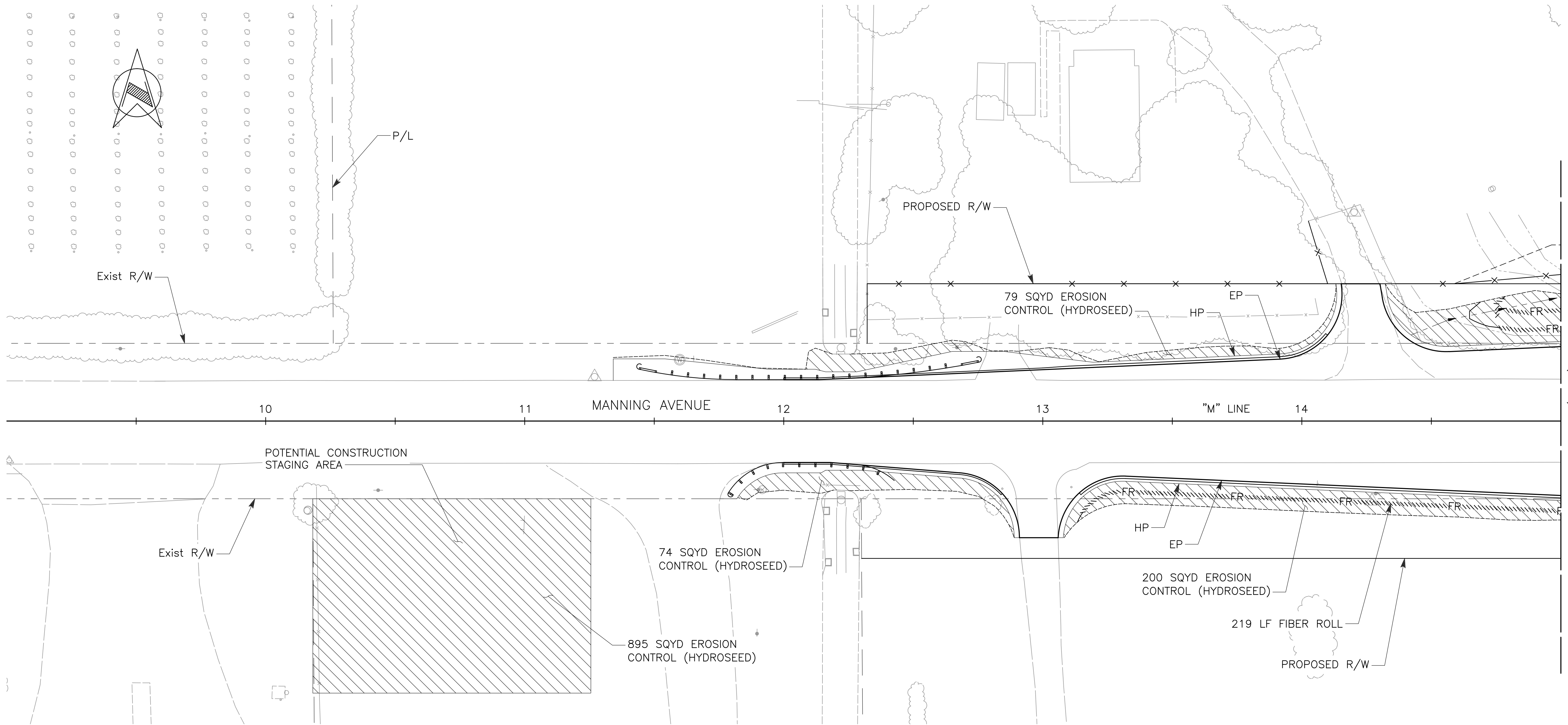
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 50' 100' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		TEMPORARY WATER POLLUTION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. WPC-2 SHEET NO. 19 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										



**LEGEND:**

- FR----- SC-5: FIBER ROLL
- ▨ SS-4: EROSION CONTROL (HYDROSEED)

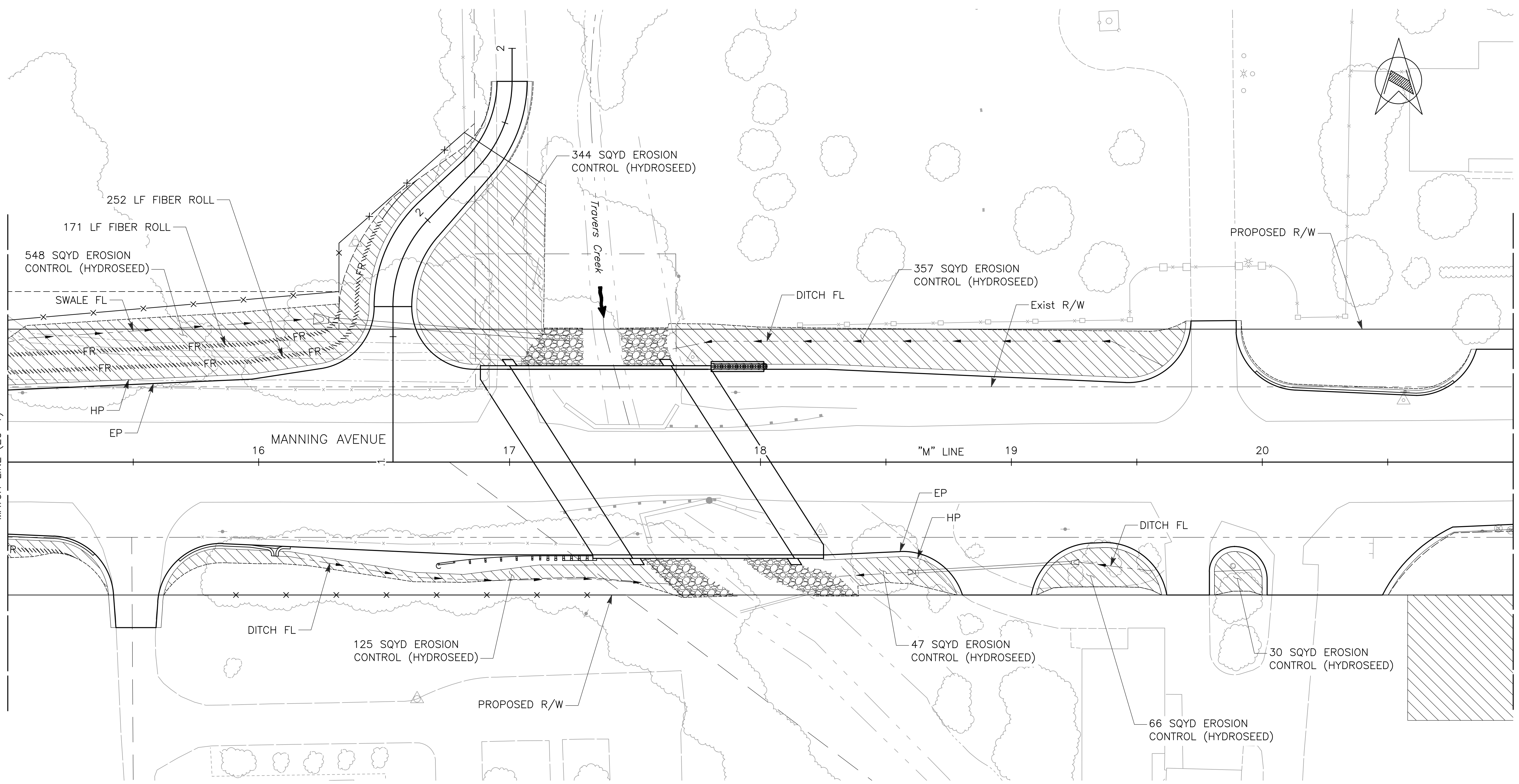
EROSION CONTROL QUANTITIES		
SHEET No.	HYDROSEED SQYD	FIBER ROLL LF
EC-1	1248	219
EC-2	1517	423
EC-3	1298	—
TOTAL	4063	642



APPROVED FOR EROSION CONTROL WORK ONLY

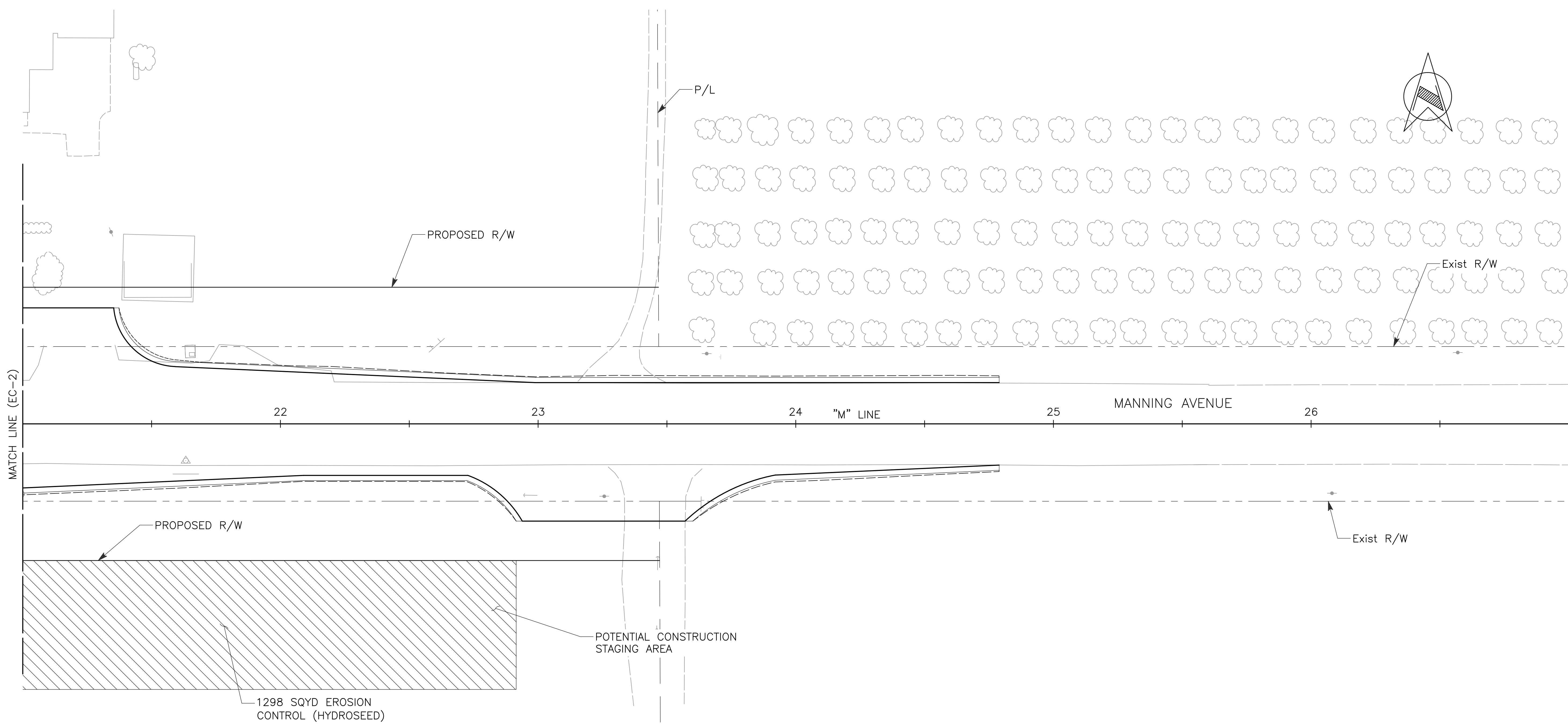
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 20' 40' HZ		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		SCALE: 0 PLAN 20' 40' HZ		ROAD NO. 42C-0175, BRLS-5942 (198)		EROSION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. EC-1 SHEET NO. 20 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR EROSION CONTROL WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		EROSION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. EC-2 SHEET NO. 21 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										



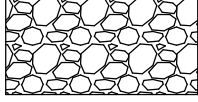
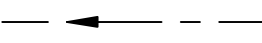
APPROVED FOR EROSION CONTROL WORK ONLY

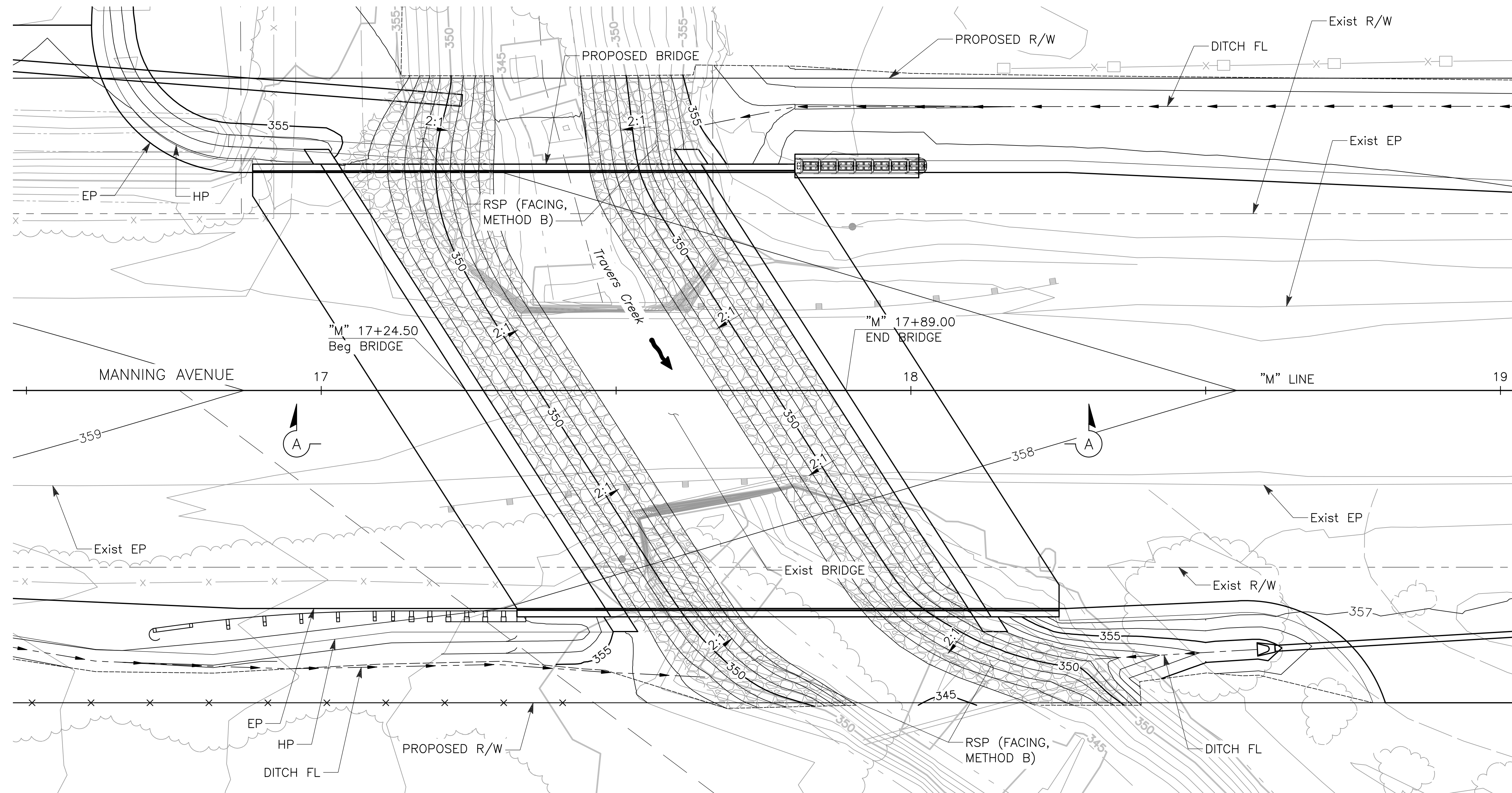
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		EROSION CONTROL PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. EC-3 SHEET NO. 22 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. CONTOUR GRADING REFLECTS TOP OF FINISHED GRADE.
3. SEE CG-2 FOR CONTOUR GRADING SECTION A-A.
4. SEE DRAINAGE PLAN FOR FLOWLINE AND CULVERT INFORMATION.

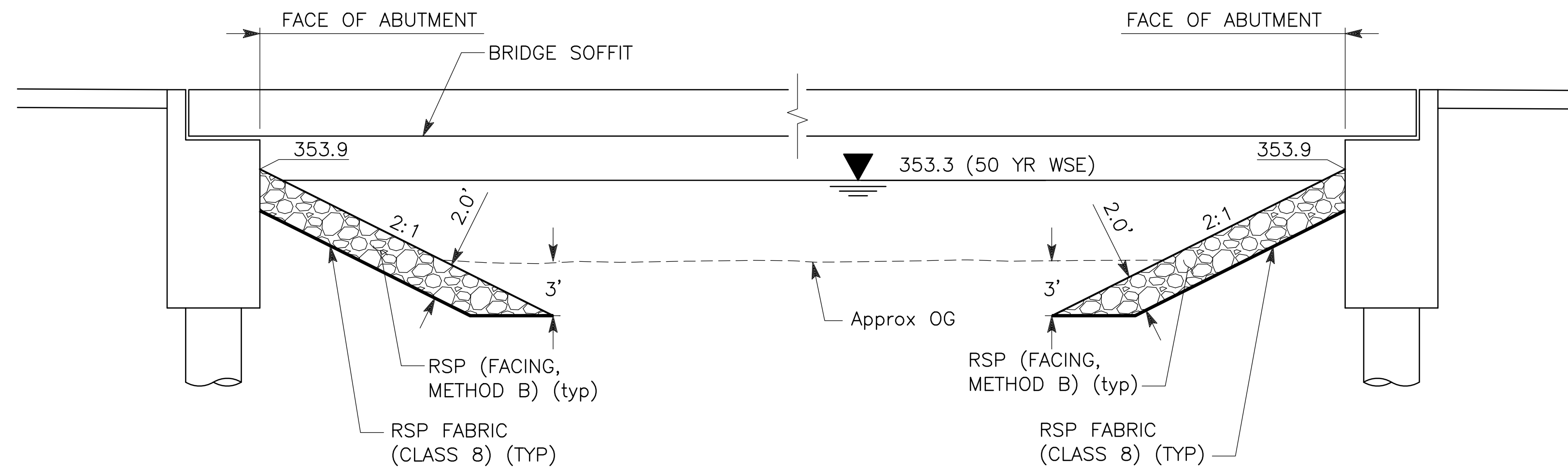
**LEGEND:**

-  ROCK SLOPE PROTECTION
-  DITCH FLOW LINE



APPROVED FOR CONTOUR GRADING WORK ONLY

	DATE	<b>RECORD DRAWING</b>	<b>SCALE</b>		<b>PROJECT</b>		
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	0 PLAN 10' 20' HZ 	 <b>dh drake haglan</b> AND ASSOCIATES 619 13th Street, Suite G Modesto, CA 95354	TRAVERS CREEK BRIDGE ON MANNING AVENUE	 DEPARTMENT OF PUBLIC WORKS AND PLANNING  CONTOUR GRADING	
DRAWN: AMS	1/15/16	DATE			ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)
CHECKED: MAS	1/15/16				DRAWING NO. CG-1		SHEET NO. 23
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.							



**SECTION A-A**

NO SCALE

APPROVED FOR CONTOUR GRADING WORK ONLY

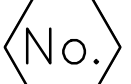

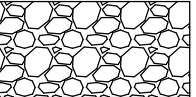
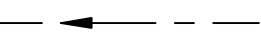
DESIGNED: AJB		DATE	RECORD DRAWING		SCALE	<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS		1/15/16	RESIDENT ENGINEER	DATE	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE			CONTOUR GRADING
CHECKED: MAS		1/15/16					ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. CG-2
										SHEET NO. 24
<p>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</p>										
								TOTAL	52	

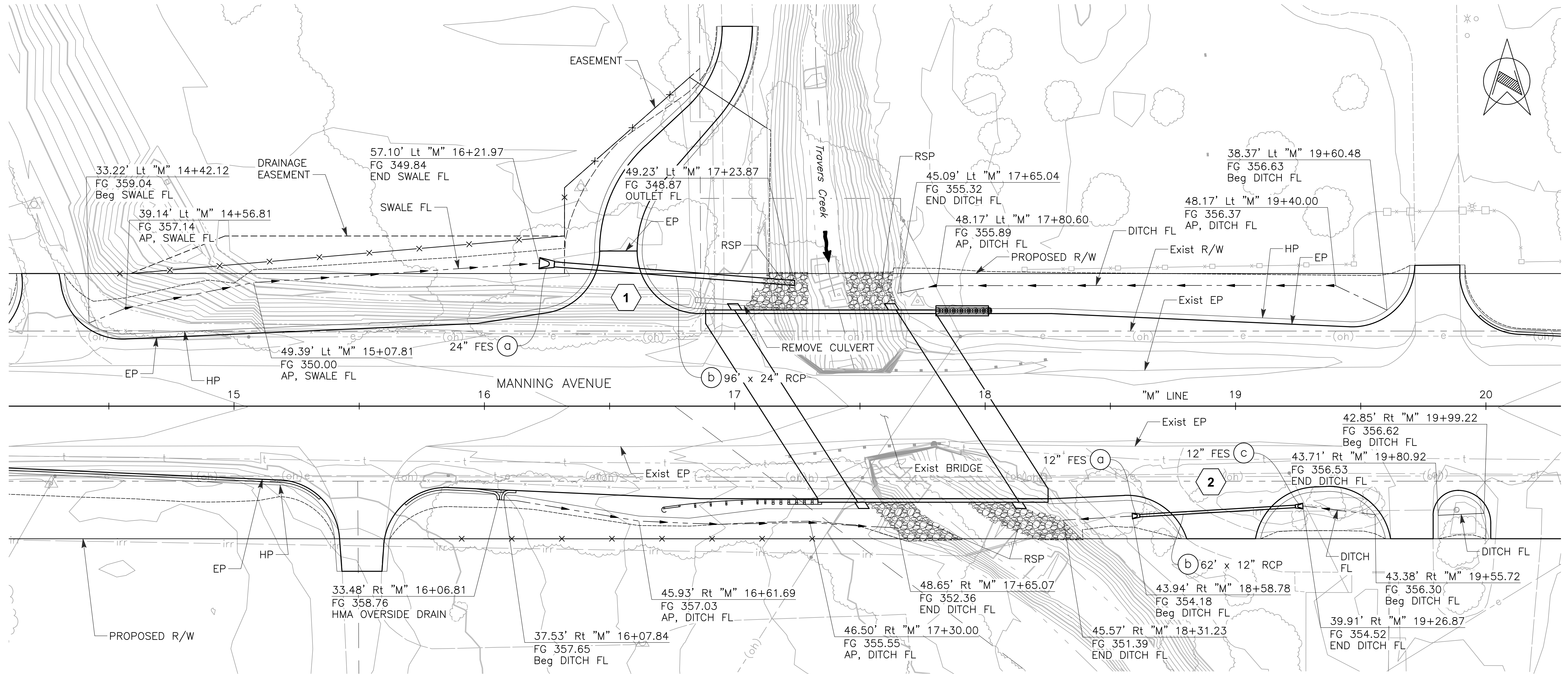
**NOTES:**

- FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
- SEE LAYOUT SHEETS FOR ALIGNMENT GEOMETRY INFORMATION.
- UTILITIES SHOWN FOR REFERENCE ONLY, SEE UTILITY PLANS FOR UTILITY RELOCATIONS.
- SEE DRAINAGE PROFILES FOR ADDITIONAL DRAINAGE INFORMATION.
- SEE CALTRANS STANDARD PLAN D87D FOR HMA OVERSIDE DRAIN DETAILS.

- SEE CONTOUR GRADING PLAN FOR RSP DETAILS AND INFORMATION.

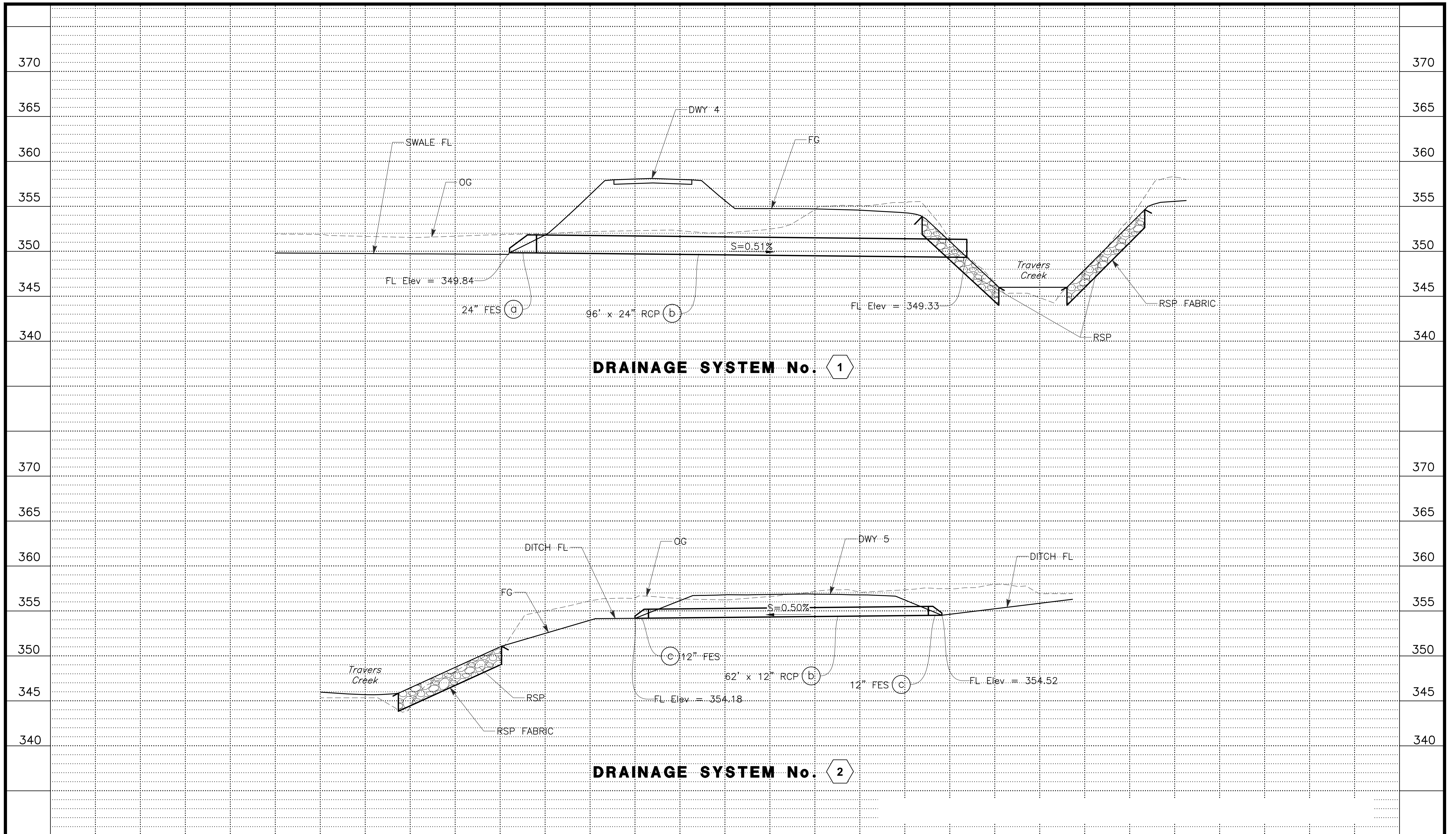
**LEGEND:**

-  DRAINAGE SYSTEM NUMBER
-  DRAINAGE ITEM
-  ROCK SLOPE PROTECTION
-  DITCH FLOW LINE



APPROVED FOR DRAINAGE WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		DRAINAGE PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. D-1 SHEET NO. 25 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.										



RECORD DRAWING	
DESIGNED: AJB	DATE: 1/15/16
DRAWN: AMS	DATE: 1/15/16
CHECKED: MAS	DATE: 1/15/16

SCALE	
0 PLAN 10' 20' HZ	
0 5' 10' VT	
PROFILE	

**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

PROJECT	
TRAVERS CREEK BRIDGE ON MANNING AVENUE	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAINAGE PROFILES		
DRAWING NO. DP-1	SHEET NO. 26	TOTAL 52

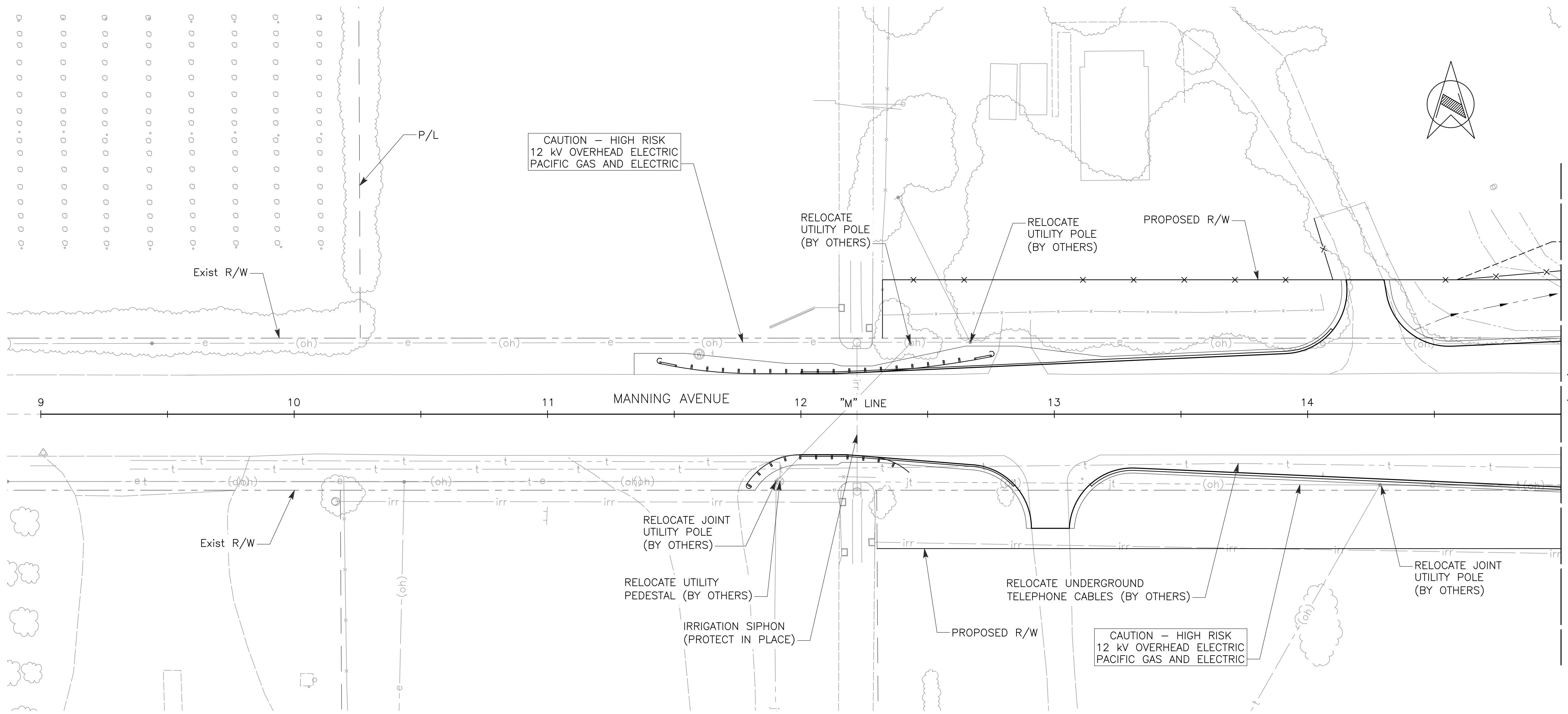
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**NOTES:**

1. FOR ACCURATE RIGHT-OF-WAY DATA, CONTACT COUNTY OFFICE.
2. UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND MUST NOTIFY THE ENGINEER OF ANY CONFLICTS.
3. FOR STORM DRAIN LOCATIONS AND INFORMATION, SEE DRAINAGE PLAN.

**EXISTING UTILITY LEGEND:**

- jt --- (oh) --- Exist JOINT OVERHEAD (PG&E/VERIZON)
- e --- (oh) --- Exist ELECTRICAL OVERHEAD (PG&E)
- t --- (oh) --- Exist TELEPHONE OVERHEAD (VERIZON)
- t --- t --- Exist UNDERGROUND TELEPHONE (VERIZON)
- irr --- Exist IRRIGATION (ALTA IRRIGATION DISTRICT)

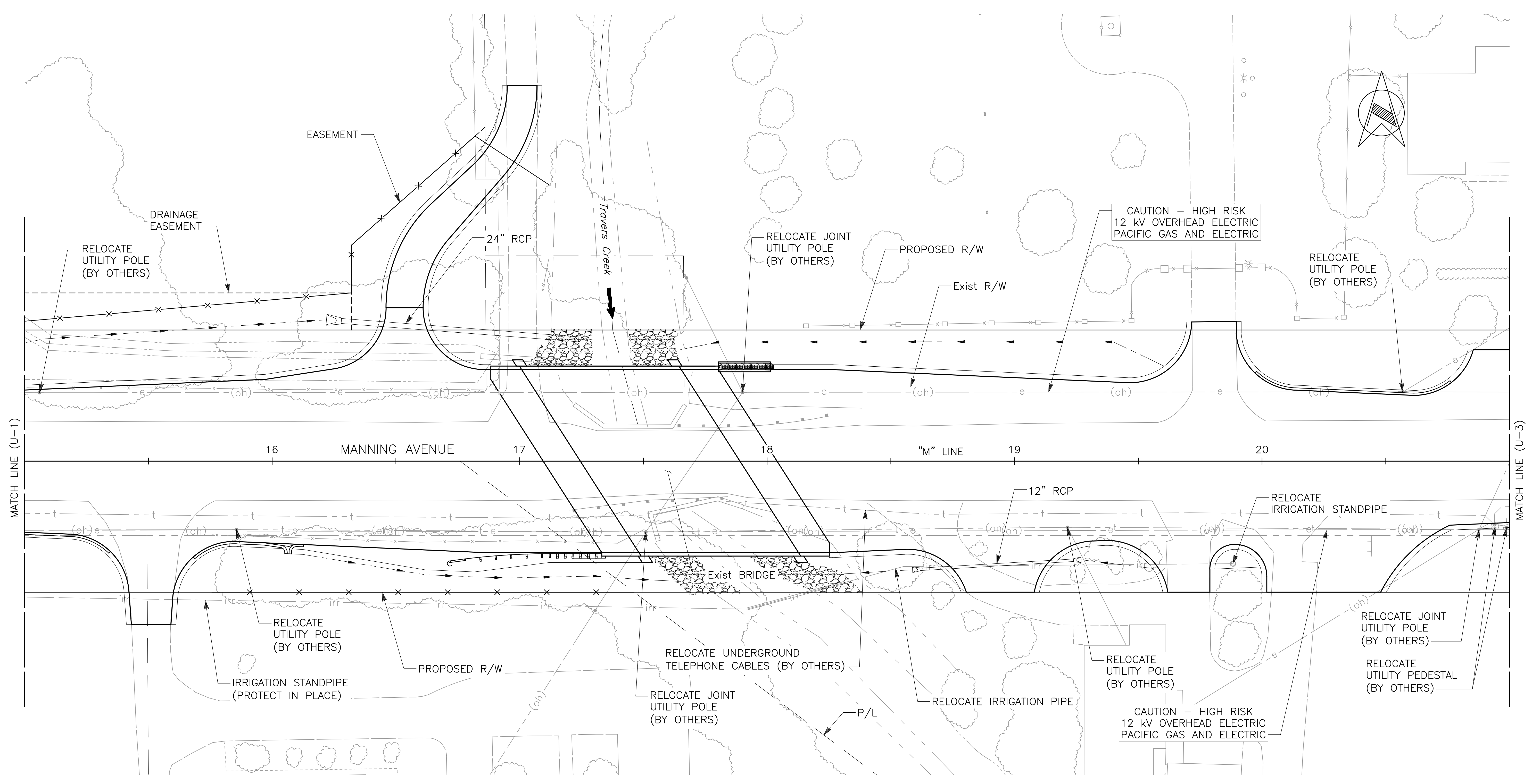


APPROVED FOR UTILITY WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		<p><b>dh drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			UTILITY PLAN
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			
								DRAWING NO. U-1 SHEET NO. 27 TOTAL 52			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

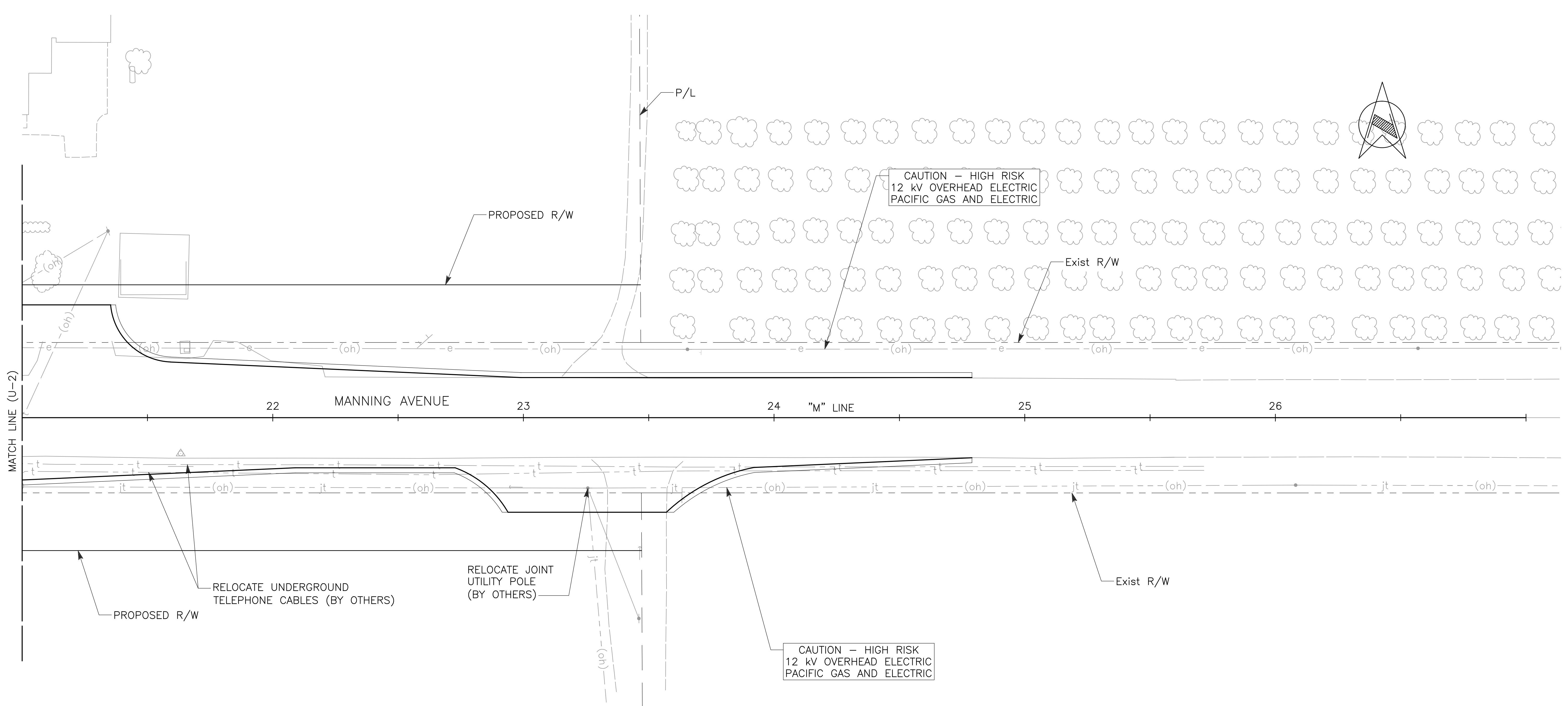




APPROVED FOR UTILITY WORK ONLY

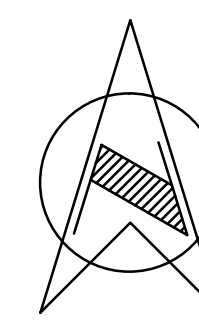
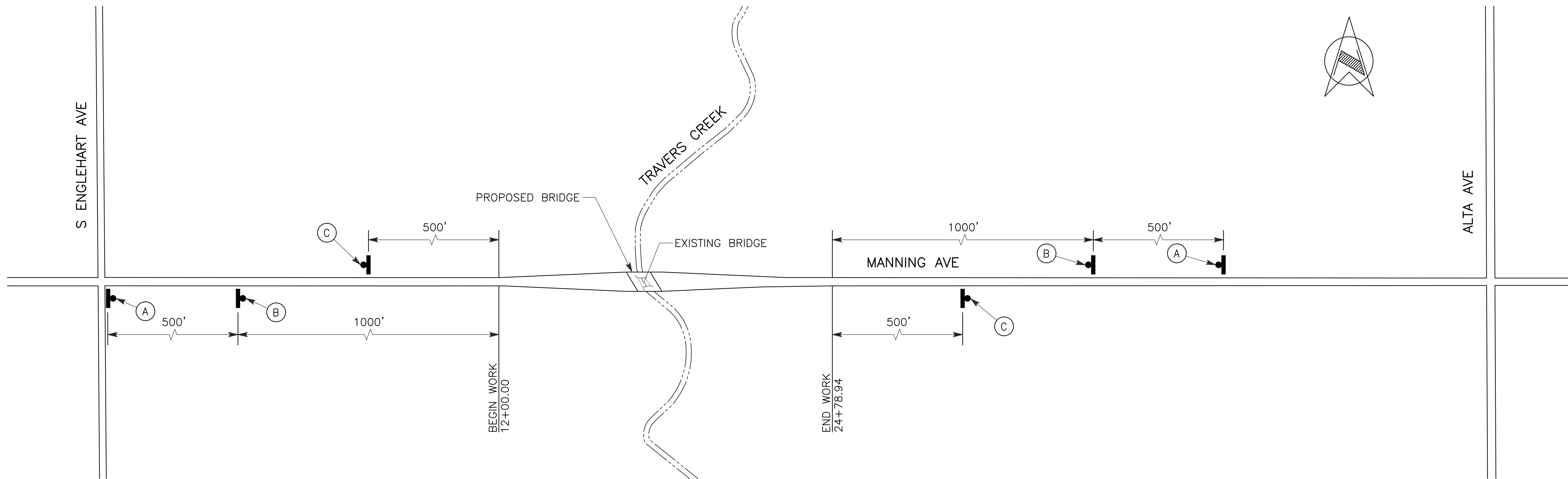
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		UTILITY PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. U-2 SHEET NO. 28 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR UTILITY WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		UTILITY PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. U-3 SHEET NO. 29 TOTAL 52	
<small>FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.</small>										



NOTES:

1. FOR ALL SIGN DETAILS REFER TO THE LATEST EDITION OF THE CALIFORNIA MUTCD.
2. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE NOTED WITH THE CALIFORNIA SIGN CODE DESIGNATION (CA).

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

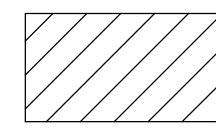
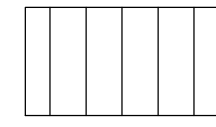
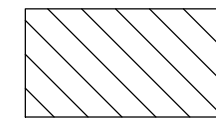
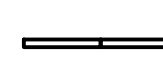

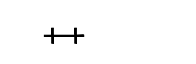



SIGN No.	SIGN CODE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS	SIGN MESSAGE
(A)	W20-1	36" x 36"	1 - 4" x 4"	2	ROAD WORK AHEAD
(B)	W3-5a	36" x 36"	1 - 4" x 4"	2	45 MPH SPEED ZONE AHEAD
(C)	G20-2	36" x 18"	1 - 4" x 4"	2	END ROAD WORK

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

	DATE	<b>RECORD DRAWING</b>	SCALE		PROJECT		<i>DEPARTMENT OF PUBLIC WORKS AND PLANNING</i>			
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	NO SCALE	 <b>dh drake haglan</b> <b>AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354	TRAVERS CREEK BRIDGE ON MANNING AVENUE		<b>CONSTRUCTION AREA SIGNS</b>			
DRAWN: AMS	1/15/16				ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. CS-1	SHEET NO. 30	TOTAL 52
CHECKED: MAS	1/15/16									

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**LEGEND:**

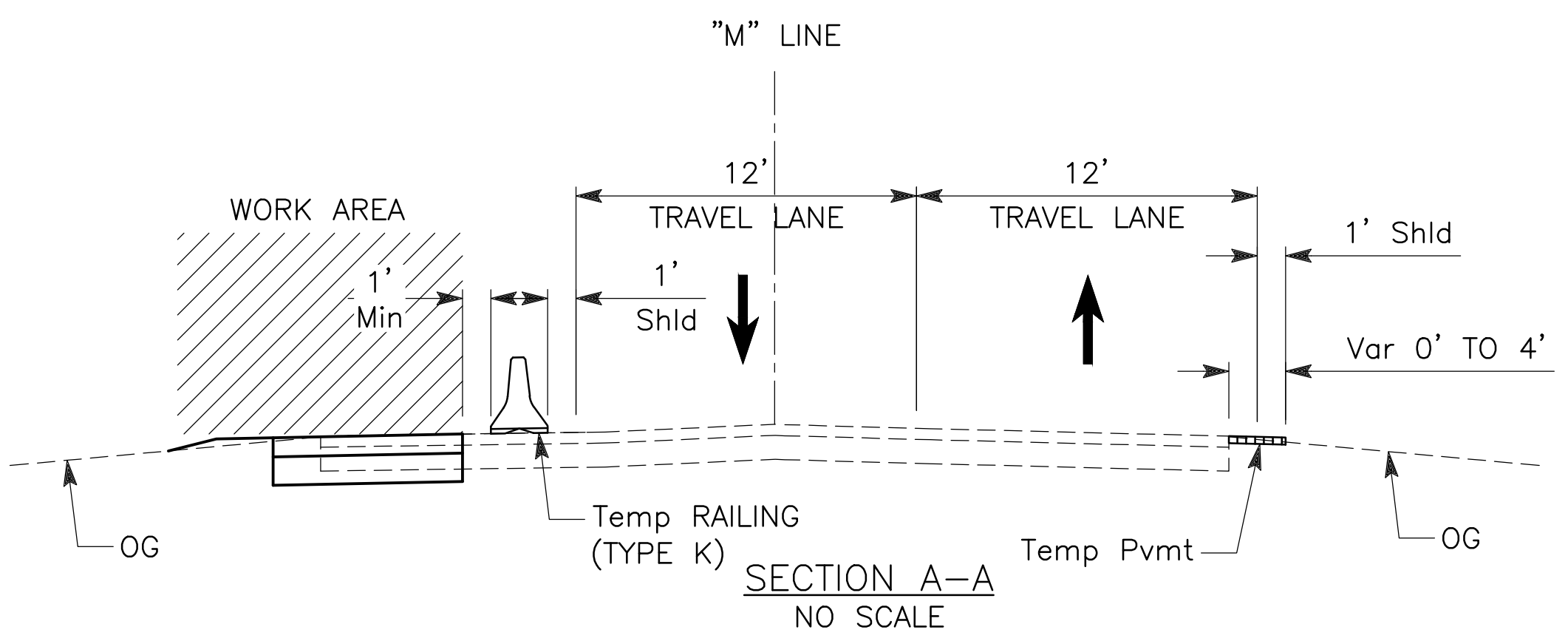
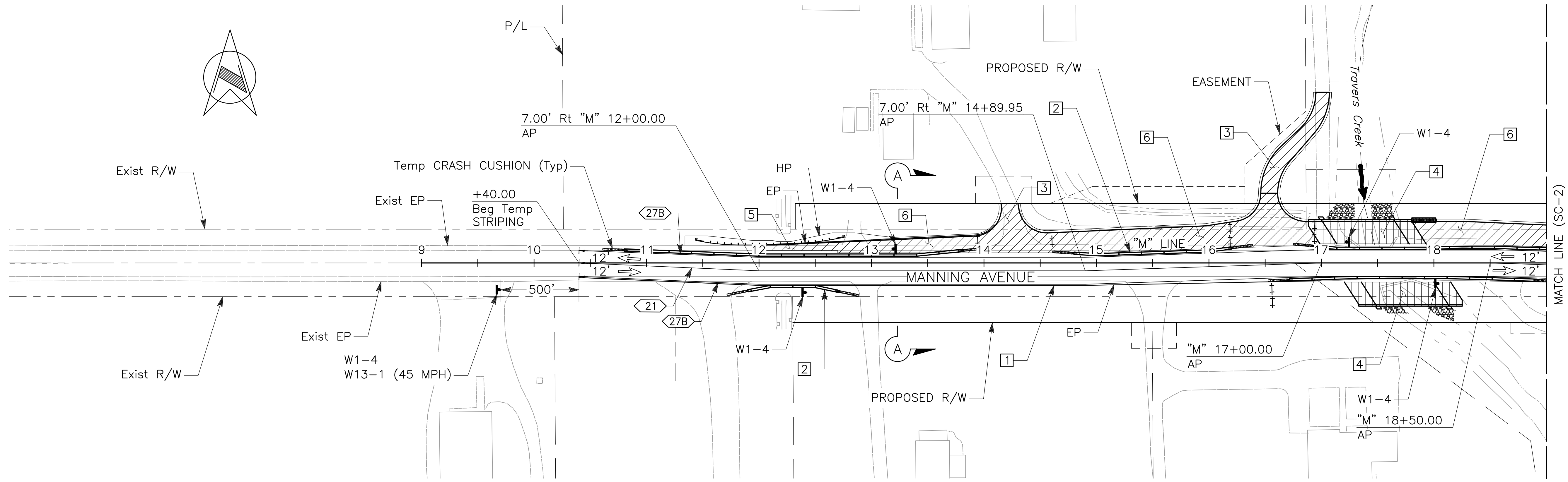
-  - ROADWAY WORK
-  - STRUCTURE WORK
-  - BRIDGE REMOVAL
-  - TEMPORARY RAILING (TYPE K)
-  - TEMPORARY CRASH CUSHION (ABSORB 350 OR EQUIVALENT)
-  - TYPE III BARRICADE
-  - DIRECTION OF TRAFFIC
-  - CHANNELIZER (SURFACE MOUNTED), SPACING 25' Max
-  - CONSTRUCTION AREA SIGN

**STAGE 1 TRAFFIC HANDLING NOTES:**

1. RELOCATE UTILITIES AS NEEDED (SEE UTILITY PLANS)
2. SHIFT TRAFFIC SOUTH ALONG MANNING AVENUE AFTER PLACING TEMPORARY PAVEMENT AND STRIPING.
3. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION. CONSOLIDATE DRIVEWAYS AS NEEDED.

**STAGE 1 CONSTRUCTION NOTES:**

- 1 PLACE TEMPORARY PAVEMENT ALONG SHOULDER OF EB MANNING AVENUE.
- 2 PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
- 3 CONSTRUCT DRIVEWAY.
- 4 CONSTRUCT EB AND WB BRIDGE PORTIONS.
- 5 CONSTRUCT SHOULDER WIDENING.
- 6 CONSTRUCT ROADWAY.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

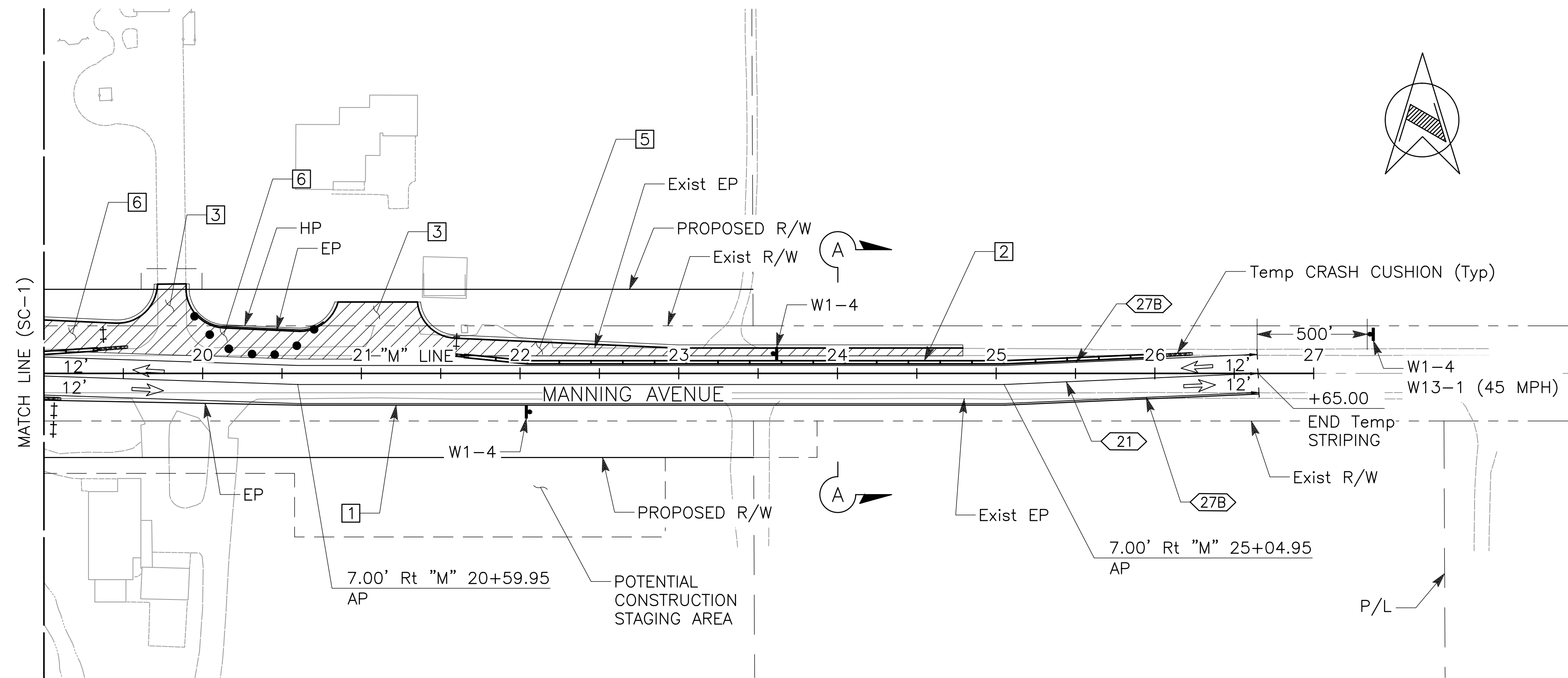
	DATE	<b>RECORD DRAWING</b>	<b>SCALE</b>	<b>PROJECT</b>		<i>DEPARTMENT OF PUBLIC WORKS AND PLANNING</i>		
DESIGNED: AJB	1/15/16	RESIDENT ENGINEER	0 PLAN 50' 100' HZ 	<b>TRAVERS CREEK BRIDGE ON MANNING AVENUE</b>		<b>STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 1</b>		
DRAWN: AMS	1/15/16					ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. SC-1
CHECKED: MAS	1/15/16					SHEET NO. 31	TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**dh drake haglan  
AND ASSOCIATES**  
619 13th Street, Suite G  
Modesto, CA 95354

NOTE:

- SEE SC-1 FOR SECTION A-A.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 50' 100' HZ		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER				ROAD NO. 42C-0175, BRLS-5942 (198)		STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 1	
CHECKED: MAS		DATE: 1/15/16					DRAWING NO. SC-2		SHEET NO. 32 TOTAL 52	

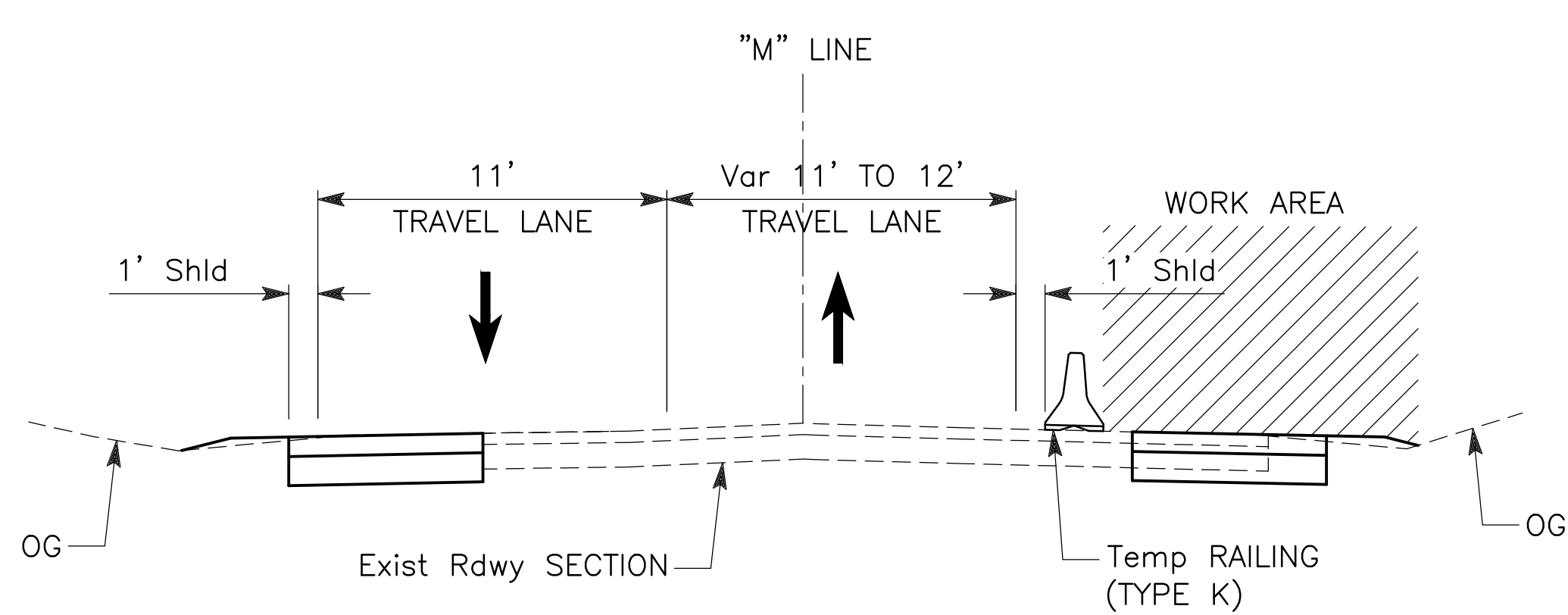
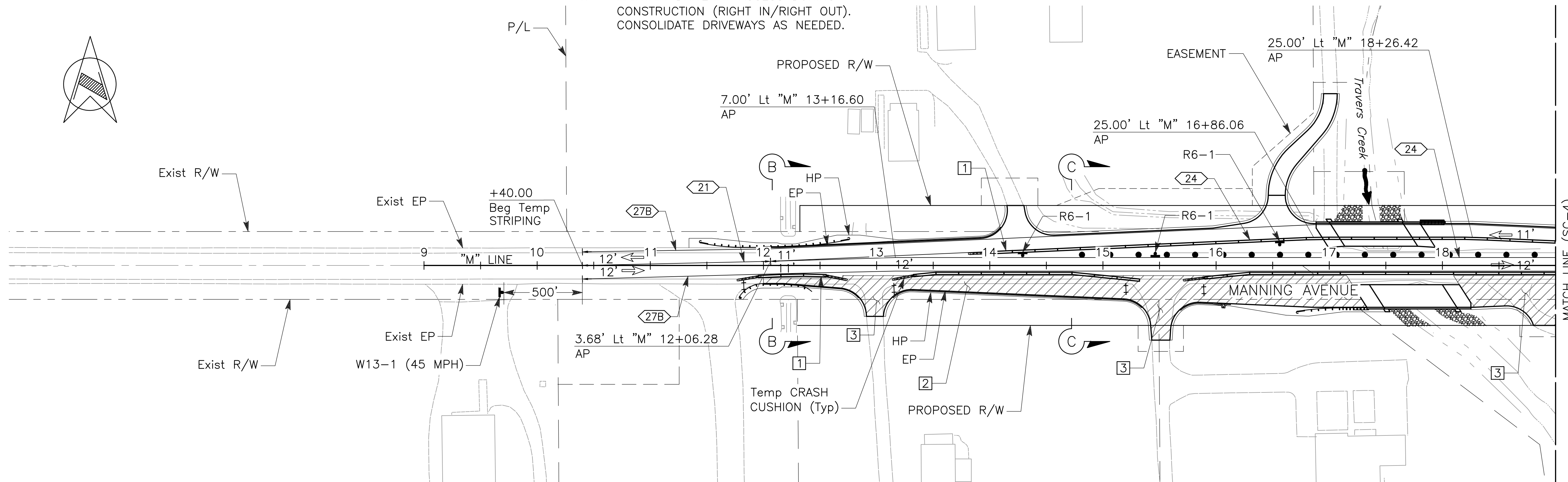
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**STAGE 2 TRAFFIC HANDLING NOTES:**

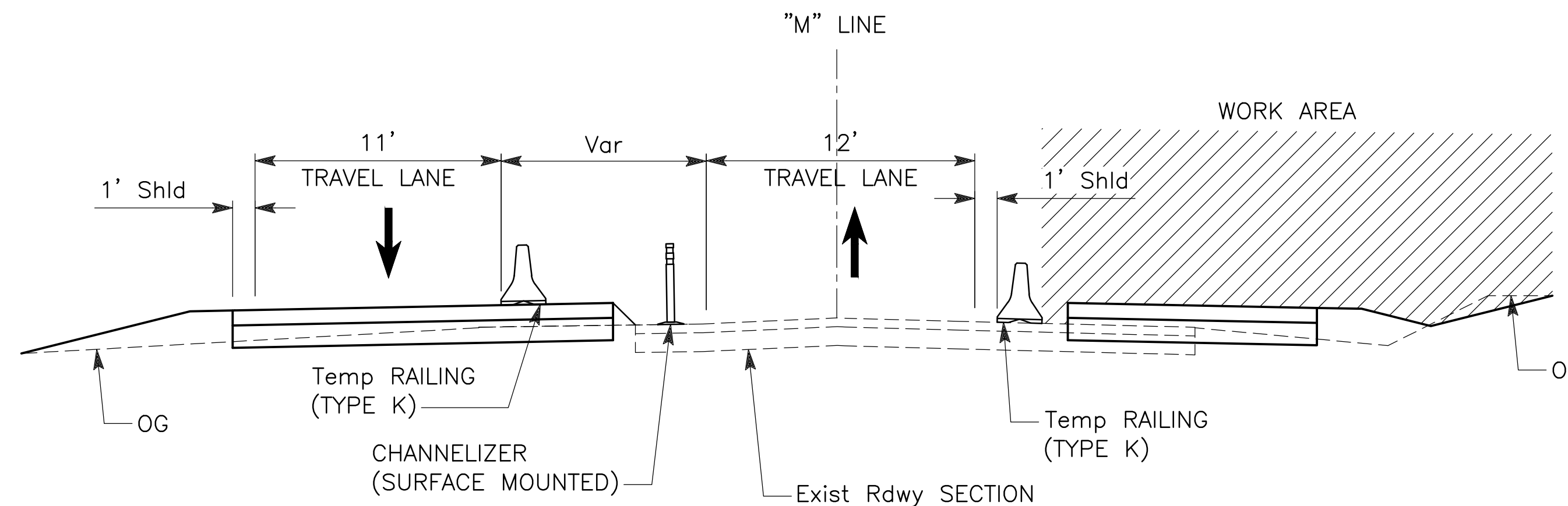
1. RELOCATE UTILITIES AS NEEDED (SEE UTILITY PLANS)
2. SHIFT WB TRAFFIC NORTH ONTO NEWLY CONSTRUCTED BRIDGE AND ROADWAY.
3. SHIFT EB TRAFFIC NORTH ALONG EXISTING MANNING AVENUE.
4. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION (RIGHT IN/RIGHT OUT). CONSOLIDATE DRIVEWAYS AS NEEDED.

**STAGE 2 CONSTRUCTION NOTES:**

- 1 REMOVE CONFLICTING STRIPING FROM PREVIOUS STAGE. PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
- 2 REMOVE TEMPORARY PAVEMENT.
- 3 CONSTRUCT ROADWAY, SHOULDER WIDENING, AND DRIVEWAYS ALONG EB MANNING AVENUE.



SECTION B-B  
NO SCALE



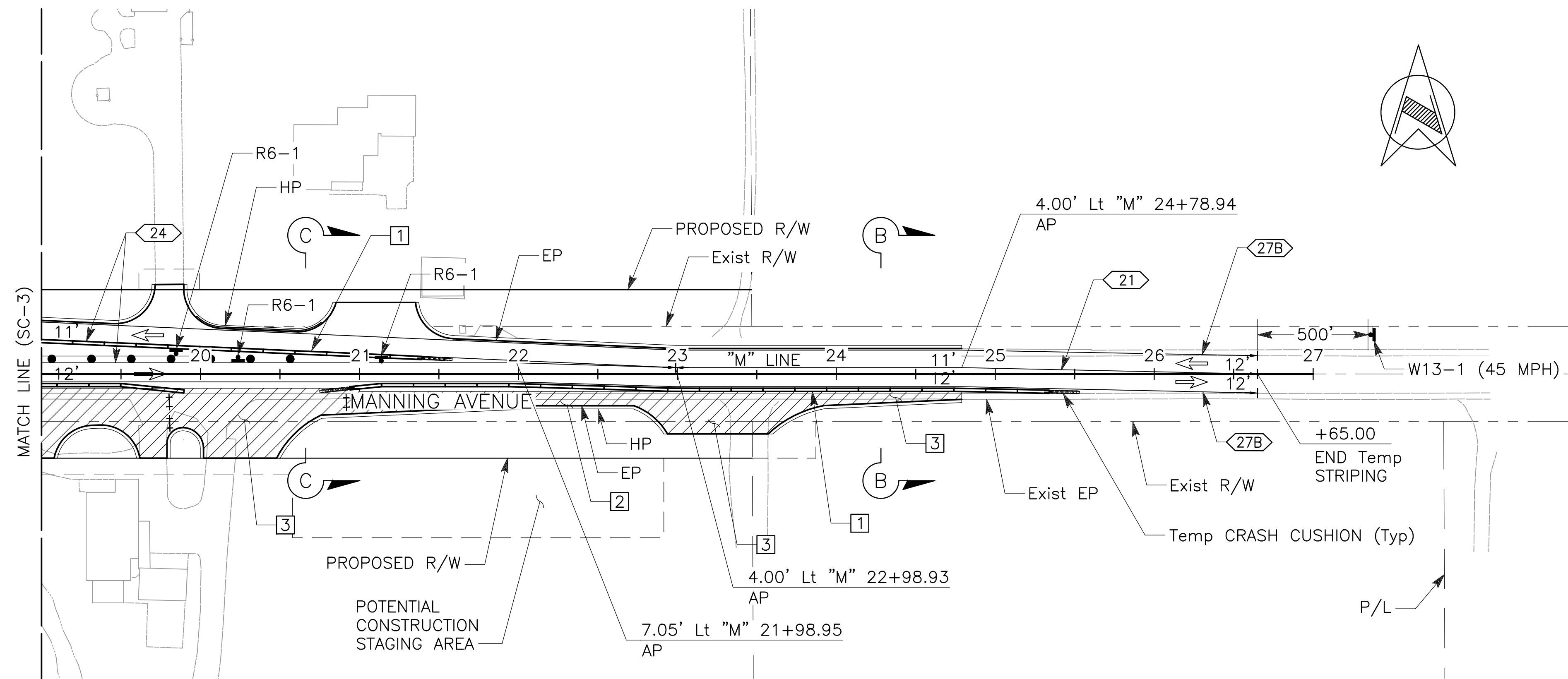
SECTION C-C  
NO SCALE

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE				PROJECT			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE	0 PLAN 50' 100' HZ				TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 2	
CHECKED: MAS		DATE: 1/15/16							ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. SC-3 SHEET NO. 33 TOTAL 52	
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.													

NOTE:

1. SEE SC-3 FOR SECTIONS B-B AND C-C.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		<p><b>drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING</p>	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 50' 100' HZ			TRAVERS CREEK BRIDGE ON MANNING AVENUE			STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 2
CHECKED: MAS		DATE: 1/15/16						ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			
								DRAWING NO. SC-4 SHEET NO. 34 TOTAL 52			
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.											

STAGE 3 TRAFFIC HANDLING NOTES:

1. SHIFT EB TRAFFIC SOUTH ONTO NEWLY CONSTRUCTED BRIDGE AND ROADWAY.
2. MAINTAIN DRIVEWAY ACCESS DURING CONSTRUCTION (RIGHT IN/RIGHT OUT).

STAGE 3 CONSTRUCTION NOTES:

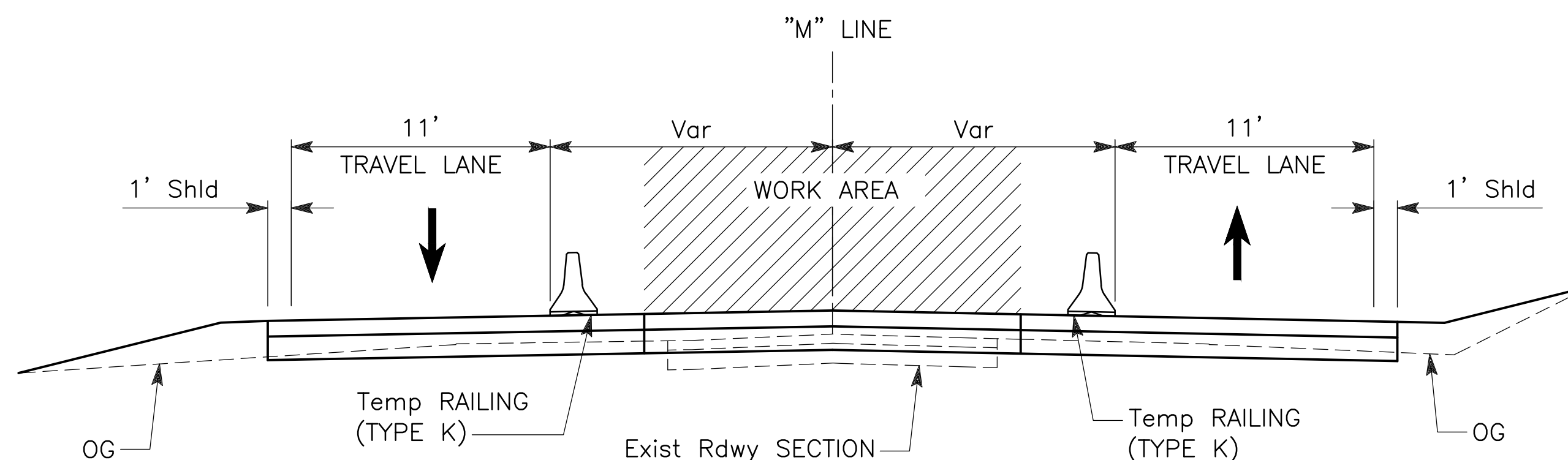
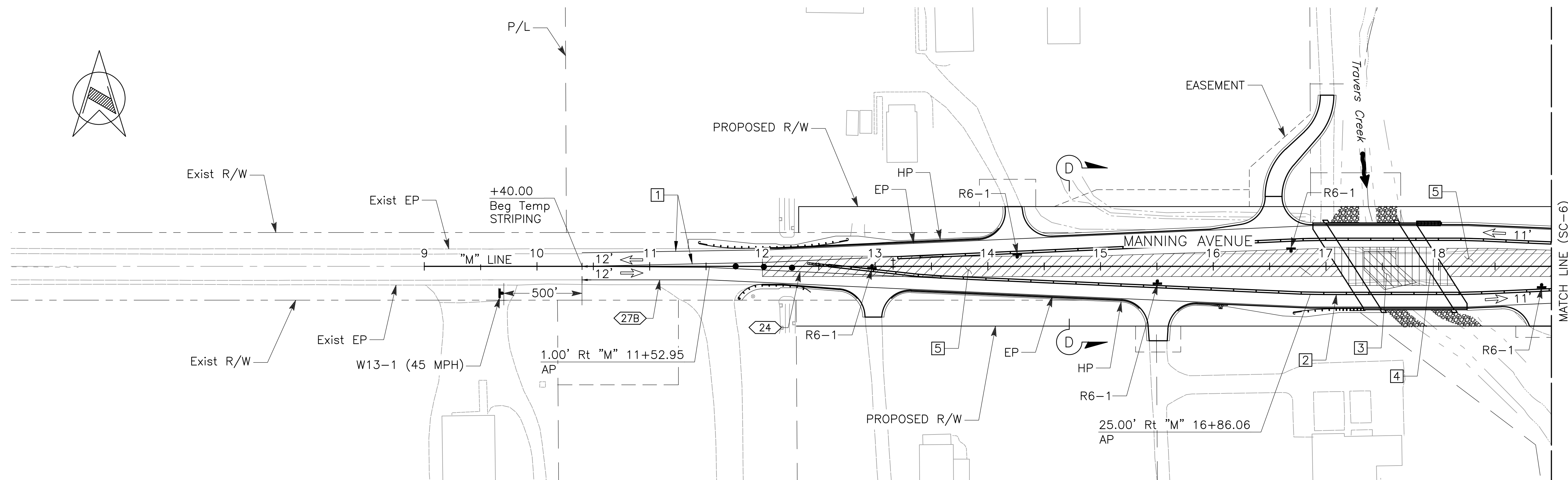
1. WB STRIPING FROM PREVIOUS STAGE TO REMAIN.
2. REMOVE CONFLICTING STRIPING FROM PREVIOUS STAGE. PLACE TEMPORARY RAILING (TYPE K), TEMPORARY CRASH CUSHIONS, AND TEMPORARY STRIPING ALONG MANNING AVENUE.
3. REMOVE BRIDGE.
4. CONSTRUCT BRIDGE.
5. CONSTRUCT REMAINING ROADWAY AND PLACE OVERLAY.

STAGE 4 TRAFFIC HANDLING NOTES:

1. OPEN ALL LANES TO TRAFFIC.

STAGE 4 CONSTRUCTION NOTES:

1. PLACE FINAL STRIPING, SEE PAVEMENT DELINEATION AND SIGN PLAN FOR LOCATIONS.



SECTION D-D  
NO SCALE

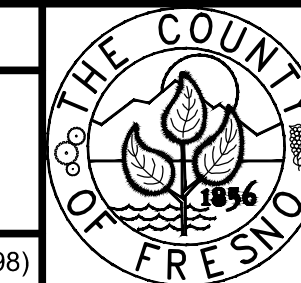
APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE	PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER	DATE:	0 PLAN 50' 100' HZ	TRAVERS CREEK BRIDGE ON MANNING AVENUE		STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 3 & 4	
CHECKED: MAS		DATE: 1/15/16				ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. SC-5 SHEET NO. 35 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



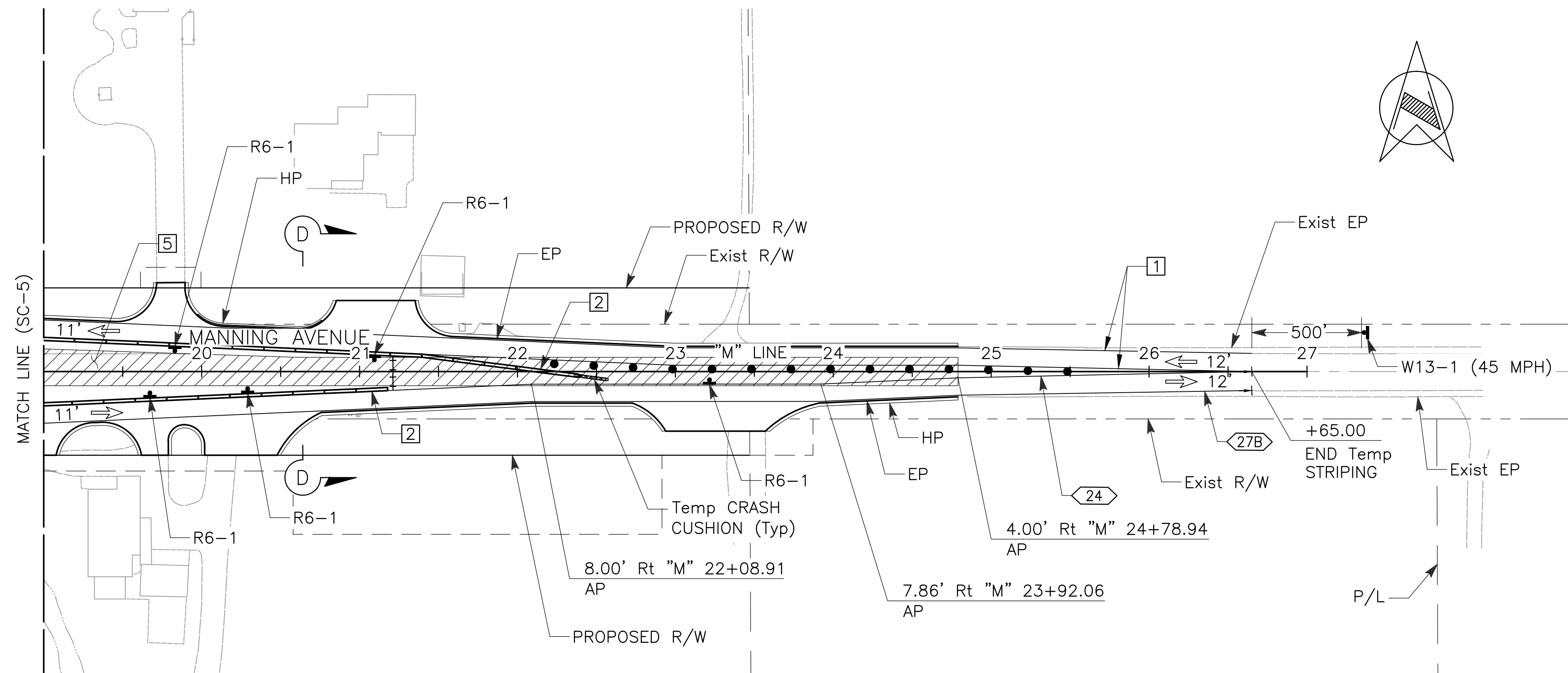
**drake haglan AND ASSOCIATES**  
619 13th Street, Suite G  
Modesto, CA 95354





NOTE:

- SEE SC-5 FOR SECTION D-D.



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY




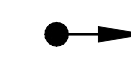

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 50' 100' HZ		<p><b>drake haglan AND ASSOCIATES</b> 619 13th Street, Suite G Modesto, CA 95354</p>	PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		<p>DEPARTMENT OF PUBLIC WORKS AND PLANNING STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN STAGE 3 &amp; 4</p>
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		ROAD NO. 42C-0175, BRLS-5942 (198)			DRAWING NO. SC-6		
CHECKED: MAS		DATE: 1/15/16	DATE		BRIDGE NO. 42C-0175, BRLS-5942 (198)			SHEET NO. 36		
					TOTAL 52					

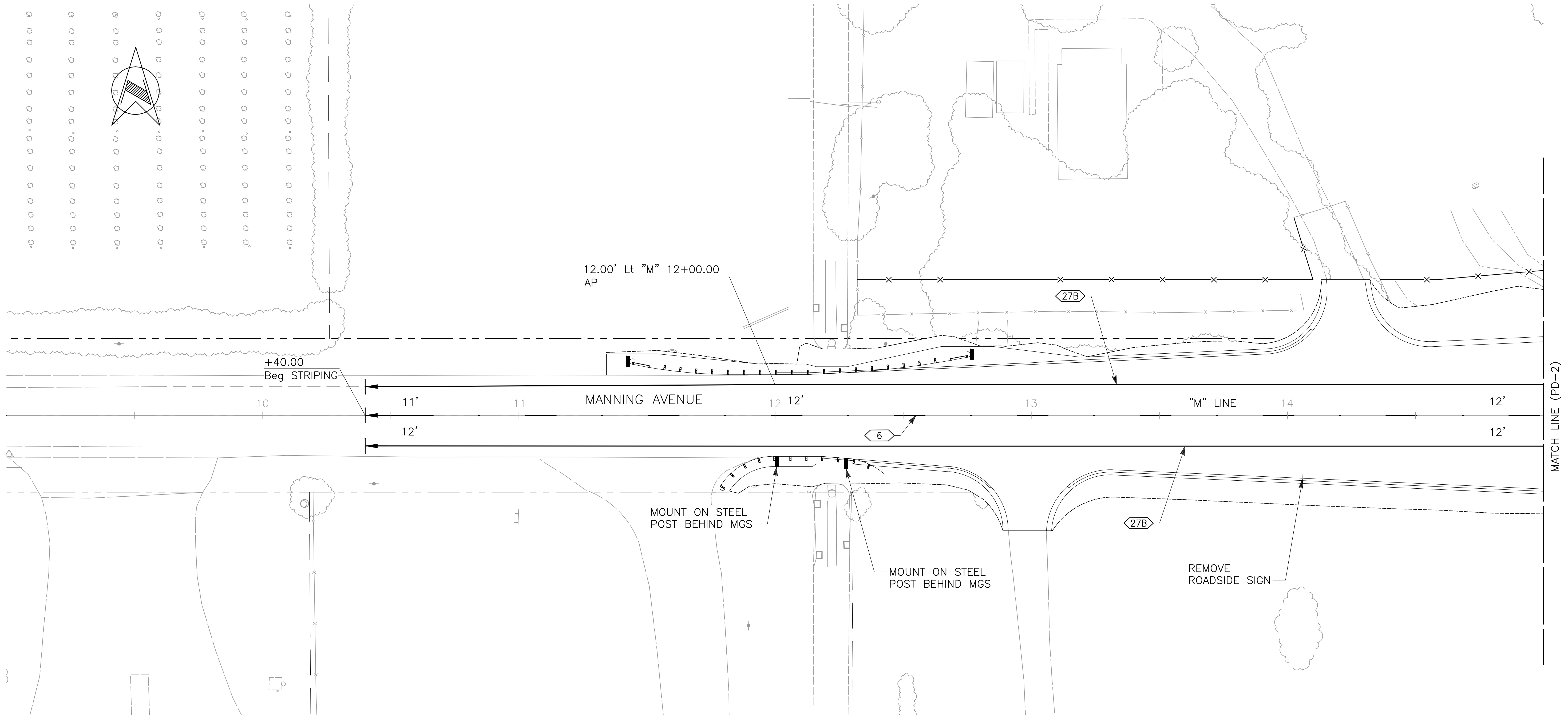
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

**NOTES:**

- FOR ALL PAVEMENT STRIPING DETAILS, REFER TO CALTRANS STANDARD PLANS DATED 2010.

**LEGEND:**

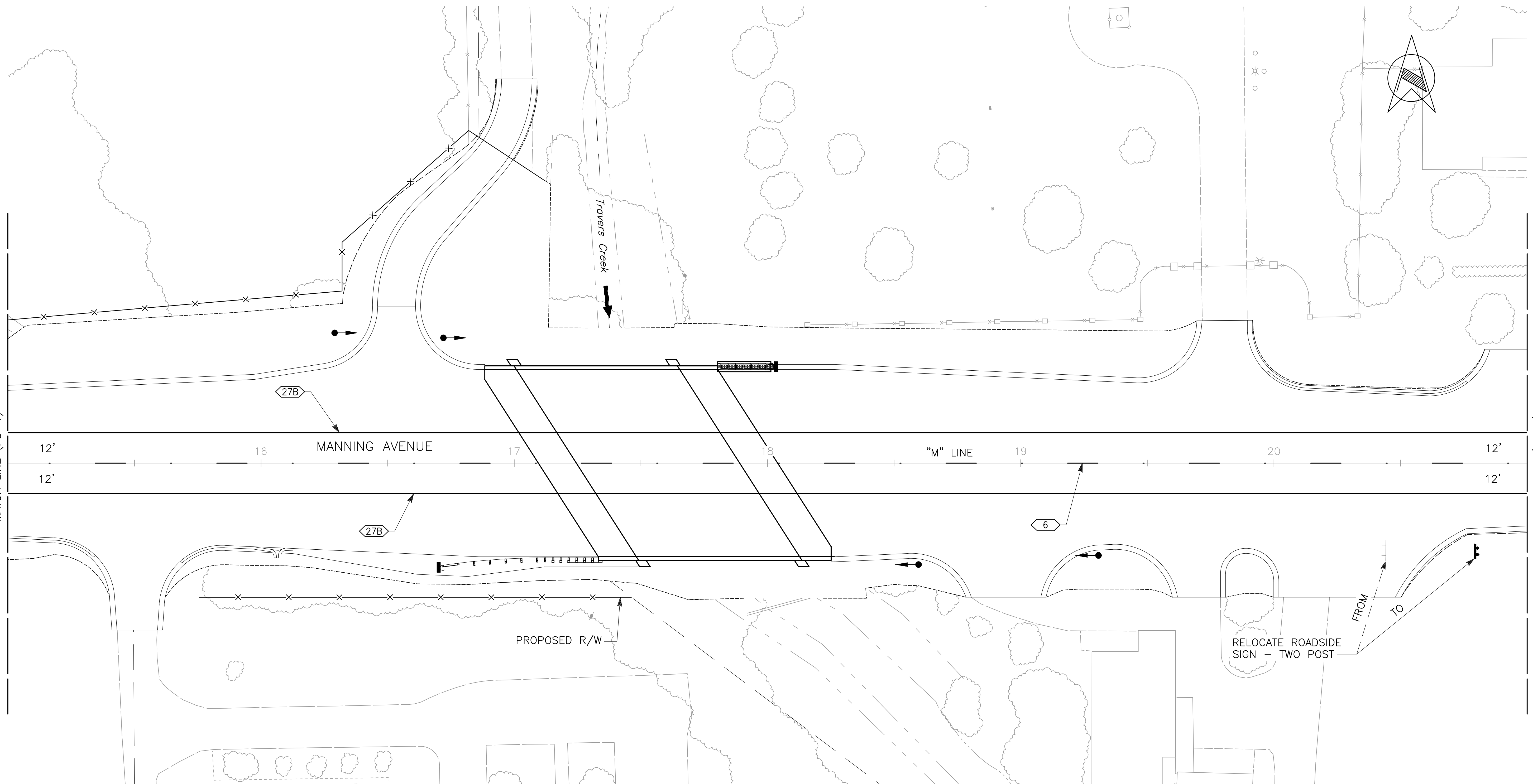
-  STRIPING DETAIL NUMBER
-  BEGIN OR END OF STRIPING DETAIL
-  RELOCATE ROADSIDE SIGN - TWO POST
-  OBJECT MARKER TYPE L-1 (CA)
-  OBJECT MARKER TYPE P (CA)  
(MOUNTED TO GUARDRAIL NOSE)



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

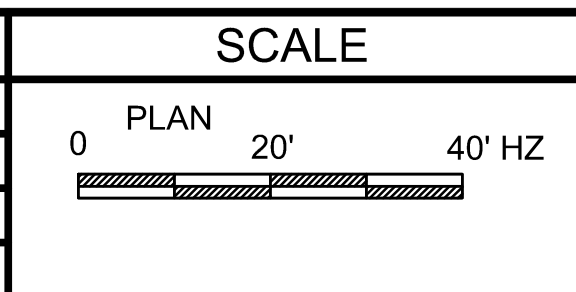
DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE: 0 PLAN 20' 40' HZ			PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)			PAVEMENT DELINEATION AND SIGN PLAN	
CHECKED: MAS		DATE: 1/15/16						DRAWING NO. PD-1			SHEET NO. 37	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

RECORD DRAWING	
DESIGNED: AJB	DATE: 1/15/16
DRAWN: AMS	RESIDENT ENGINEER
CHECKED: MAS	DATE: 1/15/16



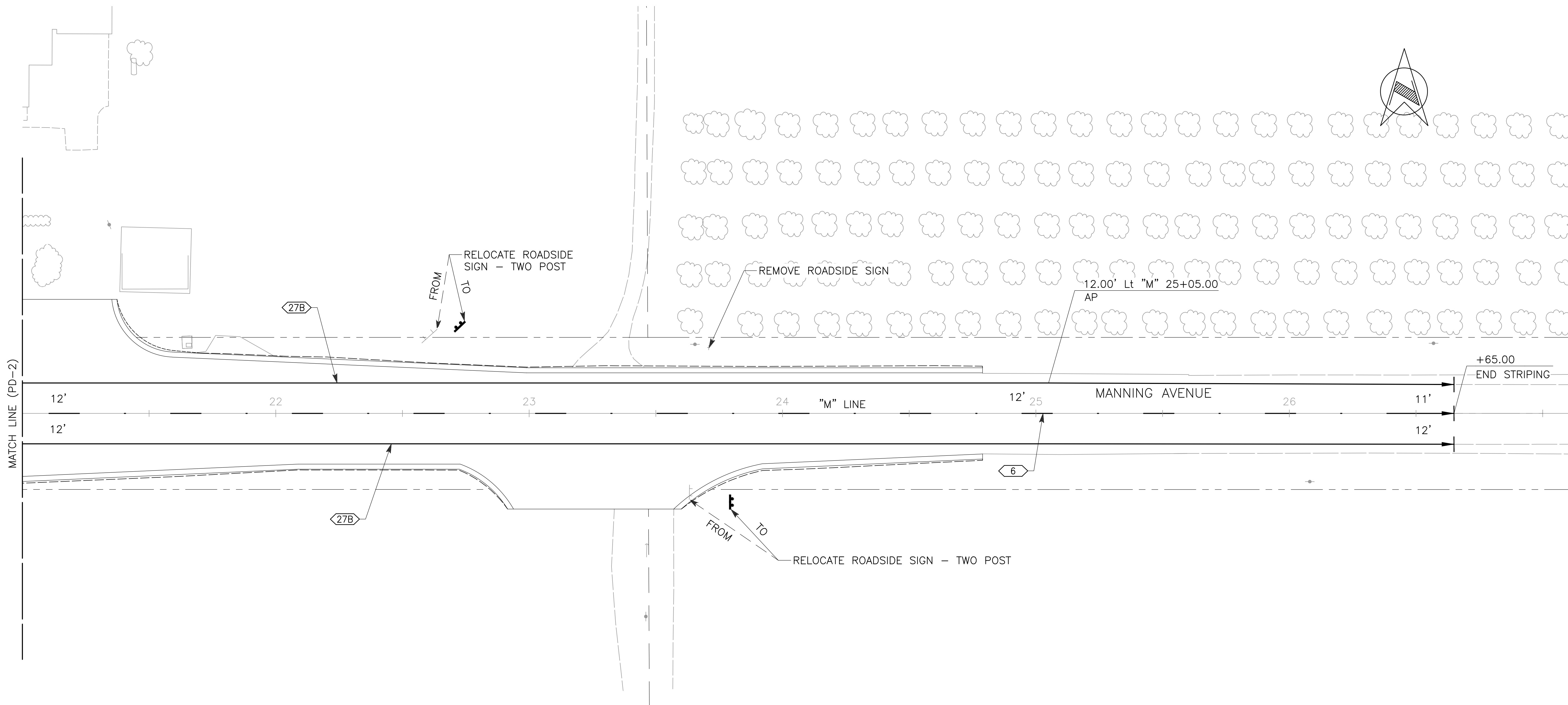
**dh drake haglan AND ASSOCIATES**  
 619 13th Street, Suite G  
 Modesto, CA 95354

PROJECT	
TRAVERS CREEK BRIDGE ON MANNING AVENUE	
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)



DEPARTMENT OF PUBLIC WORKS AND PLANNING		
PAVEMENT DELINEATION AND SIGN PLAN		
DRAWING NO. PD-2	SHEET NO. 38	TOTAL 52

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

DESIGNED: AJB		DATE: 1/15/16	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: AMS		DATE: 1/15/16	RESIDENT ENGINEER		0 PLAN 20' 40' HZ		TRAVERS CREEK BRIDGE ON MANNING AVENUE		PAVEMENT DELINEATION AND SIGN PLAN	
CHECKED: MAS		DATE: 1/15/16					ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. PD-3 SHEET NO. 39 TOTAL 52	

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

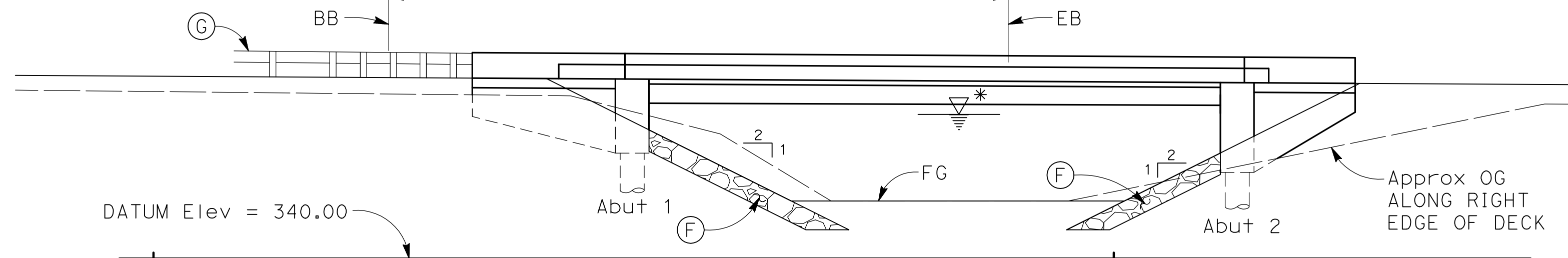
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, SEE "ROAD PLANS"

EVC 16+65.00 Elev 359.13  
 BVC 19+00.00 Elev 357.73  
 -0.59%

**PROFILE GRADE**

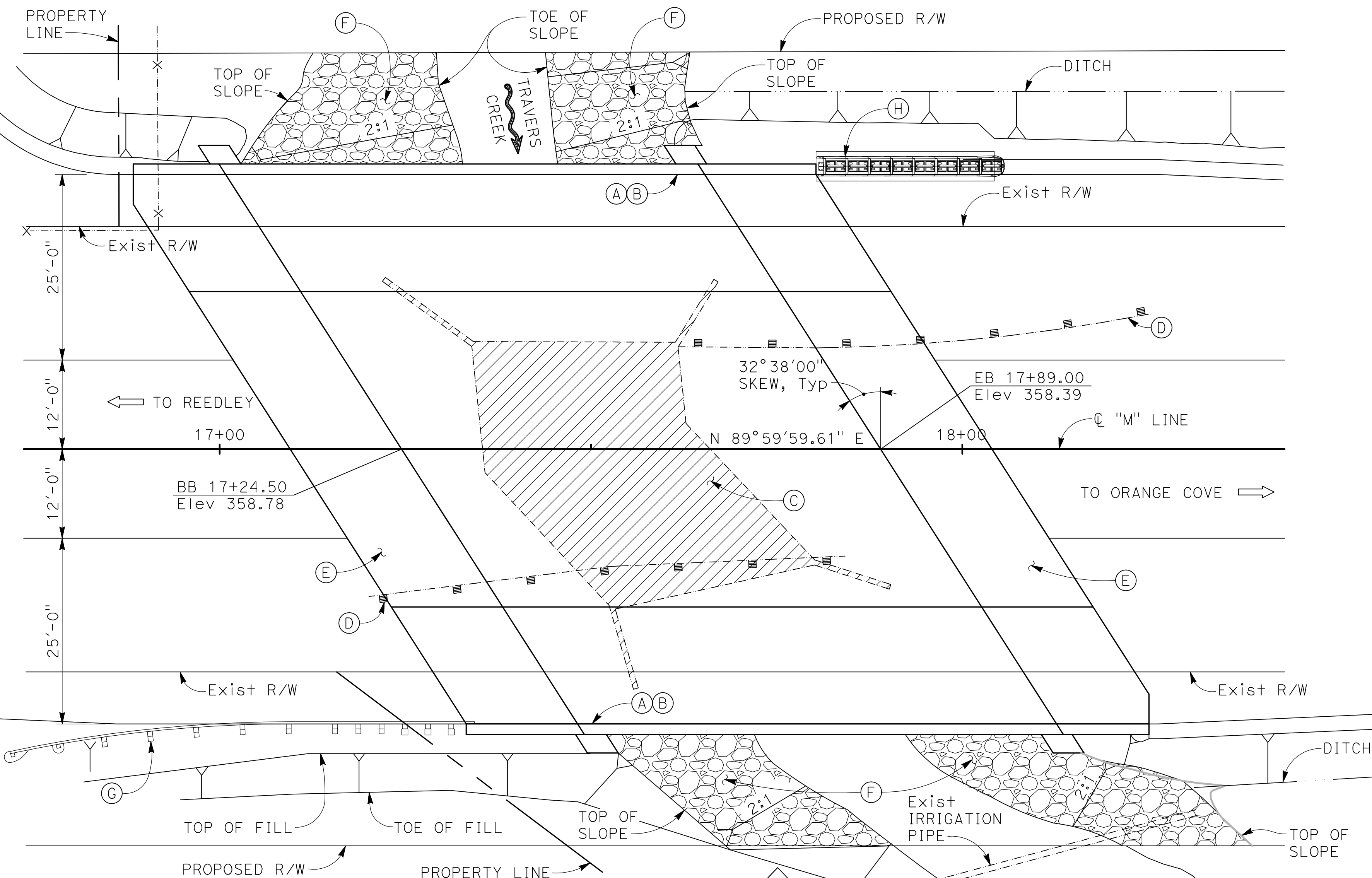
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64'-6" MEASURED ALONG C "M" LINE



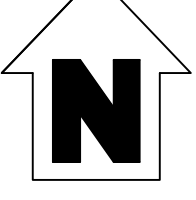
**ELEVATION**

1" = 10'

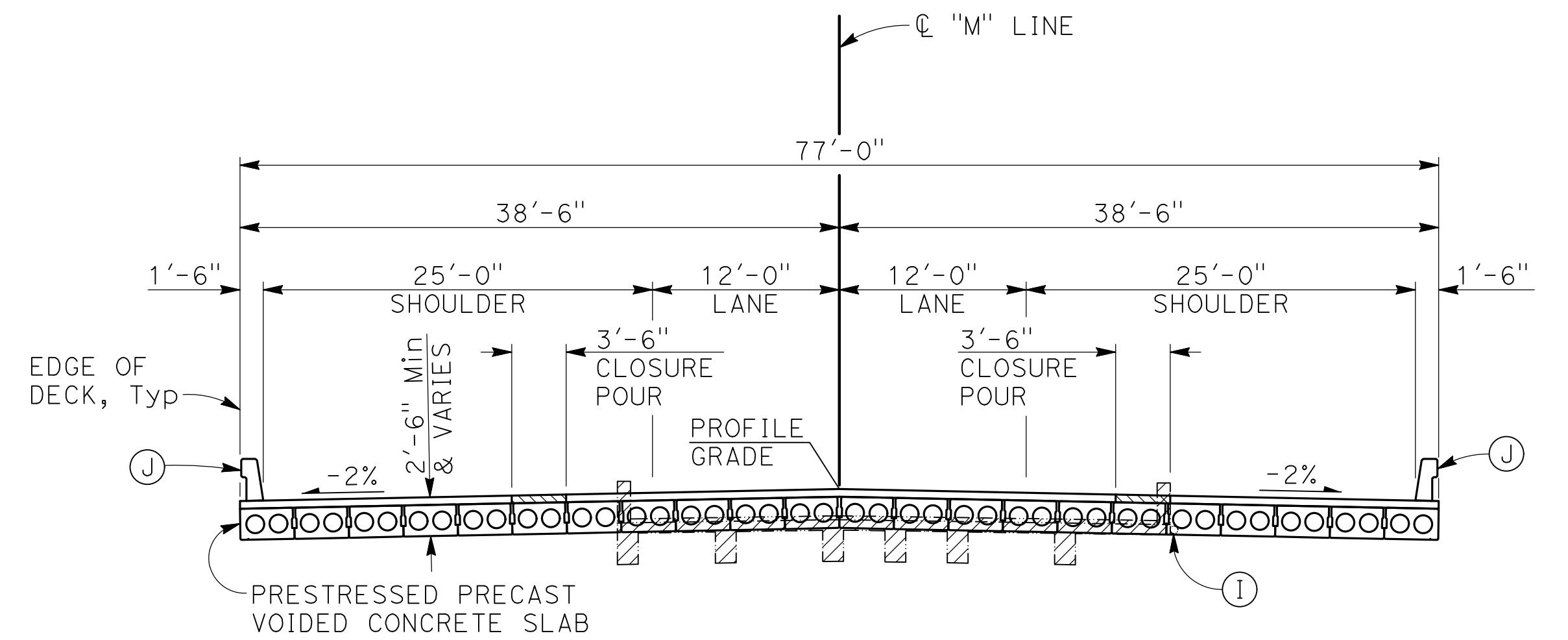


**PLAN**

1" = 10'



NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



**TYPICAL SECTION**

1/8" = 1'-0"

NOTES:

- (A) Paint "BRIDGE No. 42C-0175"
  - (B) Paint "TRAVERS CREEK BRIDGE"
  - (C) Remove existing TRAVERS CREEK BRIDGE
  - (D) Remove existing MBGR
  - (E) Approach Slab
  - (F) Rock Slope Protection
  - (G) MGS, see "Civil Plans"
  - (H) TAU II Crash Cushion
  - (I) Existing telephone cable to be relocated
  - (J) Concrete Barrier Type 732
1. For "GENERAL NOTES" and "INDEX TO BRIDGE PLANS", see "GENERAL NOTES" sheet.
  2. For "PILE DATA TABLE", see "FOUNDATION PLAN" sheet.

LEGEND:

- Indicates Bridge Removal
- Indicates Existing Structure
- Indicates Traffic Direction

RECORD DRAWING		SCALE
DESIGNED: RBS	DATE: 6/25/15	AS SHOWN
DRAWN: MLT	DATE: 6/25/15	
CHECKED:	DATE: 6/25/15	

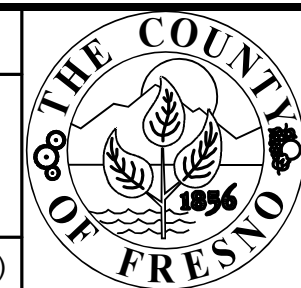
SCALE  
 AS SHOWN

**BIGGS CARDOSA ASSOCIATES INC**  
 STRUCTURAL ENGINEERS

5250 N. Palm Avenue, Suite 211  
 Fresno, California 93704  
 559-449-8686

PROJECT  
**TRAVERS CREEK BRIDGE ON MANNING AVENUE**

ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)

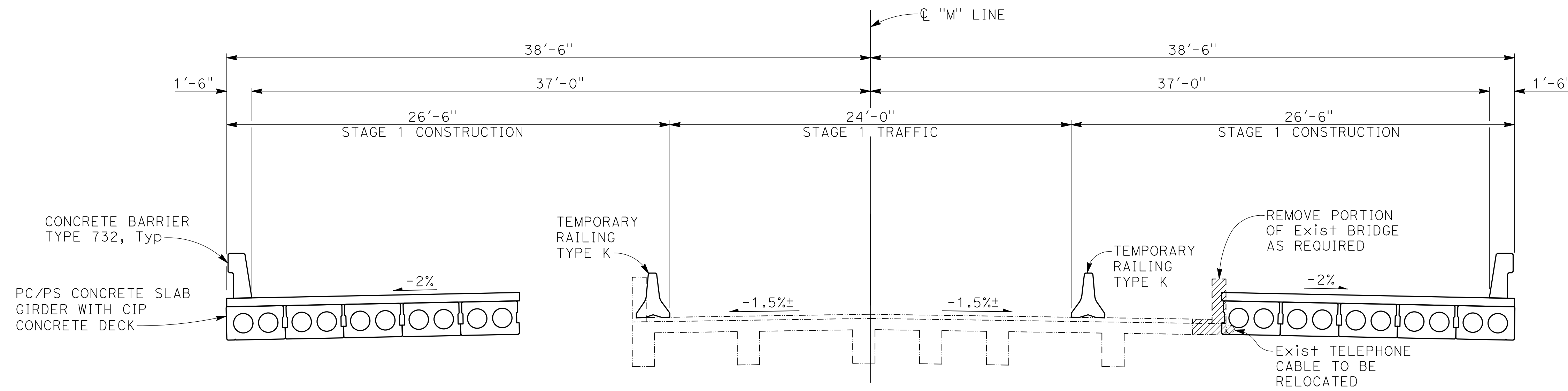


DEPARTMENT OF PUBLIC WORKS AND PLANNING

**GENERAL PLAN No. 1**

DRAWING NO. S-1 SHEET NO. 40 TOTAL 52

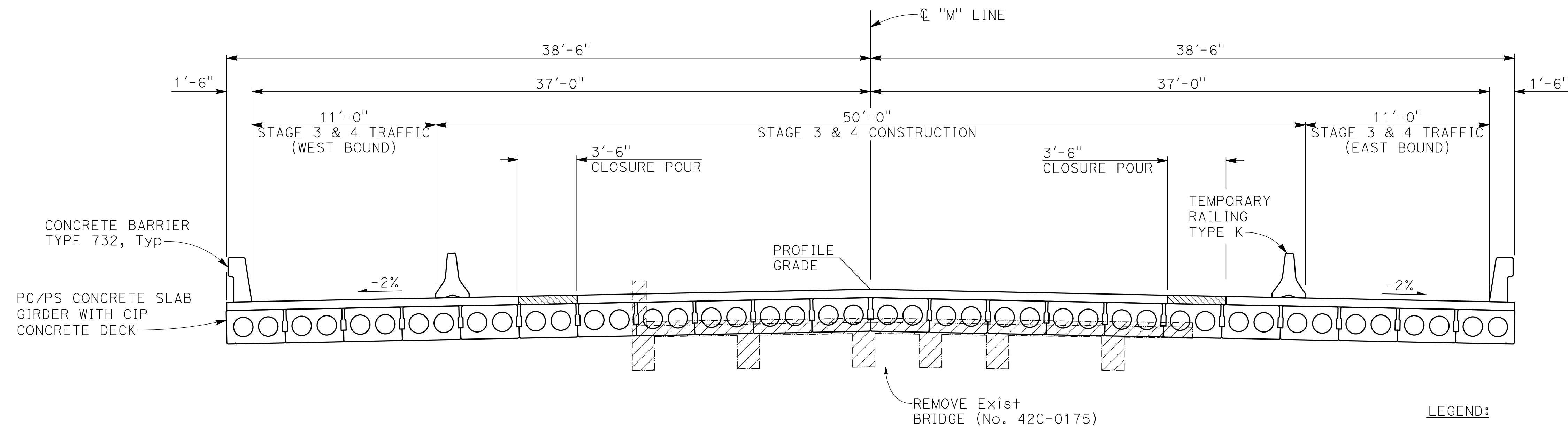
201301551



**STAGE 1 CONSTRUCTION**

1/4" = 1'-0"

NOTE:  
No bridge work during  
Stage 2 Construction



**STAGE 3 & 4 CONSTRUCTION**

1/4" = 1'-0"

**LEGEND:**

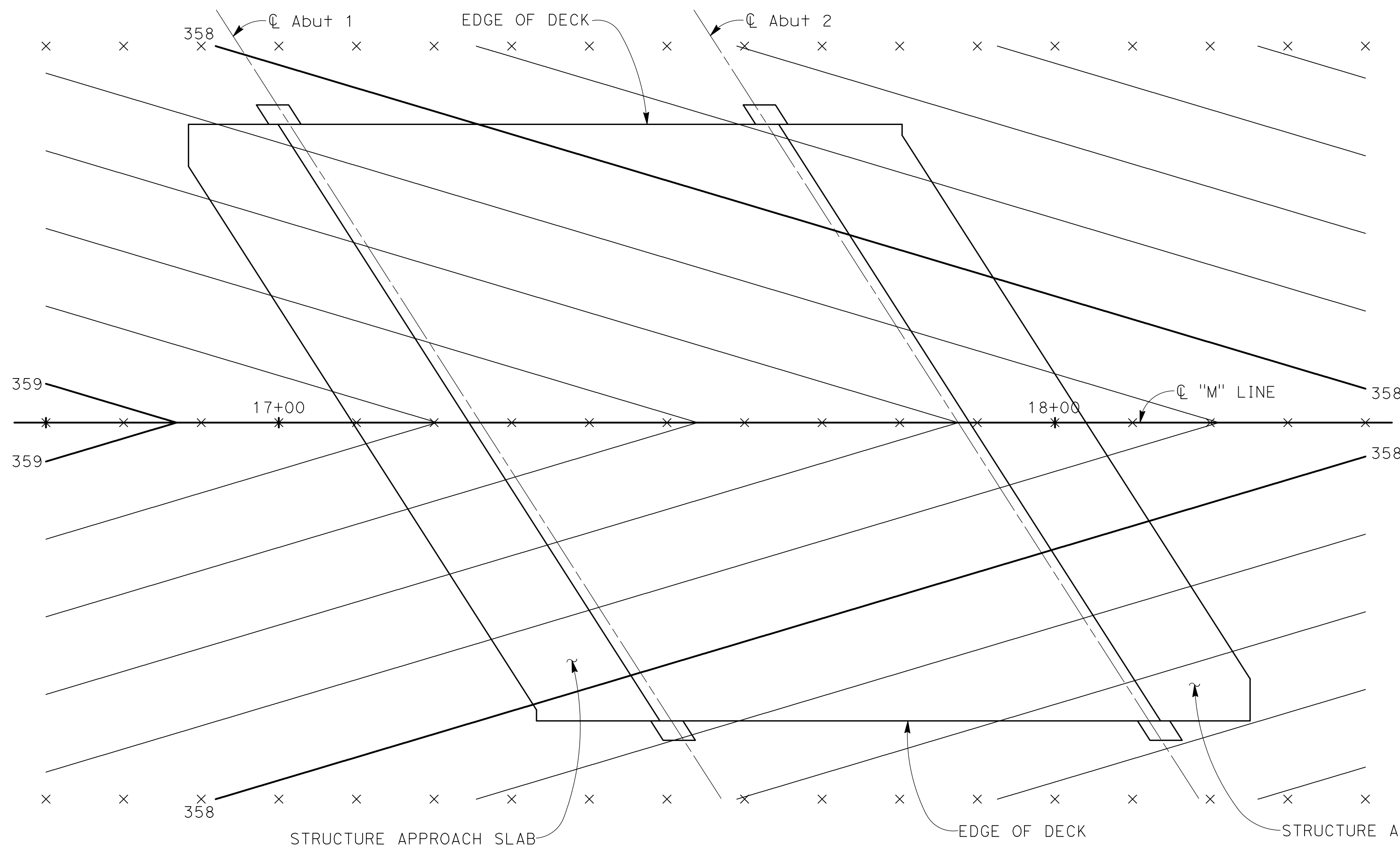
- Indicates Bridge Removal
- Indicates Existing Structure

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

<table border="1"> <thead> <tr> <th>DESIGNED:</th> <th>DATE</th> <th colspan="2">RECORD DRAWING</th> <th>SCALE</th> <th rowspan="4"> <b>BIGGS CARDOSA ASSOCIATES INC</b>            STRUCTURAL ENGINEERS             5250 N. Palm Avenue, Suite 211            Fresno, California 93704            559-449-8686         </th> <th>PROJECT</th> <td rowspan="4"> </td> <th colspan="2">DEPARTMENT OF PUBLIC WORKS AND PLANNING</th> </tr> </thead> <tbody> <tr> <td>RBS</td> <td>6/25/15</td> <td>RESIDENT ENGINEER</td> <td>DATE</td> <td rowspan="3">AS SHOWN</td> <td>TRAVERS CREEK BRIDGE ON MANNING AVENUE</td> <td rowspan="3">GENERAL PLAN No. 2</td> </tr> <tr> <td>DRAWN:</td> <td>6/25/15</td> <td></td> <td></td> </tr> <tr> <td>CHECKED:</td> <td>6/25/15</td> <td></td> <td></td> </tr> </tbody> </table>		DESIGNED:	DATE	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS  5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686	PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING		RBS	6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN	TRAVERS CREEK BRIDGE ON MANNING AVENUE	GENERAL PLAN No. 2	DRAWN:	6/25/15			CHECKED:	6/25/15			<table border="1"> <tr> <td>ROAD NO.</td> <td>BRIDGE NO. 42C-0175, BRLS-5942 (198)</td> <td>DRAWING NO. S-2</td> <td>SHEET NO. 41</td> <td>TOTAL 52</td> </tr> </table>		ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-2	SHEET NO. 41	TOTAL 52
DESIGNED:	DATE	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS  5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686	PROJECT				DEPARTMENT OF PUBLIC WORKS AND PLANNING																							
RBS	6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN		TRAVERS CREEK BRIDGE ON MANNING AVENUE				GENERAL PLAN No. 2																							
DRAWN:	6/25/15																																
CHECKED:	6/25/15																																
ROAD NO.	BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-2	SHEET NO. 41	TOTAL 52																													

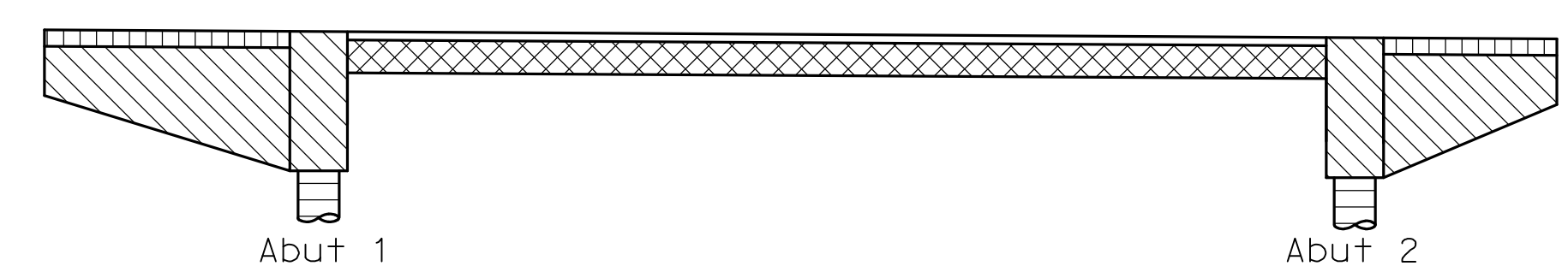
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

201301552



- NOTES:**
1. Contours indicate top of deck elevation.
  2. x Indicates 10 foot intervals measured along "M" Line.
  3. Contour interval = 0.2'
  4. Contours do not include camber or falsework settlement.

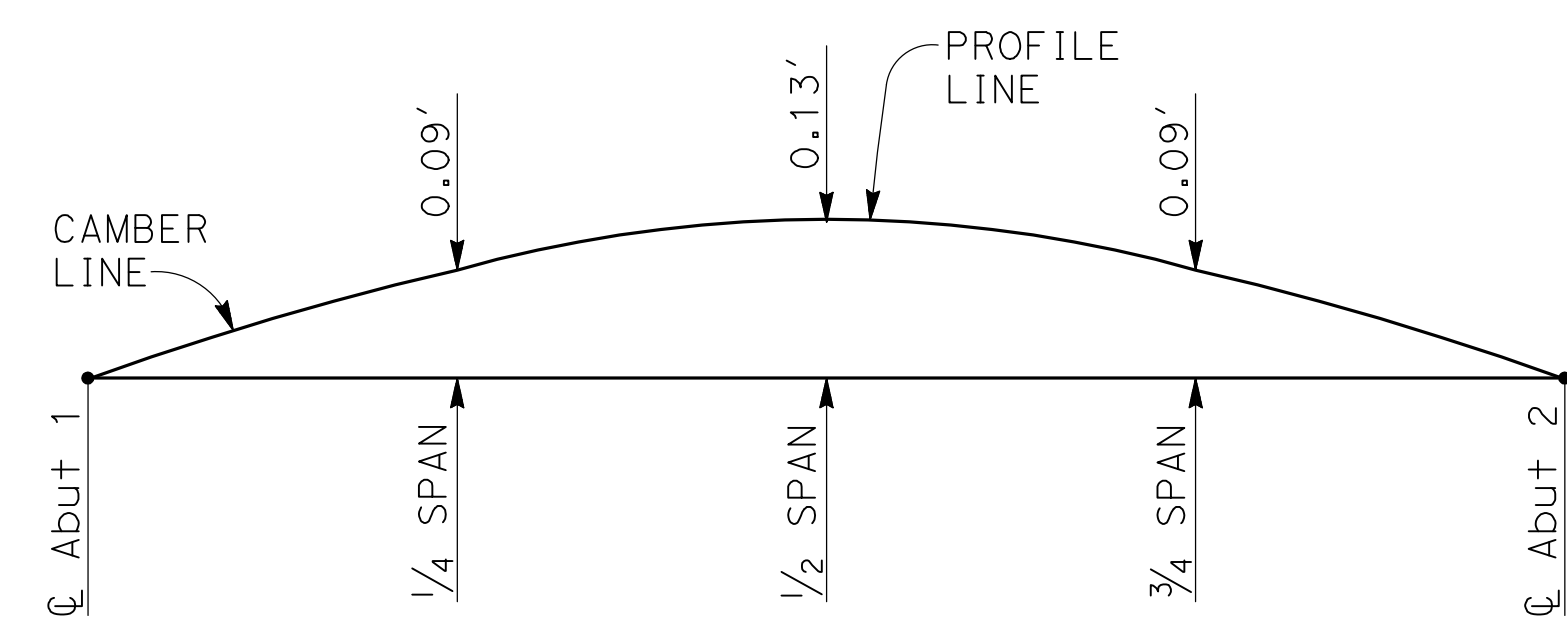
**PLAN**  
1" = 10'  
N



- LEGEND:**
- STRUCTURAL CONCRETE, APPROACH SLAB (f'c = 3600 psi)
  - CAST-IN-DRILLED HOLE CONCRETE (f'c = 4000 psi)
  - STRUCTURAL CONCRETE, BRIDGE (f'c = 4000 psi)
  - STRUCTURAL CONCRETE, BRIDGE (f'c = 3600 psi)
  - PC/PS CONCRETE SLAB; SEE "PRESTRESSING NOTES" ON "PRESTRESSED CONCRETE SLAB DETAILS No. 1" SHEET

**CONCRETE STRENGTH AND TYPE LIMITS**  
NO SCALE

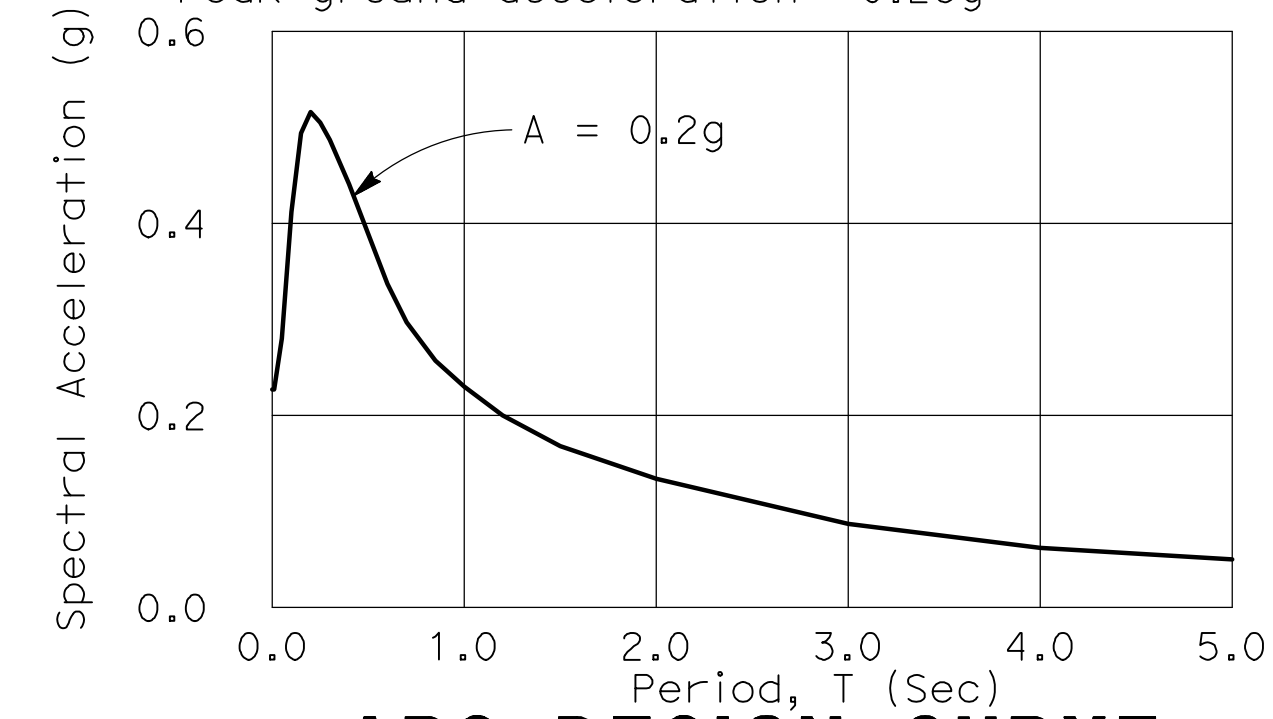
**NOTE:**  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



**CAMBER DIAGRAM**  
NO SCALE

**GENERAL NOTES**  
**LOAD & RESISTANCE FACTOR DESIGN**

**DESIGN:** AASHTO LRFD Bridge Design Specifications, 6th Edition and California Amendments, preface dated January 2014;  
**SEISMIC DESIGN:** Caltrans Seismic Design Criteria (SDC) Version 1.7  
**DEAD LOAD:** Includes 35 psf for future wearing surface.  
**LIVE LOAD:** HL93 and permit design load  
**SEISMIC LOAD:** Soil profile: Vs30 = 1000 FPS  
 Moment magnitude: 7.9  
 Peak ground acceleration: 0.23g



**ARS DESIGN CURVE**

**CONCRETE:** fy = 60 ksi  
 f'c = 3.6 ksi (except as shown on "CONCRETE STRENGTH & TYPE LIMITS" diagram)  
 n = 8  
**PRESTRESSED CONCRETE:** See "Prestressing Notes" on "PRESTRESSED CONCRETE SLAB DETAILS" sheet

**2010 STANDARD PLANS**

- RSP A10A ABBREVIATIONS (SHEET 1 OF 2)
- RSP A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10C LINES AND SYMBOLS (SHEET 1 OF 3)
- A10D LINES AND SYMBOLS (SHEET 2 OF 3)
- A10E LINES AND SYMBOLS (SHEET 3 OF 3)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- A10H LEGEND - ROCK
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-13 BRIDGE DETAILS
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- RSP B11-55 CONCRETE BARRIER TYPE 732 (SHEET 1 OF 2)

**ABBREVIATION**  
EQ EQUAL

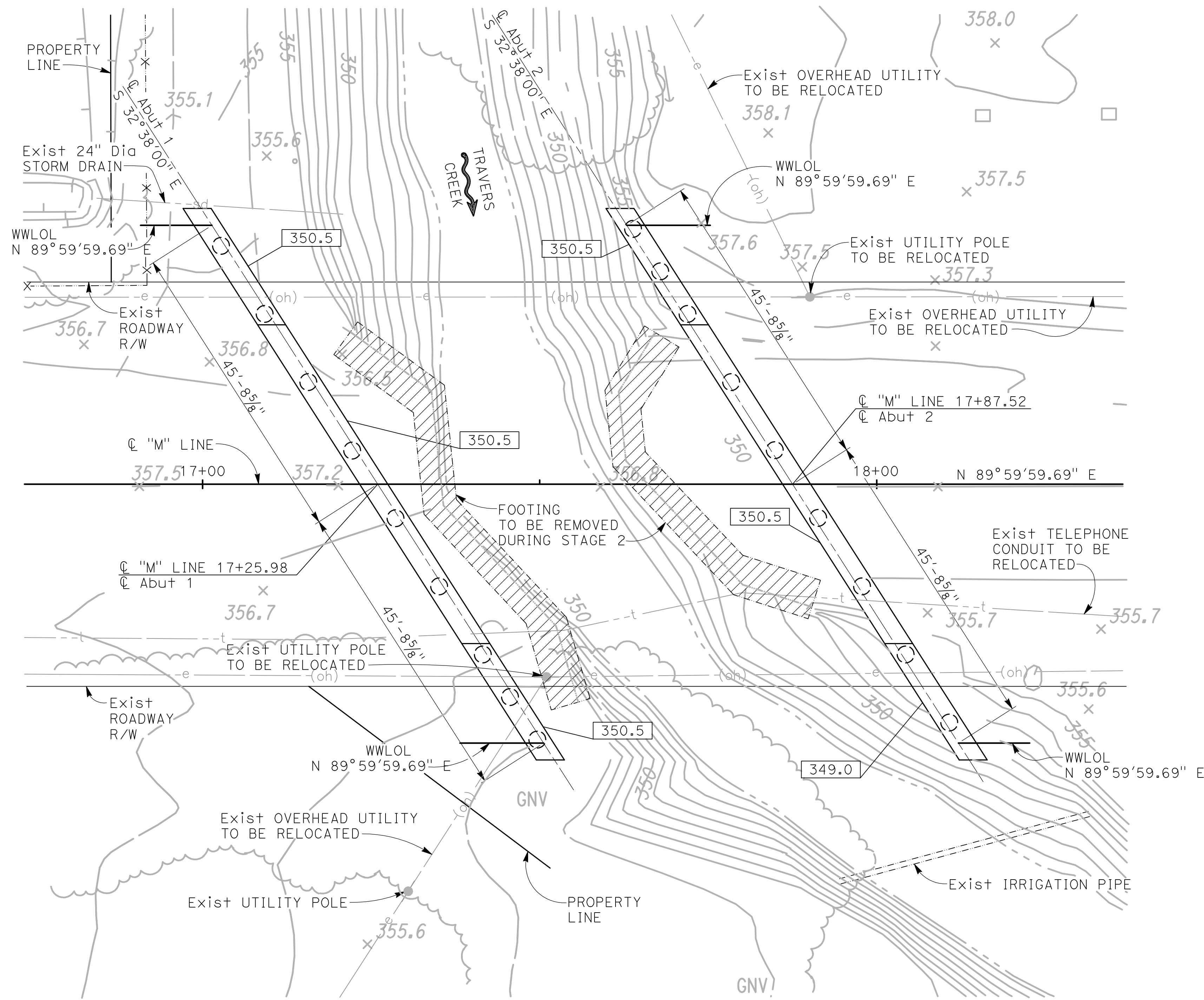
- LEGEND**
- INDICATES STANDARD PLAN SHEET No.
  - INDICATES DETAIL No.
  - INDICATES SECTION No.
  - INDICATES SHEET SHOWN ON
  - INDICATES DETAIL No.
  - INDICATES SHEET SHOWN ON

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		DECK CONTOURS AND GENERAL NOTES
CHECKED:	DATE: 6/25/15					ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

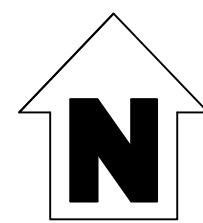
201301533

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, SEE "ROAD PLANS"



**FOUNDATION PLAN**

1" = 10'



NOTES:

- Indicates bottom of footing elevation
- Indicates spot elevation
- Indicates CIDH pile
- The Contractor shall verify that WWLOL matches edge of deck considering construction tolerances in precast slab units once precast slab units have been fabricated
- Indicates Bridge Removal

HYDROLOGIC SUMMARY

(PROVIDED BY AVILA & ASSOCIATES - JANUARY 20, 2015)

DRAINAGE AREA: 33.9 SQUARE MILES	DESIGN FLOOD	BASE FLOOD
FREQUENCY (YEARS)	50	100
DISCHARGE (CUBIC FEET PER SECOND)	1,090	1,340
WATER SURFACE (ELEVATION AT BRIDGE)	353.3	354.1
VELOCITY (FEET PER SECOND)	3.40	3.40

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY BIGGS CARDOSA ASSOCIATES AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATION.

**BENCH MARK AND DATUM**

Monument	Coordinates		Elev	Description/Location
	North	East		
5003	10024.65	12367.36	356.79	"FD FC 5/8" RBR
5004	10041.87	12084.05	357.16	"FD FC 5/8" RBR
5006	9969.10	11738.10	363.56	"FD FC 5/8" RBR
5020	9984.71	12090.66	358.08	FD BM L0119
5021	10017.07	11438.02	358.07	SET 80/D

**PILE DATA TABLE**

Location	Pile Type	Nominal Resistance		Design Tip Elev	Specified Tip Elev
		Compression	Tension		
Abutment 1	30" Dia CIDH	560 Kips	0	289.0 Ft	289.0 Ft
Abutment 2	30" Dia CIDH	560 Kips	0	289.0 Ft	289.0 Ft

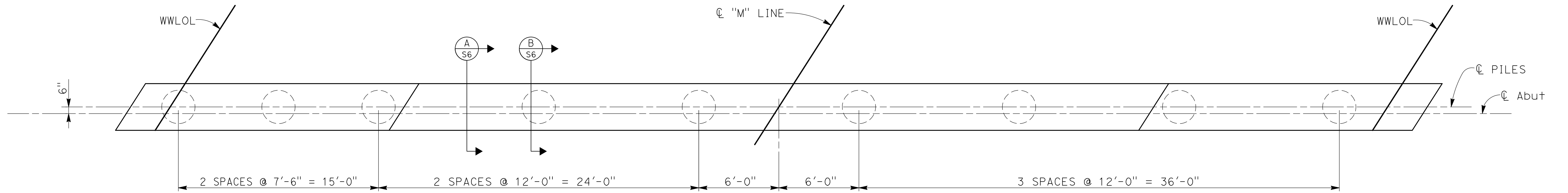
design tip elevation is controlled by the following demands:  
 (1) Compression; (2) Tension; (3) Lateral loads

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	TRAVERS CREEK BRIDGE ON MANNING AVENUE			FOUNDATION PLAN		
CHECKED:	DATE: 6/25/15	DATE:	ROAD NO.			BRIDGE NO. 42C-0175, BRLS-5942 (198)		DRAWING NO. S-4

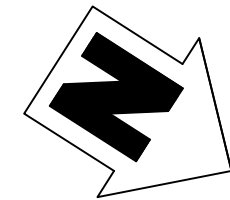
2013015



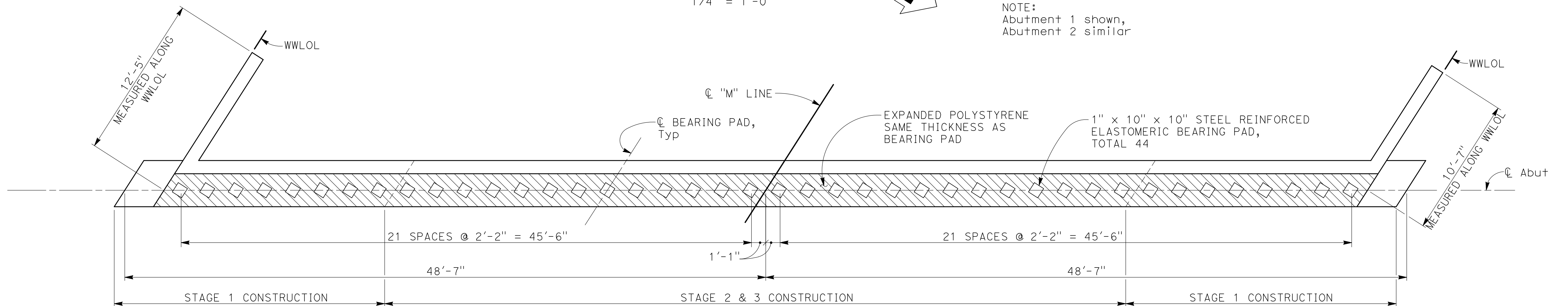


**ABUTMENT PILE LAYOUT**

1/4" = 1'-0"

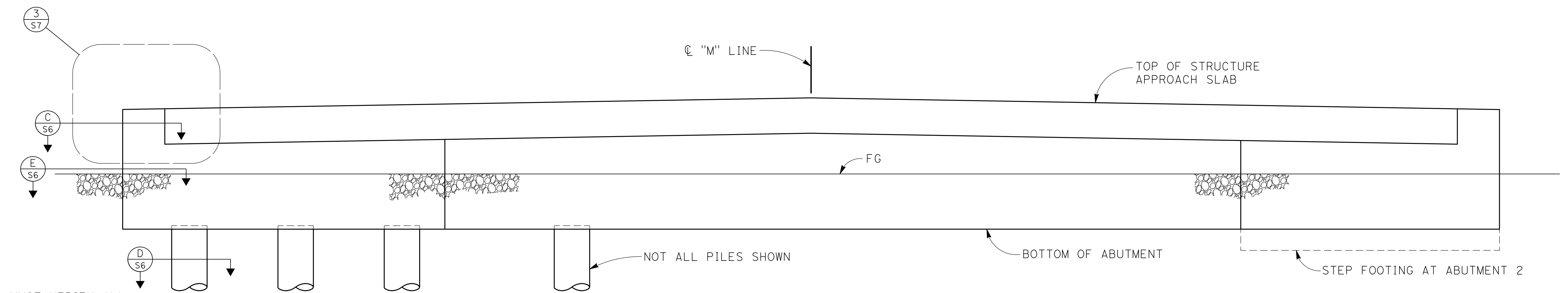
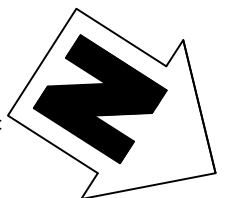


NOTE:  
Abutment 1 shown,  
Abutment 2 similar



**ABUTMENT PLAN**

1/4" = 1'-0"



**ABUTMENT ELEVATION**

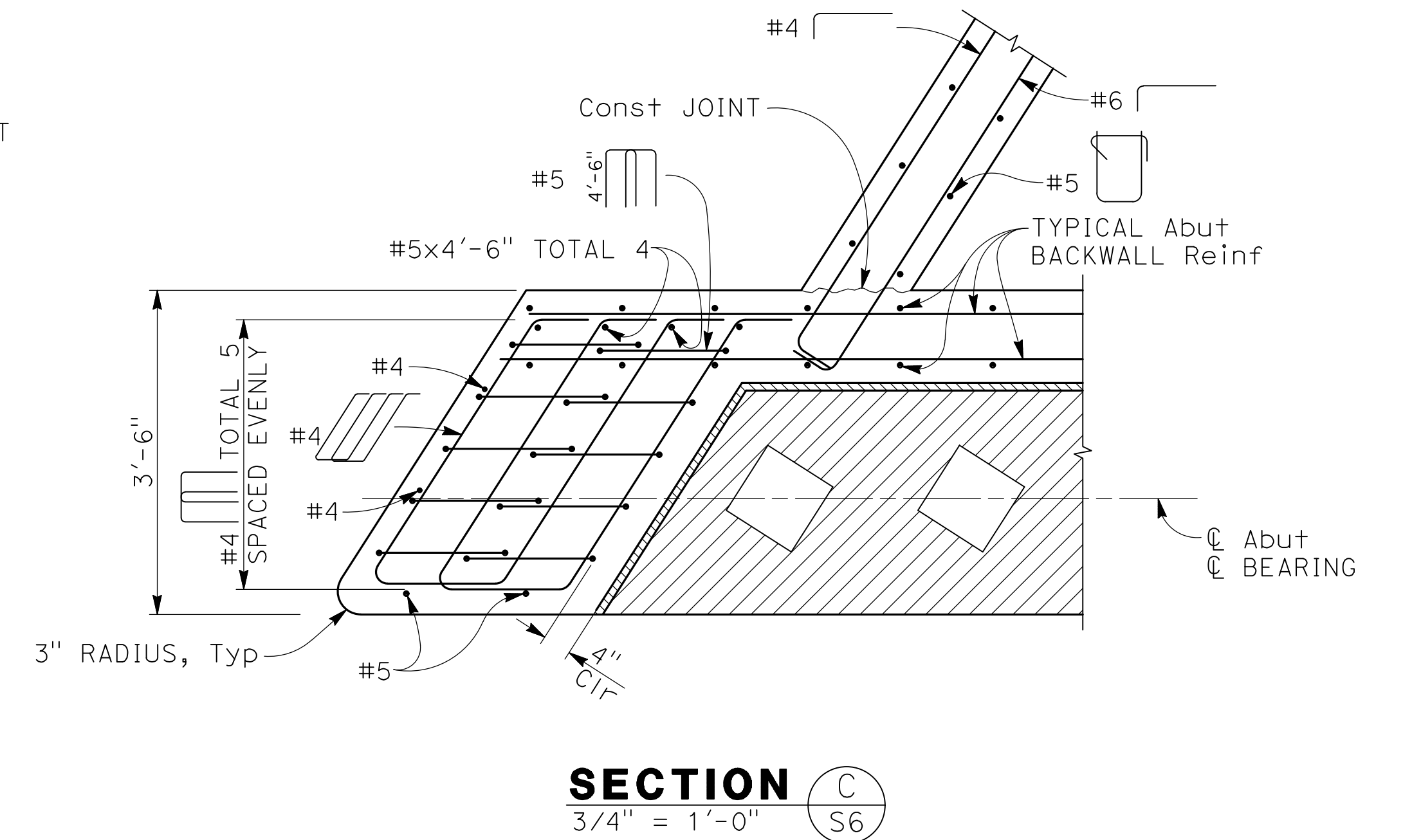
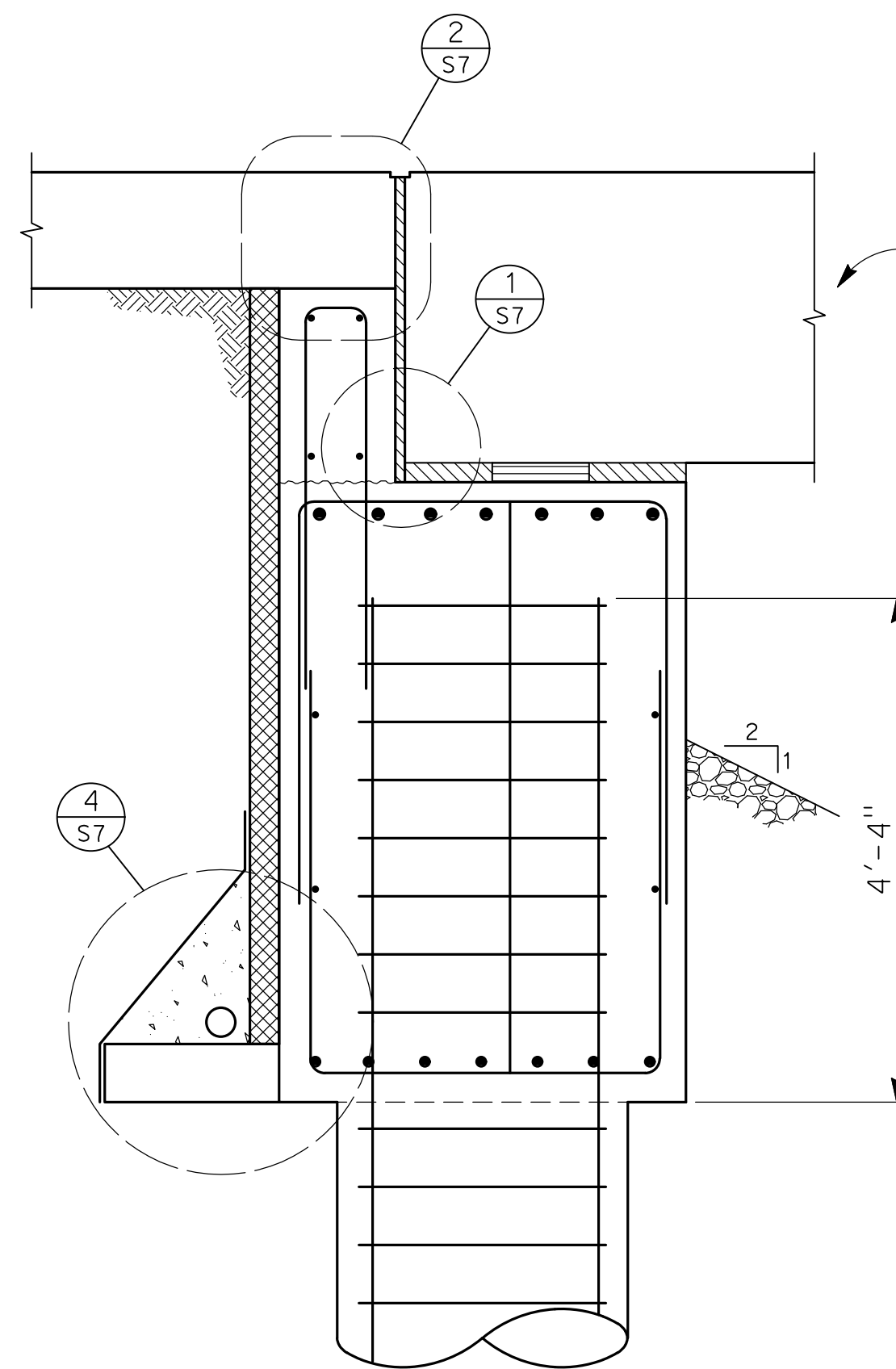
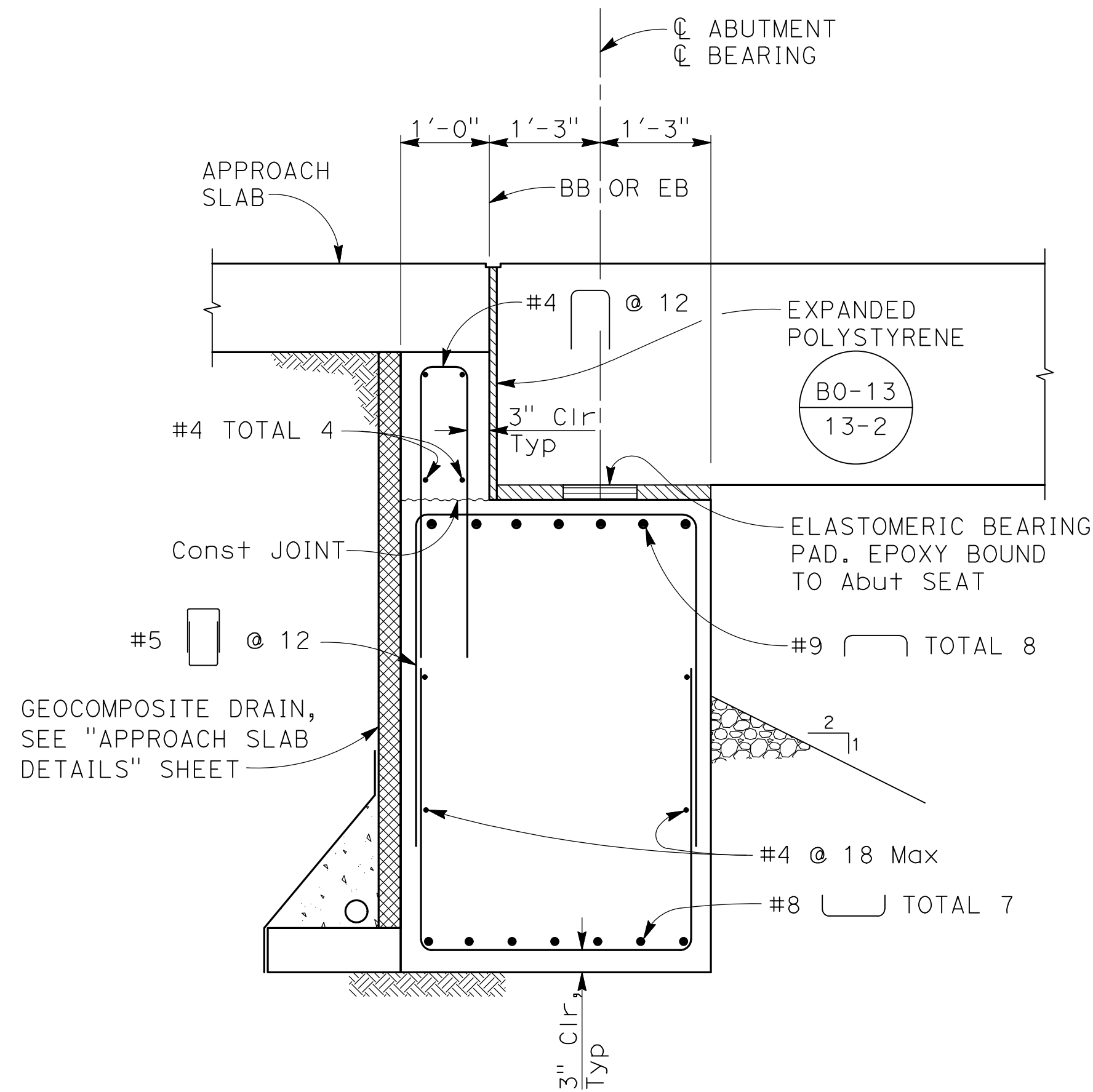
1/4" = 1'-0"

NOTE:  
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CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS		DATE: 6/25/15	RECORD DRAWING		SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE			DEPARTMENT OF PUBLIC WORKS AND PLANNING		
DRAWN: MLT		DATE: 6/25/15	RESIDENT ENGINEER						ABUTMENT LAYOUT				
CHECKED:		DATE: 6/25/15							ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-5	SHEET NO. 44

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

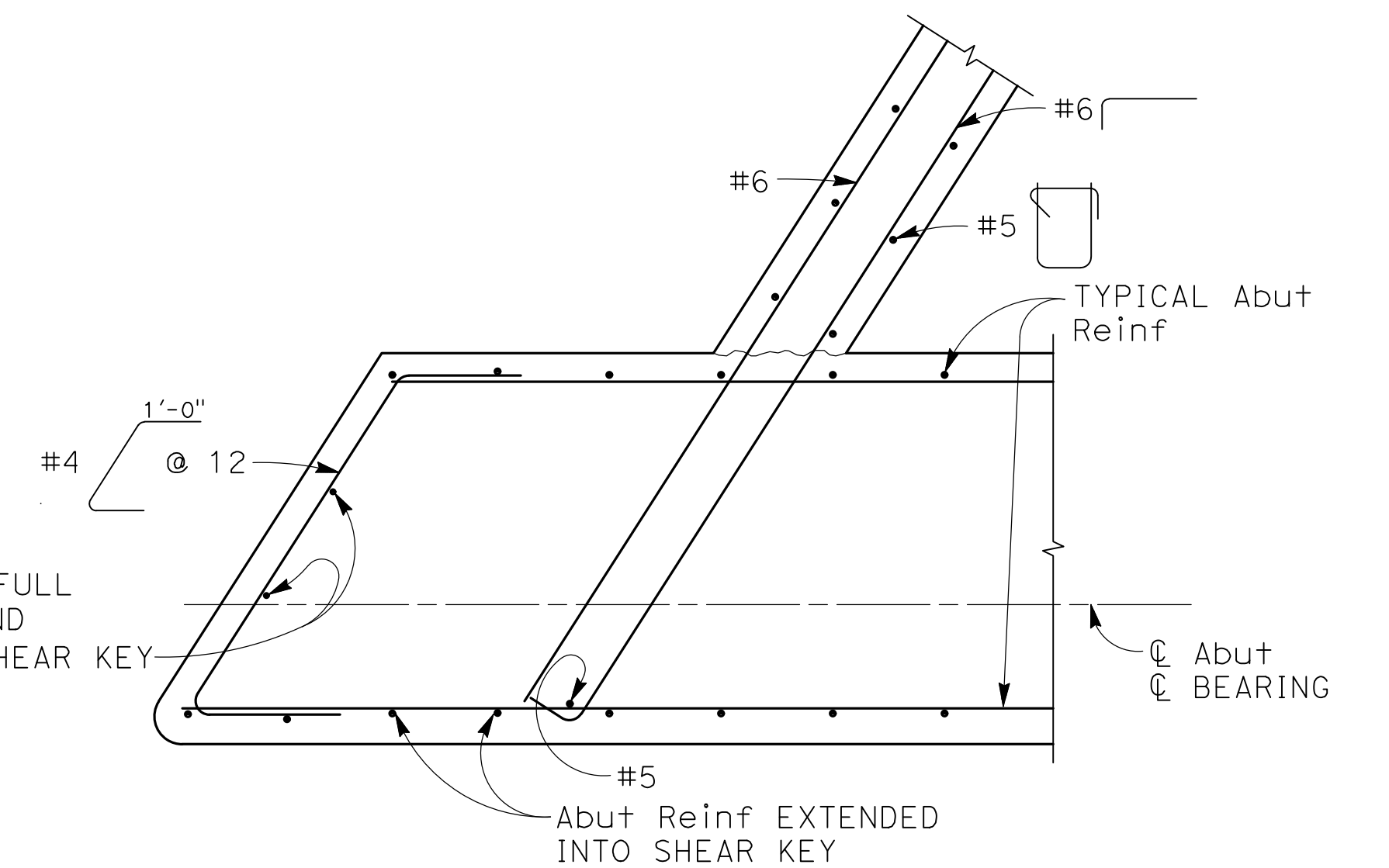
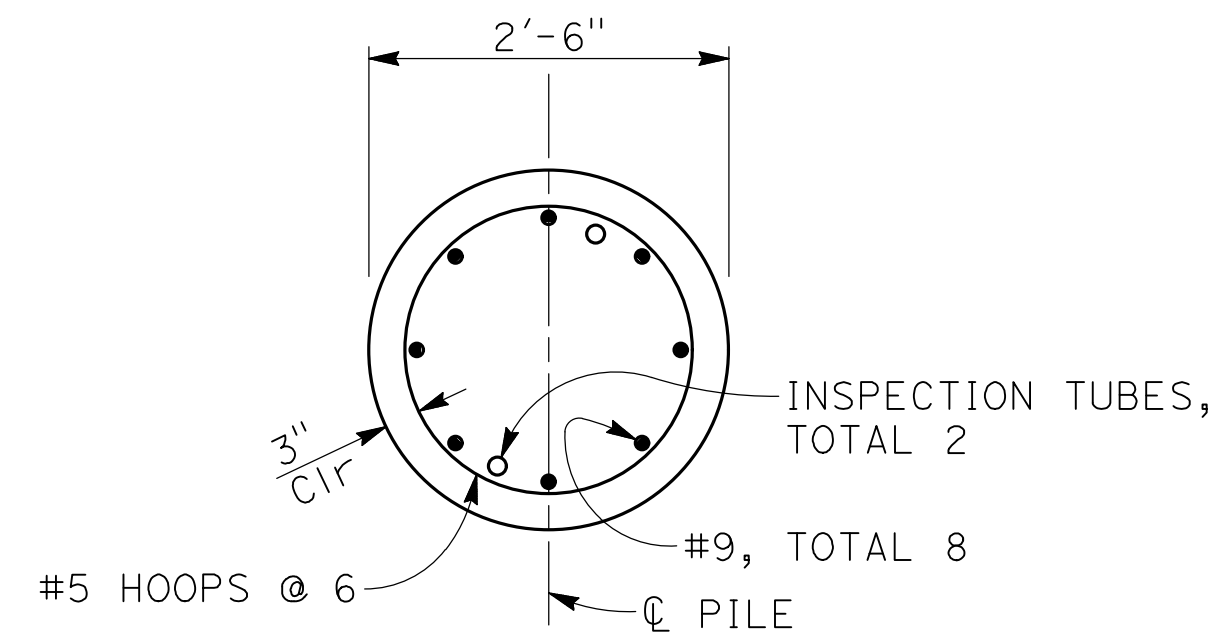
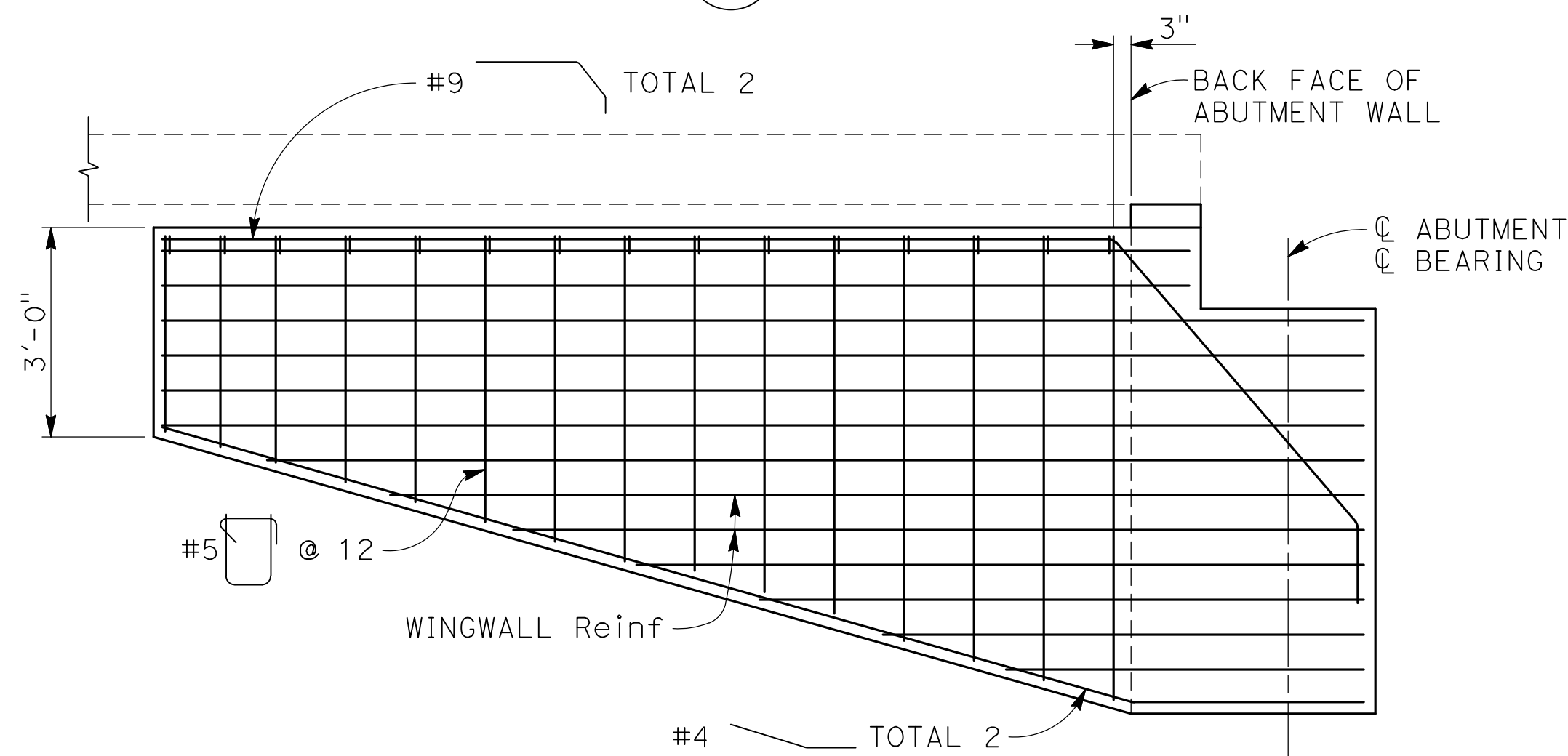
201301555



**SECTION A**  
3/4" = 1'-0" S6

**SECTION B**  
3/4" = 1'-0" S6

**SECTION C**  
3/4" = 1'-0" S6



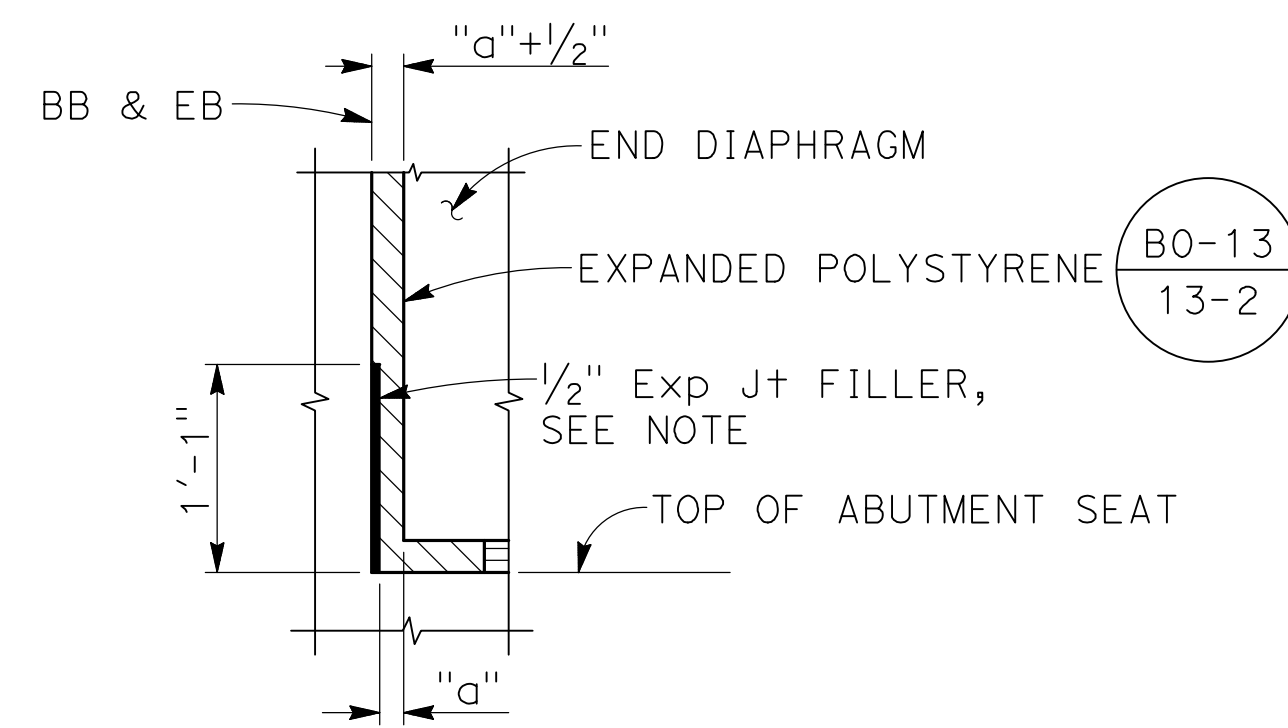
**SECTION D**  
3/4" = 1'-0" S6

**SECTION E**  
3/4" = 1'-0" S6

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

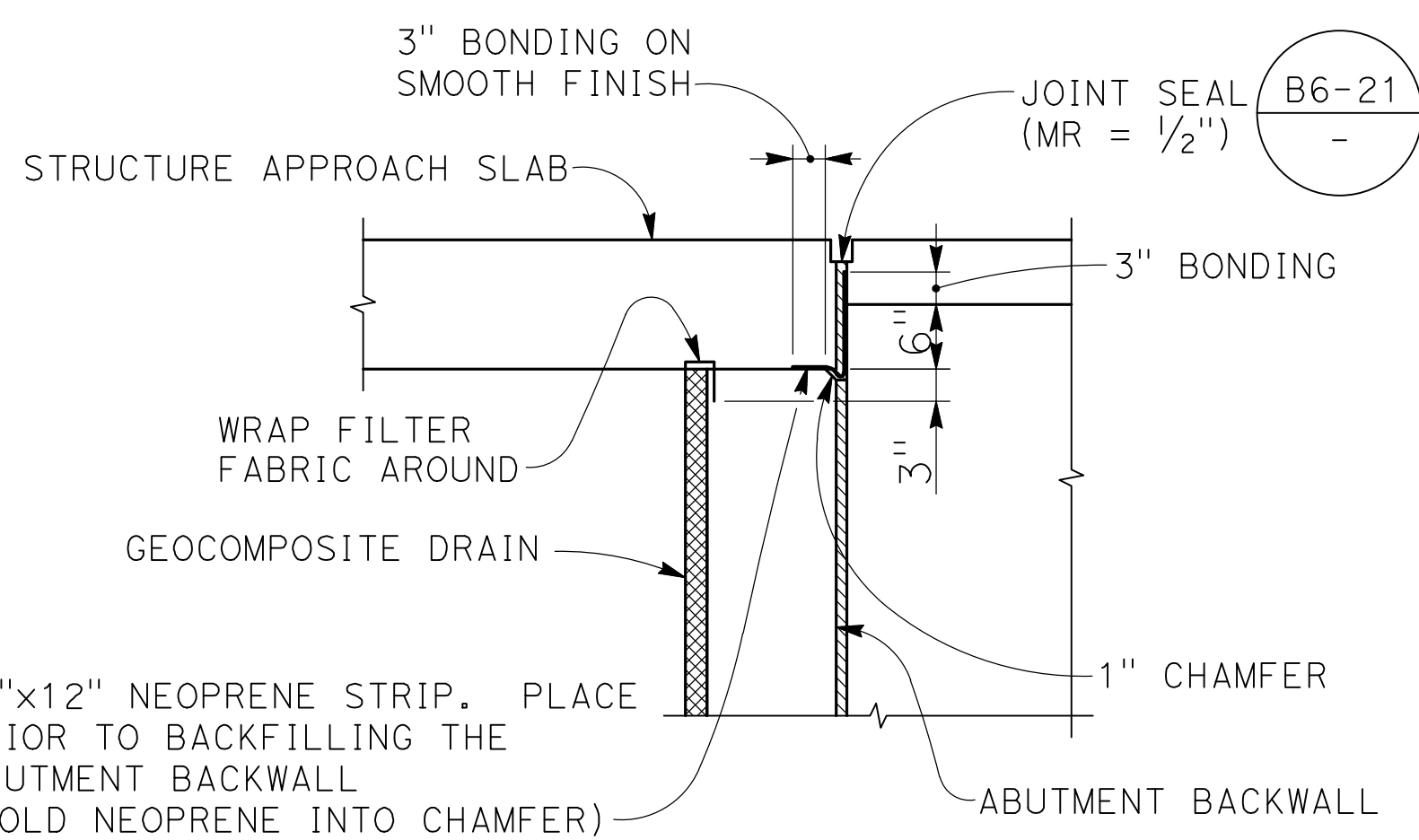
**WINGWALL ELEVATION**  
1/2" = 1'-0"

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		ABUTMENT DETAILS No. 1
CHECKED:	DATE: 6/25/15	DATE:				ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)

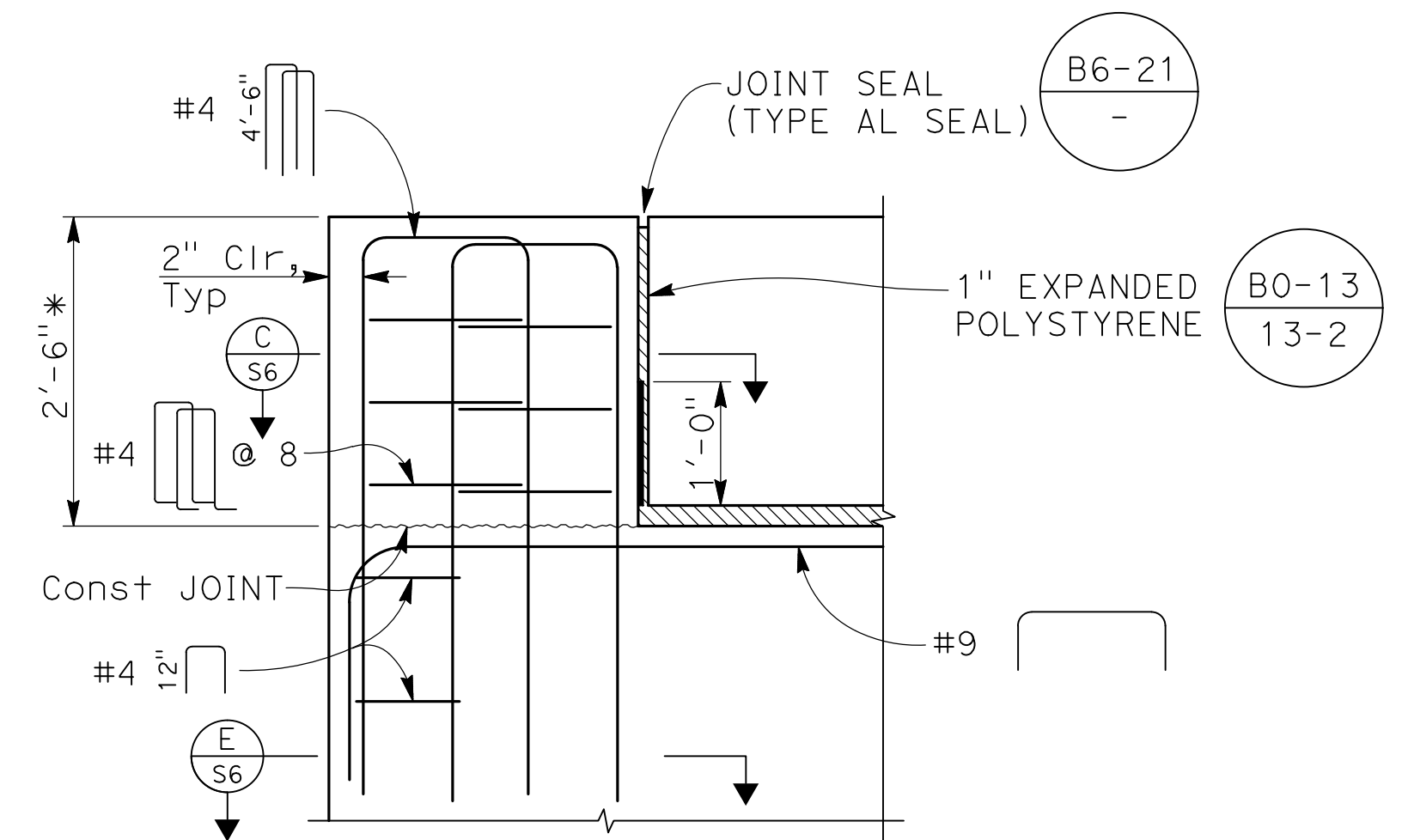


NOTE:  
See "JOINT SEAL ASSEMBLY (Max MR=4") sheet for dimension "a".

**DETAIL 1**  
NO SCALE (S7)

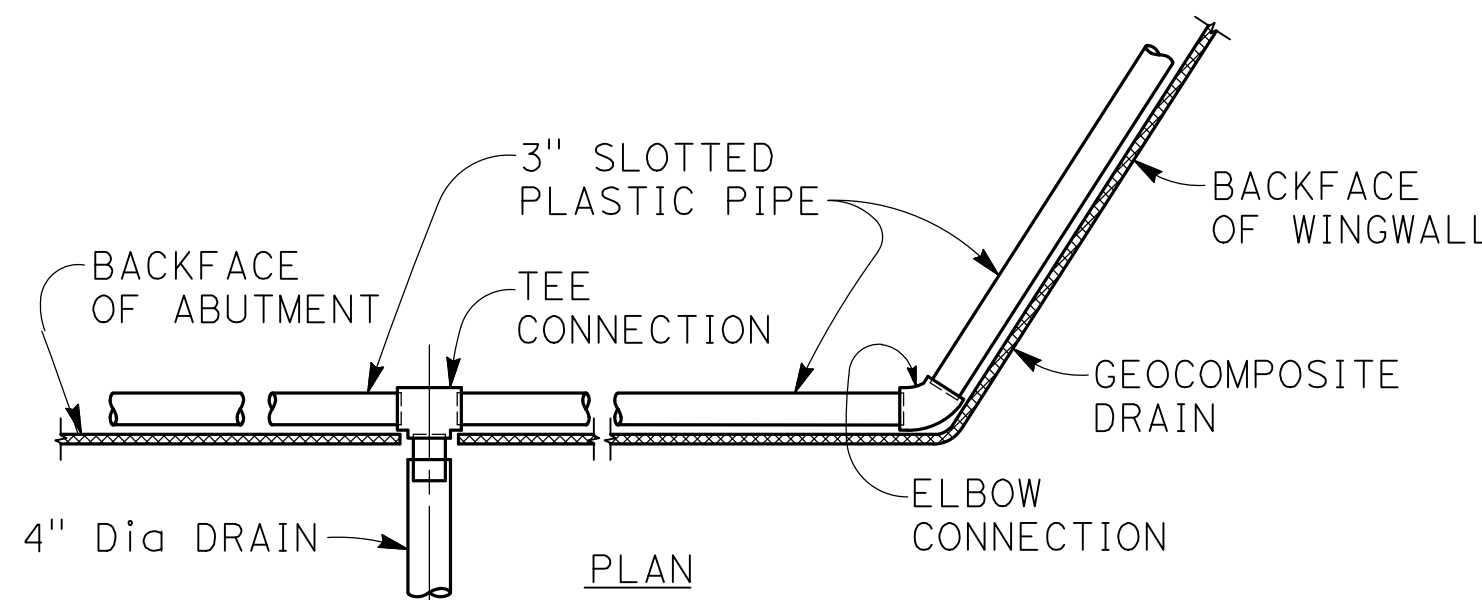
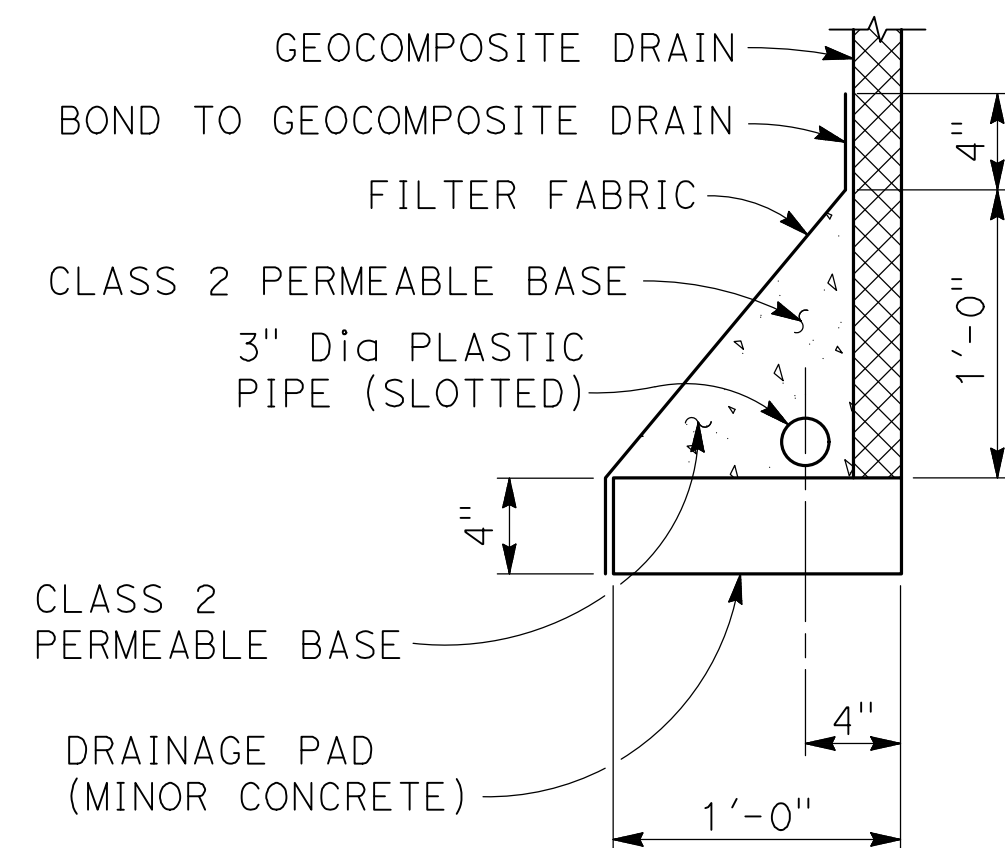


**JOINT PROTECTION DETAIL 2**  
3/4" = 1'-0" (S7)



NOTE:  
\* CAST SHEAR KEYS AFTER SLAB UNITS HAVE BEEN PLACED.

**DETAIL 3**  
3/4" = 1'-0" (S7)



**TEE CONNECTION**

- NOTES:
1. Geocomposite drain, treated permeable base, and 3" dia slotted plastic pipe continuous behind abutment and wingwalls.
  2. Provide 'Tee' connection at each 4" dia drain.
  3. 4" dia drain sloped to drain and outlet to daylight.

**DRAINAGE DETAIL 4**  
NO SCALE (S7)

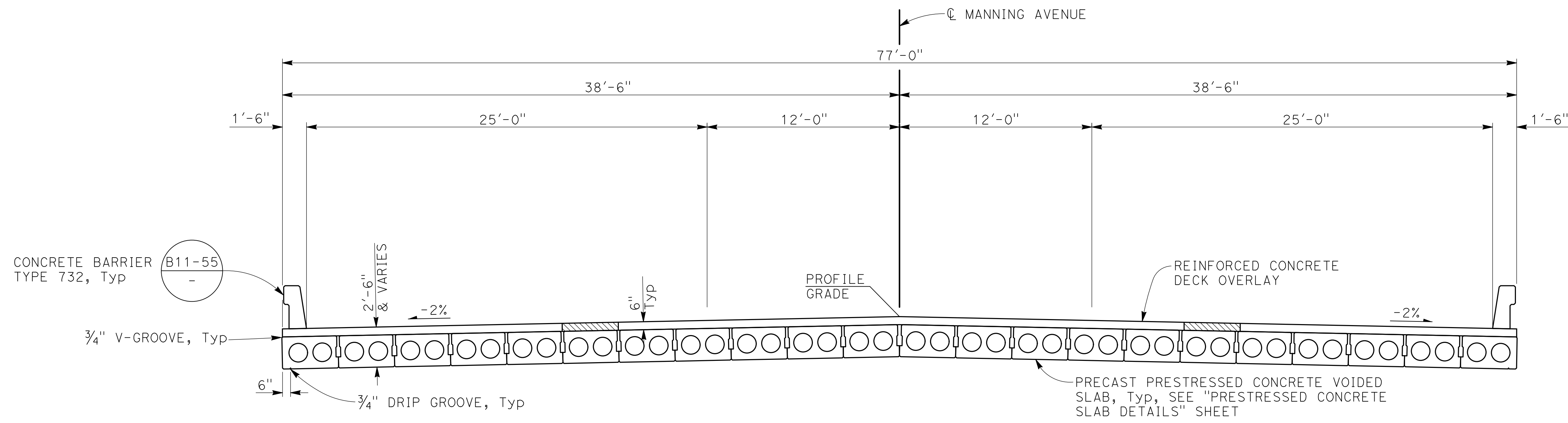
NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING		SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	DATE:	ROAD NO.			BRIDGE NO. 42C-0175, BRLS-5942 (198)		ABUTMENT DETAILS No. 2
CHECKED:	DATE: 6/25/15								

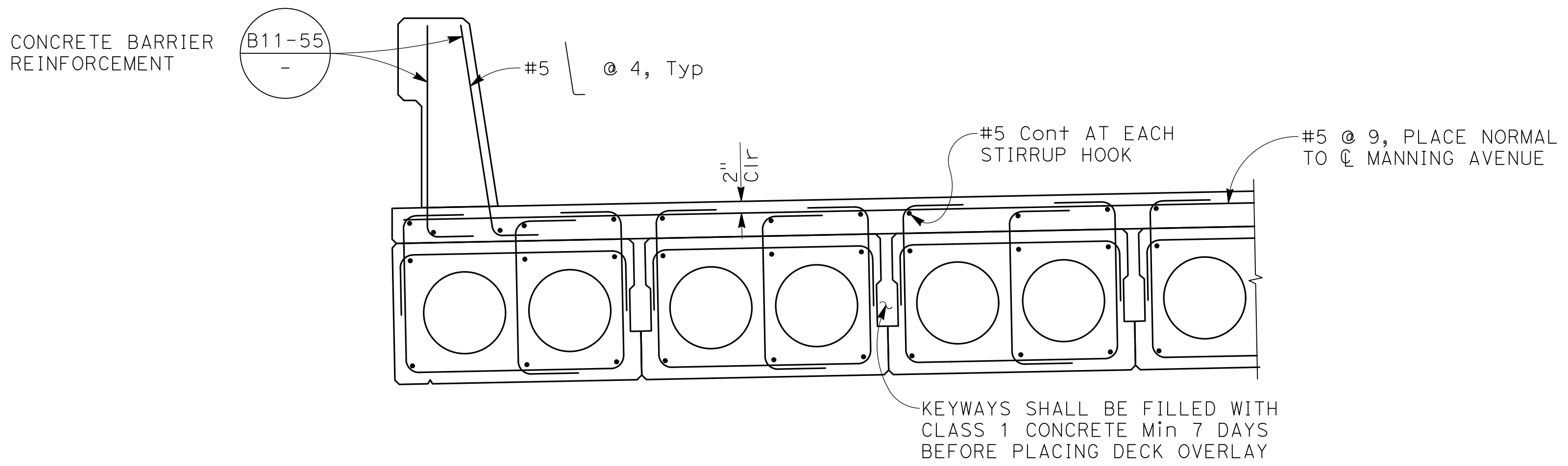
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201301557



**TYPICAL SECTION**  
1/4" = 1'-0"

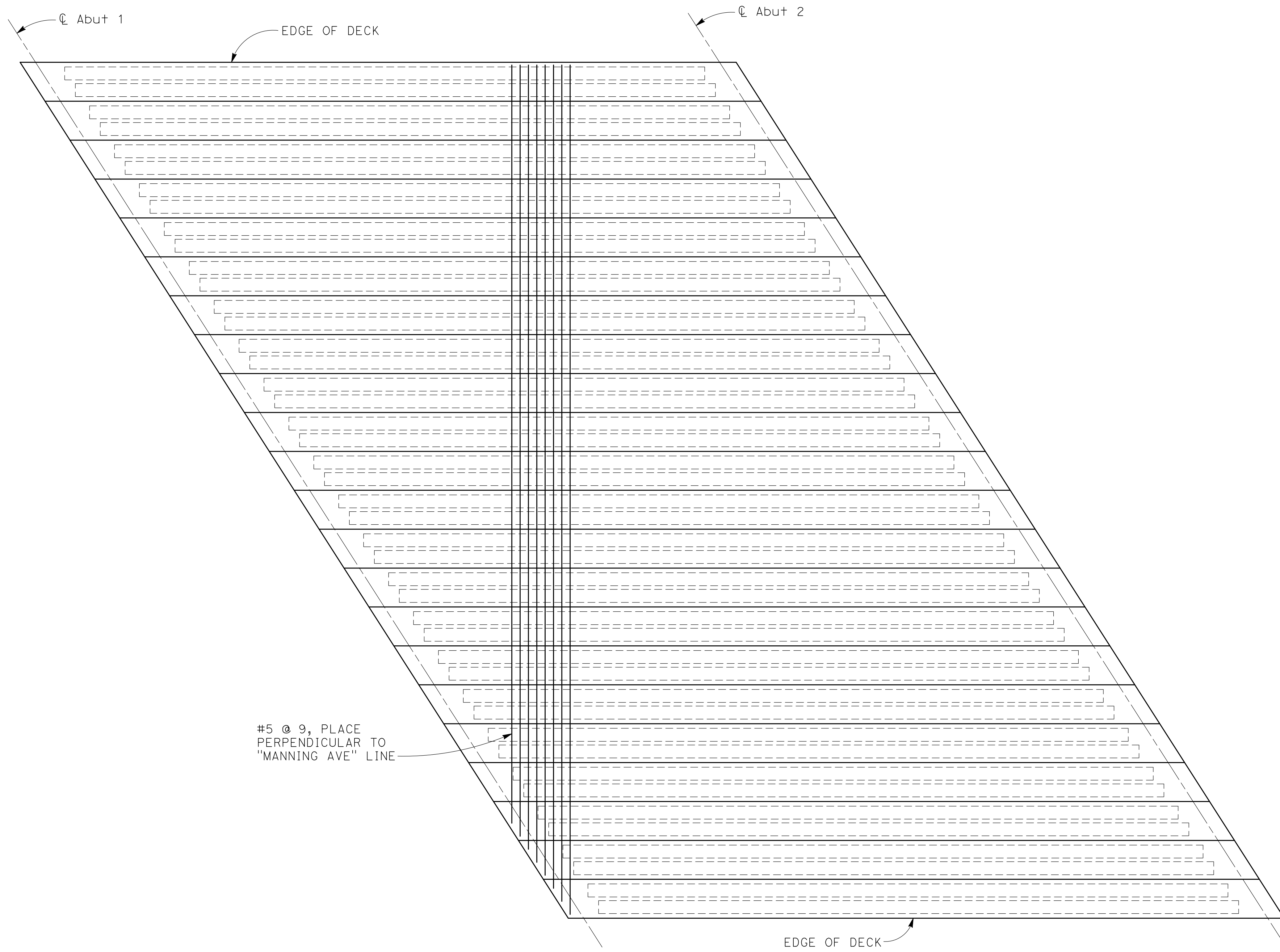


**PARTIAL TYPICAL SECTION**  
3/4" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING		SCALE	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING			
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	DATE	AS SHOWN			TRAVERS CREEK BRIDGE ON MANNING AVENUE		TYPICAL SECTION			
CHECKED:	DATE: 6/25/15						ROAD NO.		BRIDGE NO. 42C-0175, BRLS-5942 (198)	DRAWING NO. S-8	SHEET NO. 47	TOTAL 52
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.												

201301558



#5 @ 9, PLACE PERPENDICULAR TO "MANNING AVE" LINE

**PRESTRESSED CONCRETE SLAB LAYOUT**

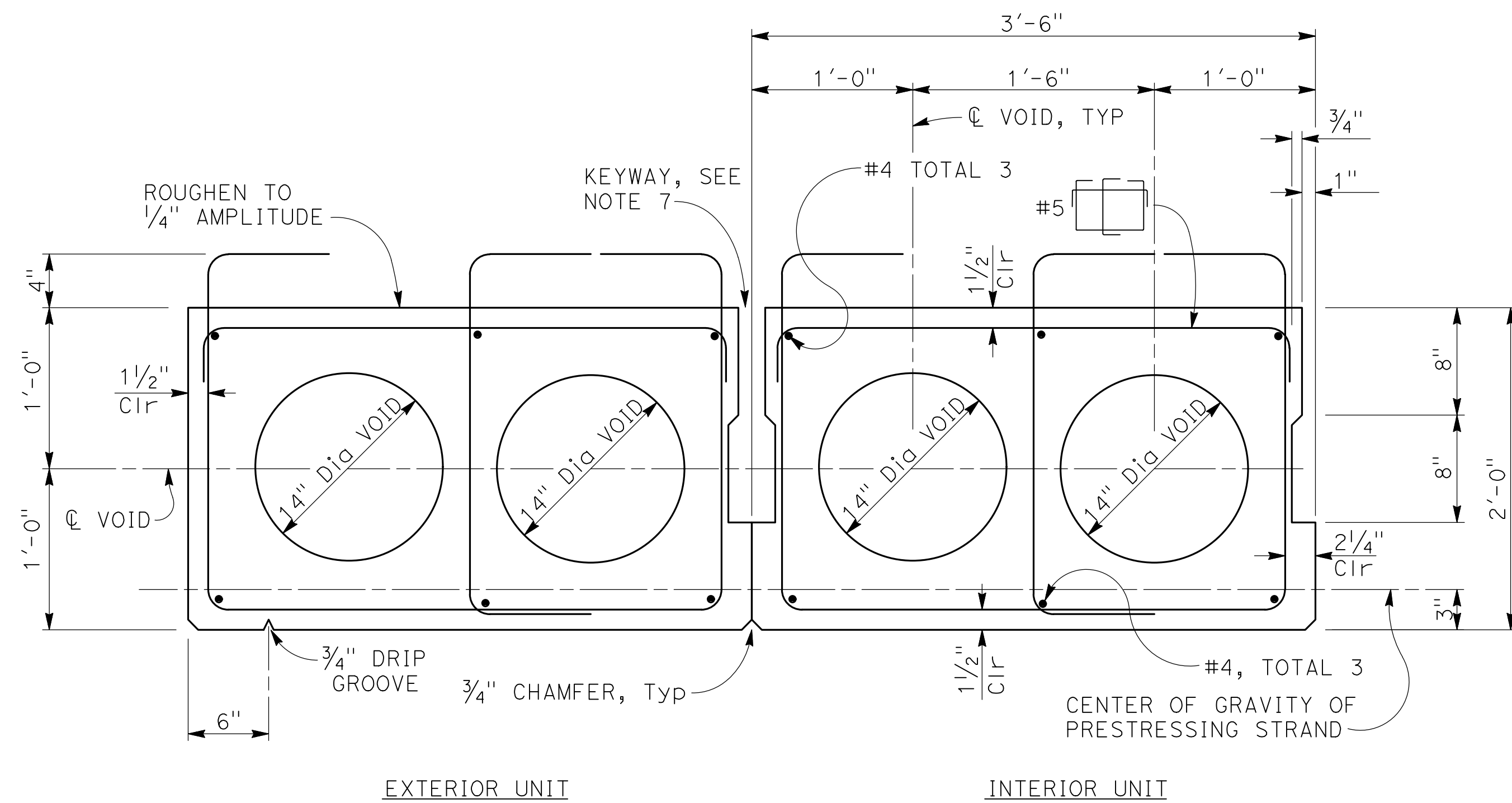
3/16" = 1'-0"

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS		DATE: 6/25/15	RECORD DRAWING		SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE			DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: MLT		DATE: 6/25/15	RESIDENT ENGINEER		DATE:			ROAD NO. _____ BRIDGE NO. 42C-0175, BRLS-5942 (198)			GIRDER LAYOUT	
CHECKED:		DATE: 6/25/15						DRAWING NO. S-9			SHEET NO. 48	

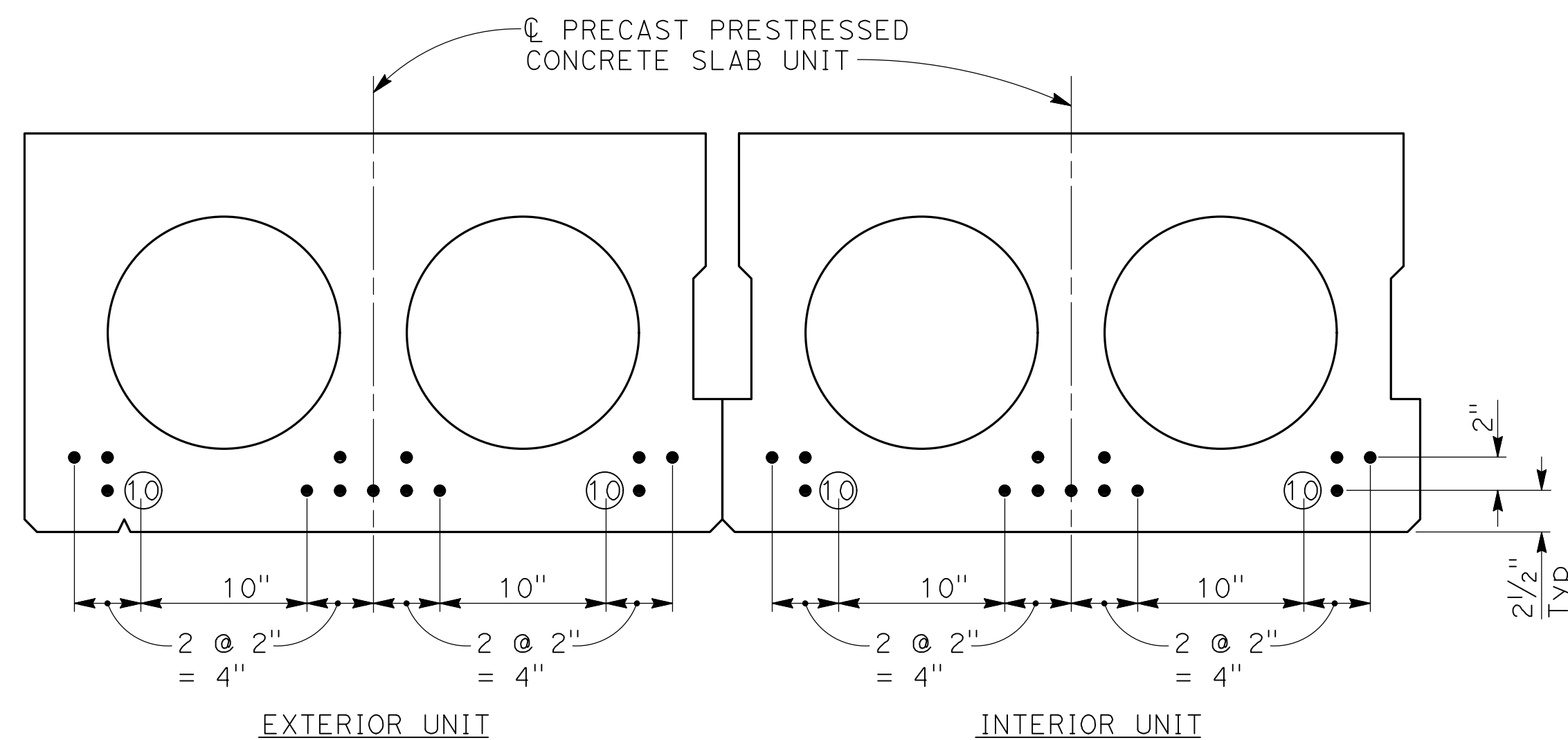
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

201301559



**TYPICAL PRECAST/PRESTRESSED CONCRETE SLAB UNITS**

1 1/2" = 1'-0"



**LEGEND:**

- ⑩ • Denotes continuously bonded strand.
- ⑤ ◦ Denotes debonded strand and debonded length in feet, measured from the ends of the Precast Prestressed Concrete Slab Unit.

**STRAND LAYOUT CONCRETE SLAB**

1 1/2" = 1'-0"

**PRESTRESSING NOTES**

1. The Jacking Force (P) is the jacking force required at the point of control along the span. The jacking force does not include any fabrication specific losses.
2. The maximum tensile stress in the prestressing steel upon release shall not exceed 75% of the specified minimum ultimate tensile strength of the prestressing steel.
3. The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80% of the specified minimum ultimate tensile strength of the pre-stressing steel.
4. Concrete strength:  
f'ci is at time of initial stressing  
f'c is at 28 days
5. Deflection components are informational and will be used to set screed line elevations.
6. Screed line elevations for deck concrete will be determined by the Contractor.
7. Contractor may interpolate "P" and "X" values between the limits shown, as approved by the Engineer
8. There shall be a minimum of two hold downs per girder for the prestressing.
9. Pre-stressing strand shall be 270 ksi low relaxation.
10. As, Min is the minimum area required of prestressing steel.
11. Keyways to be filled with Class 1 Concrete (4000 psi @ 28 days) a minimum of 14 days prior to placement of composite concrete slab.

LOCATION	SLAB UNIT LENGTH (L)	SLAB UNIT DEPTH (D)	NUMBER OF 0.6" Dia STRANDS	JACKING FORCE (P) (kips)	CONCRETE STRENGTH (ksi)		MIDSPAN DEAD LOAD DEFLECTION (in)		ADDITIONAL TOP BAR (EACH END)
					f'ci	f'c	DECK	RAIL	
EXTERIOR UNIT	64'-6"	2'-0"	15	44 kips/STRAND = 660 kips	4	6	1.07	0.89	#5 x6'-2" TOTAL 4
INTERIOR UNIT	64'-6"	2'-0"			4	6	1.07	0.89	#5 x6'-2" TOTAL 4

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

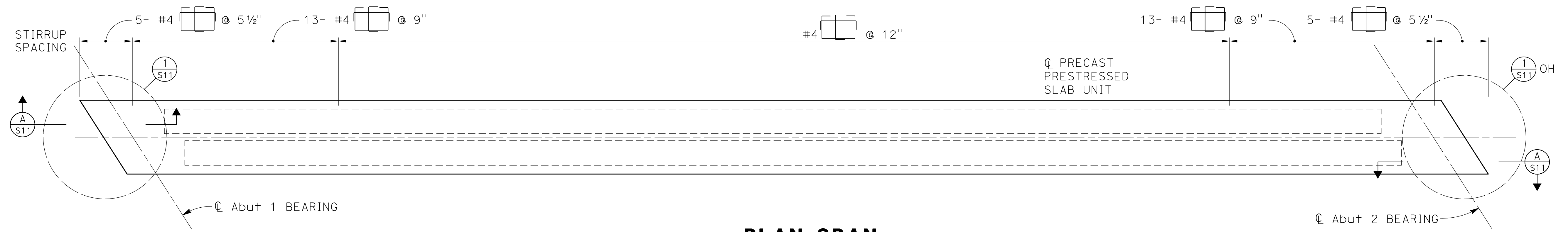
DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING	SCALE	PROJECT	DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	6/25/15	RESIDENT ENGINEER	AS SHOWN	TRAVERS CREEK BRIDGE ON MANNING AVENUE	PRESTRESSED CONCRETE SLAB DETAILS No. 1
CHECKED:	6/25/15			ROAD NO.	DRAWING NO. S-10
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				BRIDGE NO. 42C-0175, BRLS-5942 (198)	SHEET NO. 49

**BIGGS CARDOSA ASSOCIATES INC**  
STRUCTURAL ENGINEERS

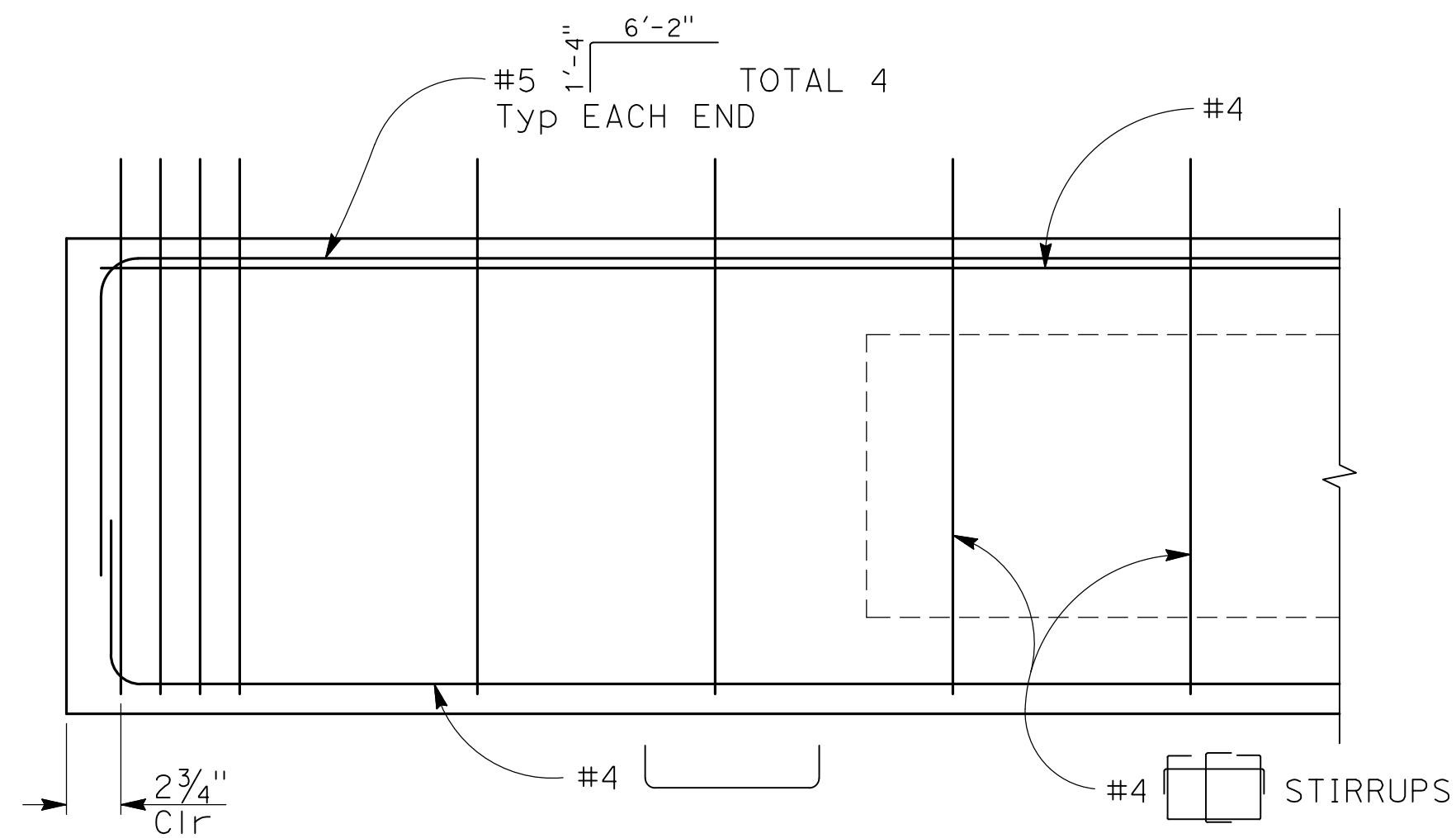
5250 N. Palm Avenue, Suite 211  
Fresno, California 93704  
559-449-8686



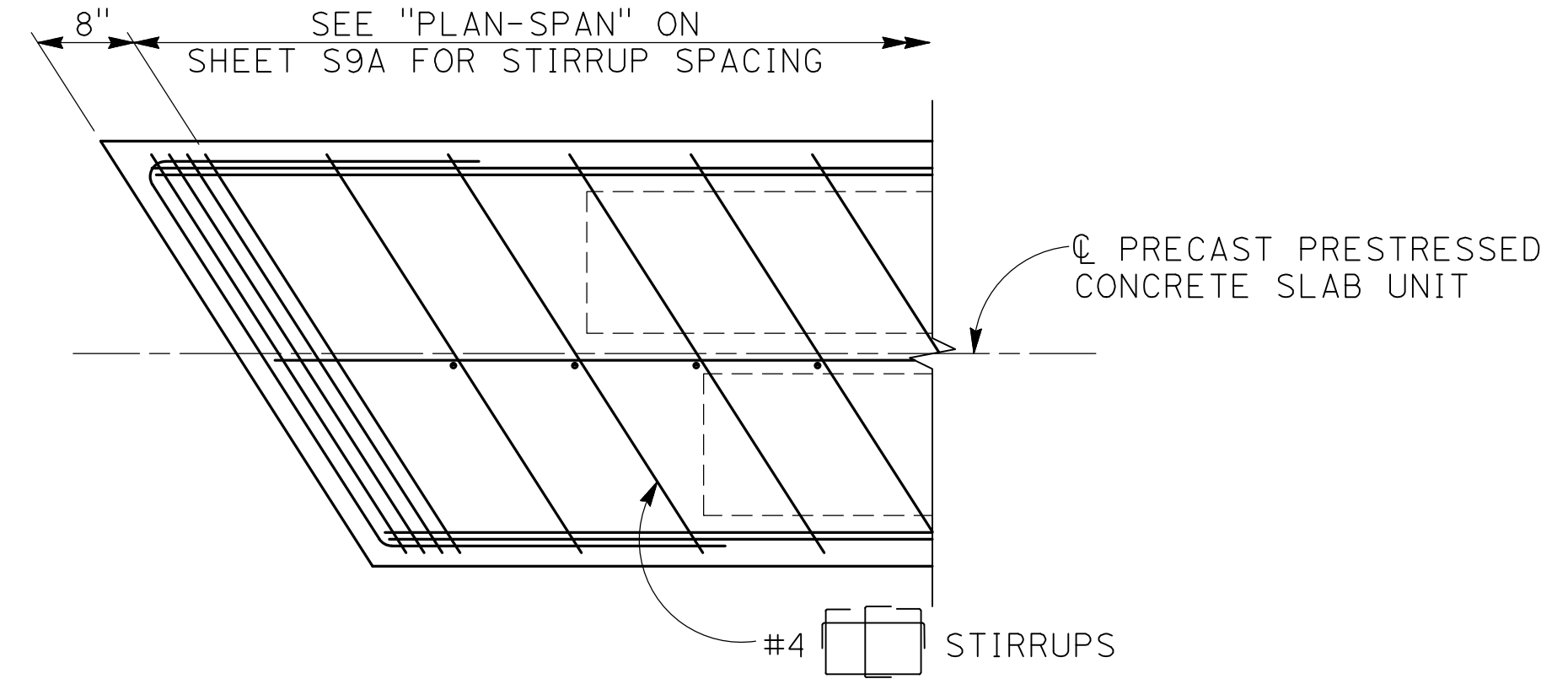
2013015510



**PLAN-SPAN**  
3/8" = 1'-0"



**SECTION A**  
1 1/2" = 1'-0" S11



**DETAIL 1**  
3/4" = 1'-0" S11

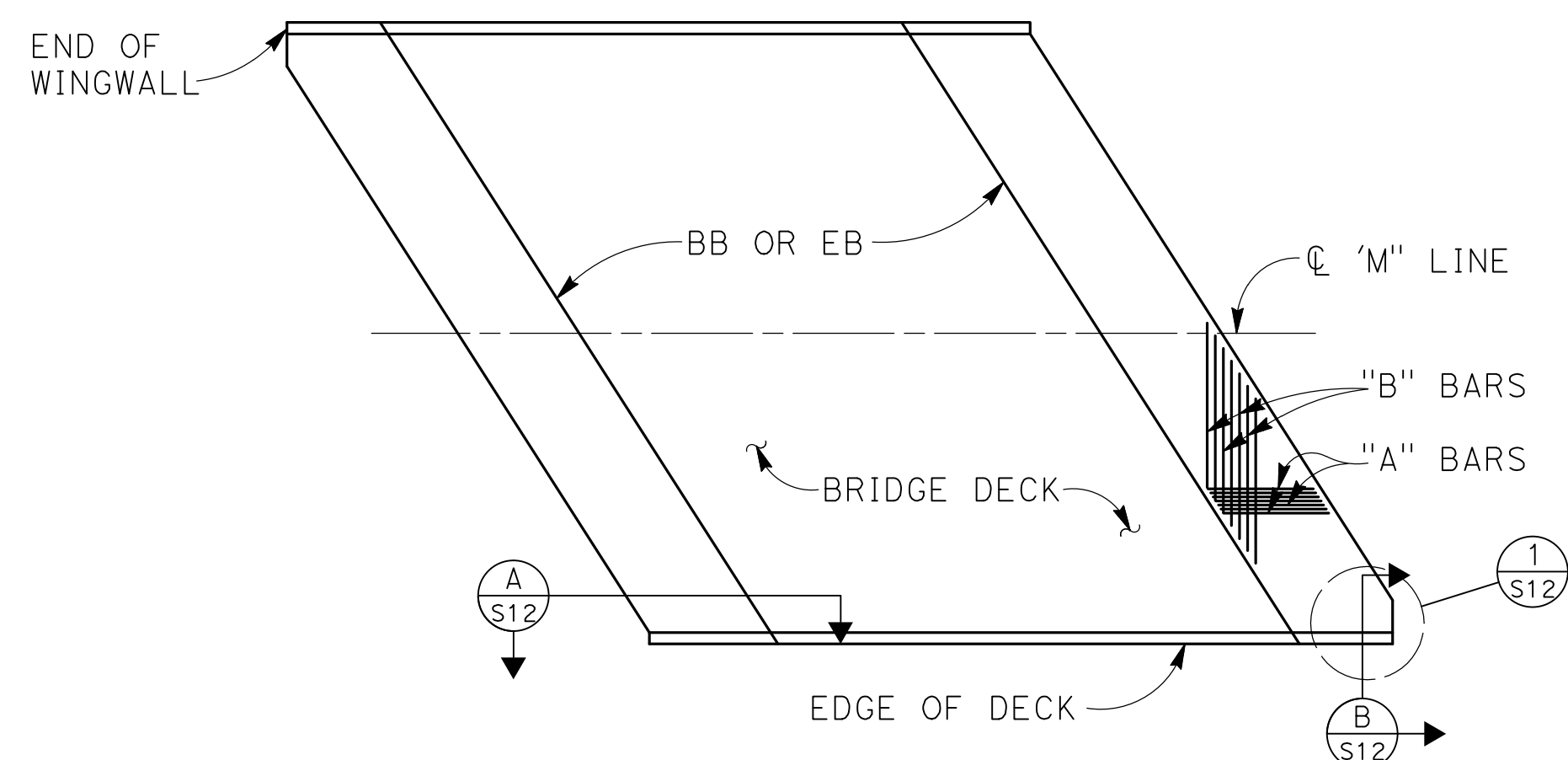
NOTE:  
THE CONTRACTOR MUST VERIFY ALL  
CONTROLLING FIELD DIMENSIONS BEFORE  
ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS		DATE: 6/25/15	RECORD DRAWING		SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE			DEPARTMENT OF PUBLIC WORKS AND PLANNING			
DRAWN: MLT		DATE: 6/25/15	RESIDENT ENGINEER		DATE:			ROAD NO.:			BRIDGE NO. 42C-0175, BRLS-5942 (198)		PRESTRESSED CONCRETE SLAB DETAILS No. 2	
CHECKED:		DATE: 6/25/15											DRAWING NO. S-11 SHEET NO. 50 TOTAL 52	

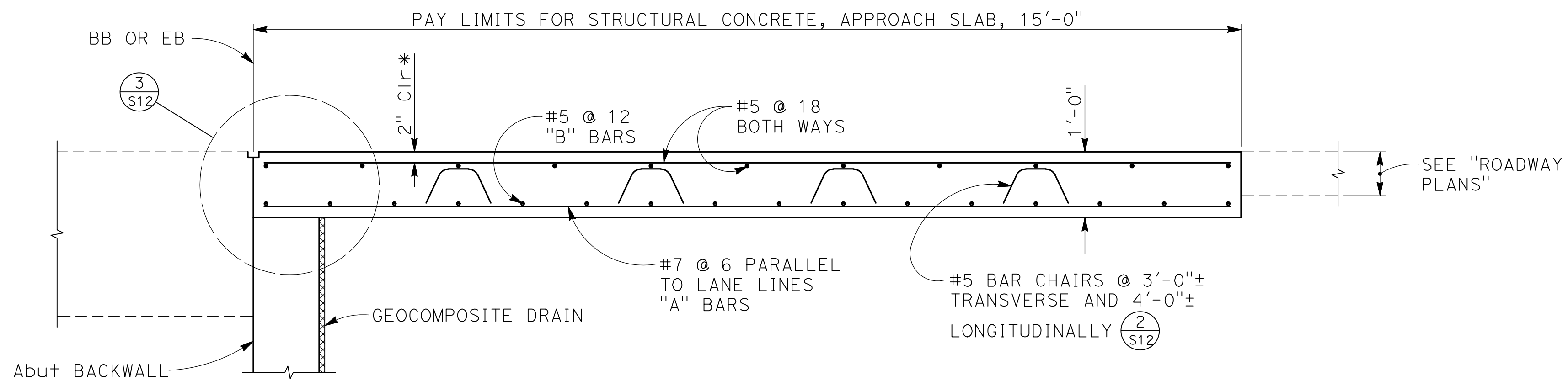
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



2013015S11

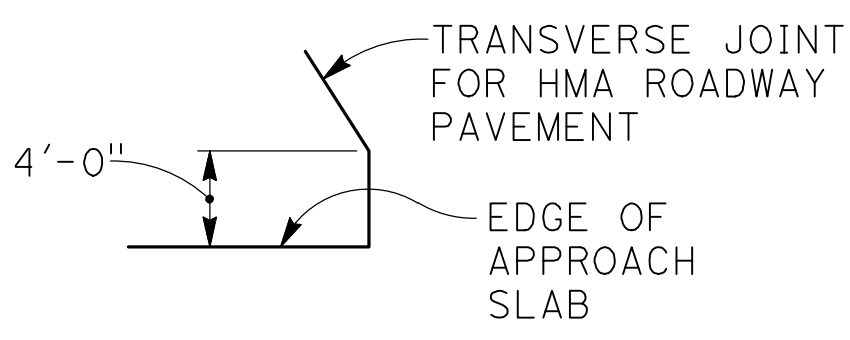


**PLAN**  
1" = 20'  
N

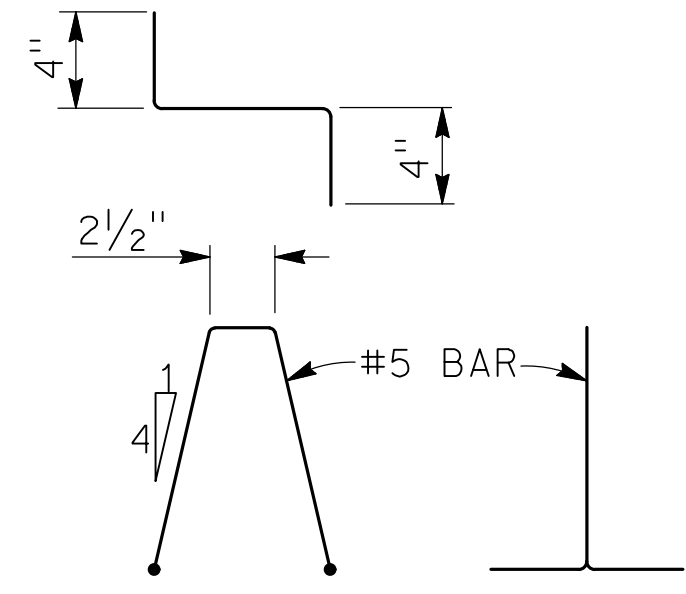


**SECTION A**  
3/4" = 1'-0" S12

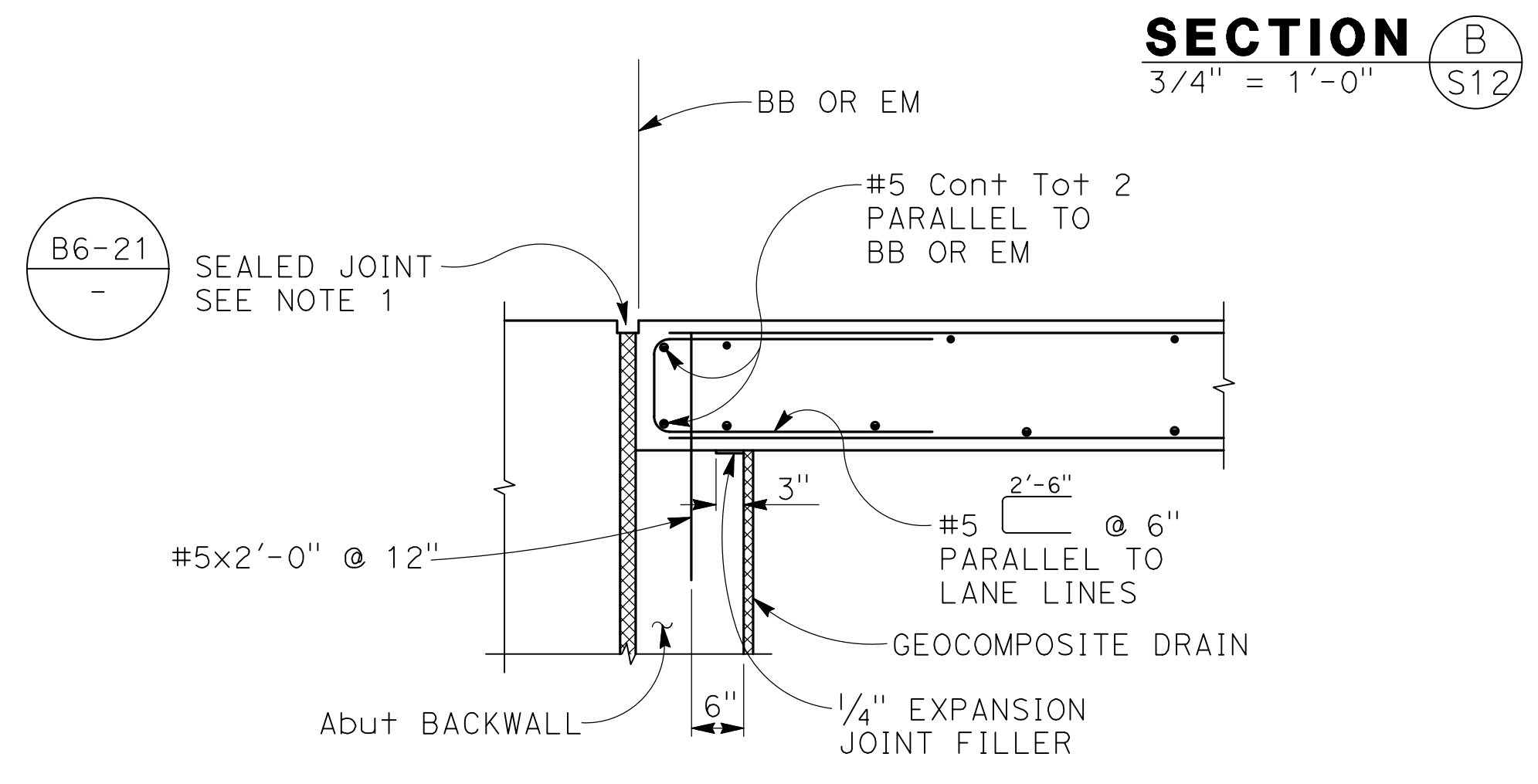
\* MIN COVER MUST BE 2 1/2" IN FREEZE-THAW AREA



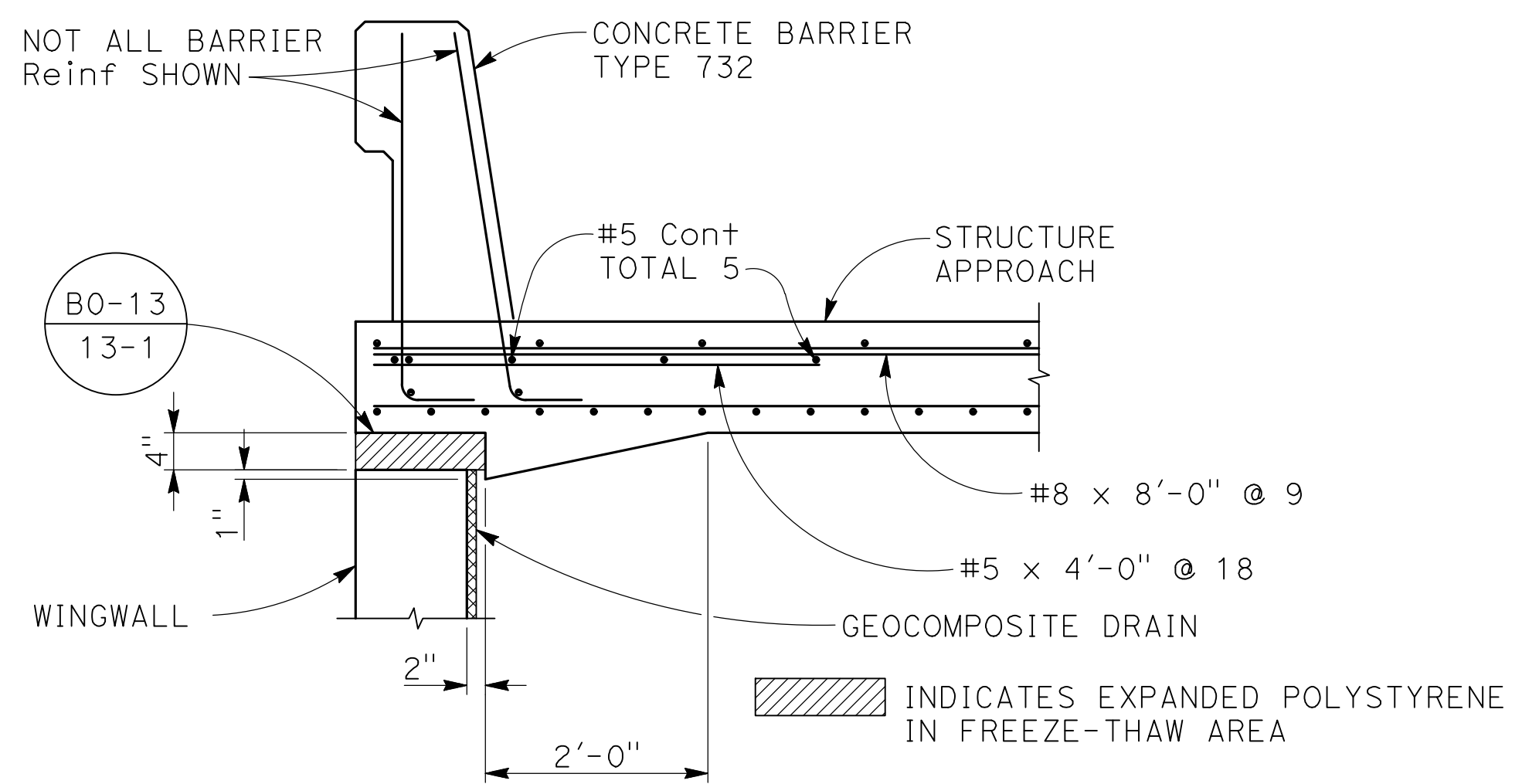
**DETAIL 1**  
NO SCLAE S12



**BAR CHAIR DETAIL 2**  
1 1/2" = 1'-0" S12



**SEAT TYPE ABUTMENT TIE DETAILS 3**  
3/4" = 1'-0" S12



**SECTION B**  
3/4" = 1'-0" S12

INDICATES EXPANDED POLYSTYRENE IN FREEZE-THAW AREA

- NOTES:
- For details not shown, see Structure Plans.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - For transverse contact joint with new PCC paving, refer to P10.
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along  $\perp$  roadway.
  - Provide cross slope to match deck surface grade. See "TYPICAL SECTION" and "DECK CONTOURS" sheets.

LEGEND:  
Remove all polystyrene after concrete is cured.

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

DESIGNED: RBS	DATE: 6/25/15	RECORD DRAWING		SCALE: AS SHOWN	<b>BIGGS CARDOSA ASSOCIATES INC</b> STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686		PROJECT: TRAVERS CREEK BRIDGE ON MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: MLT	DATE: 6/25/15	RESIDENT ENGINEER	DATE:	ROAD NO.			BRIDGE NO. 42C-0175, BRLS-5942 (198)		STRUCTURE APPROACH DETAILS
CHECKED:	DATE: 6/25/15								
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.									

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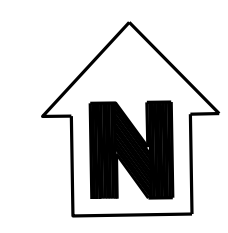
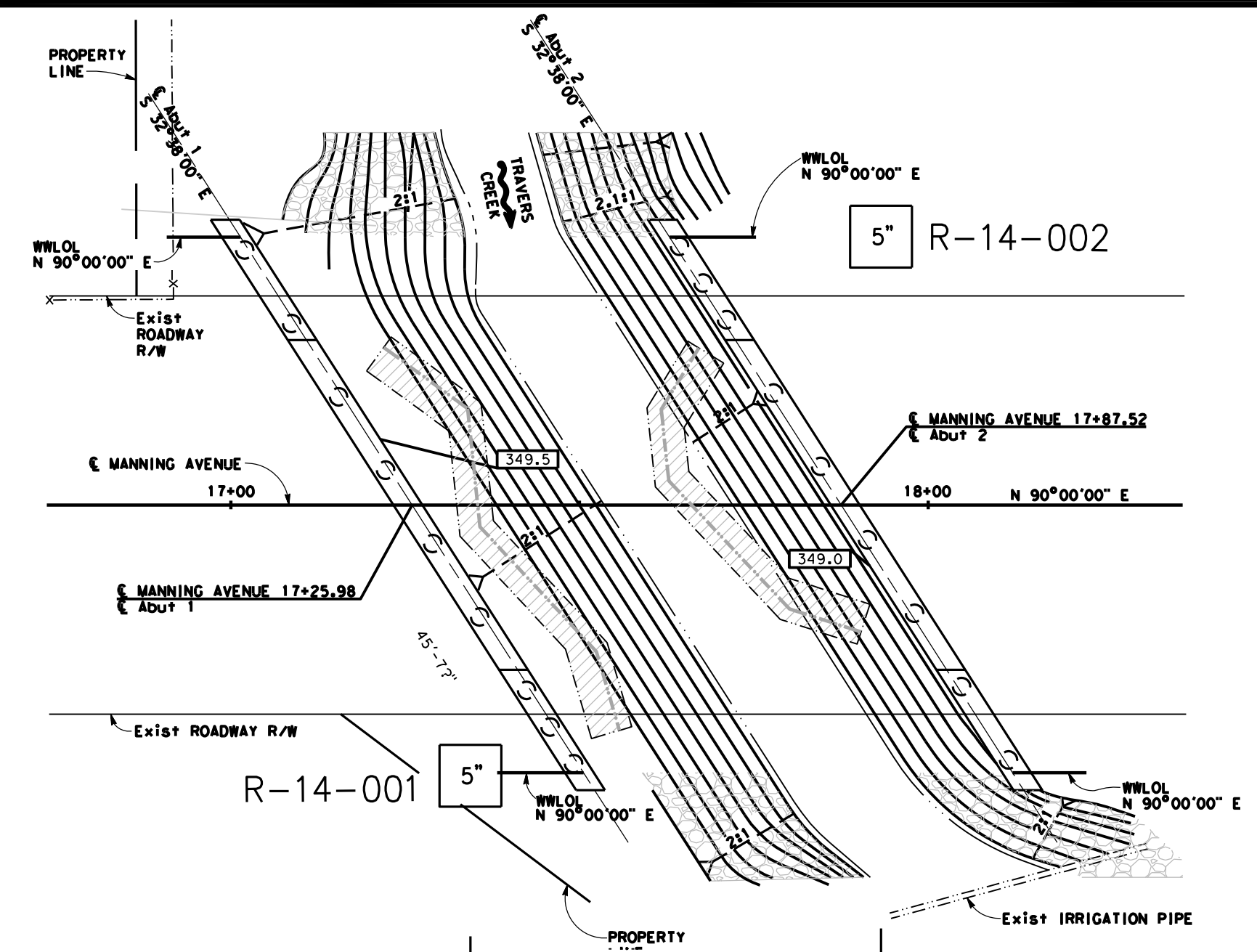
Notes:  
 Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"  
 Modified California Sampler: I.D. = 2.5"; O.D. = 3"  
 Hammer Assembly: A 140 lb hammer with a 30" drop  
 (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010)

See Caltrans 2010 Standard Plans A10F, A10G and A10H for Soil and Rock Legends.

All dimensions are in feet unless otherwise shown.

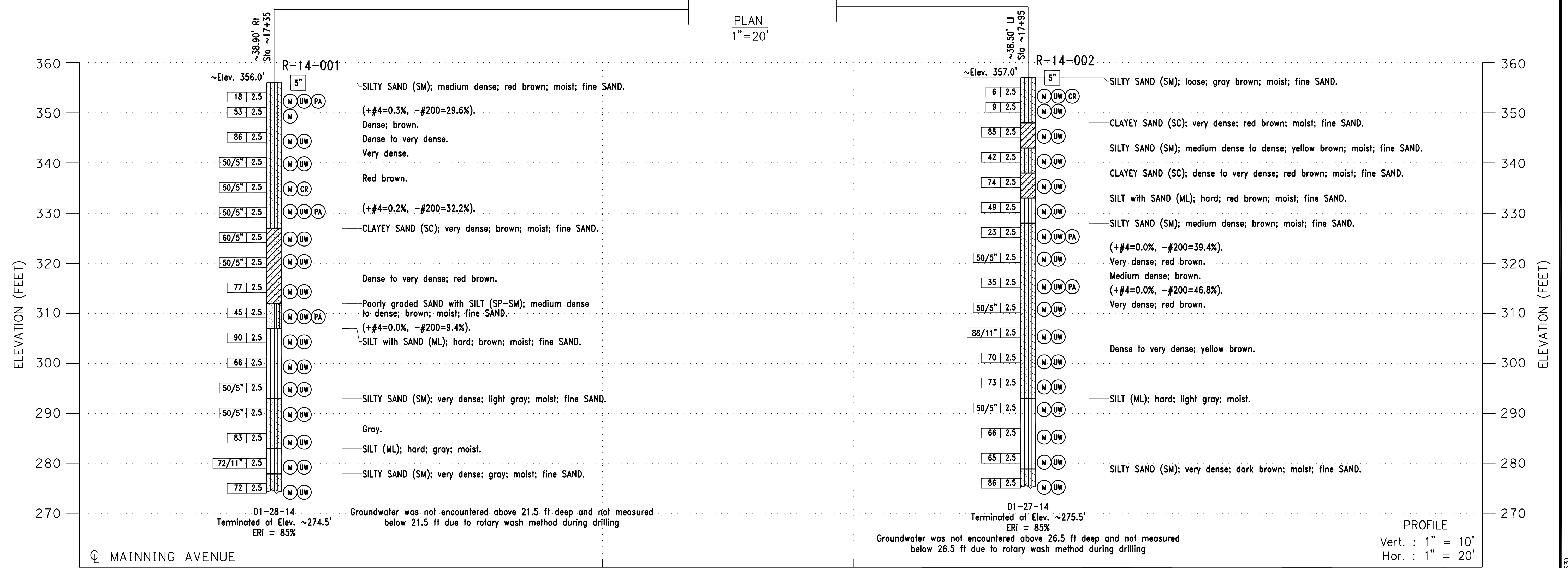
Base map is provided by Biggs Cardosa Associates Inc 2016.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
6	FR	LOCAL			

1/8/16  
 GEOTECHNICAL PROFESSIONAL DATE  
 GARY PARIKH  
 No. G.E. 666  
 Exp. 12/31/17  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA  
 GEOTECHNICAL

PLANS APPROVAL DATE  
 The County of Fresno or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 PARIKH CONSULTANTS, INC.  
 2360 OUME DRIVE, SUITE A  
 SAN JOSE, CA 95131



DRAWN BY KIM OUYANG	V.SANTOS FIELD INVESTIGATION BY: DATE: JANUARY 2014	PETER WEI PROJECT ENGINEER	BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 5250 N. Palm Avenue, Suite 211 Fresno, California 93704 559-449-8686	PROJECT TRAVERS CREEK BRIDGE ON MANNING AVENUE ROAD NO. BRIDGE NO. 42C-0175, BRLS-5942 (198)	DEPARTMENT OF PUBLIC WORKS AND PLANNING LOG OF TEST BORINGS
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