



Bid Package – ISSUED FOR BID

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

AMENDED

Date: June 23, 2016

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A. PROJECT NARRATIVE

Project Description

The purpose of this project is to provide construction services to complete the installation of roadway improvements for Mount Umunhum Road, located within the Sierra Azul Open Space Preserve. Scope of work to include, but not limited to: Installation and Rehabilitation of asphalt concrete (AC) roadway surface paving; Shallow and deep roadway settlement repairs; Clearing and removal of project area debris and vegetation; Removal and replacement of roadway drainage inlet structures; Miscellaneous drainage infrastructure improvements; Installation of roadway signage, striping, guardrails, and associated safety infrastructure; Installation of rock fall netting system; Installation of roadside debris catchment concrete barriers; and three sets of solar powered automatic gate systems (gate leaves supplied by District), as further detailed and described herein as the Contract Documents.

Project Location

Mount Umunhum Road is located within Sierra Azul Open Space Preserve, in the Santa Cruz Mountains of Santa Clara County. The roadway is accessible from the City of San Jose urban area via Camden Avenue and Hicks Road. The roadway originates at Hicks Road, and terminates at the summit of Mount Umunhum.

Project Schedule

Award of Contract is anticipated to occur on July 27, 2016. On site activities are anticipated to commence in mid-August, 2016, by which time contractor must have complied with all pre-construction submittal requirements. ~~The Project is divided into two phases: Phase 1 consists of all work between Hicks Road and the Gate SA08 at the Bald Mountain Staging Area (Station 205 to Station 298). Phase 2 consists of all other work above Gate SA08 (Station 205). Substantial completion of Phase 1 of the Project is required by October 19, 2016. Substantial completion of Phase 2 of the Project is required by March 28, 2017.~~ **Substantial completion of the project is required by May 9, 2017.** On site construction activities for Phase 1 and Phase 2 of the Project are anticipated to take approximately 180 working days.

Project Budget

Total project cost has been estimated to be approximately \$4,700,000, which includes the cost of General Conditions, mobilization, grubbing, grading, demolition, disposal, construction and installation of all site elements, and allowances for all EIR site mitigation requirements.

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B. BIDDING DOCUMENTS

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1. INVITATION TO BID

Notice Is Hereby Given that the Midpeninsula Regional Open Space District (The District) will receive bids at the Office of the Midpeninsula Regional Open Space District, 330 Distel Circle, Los Altos, CA **on or before 2:00 p.m. on July 8, 2016** for the furnishing of all labor, materials and services required for the following designated scope of work:

1. Project:

Mount Umunhum Road Rehabilitation Project

2. Scope of Work:

Installation and Rehabilitation of asphalt concrete (AC) roadway surface paving; Shallow and deep roadway settlement repairs; Clearing and removal of project area debris and vegetation; Removal and replacement of roadway drainage inlet structures; Miscellaneous drainage infrastructure improvements; Installation of roadway signage, striping, guardrails, and associated safety infrastructure; Installation of rock fall netting system; Installation of roadside debris catchment concrete barriers; and three sets of solar powered automatic gate systems (gate leafs supplied by District), as further detailed and described herein as the Contract Documents. ~~The Project is divided into two phases: Phase 1 consists of all work between Hicks Road and the Gate SA08 at the Bald Mountain Staging Area (Station 205 to Station 298). Phase 2 consists of all other work above Gate SA08 (Station 205). Substantial Competition of Phase 1 of the Project is required by October 19, 2016~~

Class A Contractor license required.

There is a mandatory pre-bid meeting and site visit. ALL BIDDERS MUST ATTEND. The site visit is scheduled for 10:30 a.m. on June 17, 2016. Mandatory Reservation Required: RSVP to Melissa Garcia at 650-691-1200 by 3:00 p.m. on June 16, 2016 to receive directions to the meeting location and notice of any weather delays or changes. An optional second bid tour and site visit is scheduled for 10:30 a.m. on June 24, 2016.

Complete project information is contained within the project Bid Package, which is available online, at the office of the District, and at local Builders Exchanges. Please visit the District's Request for Bids page at <http://www.openspace.org/about-us/district-administration/bids>.

For additional information, contact Zachary Alexander, Capital Project Manager, Midpeninsula Regional Open Space District, 330 Distel Circle, Los Altos, CA 94022-1404; (650) 691-1200.

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2. INSTRUCTIONS TO BIDDERS

To be considered, bids must be made in accordance with these Instructions to Bidders.

1. CONTRACT DOCUMENT AVAILABILITY

Each bid proposal shall be made in accordance with the Bid Package documents on file, included in this package, and available for inspection at the District website at <http://www.openspace.org/about-us/district-administration/bids> and at the locations below:

Builders Exchange of Santa Clara County 400 Reed Street Santa Clara, CA 95050 408.727.4000 408.727.2779 fax www.bxscco.com/	Peninsula Builders Exchange 735 Industrial Road #100 San Carlos, CA 94070 650.591.4486 650.591.8108 fax www.constructionplans.org	Bay Area Builders Exchange 2440 Stanwell Drive ste B Concord, CA 94520 925.685.8630 510.352.1509 fax http://www.beac.com
Builders Exchange of Alameda County 3055 Alvarado Street San Leandro, CA 94577 510.483.8890 510.352.1509 fax www.beac.com	The San Francisco Builders Exchange 850 S. Van Ness San Francisco, CA 94110 415.282.8220 415.821.0363 fax www.bxofsf.com	Central Coast Builders Exchange 20 Quail Run Cir. Suite A Salinas, CA 93907 831.423.5900 admin@ccbabuilds.com

Electronic copies of the Bid Package are available and may be downloaded from the following link: <http://www.openspace.org/about-us/bids/mount-umunhum-summit-project-rfb>

A hard copy of the Bid Package document may be reviewed at the District administrative office located at 330 Distel Circle, Los Altos, CA 94022. Bidders can download and print / plot hard copies or order them through the Builders Exchange. A CD containing the Bid Package can be requested by contacting Melissa Garcia at 650-691-1200. Please allow 24 hours and CD must be picked up at the District administrative office.

2. MANDATORY PRE-BID MEETING INFORMATION

All bidders must attend the mandatory pre-bid meeting which will be held at **10:30 A.M. on June 17, 2016**. Participants will meet at a prearranged parking location at or near the Preserve. **To receive directions to the meeting location and notice of any weather delays, bidders must RSVP to Melissa Garcia at (650) 691-1200 no later than 3:00 p.m. June 16, 2016. Due to logistical constraints, a maximum of 2 representatives per company will be permitted.** The mandatory pre-bid meeting will include a tour of the site. Tour participants should allow a minimum of three hours and should wear suitable footwear and appropriate dress for the open space conditions. Extreme weather conditions or other unforeseen conditions could cause the tour to be **cancelled and re-scheduled. You will be sent an e-mail the afternoon before the pre-bid meeting if it is cancelled.** The pre-bid meeting and site walk will take at least 3 hours, not including your travel time to arrive at the meeting location. The District will provide water,

but attendees should bring their own food. An optional second bid tour and site visit is scheduled for 10:30 a.m. on June 24, 2016.

3. TENTATIVE PROJECT SCHEDULE

June 10, 2016	Request for Bids issued
June 17, 2016	Mandatory Pre-Bid Meeting, 10:30 a.m. RSVP is Mandatory and must be received by 3:00 p.m. on June 16, 2016.
June 24, 2016	Optional Pre-Bid Meeting, 10:30 a.m.
June 27, 2016 June 30, 2016	10:00 a.m. - Deadline for Bidders to pose questions.
June 28, 2016 July 6, 2016	4:00 p.m. - Final Addendum to Bid Package issued
July 8, 2016	Bid Opening, 2:00 p.m. 330 Distel Circle, Los Altos, CA, 94022
July 27, 2016	Award of Contract by District Board of Directors Regular Meeting, begins at 7:00 p.m.
July 28, 2016	Written Notice of Award of Contract
August 1, 2016	Pre-Construction Meeting and deadline to submit Labor and Materials Payment Bond, Performance Bond, Proof of Insurance, and signed Agreement
August 1, 2016	Written Notice to Proceed issued by District
October 19, 2016	Phase 1 Substantial Completion
October 20-23, 2016	“Summit Public Opening,” “Stand-Down” period at Districts discretion.
October 24, 2016	Work may restart
May 9, 2017	Phase 2 Substantial Completion

4. BID PROPOSAL GENERAL REQUIREMENTS

Prior to submitting his/her proposal, the Bidder shall thoroughly examine the Contract Documents and shall participate in the mandatory pre-bid meeting and site walk to understand the site conditions and scope of Work. Any questions, concerns, errors or ambiguities noted by the Bidder during said examination shall immediately be called to the attention of the District Representative prior to a submission of a bid. The District will issue addenda with interpretation of the cited questions, concern, error or ambiguity. No subsequent claim for extra work will be allowed on account of claimed misunderstanding of the meaning or intent of the Contract Documents, site conditions, or any other documents included in this Bid Package if the item occasioning the claim appeared in, or was inferable from, said documents or from site investigations mandated for bidding purposes.

Examination of Site. Attention is directed to Bidder's obligation to examine the Work site; compare the site with the Plans and Specifications; determine any site variation that affects the Bid; and investigate the conditions of existing clearances, restrictions, or limitations that affect access to the Work. Bidder's failure to do any and all of the above shall not be a basis for claim of additional monies or extension of time.

Examination of Contract Documents. Bidder shall examine the Contract Documents to verify that there are no missing pages or sheets and shall obtain and examine any and all missing material prior to submitting the Bid.

Contract Documents Addenda. Explanations or interpretations will be made by District in the form of addenda to the documents and furnished to all bidders. **Oral explanations and interpretations made prior to the Bid opening shall not be binding.** All questions to the District must be made by the General Contractor. No questions from proposed Subcontractors will be received. Written addenda modifying Bid Package documents will be emailed, mailed or faxed to the Builders Exchanges listed above and to all prospective Bidders that attend the pre-bid meeting or otherwise submit a written request for notice of addenda.

Addenda will also be posted on the District's website at <http://www.openspace.org/about-us/district-administration/bids>. The final Addendum will be furnished no less than 72 hours prior to the opening of Bid Proposals. **Addenda must be referred to by number and date on the Bid Proposal form.** It is the Bidder's obligation to consider all addenda before submitting a Bid Proposal.

Form and Delivery. The Bid Proposal must be submitted on the Bid Proposal form supplied with these instructions. Alterations to the printed text are not permitted. **Every blank on the enclosed Bid Proposal form should be filled out completely (or provided in another format). Either cross out or insert "N/A" in the blanks that are not applicable. Bid Proposals containing blanks may be disqualified, at the District's sole discretion.** The Bid Proposal must be delivered (with enclosures, if any) to the following address, in a sealed envelope marked "Mount Umunhum Road Rehabilitation Project":

Midpeninsula Regional Open Space District
Attention: Zachary Alexander
330 Distel Circle
Los Altos, CA 94022-1404

Bid Proposals will be received only at the address identified above. If the Bid Proposal is mailed via the United States Postal Service, it must be sent by certified or registered mail, return receipt requested; if sent by courier or commercial carrier, it must have a tracking number or proof of receipt, and be received by the District prior to **2:00 p.m. July 8, 2016. Bid Proposals will not be accepted via fax, CD, or email.**

Bid Proposal Opening Information. Sealed Bid Proposals shall be publicly opened at 2:00 p.m. on July 8, 2016. Any Bid Proposal not delivered before the time set for the opening of bids will be returned unopened. Incomplete Bid Proposals may result in bid rejection, in District's sole discretion. Bid Proposals are expected to be presented to the Board of Directors of the District at their regular meeting on July 27, 2016. The Board will take formal action at that time to determine whether, and to whom, to award the contract.

5. BID SUBMITTAL

Bidders shall execute and submit the attached Bid Proposal form. Each Bid Proposal must give the full business address of the Bidder, and be signed by him/her. Bid Proposals by corporations must identify the legal name of the corporation, be signed by an authorized officer of the corporation, and include a corporate resolution conferring such authorization. Bid Proposals by partnerships must furnish the full name of all partners and must be signed by one of the partners. After the signature, the Bid Proposal shall designate the position of the person signing.

The following forms are to be executed and submitted by Bidders with Bid. **Bid Proposals must include the following:**

- Attachment 1: Bid Proposal
- Attachment 2: List of Subcontractors
- Attachment 3: Noncollusion Affidavit
- Attachment 4: Bid Bond

6. BID NON-REVOCABLE

In consideration of District's reliance on and investigation and consideration of the Bid Proposal of the undersigned, the undersigned agrees that such Bid shall be irrevocable and shall not be withdrawn for sixty (60) calendar days following the Bid opening even though an award is made to another Bidder. Thereafter, such Bid shall be automatically relieved.

7. BID GUARANTEE

No Bid will be considered unless accompanied by a guarantee in the amount of ten percent (10%) of the Total Base Bid, which shall be one of the following: (a) a Bid Bond supplied in the enclosed Bid Form written by an admitted surety satisfactory to the District in its sole discretion, (b) a certified or cashier's check made payable to the District, or (c) a cash deposit. In the event a successful Bidder fails to satisfy all conditions for accepting the award within the stated time limits, the District may declare the Bidder's Bid Guarantee in default. Bidder acknowledges that the amount of actual damages the District would suffer in such event is extremely difficult and impractical to determine at this time by reason of the uncertainties, lapse of time, expense and loss of likely bidders resulting from the probable need to re-advertise and call for new bids. Bidder agrees that if a default occurs, the amount of such Bid Guarantee shall be kept by the District as liquidated damages and agrees that the District may then award the work to any other bidder or may call for new bids. **All Bid Guarantees will be held until after an award is made, an Agreement entered into, and required bonds and proof of insurance provided for the Work, at which time they will be returned.**

8. NONCOLLUSION AFFIDAVIT

No bid will be considered unless accompanied by a fully executed Noncollusion Affidavit, which is supplied with these instructions.

9. LICENSE REQUIREMENTS

Under California Business and Professions Code §7000 through § 7145, commonly known as the “Contractor’s License Law”, Contractor must possess an appropriate license that is current and valid at the commencement of and throughout the Term of the Agreement for the Work. The License required for this Agreement is **Class A, General Engineering Contractor**. All subcontractors must possess an appropriate license that is current and valid at the commencement of and throughout the Term of the Agreement.

10. INELIGIBLE CONTRACTORS

No contractor or subcontractor who is ineligible to Bid on a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code may Bid or work on the Mt Umunhum Summit Project.

11. BOND AND INSURANCE REQUIREMENTS

The successful Bidder shall obtain and maintain in full force, workers compensation insurance (California Labor Code §§ 1860 & 1861) and commercial general liability and automobile insurance as further described in the Agreement. Bond and Insurance requirements are further described in the Agreement.

12. PREVAILING WAGES

As required by law, the Contractor shall pay all workers California prevailing wages for each trade or classification on the job during the term of this project. These rates include employer payments for health and welfare, pension, vacation, travel time, subsistence pay and apprenticeship or training. Prevailing wage information can be found at the following website: <http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>.

As of March 1, 2015, contractors and subcontractors listed on bid proposals must be registered with the California Department of Industrial Relations (DIR) in order to be eligible to work on public works projects (Cal. Lab. Code §§ 1725.5, 1771.1). Work performed on public works projects is subject to compliance monitoring and enforcement by the DIR. More information can be found at the following website: <http://www.dir.ca.gov/Public-Works/PublicWorks.html>

13. NON-DISCRIMINATION

The successful Bidder and its subcontractors must comply with all applicable state and federal equal employment opportunity and affirmative action laws throughout the term of the Contract.

14. RESPONSIBLE BIDDER

It is the intention of the District to award the contract to the responsible Bidder with the lowest responsive Bid. Public Contract Code §1103 defines “responsible bidder” as “a bidder who has demonstrated the attributes of trustworthiness, as well as quality, fitness, capacity and experience to satisfactorily perform the Contract.” This includes the ability to complete projects on time, specifically when working on multiple projects concurrently. A bidder that is determined by the

District not to be responsible due to a failure to meet these requirements shall have his/her Bid disqualified.

15. RESPONSIVE PROPOSAL

The District will award the contract to the lowest responsible bidder submitting a responsive proposal based on the information contained in the bid. District may deduct any or all Alternates in its sole discretion. District may contact firms to clarify information contained in their proposal. The District reserves the right to reject any or all proposals and to waive any conditions or formalities.

Every blank on the enclosed Bid Proposal form should be filled out completely (or provided in another format). Either cross out or insert "N/A" in the blanks that are not applicable. Bid Proposals containing blanks may be disqualified.

Before contract is awarded the District may, at its discretion, require from the bidders further evidence of qualification, ability to perform, and financial responsibility, and may consider such evidence in making the decision on the award of such proposed contract. In addition, District may require that Contractor submit a complete disclosure of contractor's staffing level, current and anticipated workload, and affirm that they can meet all project requirements and have the personnel and equipment to complete the project within the budget and schedule stipulated in the Contract Documents. Notwithstanding Contractor's affirmation that they can meet the project requirements, if District, in their review of Contractor's past performance, finds documented evidence of inability to meet project schedule or cost requirements, District will have cause to reject the Bid. Refer to Item 16.

Criteria for a responsive proposal from a responsible bidder include but are not limited to the following requirements:

- Qualifications and appropriate licensing of assigned personnel & listed subcontractors
- Ability to perform work within the specified project schedule and budget
- Proposed fee and overall cost effectiveness of the bid
- Experience completing similar work

In order to be considered responsible, bidders must list three recently (within last 5 years) completed jobs of comparable scope and over \$750,000 in value.

16. RIGHT TO REJECT BIDS

The District reserves the right to reject any or all Bid Proposals, to waive any informality, minor technical defect, or irregularity in Bid Proposals, and to accept or reject any items of a Bid Proposal. The District, at its discretion, may reject as incomplete any bid which is in any way conditional, includes exceptions, alterations or omissions, or includes reservations to the terms of the Bid Proposal form, drawings, specifications, or other contract documents. The District reserves the right to reject any and all bids. District will reject bids from any contractor for whom there is documented evidence of project schedule delays and cost overruns and / or documented inability to meet project performance requirements.

17. WITHDRAWAL OF BIDS

Bid Proposals may be withdrawn prior to the opening only by a signed, written notice received by the District Representative prior to the commencement of the Bid Proposal opening.

18. BID PROTESTS

A bidder who intends to protest the apparent low bid must submit the protest to the District project manager within five (5) working days after the District's issuance of the Memorandum of the Bid Opening, excluding Saturdays, Sundays and District holidays. The Memorandum of the Bid Opening is normally issued by District staff on the day of the Bid Opening to all bidders, identifying the apparent low bidder.

- a. The bid protest must be a complete written statement detailing the basis for the protest, including reference to specific facts, portions of the bid or contract documents, or reference to specific statutes, that form the basis for the protest. The protest must be signed by the party filing the protest. Failure to give written notice by Close of Business on the fifth working day following issuance of the Memorandum of the Bid Opening shall waive the right to protest.
- b. Notification by personal delivery, overnight courier, email and/or facsimile is sufficient. If the written protest is sent by facsimile, Protesting Bidder must provide a FAX (facsimile) number and verify that the pages were all received by the District project manager.
- c. The protest may be withdrawn at any time while under consideration by the District.
- d. Review by District
 - i. The District project manager will notify the apparent low bidder of the bid protest.
 - ii. The District will afford the apparent low bidder the opportunity to submit a response to the written protest.
 - iii. The District will review timely protests prior to awarding the contract. The District is not be required to hold an administrative hearing to consider a bid protest, but may do so at the sole option of the Assistant General Manager, or if otherwise legally required. The AGM or his/her designee shall consider the merits of any timely protests and make a final determination thereon.

19. BASIS OF CONTRACT AWARD

Definitions:

- (a) **The *Total Base Bid* is the contractor's Bid for all items listed on the Bid Form for Base Bid;**
- (b) **Award is based on the lowest Total Based Bid or Total Base Bid plus or minus Alternate 1, whichever is lower.**
- (c) **For a definition of *Responsible Bidder*, see Instructions to Bidders, Item 14.**

The contract will be awarded to the lowest Responsible and Responsive Bidder, as defined above considering the following factors:

- (a) If the lowest *Total Base Bid or Total Base Bid plus or minus alternate 1, whichever is lower*, is greater than the *Project Budget*, that Bidder may be awarded the contract, or, all

- Bids may be rejected, at the sole discretion of the District;
- (b) In the event of a tied low bid, the award would be based on a coin toss or equivalent random selection process.
 - (c) The District reserves the right to reject any or all of the Bids at its sole discretion.

20. NOTICE OF AWARD

Immediately after Board action, the District Representative will notify the Contractor in writing of award of the contract. Contractor shall provide District Representative a Labor and Materials Payment Bond, Performance Bond, Proof of Insurance, and signed Agreement within ten (10) calendar days of Award of Contract.

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3. LOCATION MAP OF BID OPENING



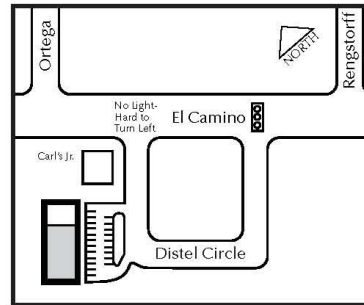
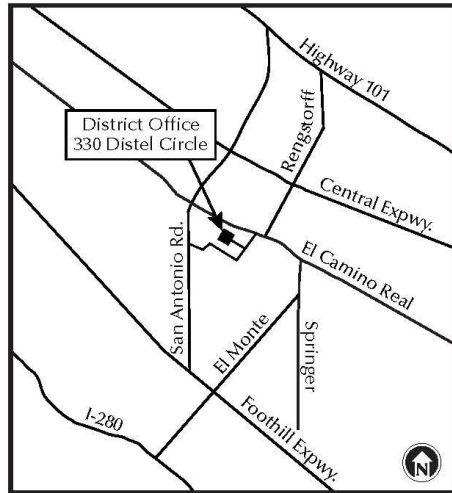
Midpeninsula Regional
Open Space District

Directions to the Administrative Office

330 Distel Circle, Los Altos, CA 94022
Phone: 650.691.1200

From Highway 101 in Mountain View, take the Rengstorff Avenue exit. Drive southwest on Rengstorff Avenue for approximately 2 miles. Turn right at El Camino Real. Turn left on Distel Circle. (Look for the Carl's Jr. restaurant at the corner of El Camino and Distel Circle. There is no traffic signal at the intersection.) The District office is the second building on the right.

From I-280 in Los Altos, take the El Monte Avenue exit. Drive northeast on El Monte Avenue for approximately 2.5 miles. Turn left on El Camino Real and drive half a mile. Turn left on Distel Circle. (Look for the Carl's Jr. restaurant at the corner of El Camino and Distel Circle. There is no traffic signal at the intersection.) The District office is the second building on the right.



Updated 3.1.09

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C. BID FORMS

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1. BID PROPOSAL FORM

(To be executed by Bidder and Submitted)

Project Name: Mount Umunhum Road Rehabilitation Project
Location: Sierra Azul Open Space Preserve
Budget Code:
Scope of Work: Grading, Public Access Site Improvements, Paving, Concrete

District Zachary Alexander
Representative: Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022
(650) 691-1200

The undersigned has carefully examined the site conditions for the Work, attended the Mandatory Pre-Bid Meeting, reviewed all documents in the Bid Package, including the Drawings, Plans and Specifications, accepts all terms and conditions of the Agreement, and has reviewed the following Addenda (fill in blanks below as appropriate to the number of Addenda issued for the project):

Addendum No. _____, dated _____, 20_____,
Addendum No. _____, dated _____, 20_____,
Addendum No. _____, dated _____, 20_____.

1. BASE BID

The lowest bid and the basis for award shall be the lowest bid price on the **Total Base Bid, or the Total Base Bid plus or minus Additive/Deductive Alternate 1, whichever is less.** For example, a Total Base Bid of \$2,500,000 may be the lowest base bid, but another bid with a Total Base Bid of \$2,600,000 with a deductive alternate of -\$200,000 for Alternate 1 would be considered the lowest bid. District may opt to award additional work and Additive Alternates based on unit pricing, and deduct any bid items at its sole discretion. Limit of Base Bid work as outlined in plans and specifications. Refer to Plan Sheets T.2-T.4 & D.1-D.5 for scope of Base Bid work. **Also, please reference all General and Special Conditions as noted in attached documents.**

2. BASE BID COSTS

Unit Price #	Description	Plan Detail #	Unit	Total	Unit Cost	Total Cost
1	Mobilization		LS			
2	Traffic Control		LS			
3	Pothole Utilities		LS			
4	Erosion Control & SWPPP		LS			
5	Layout & Staking		LS			
6	Clearing & Grubbing		LS			
7	Tree Removal	T.2	EA	15		
8	Stump Removal	T.2	EA	3		
9	Tree Root Removal	T.2	SF	2,750		
10	Demolition		LS			
11	Rock & Boulder Clearing	T.2	LF	2,700		
12	Grading & Excavation	T.2	CY	4,000		
13	Disposal of Graded & Excavated Material	T.2	CY	4,000		
14	Shallow Pavement Repairs	T.2/D.1	SF	18,700		
15	Deep Pavement Repairs	T.2/D.1	SF	13,000		
16	Install Gabion Wall	T.2/D.2	LF	180		

17	Install Type A Drop Inlet Structure	T.2/D.3	EA	51		
18	Install Type B Drop Inlet Structure	T.2/D.3	EA	8		
19	Install Type C Drainage Structure	T.2/D.3	EA	1		
20	Install 18" CMP Pipe Extension at Inlets	T.2	EA	6		
21	Install 12" CMP Pipe	T.2/D.6	LF	80		
22	Install Inlet Structure Headwall	T.2/D.3	EA	17		
23	Install Down Drain	D.6	LS			
24	Install PCC Curb	T.2/D.2	LF	200		
25	Install PCC Swale	T.2/D.2	LF	220		
26	Install Rock Drainage Protection	D.4	SF	320		
27	Rock Lined Ditch	T.2/D.2	LF	180		
28	Install Roadway Subdrain Piping	T.2/D.3	LF	280		
29	Install Subdrain/Edge Drain Cleanouts	T.2/D.3	EA	7		
30	Install Edge Drain	T.2/D.3	LF	250		
31	Connect Edge Drain to Inlet	D.3	EA	1		
32	Rehabilitation & Resurfacing: Pulverize & HMA Resurface	T.3/D.1	SF	500,000		
33	Miscellaneous Paving	T.2/D.1/ D.2	SF	28,200		
34	Install Mountable HMA Berm – Type E	T.2/D.2	LF	300		
35	Install HMA Berm – Type F	T.2/D.2	LF	18,400		
36	Install Pre-Cast Concrete Barriers & End Sections	T.2/D.2	EA	520		
37	Install Rock Fence	T.1/D.2	LF	920		

38	Shoulder Backing	T.2/D.2	LF	14,500		
39	Place Base Rock	T.2	SF	1840		
40	Guardrails & End Terminals	T.2/D.5	LF	5,800		
41	Install Road Signage	T.3	EA	52		
42	Install Roadside Paddles	T.3	EA	67		
43	Install Road Striping	T.3	LS			
44	Install Conduit	T.2/D.4	LF	600		
45	Install Pipe Gate (Provided by District)		EA	8		
46	Provide and Install Solar Powered Automatic Gate System		EA	3		
47	Provide and Install Solar Powered Light System		EA	1		
48	Install Double Chip Seal		SF	500,000		
Total Base Bid						

SF = Square Foot, LF = Linear foot, CY = Cubic Yard, EA = Each, LS = Lump Sum, TN = Ton

3. ADDITIVE/DEDUCTIVE ALTERNATE

In order for a Bid to be responsive, Bidder must submit an additive bid, a deductive bid, or a “no change/same price” bid, for each Alternate listed below. **If a contractor is unable to provide Alternate 1 per detail T.3/D.1, the Alternate Pricing the contractor must mark “N/A” in the blank spaces to indicate the contractor is not providing pricing for the alternate because the contractor cannot do the work.** The failure to do so shall result in the Bid being rejected as non-responsive.

If Alternate 1 is deductive, the basis of award shall be the Total Base Bid minus the amount listed in Total Cost listed below. If Alternate 1 is additive, the basis of award shall remain the Total Base Bid (i.e. the alternate will be rejected).

Description	Plan Detail #	Unit	Total	Add/Deduct (+/-)	Total Cost
Additive/Deductive Alternate 1: Rehabilitation & Resurfacing: CIR Alternate & HMA Resurface	T.3/D.1	SF	500,000		

4. UNIT PRICING

Unit Prices shall be used for adding or deleting work at the sole discretion of the District Representative, and may be exercised at any time during the execution of the Work. Cost to include material and installation.

Description	Unit	Total	Cost
Install Concrete Barriers	EA	10	
Shallow Pavement Repairs	SF	1,000	
Deep Pavement Repairs	SF	1,000	
Install HMA Berm	LF	1,000	
Install Type A Drop Inlet Structure	EA	1	
Install Type B Drop Inlet Structure	EA	1	
Install Type C Drainage Structure	EA	1	
Install 18" CMP Pipe Extension at Inlets	EA	1	
Install 12" CMP Pipe	LF	10	
Install Inlet Structure Headwall	EA	1	
Disposal of Graded & Excavated Material	CY	100	

5. Working Days

Bidders Proposed Duration for Completion of Work	# of Days
Working Days	

- 6. EXPERIENCE.** List three recently (within last 5 years) completed jobs of comparable scope and over \$750,000 in value, the contract amount, names, and telephone numbers of contract officers. Use additional sheets as necessary.

NOTE: At Least one project listed must include specialized experience working adjacent to protected habitat.

Job/Project Name _____

Owner _____ Year _____ Contract Amt \$ _____

Contact _____ Phone _____

Project Description _____

Job/Project Name _____

Owner _____ Year _____ Contract Amt \$ _____

Contact _____ Phone _____

Project Description _____

Job/Project Name _____

Owner _____ Year _____ Contract Amt \$ _____

Contact _____ Phone _____

Project Description _____

7. NONCOLLUSION CERTIFICATION. The undersigned has executed and hereby submits the Noncollusion Affidavit (Attachment 3), in accordance with Public Contract Code Section 7106.

8. BID GUARANTEE. No Bid will be considered unless accompanied by a guarantee in the amount of ten percent (10%) of the Total Base Bid), which shall be either a **BID BOND** (Attachment 4) written by an admitted surety satisfactory to the District in its sole discretion, a certified or cashier's check made payable to the District, or a cash deposit. In the event a successful bidder fails to satisfy all conditions for accepting the award (i.e. executed Agreement, provision of required bonds and proof of insurance) within the stated time limits, the District may declare the bidder's Bid Guarantee in default. Bidder acknowledges that the amount of actual damages the District would suffer in such event is extremely difficult and impractical to determine at this time by reason of the uncertainties, lapse of time, expense and loss of likely bidders resulting from the probable need to re-advertise and call for new bids. Bidder agrees that the amount of such Bid Guarantee shall be kept by the District as liquidated damages and agrees that the District may then award the work to any other bidder or may call for new bids. All Bid Guarantees will be held until after an award is made, an Agreement entered into, and required bonds and proof of insurance provided, at which time they will be returned.

9. DISCLOSURE. The names of all persons financially interested in this Bid Proposal are as follows:

Bidder, or any partner of Bidder, is a corporation, provide the legal name of the corporation, the state of its incorporation and the name and address of the President and of the Secretary. If Bidder is a partnership, provide name of the firm and names and addresses of all individual co-partners. Use additional sheets as necessary. If Bidder is an individual, provide the first and last name and address.

Name of Corporation: _____

State of Incorporation: _____

Name of Officer/Shareholder Title Address

Name of Bidder(s)/Partner(s) (If not a corporation)

10. WITHDRAWAL OF BIDS. Bids may be withdrawn prior to the opening of bids only by a signed, written notice received by the District Representative prior to the commencement of the bid opening. In consideration of District's reliance on and consideration of this Bid Proposal, the undersigned agrees that such Bid Proposal shall be irrevocable upon opening and shall not be withdrawn for sixty (60) calendar days following the bid opening even though award may be made to another bidder. Thereafter, such bid shall be automatically relieved.

I make the above Bid and declare under penalty of perjury that the statements made in this Bid Proposal are true and correct.

FULLY EXECUTED at _____,
City State

on _____,
Month Day Year

Signature¹ _____ Title _____

Name (please type or print) _____

Federal Employer I.D. Number _____

License Type _____

License Number _____ Expiration Date _____

Name of Firm _____

Mailing Address _____

City _____ State _____ Zip _____

Phone (Bus) _____ Phone (Cell) _____

Email _____

¹ An authorized person for the Bidder must sign this Bid Proposal. If the Bidder is a partnership, a general partner must sign. If the Bidder is a corporation, an authorized officer of the corporation must sign and a corporate resolution conferring such authority must be provided.

(Page left intentionally blank)

2. LIST OF SUBCONTRACTORS
(To be executed by Bidder and Submitted with Bid)

Contractor must set forth the name, address, phone number, type and cost of work, and proof of required license for each subcontractor who will perform work or render services in any amount exceeding one-half percent (1/2%) of the total bid according to provisions of the California Public Contract Code §4100 through §4113. Each subcontractor must be licensed by the State of California Department of Consumer Affairs for the portion of work they perform in accordance with Contractor's License Law. Please attach as many sheets as necessary.

Company Name:

Contact:

Address:

Phone Number:

Type of Work:

Cost of Work:

Required License:

Company Name:

Contact:

Address:

Phone Number:

Type of Work:

Cost of Work:

Required License:

Company Name:

Contact:

Address:

Phone Number:

Type of Work:

Cost of Work:

Required License:

(Page left intentionally blank)

3. NONCOLLUSION AFFIDAVIT
(To be executed by Bidder and Submitted with Bid)

State of California

County of _____

(Name of party bidding), under penalty of perjury, deposes and says that he or she is of _____ the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature _____ Title _____

Date _____

(Page left intentionally blank)

4. BID BOND

(Note: Bidder must use this form if Bid Guarantee is a Bond)

KNOW ALL PERSONS BY THESE PRESENTS THAT [name of Bidder] (hereinafter Principal), as Principal, and [name of Surety], a corporation organized and doing business under and by virtue of the laws of the State of _____ and duly licensed for the purpose of making, guarantying or becoming sole surety upon bonds or undertakings required or authorized by the laws of the State of California, as Surety, are held and firmly bound unto the Midpeninsula Regional Open Space District, a California Special District, (hereinafter called the Obligee) in the just and full sum of _____ Dollars (\$ _____) _____ lawful money of the United States of America, for the payment of which we hereby bind ourselves and each of our successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the Principal is about to hand in to the Obligee a Bid for the project known as **Mount Umunhum Road Rehabilitation Project** in accordance with the Contract Documents filed in the office of the Obligee and under the notice inviting proposals therefor.

NOW, THEREFORE, if the Bid as submitted by said Principal shall be accepted, and the contract for such work or supplies be awarded to the Principal, and the said Principal shall fail, neglect or refuse to enter into a contract to perform said work or deliver said supplies, and furnish good and sufficient bond and proof of insurance therefore, then the amount of this bond shall be declared to be forfeited to the Obligee, Midpeninsula Regional Open Space District.

IN WITNESS WHEREOF, Principal and Surety have caused these presents to be duly signed and sealed this day of _____, 2016.

Signature of Principal Signature of Surety

Attorney-in-Fact
State of California,

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Seal

(Page left intentionally blank)

D. AGREEMENT FORMS

Notice to Bidders:

Documents in the following section are not to be submitted with Bid Proposal. They will be signed and submitted at time of Award of Contract.

(Page left intentionally blank)



D.1 AGREEMENT

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

June 10, 2016

(Page left intentionally blank)

AGREEMENT
Level Four



LEVEL 4 AGREEMENT

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

AGREEMENT
Level Four

Project Name: Mount Umunhum Road Rehabilitation Project

1. Parties.

District: Midpeninsula Regional Open Space District
Attn: Zachary Alexander, Capital Project Manager
330 Distel Circle
Los Altos, CA 94022-1404
(650) 691-1200
(650) 691-0485 (facsimile)

Contractor: _____

2. Scope of Work.

(a) *Project Description.* Contractor agrees to obtain all necessary permits and furnish all labor, materials, services, and equipment necessary to accomplish the following Project as more specifically set forth herein and in the Contract Documents fully incorporated herein as though attached hereto (the “Work”) and generally described as follows:

- Permitting for all work
- Demolition and removal of existing roadway facilities including but not limited to cattle guard, fencing, gates, guardrails, drainage structures, & signage.
- Clearing and grubbing including but not limited to removal of brush, vegetation, trees, and tree stumps.
- Establishment of survey controls to be used during construction
- Repair of existing roadway areas
- Removal of rocks and boulders from upslope banks
- Installation of new drainage structures and headwalls
- Excavation and cleaning of roadway ditches and shoulders in preparation for rock fences, concrete barriers, replacement guardrail, replacement and new HMA Dike and other related items
- Recycling existing asphalt concrete surfacing and HMA Dike into roadway base material either by cold in place recycling using emulsion or by pulverizing, shaping and recompacting.
- Placement of new HMA surfacing as indicated on the drawings
- Placement of concrete barriers, rock fences, HMA Dike, guardrail, shoulder backing and other finishing roadway features
- Placement of signage and roadway markings

- Installation of permanent erosion control measures
- Installation of roadway gates and associated solar powered automatic gate opening system
- Project cleanup

(b) *Contract Documents.* The Contract consists of the following:

Level Four Agreement

1. Form of Agreement - at time of execution, Agreement will include:
 - Exhibit A: Agreement Scope of Services (Contractor Bid Proposal Form)
2. General Condition of the Agreement
 - Exhibit 1: Labor and Materials Payment Bond
 - Exhibit 2: Performance Bond
 - Exhibit.3: Worker’s Compensation Certificate
 - Exhibit 4: Proposed Change Order Request Template
 - Exhibit 5: Change Order Template
3. Supplemental Conditions of the Agreement
 - Exhibit 1: Location Map
 - Exhibit 2: Project Phase Map
 - Exhibit 3 California Environmental Quality Act (CEQA) Mitigation Monitoring and Reporting Plan (MMRP)
 - Exhibit 4: Sensitive Species “No Work” Map

E. Project Scope Documents

1. Project Plans
2. Project Division 1
3. Project Special Provisions
4. Solar Powered Gate System Requirements

(c) *“Not in Contract” (N.I.C.) Items.* Any portions of the Project identified by the notation “N.I.C.” on Drawings, Maps, and Specifications will be performed before or after Contractor’s Work and are not part of the Work.

3. **Term.**

The Term of this Agreement shall commence on the date of execution hereof by District’s General Manager and shall end upon the filing of the *Notice of Completion* by District Representative as more specifically set forth in the **General Conditions, attached hereto and incorporated herein as D.2, and in the Supplemental Conditions, attached hereto and incorporated herein as D.3.**

4. **Contract Price.**

As full compensation for the Work, District agrees to pay Contractor the sum of **_____** as further described and set forth in Contractor’s Bid Proposal attached hereto and incorporated herein as **Exhibit A. The Contract Price includes:**

_____. Contractor agrees to delete or add Work tasks not covered by the provisions thereof, either under provisions for “ADD OR DEDUCT ALTERNATES” or for “UNIT PRICES”, pursuant to the methods otherwise provided herein for Change Orders.

5. Cash Allowances.

Contractor declares that the Contract price includes all expenses (including permit fees) and profit. Contractor shall make no demand for additional expenses and/or profit for work in this Contract.

6. Beginning and Completion of Work.

Contractor shall provide District Representative with all certificates and licenses required for performance hereunder within ten (10) days of the commencement of the Term of this Agreement, not including County permits. Contractor agrees that permit application(s) to the County shall be submitted within five (5) working days from the date of issuance of a written *Notice to Proceed with Permitting*. Contractor agrees that the Work shall be fully completed to District Representative’s satisfaction within one hundred eighty (**180**) working days from the date of issuance of a written *Notice to Proceed with Construction*. Contractor agrees that the Work on Phase 1 of the Project shall be substantially completed on or before October 19, 2016. Contractor shall not start any onsite construction work until such *Notice to Proceed with Construction* is issued. Working days shall mean every day except Saturday, Sunday, and Legal Holidays as hereinafter defined.

7. Licensing.

Under California Business and Professions Code §7000 through § 7145, commonly known as the “Contractor’s License Law”, Contractor must possess an appropriate license that is current and valid at the commencement of and throughout the Term of this Agreement. The Licenses required by this Agreement: **Class A – General Engineering Contractor.**

8. Insurance and Bonds.

Contractor shall provide, and keep in full force and effect during the Term of this Agreement, at Contractor's sole cost and expense, policies of insurance with companies licensed to do business in the State of California that are acceptable to District for the Coverages as more particularly set forth below. Contractor shall keep all required policies in full force and effect until final acceptance of the Work by District.

(a) Certificates of Insurance. Contractor shall, within five (5) calendar days after *Notice of Award*, supply District with an acceptable Certificate of Insurance. An authorized insurance agent or broker must complete, execute and provide District with a Certificate of Insurance (ACORD 25-S, or a successor or comparable form, subject to prior approval by District) before a *Notice to Proceed* may issue. District reserves the right to cancel the contract if these requirements are not met within 30 calendar days of the *Notice of Award*.

(b) Endorsements. The General and Automobile Liability policies must be endorsed to

name District as an additional insured and must be on a primary non-contributing basis in relationship to any other insurance available to District. All policies taken out by Contractor insuring work and materials supplied must list District as an additional insured and be payable to Contractor and District. All policies shall contain a provision that they shall not be canceled or materially changed without thirty (30) calendar days' prior written notice to District. No cancellation provision in any insurance policy shall be construed in derogation of the continuous duty of Contractor to furnish the required insurance during the term of the Agreement.

(c) Coverages.

- i. *Workers' Compensation Employer's Liability* coverage as required by statute, in full compliance with California Labor Code §3700, and containing a waiver of subrogation in favor of District. Contractor hereby acknowledges having read and understood the provisions of the California Labor Code §3700, which require every employer to be insured against liability for workers' compensation or that they undertake self-insurance in accordance with the provisions of that code, and Contractor agrees to comply with such provisions before commencing the Work. Acknowledgment shall be in the form included herein and attached hereto as Exhibit 3 of Agreement Document D.2., , General Conditions.
- ii. *Comprehensive or Commercial General Liability*, including coverage for Bodily Injury and Property Damage in the amount of \$2,000,000.00 per occurrence.
- iii. *Business Automobile Liability* coverage including owned, non-owned and hired vehicles in an amount of no less than \$1,000,000.00 per occurrence.
- iv. *Subcontractor(s) Insurance Requirements*. Contractor shall either require each subcontractor to procure and maintain during the life of its subcontract all insurance of the type and in the amounts specified above or insure the activities of subcontractor(s) under its own policy or policies.

9. Contractor's Indemnification Of District

- i) Contractor agrees to indemnify, hold harmless, defend, and protect District, its officers, directors, agents and employees from any and all claims, losses, damages, demands, liabilities, suits, costs, expenses (including all reasonable attorney's fees), penalties, judgments or obligations whatsoever arising out of or in connection with any injury, death, or damage to any person or property or pecuniary or monetary loss that results from, arises out of, or in any way relates to the activities of Contractor both on and off the Project, including but not limited to claims related to the presence, use or disposal of hazardous materials, except for injury or damage resulting from the sole negligence or willful misconduct of District.
- ii) *Claim*. In the event a Contractor becomes aware that a claim has been, or is likely to be, made against District, its officers, directors, agents or employees, or they or District is named a co-defendant in any action concerning the Contract, Contractor shall immediately notify District. District may retain legal counsel at Contractor's sole expense and Contractor shall reimburse District for all legal expenses, including reasonable attorney's fees, spent in representing District.
- iii) *Apportionment of Liability*. In the event that a judge in a court of competent

jurisdiction makes an apportionment of liability between District and Contractor, neither District nor Contractor shall request that a jury determine apportionment of liability. Contractor shall indemnify and hold harmless District as set forth above, unless the court determines that the injury or damage resulted from the sole negligence or the intentional and willful misconduct of District.

- iv) *Waiver.* Contractor hereby waives all claims and recourse against District, including the right of contribution for loss or damage to property, and hereby releases District from any and all liability related to or in any way connected to Contractor's activities or Contractor's use of the Project site, premises or facilities.
- v) *Contractor Responsibility.* Contractor and its subcontractors shall have sole responsibility for the safety of their equipment, property and personnel (including, but not limited to, its employees, agents, and officers) from any and all injuries, deaths or damages.
- vi) *Mutual Responsibility Of Contractors.* If Contractor causes damage to the work or others, or willfully or negligently delays another contractor or subcontractor in the performance of other work, Contractor is hereby obliged to attempt to settle such claim with such contractor or subcontractor by agreement. If a contractor or subcontractor serves written notice on District of Contractor's failure to meet this obligation or to settle the claim by agreement, District shall notify Contractor in writing of the pending claim. Contractor shall defend itself (and District if included in claim) at Contractor's sole expense, including the payment of District's attorney fees. Contractor shall pay all costs, expenses and liabilities incurred by District as a result of any judgment in favor of another contractor.

Contractor further agrees to the District General Conditions for Indemnity and Assumption of Risk as detailed in Article 5 of the General Conditions attached hereto and incorporated herein by this reference.

10. Laws Applicable To District Incorporated.

- (a) This Contract is subject to all Federal, State and local laws, regulations, ordinances, and governing codes, controlling, affecting, or enacted by the Midpeninsula Regional Open Space District. All such laws, regulations, ordinances, and codes are made a part of this Contract as if set forth fully herein.
- (b) In compliance with California Government Code §4552 and California Public Contract Code §7103.5, the text of those codes are herein reproduced in full:

GC §4552. Submission of bids to public purchasing body; agreement to assign

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Section 16700) of Part 2 of Division 7 of the Business and

Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

PCC §7103.5. Unfair business practices claims; assignment to awarding body

(c) As used in this section:

“Public works of contract” means a contract awarded through competitive bids by the state or any of its political subdivisions or public agencies, on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code, for the erection, construction, alteration, repair, or improvement of any structure, building, road, or other improvement of any kind.

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to Contractor without further acknowledgement by the parties.

11. Assignment.

Contractor shall not assign its rights or obligations under this Contract without the prior written consent of District Representative, which consent shall not be unreasonably withheld. Contractor shall not assign any monies due Contractor without the written consent of District. Any assignment or delegation without the written consent of the other party shall be void.

12. Taxes.

Contractor agrees and states that all taxes arising incidental to this Contract shall be paid in a timely manner by Contractor and are included in the Contract price.

13. Federal Manufacturer's Excise Tax.

District is exempt from Federal Manufacturer's Excise Tax. The manufacturers of items subject to such tax are entitled to a refund or credit for that tax on presentation of District's exemption certificate for items furnished exclusively to District. Contractor shall not be entitled to claim any additional monies for taxes paid where this exemption is available.

14. Attorneys' Fees.

If legal action shall be brought by either of the parties, the party prevailing in said action shall be entitled to recover from the party not prevailing the costs of the suit and reasonable attorney's fees. For purposes of this Agreement, the reasonable fees for attorneys who are employees of District shall be based on the fees regularly charged by private attorneys with an equivalent number of years of experience in the subject matter area of the law actively practicing within the San Francisco Bay Area.

15. Notice.

Any notice required or desired to be given under this Agreement shall be in writing and shall be personally served or, in lieu of personal service, may be given by (i) depositing such notice in the United States mail, registered or certified, return receipt requested, postage prepaid, addressed to a party at its address set forth above; (ii) transmitting such notice by means of Federal Express or similar overnight commercial courier ("Courier"), postage paid and addressed to the other at its street address set forth below; (iii) transmitting the same by facsimile, in which case notice shall be deemed delivered upon confirmation of receipt by the sending facsimile machine's acknowledgment of such with date and time printout; or (iv) by personal delivery. Any notice given by Courier shall be deemed given on the date shown on the receipt for acceptance or rejection of the notice. Either party may, by written notice, change the address to which notices addressed to it shall thereafter be sent.

16. Miscellaneous.

- (a) Should any provision of this Agreement prove to be invalid or illegal, such invalidity or illegality shall in no way affect, impair or invalidate any other provision hereof, and such remaining provisions shall remain in full force and effect.
- (b) Time is of the essence with respect to the performance of every provision of this Agreement in which time of performance is a factor.
- (c) Any executed copy of this Agreement shall be deemed an original for all purposes.
- (d) This Agreement may be executed in counterparts, which counterparts shall together constitute one agreement if signed by both parties.
- (e) This Agreement shall be construed and enforced in accordance with the laws of the State of California.
- (f) The language of this Agreement shall be construed as a whole according to its fair meaning, and not strictly for or against either party.
- (g) Except to the extent that it provides a part of the definition of a term used herein, the captions used in this Agreement are for convenience only and shall not be considered in the construction or interpretation of any provision hereof nor taken as a correct or complete segregation of the several units of materials and labor.
- (h) When the context of this Agreement requires, the neuter gender includes the masculine, the feminine, a partnership or corporation, trust or joint venture, and the singular includes the plural.
- (i) The terms "shall," "will", "must" and "agree" are mandatory. The term "may" is permissive.
- (j) When a party is required to do something by this Agreement, it shall do so at its sole cost and expense without right to reimbursement from the other party unless specific provision is made otherwise.

- (k) Where any party is obligated not to perform any act, such party is also obligated to restrain any others within its control from performing such act, including its agents, invitees, contractors, subcontractors and employees.
- (l) The recitals to this Agreement are incorporated in this Agreement by this reference thereto.
- (m) No responsibility either direct or implied will be assumed by District for omissions or duplications to Contractor or any subcontractors due to real or alleged error in arrangement of material in the Contract Documents. This Agreement with all attachments and the Project Scope Documents (e.g., General Conditions, Supplemental Conditions, the Agreement with all Exhibits, and the project Specifications, Drawings, and all Addenda, Clarifications and Modifications incorporated herein by reference or listed in the Agreement), constitute the "Contract Documents" and together represent the entire, integrated Agreement as to the Work contracted for between the parties. It supersedes all prior negotiations, representations or agreements, whether written or oral. The Contract Documents are complementary. Work shown on the Plans and not mentioned in the Specifications, or vice versa, is to be executed as if in both.

Contractor: _____
 Name and Title (please type or print)

 Signature

 Date

 Federal Employer I.D. Number

 License Number

 Expiration Date

Fully executed at Los Altos, California for the
Midpeninsula Regional Open Space District:

 Stephen E. Abbors, General Manager

 Date

Attest:

Jennifer Woodworth, District Clerk

Approved as to form:

Sheryl Schaffner, General Counsel

**GENERAL CONDITIONS
Of the Agreement**

Mount Umunhum Road Rehabilitation Project

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EXHIBITS

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- 2. Performance Bond
- 3. Workers Compensation Certificate
- 4. Proposed Change Order Request Template
- 5. Change Order Template

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**GENERAL CONDITIONS
Of the Agreement**

Mount Umunhum Road Rehabilitation Project

ARTICLE ONE

DEFINED TERMS

1.1 Defined terms. For the purposes of the Contract Documents, the following terms shall have the meanings set forth below.

Addendum: A document containing supplementary details, instructions or information issued by District prior to execution of the Agreement, which modifies, clarifies, supersedes or supplements one or more of the other Contract Documents.

Agreement: The Agreement between the District and the Contractor to which these General Conditions are attached.

Clarification: A document containing supplementary details, instructions or information, issued by the District after execution of the Agreement which modifies, clarifies, supersedes or supplements one or more of the other Contract Documents. Clarifications shall not give rise to a change in the Contract Price or Contract Time.

Contractor shall mean person, persons, firm, partnership, corporation, and assignees, licensed by the State of California, Department of Consumer's Affairs, named as such in the Agreement.

District: Shall mean the Midpeninsula Regional Open Space District.

District Representative: Designated person authorized to act on behalf of the District to the extent provided in the Contract documents or as otherwise specified by the District in writing.

Drawings: The graphic and pictorial representations of the design, location, character, dimensions and details of the Work, generally including plans, elevations, sections details, schedules and diagrams, as identified in the Agreement and as modified pursuant to Addenda, Clarifications, and Change Orders.

Day shall mean calendar day, including Saturday, Sunday, Legal Holidays or Inclement Condition Days.

Inclement Condition Day shall mean any day that, because of weather or site conditions, Contractor cannot work with seventy-five percent (75%) or more of Contractor's labor and equipment force for at least five (5) hours. In the event of inclement weather, Contractor shall be prepared, at the direction of District Representative, to secure the Project site and the Field Office building (if one is used for the Project), erect all necessary erosion control and water protection measures including covering all exposed soils, stockpiles, and building material if total rainfall exceeds 0.5 inch of rain within a 24-hour period.

Legal Holidays for the purposes of this Agreement are New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve, and Christmas Day.

Notice to Proceed: The written notice issued by District directing Contractor to commence performance for the Work. The commencement date set forth in the Notice to Proceed shall be the date from which the Substantial Completion and Contract Time are calculated.

Subcontractor: The person, firm, partnership, corporation, and assignees, licensed by the State of California, Department of Consumer's Affairs, listed in Attachment 2 to Contractor's Bid Proposal, and having a binding agreement with Contractor to perform specific portions of the Work. Definition extends to all second and third tier subcontractors.

Work: The term "Work" shall mean and include all demolition, excavation, grading, remediation, construction and other activities described in the Contract Documents or reasonably inferable from the Contract Documents as necessary to produce the intended results and includes all labor, materials, tools, equipment, supervision, coordination, and all other items necessary for the full and proper execution thereof.

Working Day or Work Day shall mean any day, except Saturday, Sunday, Legal Holidays or Inclement Condition Days. District Representative shall be the sole judge of a Working Day.

ARTICLE TWO

CONTRACT DOCUMENTS

- 2.1 Contract Documents Defined.** Contract Documents shall mean these General Conditions, Supplemental Conditions, the Agreement with all Exhibits, and the project Specifications, Drawings, and all Addenda, Clarifications and Modifications incorporated herein by reference or listed in the Agreement, which together constitute the "Contract Documents" and represent the entire, integrated Agreement as to the Work contracted for between the parties. It supersedes all prior negotiations, representations or agreements, whether written or oral.

2.2 Intent Of Contract Documents. The intent of the Contract Documents is for the Contractor to provide, for not more than the contract Sum, all labor, supervision, materials, water, power, fuel, tools, plant, equipment, transportation and other items as may be necessary or appropriate for proper execution of the Work (except to the extent expressly provided otherwise in the Contract Documents). The Contract Documents are complementary, and what is shown within one shall be as binding as if shown within all. For example, anything referenced in the Specifications and not shown on the Drawings, or shown in the Drawings and not referenced in the Specifications, shall be of like effect as if shown or referenced in both.

2.3 General Specifications. In the event the Specifications or any directions given by the District Representative pursuant to the Contract Documents require materials or other Work for which no detailed specifications are provided, the following general specifications shall apply:

The materials shall conform to the usual standards for first-class materials or article of the kind required with due consideration of the use to which they are to be put. Work shall conform to the usual standards for first-class work of the kind required, and shall be subject to the approval of the District Representative.

2.3.1 Specification References. Any material or method specified by reference to the number, symbol, or title of a specific standard such as a Commercial Standard, a Federal Specification, a trade association standard or similar standards, shall comply with the requirements in the latest revision thereof, including any amendments or supplements thereto in effect on the date of Request for Bids, except as limited as to type, class, or grade or modified in such reference.

2.3.2 Standard Specifications: Unless otherwise specifically indicated in the project specifications, the work shall conform to the 2010 Caltrans Standard Specifications. Anywhere that “Standard Specifications” is listed without further specific reference, the term “Standard Specifications” shall mean the 2010 Caltrans Standard Specifications.

2.4 Discrepancies, Errors And Omissions. The Contract Documents are not complete in every detail and in some cases may show only the purpose and intent. Contractor shall not avail itself of any manifest error, omission, discrepancy or ambiguity in the Contract Documents, or in the instructions given or in work provided by others. Contractor shall notify the District Representative in writing immediately upon the discovery of any such error, omission, discrepancy or ambiguity and the District Representative shall address the matter within a reasonable period of time, issuing a Clarification or Modification if appropriate. In the event of a discrepancy between documents, the most restrictive requirement shall govern. If Contractor proceeds with any Work-related activity involving an error, omission, discrepancy or ambiguity which Contractor knew of or reasonably should have known of, without first giving such notice, Contractor shall be responsible for all defects, delays, damages, and additional cost to District arising from or relating thereto, including without limitation all costs of correction, inspection testing, supervision and Project administration.

2.5 Division Of Work. The organization of the Specifications and arrangement of the Drawings shall not control Contractor in dividing the Work among subcontractors or in

establishing the extent of Work to be performed by any trade. Similarly, any table of contents, titles and headings contained in the Contract Documents are provided solely to facilitate reference to various provisions of the Contract Documents and shall in no way affect or limit the interpretations of the provisions to which they refer, or be construed as a proposed segregation of the various units of the Work. Contractor shall arrange, divide and delegate its Work in conformance with sound trade practices, and shall be solely responsible for the division of the Work and establishment of subcontractor limits and scopes of work.

- 2.6 Clarifications.** The District Representative may issue Clarifications to Contractor as necessary or desirable to clarify requirements of the Contract Documents. Contractor shall request a clarification from the District Representative through a Request for Information (RFI) if Contractor or any Subcontractor believes that (a) any Work is not sufficiently detailed or explained in the Drawings and Specifications, (b) there is a conflict between the Drawings and Specifications, (c) there is a conflict between the Drawings and/or Specifications and field conditions, or (d) any other questions arise that require direction from the District Representative. Prior to submitting an RFI, Contractor shall complete a thorough review of the Contract Documents and inspect the Site to confirm that the grounds for an RFI exist.
- 2.7 “For Construction” Contract Documents.** District shall furnish Contractor with one hard copy and five (5) CD copies of the final “For Construction” Contract Documents, including Plans, Specifications and any Addenda.
- 2.8 Ownership And Use Of Documents.** All Plans, Specifications, Models, and Samples furnished to Contractor are the property of District. Plans, Specifications, Models, and Samples are not to be used by Contractor on any other work. All such Plans, Specifications, Models, and Samples shall be returned to District upon request and in any event at the end of the Term unless otherwise directed by District Representative.

ARTICLE THREE

DISTRICT GENERAL REQUIREMENTS

- 3.1 Authority Of District Representative.** During the term of this Agreement, District Representative or his or her designee is fully authorized to represent District in all contractual matters. District Representative shall make all decisions as to the intent of the Plans and Specifications, the amount and quality of work performed and materials furnished, the manner and rate of work performed, the fulfillment of the Contract, and any compensation due Contractor. Disputes or claims between Contractor and District arising from this Contract valued at \$375,000.00 or less shall be governed by the claims resolution procedures of California Public Contract Code Section 20104 *et seq.* District Representative has the authority to reject any Work or material that does not conform with Contract requirements and to stop Work deemed necessary for such rejection and without cost to District. District Representative is authorized to require Contractor to

immediately correct any unsafe or unsuitable condition to District Representative's satisfaction at Contractor's expense. District Representative may furnish additional instructions needed for the proper execution of the Work. District Representative has the authority to require minor field adjustments in the Work not involving extra cost. Contractor shall not relocate Contract items without District Representative's written approval. The District Representative for this Agreement is the person designated above unless Contractor is provided with oral or written notice of the designation of another person.

3.2 Separate Contracts. District reserves the right to let other contracts in connection with this Project. Contractor shall afford other contractors reasonable opportunity for storage of their materials, access to their work sites and execution of their work and shall properly connect and coordinate Work under this Contract with their works. Any dispute arising under the obligations imposed by this paragraph shall be resolved as provided for herein.

3.3 Boundaries. District shall establish Project boundaries in the field whether or not shown on the Plans.

3.4 Inspection.

3.4.1 District Access. District and its duly authorized agent(s) shall have unrestricted access to the Work whether it is in preparation or in progress. District and its duly authorized agent(s) shall at all times reserve the right to inspect and/or test for compliance with the Contract Documents any or all materials and/or work provided to or installed in the Work. Contractor shall provide safe and proper facilities for access and inspection.

3.4.2 Required Inspections and Testing. If any law, regulation, ordinance, public authority, specification or District Representative requires any part of the Work to be specially inspected or tested, Contractor shall notify District Representative three (3) working days prior to the Work's readiness for testing or inspection.

3.4.3 Inspection of Phases. Contractor shall notify District Representative two (2) working days in advance of each phase set forth in the Plans or Specifications for inspection.

3.5 Work, Examination; Re-examination. District Representative may order and Contractor shall comply with the examination or re-examination of work. Contractor shall not cause any work to be covered or enclosed without approval of District Representative. Any work enclosed or covered before approval shall be uncovered. After inspection Contractor shall restore all work to its original condition at Contractor's expense.

3.6 Correction Of Work.

3.6.1 Removal; Replacement. Contractor shall promptly remove from the site all materials or Work rejected by District Representative. Contractor shall promptly replace material or Work, without cost or expense to District, and shall make good any Work destroyed or damaged by removal of condemned Work.

3.6.2 District Right to Remove Material; Deductions and Accounting. If Contractor does not remove rejected Work or materials within a time prescribed by District

Representative, District may remove and store salvageable Work or materials at Contractor's expense. If Contractor does not pay the expense of removal within five (5) calendar days, District may, after providing ten (10) days prior written notice, sell Work or materials at auction or private sale. District shall give an accounting of the net proceeds from the sale after deducting all costs and expenses including auction or sale expenses.

3.6.3Deductions For Uncorrected Work. If District determines not to require corrective Work, the Contract price shall be reduced by an amount equal to the estimated cost of making the Work conform to the Contract Documents as determined by District Representative, plus an administrative fee of fifteen percent (15%) of that cost.

3.7 Testing/Inspection Services.

3.7.1District. District may require that specialized test(s) and/or inspection(s) of the Work be performed by an independent testing/inspecting service of its choice. District shall pay for initial specialized tests or inspections. Contractor shall pay for any re-test or re-inspection that is thereafter required as a result of a failed test or inspection due to nonconformity with Contract requirements.

3.7.2Contractor. When Contractor is required by Contract or regulation of government authority having jurisdiction over the Work to provide certification by an independent testing/inspection service, Contractor shall be responsible for, and promptly pay, all costs thereof. District Representative must approve any independent testing/inspection service proposed for use by Contractor prior to employment of such service. All tests required by the Contract shall be made promptly so as not to delay the Work. Contractor shall furnish three (3) copies of all resulting testing/inspection reports.

ARTICLE FOUR

CONTRACTOR'S PERFORMANCE OF THE WORK

4.1 General Obligations Of Contractor.

4.1.1 Contractor shall complete all work in accordance with the Contract Documents and any subsequently executed Change Orders and written Field Directives. Contractor shall do all work and furnish all labor, materials, tools, appliances, equipment, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, all other facilities, and incidentals necessary to furnish, perform, test, start-up, and complete the Work within the time set forth in the Agreement, except as otherwise specifically expressed within the Contract Documents.

4.1.2 The right of general direction by District does not render Contractor an agent or employee of District; Contractor understands and acknowledges that Contractor's liability for any damages to persons or to public or private property arising from Contractor's execution of the Work shall not be lessened due to District general direction to Contractor.

4.1.3 Neither the presence of any District officer, director, agent, employee, consultant, or independent testing/inspection service hired by District, nor their general review or approval of any work shall relieve Contractor from its obligations to perform the Work in accordance with the Contract Documents.

4.1.4 *Superintendent*. Contractor shall submit the name, and the qualification resume of the competent superintendent and Project Manager who shall have the authority to represent and act for Contractor at the pre-construction meeting. The superintendent (or a competent assistant previously approved by District Representative) shall be on the Project site at all times while Work is in progress. The superintendent shall be changed only upon written consent of District Representative or if the superintendent ceases to be in Contractor's employ. Any replacement must be approved by District Representative. The superintendent, Project Manager and assistant shall be able to communicate with District Representative in English, as necessary for the safe and efficient execution of the Work.

4.1.5 *Pre-construction Meeting*. A pre-construction meeting attended by Contractor, District Representative, and others as appropriate, will be held within five (5) calendar days of *Notice of Award* to discuss the Work. All required documents, requests, and proposals must be submitted at or before this meeting.

4.1.6 *Review Work Site and Contract Documents*. Upon award of contract, Contractor shall again carefully compare work site conditions, all drawings, specifications, and other instructions and shall promptly report in writing to District Representative any error, inconsistency or omission at the pre-construction meeting.

4.1.7 *Monuments*. Contractor shall take reasonable measures to prevent dislocation or destruction of monuments before Contractor starts work. Contractor must protect benchmarks monuments and reference points from displacement or damage.

4.1.8 *Plans At Work Site*. Contractor shall at all times keep a complete and accurate set of the Agreement, and all Plans, Specifications, Addenda, Change Orders and shop drawings on the Work site (in good order) for use by District Representative.

4.1.9 *Daily Journal & Photo-Documentation*. Contractor shall maintain a daily journal of all activities on site, including but not limited to: deliveries to site; number of contractor personnel working on site; number of subcontractor personnel working on site; equipment operating on site; construction activities and work accomplished.

4.1.9.1 The journal shall include date and time stamped photo-documentation of the work described in the daily journal;

4.1.9.2 The daily journal shall commence on the date that the Contractor first starts work on site, including but not limited to brushing, clearing, mobilization, delivery of equipment or materials, etc. Following the first day of activity on site, Contractor shall log all work completed on a daily basis;

4.1.9.3 If no work is completed on site on a specific day, Contractor shall document "No Work on Site" in the daily journal for that date;

4.1.9.4 Contractor shall have daily journal with him/her at all times at the jobsite to ensure that work progress is being accurately documented as it is being completed;

4.1.9.5 District Representative may request to review daily journal at any time to confirm that Contractor is complying with daily journal requirements;

4.1.9.6 Two signed copies of the daily journal must be submitted with each Pay Application for the dates covered by the Pay Application. Pay Application will not be processed without submission of the daily journal.

4.2 Examination Of Site And Contract Documents

4.2.1 *Examination of Site*. By executing the Agreement, Contractor acknowledges having examined the Work site; compared the site with the Plans and Specifications;

determined any site variation that affects the scope, cost and schedule of the Work; and investigated the conditions of existing clearances, restrictions, or limitations that affect access to the Work. Contractor's failure to do any and all of the above shall not become a basis for claim of additional monies or extension of time.

4.2.2 *Transportation/Access.* Contractor shall investigate the conditions of the existing public and private roads for clearances, restrictions, and other limitations to transportation, and the ingress/egress at the job site. The unavailability of transportation facilities or limitations thereon shall not become a basis for claims against District or extension of time for the completion of work.

4.2.3 *Examination of Contract Documents.* Contractor shall examine the Contract Documents to verify that there are no missing pages or sheets and shall obtain and examine any and all missing material prior to commencing the Work. District shall not allow any claim based on errors in the Contract Documents which Contractor has reason to recognize, unless Contractor gives prompt notice of the error to District Representative in writing.

4.2.4 *Contractor's Failure to Examine.* No allowance shall be made on behalf of Contractor due to neglect, failure or error in acquainting itself with the Project and existing conditions or any and all of the Contract Documents.

4.2.5 *Contractor's Notice to Subcontractors.* Contractor's failure to provide all subcontractors with all information received shall not become a basis for monetary claim, extension of time or change to contract requirements.

4.3 Permits And Regulations.

4.3.1 *Compliance with Regulatory Requirements.* Contractor is directed to review and comply with any and all regulatory requirements of all agencies and jurisdictions having authority over the Work.

4.3.2 Contractor shall be responsible for securing and paying all permits, fees and/or licenses necessary to complete the Work. A copy of all permits and agreements must be displayed at the Work site. Contractor shall give all notices, pay all fees, obtain and pay for all permits, licenses, inspections, and certificates required by any governmental authority having jurisdiction over any part of the Work, unless otherwise relieved of such obligation in the Contract Documents. Contractor shall comply with all applicable laws, ordinances, rules and regulations. Before District Representative issues the certificate for final payment, Contractor shall deliver to District Representative all licenses, permits and certificates of inspection.

4.4 Subcontractors

4.4.1 *Listing of Subcontractors.* Contractor has set forth in the Bid Form of the Agreement the name, address, phone number, type and cost of work, and proof of required license for each subcontractor who will perform work or render services in any amount exceeding one-half percent (1/2%) of the total bid according to provisions of the California Public Contract Code §4100 through §4113. Each subcontractor shall be licensed by the State of California Department of Consumer Affairs for the portion of work they perform in accordance with Contractor's License Law.

4.4.2 *Failure to Specify.* If Contractor fails to specify a subcontractor, Contractor must be fully qualified and licensed and shall perform that work. Contractor shall not sublet or subcontract any portion of work that was not designated to a subcontractor in the original bid. If Contractor subcontracts any portion of work after Award of Contract to an

undesigned contractor, Contractor shall be subject to penalties according to the California Public Contract Code §4110.

4.4.3 *Substitution of Subcontractors.* Contractor shall not substitute any subcontractor for another listed in the original Bid Proposal without the written consent of District Representative. Consent may be granted in any of the following situations:

- (a) Contractor demonstrates to District that the subcontractor listed was the result of an inadvertent clerical error, subject to the provisions of the California Public Contract Code §4107.5.
- (b) The subcontractor listed refuses to execute a written contract with Contractor.
- (c) The subcontractor listed is not licensed and in good standing pursuant to the provisions of California Business and Professions Code §7000 through §7145.
- (d) The subcontractor fails or refuses to meet bond requirements of Contractor.
- (e) The subcontractor becomes bankrupt or insolvent.
- (f) The subcontractor is substantially delaying or disrupting the progress of the Work.
- (g) District Representative determines that work performed by the subcontractor is substantially unsatisfactory and not in accordance with the Contract Documents, or is failing or refusing to perform his subcontract.
- (h) District determines that a listed subcontractor is not a responsible contractor.
- (i) The listed subcontractor is ineligible to work on a public works Project pursuant to California Labor Code Section 1777.1 or Section 1777.7.

4.4.4 *Notice and Hearing.* Prior to substitution of a subcontractor, District Representative shall give written notice to the listed subcontractor of Contractor's request to substitute and the reasons for that request. Written notice shall be served by certified or registered mail to the last known address of the listed subcontractor. The subcontractor shall have five (5) working days to file with District written objections to the substitution. Failure to file written objections shall constitute the listed subcontractor's consent to substitution. If written objections are filed, District shall give five (5) working days written notice to Contractor and subcontractor of a hearing by District on Contractor's request for substitution.

4.4.5 *Subcontractor Assignment.* Contractor shall not permit a subcontractor to assign, transfer or convey the performance of work to another subcontractor without the written consent of District Representative.

- (a) *Violation; Penalty.* In accordance with California Public Contract Code §4110, District may consider the violation of any portion of this paragraph a breach of contract and cancel this Contract or penalize Contractor ten percent (10%) of the amount of the subcontract involved. Contractor shall be entitled to a public hearing as described above. District will give written notice of the hearing five (5) days in advance. All recovered funds shall be paid to District's General Fund.

4.4.6 *Contractor's Responsibility for Subcontractors.* Contractor agrees to be fully responsible to District for the acts and omissions of any and all subcontractors and for persons either directly or indirectly employed by them. Contractor shall coordinate all subcontractors to complete all the Work in accordance with the Contract Documents.

4.4.7 *Non-Contractual Relationship.* Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and District.

4.5 Joining, Cutting, Patching And Digging; Defects.

4.5.1 *Joining of Parts.* Contractor shall cut, fit or patch Contractor's work as required to make its several parts come together properly with the work of other contractors and shall do all that is necessary in the joining of all parts in a neat and workmanlike manner to the satisfaction of District Representative. Contractor shall not damage or endanger any portions of work fully or partially completed.

4.5.2 *Consent Required.* Contractor shall not cut, dig or otherwise alter the work of another contractor without the prior written consent of District Representative.

4.5.3 *Defects.* If Contractor's work depends upon the work of another contractor, Contractor shall inspect and promptly report to District Representative any defects that could prevent proper performance. Contractor's failure to inspect and report shall constitute acceptance of the other contractor's work. No claim by Contractor of prior defects affecting the Work will be considered after work has started. Contractor will make all corrections at own expense. Prior defects affecting Contractor's work discovered after starting shall be reported immediately to District Representative.

4.5.4 *Measurement of Work in Place.* Contractor shall measure work already in place and shall report promptly in writing to District Representative any discrepancy between existing work and the Plans and Specifications.

4.5.5 *Costs.* Any costs resulting from defective or out of sequence work shall be borne by Contractor.

4.6 Use Of Premises.

4.6.1 *Physical Limits of Materials, Operations.* Contractor shall confine all machinery, tools and other apparatus, the storage of materials and the operations of Contractor's workers to limits indicated by law, ordinances, permits or directions of District Representative. All personal vehicles shall park within the project boundaries and not trespass onto adjoining properties.

4.6.2 *Temporary Storage.* Contractor shall not use the Project site or any area set aside as a temporary construction yard as a site for the temporary storage of equipment, appliances, vehicles, or other materials, that are not or will not be used in the Work.

4.6.3 *Dangerous Loads.* Contractor shall not load or permit any part of the Work to be loaded with a weight that will endanger its safety or the safety of any person or property.

4.6.4 *Signs and Advertising.* Contractor shall comply with and enforce District Representative's instructions regarding placement of signs and advertising on and about the Work site. Advertising signs or name labels of any description shall not be placed on or near the Work site without District Representative's prior written approval.

4.6.5 *District Occupancy Prior to Acceptance.* District reserves the right to occupy or use any part, parts, or the entirety of the Work when District Representative deems it safe. The exercising of this right shall in no way constitute an acceptance of any part of the Work, nor shall it in any way affect the dates and times when payments become due Contractor; nor shall it in any way prejudice District's rights in the Contract. The Contract shall be deemed completed only when District Representative, in writing, accepts all the Work contracted for.

4.6.6 *Field Office.* If a job site office is used, District Representative must approve the facility and its location before installation. District makes no representations as to the feasibility of access to the Work area for a job site office or secured storage facility due to the nature of the site which may hinder or prevent such transportation.

4.7 Project Cleanliness.

4.7.1 *Requirements.* Contractor shall keep the Project and surrounding areas free from accumulations of waste material and rubbish generated by employees and subcontractors. Contractor shall remove all rubbish, tools, equipment and surplus materials leaving the area "broom clean" at the completion of the Work, unless a different nature of cleanup or repair is specified elsewhere in the Contract Documents. Trash and rubbish must be stored in animal-proof containers, transported daily from site and legally disposed of. Contaminated or dangerous materials must be removed and promptly disposed of if encountered. No materials may be burned, buried or otherwise disposed of on site. Tools, equipment, and site protections measured are to be removed when Work is completed and when authorized to do so by District Representative.

4.7.2 *Disputes.* If a dispute arises between Contractor herein and any other contractor(s) retained by District (excluding any subcontractor(s) of Contractor herein) as to responsibility for removal of rubbish or other waste, District may remove the rubbish or other waste and charge all or any portion of such costs to Contractor as District Representative determines to be reasonable.

4.8 As-Built Documents. Contractor shall maintain a complete and updated set of "As-Built" drawings and supplementary documents that shall be corrected daily and show every change from the original drawings and specifications, as well as the exact locations, sizes and kinds of equipment as actually installed. This set of drawings and documents shall be kept on site and shall be used as a record set. Updates must occur both on hard-copy and electronic version of "For Construction" documents.

4.8.1 These drawings shall also serve as work progress sheets, and neat and legible annotations shall be made daily as the Work proceeds, showing the Work as actually installed. These drawings shall be available at all times for inspection and shall be kept at the worksite in a location designated by District Representative.

4.8.2 Contractor will meet on a regular basis with District Representative to confirm the correctness and completeness of the "As Built" documents. Under no circumstances shall trenches be backfilled until District Representative has verified the "As Built" plans relating to such trenching. If, in the sole opinion of District Representative, Contractor fails to provide accurate and verifiable information, a survey crew may be retained by District at Contractor's sole expense.

4.9 Water And Air Pollution; Environmental Protection; Erosion Control.

4.9.1 *Water Pollution.* Contractor shall exercise every precaution to protect streams and bodies of water from pollution by fuels, oils, salts or other hazardous materials as defined herein. Contractor shall minimize muddying and silting of any stream or body of water. Contractor shall, at District Representative's direction, perform work in small units or use modified construction procedures when necessary, to provide effective water pollution control. Contractor shall prevent any construction equipment, material, and debris from falling, landing, or reaching any adjacent creek drainage. At the pre-construction meeting, Contractor shall submit to District Representative in writing, a program to control water pollution. Contractor shall provide, at no cost to District, temporary dikes, basins, ditches, straw, seed, or other appropriate device, when, in the opinion of District Representative, they become necessary as a result of Contractor's operations. District Representative may require Contractor to revise Project operations and the Work Schedule at no additional cost to District if Contractor's water pollution control measures are ineffective.

4.9.2 *Dust Control*. Contractor shall control dust resulting from Contractor's performance of the Work either by applying water or a dust palliative without additional costs to District. Use temporary enclosures, coverings and water sprinkling, or combinations thereof, as necessary to limit dust to lowest practicable level, consistent with the Project's Erosion Control and Pollution Prevention Plan, except do not use water to the extent that it causes flooding, erosion, or contaminated runoff. District Representative has full authority to suspend Work wholly or in part should Contractor fail to perform to the satisfaction of District Representative.

4.9.3 *Sudden Oak Death (SOD) Precautions*. Prior to the start of construction work, the Construction Superintendent shall inform construction personnel that they are working in a potential SOD-infested area, the implications of the disease, and the need to prevent further disease spread. Non-English speaking personnel shall be provided the appropriate written or verbal translations. To the extent practical, avoid locating equipment and material near host plants and trees, especially if showing disease symptoms. Route all equipment away from host plants and trees, especially if they exhibit any disease symptoms. No plants, trees, soil, duff, or other natural on-site material shall be removed from the Preserve without prior approval from District Representative. Any cutting or chipping of on-site plant material shall be restricted to the Project area and the debris shall remain in the Project area. After completing any cutting or chipping of on-site plant material, ensure that the equipment is free from host debris by first removing any visible plant material that clings to the equipment and follow with the cutting or chipping of non-host material. Before any equipment or vehicles leave the Preserve, Contractor shall inspect the equipment and vehicles for host plant debris (leaves, twigs, and branches). Host plant debris must be removed from equipment and vehicles prior to their departure.

4.9.4 *Mud*. If conditions at the Work site are muddy due to dust suppression activities or summer rains, remove or wash off accumulations of soil, mud, and organic debris from shoes, boots, vehicles, and heavy equipment prior to exiting the Preserve. If an equipment power wash station is used, District Representative must first approve its location.

4.9.5 *Wildlife*. Construction workers shall be instructed not to disturb or feed wildlife.

4.9.6 *Noise*. District Representative shall decide on the adequacy of provision and maintenance of noise reduction equipment. When so instructed in writing by District Representative, Contractor shall immediately withdraw any item of plant or equipment from service and carry out all necessary additions, replacements or repairs to the noise reduction equipment to the satisfaction of District Representative.

4.9.7 *Pollution Prevention*. All equipment shall be in proper working order, with no known leaks. All leakage shall be cleaned up properly. Equipment shall be cleaned of all excess dirt or soil materials prior to departing District property. All leakage shall be cleaned up properly as set forth in the Erosion Control and Pollution Prevention Plan if one has been prepared for the project. Equipment shall be cleaned of all excess dirt or soil materials prior to departing District property.

4.10 Protection Of Historic Resources And Human Remains. Contractor shall, during all work, be alert for indicators of historic resources (such as bivalve shells or fragments, stone tools, old china objects or fragments, old glass objects or fragments, old foundations and old privy deposits) and human remains. If any such indicators are uncovered, all work within fifty (50) feet shall be halted and District Representative immediately notified. District will have the find evaluated by the proper authorities or

professionals. Only the balance of that workday shall be compensated by District if Contractor cannot perform work elsewhere on the Project. Recommendations from the qualified authorities or professionals may result in a change of Work and a Change Order may be issued.

4.11 Hazardous Materials

4.11.1 *Definition.* As used herein, hazardous materials shall include all items listed in any statute, ordinance or publication defining hazardous materials including, but not limited to, common household items containing substances now or subsequently listed as a hazardous material or substance, chemicals, drugs, any materials used for laboratory analysis, nuclear and/or radioactive materials, toxic substances, hazardous substances, hazardous wastes, contaminated or polluting substances, materials or waste toxic, caustic, corrosive, gaseous or flammable substances that may cause injury, illness or death to living organisms.

4.11.2 *Approval.* Contractor shall not use any hazardous material in connection with this Project without the prior written approval of District Representative. Ten (10) working days prior to using a hazardous material, Contractor shall submit to District Representative complete Material Safety Data Sheet (MSDS) information, product specifications, and a document stating the application rate and method and including the name of the manufacturer's local representative and emergency telephone numbers. District Representative's response to Contractor's request for approval of hazardous materials use shall not affect Contractor's obligation to comply with the provisions of this section.

4.11.3 *Application.* In using hazardous materials, Contractor shall:

- (a) Notify District Representative of the application schedule at least five (5) working days in advance.
- (b) Comply with all applicable federal, state, and local laws, regulations, and ordinances relating to the use and disposal of hazardous materials and containers, environmental protection, industrial hygiene, worker and public safety.
- (c) Supply protective clothing or equipment as required by applicable federal or state law for all persons handling hazardous materials, and for District Representative as required for inspection of the Work.
- (d) Be responsible for the notification of all concerned parties adjacent to or effected by said hazardous material and as directed by District Representative.

4.11.4 *Special Situations.* In the event Contractor encounters material on the site reasonably believed to be asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance, Contractor shall immediately stop Work in the areas affected and report the condition to District Representative. If in fact the material is asbestos, polychlorinated biphenyl (PCB) or any other hazardous or toxic substance that has not been rendered harmless, the Work in the affected area shall not be resumed except by written agreement between District Representative and Contractor. The Work in the affected area otherwise shall only be resumed when asbestos, polychlorinated biphenyls (PCBs) and other hazardous or toxic substances have been removed or rendered harmless.

4.11.5 For Projects where scope of work includes Hazardous Materials Abatement and/or Remediation, refer to Project Drawings and Specifications for Hazardous Material requirements.

4.12 Safety

4.12.1 *Responsibility for Safety.* Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs. All work shall conform to the requirements of the California Administrative Code, Title 8, Industrial Relations, Division of Industrial Safety. Contractor shall be solely responsible for responding to, and the final satisfaction of any and all claims of personal injury or property damage.

4.12.2 *Safety Equipment and Workers.* Typical natural hazards on District lands include poison oak and other poisonous plants, poisonous insects and spiders, ticks, rattlesnakes, rabid animals, thorny plants, heat stroke, and rough terrain. All job site personnel should be able to recognize these hazards and to handle accidents involving them. Contractor shall take all reasonable measures as required by existing conditions and performance of the Contract to protect the public and their property. Contractor shall provide adequate barricades, fences, signs, tarps, warning lights, watchpersons, flag persons, etc., to protect the public and their property. Safety devices and workers shall comply with the current State of California "Manual for Warning Signs, Lights and Devices for Use in Performing Work Upon Highways", as a minimum standard. All lighting shall be electric powered and left on from sunset to sunrise.

4.12.3 *Trench and Excavation Safety.* As required by the California Labor Code §6705, whenever any portion of the Work involves excavating or trenching five feet or deeper, Contractor shall submit for acceptance by District a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made, to protect Contractor's workers, District personnel, and the public at large. If the plan varies from standard shoring systems established by the Construction Safety Orders of the Division of Industrial Safety, a registered civil or structural engineer employed by Contractor shall prepare the plan. All costs for trenching, excavation safety, including engineering, shall be included within the Contract Bid. Contractor shall submit a shoring plan for District's review no later than the pre-construction meeting. Contractor is solely for the adequacy of this plan. All trenching or excavation greater than five (5) feet deep below ground surface shall meet the provisions of Public Contracts Code §7104 as may be amended from time to time, which provides as follows:

(a) Contractor shall promptly, and before the following conditions are disturbed, notify District, in writing, of any:

4.12.3.a.1 Material that Contractor believes may be material that is hazardous waste, as defines in Health and Safety Code Section 25117, and may be required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

4.12.3.a.2 Subsurface or latent physical conditions at the site differing from those indicated.

4.12.3.a.3 Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

(b) District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work shall issue a change order under the

procedures described in the Contract.

- (c) In the event that a dispute arises between District and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in Contractor's cost of, or time required for, performance of any part of the Work, Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. Contractor shall retain any and all rights provided either by Contract or by law that pertains to the resolution of disputes and protests between the contracting parties.

4.12.4 *Use of Equipment.* No equipment shall move onto the Project without approval from District Representative. All equipment shall remain within the Project boundaries as set forth by District Representative and/or Contract Documents.

4.12.5 *Unauthorized Vehicles.* When required by this Contract or District Representative, Contractor shall take measures to prevent unauthorized vehicular traffic.

4.12.6 *Material and Equipment Transportation.* Trucks hauling material or equipment shall not exceed vehicle or posted load and speed limits.

4.13 Time Limits On Work.

4.13.1 *Work Hours.* No Work or equipment shall be started on a Work Day before 7 a.m., nor continue beyond 5 p.m., except when expressly permitted by the Contract Documents, agreed upon at the pre-construction meeting, or otherwise approved in writing by District Representative. Work outside of these hours, on weekends or on Legal Holidays, shall be subject to a fine of One Thousand Dollars (\$1,000.00) per day as liquidated damages, the exact amount of the actual damages being difficult to calculate, and the parties hereby agree that this is a fair and reasonable estimate of the actual damages suffered by District and its constituents and which shall be levied at the sole discretion of District Representative. Contractor may request permission to work on a Saturday, Sunday, or Legal Holiday, or outside normal working hours by notifying District Representative at least two (2) Working Days in advance. Contractor shall only be permitted to Work outside normal working hours at such times and on such days as are previously authorized by District Representative in writing.

4.13.2 *Extensions, Delays, Suspension Of Work.* District Representative shall have sole discretion in the approval or denial of Contract time extensions. Contractor may make written request to District Representative for an extension of time to complete the Contract promptly following an occurrence of any one or more of the following:

- (a) Delay due to work by District or another contractor.
- (b) Delay due to difficulties in securing all required permits.
- (c) Labor dispute beyond Contractor's control that affects work progress.
- (d) A natural disaster that District Representative concludes substantially damages completed work or stored material (provided Contractor's neglect did not contribute to the damage).
- (e) Unusual Inclement Conditions. Contractor shall submit the accumulated record mean values from climatological data filed by the U. S. Department of Commerce as part of Contractor's claim for time extension due to inclement conditions, if an extended inclement weather season causes contract work delay.

4.13.3 *Liquidated Damages for Delay.* If Contractor fails to complete the work within the

specified time plus any extensions thereof, Contractor shall become liable to District, as liquidated damages, the sum of \$1,000.00 for each calendar day beyond the time specified above, the actual damage incurred being difficult to calculate and the parties hereby agree that this is a fair and reasonable approximation and not to be construed as a penalty. Nothing herein shall be construed to preclude District from recovery of damages for causes other than for delay by Contractor. Any money due Contractor may be retained by District to cover liquidated damages. Should retained money not be sufficient to cover damages, District shall have the right to recover the balance from Contractor or its sureties.

4.13.4 *Authorized Suspension.* Should District Representative authorize a work suspension, the suspension time shall be added to the Contract time. Work suspended by District shall not be deemed a waiver of District's right to damages for non-completion.

4.13.5 *Delay Caused by District.* In the event District delays Contractor in the Work, Contractor's compensation shall be limited solely to an extension of time. Contractor agrees that in no event shall Contractor be entitled to a monetary payment over and beyond that specified in the Contract plus approved change orders. However, if District causes the delay, and the delay is unreasonable under the circumstances and not within the contemplation of the parties, this subsection shall not preclude the recovery of compensation when Contractor would otherwise be entitled to such payment.

4.13.6 *Additional Work to Correct Delays.* If, in the opinion of District Representative, Contractor is not proceeding with the Work as scheduled, upon written direction from District Representative, Contractor shall work (at no additional cost to District) such overtime, additional shifts, Saturdays, Sundays or Legal Holidays required to correct delays. Contractor shall, by the diligent pursuit of the Work, ensure that the Work is completed within the Contract time.

4.14 Employees, Work Day, Apprenticeship, Non-Discrimination And Wages.

4.14.1 *Skilled Workers.* Contractor and all subcontractors shall only employ workers suitably skilled in the Work.

4.14.2 *Character of Workers.* Anyone employed on the Project by Contractor, or any subcontractor, who in the opinion of District Representative is incompetent, disorderly, or otherwise acts improperly, after written notification, shall be dismissed from the Project and not further employed on any part of the Work.

4.14.3 *Lawful Working Day.* Work performed by workers more than eight (8) hours during any one (1) calendar day and more than forty (40) hours in any one (1) calendar week may be permitted pursuant to the overtime provisions of Labor Code Section 1815 and then only upon such terms, conditions and requirements as provided and fixed by law. As provided in California Labor Code §1813, Contractor shall forfeit twenty-five dollars (\$25.00) for each worker employed in the execution of the Contract by Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work in violation of Labor Code Sections 1810 through 1815.

4.14.4 *Apprenticeship Standards.* Contractor shall comply fully with the requirements of California Labor Code §1777.5 regarding employment of registered apprentices. If Contractor willfully fails to comply with this code section, Contractor may be denied the right to bid on any District contract for a period of one (1) year from the date of non-compliance determined by the California Division of Apprenticeship Standards. When District receives from the Division notice that Contractor is not in compliance with apprenticeship standards, District shall withhold from Contract payments the amount of

the civil penalty imposed by the Division, which funds may be released to Contractor upon order of the Administrator or upon completion of the Contract.

4.14.5*Non-Discrimination.* Contractor and its subcontractors will comply with all applicable equal employment opportunity and affirmative action laws throughout the term of this Agreement. Contractor hereby certifies that it will not unlawfully discriminate in its employment with regard to race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, sexual preference, or age; that all federal, state and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principle of equal opportunity in employment will be demonstrated positively and aggressively. Contractor further certifies that it shall require the compliance of its subcontractors on the Work with all of the provisions of this paragraph. Contractor hereby acknowledges its understanding that this Contract may be canceled, terminated or suspended in whole or in part and Contractor and/or its subcontractors declared ineligible for future contracts with District, in the event Contractor and/or its subcontractors are found in non-compliance with the terms hereof.

4.14.6*Wages.* As required by law, Contractor shall pay all workers California Prevailing Wages for each trade or classification on the job during the term of this Agreement. These rates include, but are not limited to, employer payments for health and welfare, pension, vacation, travel time, subsistence pay and for apprenticeship and training obligations. The current issue of the Director of the Department of Industrial Relations for the State of California GENERAL PREVAILING WAGE RATES for straight time, overtime, Saturday, Sunday, and Legal Holidays is herein incorporated as part of this Contract. Any and all revisions to the GENERAL PREVAILING WAGE RATES that take effect during the Contract shall be adopted as part of this Contract. Contractor shall post Prevailing Wage Rates on job site. A copy of the GENERAL PREVAILING WAGE RATES is available for review at the office of District Representative. Copies of the prevailing wage rates are on file at District's principal office. For those crafts or job classifications requiring special prevailing wage determinations, please contact the Division of Labor Statistics and Research, Prevailing Wage Unit, P.O. Box 603, San Francisco, CA 94101, (415) 703-4281. District will not recognize any claim for additional compensation because of payment by Contractor of any wage above the GENERAL PREVAILING WAGE RATES. The possibility of wage increases is an element to be considered by Contractor in determining its bid, and may not under any circumstance form the basis of a claim against District.

4.14.7*Labor Code §1861.* Contractor has executed the affidavit, attached hereto and incorporated herein as Exhibit 3, pursuant to Labor Code §1861.

4.14.8*Holidays.* Holiday wage rates shall apply to holidays recognized in the collective bargaining agreement of the particular craft or classification concerned.

4.14.9*Contractor and Subcontractors Compliance.* Contractor and each subcontractor shall pay general prevailing per diem wages (including holiday and overtime pay) to all of their workers on the Project. As of March 1, 2015, contractors and subcontractors must be registered with the California Department of Industrial Relations (DIR) to maintain eligibility to work on public works projects (Cal. Lab. Code §§ 1725.5, 1771.1). Work performed on the Project is subject to compliance monitoring and enforcement by the DIR. Contractor is solely responsible for posting Job Site Notices in compliance with the California Labor Code and Title 8 California Code of Regulations §16451.

4.14.10*Payroll Record Requirements.* Contractor and each subcontractor shall keep

accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed on the Project pursuant to California Labor Code §1776. Payroll records shall be available for inspection at all reasonable hours by District Representative. Contractor shall make payroll records available pursuant to California Labor Code §1776. If a complaint is filed with District or the Division of Labor Standards Enforcement alleging that Contractor or subcontractor has paid less than prevailing wage on the Project, District shall withhold from progress payments to Contractor an amount equal to one hundred and twenty-five percent (125%) of the amount claimed until the allegation is settled.

4.15 Work Schedule.

At least three (3) days prior to the Pre-Construction Conference to be scheduled by District, Contractor shall provide three hard copies of a detailed critical path network schedule for performance of the Work, generated on a commonly used professional scheduling software program approved by District Representative. This schedule shall incorporate all Subcontractor Work and other provisions necessary to bring the Work to Substantial Completion and Final Completion and Acceptance within the Contract Time. Schedule shall be itemized in sufficient detail to identify and show all administrative, engineering, permitting, submittal, procurement fabrication, site mobilization, inspections, testing, sampling, equipment erection and field construction activities required for completion of the Work. Schedule shall detail all items of work as described in the bid schedule and shall show the dates of start and completion for each item. Any required permits shall be obtained or permit application(s) shall be submitted within five (5) working days from the date of issuance of a written *Notice to Proceed*. The Contractor shall submit to the District Representative a monthly update to the Construction Schedule with each Application for Payment. The monthly update shall be in the form of a Summary Bar Chart and shall reflect the actual activity and progress of all Work through the preceding month. The Monthly Updates shall identify all actual start dates and completion dates and shall include a graphical representation of the interim progress of all activities started, completed, or in progress since the date of the previous Monthly Update. The Monthly Update shall include any changes, clarifications, or corrections recommended by the District Representative. District will make no progress payments to Contractor until District Representative has approved the Construction Schedule. Failure to make Construction Schedule adjustments shall be cause for District to delay progress payments. Construction Schedule changes shall not affect the Completion Date.

4.16 Submittals

4.16.1 The following terms shall have the following meanings:

- (a) "Product Data" are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for a portion of the Work.
- (b) "Shop Drawings" are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or Subcontractor to illustrate some portion of the work.
- (c) "Samples" or "Mock Ups" are physical examples which illustrate materials

equipment or workmanship and establish standards by which the work will be judged.

- (d) "Submittals" shall include without limitation, Product Data, Shop Drawings, Samples, coordination drawings, certificates, manufacturers' descriptive literature, materials safety data sheets, brochures, pamphlets, catalogue cuts, calculations, reports, color charts, and other descriptive data defining the article, material, equipment, device or assembly proposed for incorporation into the Work.

4.16.2 Within 20 days of execution of the Agreement, Contractor shall prepare a schedule for submission of all required Submittals (the "Submittal Schedule"). The Submittal Schedule shall identify any Submittals that are on the critical path of the construction schedule and provide sufficient time to order, test, procure, deliver, assemble and install the material and equipment in strict accordance with the Construction Schedule. The Submittal Schedule shall ensure sufficient time for District review, comment and resubmittal, if required.

4.16.3 All Submittals shall be dated and properly identified by name of Project and name and address of Contractor. In addition, each Submittal shall be referenced to Drawing Details number(s) and/or Specification Section and paragraph number(s). Submittals without such identification will be returned without review.

4.16.4 Prior to submitting a Submittal to the District Representative, Contractor shall thoroughly review and approve the Submittal for compliance with the Contract Documents. By reviewing and approving all Samples and Shop Drawings, Contractor thereby certifies that it had determined and verified all field measurements, materials, catalogue numbers, and similar data, and that it has checked and coordinated each Shop Drawing and Sample with the requirements of the Work and the Contract Documents. Submittals without Contractors stamp and certification, and Submittals which in the opinion of the District Representative are incomplete or not in compliance with the Contract Documents, will be returned to the Contractor without review for resubmission.

4.16.5 Contractor shall provide District Representative with six (6) copies of all Submittals. If both Shop Drawings and Samples or Product Data are required for the same item, District Representative may require both to be submitted before approving either. No Submittal review comments or acceptance, on the part of the District's review thereof, shall constitute an authorization for any increase in Contract Price. Upon review, the Submittal shall be stamped as follows (or stamped using reasonably equivalent language acceptable to the District Representative:

- (a) "Reviewed – No Exceptions Taken": No corrections or resubmissions are required. Contractor may proceed with the fabrication of construction;
- (b) "Reviewed – Make Corrections Noted": Resubmission is not required. Contractor may proceed with fabrication or construction on the condition that correction noted are incorporated into the Work. If Contractor cannot comply or disagrees with the corrections noted, it shall revise the Submittal and resubmit before proceeding with the fabrication or construction.
- (c) "Review – Revise and Resubmit": Resubmission is required. Fabrications or construction may not proceed; any fabrication or construction shall be at Contractor's risk. Contractor shall revise the Submittal as indicated and resubmit.

(d) "Rejected": Resubmission is required. Fabrications or construction may not proceed; any fabrication or construction shall be at Contractor's risk. Contractor shall revise the Submittal in accordance with the Contract Documents and resubmit. Review cannot proceed because minimum requirements for Submittal have not been met.

4.16.6 After review, Contractor shall maintain a log of all Submittals marked "Reviewed – No Exceptions Taken" and "Reviewed – Make Corrections Noted" at the Contractor's field office on site. Approved mock-ups if any, shall remain as the standard for acceptance of the Work.

4.16.7 Submittals shall be reviewed with reasonable promptness, considering the complexity of each Submittal and the timing of other Submittals delivered by the Contractor. Contractor shall allow at least three (3) weeks to process Submittals, and at least four (4) weeks to process complex Submittals. These periods of time do not allow for resubmittals, if required. Contractor acknowledges that certain Submittals may require additional time.

4.16.8 Submittals shall be reviewed for their general characteristics and general design only. District review shall not in any way release Contractor from his duty to comply with the requirements in the Contract Documents or from his responsibility to ensure the proper fit, construction sequences, dimensions and quantities.

4.17 Materials.

4.17.1 *Quality.* All materials furnished by Contractor shall be new and meet all standards of quality and workmanship of their kind unless otherwise specified in the Contract Documents. Materials specified as recycled in the Contract Documents must meet appropriate California Department of Transportation ("Caltrans") specifications as described. All materials are at any time subject to inspection, sampling, testing, approval or rejection by District Representative. When required by District Representative, Contractor shall furnish acceptable documented evidence of the kind and quality of materials used. The words "or equal" in the Plans and Specifications mean "or equal in the opinion of District Representative".

4.17.2 *Substitutions.* District Representative's approval of a substitute material shall not relieve Contractor of responsibility for total compliance with the Plans and Specifications. Contractor shall pay all costs for modifications resulting from the approved substitution of material. There shall be no cost to District resulting from the use of any substitute material(s) by Contractor.

4.17.3 *Substitution Request.* Request for a material substitution shall be submitted promptly to District Representative in writing at least ten (10) working days prior to the day approval is required so as not to delay the Work.

4.17.4 *Materials List.* When requested by District Representative, Contractor shall submit at least five (5) copies of catalog cuts, engineering data, and other information regarding materials that are proposed for the Work. The materials list submitted shall include a description of the materials and their suppliers. No progress payment shall be made before District Representative reviews and accepts the materials list.

4.17.5 *Unavailable Or Late Materials.* It is the responsibility of Contractor to order and schedule delivery of materials in time to avoid construction delays. If any item is unavailable or will be delivered late, Contractor shall immediately notify District Representative. Contractor must substantiate that materials were ordered in a timely manner. District Representative may grant a contract time extension or consider a

suitable material substitution for continuing the Work.

4.18 Public Convenience.

4.18.1 Public Convenience. Contractor shall conduct the Work so as to ensure the least possible obstruction to traffic or inconvenience to the general public.

4.18.2 Road and Trail Closures. Contractor shall not obstruct roads or trails that are to remain open during construction and shall allow unencumbered access through Preserve gate entrances. Contractor shall not close or obstruct driveways, trails, or other public passageways without permission from District Representative or other authorities having jurisdiction.

4.18.3 Failure to Provide for Safety. If in the opinion of District Representative, Contractor fails to adequately provide for safety, District Representative may suspend construction within the area; or order and place any additional warning devices, barriers, or protective equipment deemed necessary; or do both. District shall not assume Contractor's responsibilities by this action and does not thereby release Contractor's obligations. Contractor will be liable to, and promptly reimburse District for, all costs District incurs in acting under this paragraph in an amount equal to twice District's expenses and costs in acting pursuant to this paragraph, as liquidated damages, the extent and amount of actual damage to District being difficult to precisely calculate and the parties agree that such measure of damages is a fair and reasonable estimation thereof. This action shall not become a basis for any claim for time or money against District.

4.19 Fire Hazards And Preventions

4.19.1 Contractor is responsible for any fire ignited by Contractor's employees, subcontractors, or equipment. Employees shall not be allowed to start fires. No open flames are permitted.

4.19.2 Contractor shall take necessary precautions to guard against and eliminate fire hazards that may cause damage to the Work, building materials, equipment, public, and private property, including grassland, brush, and trees.

4.19.3 Flammable materials shall not be poured into drain lines and shall be disposed of only in a manner approved by the Fire Marshal's office and District Representative.

4.19.4 Fire hydrants shall be kept accessible to fire-fighting equipment at all times.

4.19.5 No smoking is allowed on the Work site or otherwise within a District Preserve.

4.19.6 For emergency response in the event of fire, Contractor shall contact both Mountain View Dispatch at (650) 968-4411, and the California Department of Forestry at (831) 335-9113 in San Mateo County and Santa Cruz County or at (408) 779-4111 in Santa Clara County, and any other emergency response agencies identified to be a responder to the Work.

4.20 Emergencies. In an emergency affecting the safety of life, the Work or adjoining property, Contractor shall take all necessary and proper steps to prevent any loss, injury or death. Contractor shall make every effort to communicate with District Representative and may be guided by the directions and/or advice of District Representative. If the character of the emergency is such as to require action within a short time or circumstances otherwise render communication with District impractical, Contractor shall act independently and upon its own. Contractor's emergency acts will be subject to the direction and control of District as soon as it is practical.

4.21 Utilities.

4.21.1 *Existing Utilities.* Contractor's attention is directed to the existence of utilities shown or not shown on the Plans. The location of known utilities shown on the Plans is approximate. It is Contractor's responsibility to investigate and locate existing utilities. Contractor shall call Underground Service Alert (USA North) (1-800-227-2600) for assistance. Contractor will immediately report to District Representative any utility that varies significantly from the Plans.

4.21.2 *Utilities Identified in Plans and Specifications.* When it is necessary for Contractor to remove, relocate or protect any utility that is identified in Plans and Specifications to execute this Contract, Contractor shall remove, relocate, or protect that utility or notify the owner and make arrangements for coordinating the removal, relocation or protection of that utility with his work. There shall be no claim for additional compensation or time by Contractor for this work. Contractor shall repair all areas surrounding utility work to District Representative's and utility owner's satisfaction according to California Government Code §4215.

4.21.3 *Utilities Not Identified in Plans and Specifications.* When any utility on the Project must be removed, relocated, protected or repaired by Contractor, and the utility is not identified in the Plans and Specifications, District shall compensate Contractor for the cost of such utility work. District shall compensate Contractor for equipment idled by work on such unidentified utilities. Contractor shall use reasonable care in his Work to prevent damage to any unknown utility. District shall not charge Contractor for delay of Work due to any unidentified utility. Contractor shall notify District Representative and the utility owner, in writing, whenever Contractor discovers an unidentified utility subject to California Government Code §4215.

4.21.4 *Right to Enter Reserved.* District and any and all utility companies have the right to enter the Project to make repairs and changes that become necessary in the performance of this Contract.

4.21.5 *Certificate of Satisfaction.* Contractor shall, at Contract completion, produce written certification provided by any utility affected by Contractor's work stating that the utility is satisfied with Contractor's work.

4.21.6 *Temporary Utilities and Facilities.* Unless otherwise stated in the Contract Documents, Contractor shall provide all temporary utilities and sanitary facilities except where restrooms are made available onsite by District. District Representative must approve all temporary utilities and sanitary facilities before installation. Contractor shall immediately remove such temporary items upon completion of Contract or upon the direction of District Representative.

4.21.7 *Cellular Communication.* The Project location may be remote, with limited or no cell phone service.

4.22 Protection Of Work And Property. Contractor shall protect from damage or loss, Work and any existing District, private, or other public improvements or resources including vegetation, pathways, roadways, structures and utilities not designated for removal or alteration. Contractor shall repair or provide replacement for any such damage or loss to the satisfaction of District Representative, all at no cost to District. When Contractor is working in or around existing vegetation, Contractor shall not disturb such and shall take adequate measures to preserve and protect all vegetation that is to remain. Particular care shall be taken not to debark trees, break limbs, or damage root systems.

ARTICLE FIVE

INSURANCE, BONDS AND INDEMNIFICATIONS

5.1 General Insurance Requirements.

5.1.1 Contractor shall provide, and keep in full force and effect during the Term of this Agreement, at Contractor's sole cost and expense, policies of insurance with companies licensed to do business in the State of California that are acceptable to District for the Coverages as more particularly set forth below. Contractor shall keep all required policies in full force and effect until final acceptance of the Work by District.

5.1.2 Contractor shall, within five (5) calendar days after *Notice of Award*, supply District with an acceptable Certificate of Insurance. An authorized insurance agent or broker must complete, execute and provide District with a Certificate of Insurance (ACORD 25-S, or a successor or comparable form, subject to prior approval by District) before a *Notice to Proceed* may issue. District reserves the right to cancel the contract if these requirements are not met within 30 calendar days of the *Notice of Award*.

5.1.3 The General and Automobile Liability policies must be endorsed to name District as an additional insured and must be on a primary non-contributing basis in relationship to any other insurance available to District. All policies taken out by Contractor insuring work and materials supplied must list District as an additional insured and be payable to Contractor and District. All policies shall contain a provision that they shall not be canceled or materially changed without thirty (30) calendar days' prior written notice to District. No cancellation provision in any insurance policy shall be construed in derogation of the continuous duty of Contractor to furnish the required insurance during the term of the Agreement.

5.2 Specific Insurance Requirements.

5.2.1 *Workers' Compensation Employer's Liability* coverage as required by statute, in full compliance with California Labor Code §3700, and containing a waiver of subrogation in favor of District. Contractor hereby acknowledges having read and understood the provisions of the California Labor Code §3700, which require every employer to be insured against liability for workers' compensation or that they undertake self-insurance in accordance with the provisions of that code, and Contractor agrees to comply with such provisions before commencing the Work. Acknowledgment shall be in the form attached hereto and incorporated herein as Exhibit 3.

5.2.2 *Comprehensive or Commercial General Liability*, including coverage for Bodily Injury and Property Damage in the amount of \$2,000,000.00 per occurrence.

5.2.3 *Business Automobile Liability* coverage including owned, non-owned and hired vehicles in an amount of no less than \$1,000,000.00 per occurrence.

5.2.4 *Subcontractor(s) Insurance Requirements*. Contractor shall either require each subcontractor to procure and maintain during the life of its subcontract all insurance of the type and in the amounts specified above or insure the activities of subcontractor(s) under its own policy or policies.

5.3 Guarantee Bonds.

5.3.1 *Performance and Payment Bonds*. Contractor shall furnish District a Performance Bond in the amount of the Contract price, guaranteeing the faithful performance of the

Contract, and a Payment Bond in the amount of the Contract price, guaranteeing the payment of claims of subcontractors, suppliers of materials or labor, and others. Bonds shall be in the forms attached hereto and incorporated herein as Exhibits 1 and 2, with admitted Sureties approved by District. Contractor shall pre-pay all bond premiums.

5.3.2 Approval of Sureties. Any admitted surety company which at the time of execution of this Contract is listed in the latest published U. S. Treasury Department list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies", is hereby deemed approved.

5.3.3 Substitution of Securities. The Contractor may elect to substitute securities for monies withheld by the District to ensure the performance of the Contractor. The evaluation, handling, and deposition of substituted securities shall be as set forth in the California Public Contract Code §22300.

5.4 Contractor's Indemnification Of District.

5.4.1 Indemnity. Contractor agrees to indemnify, hold harmless, defend, and protect District, its officers, directors, agents and employees from any and all claims, losses, damages, demands, liabilities, suits, costs, expenses (including all reasonable attorney's fees), penalties, judgments or obligations whatsoever arising out of or in connection with any injury, death, or damage to any person or property or pecuniary or monetary loss that results from, arises out of, or in any way relates to the activities of Contractor both on and off the Project, including but not limited to claims related to the presence, use or disposal of hazardous materials, except for injury or damage resulting from the sole negligence or willful misconduct of District.

5.4.2 Claim. In the event a Contractor becomes aware that a claim has been, or is likely to be, made against District, its officers, directors, agents or employees, or they or District is named a co-defendant in any action concerning the Contract, Contractor shall immediately notify District. District may retain legal counsel at Contractor's sole expense and Contractor shall reimburse District for all legal expenses, including reasonable attorney's fees, spent in representing District.

5.4.3 Apportionment of Liability. In the event that a judge in a court of competent jurisdiction makes an apportionment of liability between District and Contractor, neither District nor Contractor shall request that a jury determine apportionment of liability. Contractor shall indemnify and hold harmless District as set forth above, unless the court determines that the injury or damage resulted from the sole negligence or the intentional and willful misconduct of District.

5.4.4 Waiver. Contractor hereby waives all claims and recourse against District, including the right of contribution for loss or damage to property, and hereby releases District from any and all liability related to or in any way connected to Contractor's activities or Contractor's use of the Project site, premises or facilities.

5.4.5 Contractor Responsibility. Contractor and its subcontractors shall have sole responsibility for the safety of their equipment, property and personnel (including, but not limited to, its employees, agents, and officers) from any and all injuries, deaths or damages.

5.4.6 Mutual Responsibility Of Contractors. If Contractor causes damage to the work or others, or willfully or negligently delays another contractor or subcontractor in the performance of other work, Contractor is hereby obliged to attempt to settle such claim with such contractor or subcontractor by agreement. If a contractor or subcontractor serves written notice on District of Contractor's failure to meet this obligation or to settle the claim by agreement, District shall notify Contractor in writing of the pending claim.

Contractor shall defend itself (and District if included in claim) at Contractor's sole expense, including the payment of District's attorney fees. Contractor shall pay all costs, expenses and liabilities incurred by District as a result of any judgment in favor of another contractor.

5.5 Assumption Of Risk.

5.5.1 Injury, Damage to Work. Contractor assumes all risks of injury or damage to the Work and materials arising from fire, storm, vandalism, theft or other causes prior to the acceptance of the Work. Contractor shall repair and/or replace any Work or materials damaged or destroyed, from any cause, to the reasonable satisfaction of District Representative and at no cost to District

5.5.2 Exception. Contractor shall not assume risk of injury or damage to work when damage exceeding five percent (5%) of the total Contract amount is caused by an Act of God, as defined in Public Contracts Code Section 7105, provided that the Work damaged was built in accordance with acceptable and applicable building standards and the Plans and Specifications. In such event, District may terminate this Contract upon reasonable notice to Contractor and upon payment of any amount due Contractor.

ARTICLE SIX

PAYMENT AND COMPLETION

6.1 Schedule Of Values. Contractor shall submit to District Representative a " Schedule of Values", which shall be consistent with information shown in the Construction Schedule and provide a breakdown of the total Contract Sum by assigning dollar values to applicable network activities. The assigned network activity costs, when added to Contractor's overhead costs, profit, cost of bonds, insurance, etc., shall equal the total Contract Sum. The Schedule of Values, when approved by District Representative, shall be the basis for determining the value of Work performed for the purpose of executing monthly payment requests.

6.2 Application For Payment.

6.2.1 On or about the last day of each month in which Work is performed, Contractor shall submit three (3) copies of an Application for Payment to the District Representative supported by such data substantiating Contractor's right to payment as District Representative may require (such as copies of requisitions or invoices from subcontractors) and reflecting the retention provided elsewhere in the Contract Documents. Absent written direction from the District Representative to the contrary, each Application for Payment shall be in the form of a notarized AIA Document G702, Application and Certification for payment and (where applicable) supported by AIA Document G703, Continuation Sheet. The Application for Payment shall be accompanied by:

- (a) lien waivers and releases conforming to the requirements of the California Civil Code Section 3262, conditioned only upon the receipt of the payment applied for from Contractor and each Subcontractor performing the Work which is the subject of the Application;
- (b) unconditional lien waivers and releases, conforming to the requirements of the California Civil Code Section 3262, from Contractor and each Subcontractor performing the Work for which payment was made pursuant to the Application

for the Payment covering Work for the month one month prior to the pending Application for Payment;

(c) such evidence as the District Representative may from time to time request that each Subcontractor has received the funds allocated to it in any previous Applications for Payment; provided however, that the District Representative shall have no duty to verify that any Subcontractors have been paid;

(d) invoices, receipts, vouchers and other reasonable evidence substantiating the costs of the Changes in the Work included in the Application, if any;

(e) a separate written certification by Contractor that there is no known basis for the filing of any Liens against the Site or any other property of the District.

6.2.2 Contractor also shall certify the amounts previously paid by District to Contractor, the amounts previously paid to Subcontractors and the amount currently due to Contractor, with the amounts, in each case, broken down by trades. The Application for Payment shall constitute a representation from the Contractor to the District that the Work has progressed to the point indicated in the Application, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to the payment in the amount requested.

6.2.3 When Contractor submits an Application for Payment, it shall be reviewed by District Representative as soon as possible to determine if it is a proper payment request. At the District Representative's request, Contractor shall attend monthly payment meetings to review Application for Payment. If District Representative determines an Application for Payment is not proper, it shall be returned to Contractor as soon as practicable, but no later than seven (7) days after receipt, and accompanied by a document stating the reasons the request is not proper. Upon receipt of a properly submitted and undisputed request, District Representative shall authorize payment to Contractor for the amount District Representative agrees is properly due within thirty (30) days of receipt of such proper request. Payment requests shall be submitted on District forms.

6.2.4 *Monthly Payment Not Acceptance of Work.* Monthly or partial payments shall not be considered as acceptance by District of the whole or any part of the Work done up to that payment or relieve Contractor of any of its obligations.

6.2.5 *5% Retention.* Following approval by District Representative of Contractor's Application for Payment, District shall pay the Contractor the approved amount; provided however, that except as to Contractor's General Conditions Costs (for which there will be no retention) a 5% retention shall be withheld from each progress payment. The retention will be paid to Contractor upon satisfaction of all the conditions to final payment set forth in Section 6.6.6.

6.2.6 *Substitute Securities.* Contractor may elect to substitute securities for monies withheld by District to ensure the performance of Contractor. The evaluation, handling, and deposition of substituted securities shall be as set forth in the California Public Contract Code §22300.

6.2.7 *Final Retention Payment.* After acceptance of the Work, Contractor shall submit to District Representative a request for the retained funds. The retained funds of the total Contract price shall be paid (except as otherwise provided in the Contract Documents) forty (40) calendar days after the filing date of the *Notice of Completion* and the receipt of all unconditional waivers and lien releases from subcontractors and suppliers. In the event of a dispute between District and Contractor, District may withhold from the Final Payment an amount not to exceed one-hundred-fifty percent (150%) percent of the

disputed amount.

6.2.8 *Payments Withheld, Protection of Loss to District.* District Representative may withhold or nullify the whole or part of any progress payment as set out in the Contract Documents, including but not limited to payments withheld, to protect District from loss on account of:

- (a) Defective work not remedied.
- (b) Third party claims filed or reasonable evidence indicating probable filing of claims.
- (c) Failure of Contractor to make payments properly owed subcontractors for materials, equipment or labor.
- (d) Reasonable evidence that the Contract cannot be completed for the unpaid balance.
- (e) Damage to District or to another contractor.
 - 1. Default of Contractor in the performance of terms of the Contract.
 - 2. Violation by Contractor of the apprenticeship requirements or the prevailing wage rate.
 - 3. Reasonable evidence that the Work will not be completed within the Contract time.

6.2.9 *Evidence of Payments.* Contractor agrees that upon request of District Representative Contractor shall submit a sworn statement setting forth the Work done or material furnished by subcontractors and suppliers, and the amount due and to become due to each. Before the final payment Contractor shall, if requested, submit to District Representative a complete set of unconditional lien releases or vouchers showing payments made for materials and labor used in the Work.

6.2.10 *Releases; Receipts.* When required, Contractor shall deliver a copy of receipts to District Representative and an affidavit that the receipts include all labor and material for which a claim could be filed. Neither the final payment nor the retained percentages will be due Contractor before all required receipts are received. If any subcontractor refuses to furnish a receipt in full, Contractor may furnish a bond satisfactory to District that indemnifies District against any claim, cost or damage, including all legal fees. Contractor shall refund to District all monies that District may be compelled to discharge for any unsatisfied claim, including all costs and reasonable attorney's fees.

6.2.11 No payment request will be processed until District Representative verifies that the "As Built" documents are current and correct by initialing and dating said documents.

6.3 Claims.

6.3.9 *Claim by Subcontractor, Supplier, Worker.* Any subcontractor, supplier of material or labor, worker or anyone having any claim against Contractor for work done or material furnished on the Work may give notice of such claim to District, who may withhold up to one-hundred twenty-five percent (125%) percent of the claim from payments due Contractor until the claim is settled. The provisions of this paragraph shall not lessen or diminish the right or duty of District to withhold payments under the provisions of the laws of the State of California.

6.3.10 *Claims Resolution.* Claims between Contractor and District arising from contracts valued at \$375,000.00 or less, shall be governed by the provision of the California Public Contract Code §20104 et seq. which provides special rules for meet and confer, mediation, and arbitration, and those valued in excess of \$375,000.00 shall be resolved by binding arbitration.

6.3.11 *Third Party Claims*. District shall have the authority to settle, pay or compromise third party claims related to the Contract Documents or the activities of Contractor related to the Project. District shall notify Contractor of District's receipt of any such third party claim within twenty (20) days of receipt.

6.4 Final Inspection And Acceptance Of Work.

6.4.1 When the Work is complete, Contractor shall request from District Representative a final inspection of the Work. District shall make the final inspection within ten (10) calendar days of the request. If District determines that the Work has been completed and is acceptable, District Representative shall formally accept the Work in writing.

Upon acceptance, Contractor shall be relieved of maintaining and protecting the Work unless specified otherwise. If District determines that the Work is not complete or rejects the Work, Contractor shall be notified in writing of deficiencies and Contractor shall again initiate the procedure for final inspection after all such deficiencies are corrected.

6.4.2 At the final inspection, the Work may be substantially completed and accepted with a "minor" punch list as determined by District Representative. The punch list items are to be completed within the sixty (60) day retention period, otherwise Contractor waives any and all rights to the retention monies withheld by District. District Representative may hire another contractor or utilize District crews to complete the Work. All costs, including administrative costs, will be charged against the monies withheld and shall be deducted from the contract price.

6.4.3 Following final inspection by District Representative and the completion of all punch list items, District Representative will file a *Notice of Completion* for the project.

6.4.4 Before the date of the final inspection, the corrected and completed information shall be transferred to a clean full-sized copy, scanned and submitted to District Representative on CD, or other media approved by the District Representative, for review. Final payment shall be withheld until the "As-Built" documents are accepted.

6.5 Guarantee; Correction Of Work After Final Payment.

6.5.1 In addition to any guarantees required by the Plans and Specifications, Contractor guarantees all construction work and materials furnished under this Contract against defects for one (1) year from the date of final acceptance. Contractor shall be liable for all damages and income lost resulting from defects pertaining to the construction work and materials furnished under the Contract. Contractor shall, within seven (7) calendar days from receipt of written notice, repair and/or replace any defects (ordinary wear and tear excepted) and any resulting damage at Contractor's sole expense. In the event Contractor fails to remedy any defects within seven (7) calendar days from receipt of written notice, District may have defects remedied at Contractor's expense. Contractor shall pay District for all costs, including an administrative fee of fifteen percent (15%) of that cost, which the parties hereto agree is a fair and reasonable estimate of the costs likely to arise from such remedial work.

6.5.2 Nothing in this Contract shall relieve Contractor from responsibility for latent defects, departures from the Contract, fraud or gross mistakes and damage resulting from any of the above.

6.5.3 When required by the Contract Documents, guarantees shall be in the form of the following, on Contractor's own letterhead:

"GUARANTY-WARRANTY FOR "

We hereby warrant and guaranty that the installed in the has been done in accordance with the Plans and Specifications and that the Work as installed will fulfill the requirements of the guaranty-warranty included in these specifications.

We agree to reimburse District for any income lost and to repair or replace any or all of our work together with any other work which may be displaced by so doing, that may prove to be defective in workmanship or material within one (1) year from the date of acceptance of the above-named Project by District, without any expense whatsoever to District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the abovementioned conditions within seven (7) calendar days after being notified in writing by District, we, collectively and separately, do hereby authorize District to have such defects repaired and made good at our expense, and will honor and pay all costs and charges, including District's administrative fee of fifteen percent (15%) of the total cost, thereof upon demand.

Signed: Date:
Subcontractor

Countersigned: Date:
Contractor

ARTICLE SEVEN

CHANGES IN THE WORK

7.1 Change Orders.

7.1.1 *District Right to Require Changes.* The District reserves the right to make such alterations, deviations, additions to, or deletions from, the Plans and Specifications, including the right to increase or decrease the quantity of any item or portion of the work, or to delete any item or portion of the work, as may be deemed by the District Representative to be necessary or advisable, and to require such extra work as may be determined by the District Representative to be required for the proper completion or construction of the whole Work. If District Representative determines that a change ordered by District caused an increase or decrease in Contractor's costs or time required for completing the Contract, appropriate adjustments to the Contract price and/or time shall be made. Contractor shall not be entitled to any compensation for extra work or time to finish the Contract without a written Change Order from District Representative. Failure to agree on an adjustment of the Contract price or time extension shall not excuse Contractor from proceeding with the Work as changed.

7.1.2 *Form of Change Order.* The Contractor or District Representative may request changes to the work. Once proposed changes have been reviewed and approved, the Contractor shall submit a Change Order. Proposed Change Order Requests and Change Orders shall be completed using the forms attached hereto and incorporated herein as Exhibits 4 and 5. Once Change Order is approved by the District Representative, payment in accordance with the provisions as to compensation set forth therein shall

constitute full compensation for all work included therein or required thereby. Any such changes will be set forth in a Change Order, in the form attached hereto and incorporated herein as Exhibit 5, which specifies, in addition to the Work to be done in connection with the change made, adjustment of contract time, if any, and the basis or amount of any additional compensation for such Work. No Change Order shall be effective until approved in writing as set forth herein by the District Representative. Upon receipt of an approved Change Order, the Contractor shall proceed with the ordered Work. If ordered in writing by the District Representative, the Contractor shall proceed with the Work so ordered prior to actual receipt of an approved Change Order. In such cases, the District Representative will, as soon as practicable, issue an approved Change Order for such work and the provisions hereof regarding "Procedure and Protest" shall be fully applicable to such subsequently issued Change Order. An approved Change Order shall supersede a proposed, but unapproved, Change Order covering the same Work.

7.1.3 When the compensation for an item of work is subject to adjustment under these provisions, the Contractor shall, upon request, furnish the District Representative with adequately detailed cost data for such item of work. If the Contractor requests an adjustment in compensation for an item of work as provided, such cost data shall be submitted with his request.

7.1.4 *Procedure and Protest.* A Change Order approved by the District Representative may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in an approved Change Order that he has not executed, he shall submit a written protest to the District Representative within fifteen (15) days after the receipt of such approved Change Order. An un-protested approved Change Order will be considered an executed Change Order as that term is used herein.

(a) The protest shall state the points of disagreement, and, if possible, the contract specification references, quantities, and costs involved. If a written protest is not submitted, payment will be made as set forth in the approved Change Order and such payment shall constitute full compensation for all work included therein or required thereby.

(b) Where the protest concerning an approved Change Order relates to compensation, the compensation payable for all Work specified or required by said Change Order to which such protest relates will be determined as provided herein. The Contractor shall keep full and complete records of the cost of such Work and shall permit the District Representative to have such access thereto as may be necessary to assist in the determination of the compensation payable for such Work.

(c) Where the protest concerning an approved Change Order relates to the adjustment of contract time for the completion of the work, the time to be allowed thereof will be determined as provided for in Paragraph 4.13.3, "*Liquidated Damages for Delay*".

7.1.5 *Eliminated Items.* Should any contract item of the Work be eliminated in its entirety, in the absence of an executed Change Order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated contract item if incurred prior to the date of notification in writing by the District Representative of such elimination. If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the District Representative, and if orders for such material cannot be canceled, it will be paid for at the actual cost to the Contractor. In such case, the material paid for shall

become the property of the District and the actual cost of any further handling by Contractor will be reimbursed. If the material is returnable to the vendor, and if the District Representative so directs, the material shall be returned and the Contractor will be paid for the actual cost of charges made by the vendor for returning the material and the actual cost of handling such returned material reimbursed. The actual costs or charges to be paid by the District to the Contractor as provided for herein will be computed in the same manner as if the Work were to be paid for on a force account basis.

7.2 Changes In Character Of Work. If an ordered change in the Plans or Specifications materially changes the character of the Work of a contract item from that on which the Contractor based his bid price, and if the change increases or decreases the actual unit cost of such changed item as compared to the actual or estimated actual unit cost of performing the Work of said item in accordance with the Plans and Specifications originally applicable thereto, in the absence of an executed contract change order specifying the compensation payable, an adjustment in compensation thereof will be made in accordance with the following:

7.2.1 The basis of such adjustment in compensation will be the difference between the actual unit cost to perform the Work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the Work of said item or portion thereof involved in the change, as changed. Actual unit costs will be determined by the District Representative in the same manner as if the Work were to be paid for on a force account basis; or such adjustment will be as agreed to by the Contractor and the District Representative. Any such adjustment will apply only to the portion of the Work of said item actually changed in character. At the option of the District Representative, the Work of said item or portion of item that is changed in character will be paid for by force account.

7.2.2 If the compensation for an item of Work is adjusted under this Section, the costs recognized in determining such adjustment shall be excluded from consideration in making an adjustment for such item of work under the provisions of the paragraph titled "Increased or Decreased Quantities."

7.2.3 Failure of the District Representative to recognize a change in character of the Work at the time the approved contract change order is issued shall not be construed as relieving the Contractor of the duty and responsibility of filing a written protest within the fifteen (15) day limit as provided in the paragraph titled "Procedure and Protest."

7.3 Extra Work. New and unforeseen Work will be classed as Extra Work when determined by the District Representative that such Work is not covered by any of the various items for which there is a bid price or by combinations of such items. In the event portions of such Work are determined by the District Representative to be covered by some of the various items for which there is a bid price or combinations of such items, the remaining portion of such Work will be classed as Extra Work. Extra Work also includes Work specifically designated as Extra Work in the Plans or Specifications. The Contractor shall do such Extra Work and furnish labor, material, and equipment thereof upon receipt of an approved contract Change Order or other written order of the District Representative, and in the absence of such approved contract Change Order or other written order of the District Representative, he shall not be entitled to payment for such Extra Work. Payment for Extra Work required to be performed pursuant to the

provisions in this Section, in the absence of an executed contract Change Order, will be made by force account; or as agreed to by the Contractor and the District Representative.

7.4 Contract Price Adjustments. Contract price adjustments for Work covered by an authorized Change Order shall be made as follows:

7.4.1 Compensation shall be computed on the basis of one or more of the following:

7.4.1.1 Unit prices, as shown on the Bid Proposal; or

7.4.1.2 Lump sum, as agreed upon by District and Contractor based on the estimated cost of the extra Work, plus a "fixed fee", as follows:

- (a) The estimated cost is the sum of the following:
- (b) Labor - Gross wages or salaries (including authorized overtime) of Contractor and/or subcontractor employees directly employed on the Extra Work.
- (c) Labor Fringe Benefits - Additional direct labor expenses of workers (i.e., health & welfare, pension, vacation/holidays and training, and all benefits required by collective bargaining agreements).
- (d) Labor Surcharge - Additional Social Security and unemployment taxes as required by State and Federal laws (maximum 11.95% allowed).
- (e) Materials - Contractor furnished materials permanently incorporated by the Extra Work (including sales tax). Contractor shall not gain from District furnished materials.
- (f) Miscellaneous - Specialized tools, appliances, implements, utilities, royalties, permits, inspections, fees, etc., exclusive to the Extra Work.
- (g) Equipment - On site equipment and rental equipment used in the Extra Work.
- (h) Bonds - Costs to cover additional payment and performance bond charges (maximum 1% allowed).

7.4.1.3 The "fixed fee" shall be a percentage of the estimated costs and shall constitute full compensation for all costs and expenses not listed above. These charges for overhead and profit shall not exceed the following:

- (a) Twenty percent (20%) of the estimated cost of labor.
- (b) Fifteen percent (15%) of the estimated cost of materials and miscellaneous costs.
- (c) Ten percent (10%) of the estimated cost of owned or rented equipment.

7.4.1.4 The limits upon overhead and profit shall be as follows:

- (a) Overhead and profit for Contractor or any subcontractor who has the Work performed by a subcontractor or second tier subcontractor shall not exceed five percent (5%) of the extra work cost.
- (b) Overhead and profit for all contract tiers shall never exceed fifteen percent (15%) of the actual extra work.
- (c) The responsibility of distributing Extra Work overhead and profit among contractor tiers rest solely with Contractor.

7.4.1.5 Time and Materials, as observed and agreed upon, on a daily basis by District Representative and Contractor for labor, materials and equipment used to accomplish the Extra Work. A daily log of such shall be signed by both parties and will be the basis for a subsequent Change Order. District Representative's determination of allowable costs shall be final and

binding.

7.4.1.6 For Work deleted, the reduction in the Contract price shall be computed as follows:

- (a) Unit price(s).
- (b) A lump sum agreed upon by Contractor and District Representative based on the estimated cost of the deleted Work. No fixed fee shall be added to the estimated cost.
- (c) If the parties are unable to agree on the reduction in the Contract price, District Representative shall make a final and binding determination of the reduction in price based upon the estimated cost savings to Contractor.

7.5 Contract Time Adjustments. Adjustments in time allowed for completion of the Work due to change orders shall be made by in consultation between the parties. If the parties are unable to agree on the time extension or reduction, District Representative shall make a final and binding determination of the time extension or reduction allowed for the change.

7.6 Claims For Extras. If Contractor claims that any instructions received from District involve extra cost or time, Contractor shall give District Representative written claim for Extra Work before further proceeding with the Work. No oral statements of any person whatsoever shall in any manner or degree modify or otherwise affect the terms of this Contract.

ARTICLE EIGHT

TERMINATION OF THE CONTRACT

8.1 Termination For Default And Acts Of Nature.

8.1.1 *Grounds.* District may terminate this Contract for any of the following causes of Default or Acts of Nature:

- (a) Contractor breaches any provision of the Contract.
- (b) Contractor makes an assignment to creditors.
- (c) Contractor files for bankruptcy.
- (d) A receiver is appointed due to Contractor's insolvency.
- (e) In the sole opinion of District Representative, Contractor fails to supply adequate or proper workers, materials, tools or equipment.
- (f) Contractor disregards written instructions from District Representative.
- (g) In the sole opinion of District Representative, Contractor refuses or fails to prosecute the Work with the diligence that assures completion of Work within the contracted time period.
- (h) The Work is damaged by Act of God as provided for herein.

8.1.2 *Notice.* District shall give Contractor and its sureties written notice when grounds for termination by Default exist. The notice shall set forth the nature of the Default and the time allowed for correction thereof. Contractor's right to do the Work shall automatically terminate if the Default is not corrected within the set time.

8.1.3 *District's Remedies.* Upon termination, District may either require Contractor's sureties to complete the Work or take over the Work and/or employ another contractor to complete the Work.

8.1.4 *Payment after Termination.* If District terminates Contractor for Default, Contractor shall not receive any payment before the entire Work is complete and accepted by District Representative. District may assume and finish the Work or hire another contractor to finish the Work. District will pay Contractor any monies of the Contract (less retention) that remain after deducting for all damages and the full cost of finishing the Work plus liquidated damages of ten percent (10%) of said cost, the actual damages to District being difficult to fully ascertain, and the parties hereby agree that this is a fair and reasonable estimation thereof. Contractor and/or Contractor's sureties shall be liable to District for all damages and costs, plus the additional ten percent (10%) of damages and costs exceeding the Contract price.

8.1.5 *No Waiver.* Actions pursuant to this paragraph shall not waive, prejudice, or in any way diminish or limit such other rights or remedies as District may have in law or equity.

8.2 Contractor's Abandonment. Contractor's abandonment or failure to supply sufficient material or workers to conduct the Work for a period of more than three (3) Working Days after receipt of written notification from District of such failure shall be grounds for termination of Contractor's control of the Work. District may thereafter assume control of the Work and charge Contractor any and all costs and expenses for the finishing of the Work. The withholding of payments, the application of such to the completion of the Work, the payment of liquidated damages and penalties, and any further payment due Contractor shall be as set forth herein.

8.3 Abandonment.

8.3.1 *District's Right.* District has the right to abandon or indefinitely postpone any part or the entirety of the Contract at any time. District Representative will give Contractor written notice of abandonment specifying the extent and date of termination.

8.3.2 *Contractor's Obligation.* Unless otherwise directed in writing by District Representative, Contractor shall after receipt of Notice of Abandonment:

- (a) Stop work under the Contract to the extent and date specified;
- (b) Place no further orders for materials, services, or facilities except as required to complete the Work not abandoned;
- (c) Terminate and settle all orders and subcontracts that relate to the Work abandoned;
- (d) Settle all outstanding liabilities and claims arising out of abandonment to the satisfaction of District Representative;
- (e) Transfer title to District and deliver as directed by District Representative: all fabricated or un-fabricated parts, works in process or complete, supplies, and all other materials produced or acquired in connection with the Work abandoned; and complete or partly complete plans, drawings, information, and all other property required to be furnished to District;
- (f) Complete the Work not abandoned;
- (g) Protect and preserve property related to this Contract in the possession of Contractor which District has or may acquire; and
- (h) Submit an application for final payment to District Representative.

8.3.3 *Payment.* District Representative shall issue payment to Contractor for all work

performed and materials provided plus any retention withheld up to the effective date of abandonment. Payment shall constitute the full amount due Contractor by District.

Exhibit 1
LABOR AND MATERIALS PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That _____ as Principal, hereinafter called Contractor, and _____ as Surety or Sureties, hereinafter called Surety, are held firmly bound unto the Midpeninsula Regional Open Space District, hereinafter called Obligee, for the use and benefit of all persons and laborers of every class performing any work or labor upon or bestowing skill or other necessary services or furnishing materials, provisions, provender or other supplies to be used or consumed in, or furnishing equipment or power contributing to the work described in the agreement hereinafter mentioned, or in any alteration, modification or extension thereof, which persons and laborers are hereinafter called Claimants, in the amount of (spell amount) (\$), for which payment, well and truly to be made, Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, a certain written Agreement, dated _____, 20____ was made and executed by and between the Obligee, as Owner, and Contractor, which agreement is hereinafter called the Contract and is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall promptly make payment to all Claimants for all labor and material used or reasonably required for use in the performance of the Contract, or any alteration, modification or extension thereof, whether the Contract, or any alteration, modification or extension thereof, is determined to be void, voidable, or otherwise, or for any amount due under the Unemployment Insurance Act of the State of California with respect to such work or labor, or for any amounts required to be deducted, withheld, and paid over to the California Franchise Tax Board from the wages of employees of the Contractor and/or any and all subcontractors pursuant to California Revenue and Taxation Code Section 18806 with respect to such work or labor, then this obligation shall be void; otherwise, it shall be and remain in full force and effect.

The Contractor and Surety hereby jointly and severally agree with the Obligee that every Claimant who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last said Claimant's work or labor was done or performed or materials were furnished by such Claimant, may sue on this bond for the use of such Claimant, prosecute the suit to final judgment for such sum or sums as may be justly due Claimant, and have execution thereon. The Obligee shall not be liable for payment of any costs or expenses of any such suit. No suit or action shall be commenced hereunder by any Claimant:

1. Unless Claimant, other than a Claimant having a direct contract with the Contractor, shall have given written notice to any two of the following: The Contractor, the Obligee or the Surety, within ninety (90) days after such Claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered or certified mail, postage prepaid, in an envelope addressed to the Contractor, Obligee, or Surety, at any place where its office is regularly maintained for the transaction of business, or by personal service.
2. After the expiration of seven months from the date of recordation of a Notice of Completion or Notice of Cessation if such notice is recorded pursuant to Civil Code Sections 3092 or 3093; or, if no such Notice of Completion or Notice of Cessation is recorded, after nine months from the date of completion or cessation of the work.

The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith herewith, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claims for the amount of such lien be presented under and against this bond.

It is further expressly covenanted and agreed that in the event that more than one Surety is obligated hereunder, then, in that event, the co-Sureties bind themselves in the above stated sum only to the extent of the amount set forth opposite each Surety's name in Appendix A to this bond, which Appendix A is attached hereto and by this reference made a part hereof.

IN WITNESS WHEREOF, the Contractor and the Surety or Sureties have hereunto signed their names this _____ day of _____, 20____.

Contractor Name Surety

Contractor Signature Attorney-in-Fact

Exhibit 2
PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That _____ as Principal, hereinafter called Contractor, and _____ as Surety of Sureties, hereinafter called Surety, are held firmly bound unto the Midpeninsula Regional Open Space District, as Obligee, herein after called District, in the sum of _____ (\$_____), for which payment Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, a certain written Agreement, dated _____, 20____, was made and executed by and between the District, as Owner and Contractor, which agreement is hereinafter called the Contract and is by reference made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall well and faithfully keep and perform all the covenants and agreements of Contract, and all alterations, modifications, and extensions thereof, by the Contractor to be kept and performed, and shall fully complete all of the work described in the Contract, and all alterations, modifications, and extensions thereof, and shall save and hold harmless the district from any and all loss of damage arising out of the failure of the Contractor and/or any and all subcontractors, to fulfill the Contract, and all alterations, modifications and extensions thereof, and shall fully reimburse and pay to the District all outlay and costs which the District may incur in making good any default of the Contractor and/or subcontractors, and in replacing and/or making good any defective material or faulty material or workmanship in the work of the contractor and/or any and all subcontractors, which may be discovered within one year subsequent to the completion and acceptance of the work provided for in the contract, then the above obligation shall be void; otherwise, it shall be and remain in full force and effect.

It is expressly covenanted and agreed by and between the Contractor and the Surety that the liability of the Contractor and the Surety shall at all times, and under all circumstances, be co-extensive, and that the Surety shall not be discharged, released or exonerated from liability under this bond, in whole or in part, by an alteration and/or modification of the contract, whether notice hereof is given the Surety or not, and that the surety shall be bound thereby, and also bound by any departure or deviation on the part of the District from the terms of the Contract.

It is further expressly covenanted and agreed that in the event that more than one Surety is obligated hereunder, then, in that event, the co-Sureties, bind themselves in the above stated sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of them, and for all other purposes each Surety binds itself, jointly and severally with the Contractors for the payment of such above stated sum only to the extend of the amount set forth opposite the Surety's name in Appendix A to the bond, which Appendix A is attached hereto and by this reference made a part hereof.

No change or alteration or modification of the Contract or of the work required thereunder shall release or exonerate any Surety or Sureties on the bond. This bond shall remain in full force and effect notwithstanding that the contract or any applicable law or statute of the State of California shall be held to be invalid.

IN WITNESS WHEREOF, the Contractor and the Surety or Sureties have hereunto signed their names this

_____ day of _____, 20_____.

ContractorSurety

SignatureAttorney-in-Fact

Exhibit 3
WORKERS' COMPENSATION CERTIFICATE
Labor Code Section 1861

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Signature

Date

Exhibit 4
PROPOSED CHANGE ORDER REQUEST TEMPLATE

Proposed Change Order No. _____

Project _____

Contactor _____ ***Date of Issue*** _____

The following Change is being considered for the Project. Contractor shall quote on this "Proposed Change Order" form, a proposed amendment to the Contract Price and to the Contract Term which would be required if the District were to order the proposed Change. **THIS DOCUMENT IS NOT AN ORDER FOR CHANGES TO THE CONTRACT.**

Describe Change here and "as per attached description" if necessary.

District Representative

**Exhibit 5
CHANGE ORDER TEMPLATE**

Change Order No. _____

Project _____

Purchase

Order No. _____

Contactor _____

Date of Issue _____

Contractor is directed to, and hereby agrees to, proceed promptly with the specific changes to the Work attached hereto and incorporated herein, in conformity with the Contract Documents:

The ADDITIONAL CHARGE or DEDUCTION (circle one) for the above work is	\$	
The original Contract Sum was	\$	
Net change by previous Change Orders	\$	
The Contract Sum prior to this Change Order was	\$	
The Contract Sum will be (increased) (decreased) (unchanged) by	\$	
The new Contract Sum including this Change Order will be	\$	
The Contract Time will be (increased) (decreased) (unchanged) by		cal.days
The Completion Date as of the date of this Change Order is		

Contractor Date: _____

District Representative Date: _____



D.3 SUPPLEMENTAL CONDITIONS

Of the Agreement

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

(Page left intentionally blank)



D.3 SUPPLEMENTAL CONDITIONS

Of the Agreement

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

(Page left intentionally blank)

**SUPPLEMENTAL CONDITIONS
Of the Agreement**

Mount Umunhum Road Rehabilitation Project

ARTICLE ONE

GENERAL PROJECT INFORMATION

A. General

These Supplemental Conditions provide project-specific supplementary information and Supplemental Conditions to the General Conditions of the Agreement. These Supplemental Conditions are Contract Documents and address site specific factors relevant to execution of the Work for the Mount Umunhum Summit project. These Supplemental Conditions shall supersede any conflicting General Conditions. Where a portion of the General Conditions is altered by these Supplemental Conditions, the unaltered portions of the General Conditions shall remain in effect. Under no circumstances does the information herein override any of the Terms and Conditions set forth in the Agreement, nor alleviate the Contractor from executing the work in strict conformance with the Contract Documents.

B. Project Description

The purpose of this project is to provide construction services to complete the installation of roadway improvements for Mount Umunhum Road, located within the Sierra Azul Open Space Preserve, as fully described within the Project Contract Documents. Notwithstanding, contractor will be required to complete all work in strict compliance with the Mount Umunhum Mitigation Monitoring and reporting plan (MMRP) (Exhibit 3).

C. Site Information

Environmental Compliance The potential environmental impacts for the proposed work on and around Mount Umunhum Road were evaluated in the Mount Umunhum Mitigation Monitoring Plan prepared under California Environmental Quality Act (CEQA). The Mitigation Measures developed as a part of the EIR and adopted to mitigate impacts for all work to be completed at Mount Umunhum are included in the MMRP, Refer to Exhibit 3. The Contractor will be required to complete all work in strict compliance with the MMRP.

Access Mount Umunhum Road is within the Sierra Azul Preserve and is accessed via Camden and Hicks Road from the San Jose urban area. Mount Umunhum Road is a relatively winding 5-mile mountain road located in unincorporated County of Santa Clara. Refer to Exhibit 1, project Area Map.

Site Utilities There is no live electrical service to any of the areas on site. Water is not available on site, and the contractor will need to bring all required water up to the site using their own water trucks. The contractor will need to supply their own portable toilet and wash station for contractor use. Contractor shall be responsible for providing any temporary electrical service, if required, for its work on site. There is no telephone service at the site. Cellular service may be limited, dependent upon location on site and contractor's cellular service provider.

ARTICLE TWO

CONTRACT DOCUMENTS

A. Supplemental Conditions.

All conditions set forth herein, and all Exhibits attached hereto, are part of the Contract Documents.

ARTICLE THREE

DISTRICT GENERAL REQUIREMENTS

- A. District Representative:** The District Representative designated for all correspondence and coordination regarding this Contract is the District Capital Project Manager, Zachary Alexander, 330 Distel Circle, Los Altos CA. 650-691-1200.
- B. Public Involvement.** The Contractor is not required to communicate with the public. The Contractor shall not discuss the work with the public except when coordinated and approved by the District Representative. Although there is a public trail nearby, the public is not allowed within the work site. The Contractor shall conduct operations in a manner such that public access is not facilitated. Should the public enter the site or attempt to access the site, Contractor shall immediately notify District Dispatch at 650-968-4411, and the District Representative.
- C. Communications.** The Contractor shall not make available, or publicly disclose, any data or report unless provided herein or specifically authorized by the District Representative. If any person or entity requests information from the Contractor about the subject of this scope of work or work being conducted hereunder, the Contractor shall refer them to the District Representative. All reports and other information generated under this scope of work shall become the property of the District and distribution to any other source by the Contractor is prohibited unless authorized by the District Representative.
- D. District, Inspections and Monitoring.** District will be providing environmental monitoring and special inspections on site as further delineated in Article Four paragraph J. Contractor shall provide access to, and coordinate with all District consultants, monitors and inspectors.

ARTICLE FOUR

CONTRACTOR'S PERFORMANCE OF THE WORK

- A. Emergency Contact Information.** In the event of an emergency, Contractor shall dial 911 or the 24-hour ranger dispatch number at 650-968-4411. Note that cell phone reception may be limited in the Preserve. For emergency response in the event of fire, Contractor shall contact both Mountain View Dispatch at (650) 968-4411, and the California Department of Forestry ("CalFire") at (408) 779-4111 in Santa Clara County.
- B. Noise Control.** Contractor shall be aware that they are working in an area that is extremely quiet. Noise travels far due to no background noises, and can appear amplified. Contractor shall adhere to local noise ordinance requirements and/or any more specific requirements set forth in the MMRP.
- C. Herbicide.** No herbicide use is permitted for this Project.

- D. Access.** Access to construction site is throughout a roughly 5 miles of relatively narrow mountainous windy roads. Contractor shall ensure he/she has confirmed that all materials & equipment planned for use on the project can be transported safely to the site, and that all permits, safety procedures, and regulatory compliance has been met for transport of material and equipment to the site.
- E. Site Access– Emergency response.** Contractor shall ensure their site logistics plans, project execution plans, and all their operations on site take into account the need for emergency response access to the site.
- F. Site Security - Trespassing & Vandalism.** Contractor shall be responsible for adequately securing all their materials and equipment on site. The District assumes no responsibility for any loss or damage to Contractor property.
- G. Fire Prevention -** The site is surrounded by open space lands that have the potential to be a wildfire hazard. Contractor shall not engage in any activities that pose a fire threat. In addition, if requested, Contractor shall agree to meet with responding fire agencies (Cal Fire) to ensure they have incorporated all appropriate fire prevention measures (locations of fire extinguishers; activities requiring fire watch, etc.). *No smoking is allowed* on site as also outlined in the General Conditions, nor on any of the District preserve lands surrounding the site. Any “hot work” will need to be identified and permitted appropriately with the Santa Clara County Building Department as necessary.
- H. Working Hours.** Regular working hours shall consist of a 10-hour period, between 07:00 and 17:00, Monday through Friday, excluding Government holidays. The County of Santa Clara requires a start time no earlier than 07:00. The Contractor may arrive on site earlier, set up, and prepare for work, but the actual start of work at the site cannot commence until 07:00 hours.
- I. Contractor Personnel, Subcontractors, Vendors, Deliveries (personnel).** All personnel entering or leaving the site shall adhere to the following:
- i. All personnel shall be made aware of site access conditions and abide with all applicable vehicle operation and safety requirements.
 - ii. Any traffic accidents shall be reported immediately.
 - iii. All personnel who will be working at or accessing the site must attend a Worker Education Seminar (tailgate meeting), which will be delivered by qualified biologists prior to all construction activities taking place. The District will coordinate with contractor to schedule the worker education seminar.
 - iv. Any personnel who have not attended a worker training seminar cannot access the site unless they are escorted by another personnel who has attended the worker training seminar.
- J. Mitigation Monitoring and Reporting Program (MMRP) Exhibit #3**
- i. Contractor is responsible for conducting all Work in compliance with the MMRP.
 - ii. Contractors’ schedule shall incorporate all regulatory coordination and permitting, District inspections, site assessments, sampling and clearances as described in the MMRP. Contractor should be aware that some work (trimming trees for example) may be restricted

- at certain times of year, and the construction schedule shall incorporate these constraints. District will not entertain claims for time or cost associated with Contractors failure to address environmental constraints in the development of the Project Schedule.
- iii. Any changes to the Project Schedule must be provided to the District as soon as possible and no more than four (4) hours after conditions require a change to insure the District is able to reschedule any additional monitoring, testing and/or inspection.
 - iv. The District Representative will coordinate closely with Contractor to provide MMRP-required inspections and pre-Work assessments and clearances.
 - v. The District is the “lead” agency for monitoring compliance with the MMRP. The following further clarifies Contractors’ responsibility for compliance with the MMRP. Refer to MMRP Exhibit #3 for more detail.

4.2-3

Protection of Undocumented Cultural Resources

4.2-4

Protection of Presently Undocumented Human Remains

4.3-2(a)

Conduct Special Status Plant Surveys, Implement Avoidance and Mitigation Measures, or Provide Compensatory Mitigation

- District will conduct plant survey and notify contractor prior to Notice to Proceed
- At this point there are no known Special Status Plants in the limits of work.

4.3-2(c)

Avoid and Minimize Impacts to Golden Eagle, White-tailed Kite, and Other Nesting Birds

- District has conducted a preliminary survey and at this point there are no nesting birds within 150’ of the proposed work zone.

4.4-1

Hydrology and Water Quality

- District has a SWPPP in place and will ensure a QSD retained to make amendments as necessary.
- The contractor will be required to follow all Erosion and Sediment control plan requirements and retain a QSP to implement requirements defined in the SWPPP.

4.6-5

Construction-Related Fire Risk Reduction

- Prior to initiation of construction (including activities associated with mitigation measures, such as vegetation clearing), MROSD’s contractor will prepare a fire prevention plan. This fire prevention plan will include such measures as a list of tools to have on hand, proof of spark arrestors on all gas-powered engines, a description of available communications, specifications for the supply of water to have on hand, and descriptions of other actions that will reduce the risk of ignition and immediate control of an incipient fire. This requirement should be included in the contract with the District. The contractor will be required to follow all Erosion and Sediment

control plan requirements and retain a QSP to implement requirements defined in the SWPPP.

- To minimize the risk of wildfire ignition, all motorized vehicles, including earth-moving equipment, used during this project will be equipped with spark arresters, per California Public Resources Code 4442, and Health and Safety Code 13001 and 13005. Other motorized vehicles used on the project site will not be parked where vegetation may come in contact with exhaust systems and catalytic converters.

4.7-1

MROSD and all construction contractors shall implement basic control measures during construction, per BAAQMD’s Air Quality Guidelines.

K. Permitting Requirements. Nothing within these Supplemental Conditions shall relieve the Contractor of the responsibility to comply with applicable laws and regulations. The District shall obtain and pay for relevant building permits. The Contractor shall obtain necessary approvals and/or certificates required, “pull permits”, schedule necessary inspections with the County as necessary to accomplish the work.

- i. The project is located within the County of Santa Clara (County). Contractor shall pull and maintain all necessary permits (District to Obtain Permit, Contractor to pull permit card and schedule inspections).
 - a. District will collaborate and support Contractor by providing any information required by the “Owner” to facilitate Contractor’s permitting role in the Work.
 - b. Contractor shall invoice District for cost of the building permit (if necessary) as a direct reimbursable expense.

L. District Construction & Demolition Waste Stream Diversion Policy (C&D WSD). The District has a C&D WSD Policy (Policy). The District Representative is responsible for ensuring that the demolition work is implemented in conformance with the Policy. Contractor shall adhere to the C&D WSD requirements as set forth in the project specifications, Section 01115, Section 1.5, paragraph D.

M. Schedule and Substantial Completion

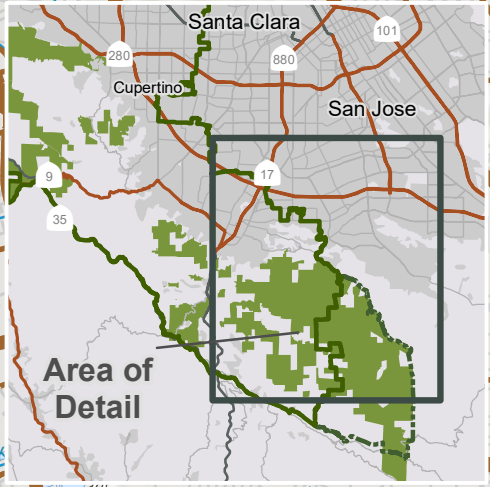
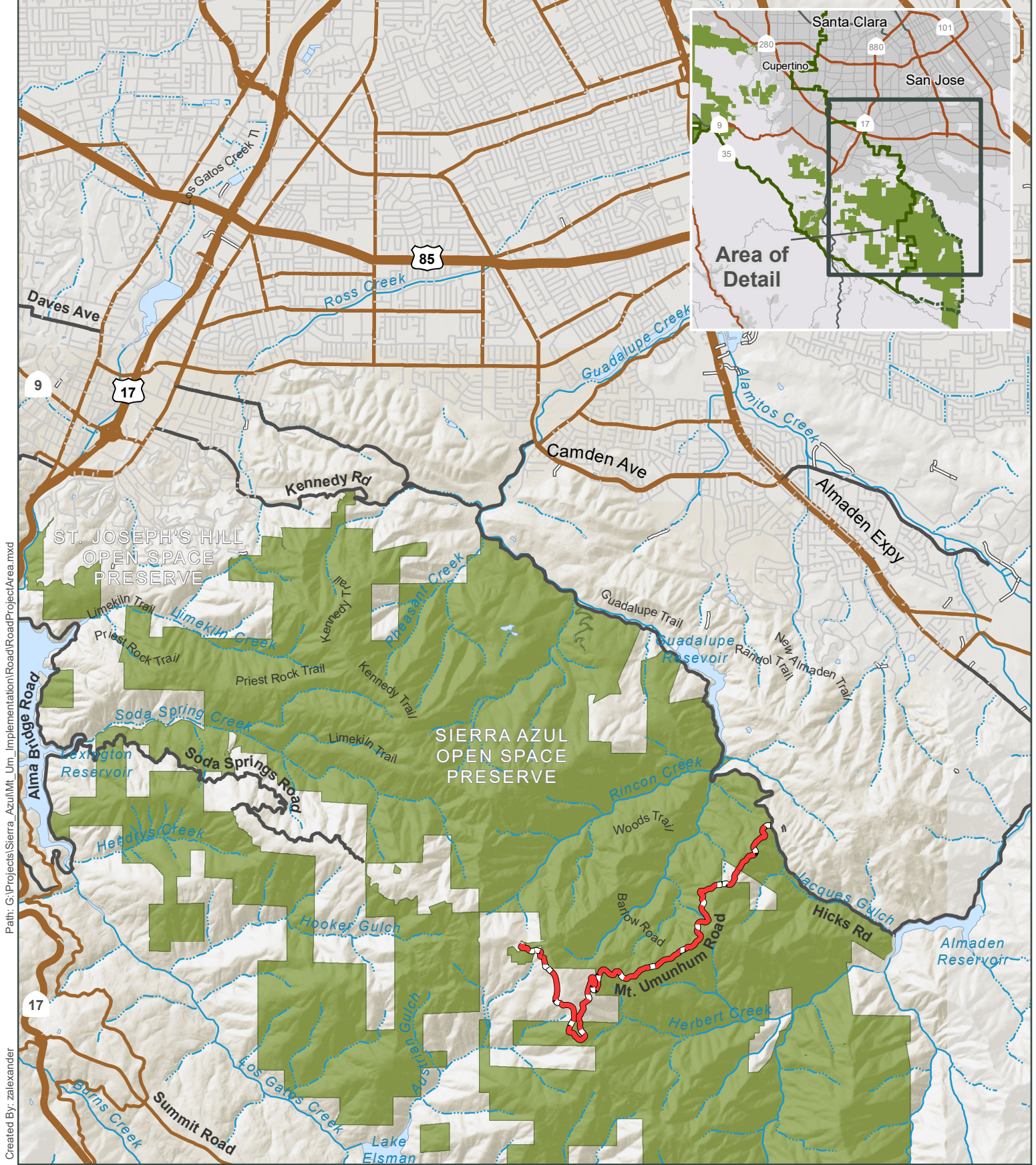
June 10, 2016	Request for Bids issued
June 17, 2016	Mandatory Pre-Bid Meeting, 10:30 a.m. RSVP is Mandatory and must be completed by 3:00 p.m. on June 16, 2016.
June 24, 2016	Optional Pre-Bid Meeting, 10:30 a.m.
June 27, 2016 June 30, 2016	10:00 a.m. - Deadline for Bidders to pose questions.
June 28, 2016 July 6, 2016	4:00 p.m. - Final Addendum to Bid Package issued
July 8, 2016	Bid Opening, 2:00 p.m. 330 Distel Circle, Los Altos, CA, 94022
July 27, 2016	Award of Contract by District Board of Directors Regular Meeting, begins at 7:00 p.m.
July 28, 2016	Written Notice of Award of Contract

August 1, 2016	Pre-Construction Meeting and deadline to submit Labor and Materials Payment Bond, Performance Bond, Proof of Insurance, and signed Agreement
August 1, 2016	Written Notice to Proceed issued by District
May 9, 2017	Phase 2-Substantial Completion

At the Districts discretion, during “Summit Public Opening” the contractor shall remove all equipment, debris, materials, and all other construction-related materials to an off-site staging area (location to be determined by District with contractor input).

Staging area will need to be fenced off during the stand down period. Costs for demobilization and remobilization from the staging area due to the “Summit Public Opening” stand-down period are solely at the expense of the contractor.

- N. Meetings.** The Contractor’s Superintendent and/or Project Manager shall facilitate once-a-week Progress Update Meetings with the District Representative and District’s consultants either on-site or via teleconference. Meetings shall address the following:
- i. **Safety** – Contractor shall document any and all safety incidents or “near misses”. Contractor shall review work that is planned to occur over the next three weeks, and prepare and discuss the proposed safety,
 - ii. **MMRP** - Updates regarding the mitigation requirements and monitoring.
 - iii. **Schedule** – Contractor shall provide a “2-week” look ahead schedule ~~to discuss~~ **for discussion and District approval.**
 - iv. **Work Progress** – Discuss work progress, monitoring requirements, RFI’s and Change Proposals.



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EXHIBIT 1: PROJECT LOCATION MAP

- Project Area
- MROSD Preserves
- Private Property

Midpeninsula Regional
Open Space District
(MROSD)

June 2016



While the District strives to use the best available digital data, these data do not represent a legal survey and are merely a graphic illustration of geographic features.

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Created By: zalexander

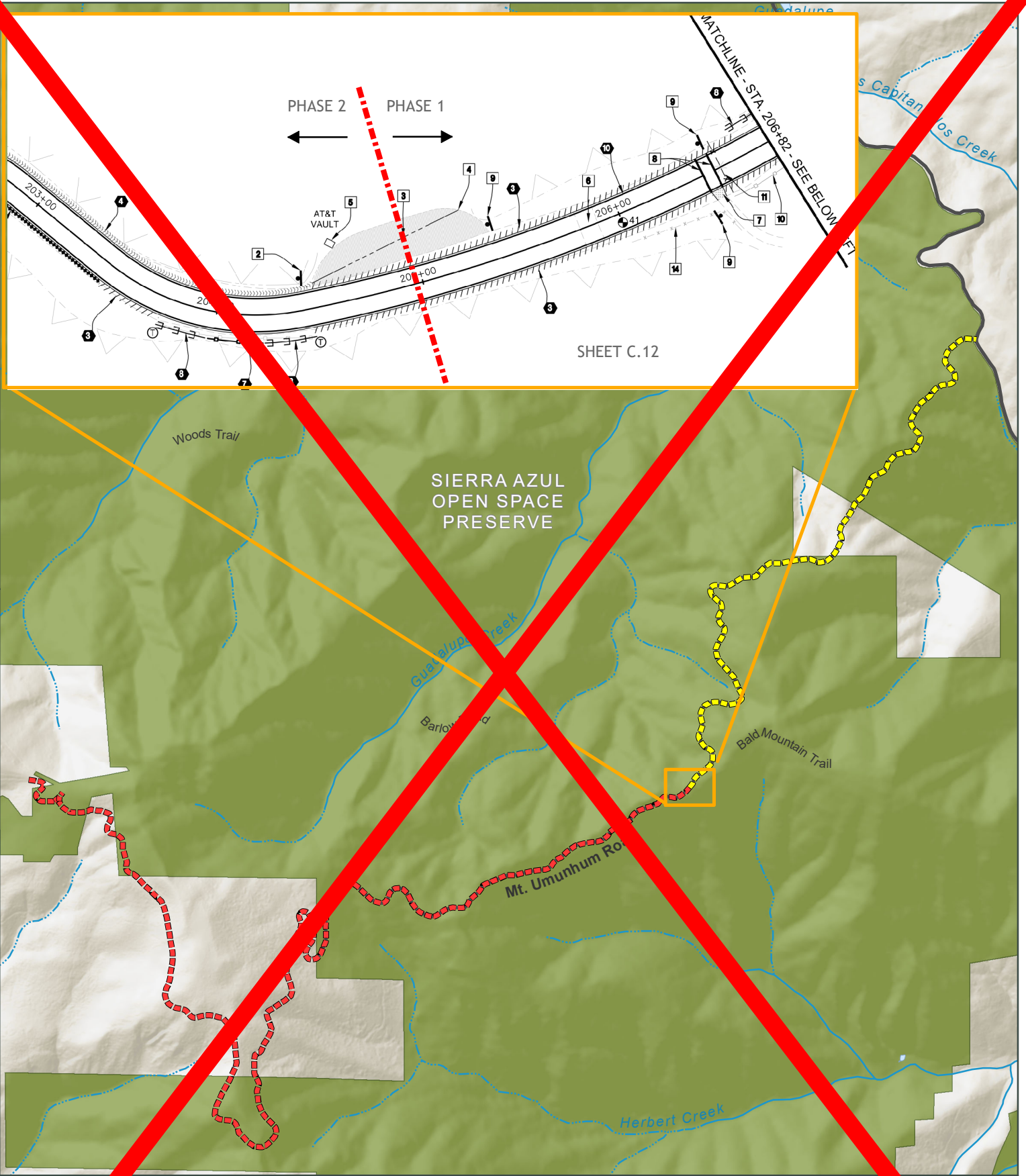


EXHIBIT 2: PROJECT PHASE MAP

- - - Project Phase 1
- - - Project Phase 2
- MROSD Preserves
- Private Property

Midpeninsula Regional
Open Space District
(MROSD)

June 2016



While the District strives to use the best available digital data, these data do not represent a legal survey and are merely a graphic illustration of geographic features.

Mount Umunhum Environmental Restoration and Public Access Project

Mitigation Monitoring Plan for All Phases of the Project



PREPARED FOR:
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

October 2012

**Mount Umunhum
Environmental Restoration and Public Access Project**

**Mitigation Monitoring Plan for
All Phases of the Project**

PREPARED FOR:

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

CONTACT:

Meredith Manning
Senior Planner
Phone: 650.691.1200
Fax: 650.691.0485
mt.um@openspace.org

PREPARED BY:

Ascent Environmental, Inc.
455 Capitol Mall, Suite 210
Sacramento, CA 95814
www.ascentenvinc.com

CONTACT:

Gary Jakobs
Principal
916.444.7301

October 2012

1 INTRODUCTION

1.1 MITIGATION MONITORING PLAN

In compliance with the State CEQA Guidelines § 15097 (a), when significant effects are identified in an EIR, the Lead Agency is required to adopt a program for reporting or monitoring mitigation measures that were adopted or made conditions of approval for the proposed project. This Mitigation Monitoring Plan (MMP) has been developed for the construction and operation of the Mount Umunhum Environmental Restoration and Public Access Project, consistent with the requirements of § 15097. The intent of the MMP is to prescribe and enforce a means for properly and successfully implementing the mitigation measures identified within the Environmental Impact Report for this project. Unless otherwise noted, the Midpeninsula Regional Open Space District (MROSD or District) shall be responsible for complying with and funding all mitigation measures identified herein.

1.2 COMPLIANCE CHECKLIST

The intent of the MMP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMP is intended to be used by District staff and mitigation monitoring personnel to ensure compliance with mitigation measures during project implementation. Mitigation measures identified in this MMP were developed in the Environmental Impact Report prepared for the proposed project. Note that this MMP reflects all mitigation measures relevant to all three project decisions (June 12th, September 19th, and October 17th, 2012.)

The MMP will provide for monitoring of construction activities as necessary and in-the-field identification and resolution of environmental concerns.

Monitoring and documenting the implementation of mitigation measures will be coordinated by the MROSD. The table attached to this report identifies the mitigation measure, the responsible agency for the monitoring action, and timing of the monitoring action. MROSD will be responsible for fully understanding and effectively implementing the mitigation measures contained within the MMP, and will be responsible for ensuring compliance.

During implementation of the project, MROSD will assign an inspector who will be responsible for field monitoring of mitigation measure compliance. The inspector, who could be one or more employees of MROSD with appropriate knowledge, skills, and abilities to carry out inspections, will report to the project manager identified for MROSD and will be thoroughly familiar with permit conditions and the MMP. In addition, the inspector will be familiar with construction contract requirements, construction schedules, standard construction practices, and mitigation techniques. In order to track the status of mitigation measure implementation, field-monitoring activities will be documented on compliance monitoring report worksheets. The time commitment of the inspector will vary depending on the intensity and location of project activities. Aided by the attached table, the inspector will be responsible for the following activities:

- ▲ On-site monitoring of implementation activities as frequently as needed to ensure compliance with the adopted mitigation measures.
- ▲ Reviewing construction plans and equipment staging/access plans to ensure conformance with adopted mitigation measures.
- ▲ Ensuring contractor knowledge of and compliance with the MMP.
- ▲ Verifying the accuracy and adequacy of contract wording.

- ▲ Having the authority to require correction of activities that violate mitigation measures. The inspector shall have the ability and authority to secure compliance with the MMP.
- ▲ Acting in the role of contact for property owners or any other affected persons who wish to register observations of violations of project permit conditions or mitigation. Upon receiving any complaints, the inspector shall immediately contact the construction representative. The inspector shall be responsible for verifying any such observations and for developing any necessary corrective actions in consultation with the construction contractor and MROSD.
- ▲ Obtaining assistance as necessary from technical experts, as needed, in order to develop site- specific procedures for implementing the mitigation measures.
- ▲ Maintaining a log of all significant interactions, violations of permit conditions or mitigation measures, and necessary corrective measures.

1.3 MITIGATION MONITORING PLAN

The following table indicates the mitigation measure number, the mitigation measure text, the monitoring agency, implementation timing, and an area to record monitoring compliance.

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
Cultural Resources				
4.2-2 (Voluntary)	<p>Radar Options 2 and 3 Only</p> <p>If MROSD selects radar tower Option 1 (retain and seal the structure) no further mitigation is necessary. If MROSD selects either radar tower Option 2 (demolish but leave the foundation) or radar tower Option 3 (completely remove the radar tower), the following mitigation measure is required:</p> <p>MROSD will use the radar tower foundation or footprint to provide a setting for interpretive media in order to illustrate the topics of U.S. Military history, the Cold War, and the role of NORAD, the Almaden AFS, and the servicemen stationed there in national security. Media could include the following: interpretive panels showcasing period photographs of the operational AFS and servicemen stationed there, including photos of the site showing its visibility from far distances; oral histories provided by surviving veterans; interpretive panels exhibiting major political events of the Cold War; and/or inclusion as part of a self guided tour (via GPS/Smart technology or other means) illustrating the former structures and activities associated with different areas of the project site. Veterans and other community members will be invited to participate in the specific design and content of the interpretive features.</p>	MROSD	During Project Design	
4.2-3	<p>Protection of Undocumented Cultural Resources</p> <p>During all ground-related construction activities (i.e., grading, excavation, etc.) on the project site, if cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, structure/building remains) are inadvertently encountered, all work shall stop within 50 feet of the find until a qualified archaeologist can assess the significance of the find. A reasonable effort will be made by the District to avoid or minimize harm to the discovery until significance is determined and an appropriate treatment can be identified and implemented. Methods to protect finds include fencing and covering remains with protective material such as culturally sterile soil or plywood. If vandalism is a threat, 24-hour security will be considered and evaluated based on threat level, remoteness of site, materials found, significance of find, etc. Construction operations outside 50-feet of the find can continue during the significance evaluation period and while mitigation is being carried out; however, if the</p>	MROSD	During Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>archaeologist determines that the nature of the find may signify a high potential for other finds in the area, the construction will be monitored by an archaeologist within 100-feet of the find. If a discovered resource is identified as significant and cannot be avoided, a qualified archaeologist will develop an appropriate treatment plan to minimize or mitigate the adverse effects. The District will not proceed with construction activities within 100-feet of the find until the treatment plan has been reviewed and approved by the General Manager. The treatment effort required to mitigate the inadvertent exposure of significant cultural and/or historical resources will be guided by a research design appropriate to the discovery and potential research data inherent in the resource in association with suitable field techniques and analytical strategies. The recovery effort will be detailed in a professional report in accordance with current professional standards. Any non-grave associated artifacts will be curated with an appropriate repository. Project construction documents shall include a requirement that project personnel shall not collect cultural and/or historical resources encountered during construction. This measure is consistent with federal guideline 36 CFR 800.13(a) for invoking unanticipated discoveries.</p> <p>Prior to any trail construction, MROSD will hire a qualified archaeologist to conduct a pre-construction survey of the proposed trail alignments. If any potential archaeological resources are identified during the survey, and are found to be significant, the archaeologist shall recommend avoidance measures to ensure that no impacts result from trail construction or trail operation. If the found resource cannot be avoided, the archaeologist shall prepare a treatment plan, as described above.</p>			
4.2-4	<p>Protection of Presently Undocumented Human Remains.</p> <p>In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, potentially damaging excavation in the area of the burial will be halted and the Santa Clara County Coroner and a professional archaeologist will be contacted to determine the nature and extent of the remains. The MROSD Project Manager will also be notified immediately. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are</p>	MROSD	During Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code, Section 7050[c]).</p> <p>Following the coroner’s findings, the State of California, project contractor, an archaeologist, and the NAHC-designated Most Likely Descendant (MLD) will determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in Section 5097.9 of the California Public Resources Code.</p> <p>The State of California will ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards and practices) is not damaged or disturbed by further development activity until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. Assembly Bill (AB) 2641 suggests that the concerned parties may extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. AB 2641(e) includes a list of site protection measures and states that the landowner shall implement one or more of the following measures:</p> <ul style="list-style-type: none"> > record the site with the NAHC or the appropriate Information Center, > utilize an open-space or conservation zoning designation or easement, and/or > record a document with the county in which the property is located. <p>The landowner or their authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance if the NAHC is unable to identify a MLD, or if the MLD fails to make a</p>			

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	recommendation within 48 hours after being granted access to the site. The landowner or their authorized representative may also reenter the remains in a location not subject to further disturbance if they reject the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner.			
Biological Resources				
4.3-1	<p>Conduct Survey before Structure Demolition, Consult with DFG, and Develop Exclusion Methods and Compensatory Mitigation if Appropriate.</p> <p>Surveys for roosting bats on the project site will be conducted by a qualified biologist. Surveys will consist of a daytime pedestrian survey looking for evidence of bat use (e.g., guano) and/or an evening emergence survey to note the presence or absence of bats. The type of survey will depend on the condition of the buildings. If no bat roosts are found, then no further study is required. If evidence of bat use is observed, the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts, but are not required.</p> <p>If roosts of pallid, Townsend’s big-eared, or western mastiff bats are determined to be present and must be removed, the bats will be excluded from the roosting site before the facility is removed. A program addressing compensation, exclusion methods, and roost removal procedures will be developed in consultation with DFG before implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). The loss of each roost (if any) will be replaced in consultation with DFG and may include construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. Roost replacement will be implemented before bats are excluded from the original roost sites. MROSD has successfully constructed bat boxes elsewhere that have subsequently been occupied by bats. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site, the structures may be removed or sealed.</p>	MROSD	Prior to Demolition of Structures	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
4.3-2(a)	<p>Conduct Special-status Plant Surveys, Implement Avoidance and Mitigation Measures, or Provide Compensatory Mitigation.</p> <p>Known populations of Loma Prieta hoita and Mt. Hamilton fountain thistle shall be protected during road improvements. As directed by a qualified biologist, the populations shall be fenced before construction with high-visibility fencing and an adequate buffer so that direct and indirect impacts would be minimized. Construction personnel shall be instructed to keep project activities out of the fenced areas. A qualified botanist shall periodically inspect the fencing to ensure that the fence is intact and the impacts to the populations are being avoided. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts away from any plant populations, if necessary.</p>	MROSD	Before Construction	
	<p>MROSD shall utilize a qualified botanist to conduct protocol-level preconstruction special-status plant surveys for all potentially occurring species within the project footprint that has not previously been surveyed (e.g., trail connections, staging area expansion). Prior to ground-disturbance in potentially suitable habitat, surveys shall be conducted during the appropriate blooming period when they are most readily identifiable in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (DFG 2009) . If no special-status plants are found during focused surveys, the botanist shall document the findings in a letter report, and no further mitigation shall be required.</p>	MROSD	Before Construction	
	<p>If special-status plant populations are found in the project footprint, MROSD shall determine if the population can be avoided by adjusting the trail alignment or project design. If the impact cannot be avoided, MROSD shall consult with DFG and USFWS, as appropriate depending on species status, to determine the appropriate measures to minimize direct and indirect impacts on any special-status plant population that could occur as a result of project implementation. Mitigation measures may include preserving and enhancing existing populations, creation of off-site populations on project mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals.</p>	MROSD	Before Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
4.3-2(b)	<p>Avoid and Minimize Impacts to Special-Status Amphibians and Reptiles</p> <p>Although the impact to special-status amphibians or reptiles is expected to be minimal due to a lack of suitable aquatic habitat along ridgelines and headwaters of creeks, MROSD shall implement the following measures to reduce impacts during construction of trail connections:</p> <ul style="list-style-type: none"> › Construction of the trail across drainages and streams shall occur when the drainages are dry, unless it is not feasible to do so, in which case the following measures shall also be applied. › Guidelines shall be implemented to protect water quality and prevent erosion, as outlined in MROSD’s Road and Trail Typical Design Specifications (MROSD 2008). › If water is present during construction, disturbance to pools and slow runs with cobble-sized substrate shall be minimized. In particular, rocks shall not be collected from in-water environments from late March to early September to avoid disturbing frog egg masses, tadpoles, and turtle hatchlings. 	MROSD	During Construction	
4.3-2(c)	<p>Avoid and Minimize Impacts to Golden Eagle, White-tailed Kite, and Other Nesting Birds</p> <p>To minimize potential disturbance to nesting birds, project activities shall occur during the non-breeding season (September 16-February 14), unless it is not feasible to do so, in which case the following measures shall also be applied.</p>	MROSD	During Construction	
	<p>During trail construction, road improvements, and other activities, removal of trees greater than 6 inches dbh shall be limited to the greatest degree possible.</p>	MROSD	During Construction	
	<p>If construction activity is scheduled to occur during the nesting season (February 15 to September 15), MROSD shall utilize a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 500 feet of the project site that could be affected by project construction. The surveys shall be conducted no less than 14 days and no more than 30 days before the beginning of construction in a particular area. If no nests are found,</p>	MROSD	Prior to Approval of Grading/Improvement Plans AND no fewer than 14 days and no more than 30 days prior to construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	no further mitigation is required.			
	If active nests are found, impacts on nesting raptors and songbirds shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged or the nest is no longer active. A 500-foot buffer around raptor nests and 50-foot buffer around songbird nests are generally adequate to protect them from disturbance, but the size of the buffer may be adjusted by a qualified biologist in consultation with DFG depending on site specific conditions. For trail construction, use of non-power hand-tools may be permitted within the buffer area if the behavior of the nesting birds would not be altered as a result of the construction. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.	MROSD	Prior to and During Construction	
4.3-3	<p>Mitigation Measure 4.3-3 Avoid and Minimize Impacts to Sensitive Natural Communities and Compensate for Loss of Riparian and Wetland Habitats.</p> <p>As a first priority, MROSD will seek to avoid wetlands impacts through trail realignment, bridging, and other avoidance measures.</p> <p>Before any groundbreaking activity along the trail connections, MROSD shall have a jurisdictional wetland delineation conducted by a qualified wetland specialist in sensitive areas that cannot be avoided. The preliminary delineation shall be submitted to USACE for verification. The wetlands may be subject to DFG regulation under Section 1602 of the Fish and Game Code. No grading, fill, or other ground disturbing activities shall occur until all required permits, regulatory approvals, and permit conditions for effects on wetland habitats are secured.</p>	MROSD	Before Construction	
	If the wetlands are determined to be subject to USACE jurisdiction, the project may qualify for use of Nationwide Permit 42 for construction of recreational trails if certain criteria are met. For those wetlands that cannot be avoided, MROSD shall commit to replace, restore, or enhance on a “no net loss” basis (in accordance with USACE, RWQCB, and DFG) the acreage of all wetlands and other waters of the U.S. that would be removed, lost, and/or degraded with project implementation. Wetland habitat shall be restored, enhanced, and/or	MROSD	Before Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	replaced at an acreage and location and by methods agreeable to USACE, RWQCB, and DFG, as appropriate, depending on agency jurisdiction, and as determined during the permitting processes.			
4.3-4	<p>MROSD will take the following actions to educate hang glider pilots and other visitors regarding the potential to disturb birds, especially nesting raptors and vultures, and establish an incident reporting program:</p> <ul style="list-style-type: none"> › Hang glider permits will include a brochure prepared by a qualified ornithologist that describes agitated and defensive behavior of wildlife, focusing mostly on soaring birds, such as raptors and vultures. The permit will include a map that identifies protected air space that restricts hang gliding within a minimum of 1,000 feet of a known nest. › Hang glider permits will include an agreement, to be signed by the pilot, that the pilot shall: <ul style="list-style-type: none"> – Respect local wildlife by maintaining appropriate distance and altitude (as safety permits) to minimize disturbance. – Watch for active/occupied raptor or vulture nests and communal roosts, and, if spotted, keep at least 1,000 feet clear. – Avoid approaching soaring birds. (Note that if a bird peacefully approaches a hang glider, this is not considered a disturbance.) – Report to MROSD any bird observed behaving aggressively or agitated as a result of the pilot’s glider or any other glider. – Immediately leave the area (as safety permits) after a bird has exhibited aggressive or acutely agitated behavior. › MROSD will post signs at hang glider observation locations describing aggressive or acutely agitated bird behavior, and encourage preserve users to report any of these observations to the provided telephone 	MROSD	During Operation	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>number.</p> <p>MROSD will implement an adaptive management plan, prepared by a qualified ornithologist, to monitor and mitigate observed agitation or potential disturbance to birds. The adaptive management plan will include (at a minimum) the following measures:</p> <ul style="list-style-type: none"> › MROSD staff will immediately investigate and document any legitimate reported incident of bird aggression or acute agitation in response to presence of a hang glider. › MROSD staff will review these bird incident records continuously. If incidents in a specific area exceed three per month , MROSD will either reduce the number of hang gliding permits issued to 5 at one time with no more than 2 hang gliders per launch site or restrict the use of the affected area as a condition of the special use permit. (Note that if the excess number of incidents occurs only during the raptor nesting season, then the permit reduction may be limited only to March through August and may resume to normal permitting levels after the nesting season.) › If repeated incidents occur with a specific hang glider or group, MROSD may revoke hang gliding privileges to those individuals. <p>If, after reducing the number of permits or restricting the use of specific areas where the incidents have occurred, the bird incidents are not reduced below three per month, MROSD will consider discontinuance of the issuance of hang gliding permits at the project site.</p>			
Hydrology and Water Quality				
4.4-1	a. Prior to earthmoving activities (e.g., grading, excavation, construction), MROSD will consult with Santa Clara County Department of Public Works for Municipal Regional Permit review and will also consult with the San Francisco Bay Basin Regional Water Quality Control Board (RWQCB) to acquire the appropriate regulatory approvals that may be required to obtain	MROSD	Prior to Earthmoving Activities	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	Section 401 water quality certification, State Water Resources Control Board (SWRCB) statewide National Pollutant Discharge Elimination System (NPDES) stormwater permit for general construction activities, and any other necessary site-specific waste discharge requirements. No grading or other soil disturbance will occur until the appropriate regulatory approvals and permits have been issued.			
	b. Prior to any earthmoving activities, as required under the NPDES stormwater permit for general construction activity, MROSD will prepare and submit the appropriate Notice of Intent and prepare the SWPPP and other necessary engineering plans and specifications for pollution prevention and control. The SWPPP will identify and specify the use of erosion sediment control BMPs, means of waste disposal, nonstormwater management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities. The SWPPP will also specify the pollutants that are likely to be used during construction and that could be present in stormwater drainage and nonstormwater discharges.	MROSD	Prior to Earthmoving Activities	
	c. Construction techniques will be identified that would reduce the potential runoff, and the SWPPP will identify the erosion and sedimentation control measure to be implemented. BMPs designed to reduce erosion of exposed soil may include, but are not limited to: <ul style="list-style-type: none"> › Use temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; › Store materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; › Water exposed areas for dust control; › Minimize off-site sediment transport on vehicles using techniques such as gravel driving surfaces to knock soil off tires at exit points; and › Use barriers, such as perimeter silt fencing, to minimize the amount of uncontrolled runoff that could enter drains or surface waters. 	MROSD	Prior to and During Construction	
	d. The SWPPP will also specify spill prevention and contingency measures, identify types of materials used for equipment operation, and identify measures to prevent or clean up spills of hazardous materials used for	MROSD	Prior to and During Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	equipment operation. Emergency procedures for responding to spills will also be identified. The SWPPP will identify personnel training requirements and procedures that would be used to ensure that workers are aware of permit requirements and proper installation and performance inspection methods for BMPs specified in the SWPPP. The SWPPP will also identify the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP. All construction contractors will be required to retain a copy of the approved SWPPP on the construction site.			
4.4-3	MROSD will implement appropriate design measures to adequately trap and treat discharged pollutants in designated parking areas. These design measures could include, but are not limited to structural and non-structural BMPs including installation of oil and grit separators to capture potential contaminants that are discharged in parking areas, establishment of vegetation in drainages to achieve optimal balance of conveyance and water quality protection; and installation of vegetation filter strips.	MROSD	During Construction	
Geology and Soils				
4.5-1	<p>(Radar Tower Option 1 Only)</p> <p>Prior to completion of the proposed landform and environmental restoration, MROSD will utilize a qualified geotechnical engineer to conduct monitoring of the north and south slopes. If the qualified geotechnical engineer indicates that slope instability is jeopardizing the radar tower, then the MROSD will implement recommendations made by the geotechnical engineer including drainage rehabilitation and slope reinforcement (i.e. retaining walls). Implementation of these recommendations will ensure that slope subsidence does not occur that would affect the structural integrity of the tower. If the proposed landform and environmental restoration is completed prior to any actions recommended by the monitoring geotechnical engineer, MROSD will utilize a qualified geotechnical engineer to conduct a topographical survey based on the new contours. If the geotechnical engineer determines that additional slope stabilization measures are necessary (i.e. retaining wall) to ensure no risk of structural collapse, MROSD will implement these measures.</p> <p>As part of the proposed project, construction safety fencing will be erected,</p>	MROSD	Prior to Completion of Landform and Environmental Restoration	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	prior to structural stabilization of the tower, at a distance equal to the height of the structure (in this case, a distance of 80 feet from the base of the tower) in order to allow public access to the area. Prior to implementation of the approved radar tower option and removal of the chain link fence from around the radar tower, MROSD will install permanent fencing along edges of the steep slopes in the vicinity of the radar tower. The permanent fencing will include materials consistent with a natural open space setting typical of fencing used in other MROSD preserves and open space facilities.			
	(Radar Tower Option 2 and 3 Only) Prior to implementation of the approved radar tower option and removal of the chain link fence from around the radar tower, MROSD will install permanent fencing along edges of the steep slopes in the vicinity of the radar tower. The fencing will include materials consistent with a natural open space setting typical of fencing used in other MROSD preserves and open space facilities.	MROSD	Prior to Implementation of the Approved Radar Tower Option and removal of the chain link fence	
Hazards and Hazardous Materials				
4.6-1	Following demolition of structures, but prior to any grading activity or public access within the former Almaden Air Force Station, MROSD will hire a qualified hazardous materials specialist to prepare a focused pesticide soil testing and remediation program. The soil testing program will be prepared according to the recommendations in Northgate’s Sampling and Analysis Report. Based on the focused soil testing program, the perimeters and depths of soils containing contamination above residential ESLs shall be specifically defined. Once these areas are defined, construction barriers or fencing shall be placed around the areas prior to initiating construction within other areas of the project site. No construction or public access may occur within the demarcated areas of contamination until the following remediation occurs: The qualified hazardous materials specialist will prepare a remediation plan for excavation and disposal of contaminated soils. The goal of the remediation plan will be to remove all soils containing chemical concentrations in excess of California human health screening levels and render excavated soil suitable for disposal at an appropriate landfill, unless the soils can be suitably treated on site, to below screening levels, in which case the soils can be disposed onsite. Soil removal	MROSD	Following demolition and prior to any grading and public access	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	activity will be completed in accordance with state and local regulatory requirements that provide specific targets for protection of human health.			
4.6-5 (Voluntary)	<p>MROSD will implement the following fire hazard minimization measures recommended by Wildland Resource Management:</p> <p>Construction-Related Fire Risk Reduction</p> <p>Prior to initiation of construction (including activities associated with mitigation measures, such as vegetation clearing), MROSD’s contractor will prepare a fire prevention plan. This fire prevention plan will include such measures as a list of tools to have on hand, proof of spark arrestors on all gas-powered engines, a description of available communications, specifications for the supply of water to have on hand, and descriptions of other actions that will reduce the risk of ignition and immediate control of an incipient fire. This requirement should be included in the contract with the District.</p>	MROSD	Before Construction	
	To minimize the risk of wildfire ignition, all motorized vehicles, including earth-moving equipment, used during this project will be equipped with spark arresters, per California Public Resources Code 4442, and Health and Safety Code 13001 and 13005. Other motorized vehicles used on the project site will not be parked where vegetation may come in contact with exhaust systems and catalytic converters.	MROSD	Before and During Construction	
	<p>Fuel Management and Fire-safe Restoration Design</p> <p>Prior to initiating construction of the restoration areas, MROSD will prepare a site-specific fuel management plan for the these areas as part of the specific site planning and design that dictates which species of trees/shrubs should be removed or pruned, and which plants should be planted or maintained (i.e., conifers may be replaced with hardwoods to reduce the chance of torching and ember production and distribution). The plan will include measures above and beyond MROSD’s standard fuel management plan, such as a strategically located visitor safety zone, which includes fuel conditions appropriate for a safety zone (i.e., large paved or graveled area such as a parking lot). This area will need to be</p>	MROSD	Before Construction and During Operation	

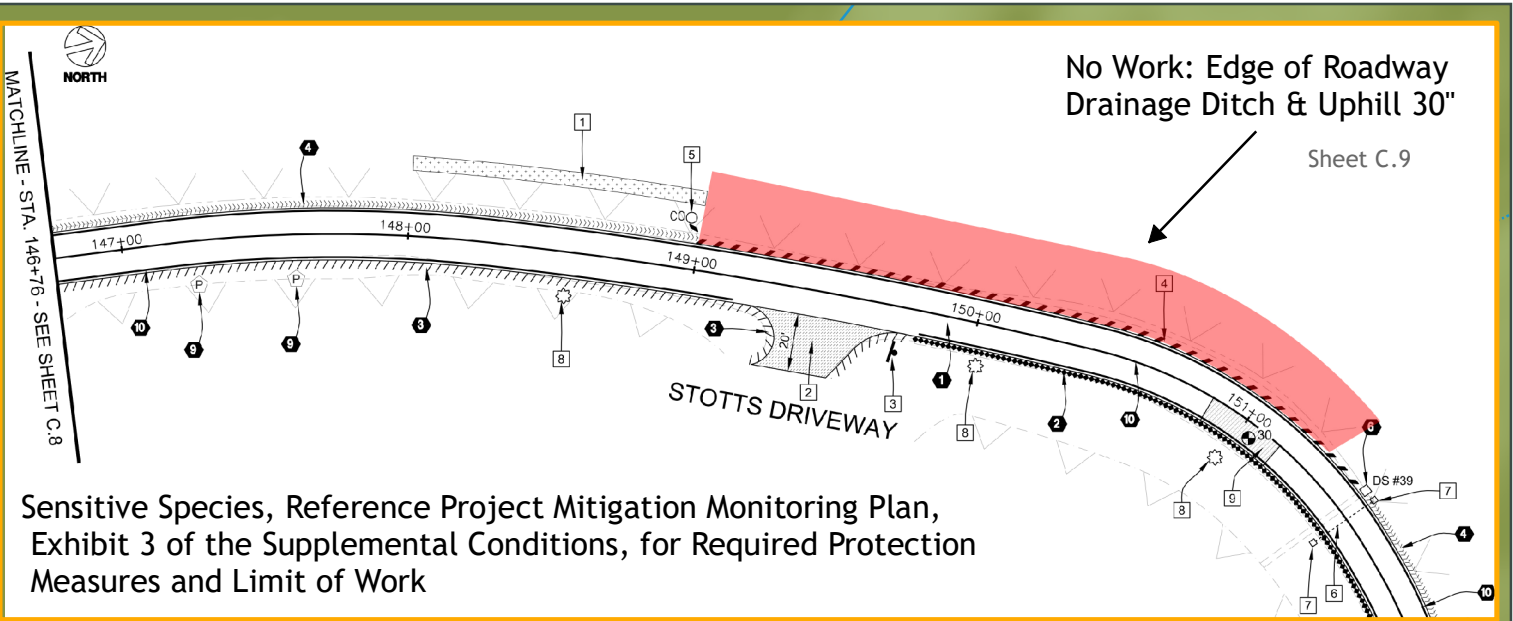
Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>inspected at least annually for compliance. The site-specific fuel management plan will apply to the former AFS housing area, and the summit areas, where the environmental restoration is proposed.</p> <p>The fuel management plan will also identify indigenous plant materials and/or seed mixes at staging areas or along trails. Indigenous plants are ideal due to their low maintenance and drought and fire resistant characteristics.</p> <p>The vegetation palette for the proposed restoration will identify native species that are shrubby or non-curing herbaceous cover (as opposed to grassy species), with little ignition potential. Plantings will be irrigated at least twice during the summer season to keep the moisture of the vegetation foliage high (keeping the dead material wet is not effective); if plantings cannot be irrigated twice a year, fuel volume will be reduced to meet the equivalent results in fire hazard. The spacing and design of the vegetation is more critical than the species planted. The restoration design will place plant species such that appropriate horizontal spacing occurs between masses of shrubs and specimen trees and appropriate vertical spacing will occur between tree branches, shrubs, and ground cover. This will discourage the creation of "fuel ladders"—a continuous fuel path by which a fire can climb from the ground to a shrub, to a tree, and ultimately produce and distribute embers than can start new fires far away.</p> <p>The restoration design will identify a palette of appropriate native plant species that have a low fuel volume and high foliar moisture and do not have a tendency to produce and "hold" dead wood and which also have a proper growth form. Factors that must be considered in rating the fire performance of plants include:</p> <ul style="list-style-type: none"> > <u>Total volume.</u> The greater the volume of plant material (potential fuel) present, the greater the fire hazard. > <u>Moisture content.</u> The moisture content of plants is an important consideration; high levels of plant moisture can both lower fire risk and act as a heat sink if a fire occurs, reducing its intensity and spread. > <u>Amount and distribution of dead material.</u> The amount of dead material in a given plant influences the total amount of water in the overall plant; the 			

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>dead material is usually much drier than living tissue. Whereas dead material rarely has a moisture content higher than 25%, live foliage moisture content ranges from 60 to 80% for chaparral species in xeric conditions to a high of 200 to 400% for succulent plants or plants under irrigation.</p> <ul style="list-style-type: none"> > <u>Size of leaves, twigs, and branches.</u> Materials with large surface areas (such as needles, twigs, or large flat leaves) dry more rapidly under fire conditions than materials with lower surface ratios (such as branches and fleshy leaves). > <u>Geometry and arrangement of the plant (overall spatial distribution of the biomass).</u> The shape of a plant and the way in which the biomass is distributed throughout the plant is important because this bulk density affects the air flow and heat transfer through the plant. The arrangement of material within the plant affects its fuel continuity and its tendency to undergo preheating and promote fire spread. <p>Examples of plants that may be appropriate include (but are not limited to) the following: coffeeberry, madrone, coast live oak, bay, ceanothus, and toyon. Examples of species to remove include coyote brush, black sage, and sagebrush. The fuel management plan will include a maintenance component. The maintenance program will require annual removal of dead material and maintenance of the vertical and horizontal spaces that create a fire-safe design. Maintenance requirements are incorporated in the District guidelines.</p>			
Air Quality				
4.7-1	<p>MROSD and all construction contractors shall implement the following basic control measures during construction, per BAAQMD’s Air Quality Guidelines:</p> <ul style="list-style-type: none"> > All un-compacted exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall either be watered two times per day when average winds exceed 20 miles per hour (mph) or covered with a dust palliative (e.g., mulch, straw). If watered, watering shall be done at a frequency adequate to maintain minimum soil moisture of 12%. Moisture content can be verified by lab samples or moisture probe. 	MROSD	During Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<ul style="list-style-type: none"> > All haul trucks transporting soil, sand, demolished building materials, or other loose material off-site shall be covered. > Erosion control seed mix shall be planted in disturbed areas where appropriate as soon as possible and watered as needed for up to three years. > During windy days, the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. > All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. > All vehicle speeds on unpaved roads shall be limited to 15 mph. > All roadways, driveways, and sidewalks that are planned as part of the project to be paved shall be completed as soon as possible. Any building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. > Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measures (ATCM) Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage about this requirement shall be provided for construction workers and truck drivers at all access points. > All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. > Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations. 			

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
4.7-5	Utilizing a qualified geologist, project-related construction and grading would be sited to avoid ultramafic rock to the maximum extent feasible. If construction or grading in ultramafic substrates would be unavoidable, MROSD shall conduct an investigation to determine whether and where NOA is present. The site investigation shall include the collection of soil and rock samples by a qualified geologist. If the site investigation determines that NOA is present on the project site then MROSD shall comply with the requirements of BAAQMD’s naturally occurring asbestos program by submitting an Asbestos Dust Mitigation Application and any other applicable notification forms to BAAQMD pursuant to BAAQMD’s Air Toxic Control Measure (ATCM) Inspection Guidelines Policies and Procedures. Completion of the Asbestos Dust Mitigation Application largely consists of the development of an asbestos dust control plan, which specifies measures for preventing or minimizing the generation of NOA-containing dust associated with track-out onto paved public roads, active storage piles, inactive disturbed surfaces and storage piles, traffic on un-paved surfaces and roads, earthmoving activities, off-site transport of materials, and stabilization of disturbed soil surfaces post construction. In order to fulfill the requirements of Section 93105 of the California Health and Safety Code, “Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations,” the asbestos dust control plan shall specify measures, such as periodic watering to reduce airborne dust and ceasing construction during high winds, that shall be taken to ensure that no visible dust crosses the property line. Measures in the Asbestos Dust Control Plan may include but shall not be limited to dust control measures required by Mitigation Measure 4.7-1. MROSD shall submit the plan to BAAQMD for review and approval before construction. Upon approval of the asbestos dust control plan by BAAQMD, the MROSD shall ensure that construction contractors implement the terms of the plan throughout the construction period.	MROSD	Prior to and during Demolition	
Traffic and Circulation				
4.10-1	MROSD shall implement the following mitigation measures to improve roadway condition/operation during and after construction. These measures would be required with or without removal of the radar tower.) Improve and repave Mt. Umunhum Road to increase vehicle accessibility	MROSD	Before, During, and After Construction	

Mitigation Monitoring Plan				
Mitigation Measure No.	Measure Description	Monitoring Agency	Implementation Schedule	Monitoring Compliance Record (Name/Date)
	<p>after completion of demolition. In the interim, provide necessary temporary improvements (e.g. pothole repairs).</p> <ul style="list-style-type: none"> > Survey the demolition and construction truck route between Mt. Umunhum Road and Almaden Expressway (or Camden Avenue) before project initiation and after all work is completed. Provide repair as required to all road segments with documented pavement degradation due to project trucks. > Post signs along the narrower two-lane sections of construction haul routes informing bike riders as well as local drivers of dates and times of potential truck traffic. > Post signs of potential delay in advance of construction/excavation sites along Mt. Umunhum Road. > Ensure communication links between truck drivers so they are aware when there will be uphill and downhill truck traffic at the same time on Mt. Umunhum Road and/or Hicks Road. > Survey Mt. Umunhum Road on a weekly basis during all demolition off haul, excavated material haul and any fill importation to determine whether pavement condition remains adequate in all locations along Mt. Umunhum Road for safe truck traffic activity. If not, provide interim pavement repairs as needed. 			



Sensitive Species, Reference Project Mitigation Monitoring Plan, Exhibit 3 of the Supplemental Conditions, for Required Protection Measures and Limit of Work

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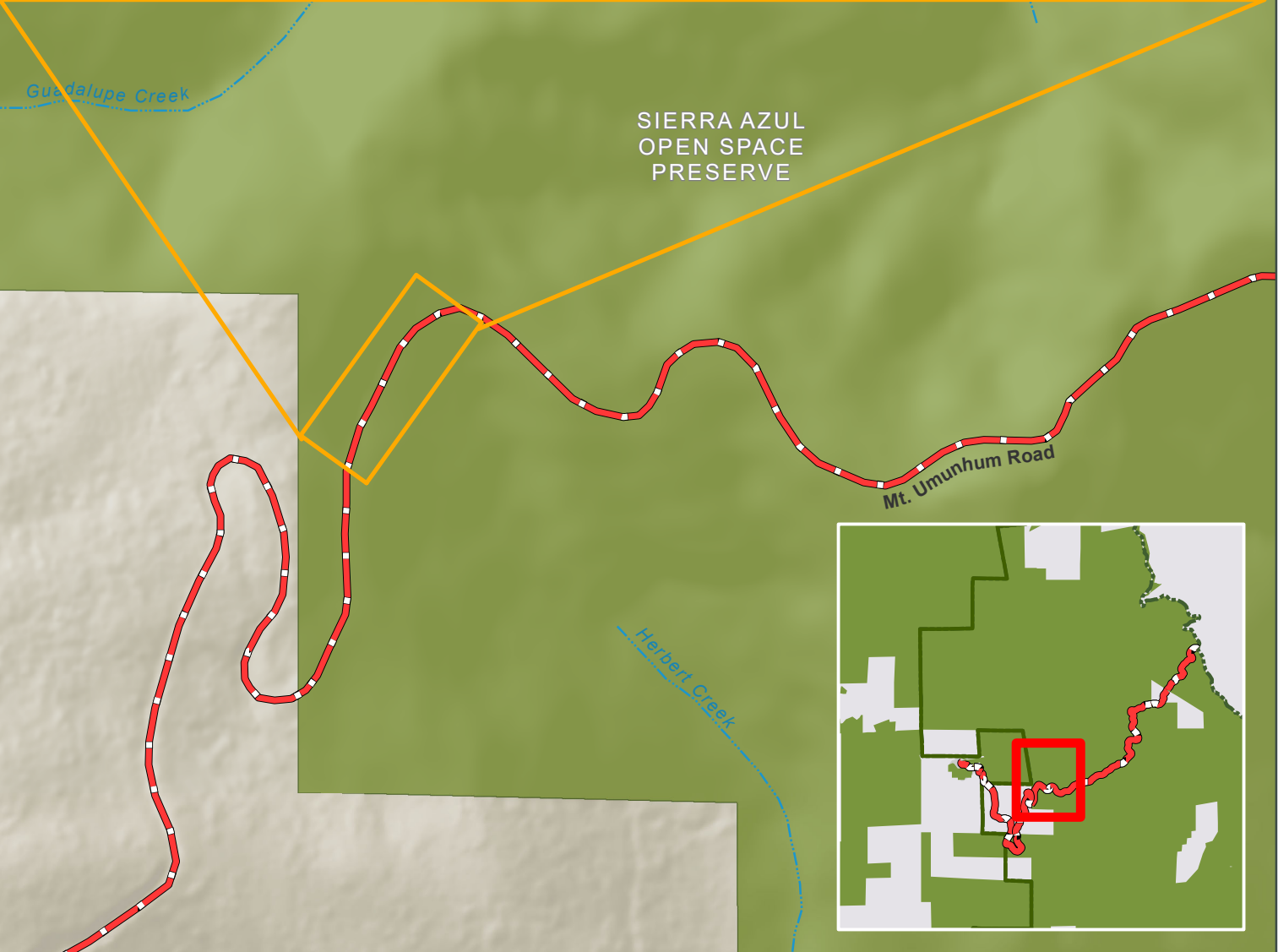


EXHIBIT 4: Sensitive Species Map

- Project Area
- No Work Area
- MROSD Preserves
- Private Property

Midpeninsula Regional
Open Space District
(MROSD)

June 2016



While the District strives to use the best available digital data, these data do not represent a legal survey and are merely a graphic illustration of geographic features.



E. PROJECT SCOPE DOCUMENTS

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

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E.1 PROJECT PLANS

Mount Umunhum Road Rehabilitation Project

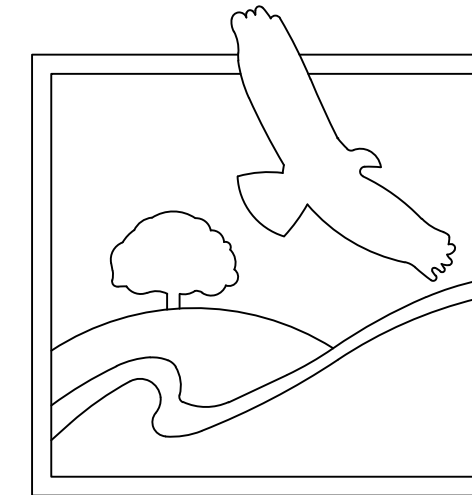
**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

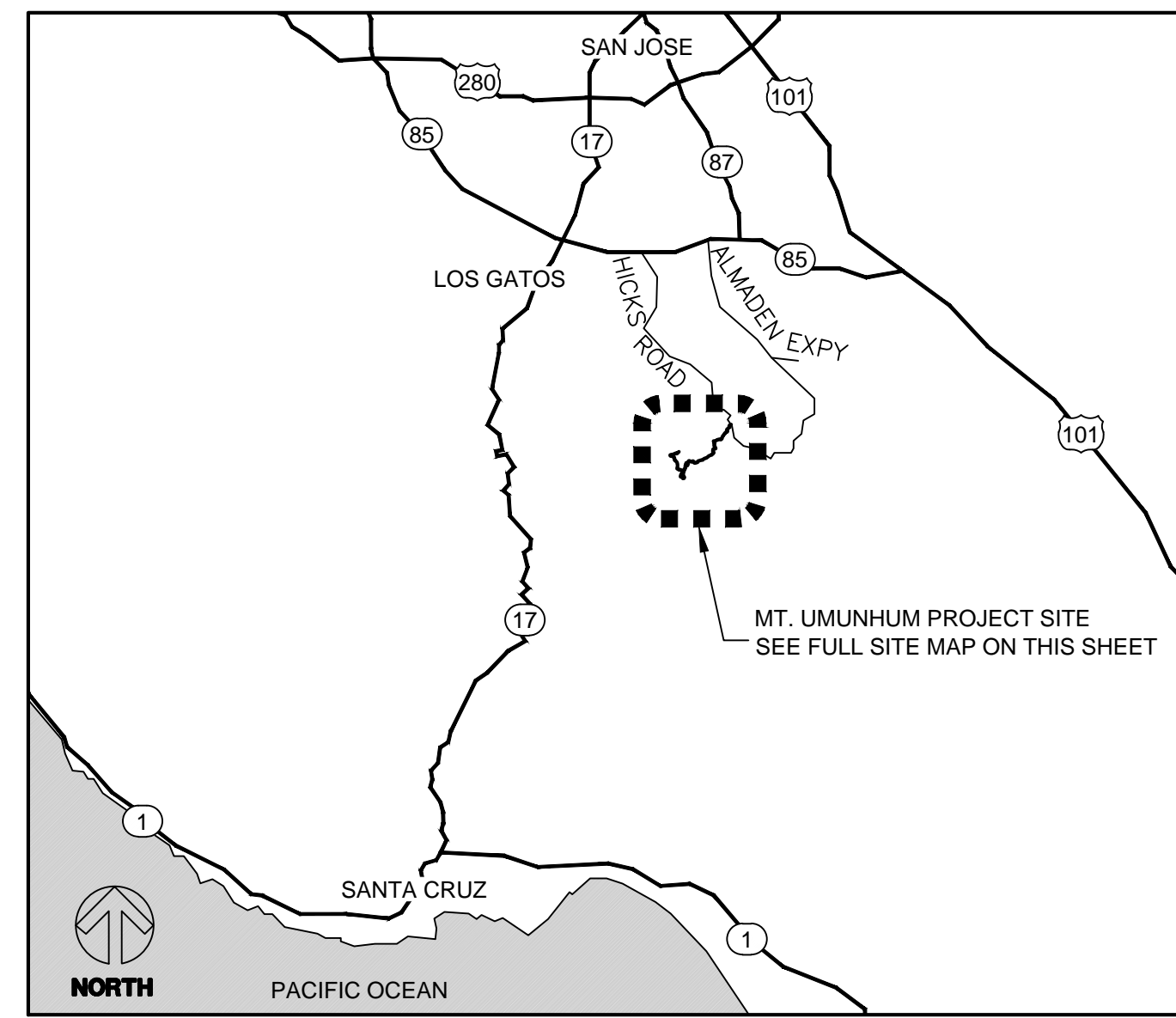
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MT. UMUNHUM ROAD REHABILITATION PROJECT

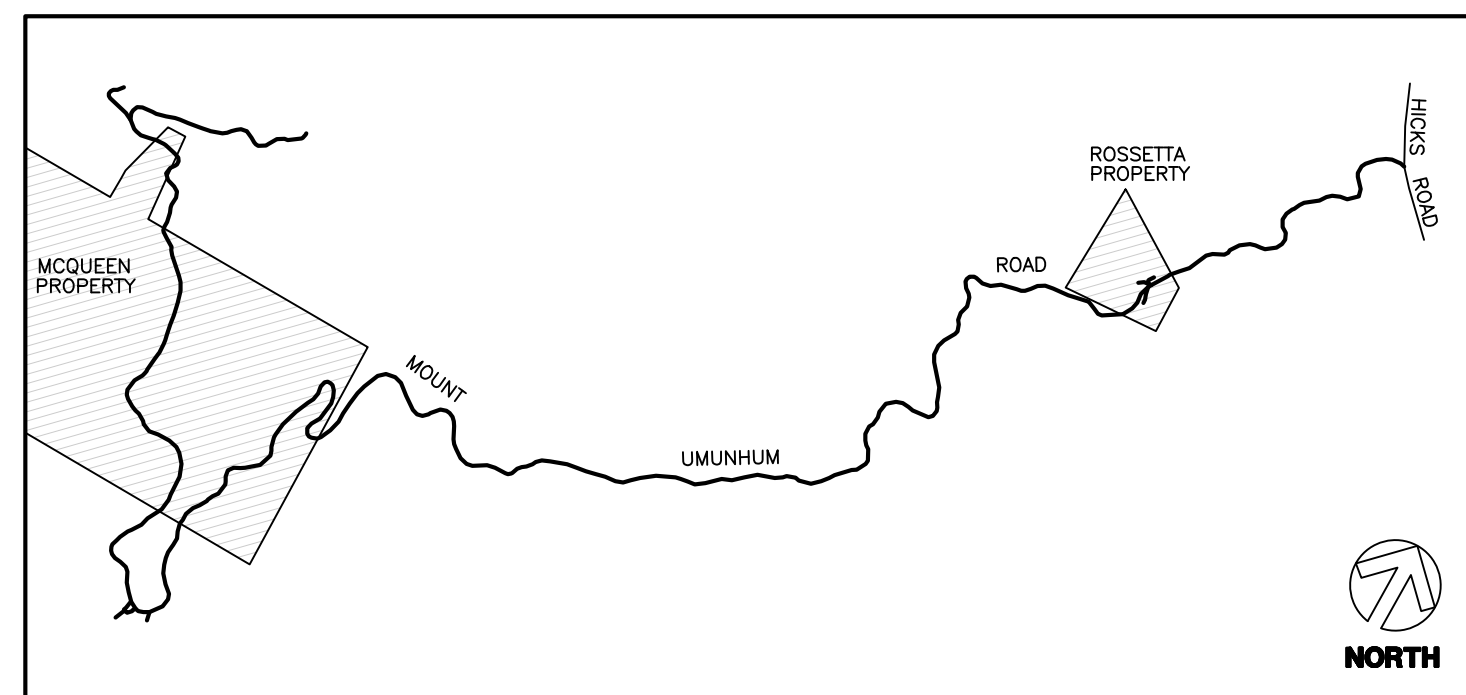
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT



BID SET - JUNE 10TH, 2016



LOCATION MAP
NTS



FULL SITE MAP
1"=2500'

LEGEND

	MISCELLANEOUS PAVING		INSTALL EDGE DRAIN
	REMOVE EXCESS ASPHALT		EX. CULVERT PIPE
	INSTALL GABION WALL		EX. CULVERT CHANNEL
	SHALLOW PAVEMENT REPAIRS		EX. FLOW LINE/TOE OF SLOPE
	DEEP PAVEMENT REPAIRS		EX. TOP OF SLOPE
	REMOVE TREE ROOTS		EX. PAVED DITCH
	REMOVE BOULDERS ON UPSLOPE		PROPERTY LINE BOUNDARY
	PLACE BASE ROCK		EASEMENT LINE
	REMOVE & REPLACE/INSTALL HMA DIKE		DRAINAGE STRUCTURE
	INSTALL MOUNTABLE HMA DIKE		CLEANOUT
	REMOVE & REPLACE/INSTALL GUARDRAIL		REMOVE TREE
	TANGENT GUARDRAIL END TERMINAL		REMOVE TREE STUMP
	FLARED GUARDRAIL END TERMINAL		ROADSIDE PADDLE/MARKER
	INSTALL PRE-CAST CONCRETE BARRIER		ROADSIDE SIGNAGE
	INSTALL ROCK FENCE		HMA SCUPPER (N)
	INSTALL PIPE		CORING LOCATION
	INSTALL SHOULDER BACKING		AC ASPHALT CONCRETE (E)
	INSTALL ROCK-LINED DITCH		CLSM CONTROLLED LOW STRENGTH MATERIAL
	INSTALL V-DITCH		EX. EXISTING
	REMOVE & REPLACE/INSTALL PAVED DITCH		HMA HOT MIX ASPHALT (N)
	INSTALL PCC CURB		PCC PORTLAND CEMENT CONCRETE
	INSTALL PCC SWALE		DETAIL NUMBER SHEET NUMBER
	CONDUIT & JUNCTION BOX (N)		

SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
T.1	TITLE SHEET
T.2	ITEM OF WORK TABLES
T.3	ITEM OF WORK TABLES
T.4	ITEM OF WORK TABLES
D.1	DETAILS
D.2	DETAILS
D.3	DETAILS
D.4	DETAILS
D.5	DETAILS
D.6	DETAILS
C.1	SITE PLAN- STA. 30+00 TO 37+59, 300+00 TO 306+80, 400+00 TO 401+97
C.2	SITE PLAN- STA. 37+59 TO 55+22
C.3	SITE PLAN- STA. 55+22 TO 69+26
C.4	SITE PLAN- STA. 69+26 TO 84+93
C.5	SITE PLAN- STA. 84+93 TO 95+33
C.6	SITE PLAN- STA. 95+33 TO 106+29
C.7	SITE PLAN- STA. 106+29 TO 124+53
C.8	SITE PLAN- STA. 124+53 TO 146+76
C.9	SITE PLAN- STA. 146+76 TO 161+62
C.10	SITE PLAN- STA. 161+62 TO 176+31
C.11	SITE PLAN- STA. 176+31 TO 198+42
C.12	SITE PLAN- STA. 198+42 TO 216+41
C.13	SITE PLAN- STA. 216+41 TO 229+21
C.14	SITE PLAN- STA. 229+21 TO 247+31
C.15	SITE PLAN- STA. 247+31 TO 264+70
C.16	SITE PLAN- STA. 264+70 TO 283+53
C.17	SITE PLAN- STA. 283+53 TO 298+25

JRE				
4/7/16	85% Plan Check Summary			DESCRIPTION
				DATE
				REV
<p>MIDPENINSULA REGIONAL OPEN SPACE DISTRICT MT. UMUNHUM ROAD REHABILITATION PROJECT TITLE SHEET</p>				
DRAWN BY: JRE				
PROJECT NUMBER: 150175				
SCALE: AS SHOWN				
DATE: JUNE 2016				
SHEET NUMBER:				
T.1				
<p>Pavement Engineering Inc. You can ride on our reputation One San Ramon Drive, Suite A 3485 San Ramon Drive, Suite A San Luis Obispo, CA 93401-6015 805-781-2285</p>				

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GRADING & EXCAVATION table with columns: Beginning Station, Ending Station, Side of Road, Cross-Section Area (sq yd), Stockpile Volume (cu yd). Includes rows for stations 31+78 to 302+80.

V-DITCH table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 36+00 to 298+00.

SHOULDER BACKING table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 30+00 to 298+00.

HMA DIKE (TYPE F) table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 32+58 to 288+40.

GUARDRAIL & END TERMINALS table with columns: Initial End Terminal, Guardrail, Final End Terminal, Beginning Station, Ending Station, Side of Road, Length of End Terminals, Length of Guardrail, Total Length. Includes rows for stations 40+84 to 297+96.

HMA SCUPPER table with columns: Location, Side of Road, Length. Includes rows for stations 36+13 to 297+96.

PRE-CAST CONCRETE BARRIER table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 54+90 to 282+14.

DRAINAGE STRUCTURES table with columns: Drainage Structure #, Location, Side of Road, Type of Structure, Type of Work, Directions of Flow Into Structure, Ex. CMP Size, Mn. Ht. of New Structure, Install Headwall, Vertical Adjustment (+Up, -Down), Horizontal Adjustment (+Towards Roadway, -Away from Roadway), Notes. Includes rows for structures 6 to 68.

PAVED TURNOUTS table with columns: Beginning Station, Ending Station, Side of Road, Turnouts, Offset from New EP, Area (sf). Includes rows for stations 80+18 to 276+00.

PLACE ROCK FOR EROSION PROTECTION table with columns: Location, Side of Road. Includes rows for stations 79+25 to 297+96.

PAVED DRIVEWAYS/TRANSITIONS table with columns: Beginning Station, Ending Station, Side of Road, Owner of Property or Name of Road, Offset from New EP, Area (sf). Includes rows for stations 78+77 to 301+00.

PAVEMENT REPAIRS table with columns: Beginning Station, Ending Station, Side of Road, Width, Area of Shallow Repairs, Area of Deep Repairs, Geogrid Material (sf). Includes rows for stations 78+77 to 289+00.

TREE REMOVAL table with columns: Location, Side of Road, Circum., Approx. Diameter. Includes rows for stations 31+24 to 186+00.

ROCK-LINED DITCH table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 137+45 to 200+42.

PAVED DITCH table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 211+79 to 297+33.

GABION WALL table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 59+20 to 141+40.

BAR DOWN LOOSE ROCKS table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 53+00 to 234+50.

MOUNTABLE HMA DIKE (TYPE E) table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 47+51 to 288+40.

PLACE BASE ROCK table with columns: Approximate Location, Side of Roadway, Area (sf). Includes rows for stations 158+80 to 189+00.

ROCK FENCE table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 61+70 to 227+00.

MISCELLANEOUS PAVING table with columns: Beginning Station, Ending Station, Side of Road, Avg. Width, Approx. Area (sf). Includes rows for stations 30+50 to 306+86.

TREE ROOT REMOVAL UNDER PAVEMENT table with columns: Beginning Station, Ending Station, Side of Road, Width, Area (sf). Includes rows for stations 28+10 to 185+90.

CLEANOUTS table with columns: Location, Side of Road. Includes rows for stations 119+93 to 284+10.

PCC CURB table with columns: Beginning Station, Ending Station, Side of Road, Length. Includes rows for stations 31+24 to 400+28.

3' WIDE PCC SWALE table with columns: Approx. Location, Side of Road, Length. Includes rows for stations 79+00 to 282+50.

CONDUITS table with columns: Approximate Location, # of Junctions, Total Length of Conduits. Includes rows for stations 30+00 to 151+55.

Project information including: MIDPENINSULA REGIONAL OPEN SPACE DISTRICT, MT. UMUNHUM ROAD REHABILITATION PROJECT, ITEM OF WORK TABLES, DRAWN BY: JRE, PROJECT NUMBER: 150175, SCALE: 1"= 30', DATE: JUNE 2016, SHEET NUMBER: T.2

Pavement Engineering Inc. logo and contact information: You can ride on our reputation, 3465 San Dimas Drive, Suite A, San Luis Obispo, CA 93401-6015, 805-781-2265.



ROADSIDE SIGNAGE table with columns: Location, Side of Road, Type of Work, Type of Sign, Sign Designation (MUTCD or MROSD*)

ROADSIDE PADDLES table with columns: Location, Side of Road

ROADWAY STRIPING table with columns: Station, Left Detail 27B, Centerline (Single/Double 4" Yellow OR Caltrans Detail 40), Right Detail 27B

SHARROWS table with columns: Location, Side of Road

ROADWAY WIDTH table with columns: Beginning Station, Ending Station, HMA Surface Course Width (Width Left of 4', Width Right of 4', Total Width), Pulverized Or CIR Base Width (Width Left of 4', Width Right of 4', Total Width)

ROADWAY WIDTH (CONTINUED) table with columns: Beginning Station, Ending Station, HMA Surface Course Width (Width Left of 4', Width Right of 4', Total Width), Pulverized Or CIR Base Width (Width Left of 4', Width Right of 4', Total Width)

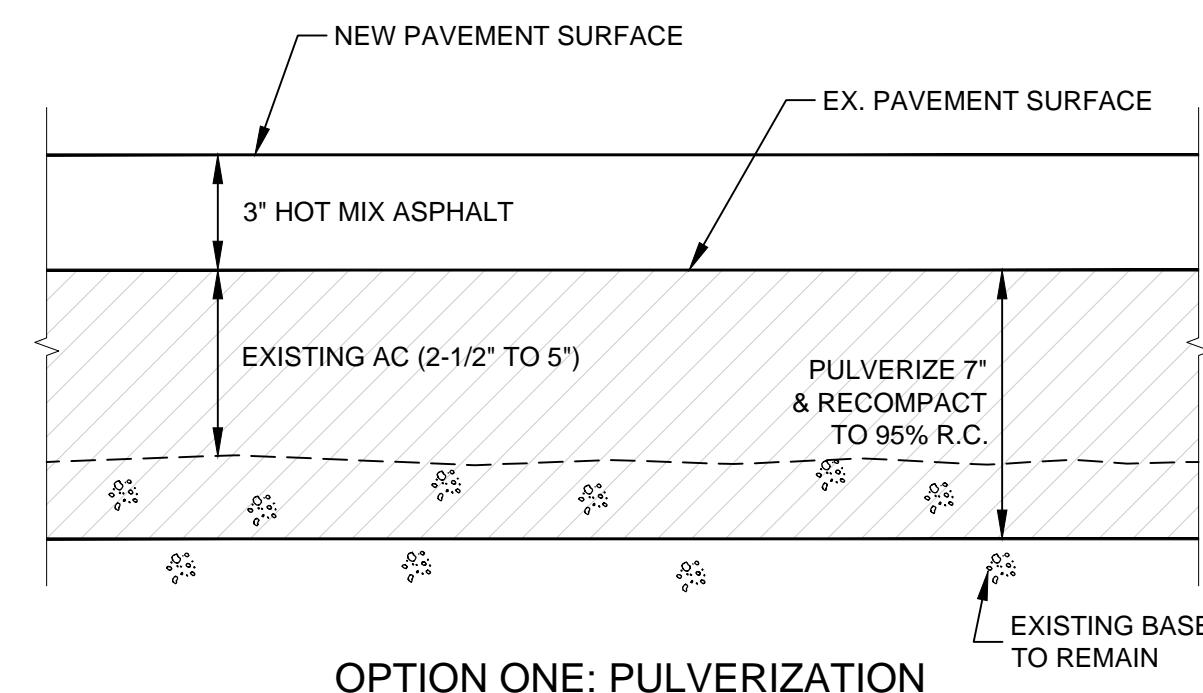
Table with columns: REV, DATE, DESCRIPTION

Pavement Engineering Inc. logo and contact information: You can ride on our reputation, 3465 San Ramon Drive, Suite A, San Luis Obispo, CA 93401-6015, 805-781-2285

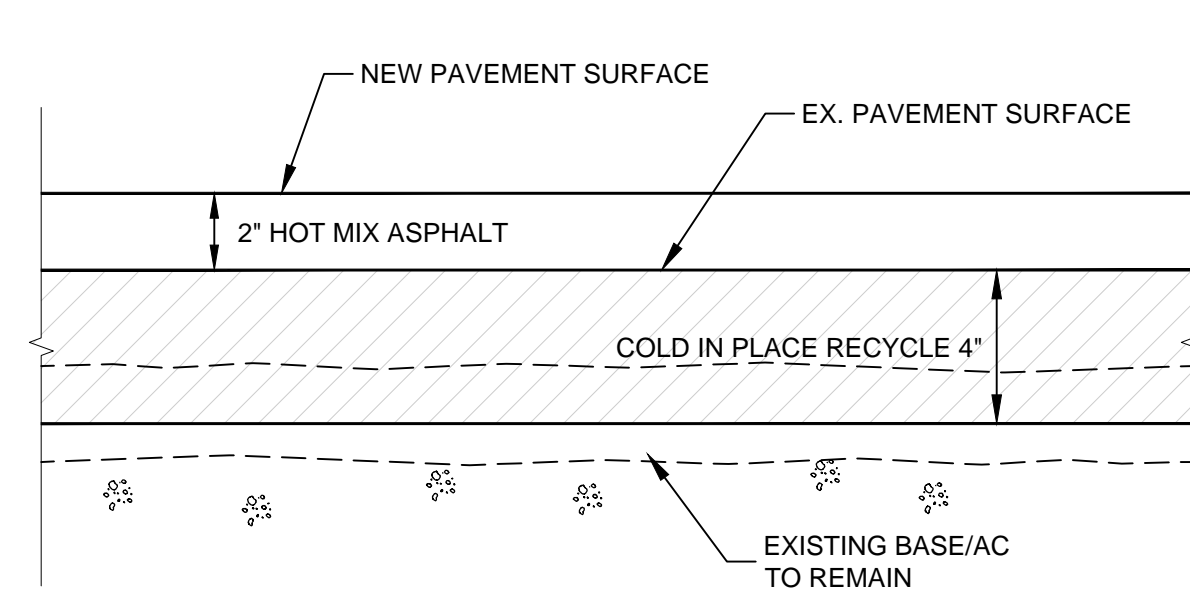
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT MT. UMUNHUM ROAD REHABILITATION PROJECT ITEM OF WORK TABLES



DRAWN BY: JRE PROJECT NUMBER: 150175 SCALE: 1"= 30' DATE: JUNE 2016 SHEET NUMBER:

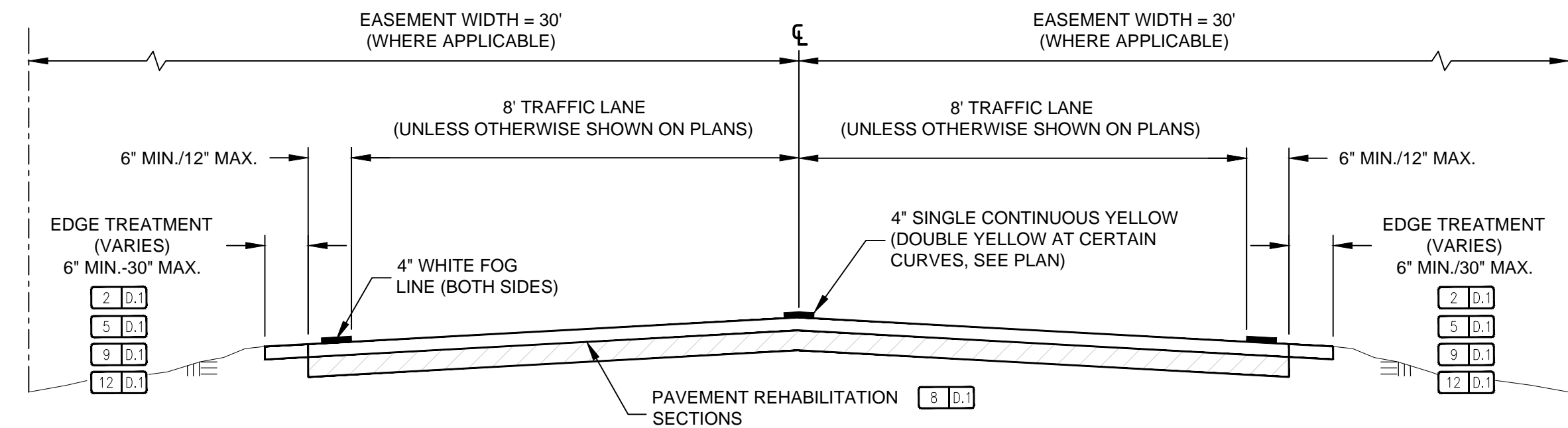


OPTION ONE: PULVERIZATION

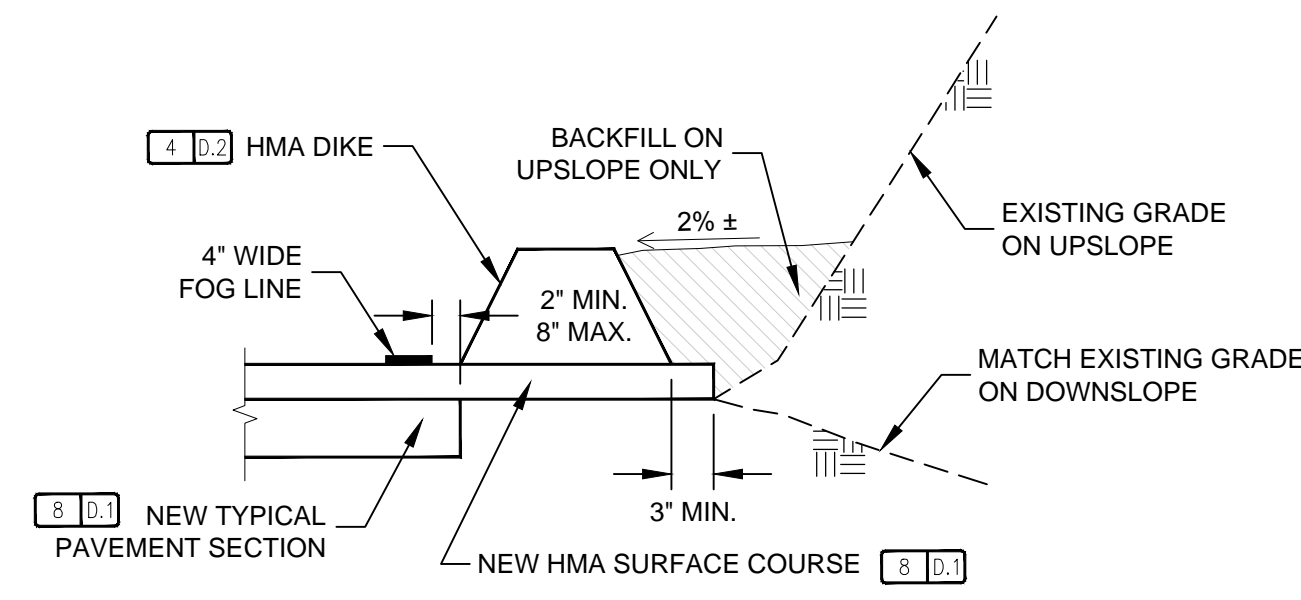


OPTION TWO: COLD IN PLACE RECYCLING

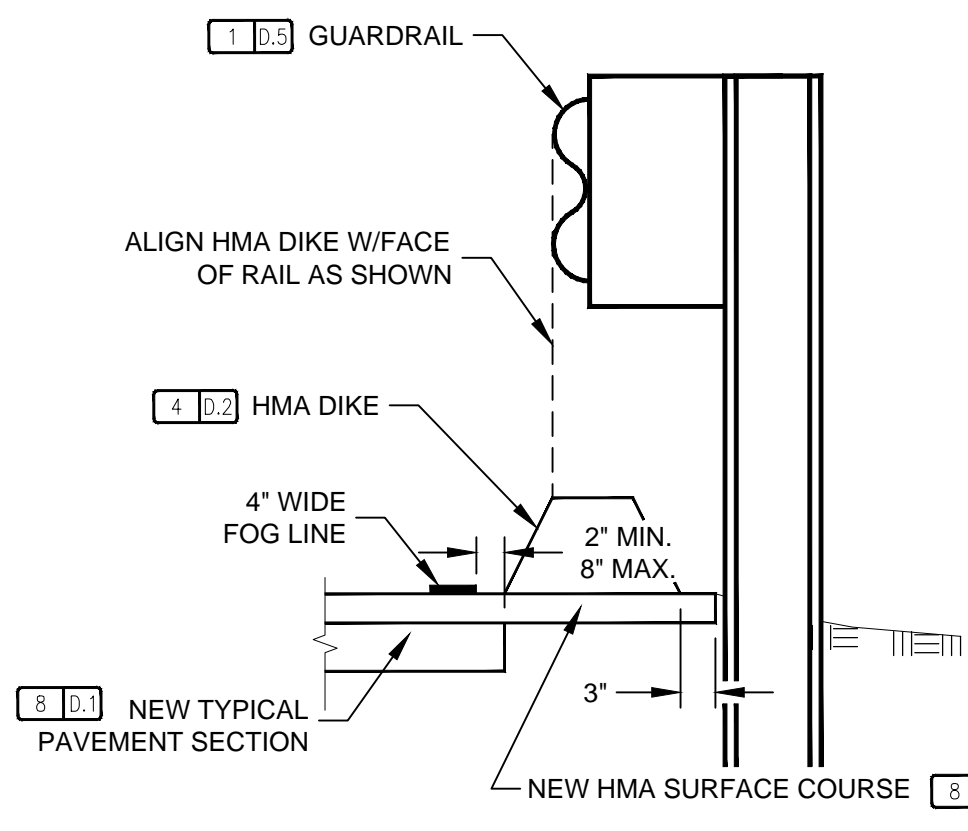
8 TYPICAL PAVEMENT REHABILITATION SECTIONS
NTS



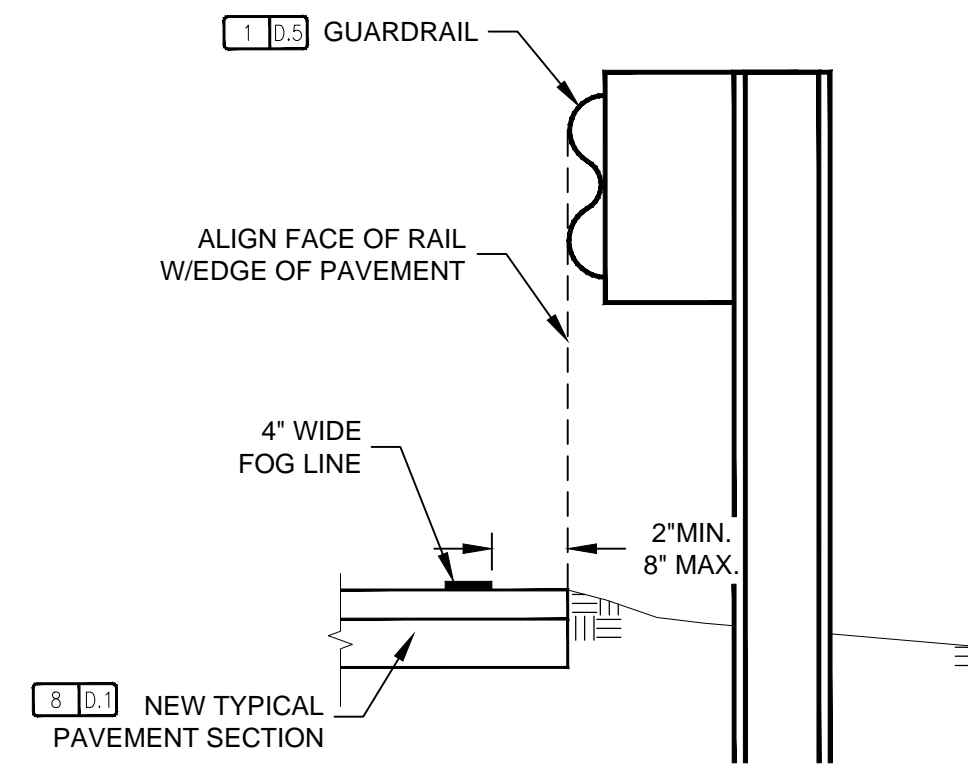
1 TYPICAL ROADWAY DIMENSIONS
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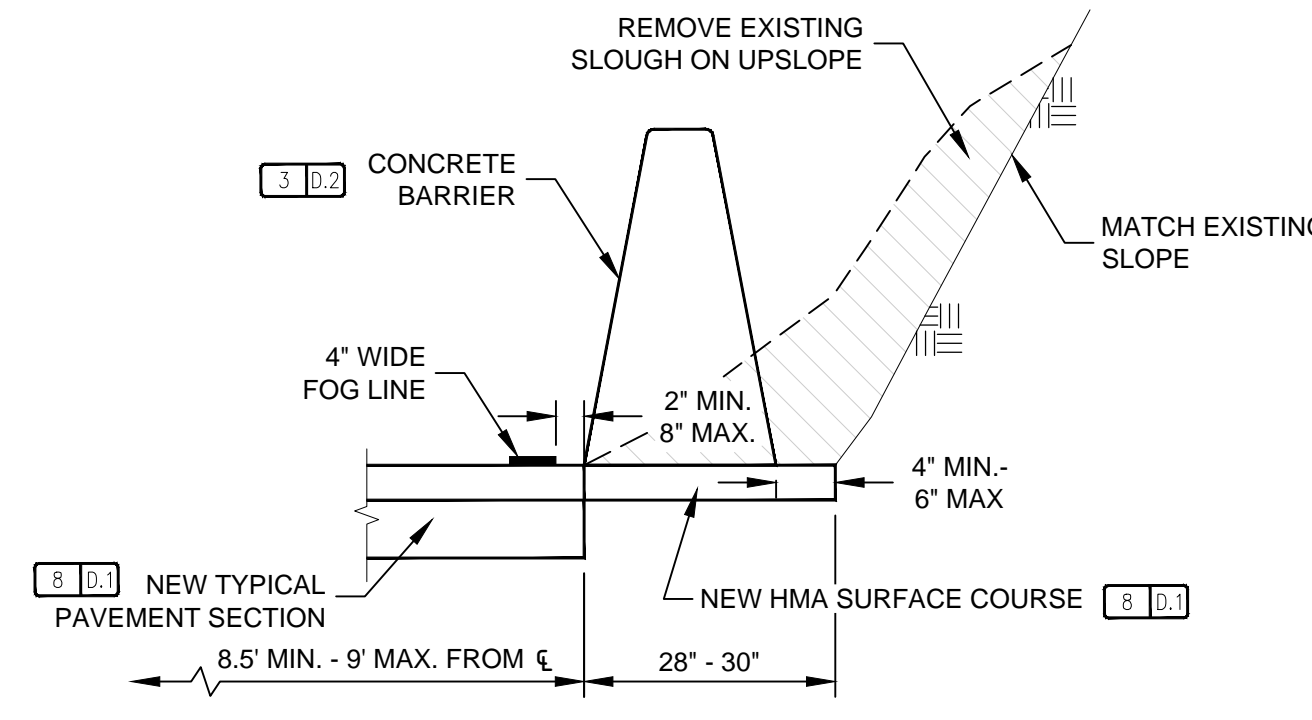
12 HMA DIKE @ EDGE DETAIL
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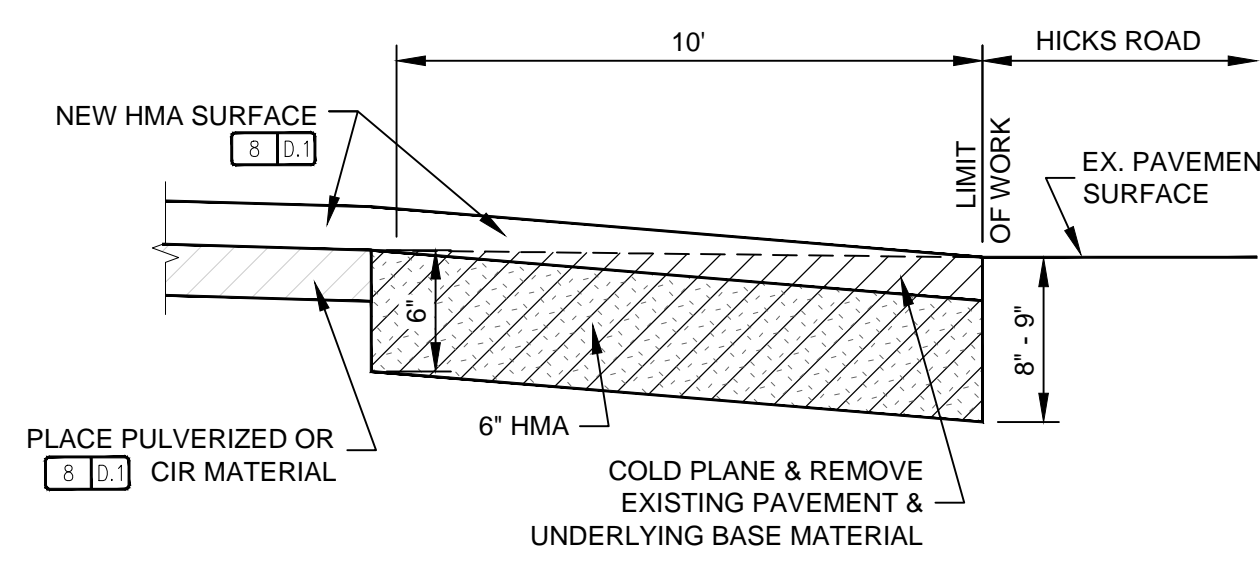
9 HMA DIKE & GUARDRAIL @ EDGE DETAIL
NTS



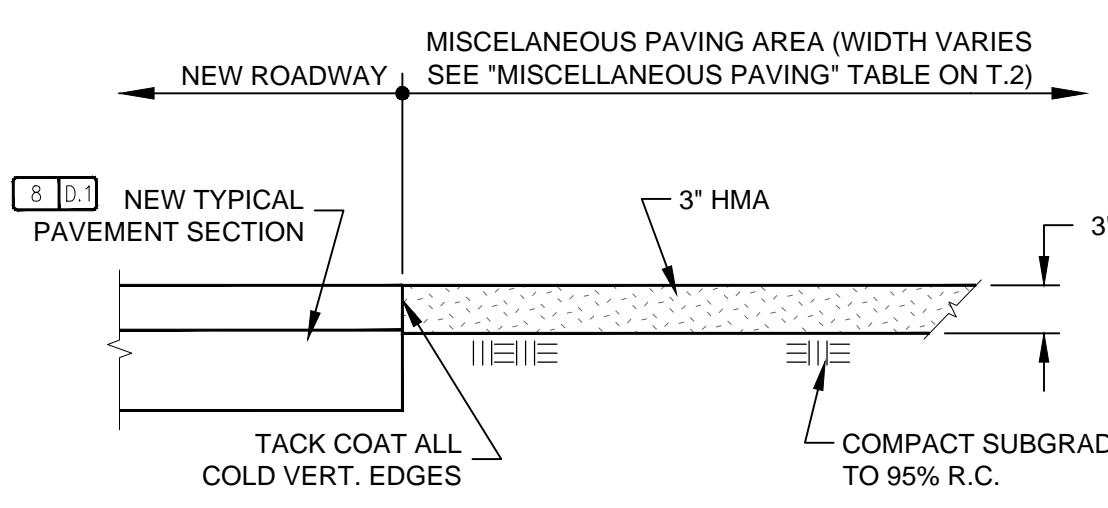
5 GUARDRAIL @ EDGE DETAIL
NTS



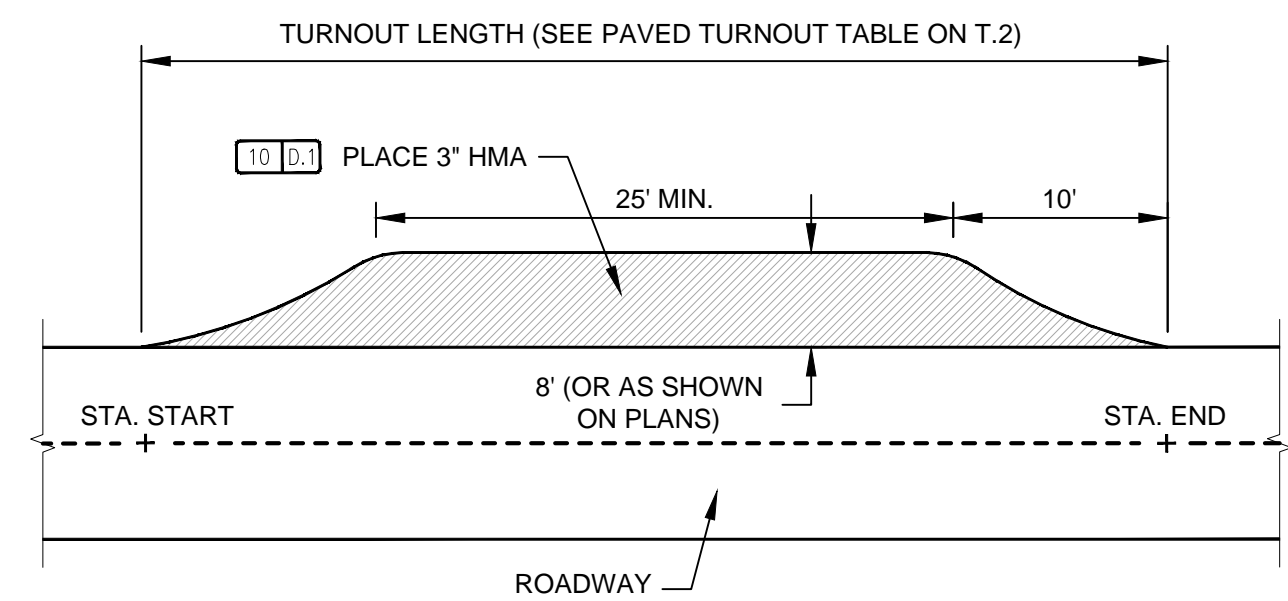
2 PRE-CAST CONCRETE BARRIER @ EDGE DETAIL
NTS



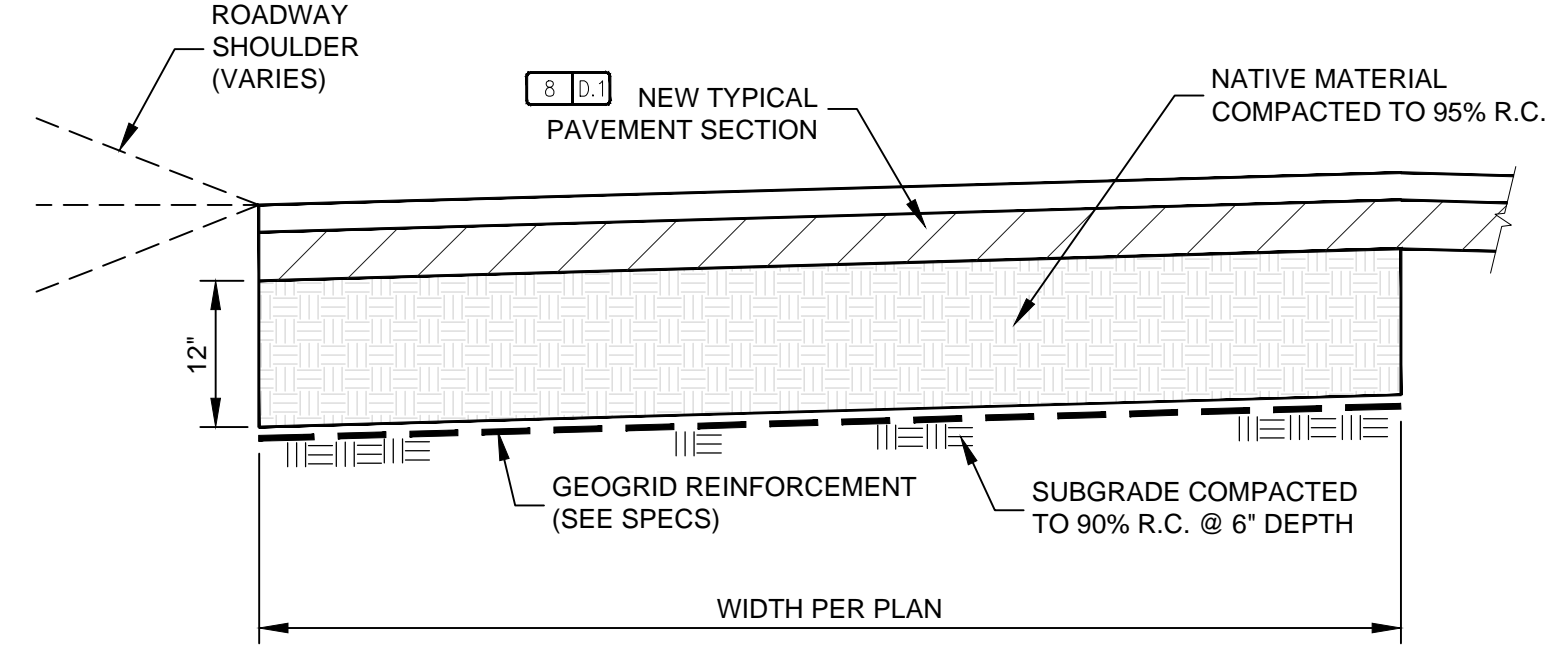
13 TRANSVERSE CONFORM @ HICKS ROAD
NTS



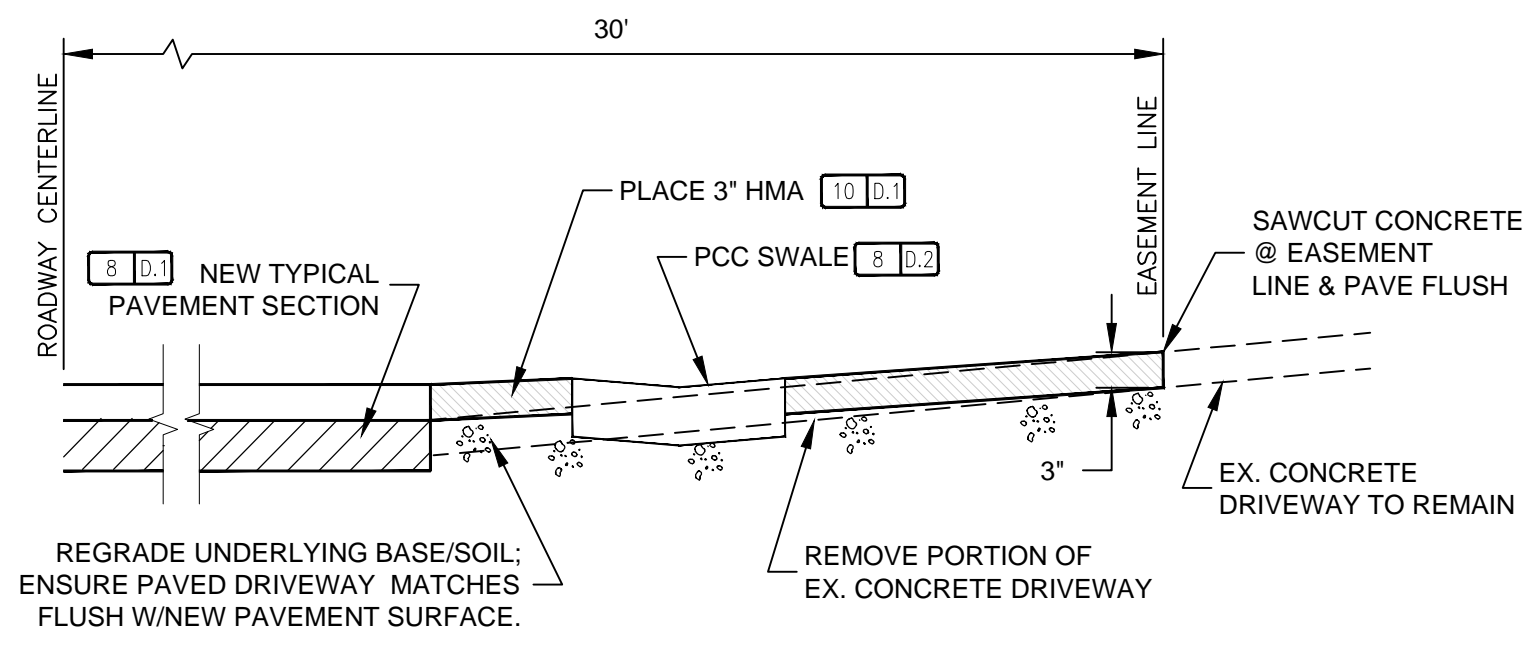
10 MISCELLANEOUS PAVING DETAIL
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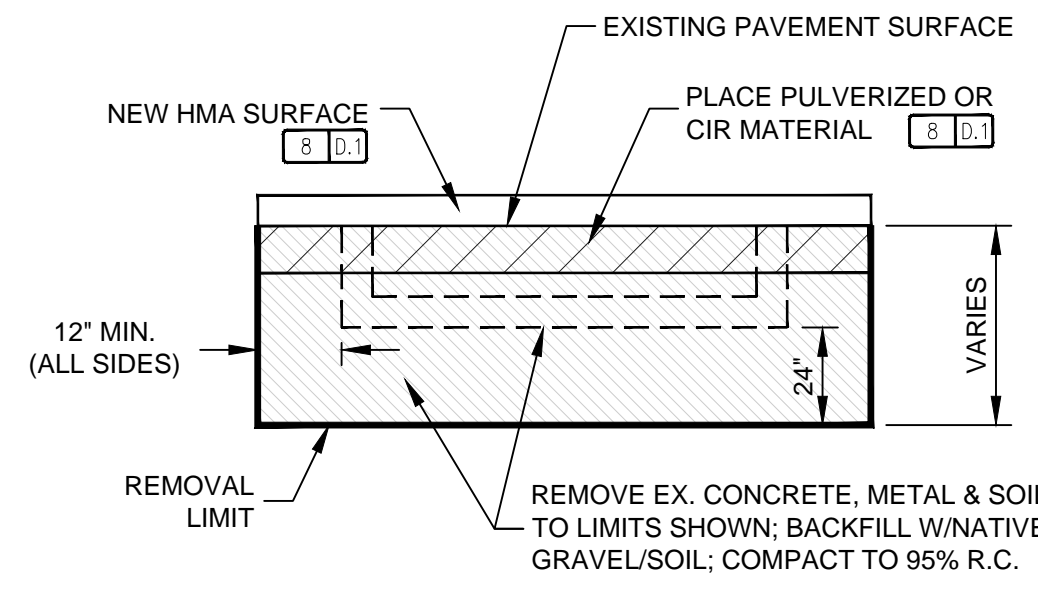
6 VEHICLE TURNOUT PLAN VIEW DETAIL
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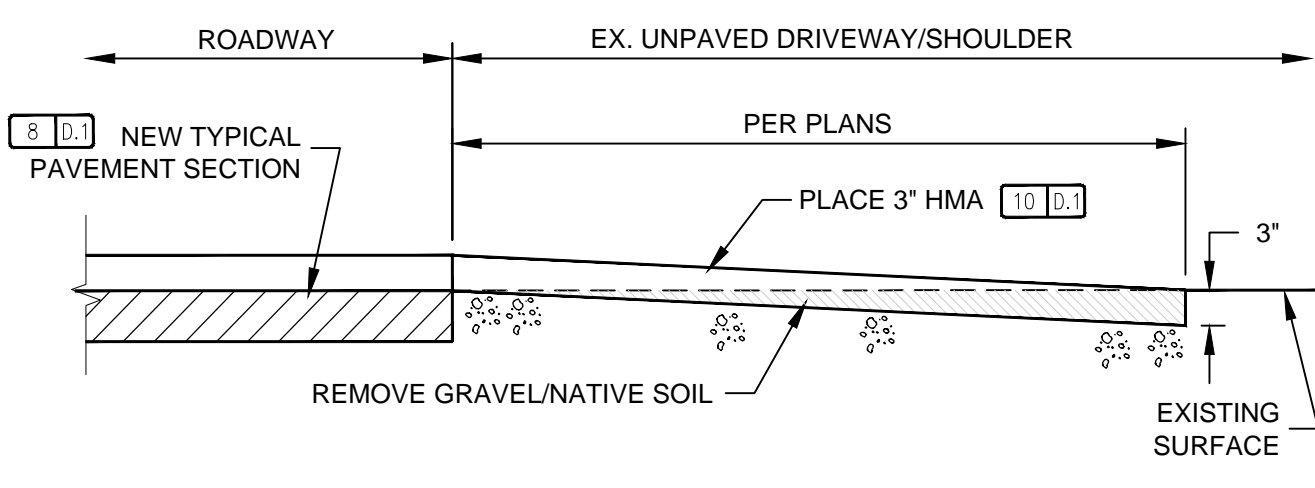
3 SHALLOW PAVEMENT REPAIR
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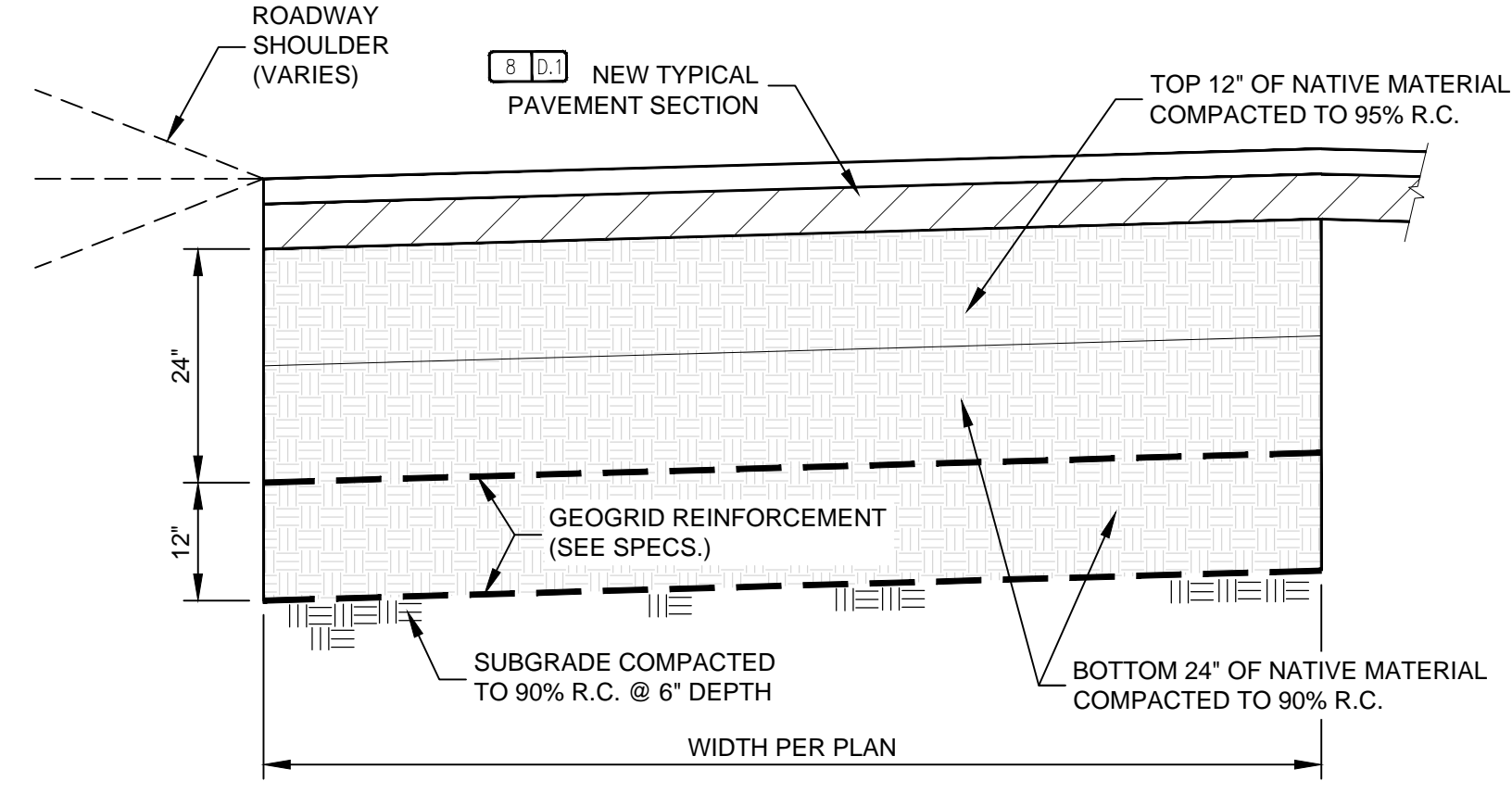
14 QUANE DRIVEWAY (STA ~262+50)
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11 MINOR SURFACE RESTORATION DETAIL
NTS



7 PAVED DRIVEWAY/TRANSITION
NTS



4 DEEP PAVEMENT REPAIR
NTS

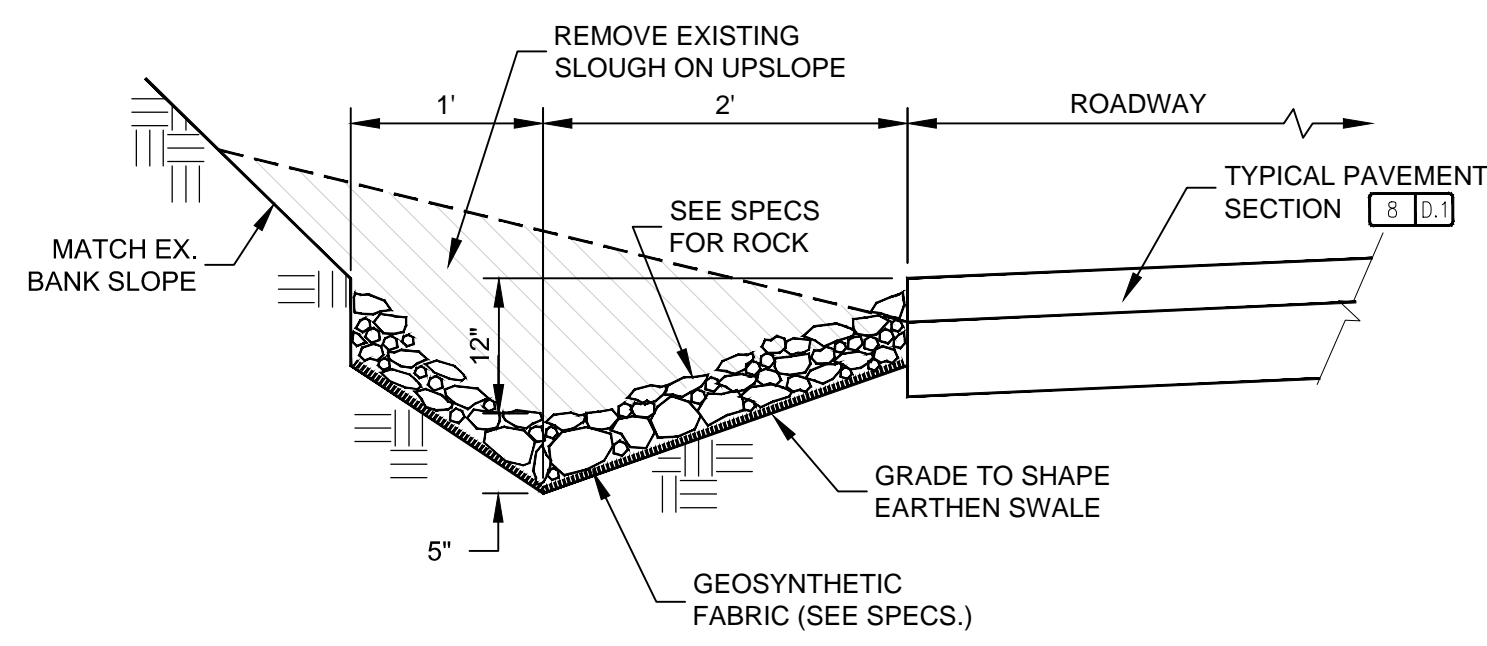
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3465 San Ramon Drive, Suite A
San Luis Obispo, CA 93401-6015
805-781-2285

MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
MT. UMUNHUM ROAD REHABILITATION PROJECT
DETAILS

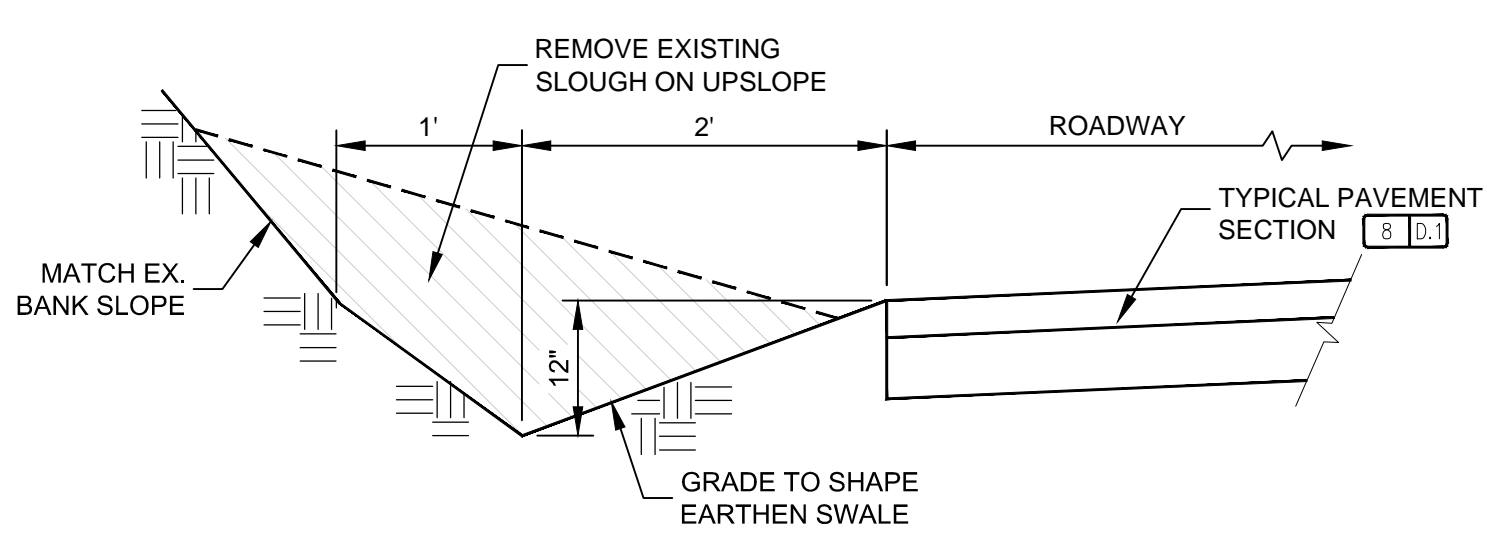


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PROJECT NUMBER: 150175
SCALE: AS SHOWN
DATE: JUNE 2016
SHEET NUMBER:

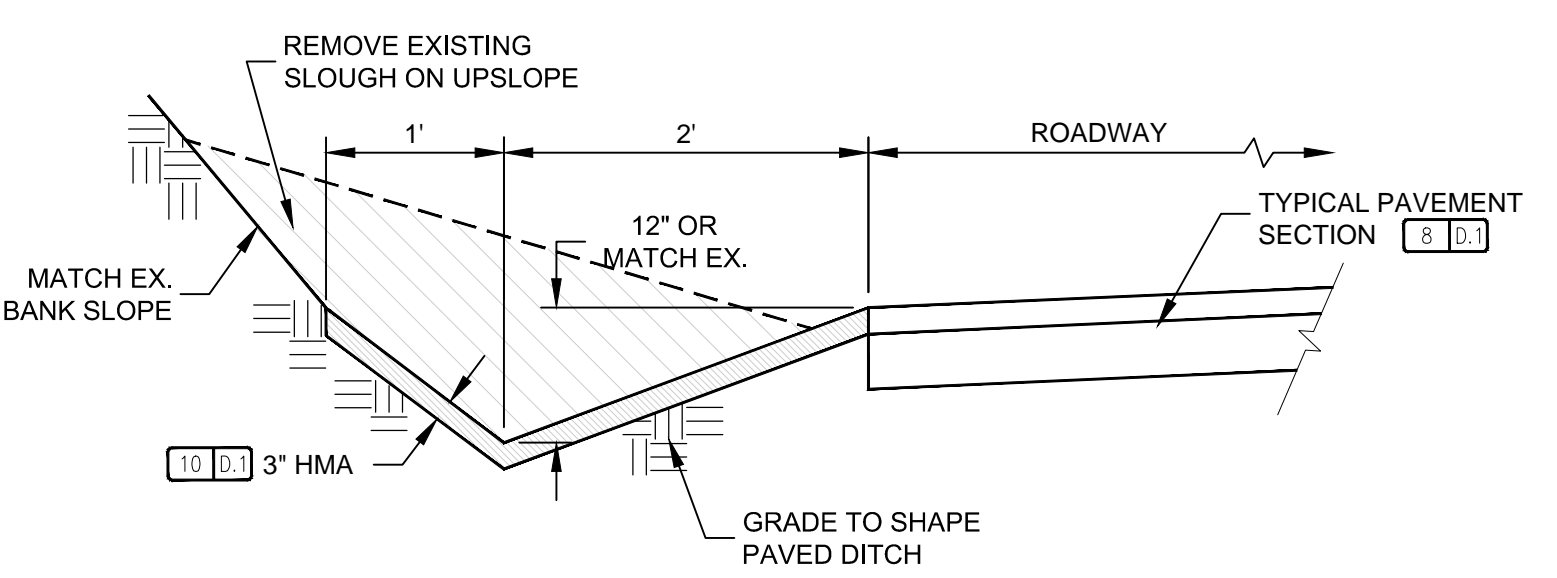
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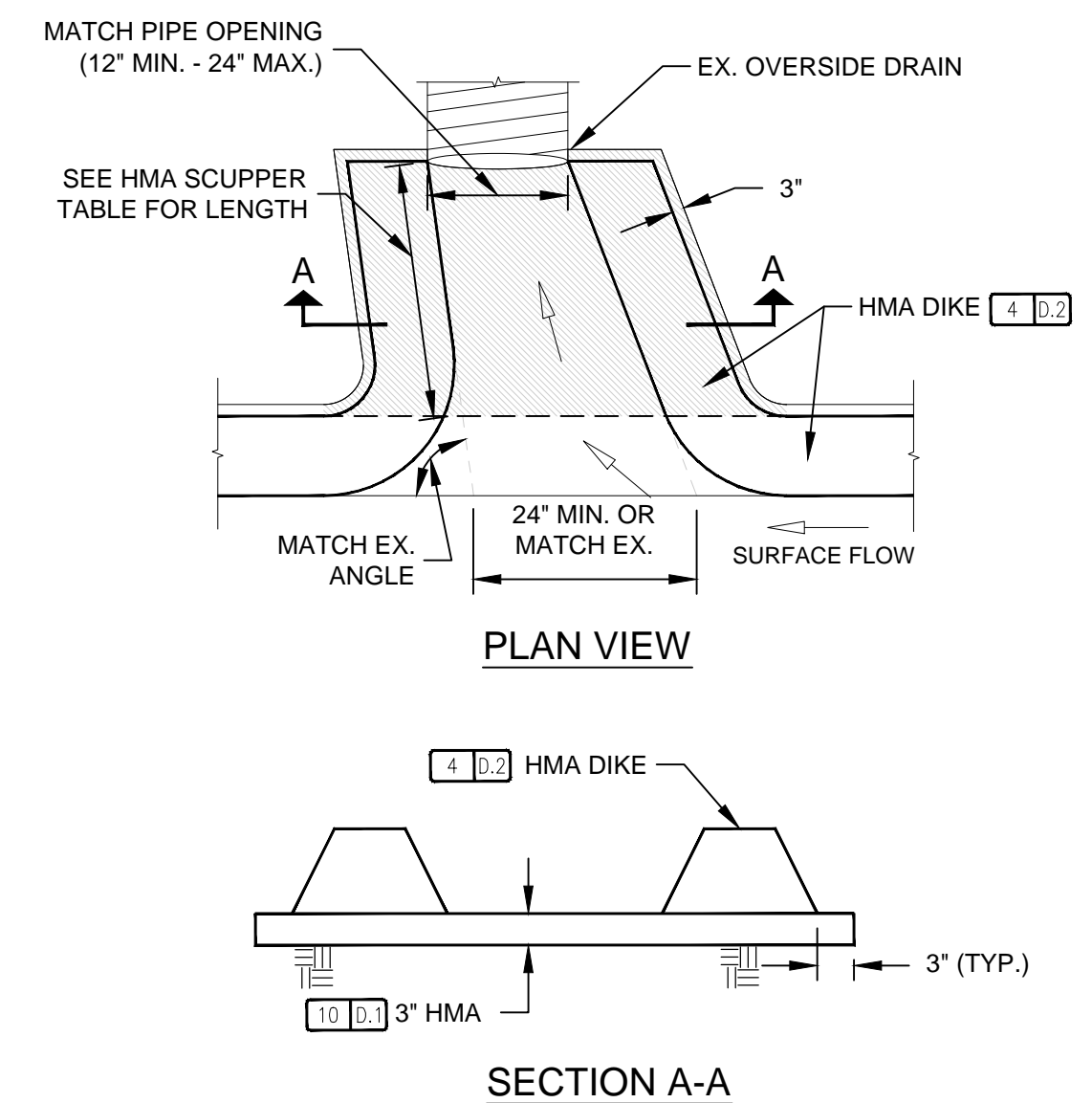
9 ROCK-LINED DITCH CONSTRUCTION
NTS



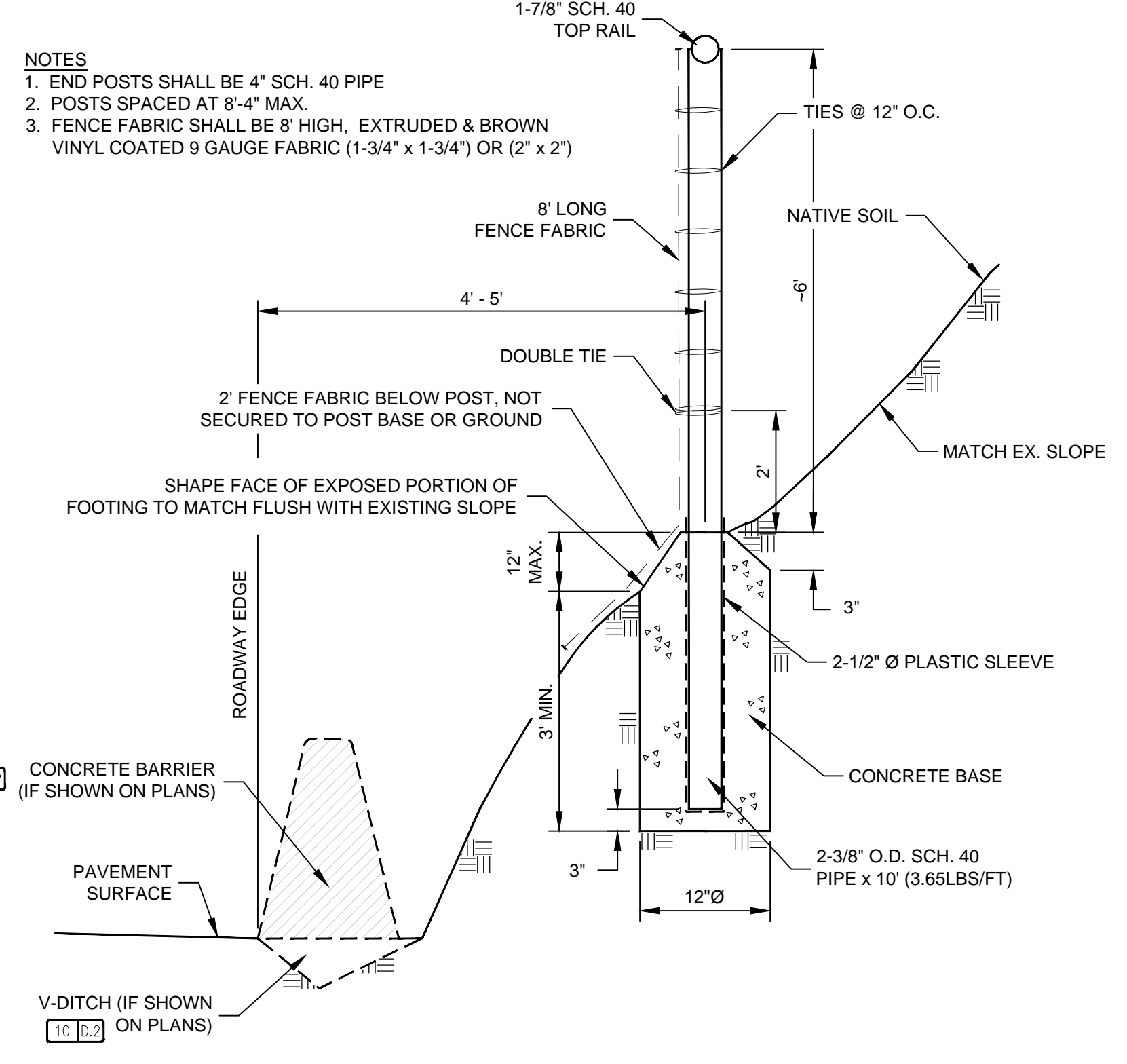
10 V-DITCH CONSTRUCTION
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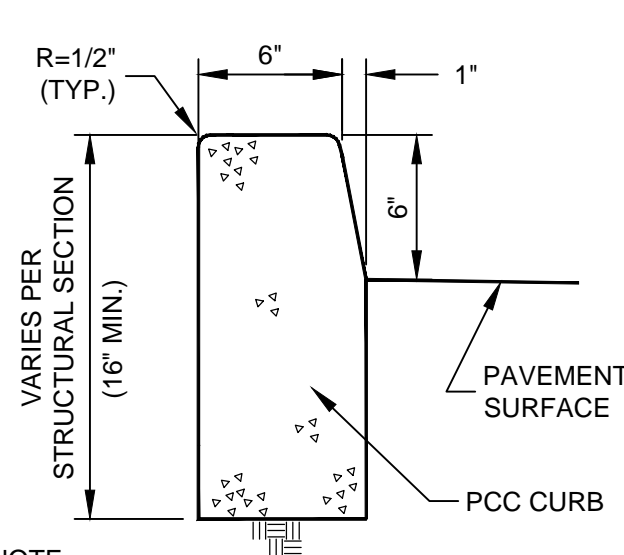
11 PAVED DITCH CONSTRUCTION
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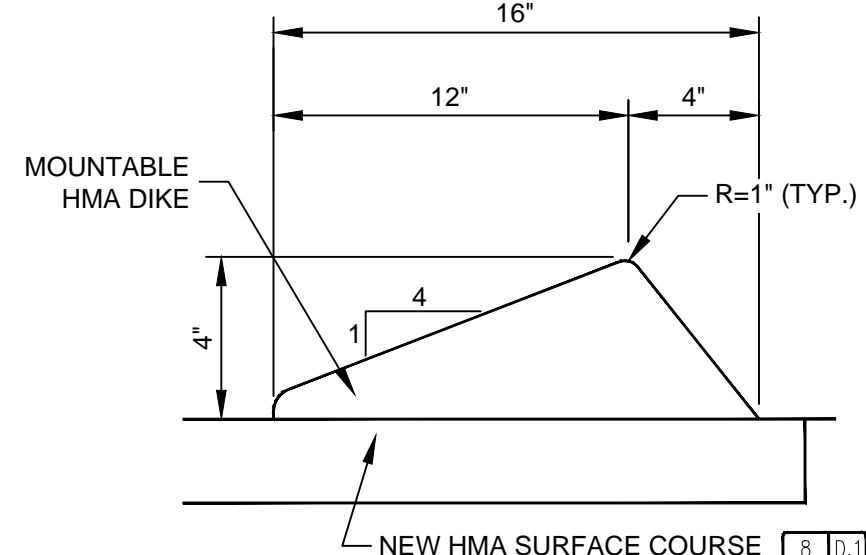
12 TYPICAL HMA SCUPPER DETAIL
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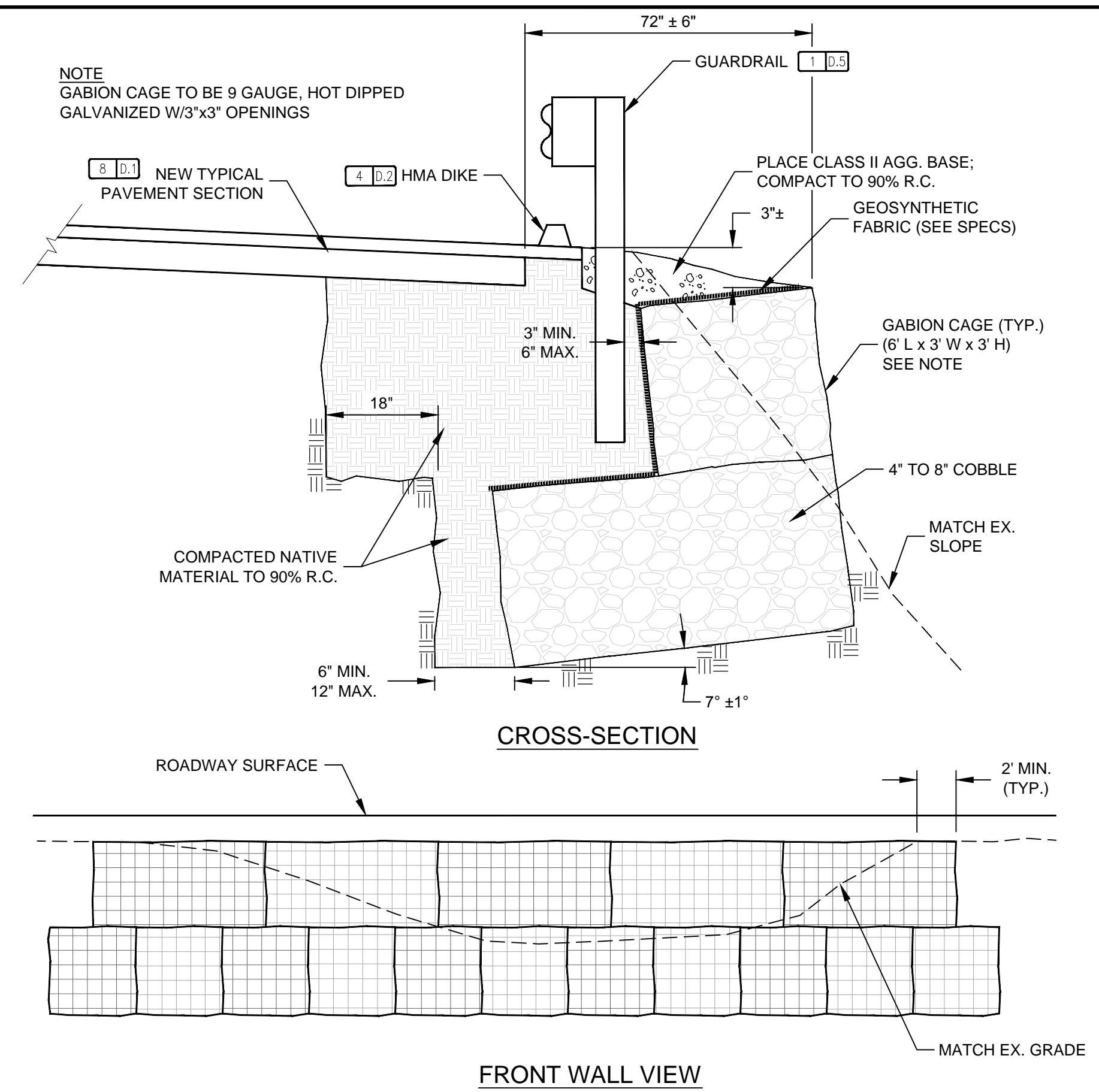
5 ROCK FENCE TYPICAL SECTION
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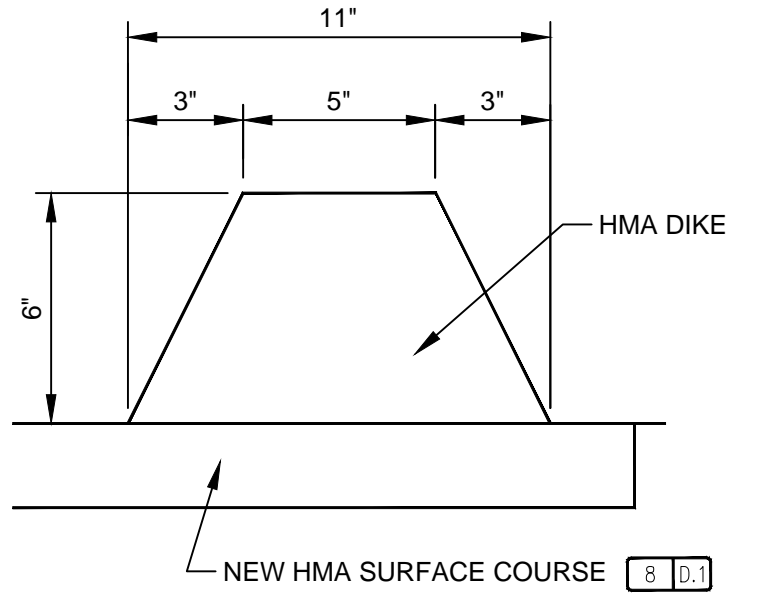
7 PCC CURB DETAIL
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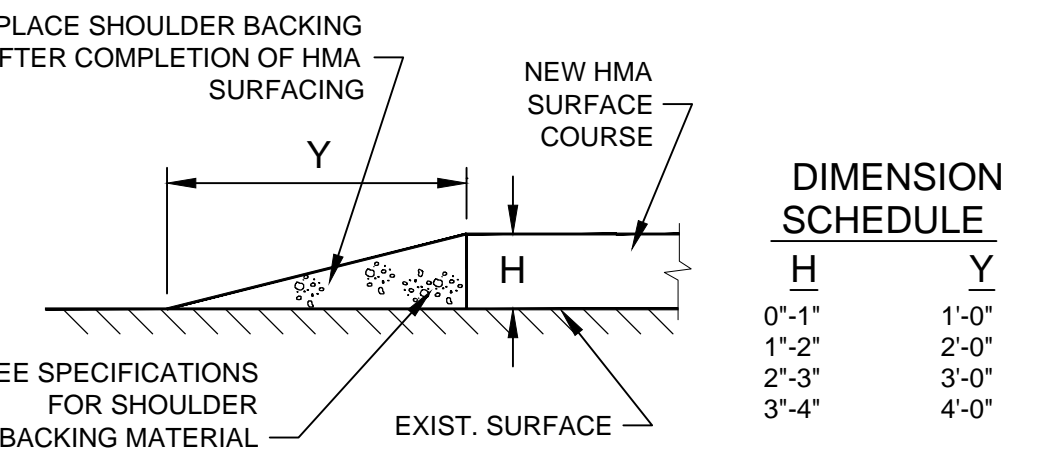
6 MOUNTABLE HMA DIKE (TYPE E) DETAIL
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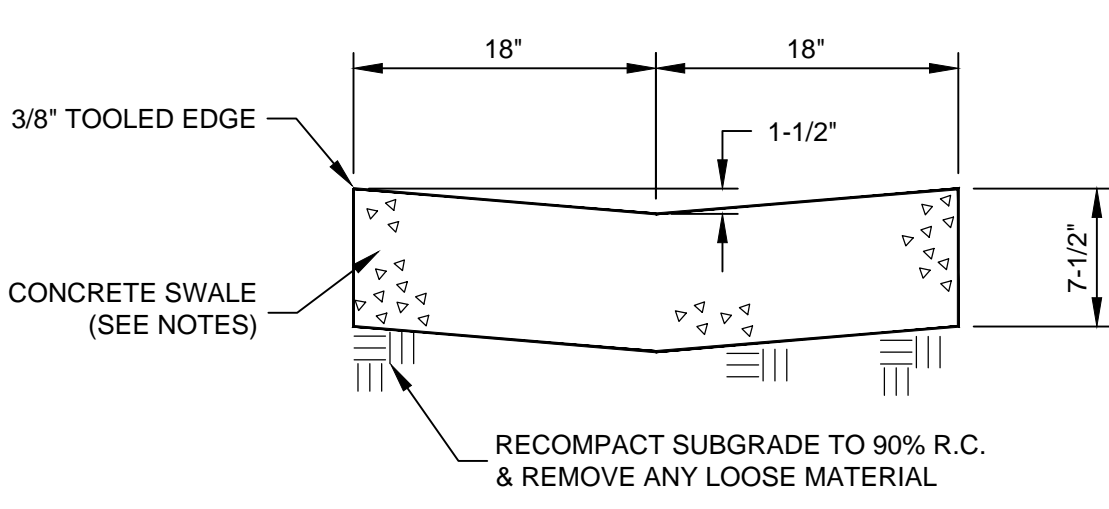
1 GABION WALL
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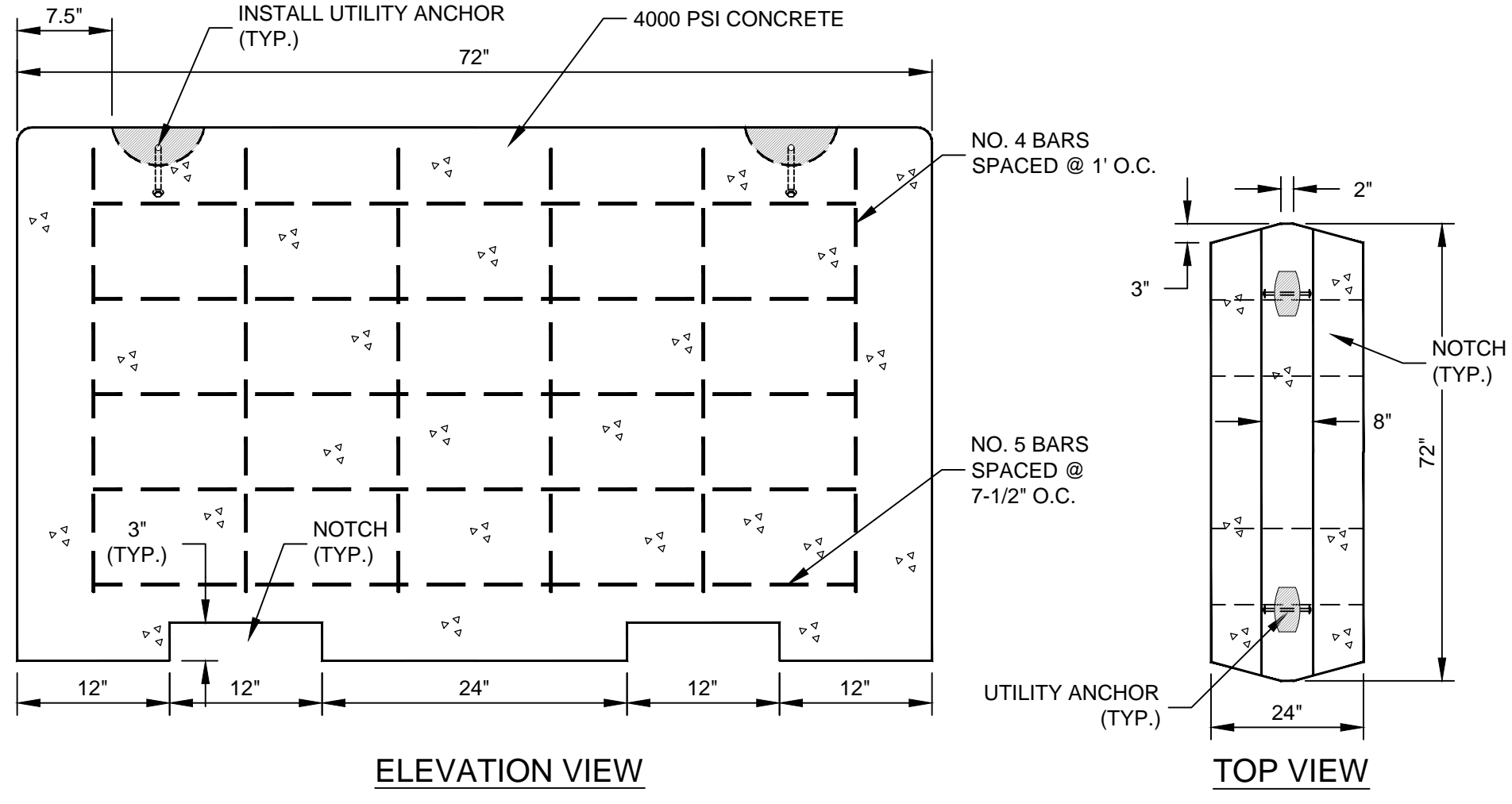
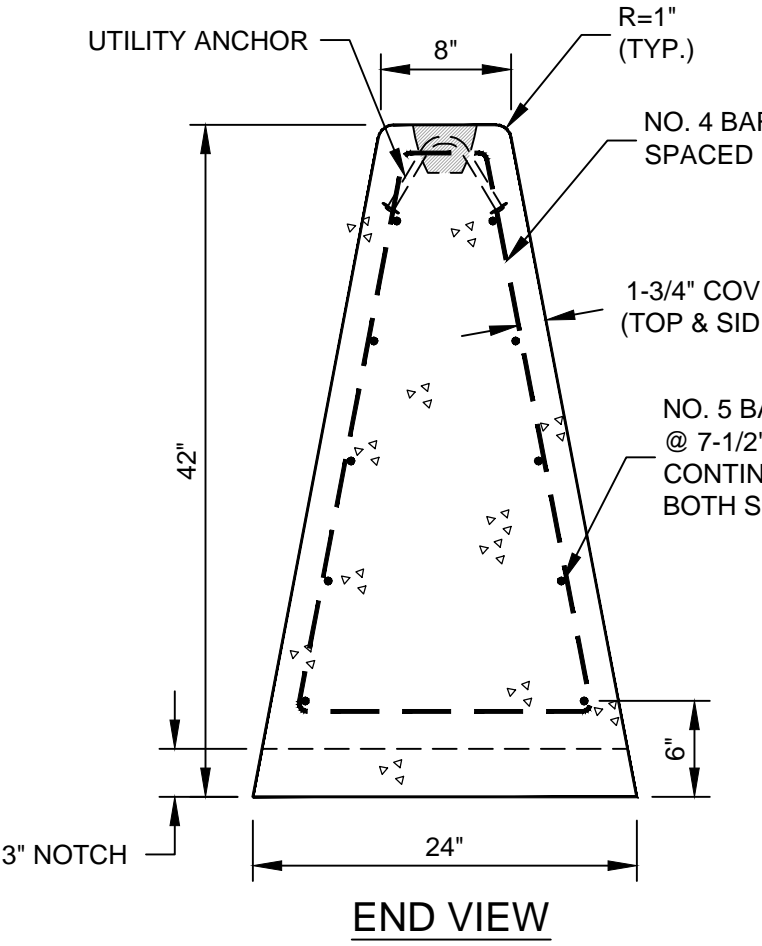
4 HMA DIKE (TYPE A) DETAIL
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2 SHOULDER BACKING DETAIL
NTS



8 PCC SWALE DETAIL
NTS



3 PRE-CAST CONCRETE BARRIER
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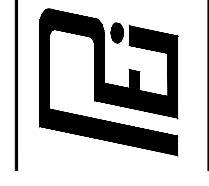

NOTES
1. END POSTS SHALL BE 4" SCH. 40 PIPE
2. POSTS SPACED AT 8'-4" MAX.
3. FENCE FABRIC SHALL BE 8' HIGH, EXTRUDED & BROWN VINYL COATED 9 GAUGE FABRIC (1-3/4" x 1-3/4") OR (2" x 2")

NOTE
GABION CAGE TO BE 9 GAUGE, HOT DIPPED GALVANIZED W/3"x3" OPENINGS

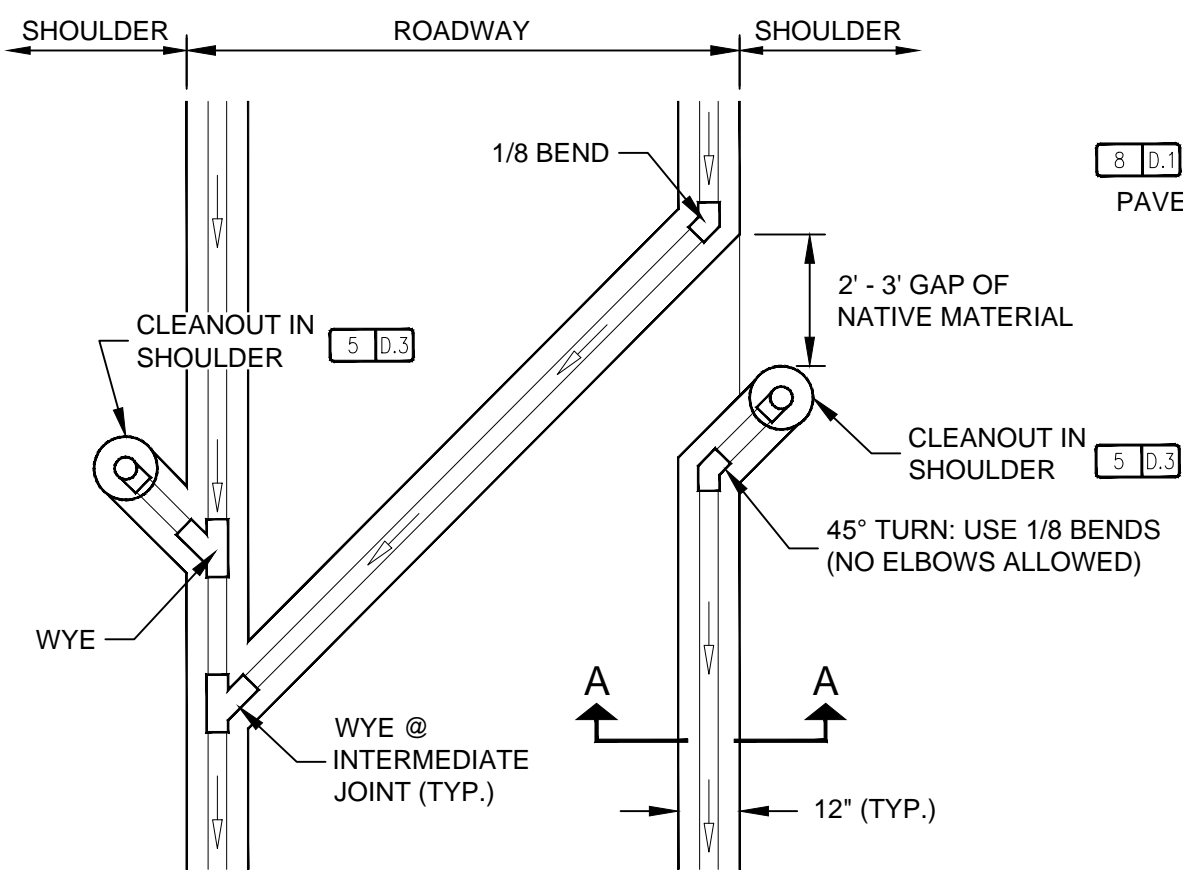
NOTE
CONTROL JOINTS @ 10' O.C. MAXIMUM
SEE SPECIFICATIONS FOR REQUIREMENTS

NOTE
INSTALL PRE-CAST CONCRETE BARRIER END SECTION @ BEGINNING & END OF BARRIER RUN, NOT @ CURB INLETS

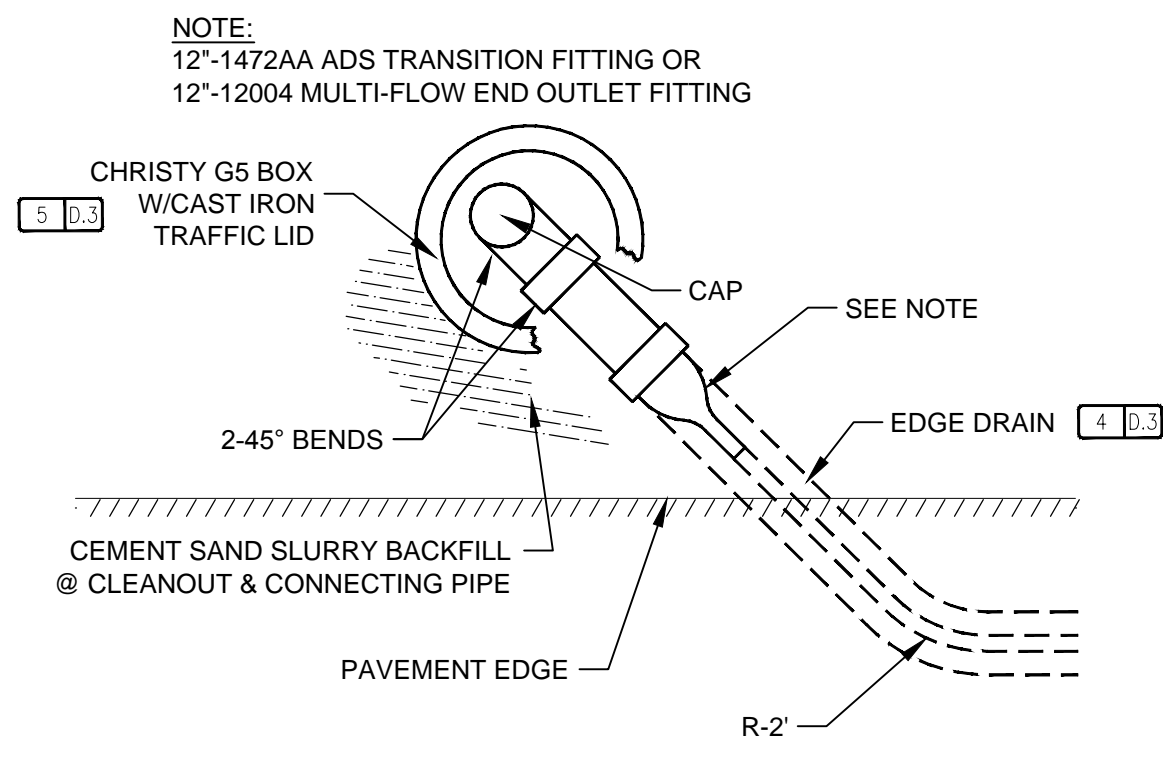
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APP	
DESCRIPTION	
DATE	
REV	
<p>Pavement Engineering Inc. You can ride on our reputation 3465 San Ramon Drive, Suite A San Luis Obispo, CA 93401-6015 805-781-2285</p> 	
<p>MIDPENINSULA REGIONAL OPEN SPACE DISTRICT MT. UMUNHUM ROAD REHABILITATION PROJECT DETAILS</p>	
	
DRAWN BY: JRE	
PROJECT NUMBER: 150175	
SCALE: AS SHOWN	
DATE: JUNE 2016	
SHEET NUMBER: D.2	

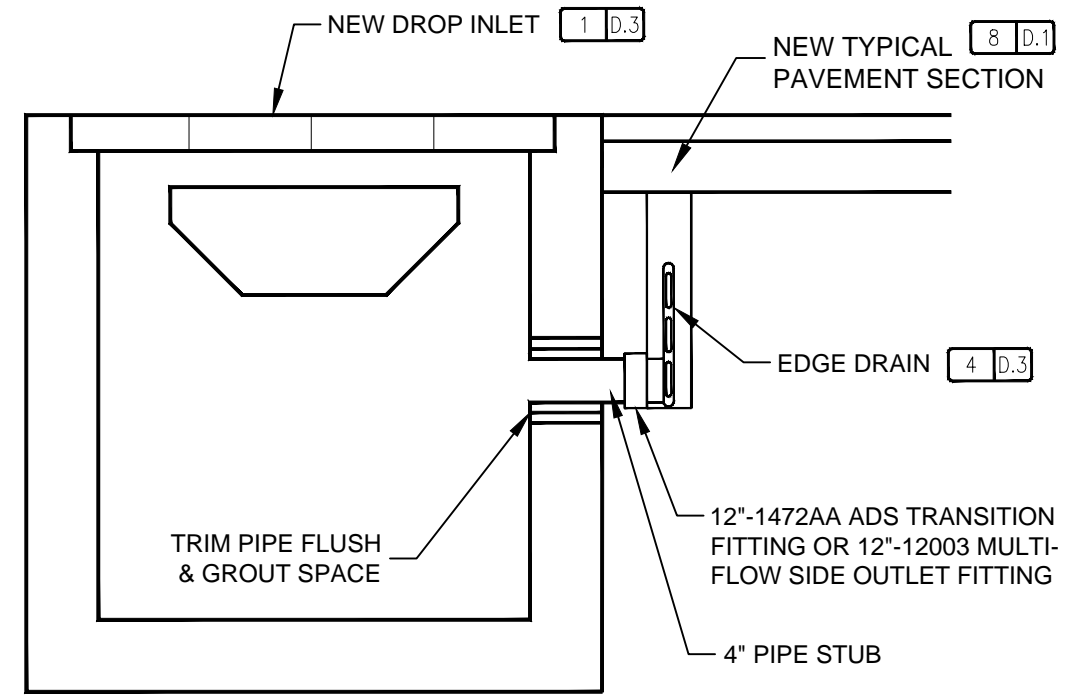
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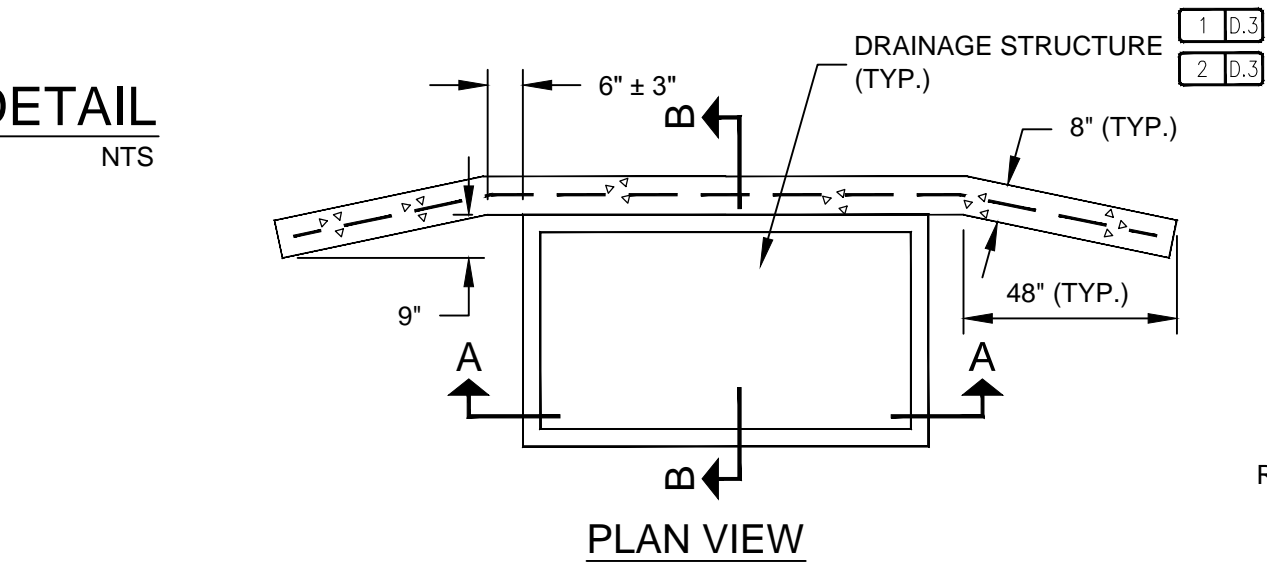
6 SUBDRAIN DETAIL
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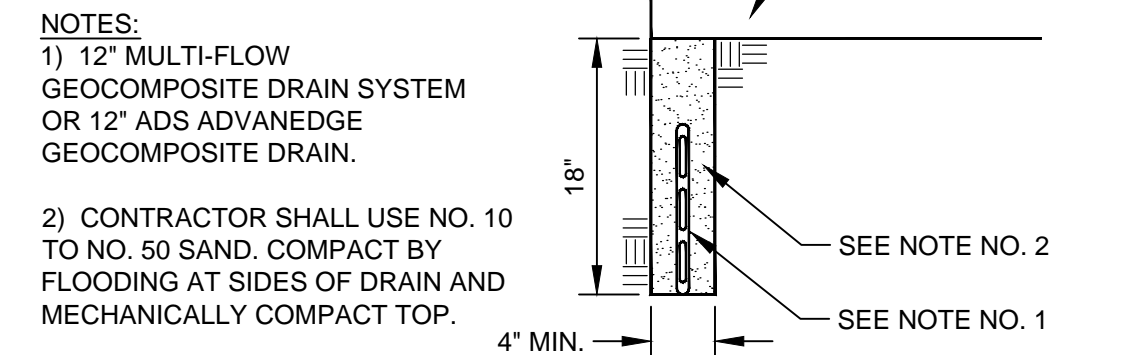
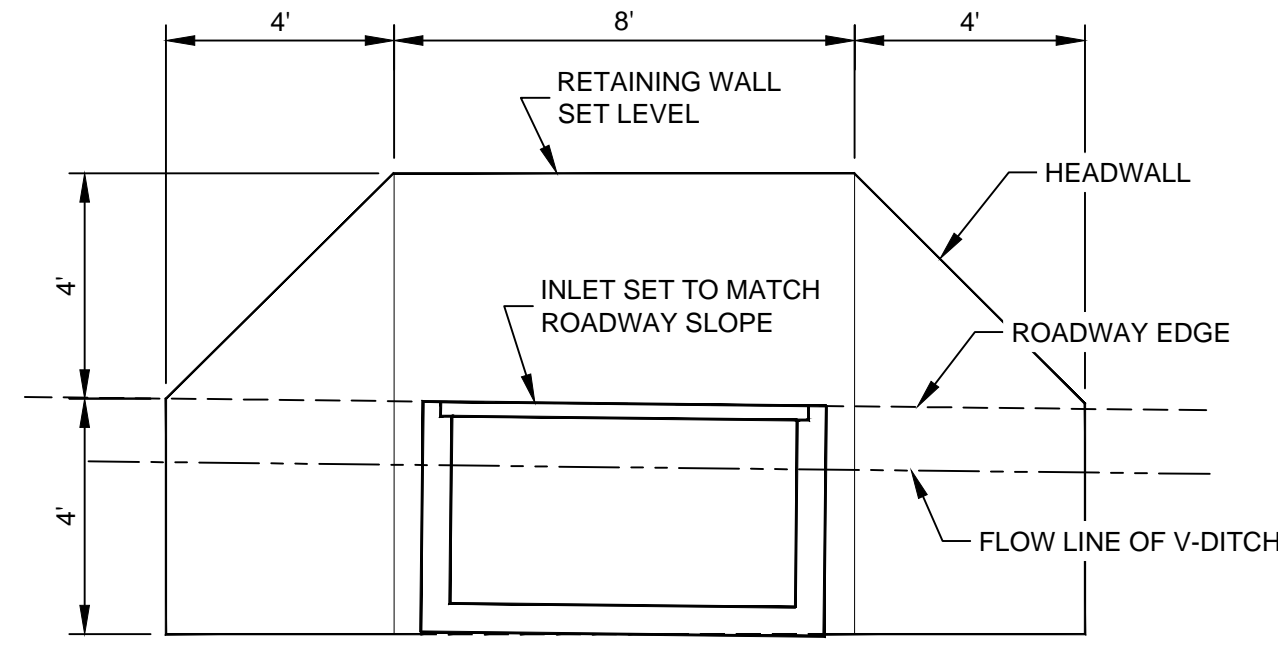
7 END CLEANOUT ON EDGE DRAIN INSTALLATION
NTS



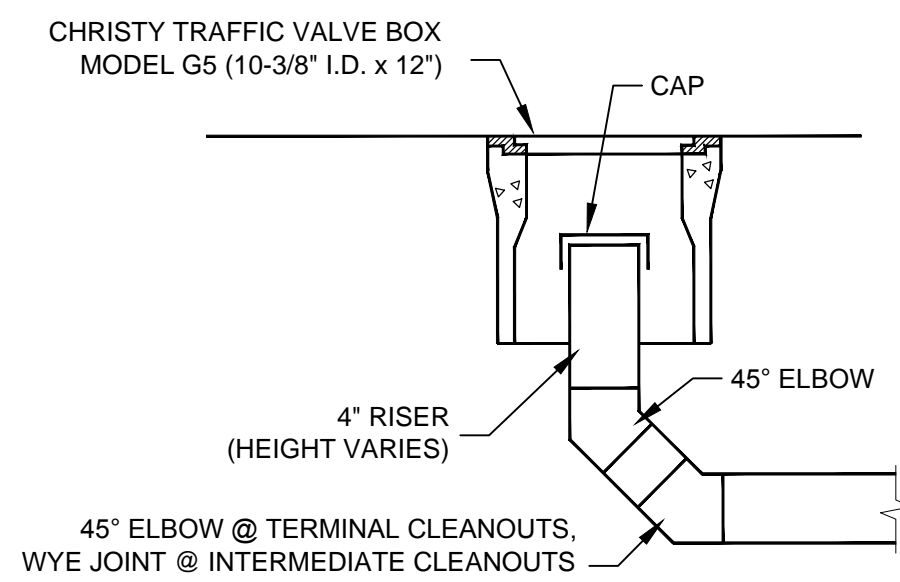
8 EDGE DRAIN CONNECTION TO DROP INLET
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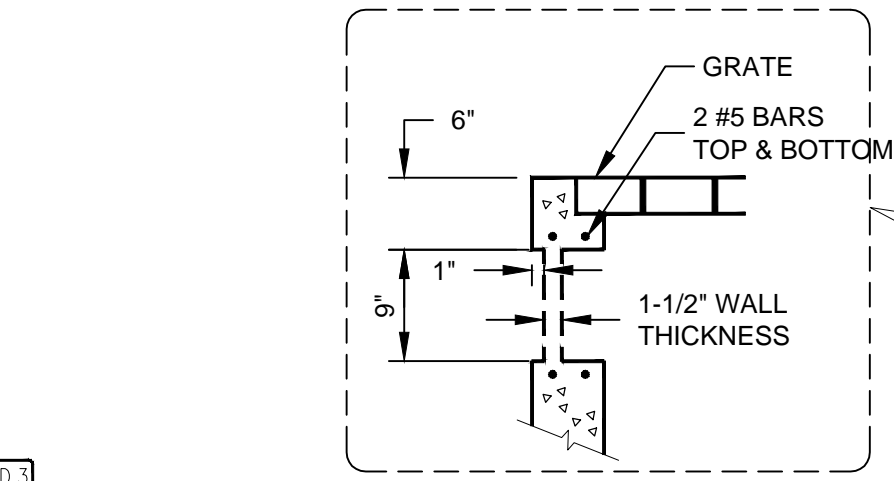
3 HEADWALL @ DRAINAGE STRUCTURE DETAIL
NTS



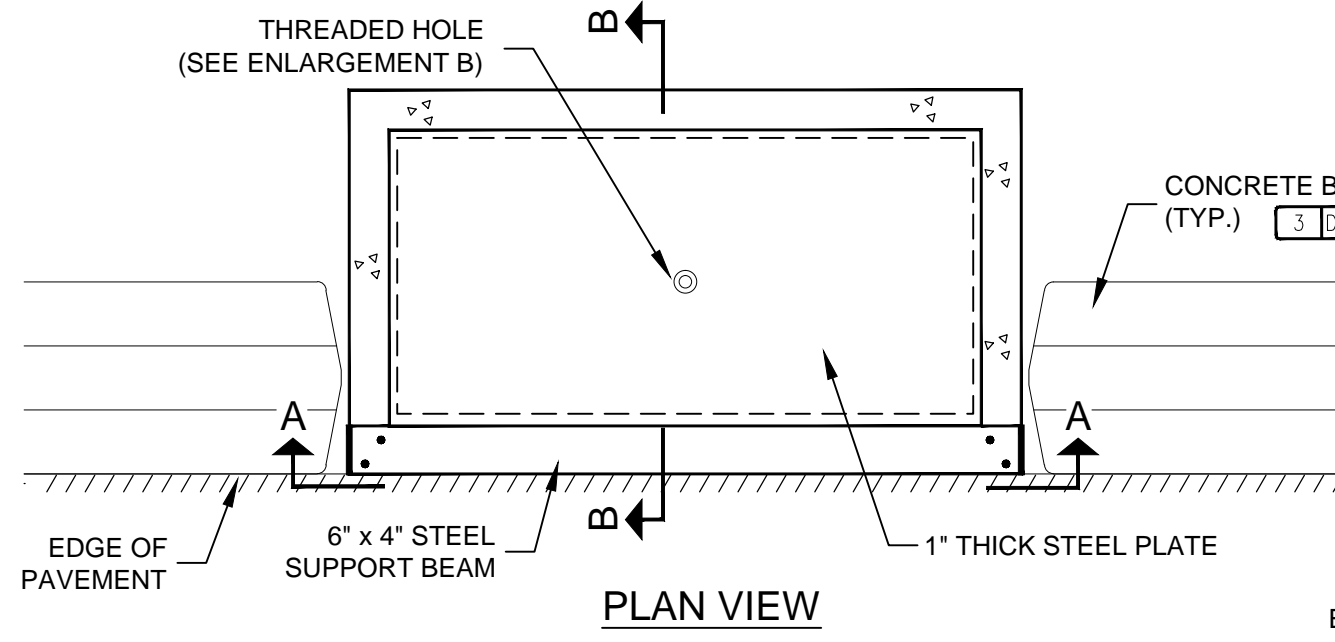
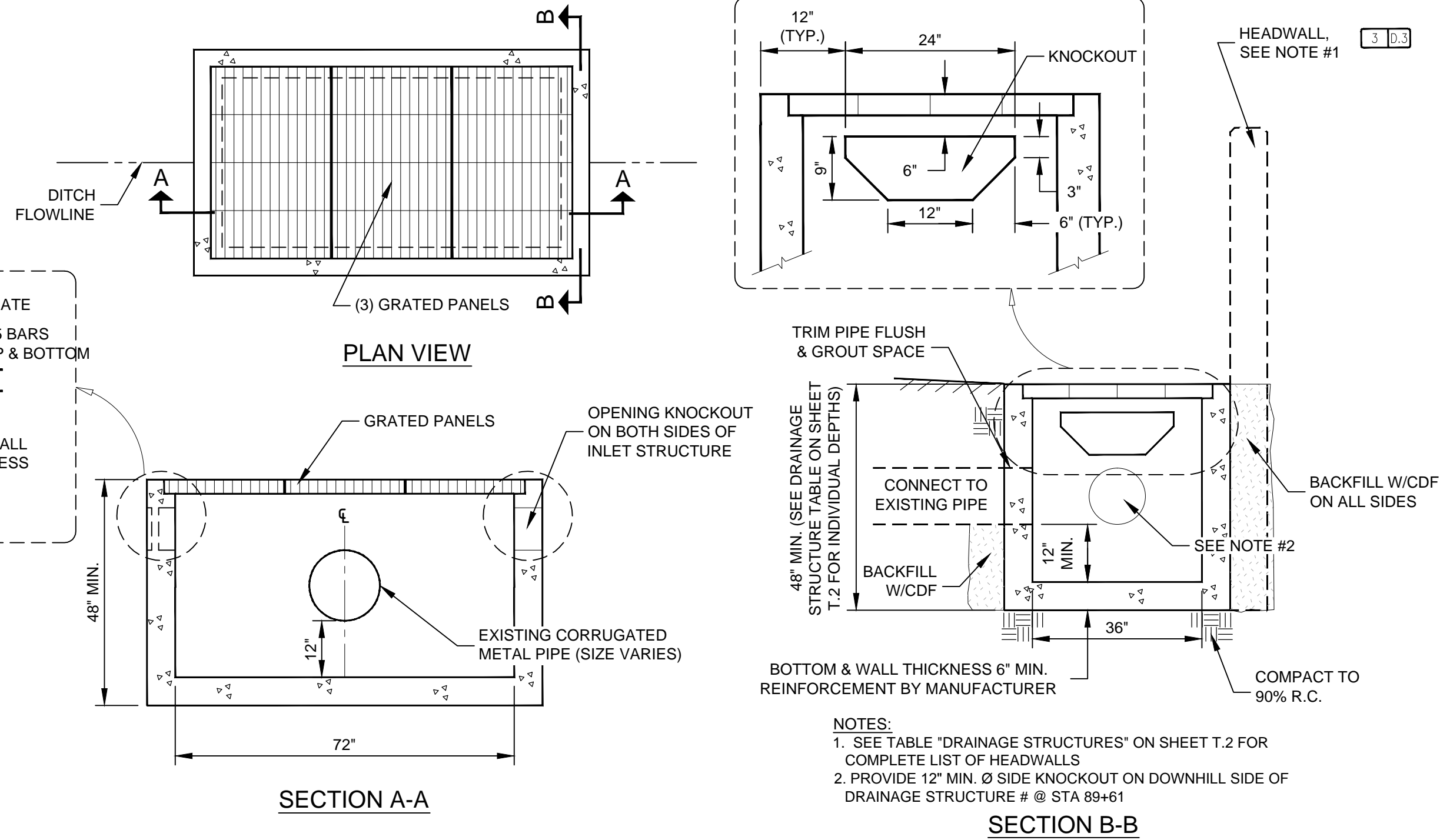
4 TYPICAL EDGE DRAIN INSTALLATION



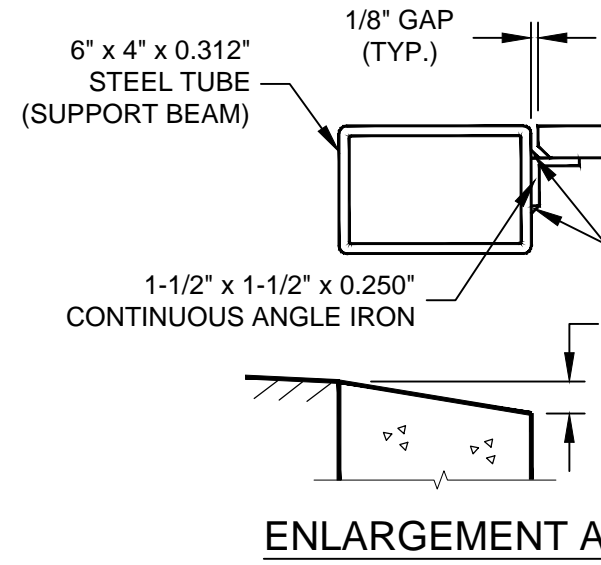
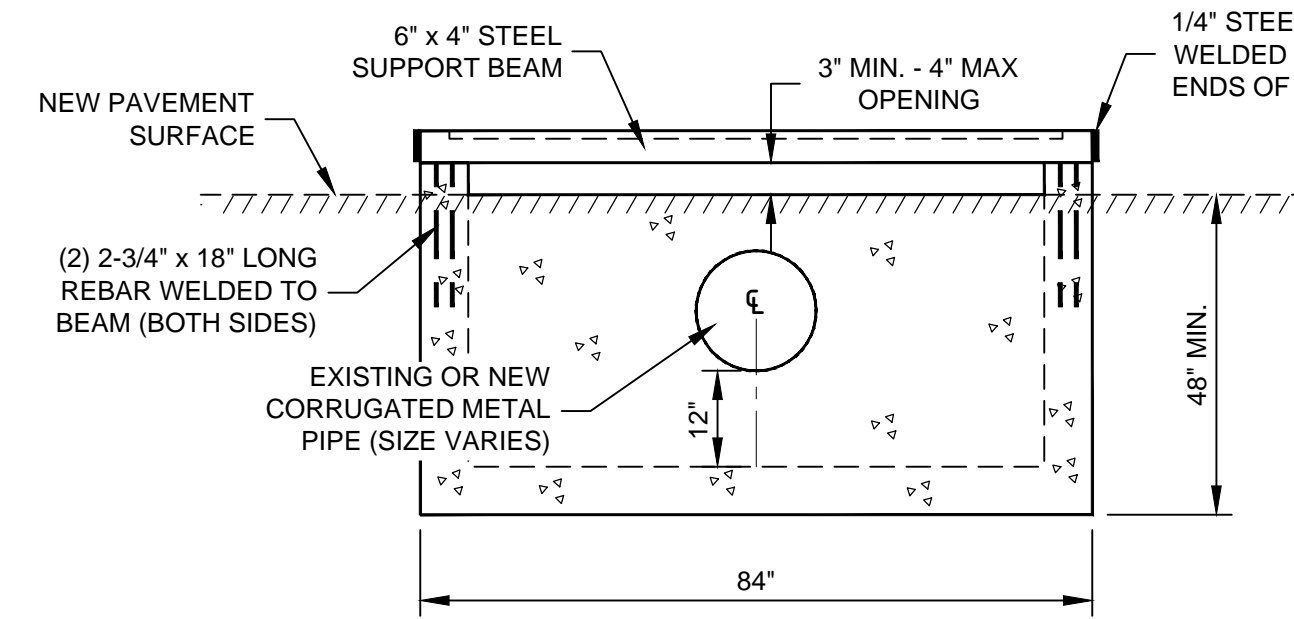
5 CLEANOUT DETAIL
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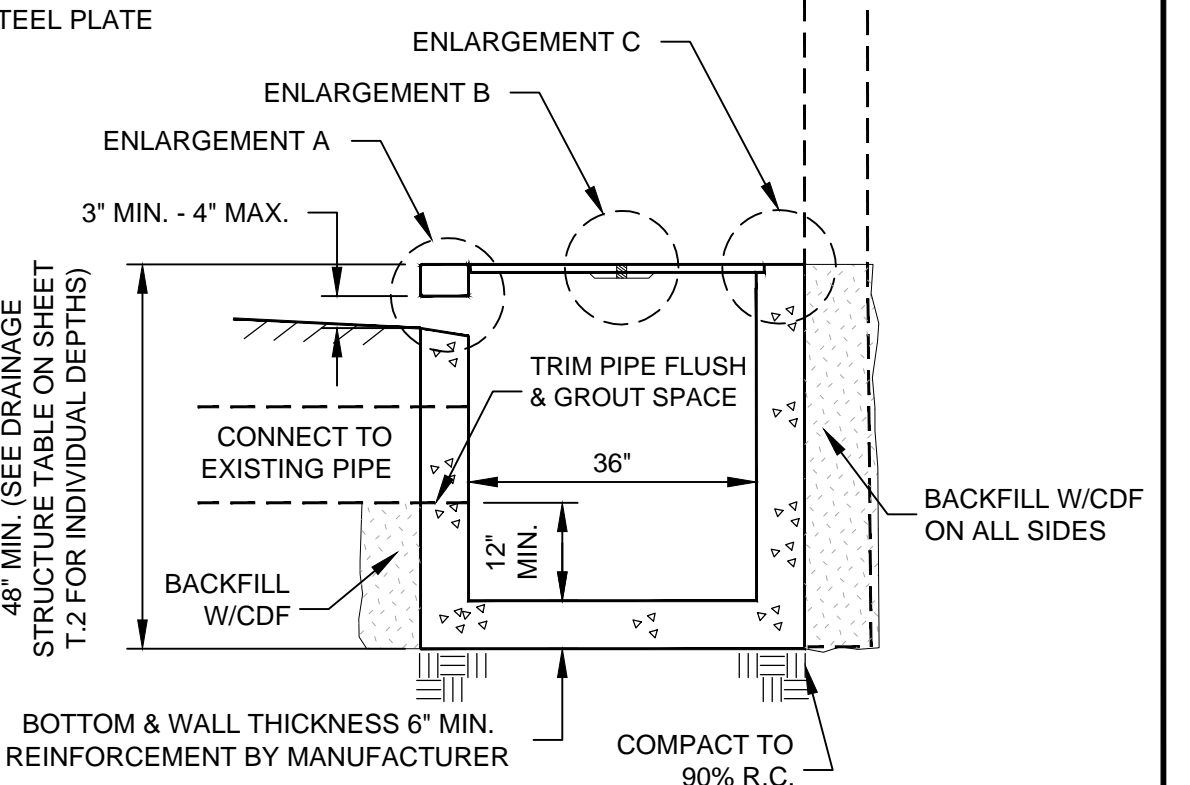
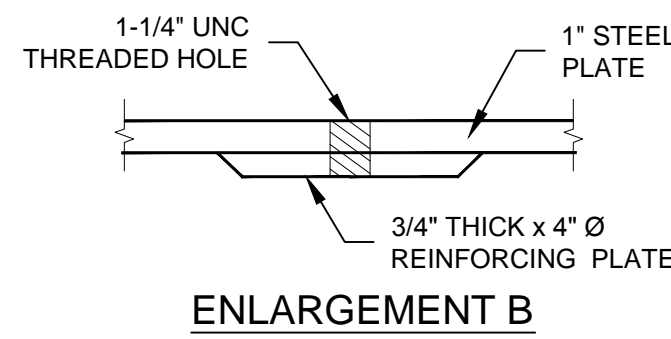
1 DRAINAGE STRUCTURE TYPE A: DROP INLET DETAIL
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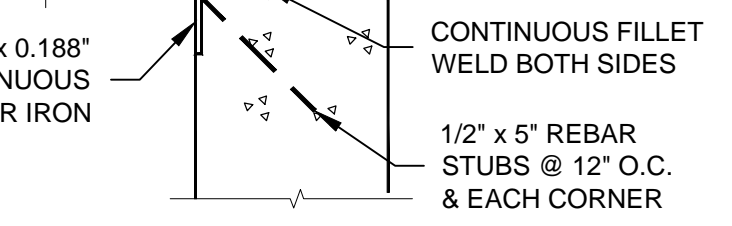
SECTION A-A: ELEVATION VIEW



2 DRAINAGE STRUCTURE TYPE B: CURB INLET DETAIL
NTS

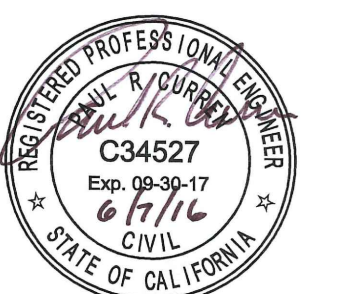


SECTION B-B

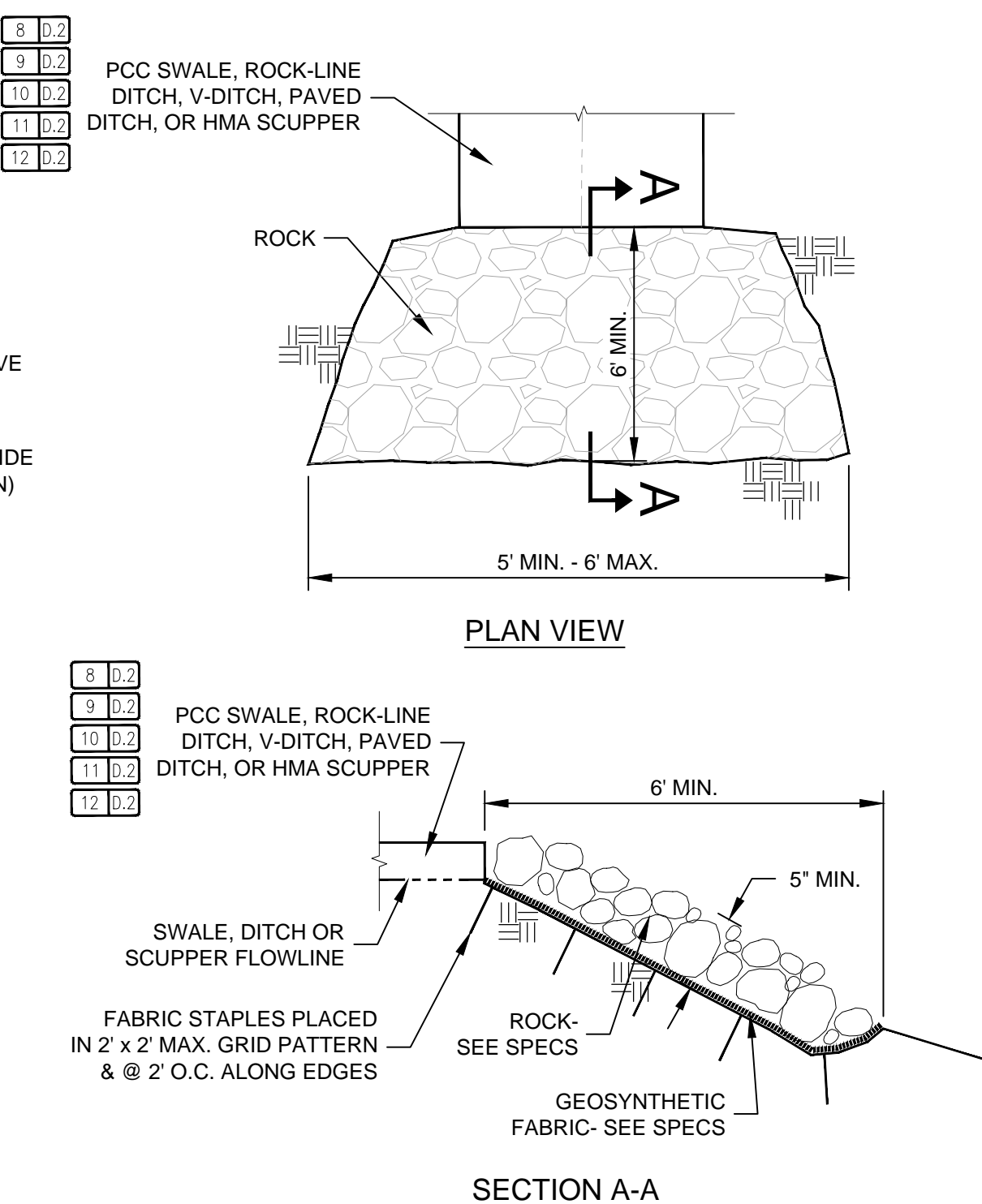
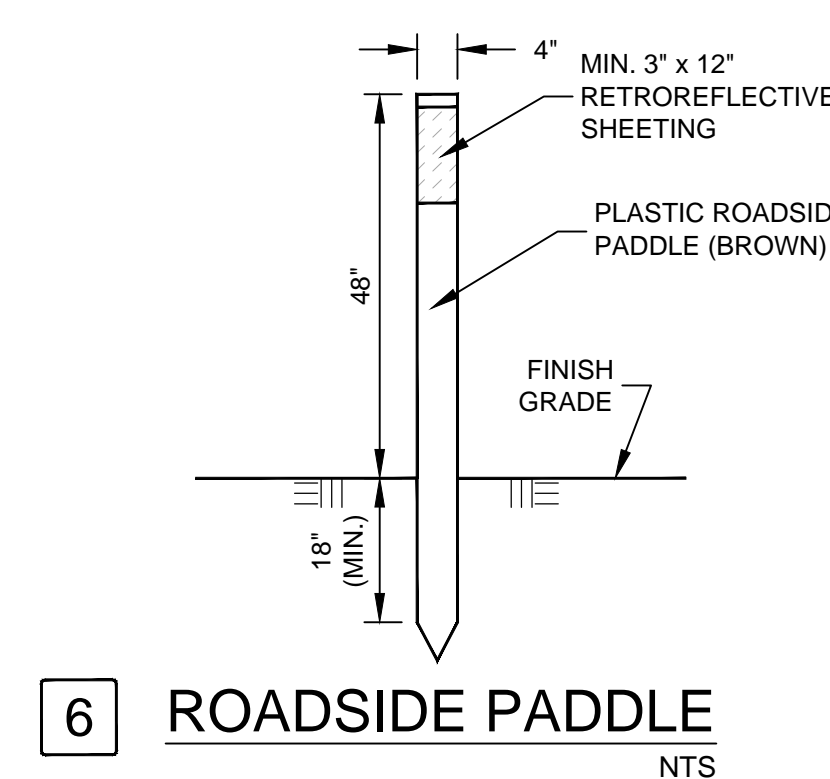
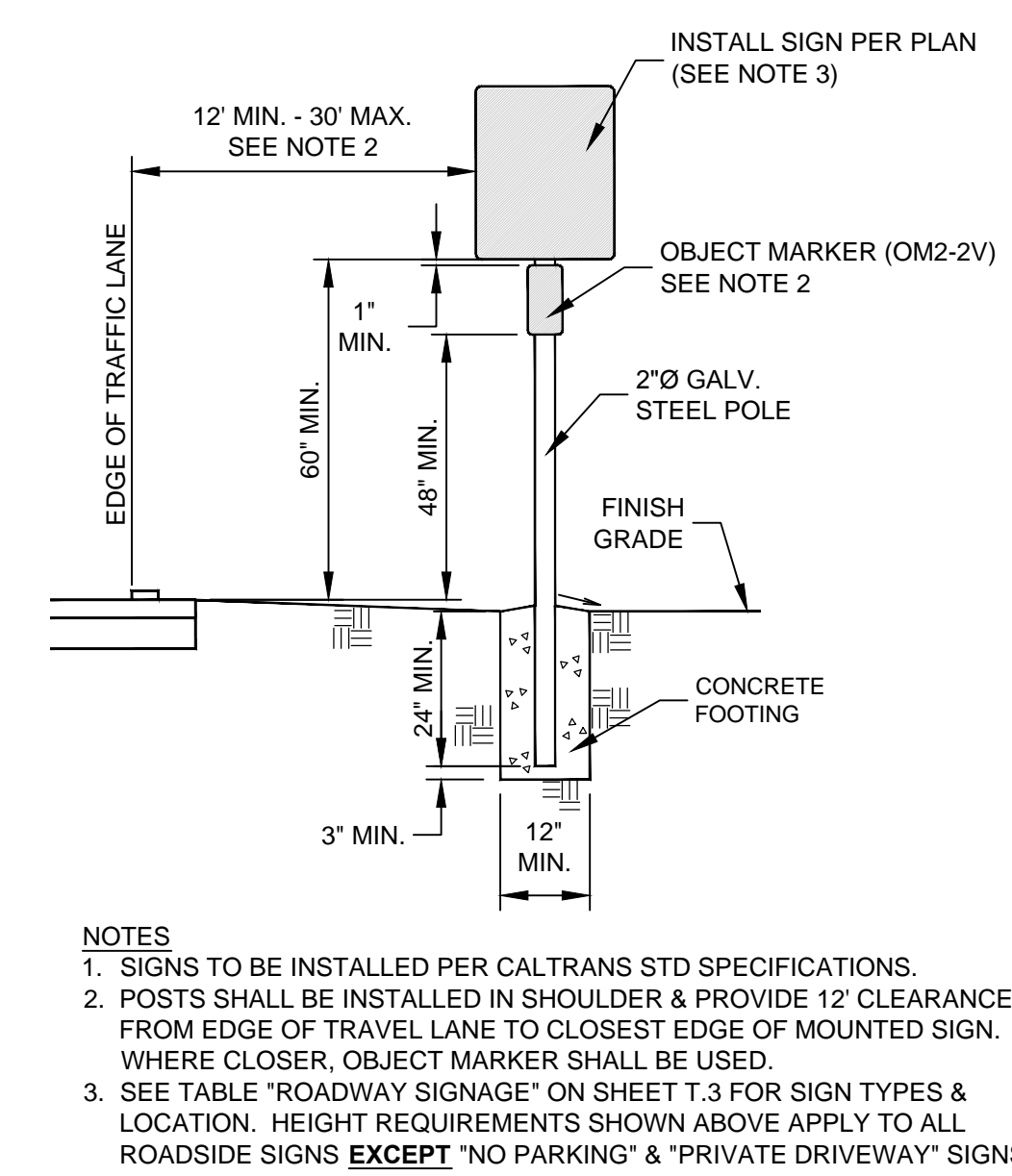
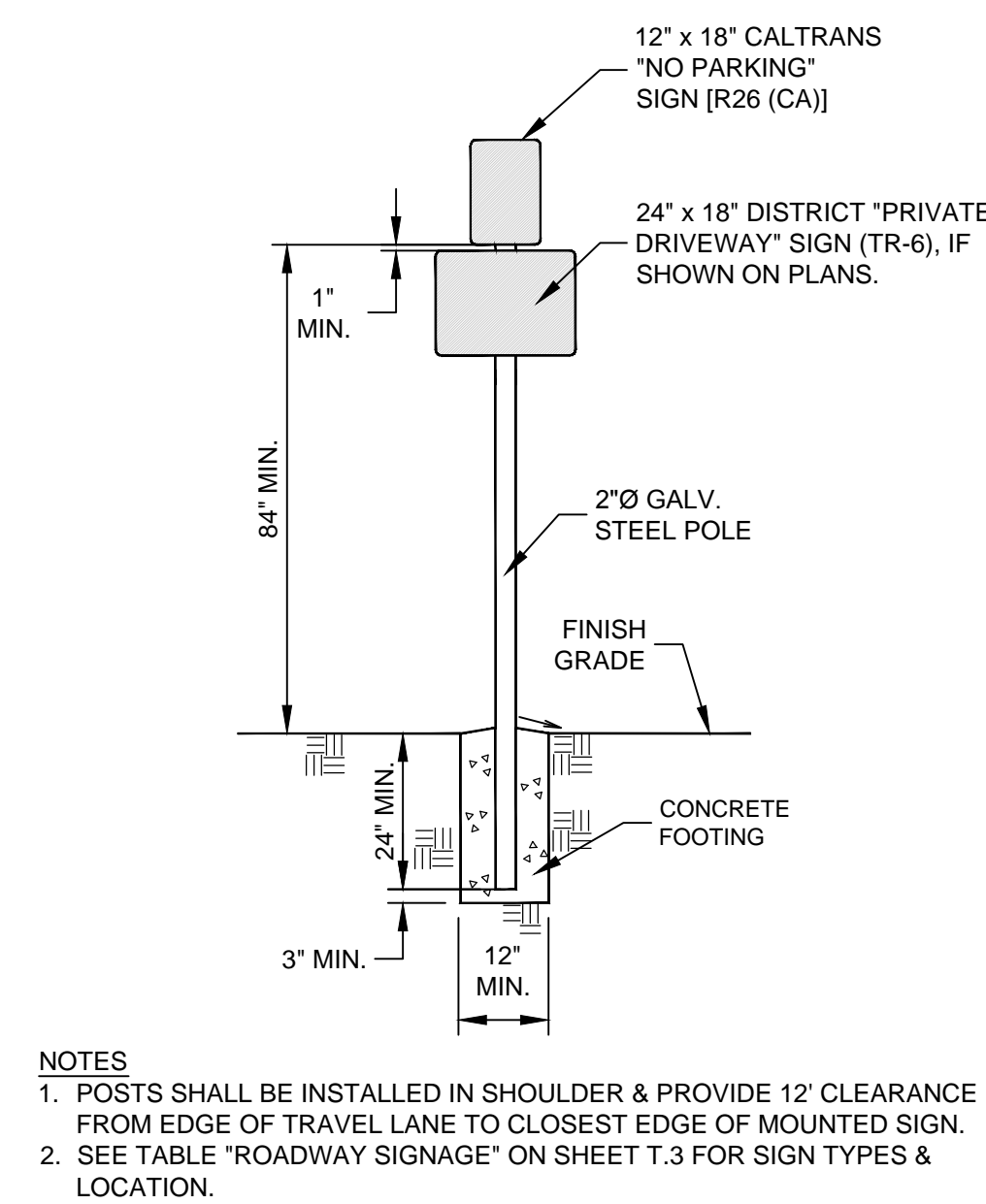
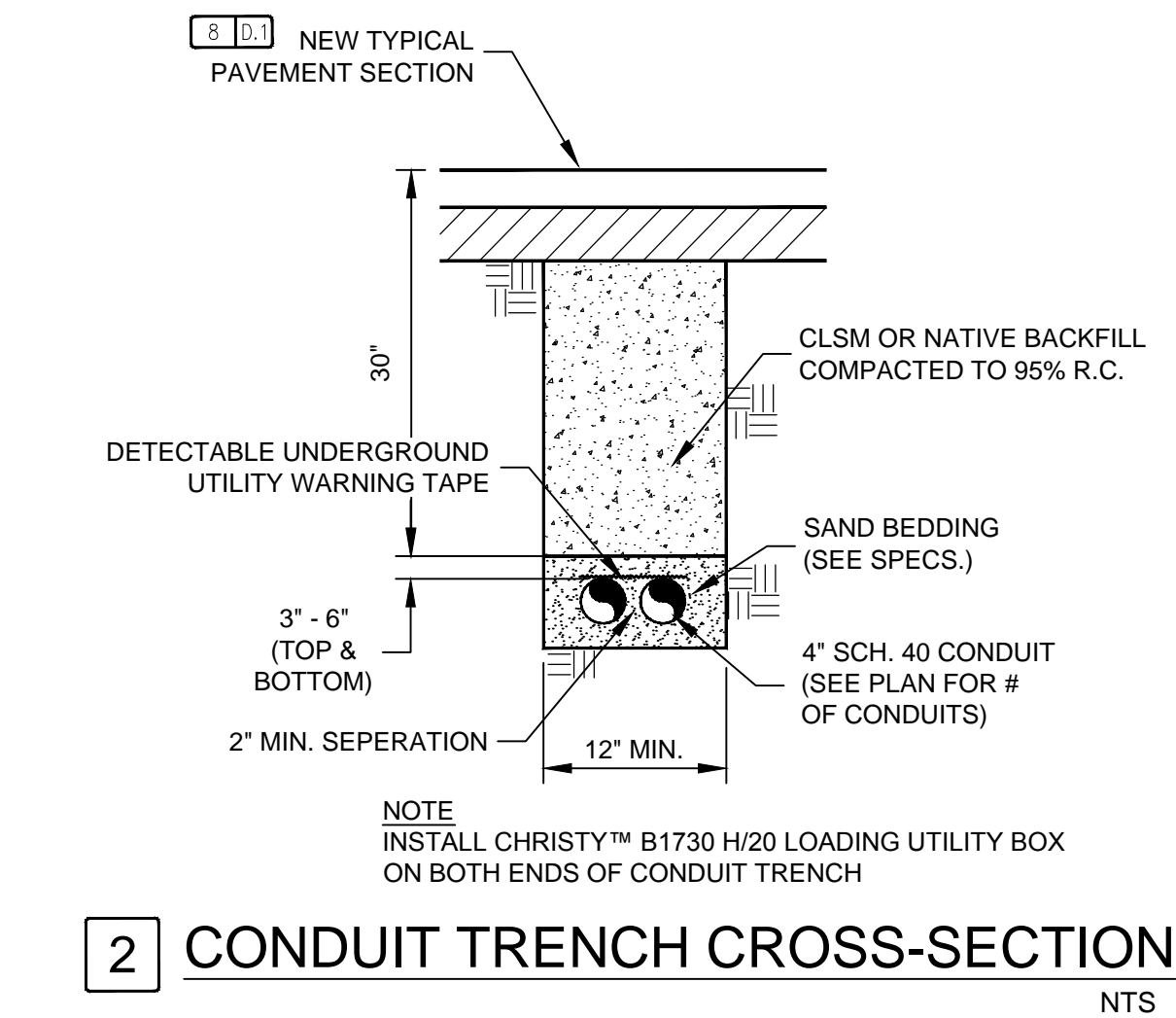
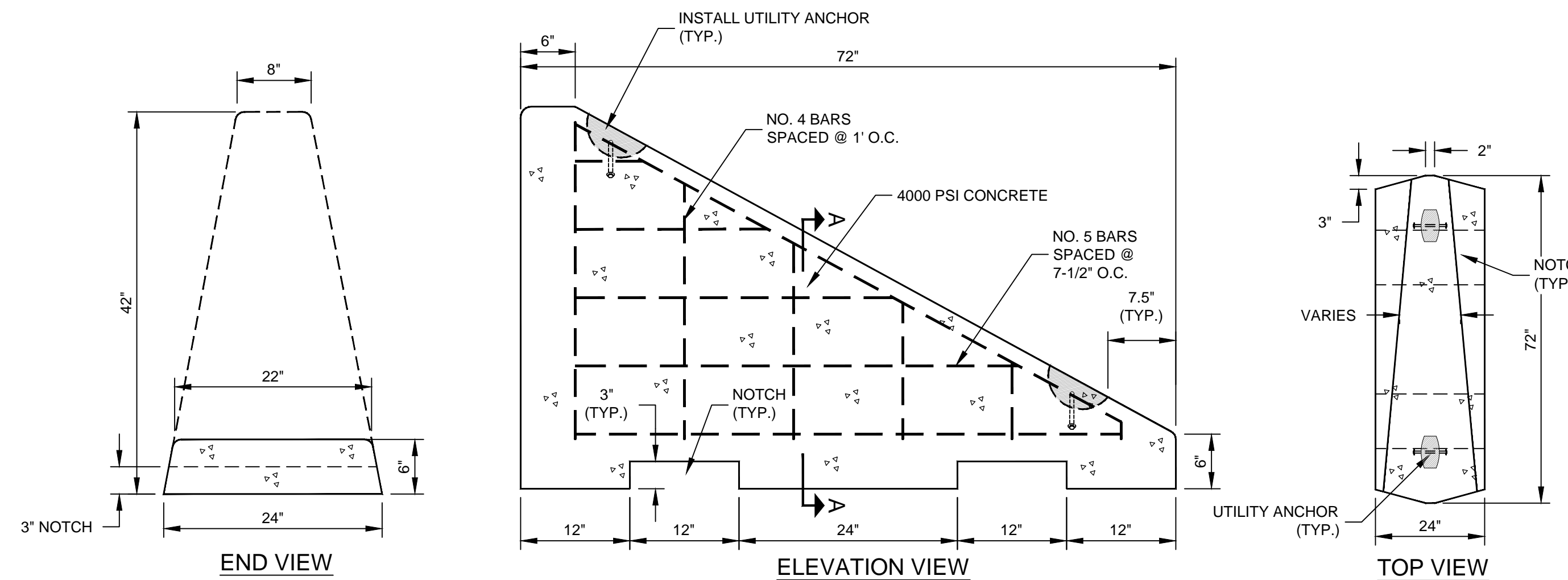
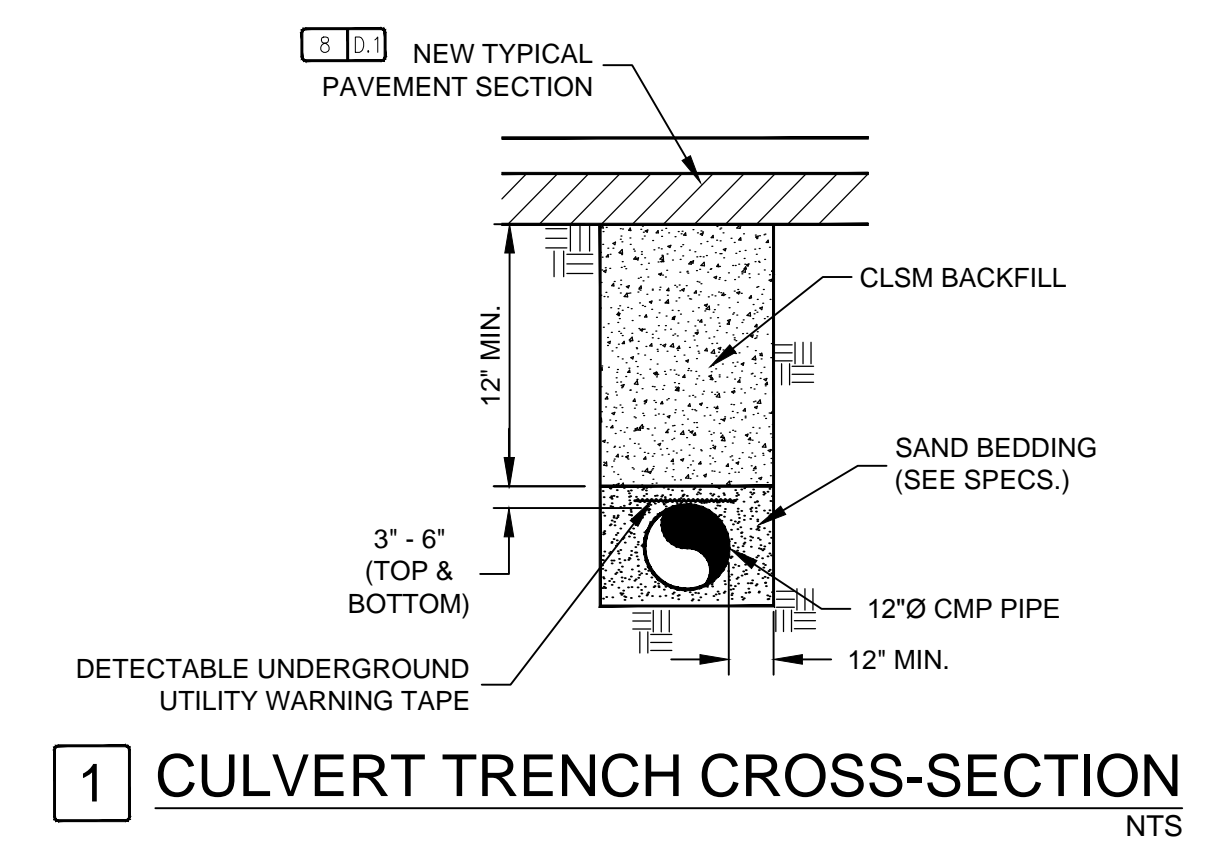
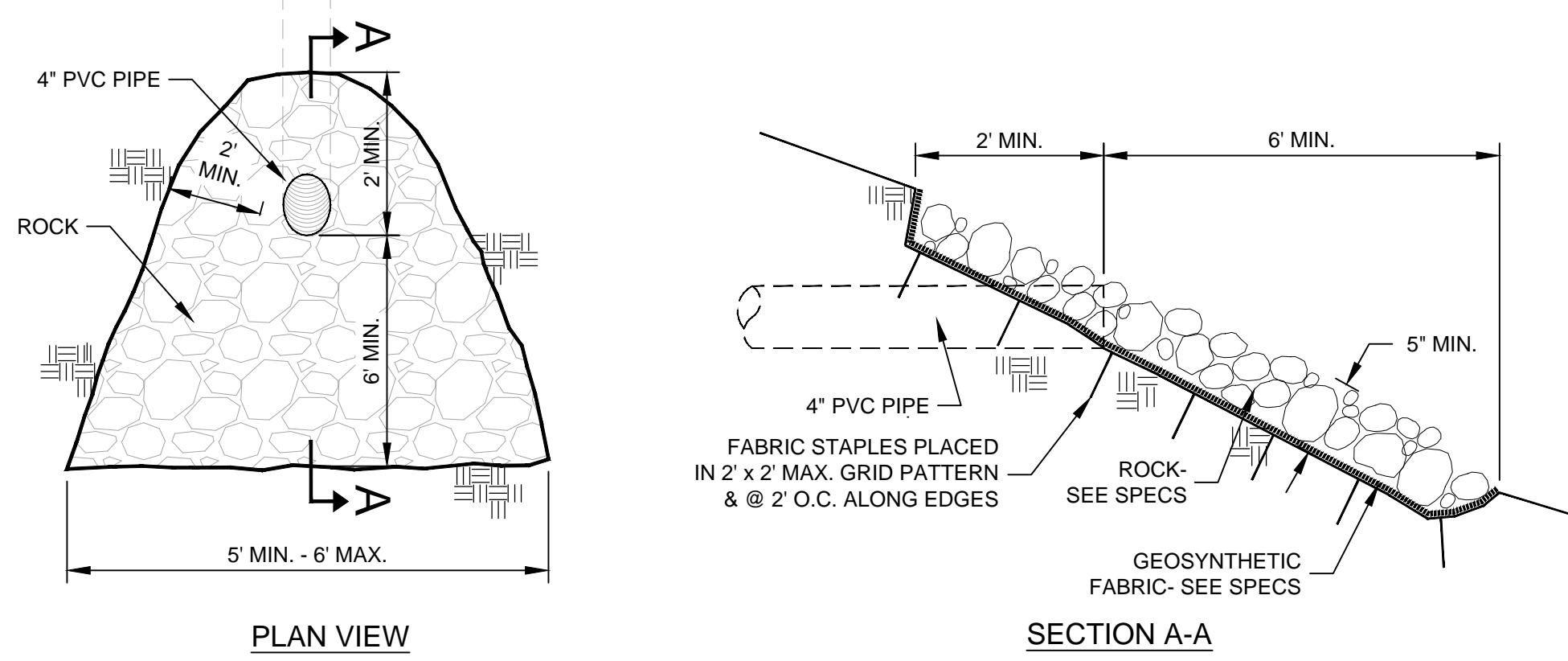
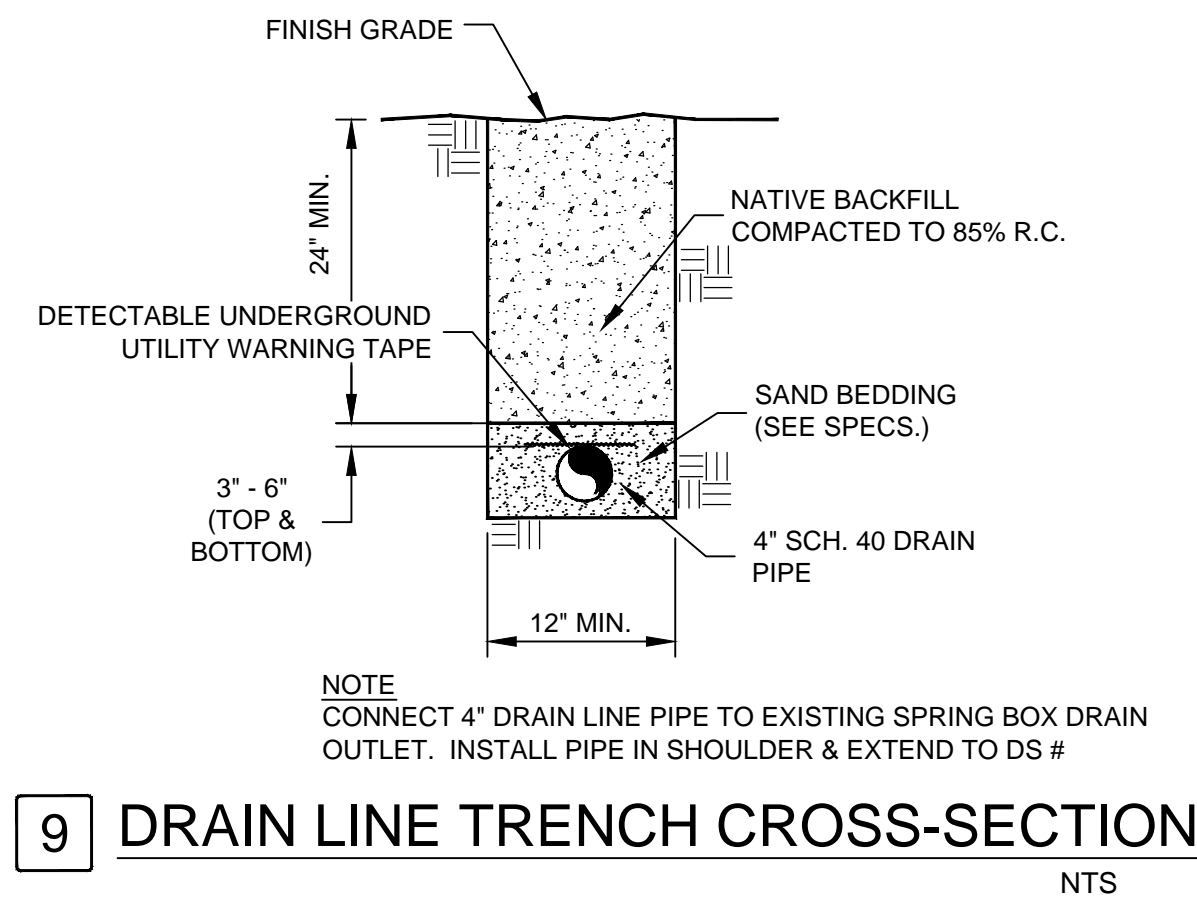


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MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
MT. UMUNHUM ROAD REHABILITATION PROJECT
DETAILS

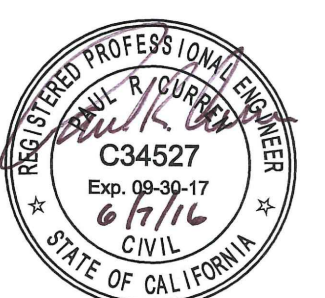


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PROJECT NUMBER: 150175
SCALE: AS SHOWN
DATE: JUNE 2016
SHEET NUMBER:



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MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
MT. UMUNHUM ROAD REHABILITATION PROJECT
DETAILS

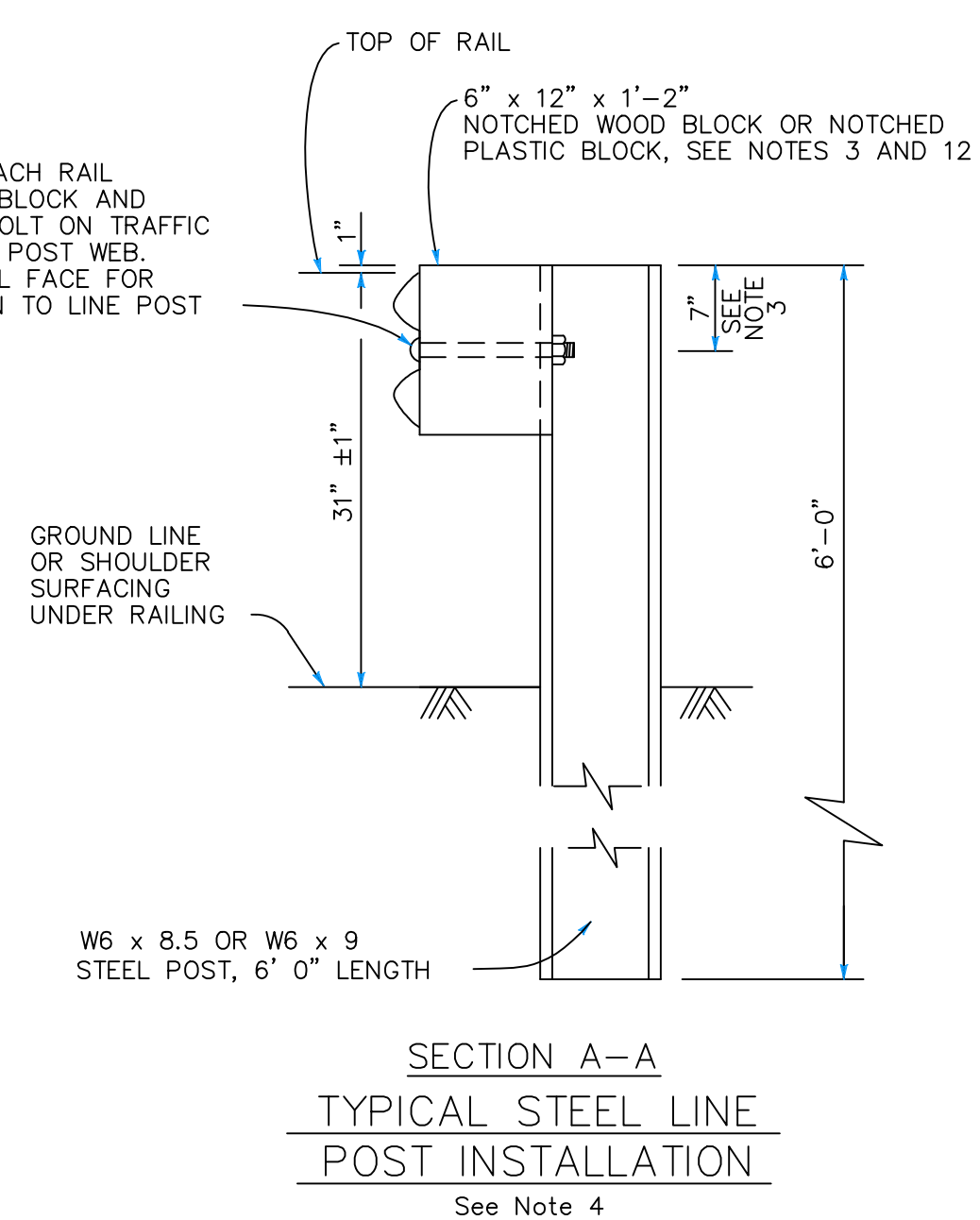
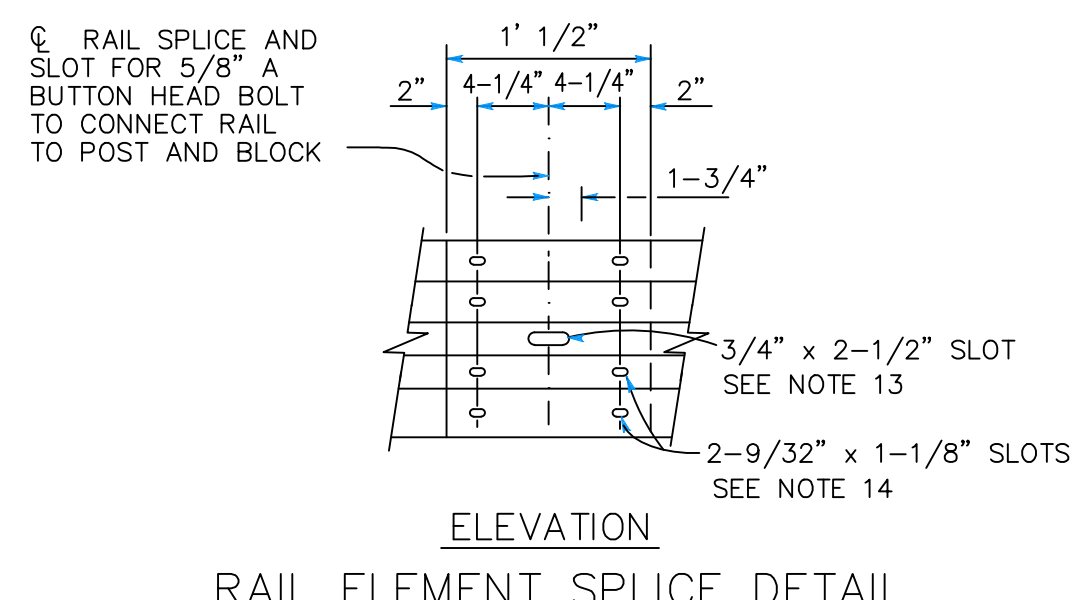
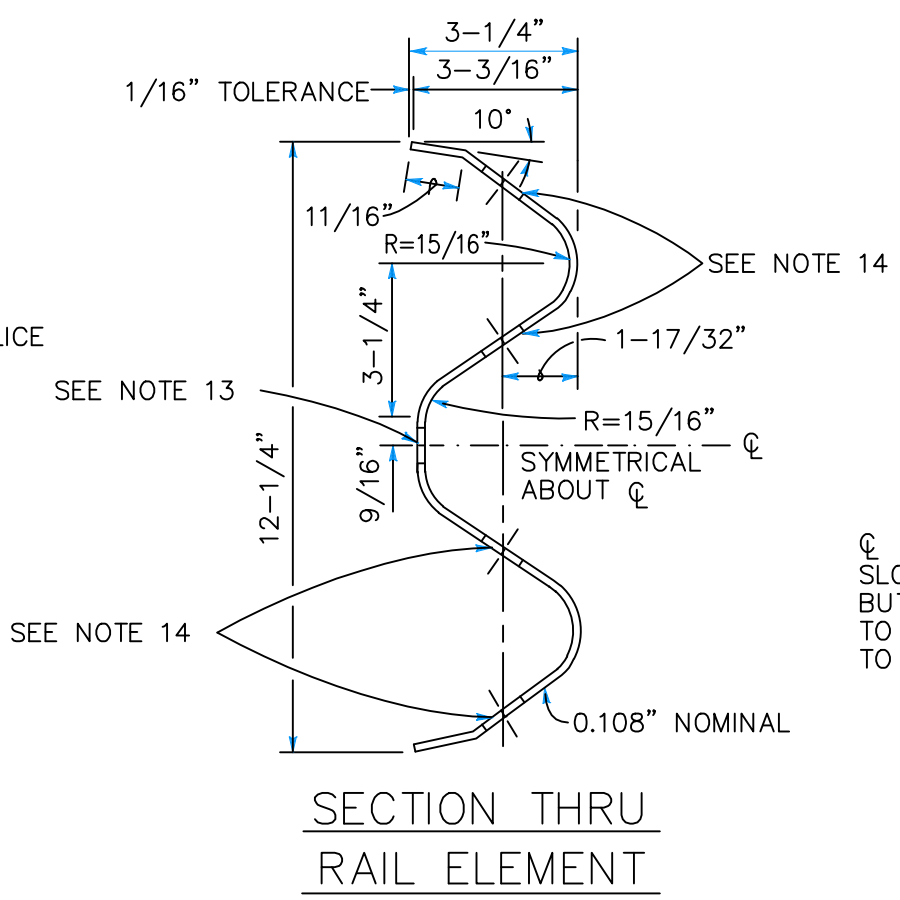
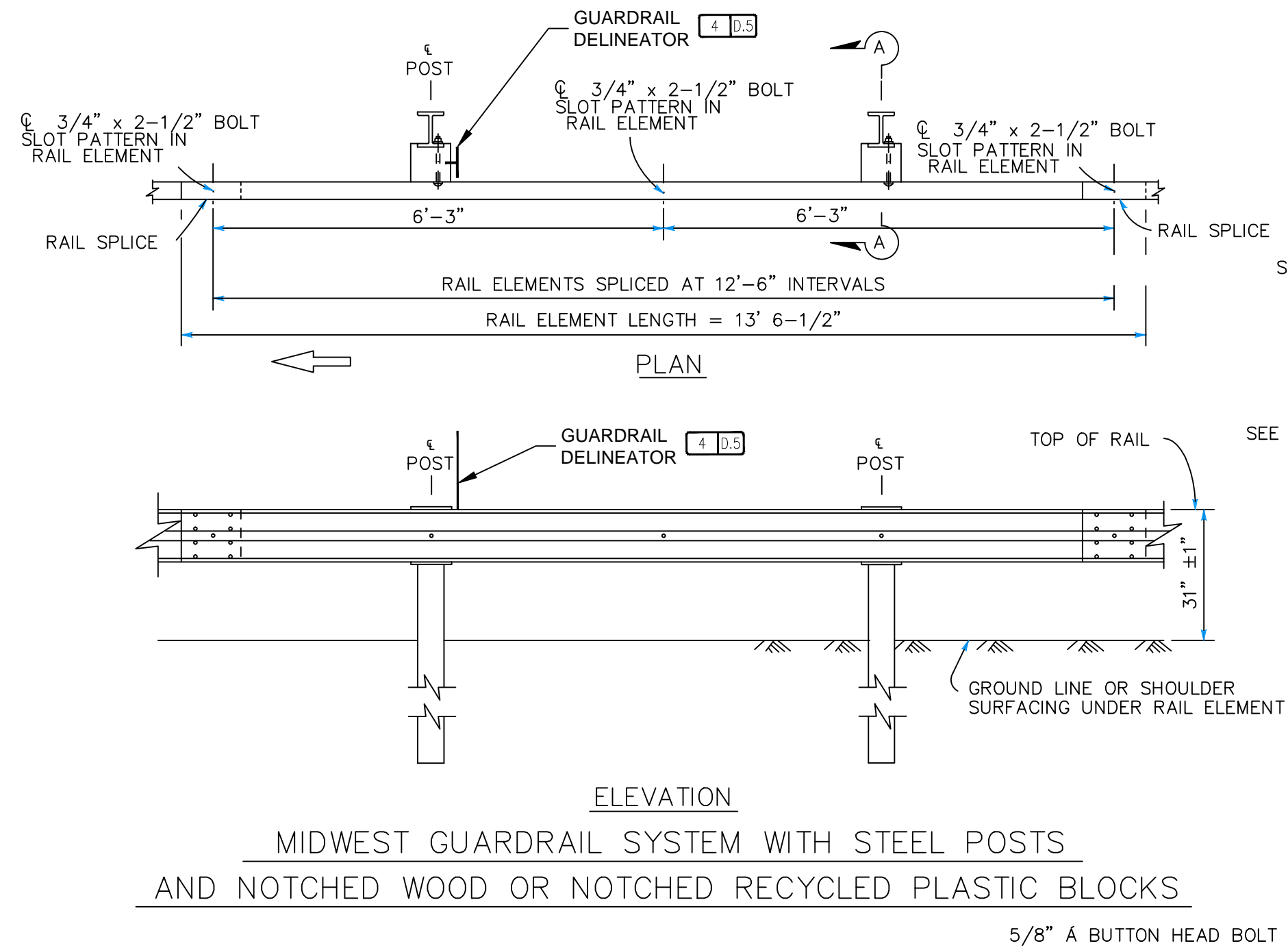


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SHEET NUMBER:

D.4

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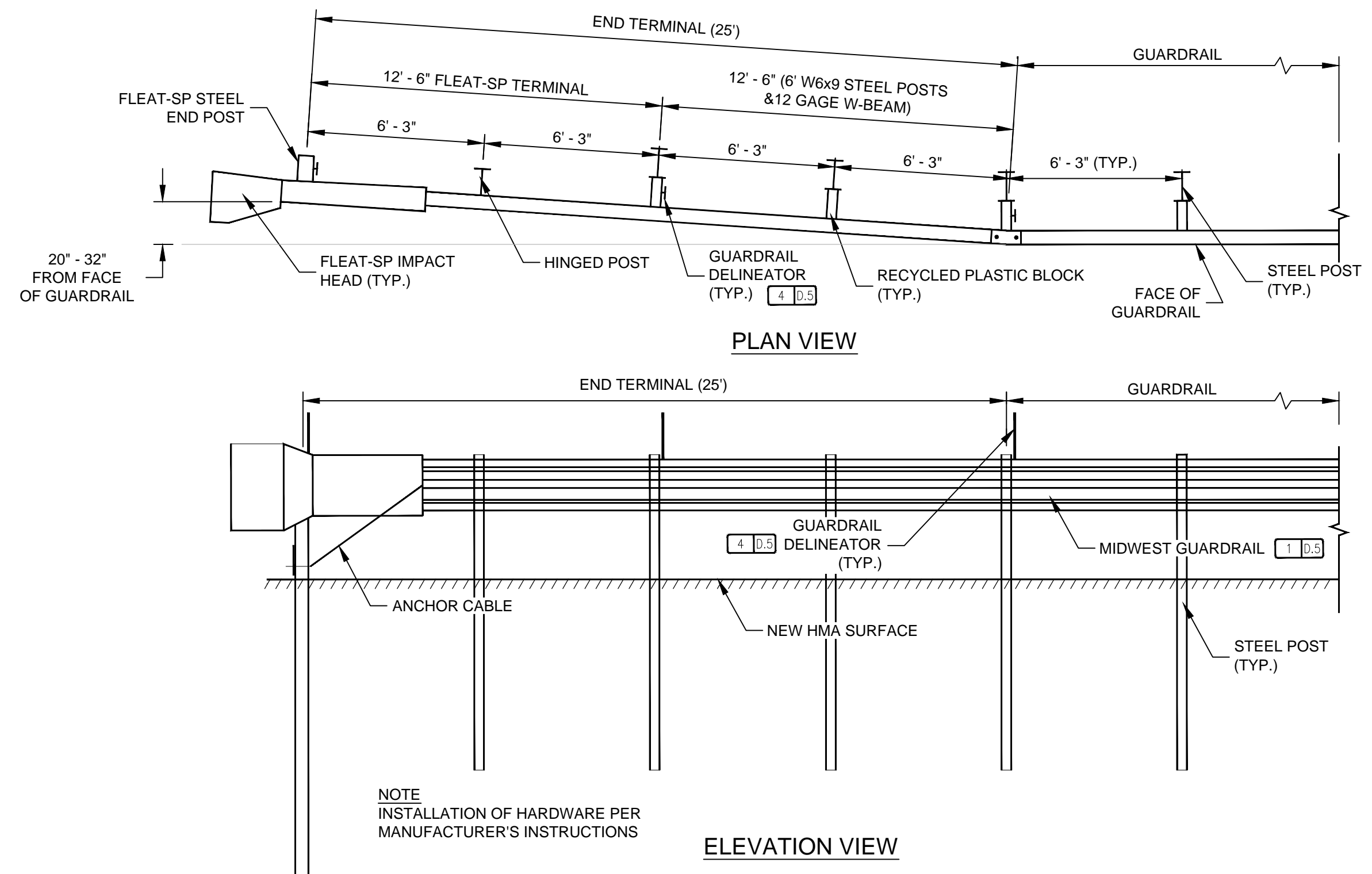
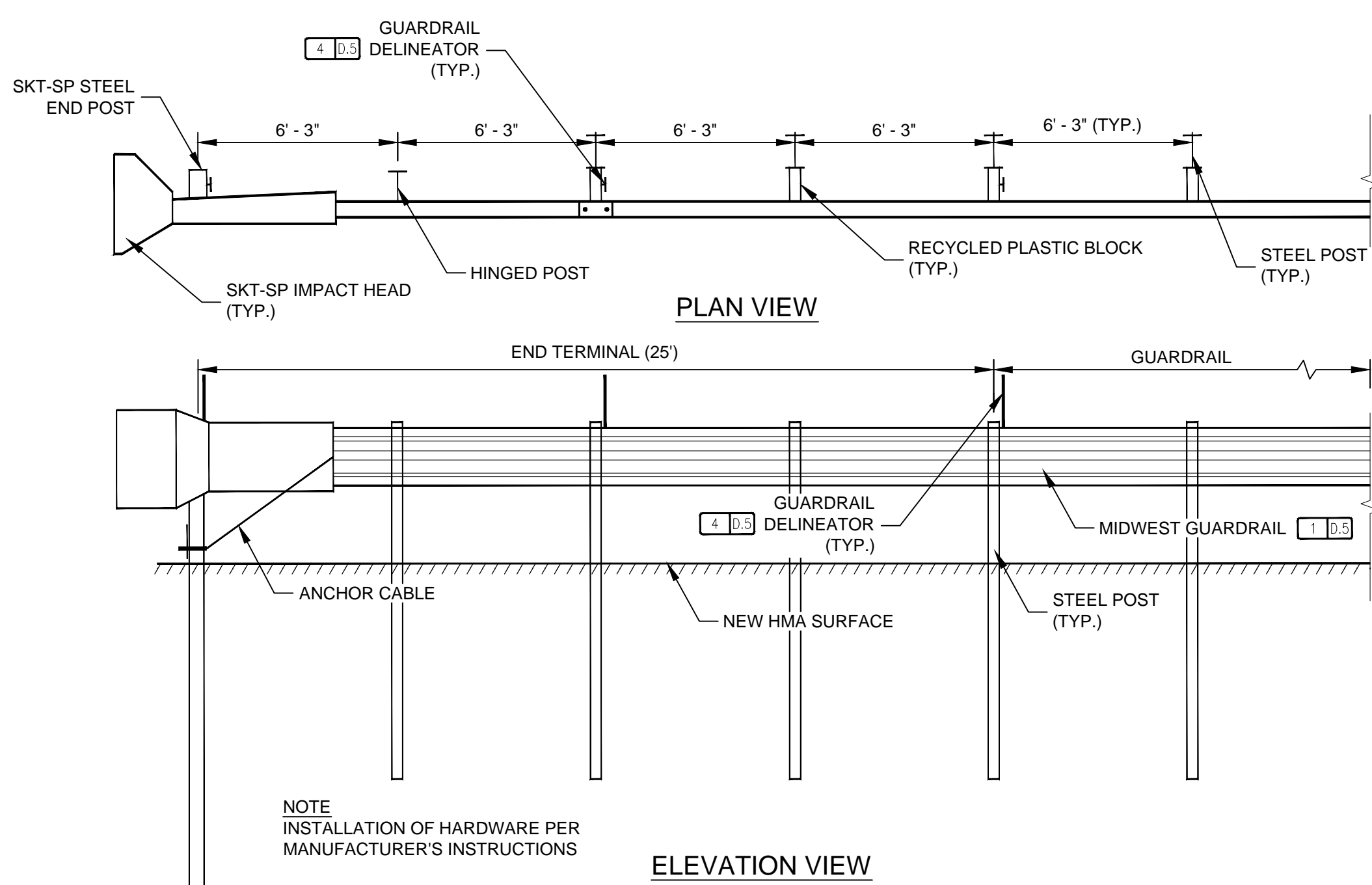
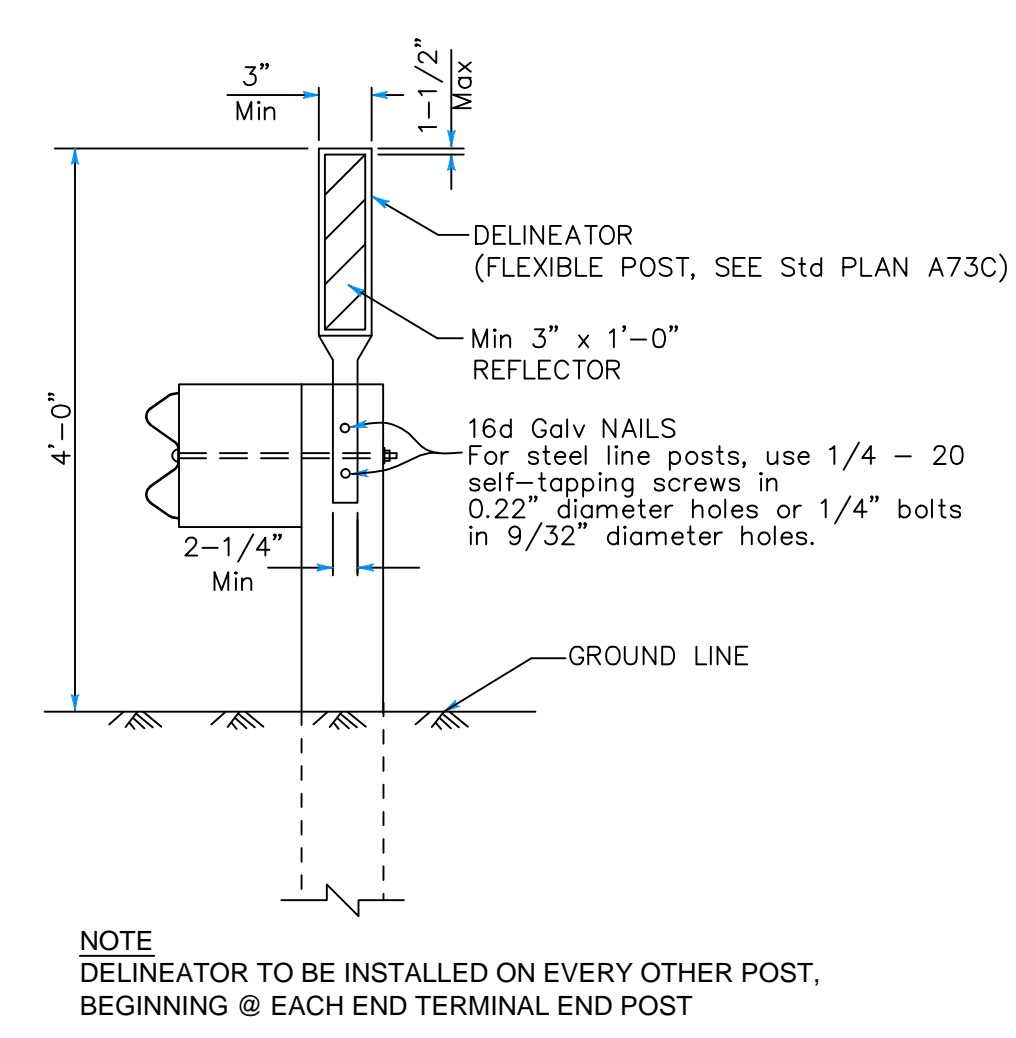
- a) Connect the overlapped end of the rail elements with 5/8" A x 1-3/8" button head oval shoulder splice bolts inserted into the 29/32" x 1-1/8" slots and bolted together with 5/8" A recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.

- NOTES:**
1. For details of wood post installations, see Standard Plan A77L1.
 2. For details of standard hardware used to construct MGS, see Standard Plan A77M1.
 3. For details of steel posts and notched wood blocks used to construct MGS, see Standard Plan A77N2.
 4. For additional installation details, see Standard Plan A77N3.
 5. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
 6. For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
 7. If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
 8. For MGS end anchor details, see Standard Plans A77S1 and A77T2.
 9. For details of MGS transition to bridge railing, see Standard Plan A77U4.
 10. For additional details of MGS connection to bridge railings, see Standard Plans A77U1, A77U2 and A77V1.
 11. For dike positioning and MGS delineator details, see Standard Plan A77N4.
 12. Notched face of block faces steel post.
 13. Slotted hole for bolted connection of rail element to block and post.
 14. Slotted holes for splice bolts to overlap ends of rail element.

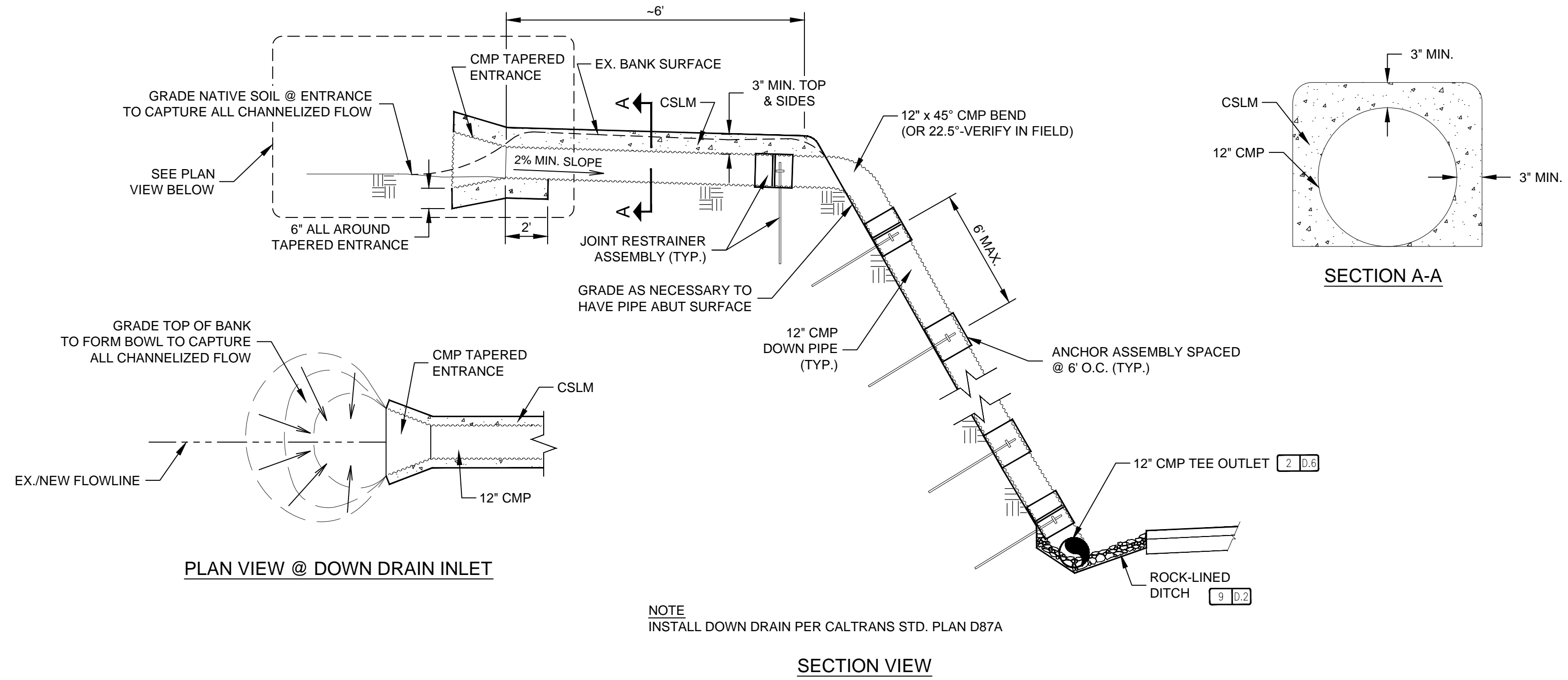
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

1 **MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)**

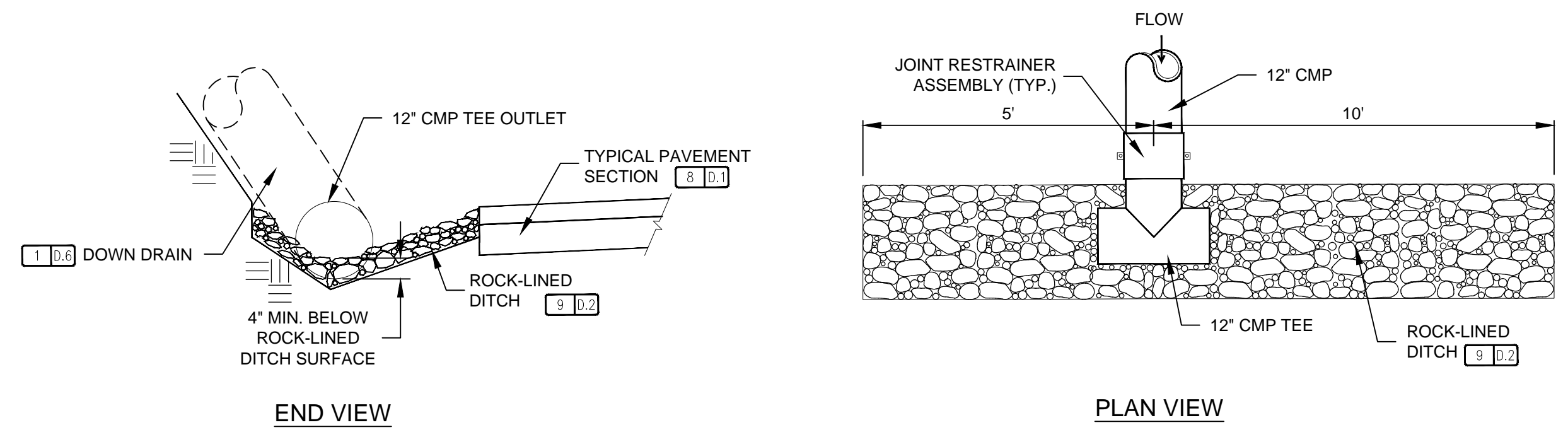
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						DESCRIPTION
						DATE
						REV
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SHEET NUMBER: D.5						



1 DOWN DRAIN INSTALLATION DETAIL
NTS

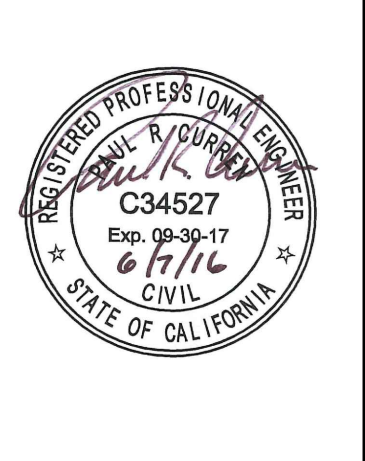


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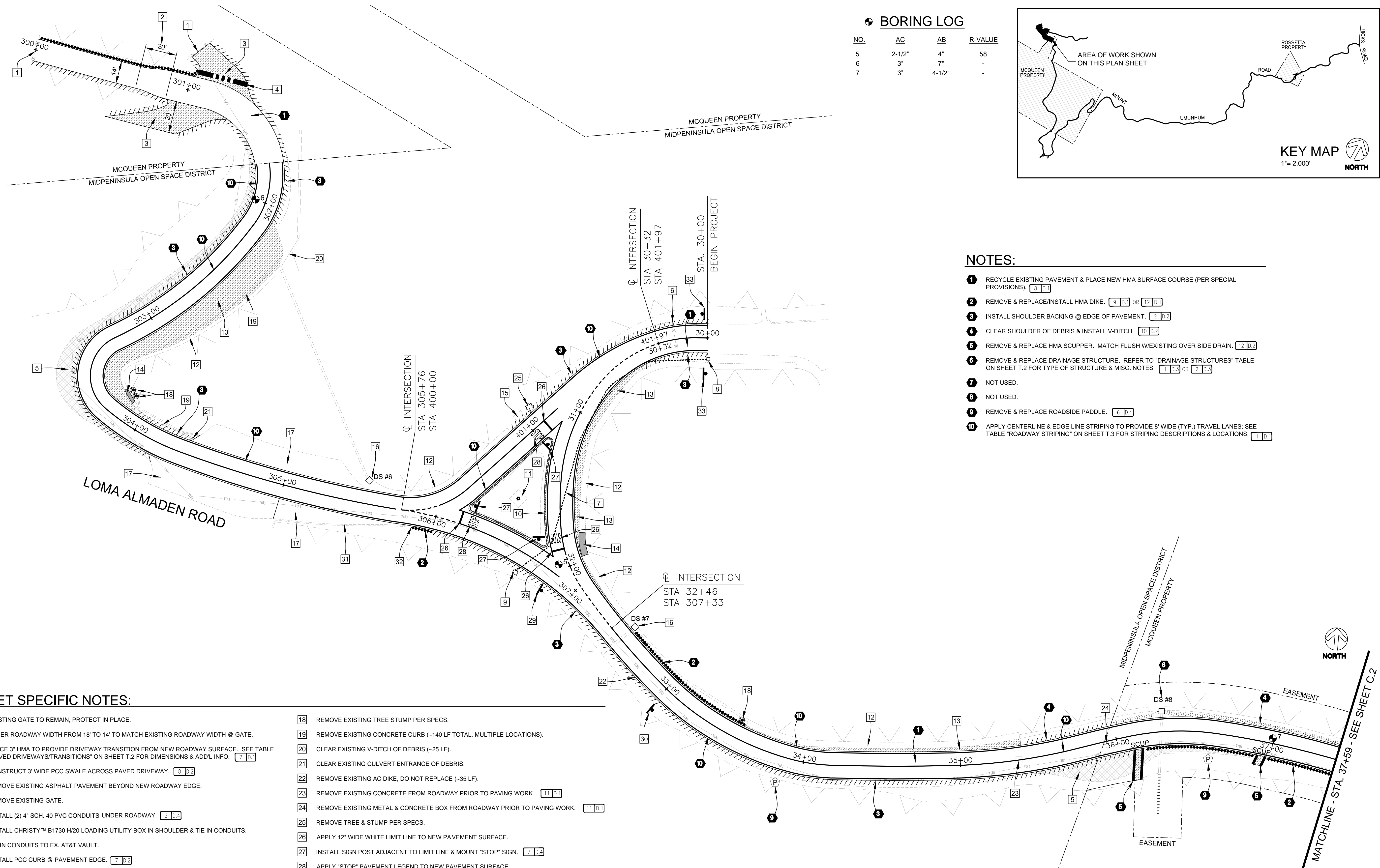
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DETAILS



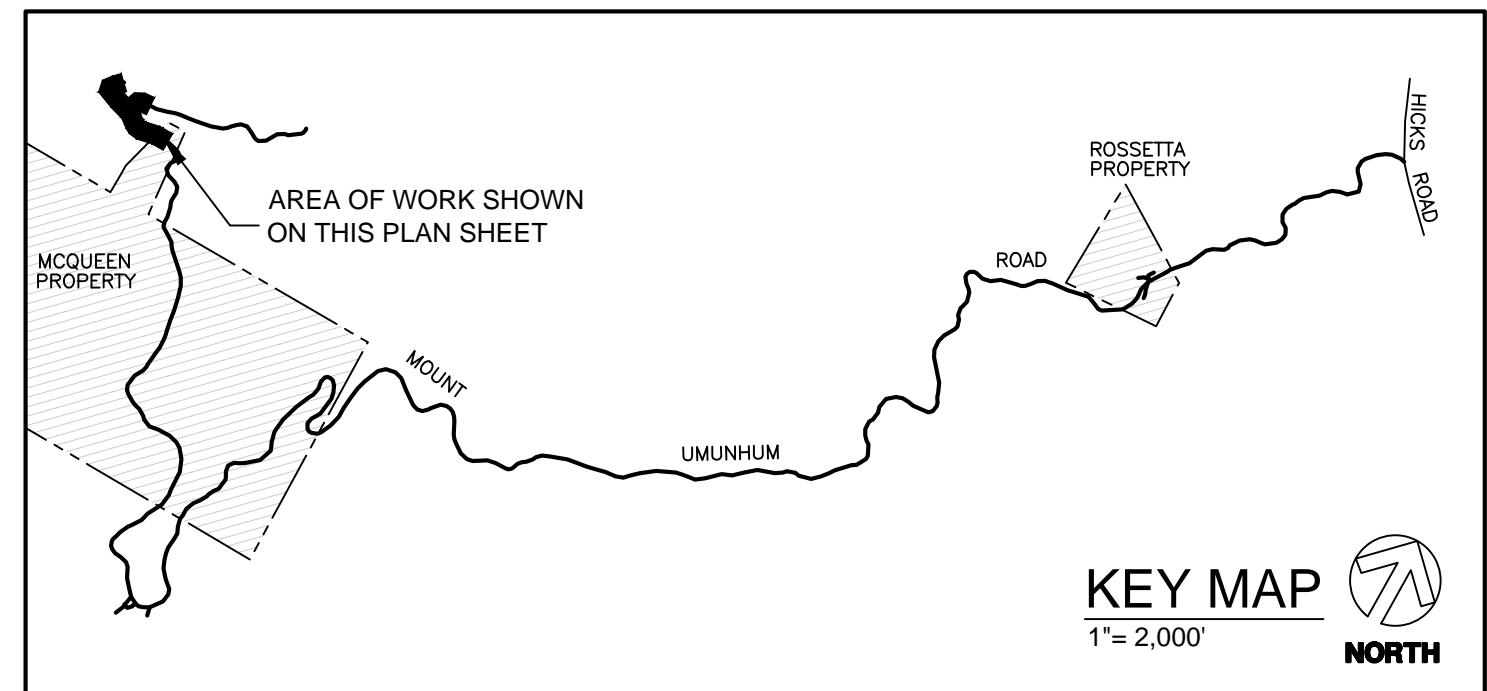
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BORING LOG

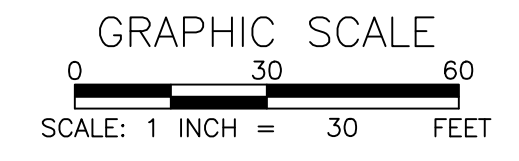
NO.	AC	AB	R-VALUE
5	2-1/2"	4"	58
6	3"	7"	-
7	3"	4-1/2"	-



- NOTES:**
- RECYCLE EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.3]
 - REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.3] OR [12 D.3]
 - INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
 - CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.3]
 - REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.3]
 - REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - NOT USED.
 - NOT USED.
 - REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
 - APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.3]

SHEET SPECIFIC NOTES:

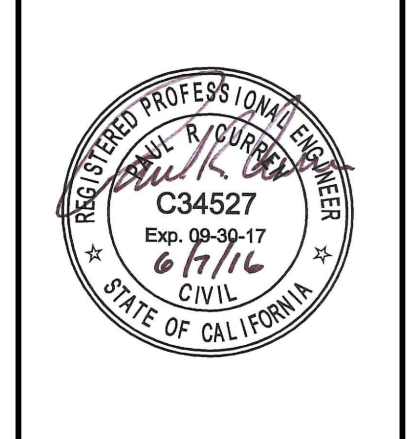
- | | |
|--|--|
| <ol style="list-style-type: none"> EXISTING GATE TO REMAIN, PROTECT IN PLACE. TAPER ROADWAY WIDTH FROM 18' TO 14' TO MATCH EXISTING ROADWAY WIDTH @ GATE. PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7 D.3] CONSTRUCT 3' WIDE PCC SWALE ACROSS PAVED DRIVEWAY. [8 D.3] REMOVE EXISTING ASPHALT PAVEMENT BEYOND NEW ROADWAY EDGE. REMOVE EXISTING GATE. INSTALL (2) 4" SCH. 40 PVC CONDUITS UNDER ROADWAY. [2 D.4] INSTALL CHRISTY™ B1730 H20 LOADING UTILITY BOX IN SHOULDER & TIE IN CONDUITS. TIE IN CONDUITS TO EX. AT&T VAULT. INSTALL PCC CURB @ PAVEMENT EDGE. [7 D.3] EXISTING FLAGPOLE & BASE TO REMAIN, PROTECT-IN-PLACE DURING CONSTRUCTION. CLEAR EXISTING CONCRETE DITCH OF DEBRIS. EXTEND PAVING TO MATCH FLUSH W/EXISTING CONCRETE DITCH. [10 D.3] REMOVE & REPLACE PORTION OF EXISTING CONCRETE DITCH. REMOVE EXISTING CONCRETE PAD FROM SHOULDER; BACKFILL W/NATIVE SOIL. EXISTING DRAINAGE STRUCTURE TO REMAIN; CLEAR OF DEBRIS. EXISTING PAVED SHOULDER, TO REMAIN. FEATHER OUT NEW HMA SURFACE COURSE 5' BEYOND EDGE OF PAVEMENT TO TRANSITION NEW HMA PAVEMENT SURFACE TO EX. PAVED SHOULDER. | <ol style="list-style-type: none"> REMOVE EXISTING TREE STUMP PER SPECS. REMOVE EXISTING CONCRETE CURB (~140 LF TOTAL, MULTIPLE LOCATIONS). CLEAR EXISTING V-DITCH OF DEBRIS (~25 LF). CLEAR EXISTING CULVERT ENTRANCE OF DEBRIS. REMOVE EXISTING AC DIKE, DO NOT REPLACE (~35 LF). REMOVE EXISTING CONCRETE FROM ROADWAY PRIOR TO PAVING WORK. [11 D.3] REMOVE EXISTING METAL & CONCRETE BOX FROM ROADWAY PRIOR TO PAVING WORK. [11 D.3] REMOVE TREE & STUMP PER SPECS. APPLY 12" WIDE WHITE LIMIT LINE TO NEW PAVEMENT SURFACE. INSTALL SIGN POST ADJACENT TO LIMIT LINE & MOUNT "STOP" SIGN. [7 D.4] APPLY "STOP" PAVEMENT LEGEND TO NEW PAVEMENT SURFACE. INSTALL SIGN POST & MOUNT "YIELD" SIGN. [7 D.4] INSTALL SIGN POST & MOUNT "25 MPH SPEED LIMIT" SIGN. [7 D.4] EXISTING HMA DIKE @ BACK OF PAVED SHOULDER TO REMAIN; CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY PORTION OF EXISTING DIKE THAT MAY EXTEND INTO NEW ROADWAY BEFORE PAVING WORK. ALIGN NEW HMA DIKE TO MATCH FLUSH WITH EXISTING. INSTALL SIGN POST & MOUNT "SHARE THE ROAD" SIGN. [7 D.4] |
|--|--|



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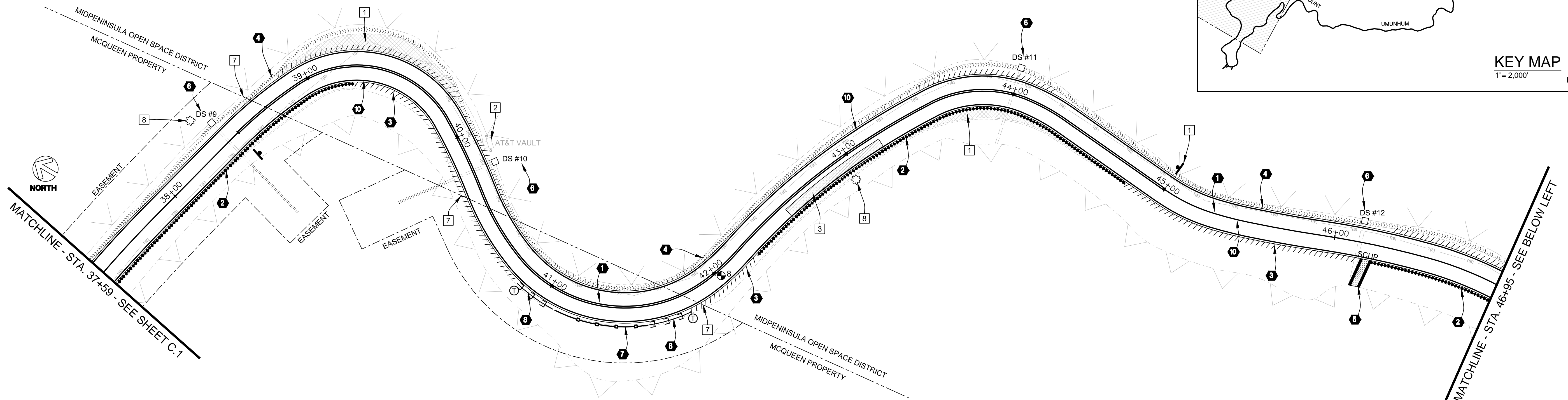
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
STA. 30+00 TO STA. 37+59



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 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

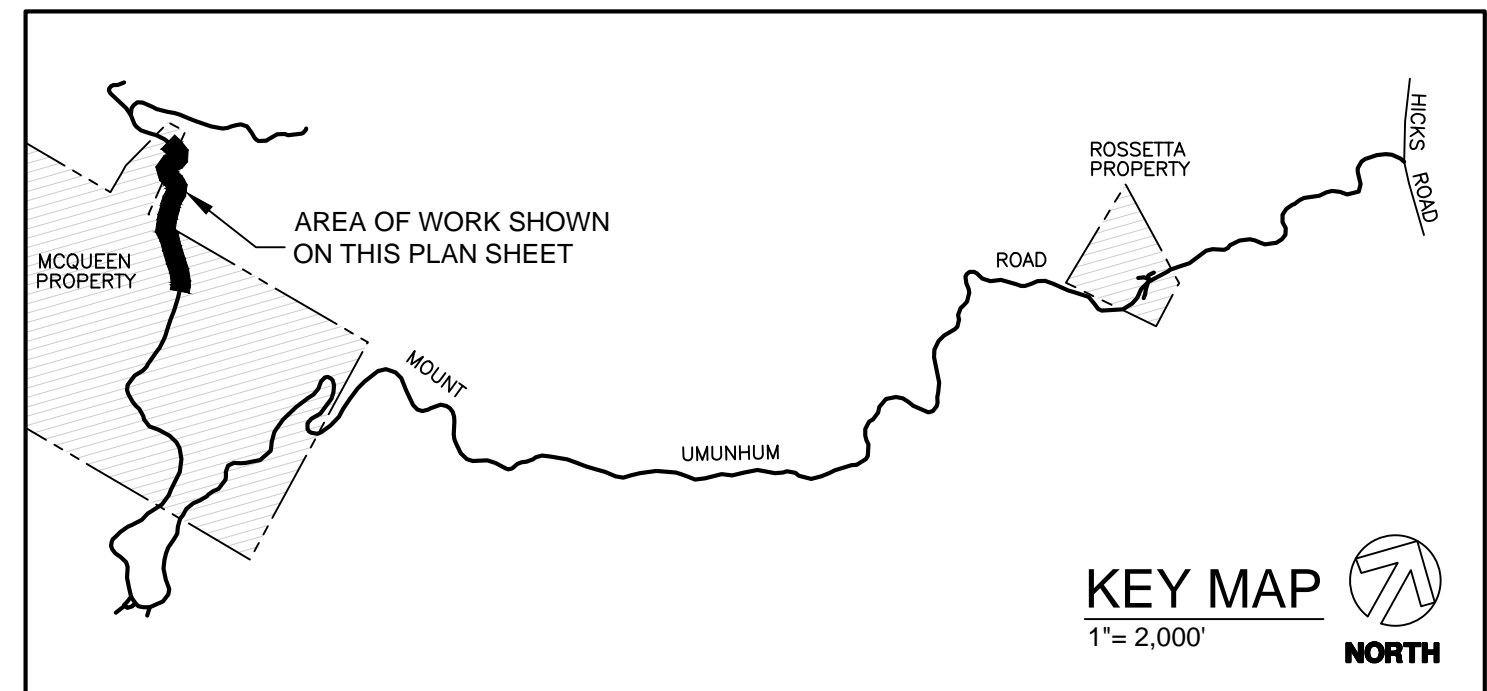
C.1

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BORING LOG

NO.	AC	AB	R-VALUE
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9	3"	6"	-
10	3-1/2"	4-1/2"	-

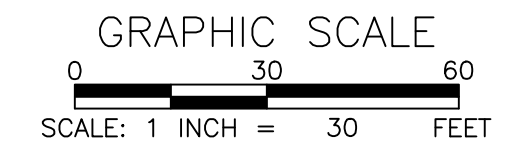
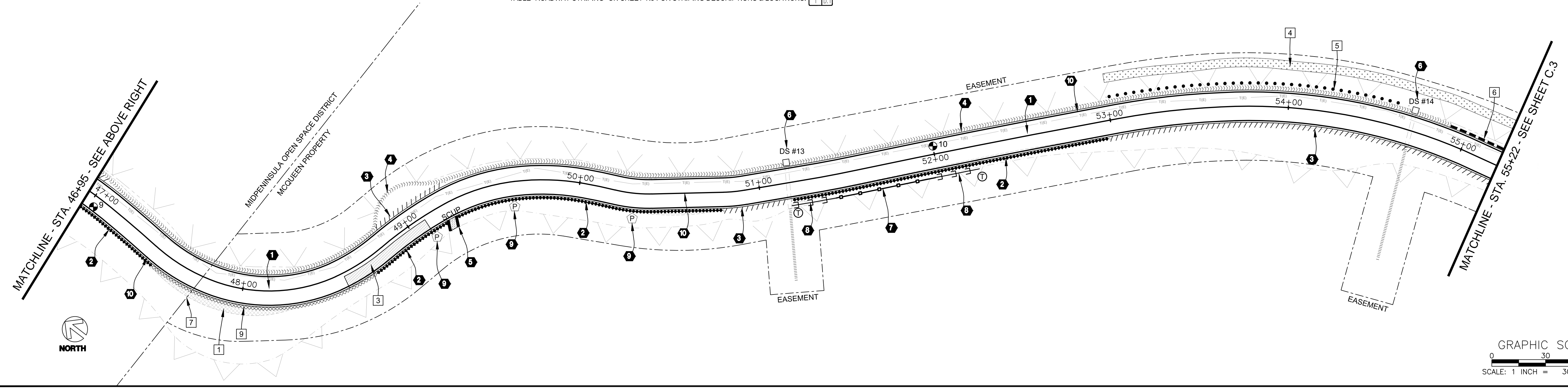


NOTES:

- 1 RECYCLE EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8] [0]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9] [0] OR [12] [0]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2] [0]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10] [0]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12] [0]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1] [0] OR [2] [0]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5] [0] OR [9] [0]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3] [0]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6] [0]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1] [0]

SHEET SPECIFIC NOTES:

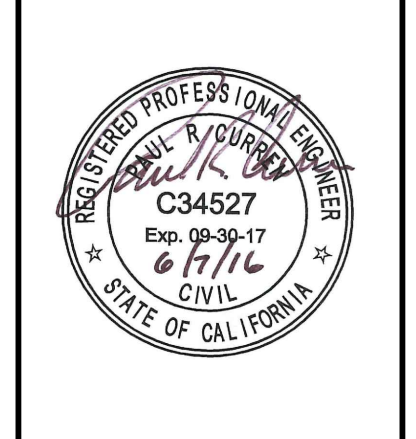
- 1 REMOVE EXISTING ASPHALT PAVEMENT BEYOND NEW ROADWAY EDGE.
- 2 EXISTING AT&T VAULT & BOLLARDS TO REMAIN, PROTECT IN PLACE.
- 3 REMOVE TREE ROOTS UNDER ROADWAY.
- 4 BAR DOWN LOOSE ROCKS ON UPSLOPE (PER SPECS).
- 5 INSTALL ROCK FENCE ON UPSLOPE. [5] [0]
- 6 INSTALL PRE-CAST CONCRETE BARRIER. [2] [0]
- 7 CONTRACTOR TO MAINTAIN EXISTING SURVEY MONUMENT.
- 8 REMOVE TREE & STUMP PER SPECS.
- 9 INSTALL MOUNTABLE HMA DIKE. [6] [0]
- 10 INSTALL SIGN POST & MOUNT "MULTI-CURVE" SIGN. [7] [0]



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MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
STA. 37+59 TO STA. 55+22



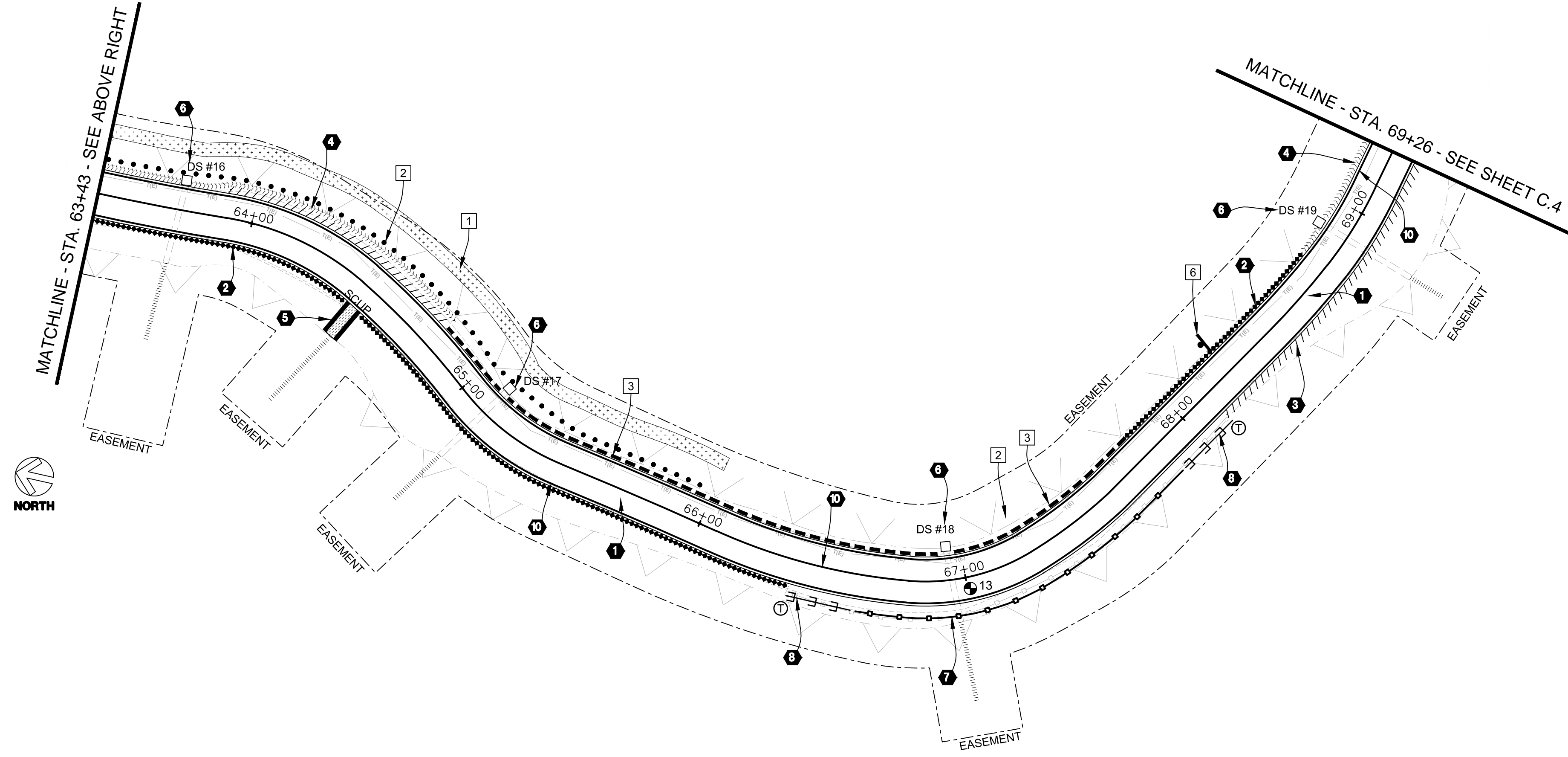
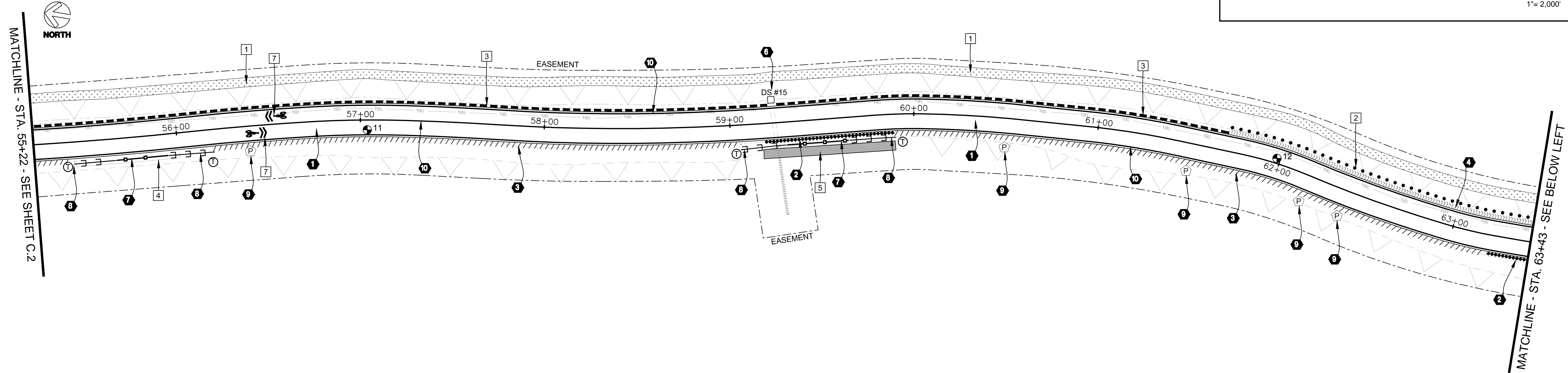
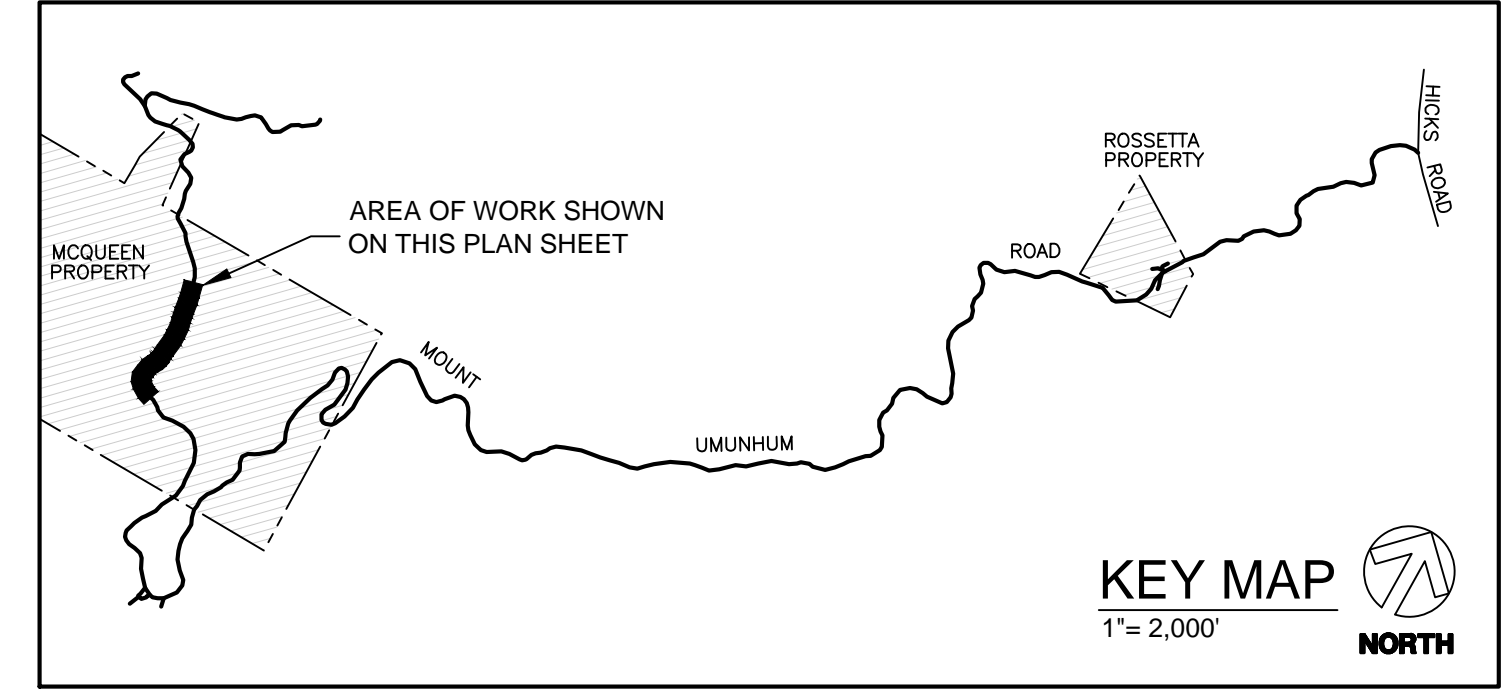
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PROJECT NUMBER:	150175
SCALE:	1" = 30'
DATE:	JUNE 2016
SHEET NUMBER:	C.2

C.2

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BORING LOG

NO.	AC	AB	R-VALUE
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12	2-1/2"	2"	-
13	2-1/2"	5"	-

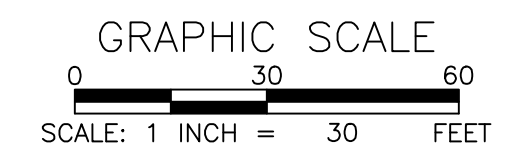


NOTES:

- 1 RECYCLE EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [5 D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

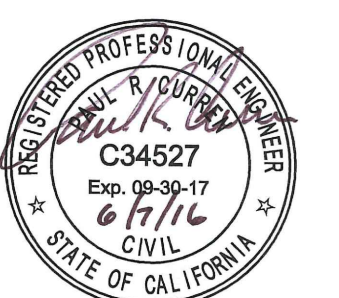
SHEET SPECIFIC NOTES:

- 1 BAR DOWN LOOSE ROCKS ON UPSLOPE (PER SPECS).
- 2 INSTALL ROCK FENCE ON UPSLOPE. [5 D.2]
- 3 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
- 4 EXISTING RETAINING WALL, TO REMAIN.
- 5 REMOVE EXISTING RETAINING WALL & INSTALL GABION WALL. [1 D.2]
- 6 INSTALL SIGN POST & MOUNT 'FALLING ROCK' SIGN. [7 D.4]
- 7 PLACE SHARROW ON NEW PAVEMENT SURFACE.



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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 55+22 TO STA. 69+26



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 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.3

REV	DATE	DESCRIPTION	APP

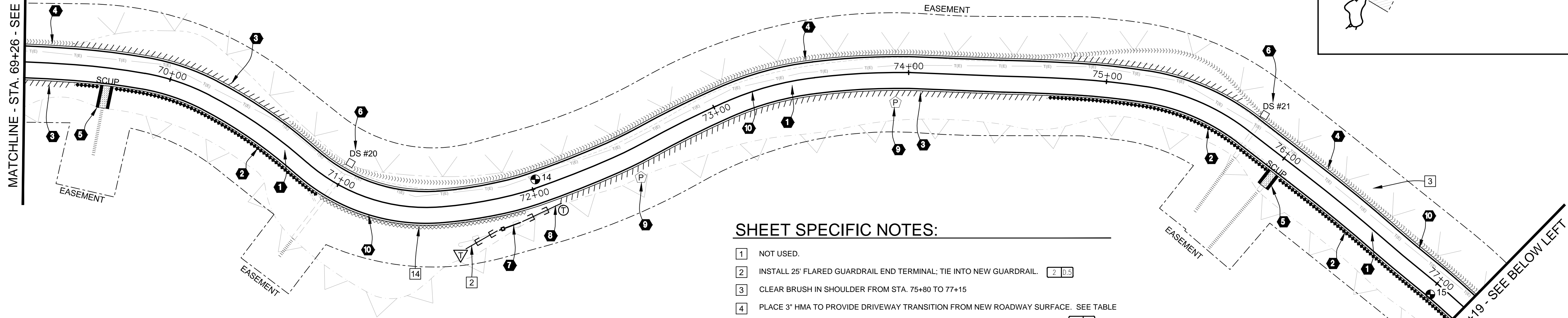
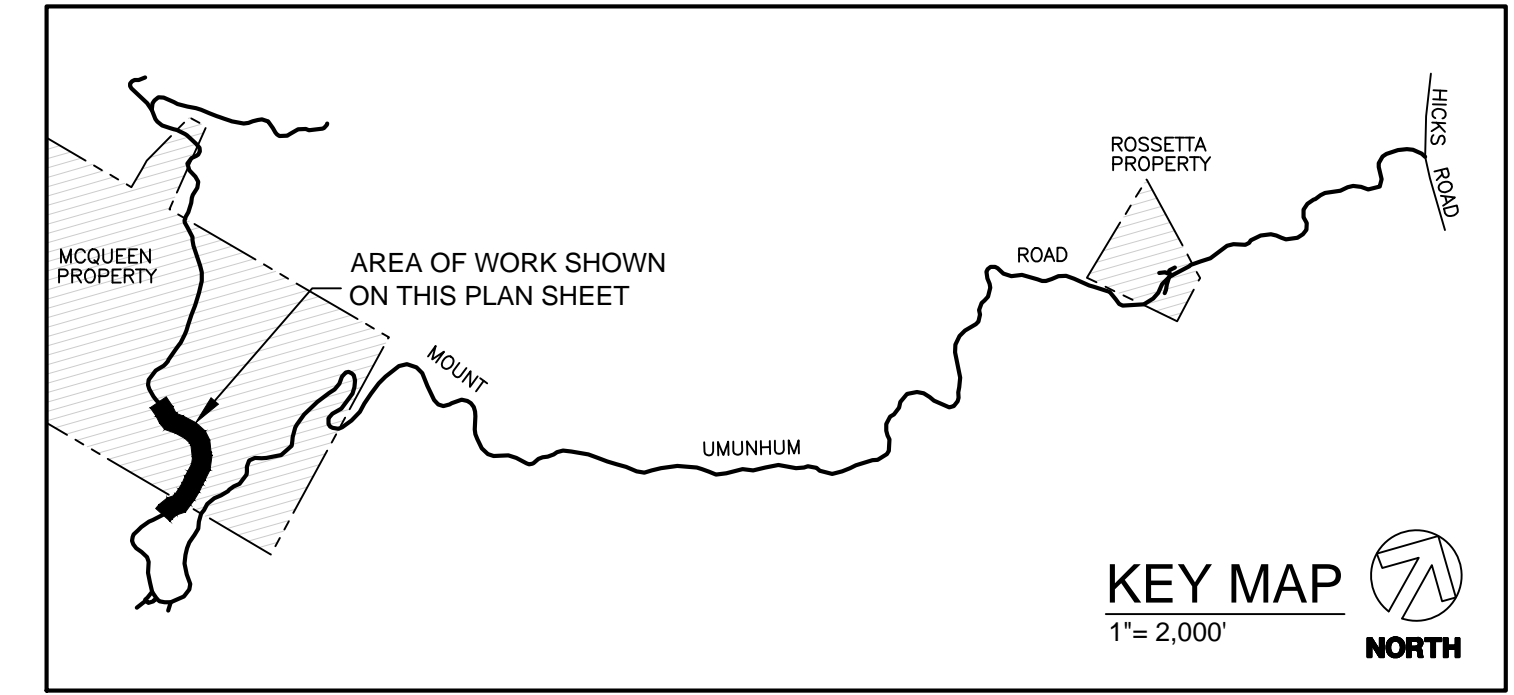
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MATCHLINE - STA. 69+26 - SEE SHEET C.3



BORING LOG

NO.	AC	AB	R-VALUE
14	3-1/2"	4-1/2"	-
15	4"	4"	-
16	3"	4"	14

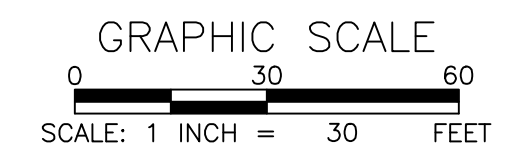
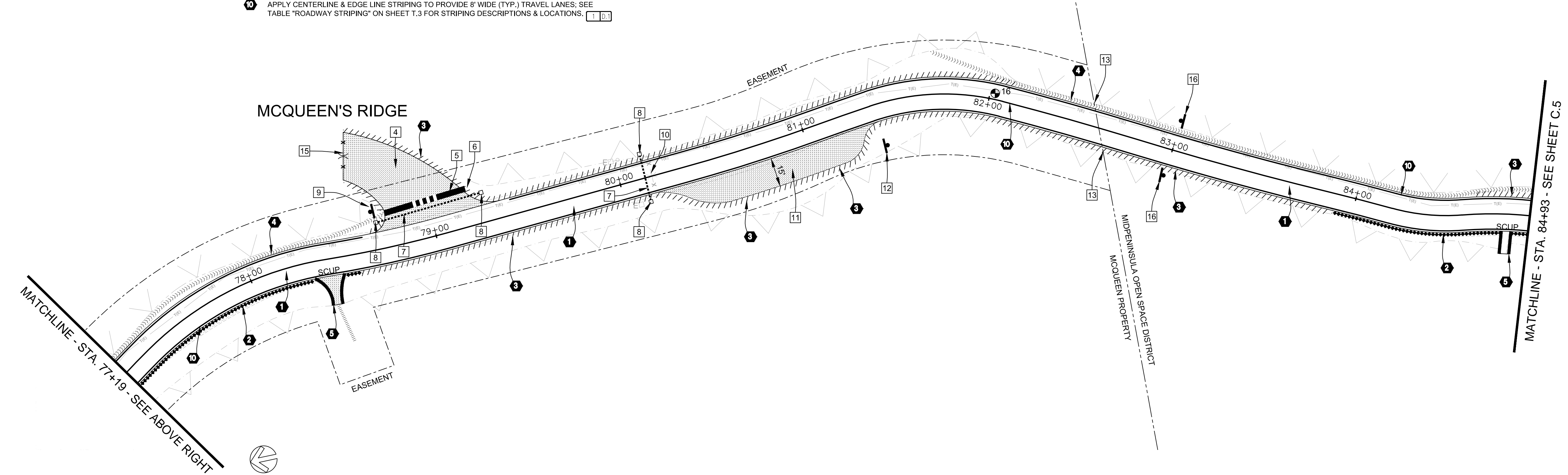


SHEET SPECIFIC NOTES:

- 1 NOT USED.
- 2 INSTALL 25' FLARED GUARDRAIL END TERMINAL; TIE INTO NEW GUARDRAIL. [2 B.3]
- 3 CLEAR BRUSH IN SHOULDER FROM STA. 75+80 TO 77+15
- 4 PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7 B.3]
- 5 CONSTRUCT 3' WIDE PCC SWALE ACROSS PAVED DRIVEWAY. [8 B.2]
- 6 PLACE ROCK FOR EROSION PROTECTION. [3 B.4]
- 7 INSTALL (2) 4" SCH. 40 PVC CONDUITS UNDER ROADWAY/PAVED DRIVEWAY. [2 B.4]
- 8 INSTALL CHRISTY™ B1730 H/20 LOADING UTILITY BOX IN SHOULDER & TIE IN CONDUITS.
- 9 INSTALL SIGN POST; MOUNT "NO PARKING" & "PRIVATE DRIVEWAY" SIGNS. [8 B.4]
- 10 REMOVE EXISTING GATE & STORE ON SITE. Reference E.4 Solar Powered Gate System Requirements.
- 11 GRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE 3" HMA FOR TURNOUT [6 B.3]
- 12 INSTALL SIGN POST & MOUNT "NO PARKING" SIGN. [8 B.4]
- 13 CONTRACTOR TO MAINTAIN EXISTING SURVEY MONUMENT.
- 14 INSTALL MOUNTABLE HMA DIKE. [6 B.2]
- 15 EXISTING GATE TO REMAIN, PROTECT IN PLACE.
- 16 INSTALL SIGN POST & MOUNT "SHARE THE ROAD" SIGN. [7 B.4]

NOTES:

- 1 RECYCLE EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 B.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 B.1] OR [12 B.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 B.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 B.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [17 B.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 B.3] OR [7 B.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 B.1] OR [9 B.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 B.5]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 B.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 B.1]



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MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 69+26 TO STA. 84+93



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

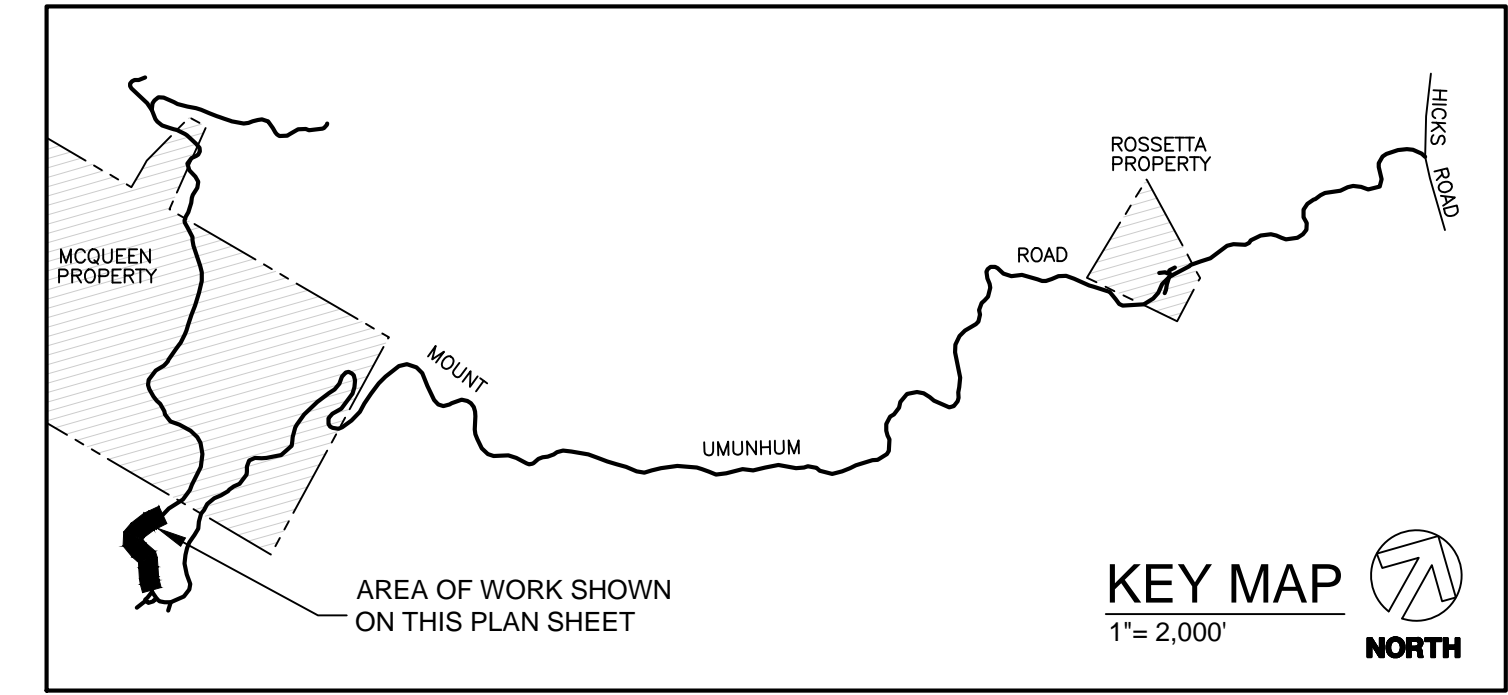
C.4

REV	DATE	DESCRIPTION	APP

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BORING LOG

NO.	AC	AB	R-VALUE
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18	3-1/2'	3"	-

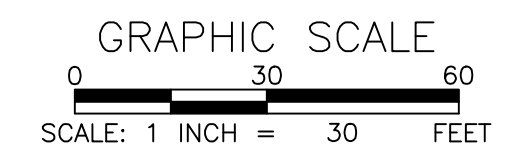
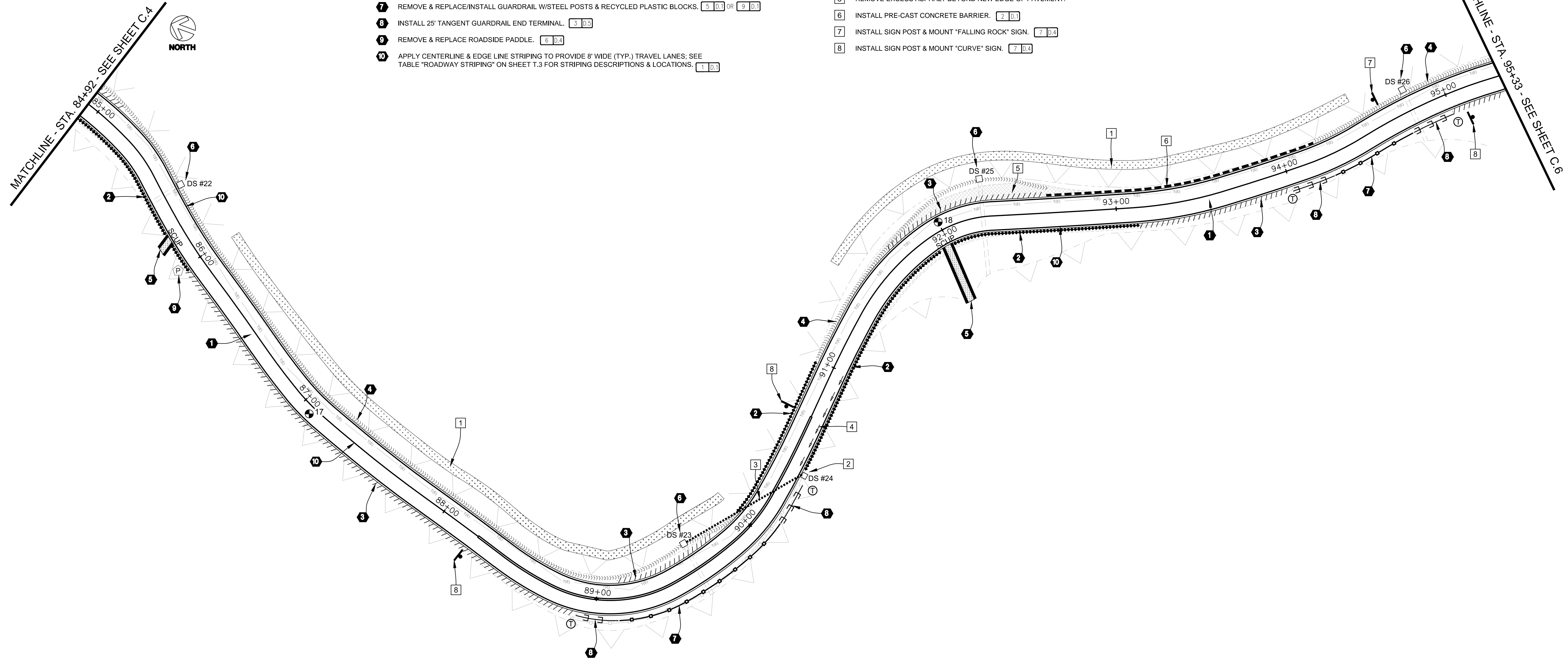


NOTES:

- 1 RECYCLE EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [3 D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [3 D.1] OR [12 D.2]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.5]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

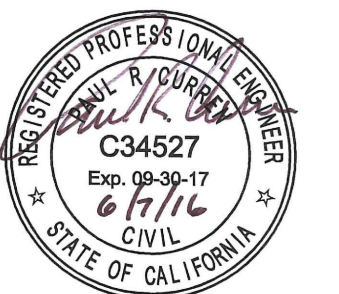
SHEET SPECIFIC NOTES:

- 1 BAR DOWN LOOSE ROCKS ON UPSLOPE (SEE SPECS).
- 2 INSTALL DRAINAGE STRUCTURE TYPE C (CHRISTY™ PRE-CAST U37-FC CURB INLET.)
- 3 TRENCH UNDER EXISTING ROADWAY & INSTALL 12" CMP PIPE(-80 LF) W/0.5% MIN. SLOPE CONNECTING DRAINAGE STRUCTURE #24 TO #23. CONTRACTOR TO POT-HOLE & COORDINATE W/AT&T FOR ANY CONFLICTS. [1 D.4]
- 4 CONTRACTOR TO PROVIDE 0.5% MIN. SLOPE ALONG NEW HMA DIKE AS SHOWN ON PLANS TO ENSURE SURFACE WATER FLOWS INTO DRAINAGE STRUCTURE #24. REGRADE PULVERIZED BASE (OR BASE MATERIAL PRIOR TO PLACEMENT OF 4" CIR LIFT) IF NECESSARY.
- 5 REMOVE EXCESS ASPHALT BEYOND NEW EDGE OF PAVEMENT.
- 6 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
- 7 INSTALL SIGN POST & MOUNT "FALLING ROCK" SIGN. [7 D.4]
- 8 INSTALL SIGN POST & MOUNT "CURVE" SIGN. [7 D.4]



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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 84+93 TO STA. 95+33

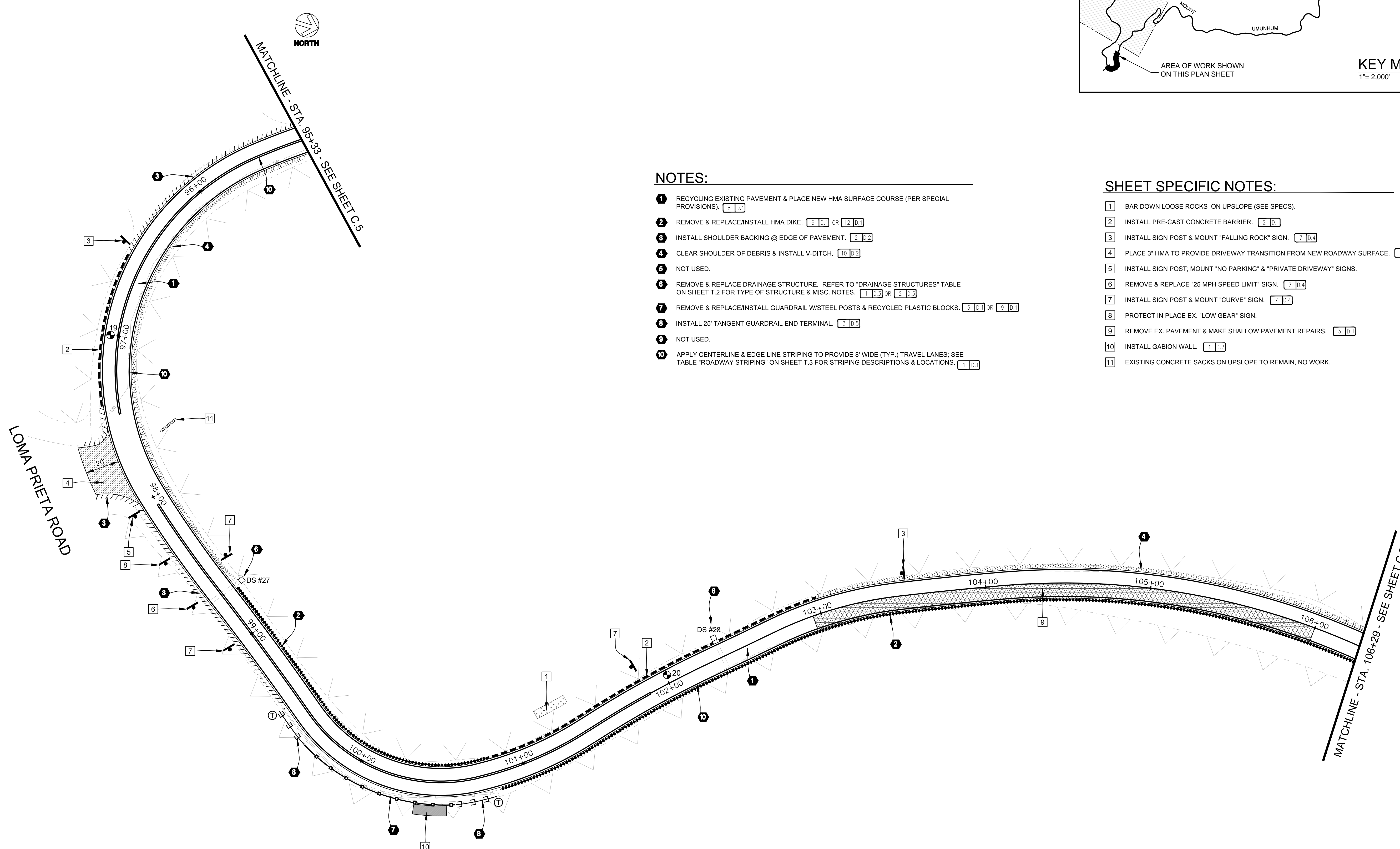


DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.5

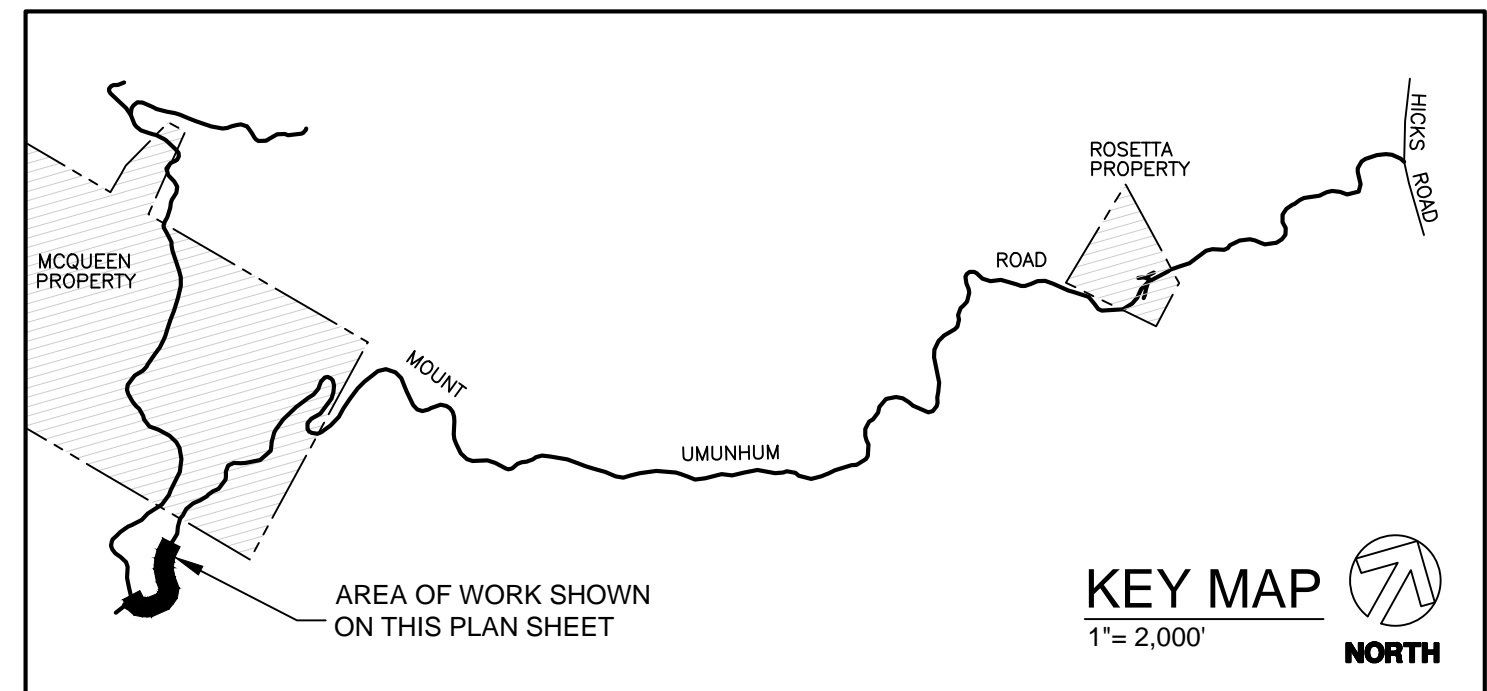
REV	DATE	DESCRIPTION	APP

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BORING LOG

NO.	AC	AB	R-VALUE
19	3-1/2"	4"	-
20	3"	3"	-

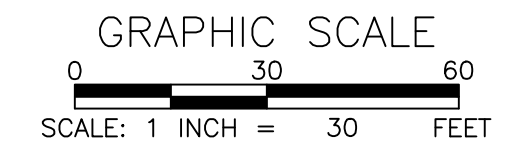


NOTES:

- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS); [8 D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
- 5 NOT USED.
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [7 D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.5]
- 9 NOT USED.
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

SHEET SPECIFIC NOTES:

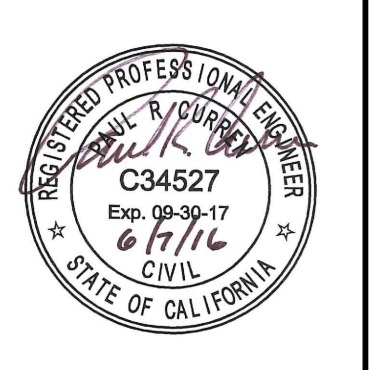
- 1 BAR DOWN LOOSE ROCKS ON UPSLOPE (SEE SPECS).
- 2 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
- 3 INSTALL SIGN POST & MOUNT "FALLING ROCK" SIGN. [7 D.4]
- 4 PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. [7 D.1]
- 5 INSTALL SIGN POST; MOUNT "NO PARKING" & "PRIVATE DRIVEWAY" SIGNS.
- 6 REMOVE & REPLACE "25 MPH SPEED LIMIT" SIGN. [7 D.4]
- 7 INSTALL SIGN POST & MOUNT "CURVE" SIGN. [7 D.4]
- 8 PROTECT IN PLACE EX. "LOW GEAR" SIGN.
- 9 REMOVE EX. PAVEMENT & MAKE SHALLOW PAVEMENT REPAIRS. [3 D.1]
- 10 INSTALL GABION WALL [1 D.2]
- 11 EXISTING CONCRETE SACKS ON UPSLOPE TO REMAIN, NO WORK.



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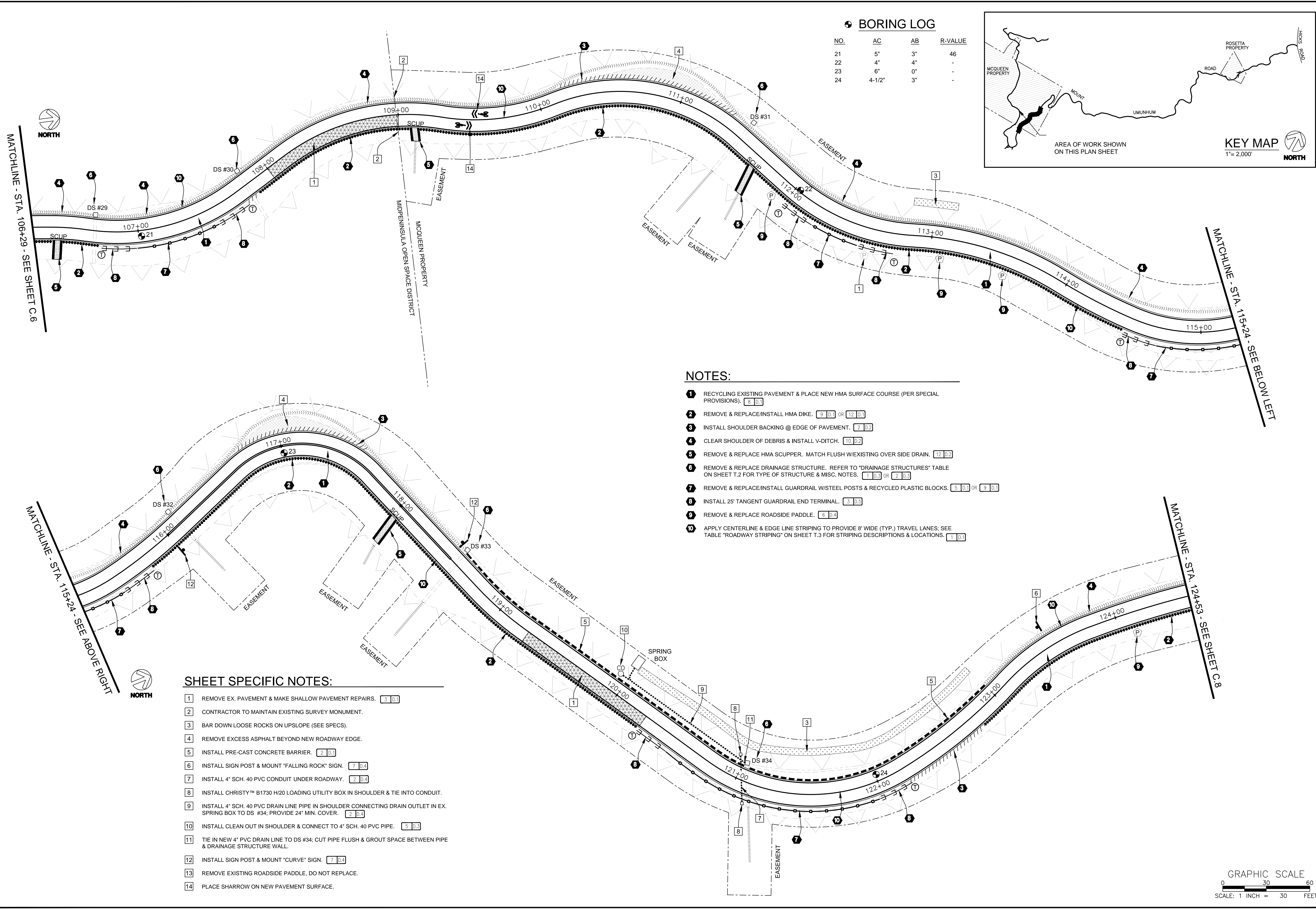
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 95+33 TO STA. 106+29



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

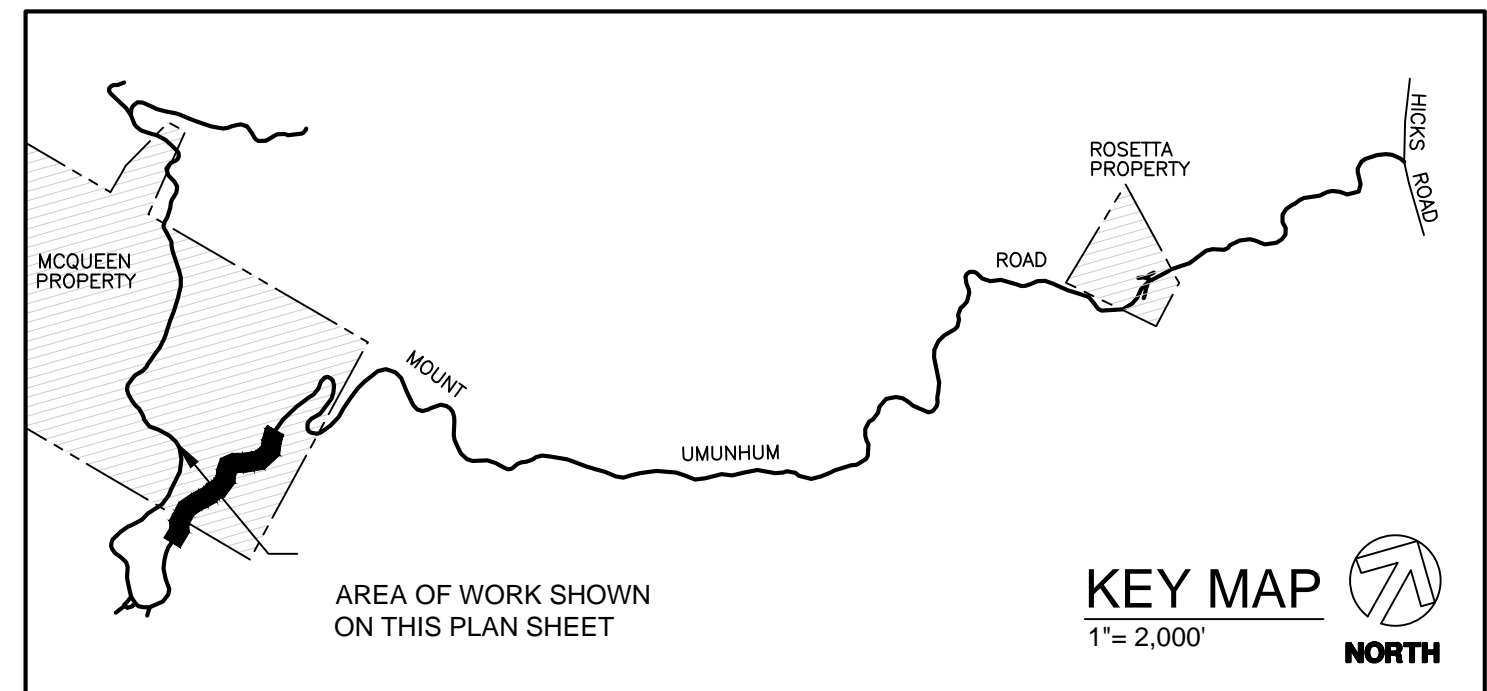
C.6

Path: W:\SHARED\ACTIVE PROJECTS\MIDPENINSULA OPEN SPACE DISTRICT\150175 - MT. UM ROAD REHAB DESIGN\DRAWINGS\150175_SITE02.DWG Plot Date: 6/7/2016 3:04 PM



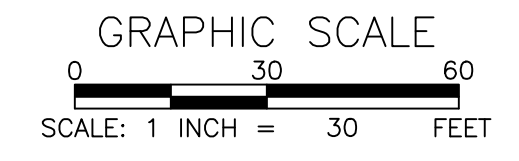
BORING LOG

NO.	AC	AB	R-VALUE
21	5'	3'	46
22	4'	4'	
23	6'	0'	
24	4-1/2'	3'	



- NOTES:**
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.1]
 - 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
 - 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
 - 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
 - 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
 - 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
 - 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
 - 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
 - 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

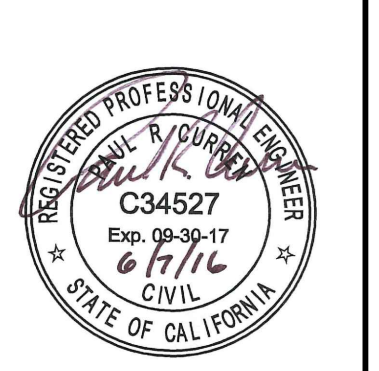
- SHEET SPECIFIC NOTES:**
- 1 REMOVE EX. PAVEMENT & MAKE SHALLOW PAVEMENT REPAIRS. [3 D.1]
 - 2 CONTRACTOR TO MAINTAIN EXISTING SURVEY MONUMENT.
 - 3 BAR DOWN LOOSE ROCKS ON UPSLOPE (SEE SPECS).
 - 4 REMOVE EXCESS ASPHALT BEYOND NEW ROADWAY EDGE.
 - 5 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
 - 6 INSTALL SIGN POST & MOUNT "FALLING ROCK" SIGN. [7 D.4]
 - 7 INSTALL 4" SCH. 40 PVC CONDUIT UNDER ROADWAY. [2 D.3]
 - 8 INSTALL CHRISTY™ B1730 H/20 LOADING UTILITY BOX IN SHOULDER & TIE INTO CONDUIT.
 - 9 INSTALL 4" SCH. 40 PVC DRAIN LINE PIPE IN SHOULDER CONNECTING DRAIN OUTLET IN EX. SPRING BOX TO DS #34; PROVIDE 24" MIN. COVER. [2 D.4]
 - 10 INSTALL CLEAN OUT IN SHOULDER & CONNECT TO 4" SCH. 40 PVC PIPE. [5 D.3]
 - 11 TIE IN NEW 4" PVC DRAIN LINE TO DS #34; CUT PIPE FLUSH & GROUT SPACE BETWEEN PIPE & DRAINAGE STRUCTURE WALL.
 - 12 INSTALL SIGN POST & MOUNT "CURVE" SIGN. [7 D.4]
 - 13 REMOVE EXISTING ROADSIDE PADDLE, DO NOT REPLACE.
 - 14 PLACE SHARROW ON NEW PAVEMENT SURFACE.



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**MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
 SITE PLAN
 STA. 106+29 TO STA. 124+53**



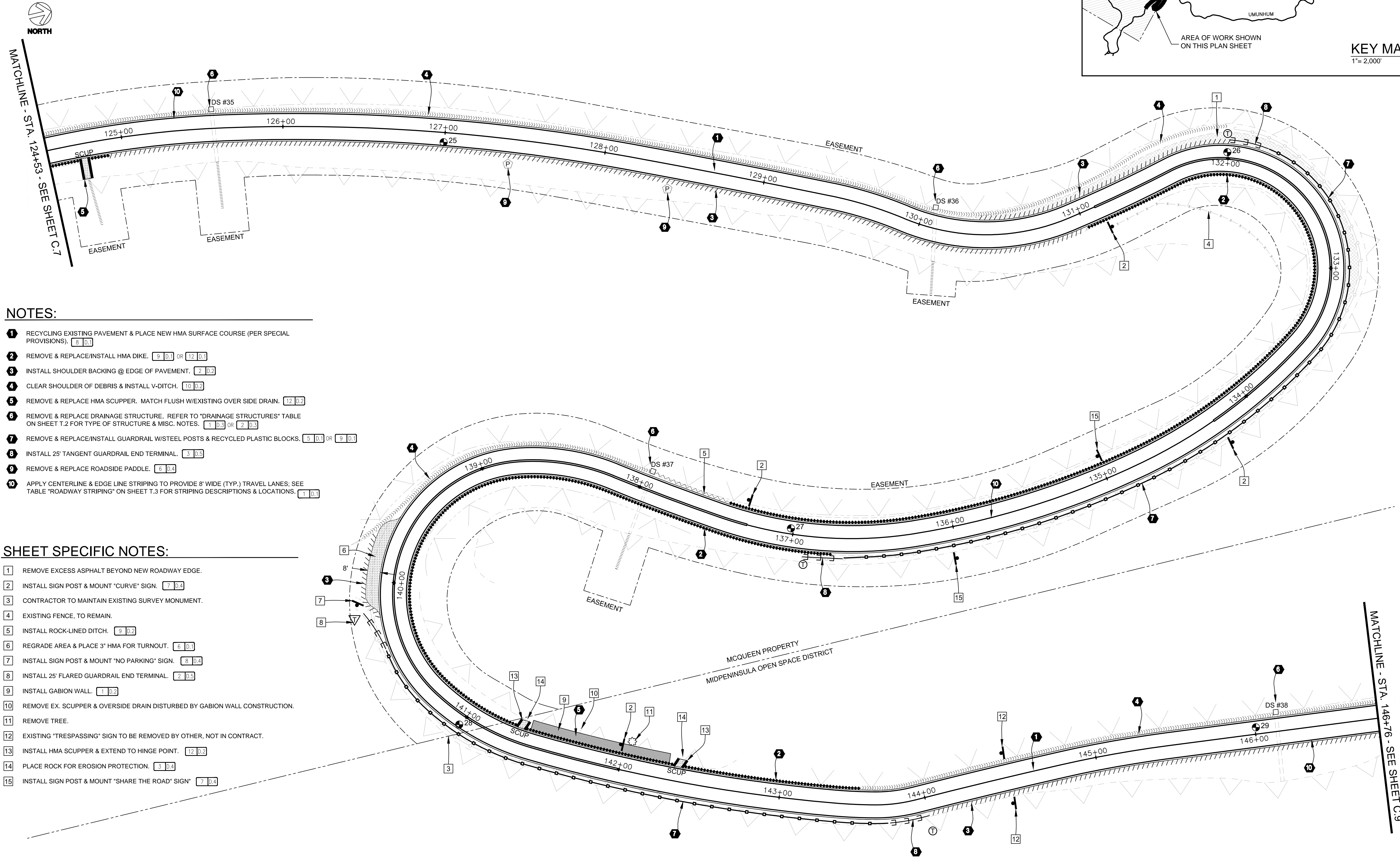
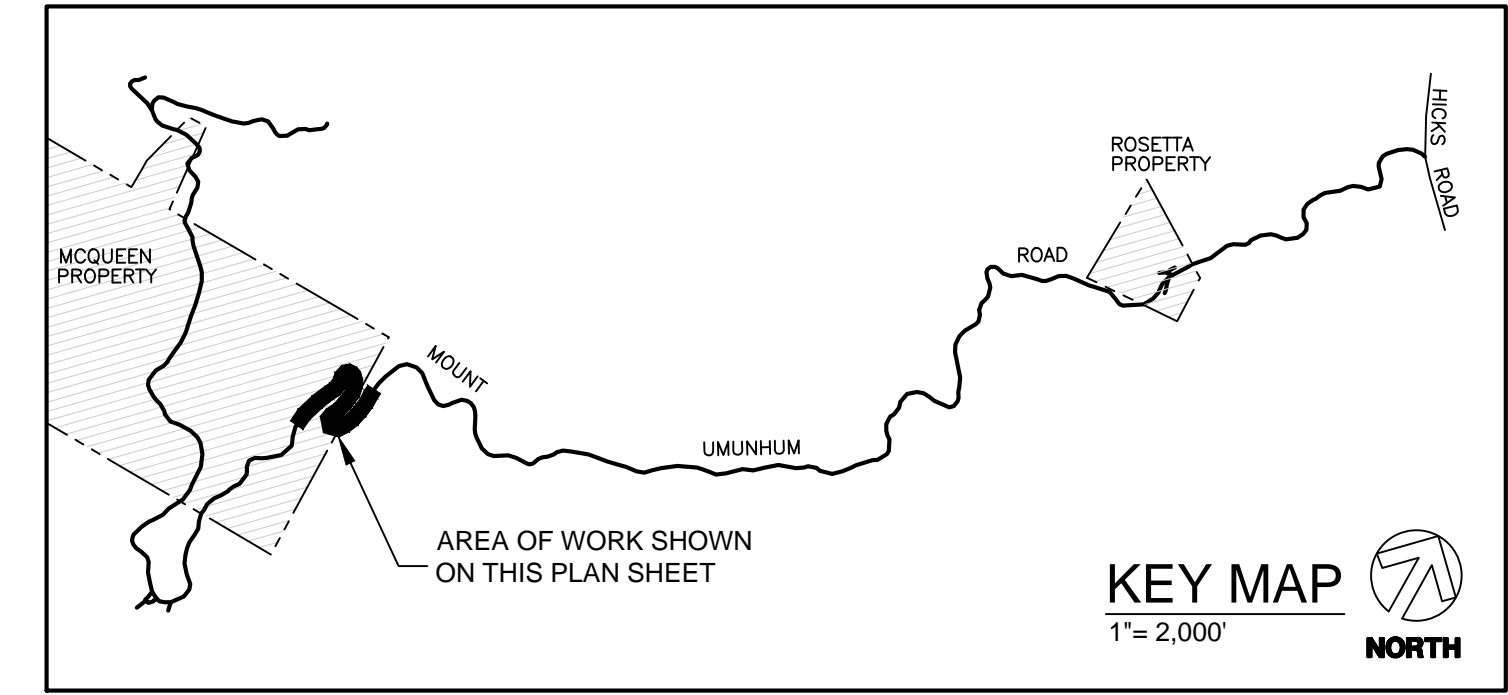
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 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.7

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BORING LOG

NO.	AC	AB	R-VALUE
25	5"	0"	-
26	2-1/2"	3-1/2"	40
27	2-1/2"	0"	-
28	4-1/2"	2-1/2"	-
29	4"	3"	-

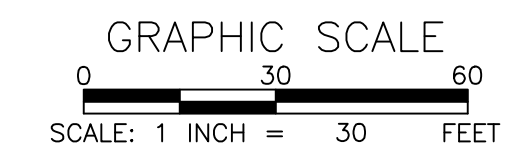


NOTES:

- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [2] [D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9] [D.1] OR [12] [D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2] [D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10] [D.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12] [D.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1] [D.3] OR [2] [D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5] [D.1] OR [8] [D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3] [D.3]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6] [D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1] [D.3]

SHEET SPECIFIC NOTES:

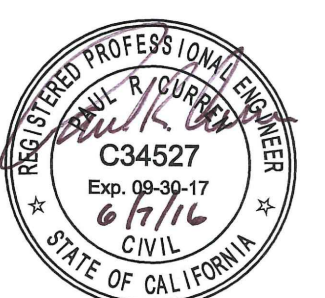
- 1 REMOVE EXCESS ASPHALT BEYOND NEW ROADWAY EDGE.
- 2 INSTALL SIGN POST & MOUNT 'CURVE' SIGN. [7] [D.4]
- 3 CONTRACTOR TO MAINTAIN EXISTING SURVEY MONUMENT.
- 4 EXISTING FENCE, TO REMAIN.
- 5 INSTALL ROCK-LINED DITCH. [9] [D.2]
- 6 REGRADE AREA & PLACE 3" HMA FOR TURNOUT. [6] [D.1]
- 7 INSTALL SIGN POST & MOUNT 'NO PARKING' SIGN. [8] [D.4]
- 8 INSTALL 25' FLARED GUARDRAIL END TERMINAL. [2] [D.3]
- 9 INSTALL GABION WALL. [1] [D.2]
- 10 REMOVE EX. SCUPPER & OVERSIDE DRAIN DISTURBED BY GABION WALL CONSTRUCTION.
- 11 REMOVE TREE.
- 12 EXISTING "TRESPASSING" SIGN TO BE REMOVED BY OTHER, NOT IN CONTRACT.
- 13 INSTALL HMA SCUPPER & EXTEND TO HINGE POINT. [12] [D.2]
- 14 PLACE ROCK FOR EROSION PROTECTION. [3] [D.4]
- 15 INSTALL SIGN POST & MOUNT 'SHARE THE ROAD' SIGN [7] [D.4]



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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 124+53 TO STA. 146+76

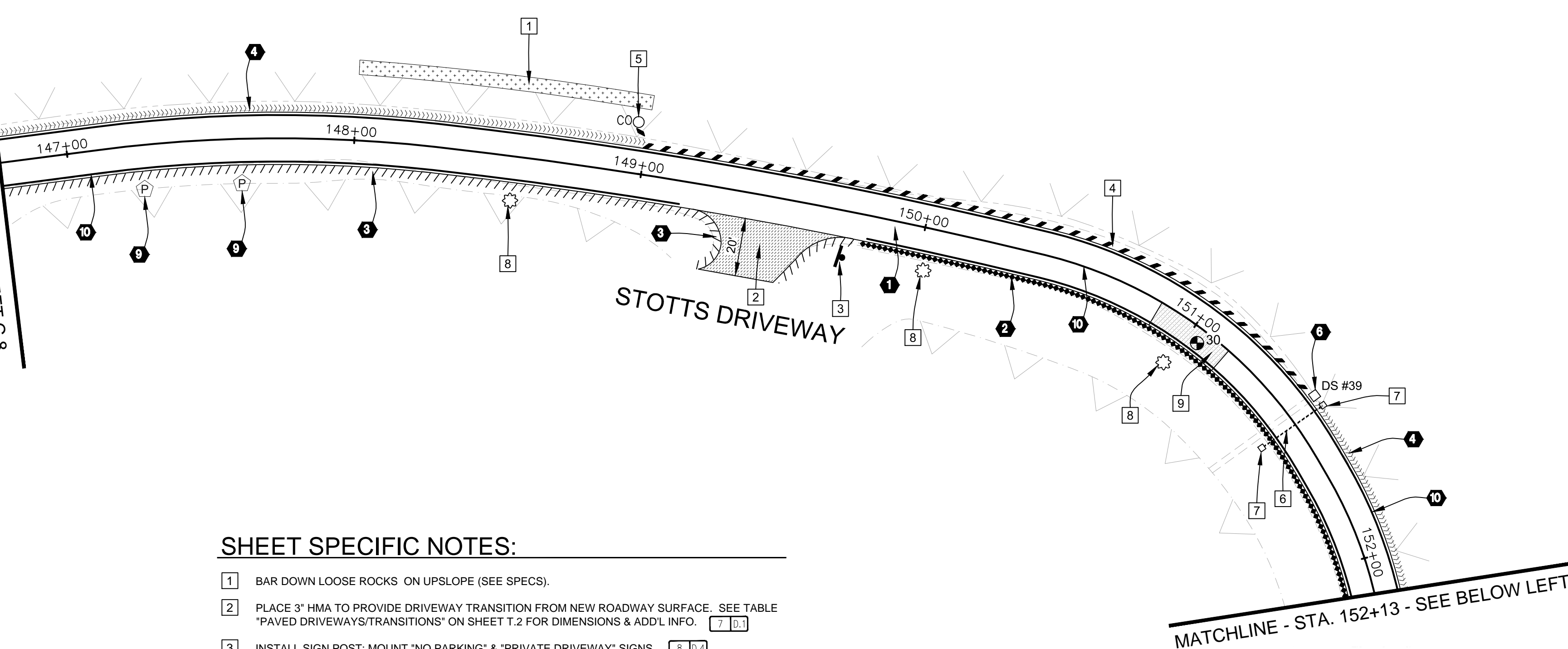


DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.8

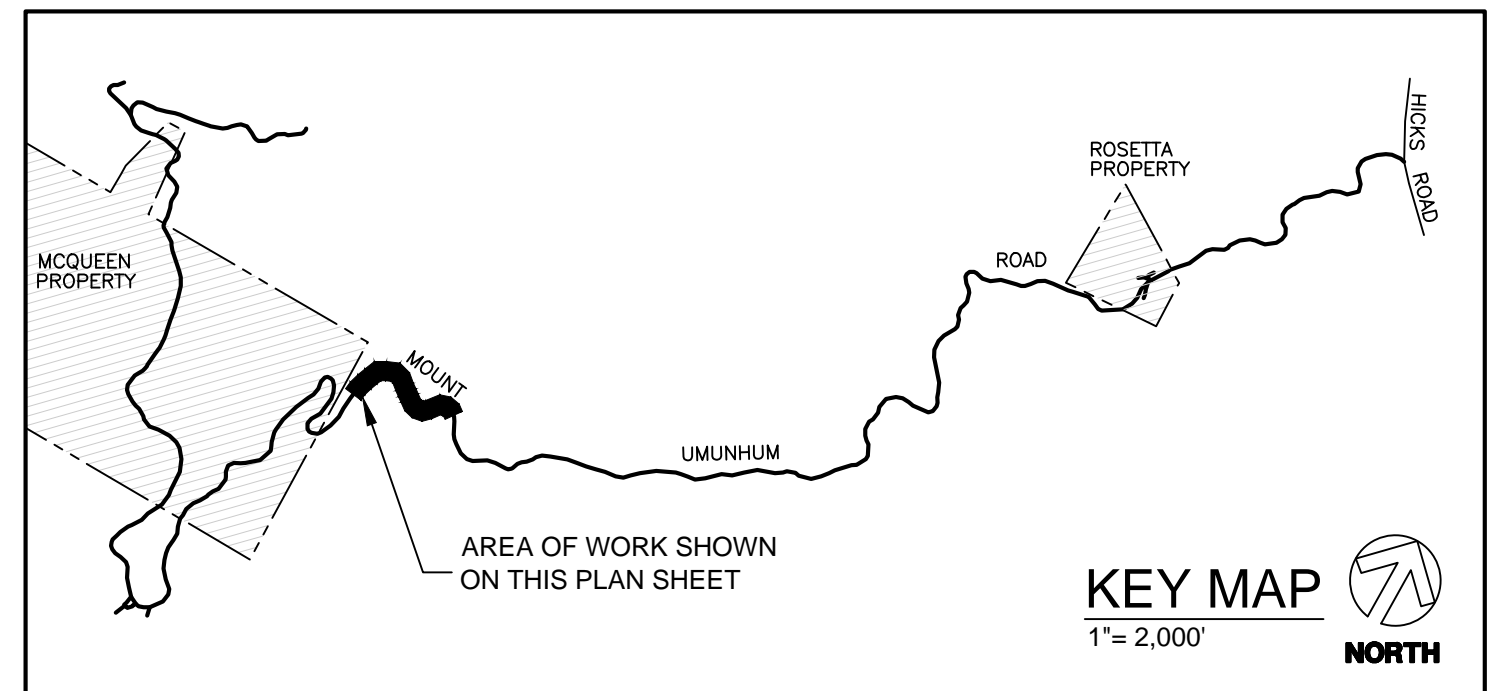
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MATCHLINE - STA. 146+76 - SEE SHEET C.8



BORING LOG

NO.	AC	AB	R-VALUE
30	4-1/2"	4"	-
31	4"	1-1/2"	17
32	4"	3"	-

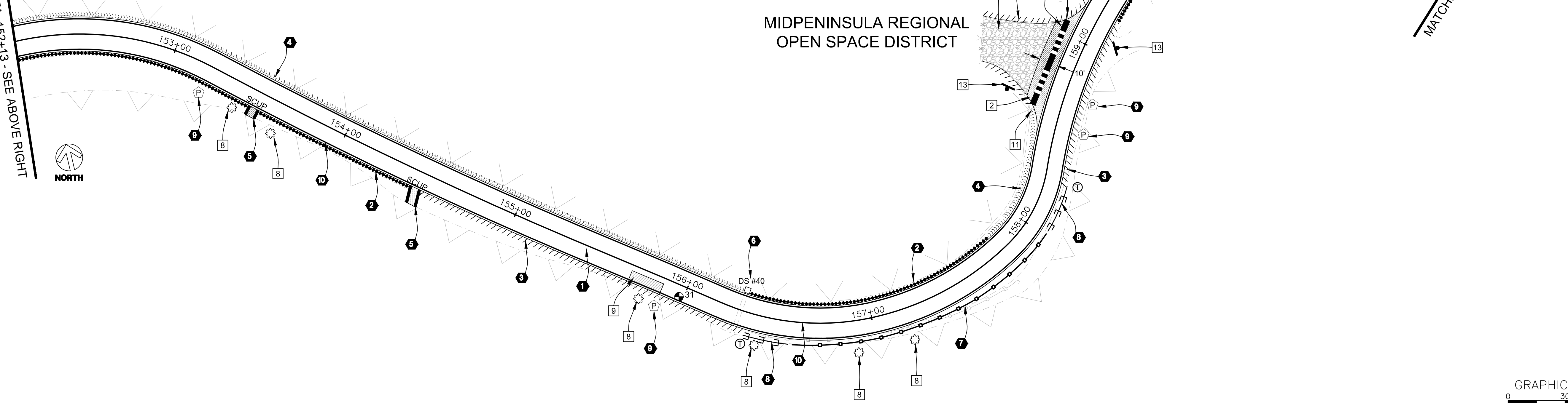


- NOTES:**
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.3]
 - 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.3] OR [12 D.1]
 - 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.3]
 - 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
 - 5 REMOVE & REPLACE HMA SCUPPER, MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
 - 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.3] OR [9 D.1]
 - 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
 - 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
 - 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

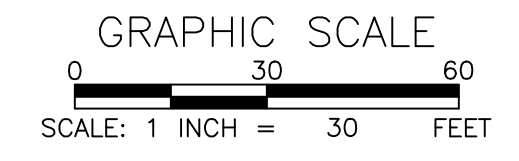
- SHEET SPECIFIC NOTES:**
- 1 BAR DOWN LOOSE ROCKS ON UPSLOPE (SEE SPECS).
 - 2 PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7 D.1]
 - 3 INSTALL SIGN POST, MOUNT "NO PARKING" & "PRIVATE DRIVEWAY" SIGNS. [8 D.4]
 - 4 STA 149+00 TO 151+47: INSTALL EDGE DRAIN & TIE INTO NEW DRAINAGE STRUCTURE. [4 D.3] & [8 D.3]
 - 5 INSTALL CLEANOUT IN SHOULDER & CONNECT TO EDGE DRAIN. [5 D.3]
 - 6 INSTALL 4" SCH. 40 PVC CONDUIT UNDER ROADWAY. [2 D.4]
 - 7 INSTALL CHRISTY™ B1730 H/20 LOADING UTILITY BOX IN SHOULDER & TIE IN CONDUIT.
 - 8 REMOVE TREE & STUMP PER SPECS.
 - 9 REMOVE TREE ROOTS UNDER ROADWAY.
 - 10 CONSTRUCT 3' WIDE PCC SWALE ACROSS PAVED DRIVEWAY. [6 D.2]
 - 11 ALIGN V-DITCH W/NEW PCC SWALE.
 - 12 REGRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE 3" COMPACTED BASE ROCK.
 - 13 INSTALL SIGN POST & MOUNT "NO PARKING" SIGN. [8 D.4]
 - 14 PLACE ROCK FOR EROSION PROTECTION. [3 D.4]

MATCHLINE - STA. 152+13 - SEE BELOW LEFT

MATCHLINE - STA. 152+13 - SEE ABOVE RIGHT



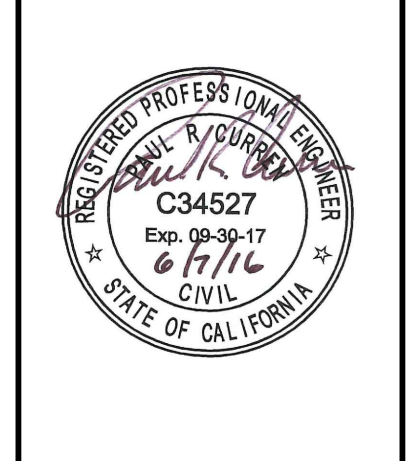
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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 146+76 TO STA. 161+62



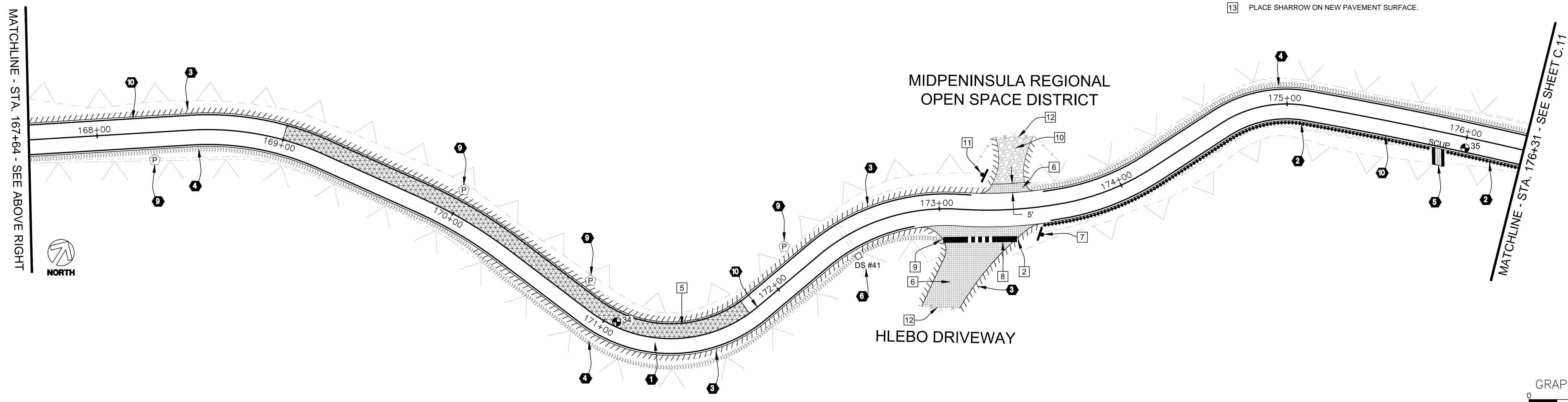
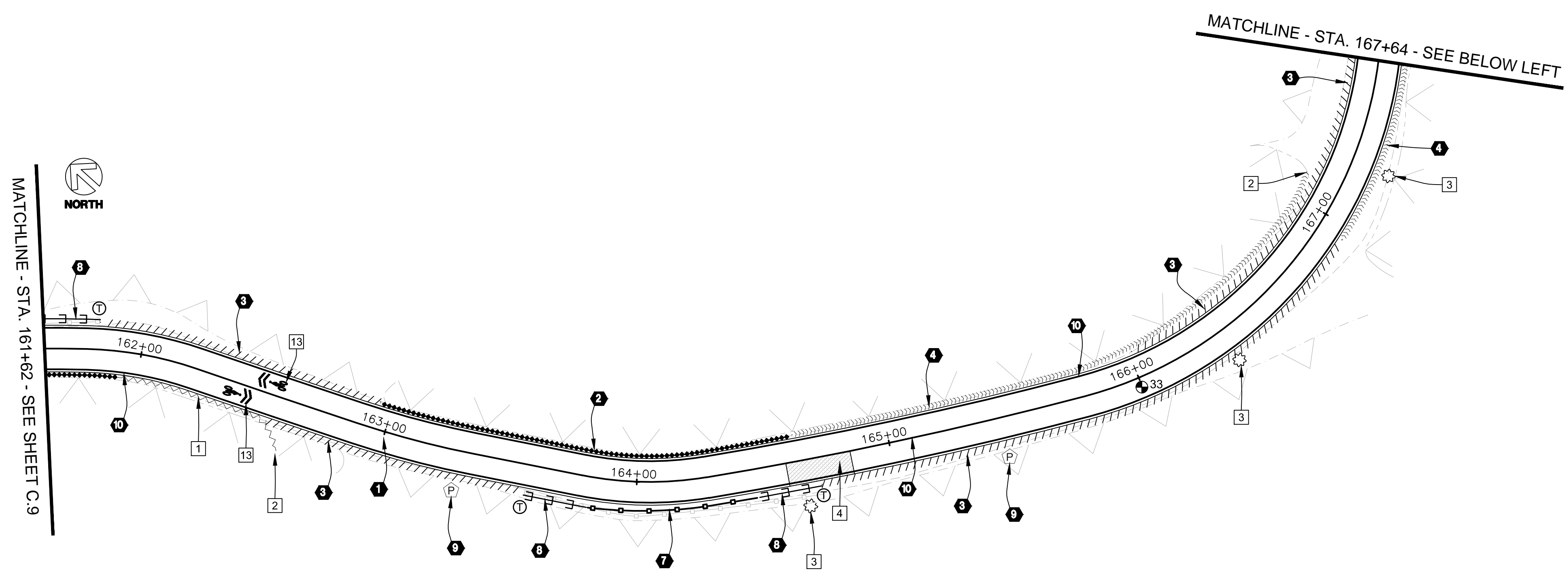
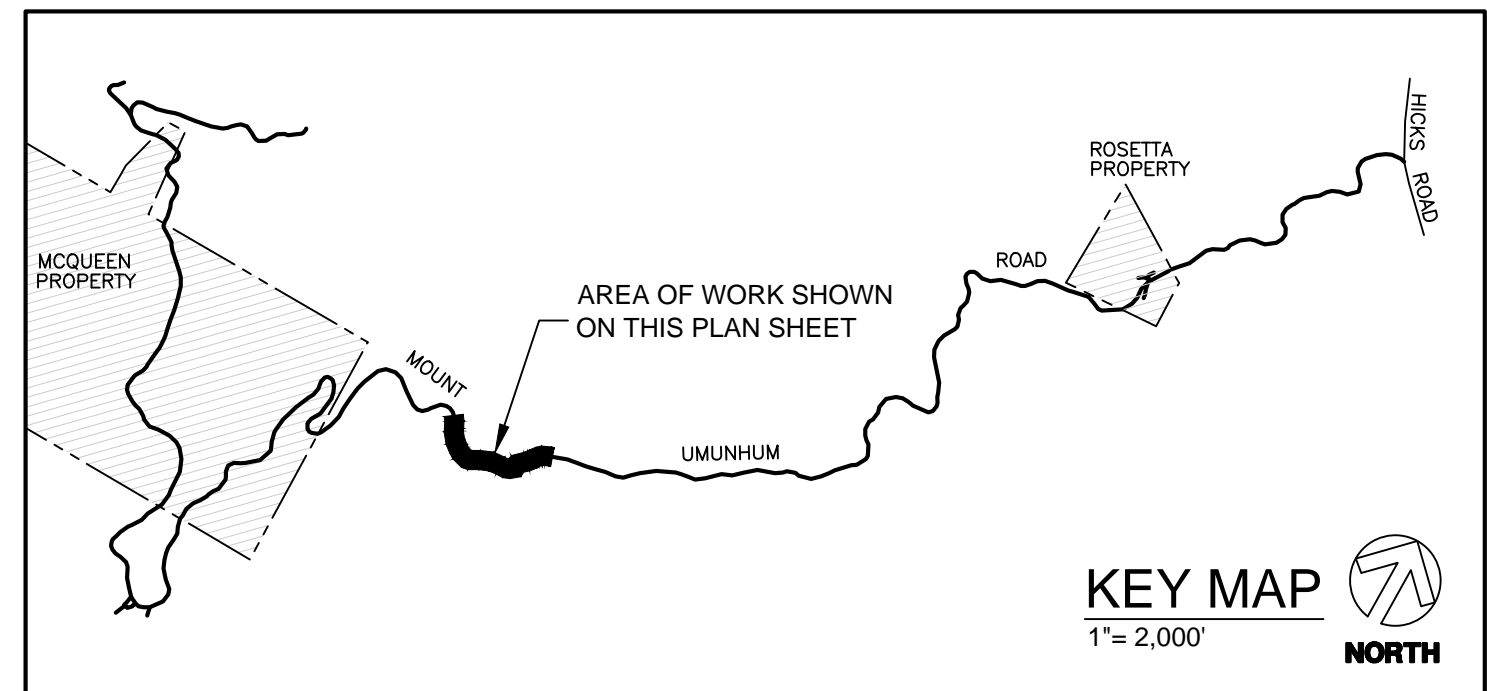
DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.9

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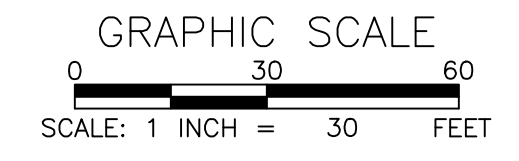
BORING LOG

NO.	AC	AB	R-VALUE
33	4'	3'	-
34	4'	3-1/2'	-
35	4'	3'	-



- NOTES:**
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.1]
 - 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
 - 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
 - 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
 - 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
 - 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.3] OR [9 D.3]
 - 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
 - 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.3]
 - 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.4]

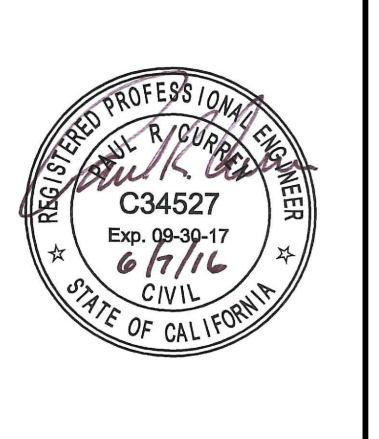
- SHEET SPECIFIC NOTES:**
- 1 INSTALL ROCK-LINED V-DITCH. [9 D.2]
 - 2 PLACE ROCK FOR EROSION PROTECTION. [3 D.4]
 - 3 REMOVE TREE & STUMP PER SPECS.
 - 4 REMOVE TREE ROOTS UNDER ROADWAY.
 - 5 REMOVE EX. PAVEMENT & MAKE SHALLOW PAVEMENT REPAIRS. [3 D.4]
 - 6 PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7 D.4]
 - 7 INSTALL SIGN POST; MOUNT "NO PARKING" & "PRIVATE DRIVEWAY" SIGNS. [8 D.4]
 - 8 CONSTRUCT 3' WIDE PCC SWALE ACROSS PAVED DRIVEWAY. [8 D.2]
 - 9 ALIGN V-DITCH W/NEW PCC SWALE.
 - 10 REGRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE BASE ROCK.
 - 11 INSTALL SIGN POST & MOUNT "NO PARKING" SIGN. [8 D.4]
 - 12 EXISTING GATE TO REMAIN, PROTECT IN PLACE.
 - 13 PLACE SHARROW ON NEW PAVEMENT SURFACE.



REV	DATE	DESCRIPTION	APP

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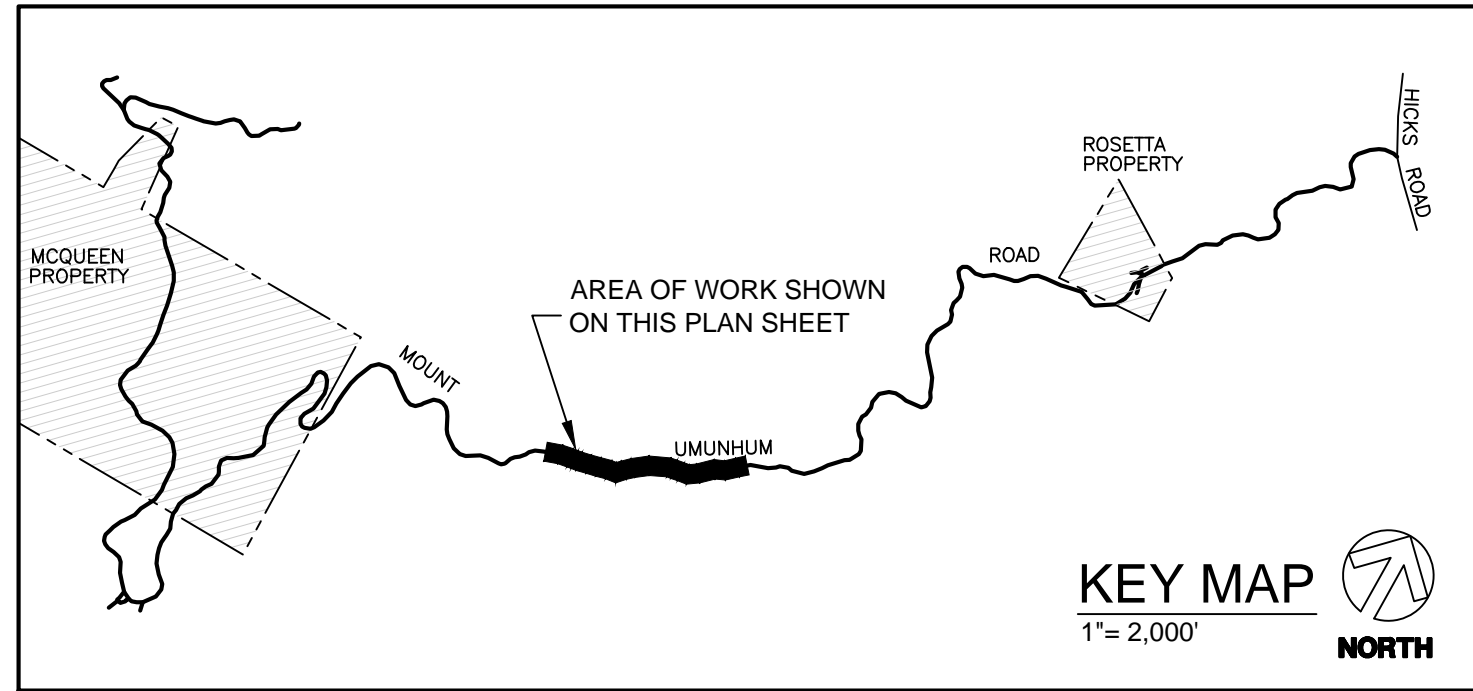
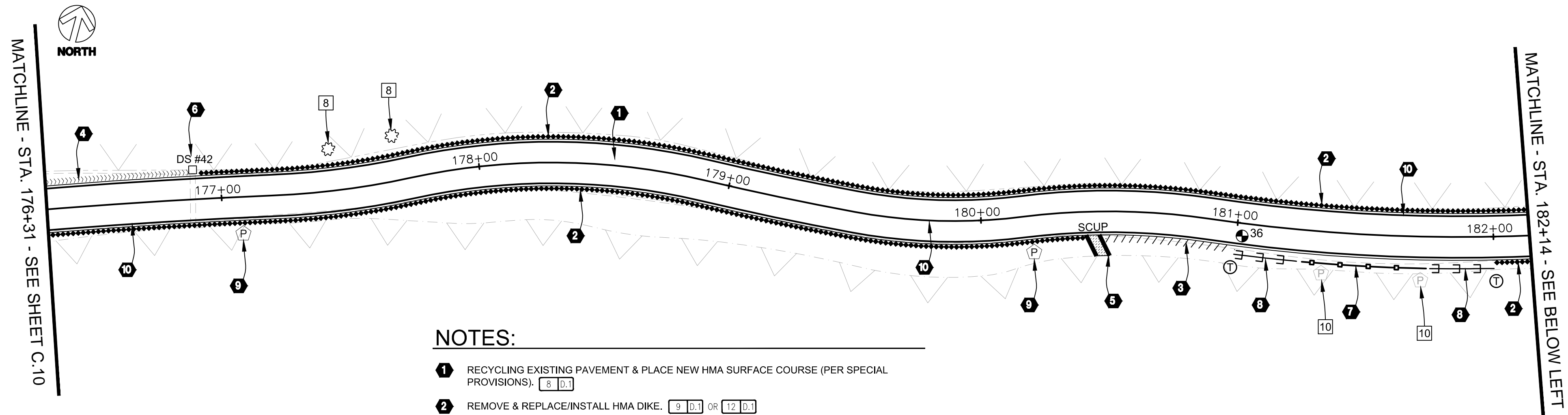
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 161+62 TO STA. 176+31



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.10

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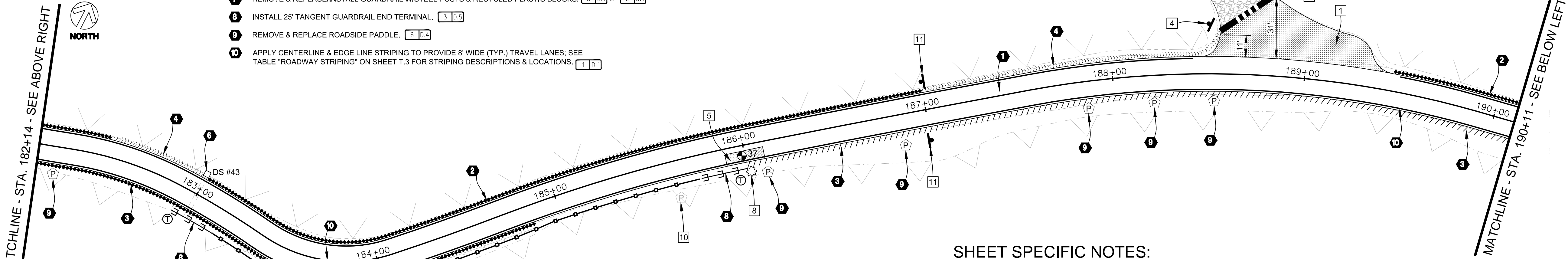
BORING LOG

NO.	AC	AB	R-VALUE
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37	5.0"	0"	-
38	3"	3"	-
39	3"	3"	-

NOTES:

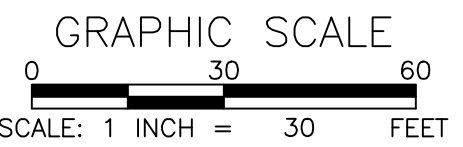
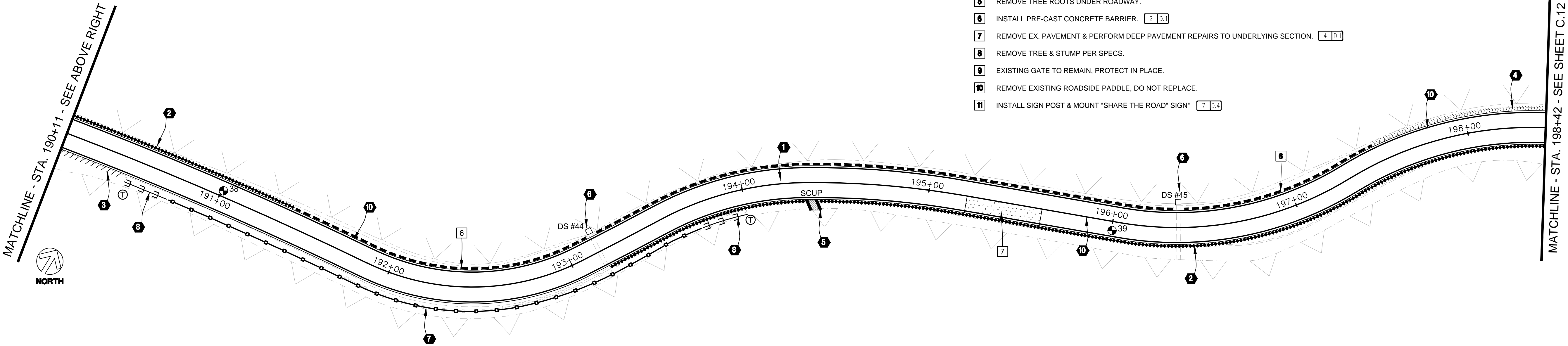
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). (C D.1)
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. (9 D.1) OR (12 D.1)
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. (2 D.2)
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. (10 D.3)
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. (12 D.3)
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. (1 D.3) OR (2 D.3)
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. (5 D.1) OR (9 D.1)
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. (3 D.3)
- 9 REMOVE & REPLACE ROADSIDE PADDLE. (6 D.4)
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. (1 D.1)

MIDPENINSULA REGIONAL OPEN SPACE DISTRICT



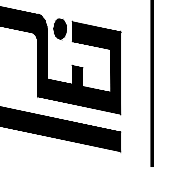
SHEET SPECIFIC NOTES:

- 1 PLACE 3" HMA TO PROVIDE TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADDL INFO. (7 D.1)
- 2 REGRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE BASE ROCK.
- 3 CONSTRUCT 3' WIDE PCC SWALE. (8 D.2)
- 4 INSTALL SIGN POST & MOUNT "NO PARKING" SIGN. (8 D.4)
- 5 REMOVE TREE ROOTS UNDER ROADWAY.
- 6 INSTALL PRE-CAST CONCRETE BARRIER. (2 D.1)
- 7 REMOVE EX. PAVEMENT & PERFORM DEEP PAVEMENT REPAIRS TO UNDERLYING SECTION. (4 D.1)
- 8 REMOVE TREE & STUMP PER SPECS.
- 9 EXISTING GATE TO REMAIN, PROTECT IN PLACE.
- 10 REMOVE EXISTING ROADSIDE PADDLE, DO NOT REPLACE.
- 11 INSTALL SIGN POST & MOUNT "SHARE THE ROAD" SIGN (7 D.4)



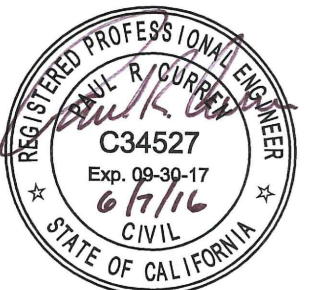
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**MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
MT. UMUNHUM ROAD REHABILITATION PROJECT**

**SITE PLAN
STA. 176+31 TO STA. 198+42**

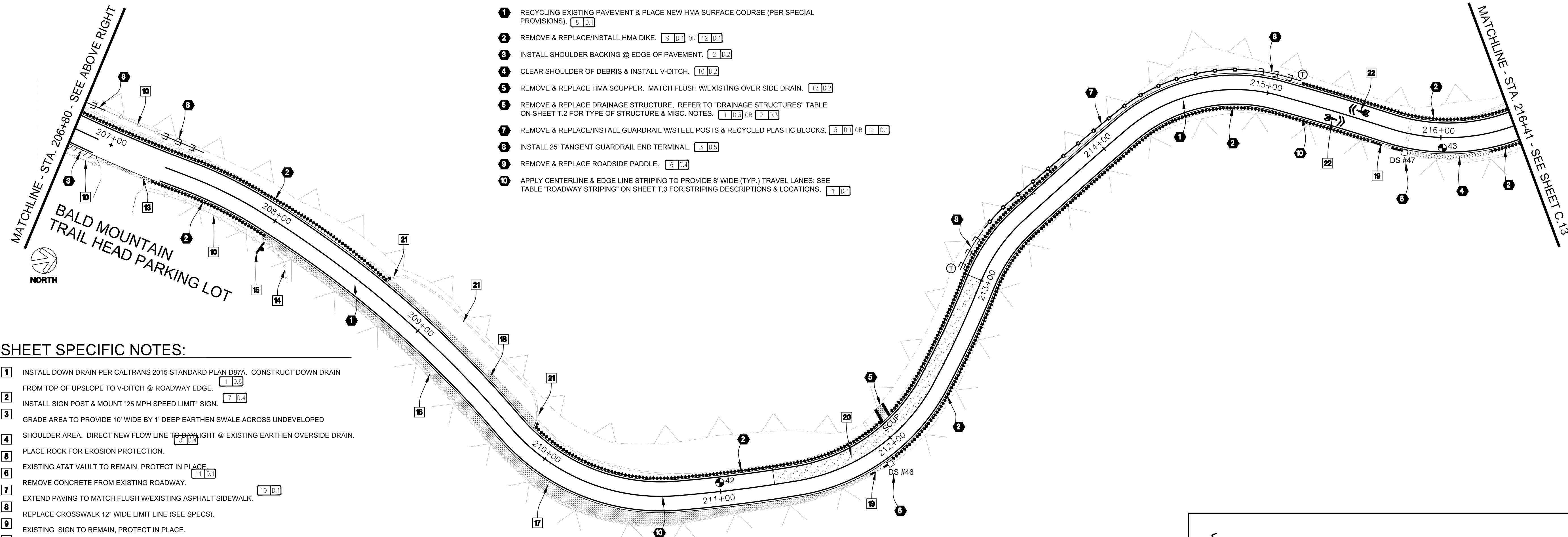
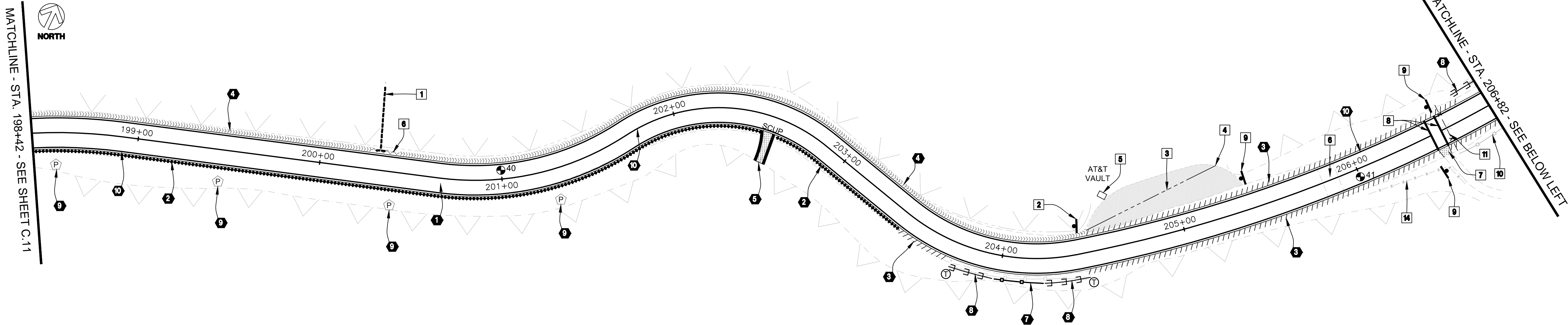


DRAWN BY: JRE
PROJECT NUMBER: 150175
SCALE: 1" = 30'
DATE: JUNE 2016
SHEET NUMBER:

C.11

REV	DATE	DESCRIPTION	APP

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NOTES:

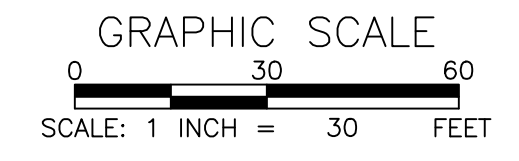
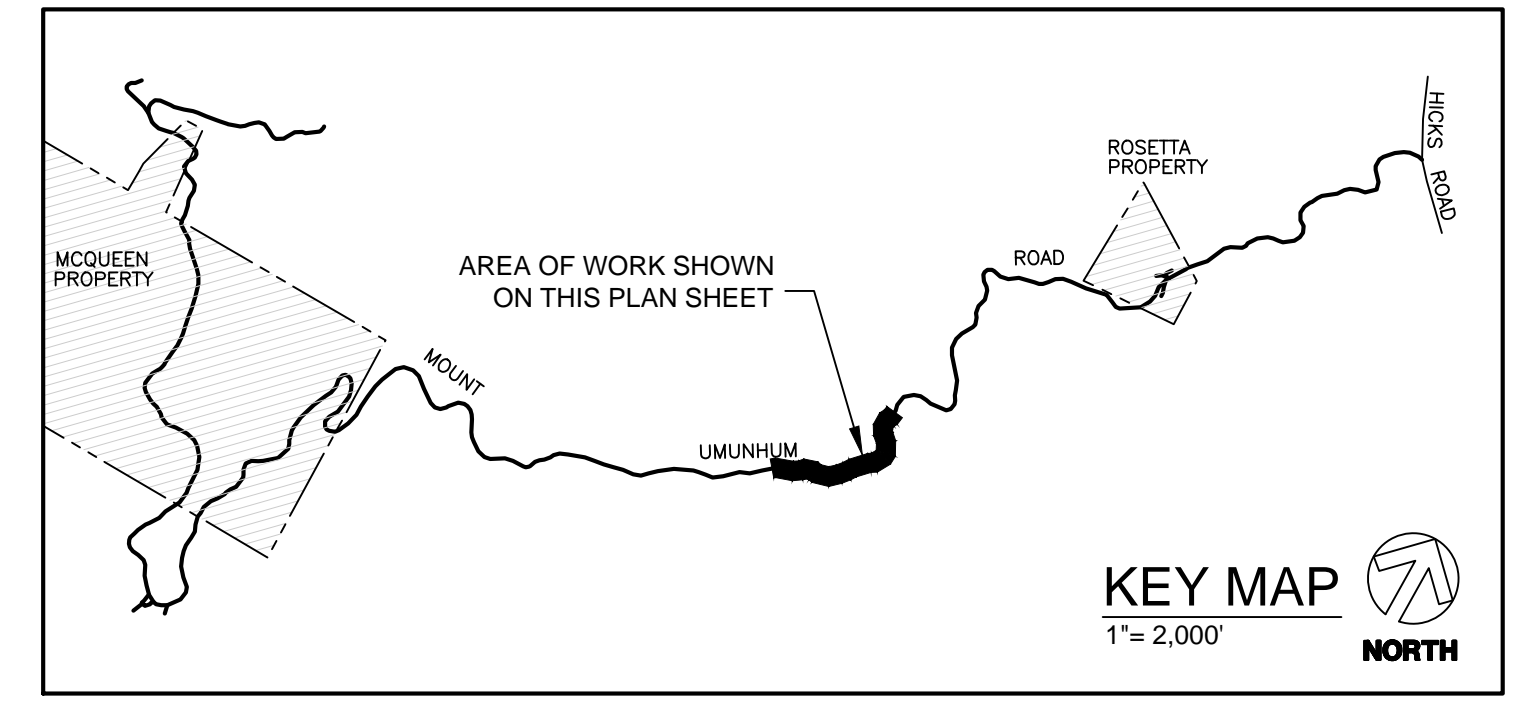
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [8 D.1] OR [12 D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO 'DRAINAGE STRUCTURES' TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.5]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES. SEE TABLE 'ROADWAY STRIPING' ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

SHEET SPECIFIC NOTES:

- 1 INSTALL DOWN DRAIN PER CALTRANS 2015 STANDARD PLAN D87A. CONSTRUCT DOWN DRAIN FROM TOP OF UPSLOPE TO V-DITCH @ ROADWAY EDGE. [1 D.6]
- 2 INSTALL SIGN POST & MOUNT "25 MPH SPEED LIMIT" SIGN. [7 D.4]
- 3 GRADE AREA TO PROVIDE 10' WIDE BY 1' DEEP EARTHEN SWALE ACROSS UNDEVELOPED SHOULDER AREA. DIRECT NEW FLOW LINE TO DOWN SLOPE @ EXISTING EARTHEN OVERSIDE DRAIN. PLACE ROCK FOR EROSION PROTECTION. [10 D.1]
- 4 EXISTING AT&T VAULT TO REMAIN, PROTECT IN PLACE. [11 D.1]
- 5 REMOVE CONCRETE FROM EXISTING ROADWAY. [10 D.1]
- 6 EXTEND PAVING TO MATCH FLUSH W/EXISTING ASPHALT SIDEWALK. [10 D.1]
- 7 REPLACE CROSSWALK 12" WIDE LIMIT LINE (SEE SPECS). [10 D.1]
- 8 EXISTING SIGN TO REMAIN, PROTECT IN PLACE. [10 D.1]
- 9 EXISTING GUARDRAIL TO REMAIN. [10 D.1]
- 10 REMOVE EXISTING GATE & STORE ON SITE. Reference E.4 Solar Powered Gate System Requirements. [10 D.1]
- 11 INSTALL ROCK-LINED DITCH. [9 D.2]
- 12 EXTEND PAVING TO MATCH FLUSH W/EXISTING CONCRETE DRIVEWAY APPROACH. [10 D.1]
- 13 EXISTING FENCE TO REMAIN. [10 D.1]
- 14 INSTALL SIGN POST & MOUNT "25 MPH SPEED LIMIT" SIGN. [7 D.4]
- 15 EXISTING PAVED DITCH TO REMAIN. CLEAR OF DEBRIS & MAKE REPAIRS IF NECESSARY. [10 D.1]
- 16 PAVING TO MATCH FLUSH W/EXISTING PAVED DITCH. [10 D.1]
- 17 SAWCUT @ AC LIP OF EXISTING TURNOUT & EXTEND PAVING TO MATCH FLUSH W/TURNOUT. [10 D.1]
- 18 REMOVE & REPLACE/INSTALL PAVED DITCH. [11 D.2]
- 19 REMOVE EXISTING PAVEMENT & PERFORM DEEP PAVEMENT REPAIRS [4 D.1]
- 20 EXISTING PAVED TURNOUT & HMA DIKE TO REMAIN. ALIGN NEW HMA DIKE TO MATCH FLUSH WITH EXISTING. [10 D.1]
- 21 PLACE SHARROW ON NEW PAVEMENT SURFACE. [10 D.1]

BORING LOG

NO.	AC	AB	R-VALUE
40	5"	3-1/2"	-
41	5"	8"	29
42	3-1/2"	2-1/2"	-
43	3-1/2"	3-1/2"	-



REV	DATE	DESCRIPTION	APP

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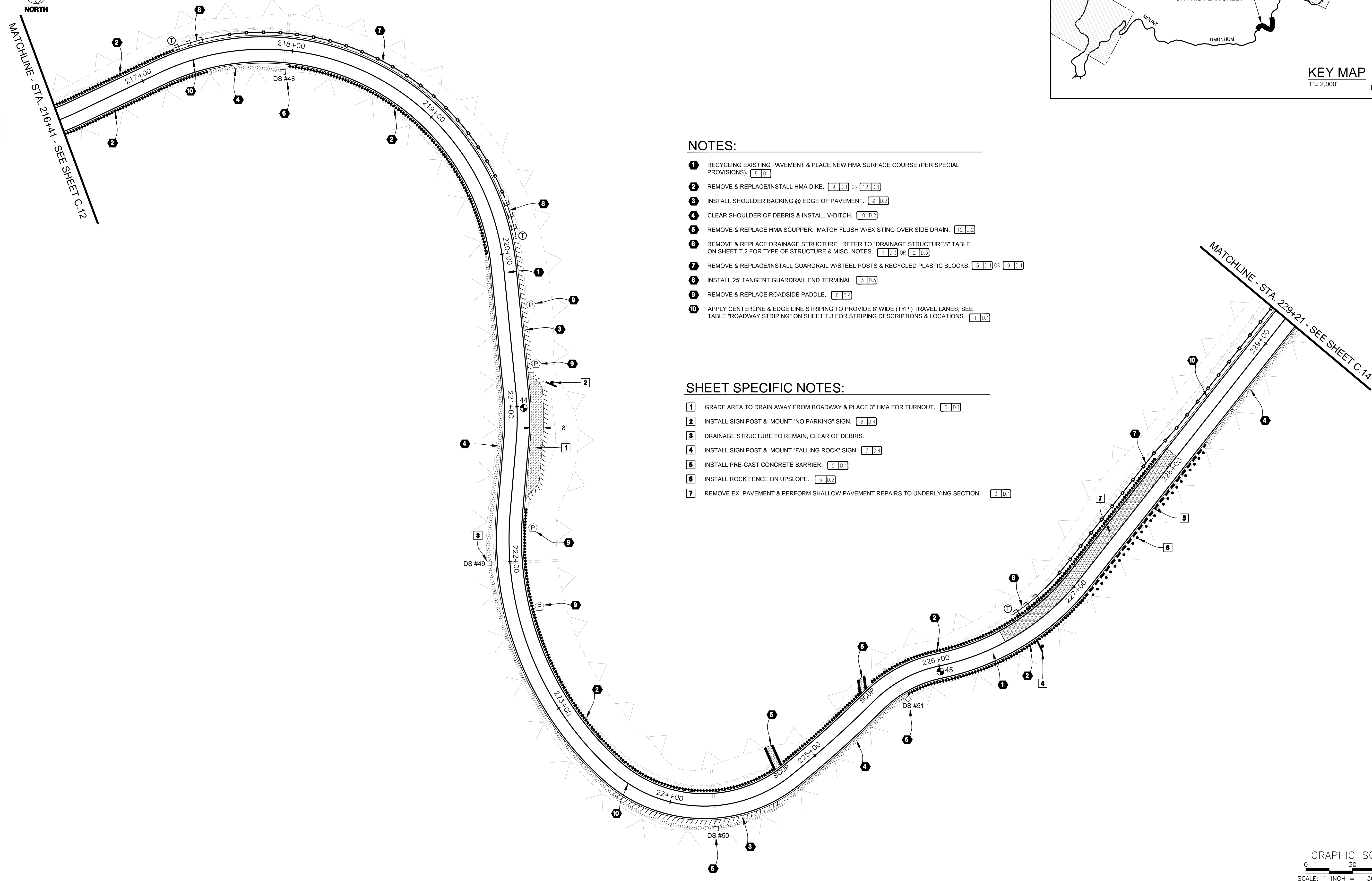
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 198+42 TO STA. 216+41



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

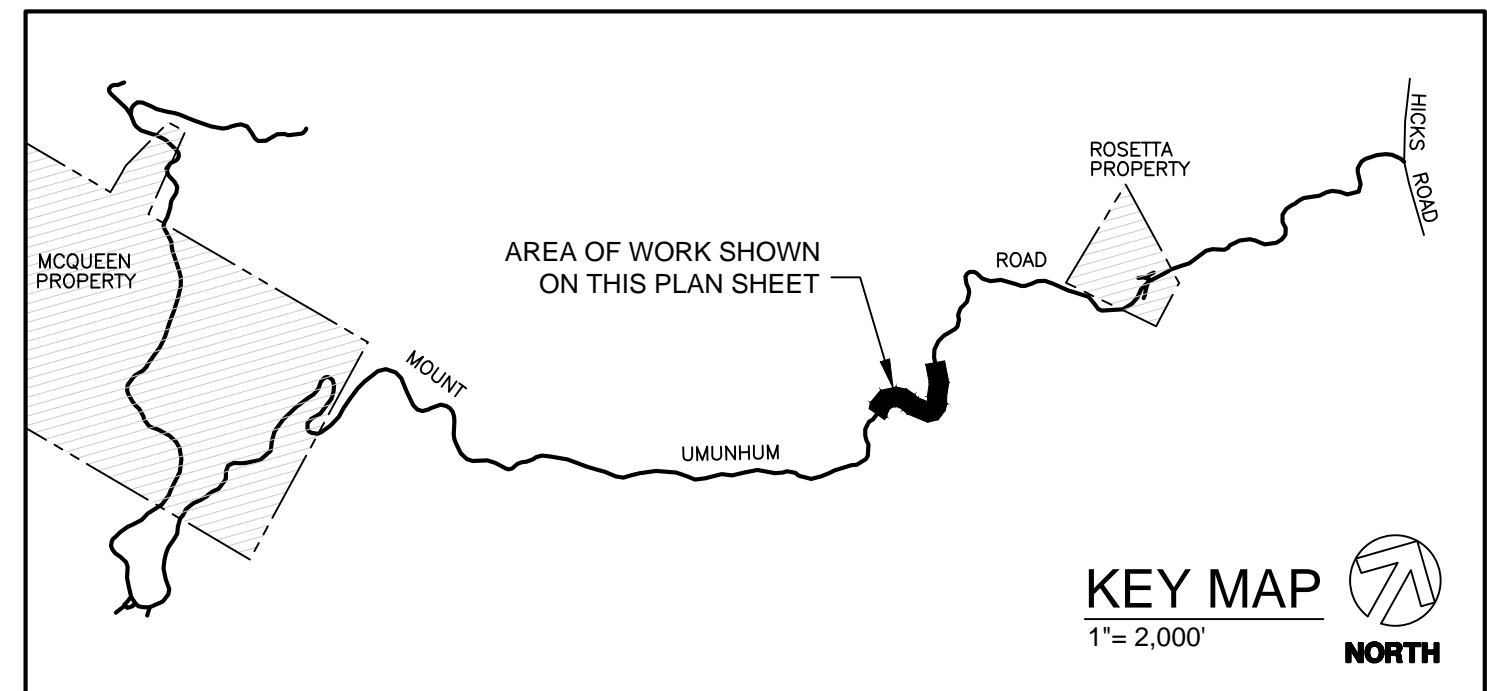
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NORTH
MATCHLINE - STA. 216+41 - SEE SHEET C.12



BORING LOG

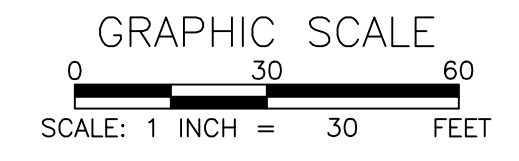
NO.	AC	AB	R-VALUE
44	5'	3"	-
45	4-1/2'	4"	-



- NOTES:**
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [6 D.1]
 - 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
 - 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
 - 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
 - 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
 - 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO 'DRAINAGE STRUCTURES' TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.3] OR [9 D.3]
 - 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
 - 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.3]
 - 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE 'ROADWAY STRIPING' ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.4]

- SHEET SPECIFIC NOTES:**
- 1 GRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE 3" HMA FOR TURNOUT. [6 D.1]
 - 2 INSTALL SIGN POST & MOUNT 'NO PARKING' SIGN. [8 D.4]
 - 3 DRAINAGE STRUCTURE TO REMAIN, CLEAR OF DEBRIS.
 - 4 INSTALL SIGN POST & MOUNT 'FALLING ROCK' SIGN. [7 D.4]
 - 5 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
 - 6 INSTALL ROCK FENCE ON UPSLOPE. [5 D.2]
 - 7 REMOVE EX. PAVEMENT & PERFORM SHALLOW PAVEMENT REPAIRS TO UNDERLYING SECTION. [3 D.1]

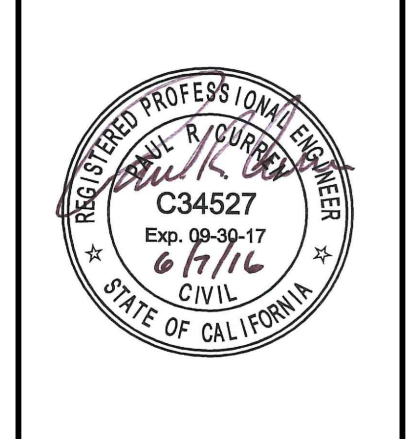
MATCHLINE - STA. 229+21 - SEE SHEET C.14



REV	DATE	DESCRIPTION	APP

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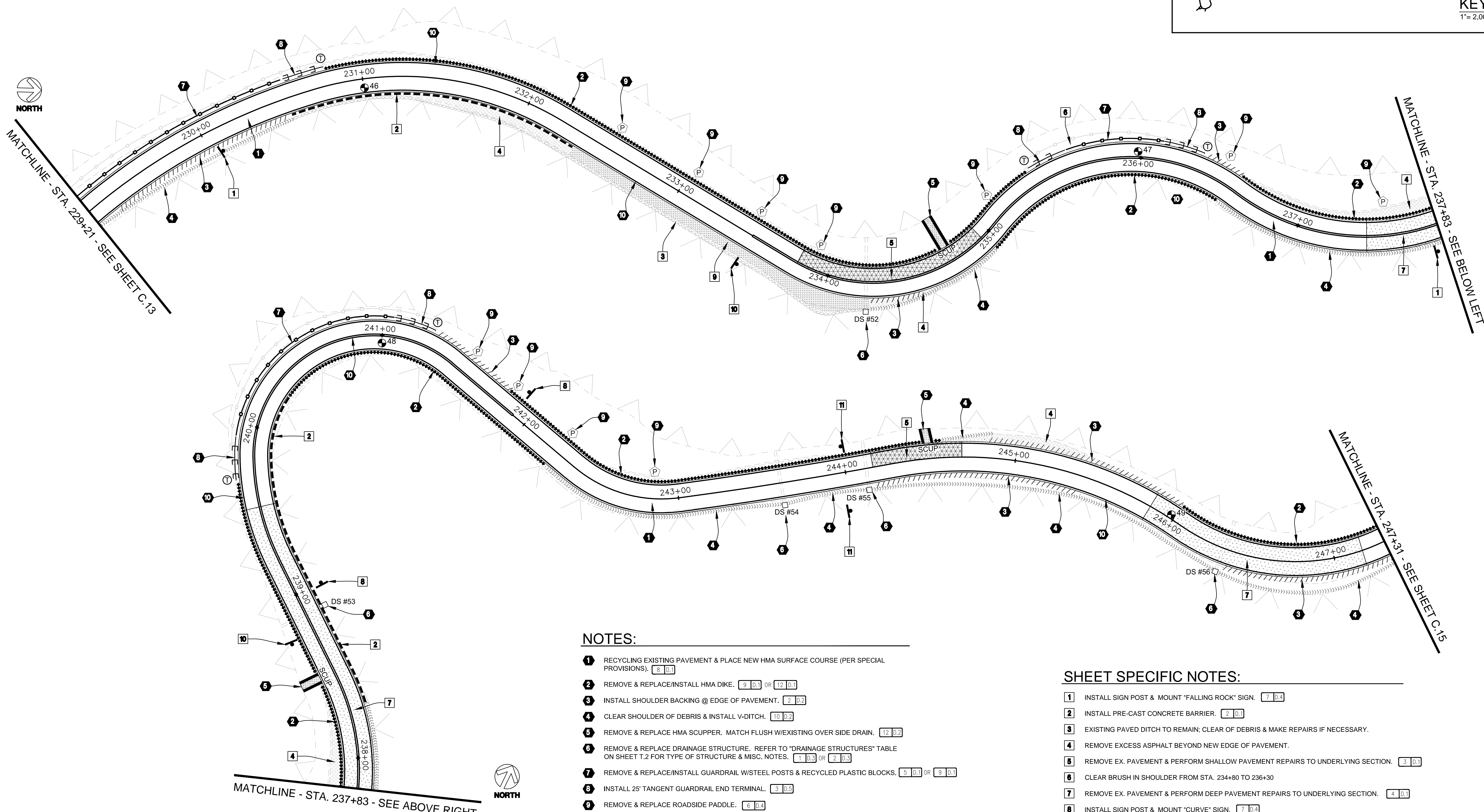
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 216+41 TO STA. 229+21



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

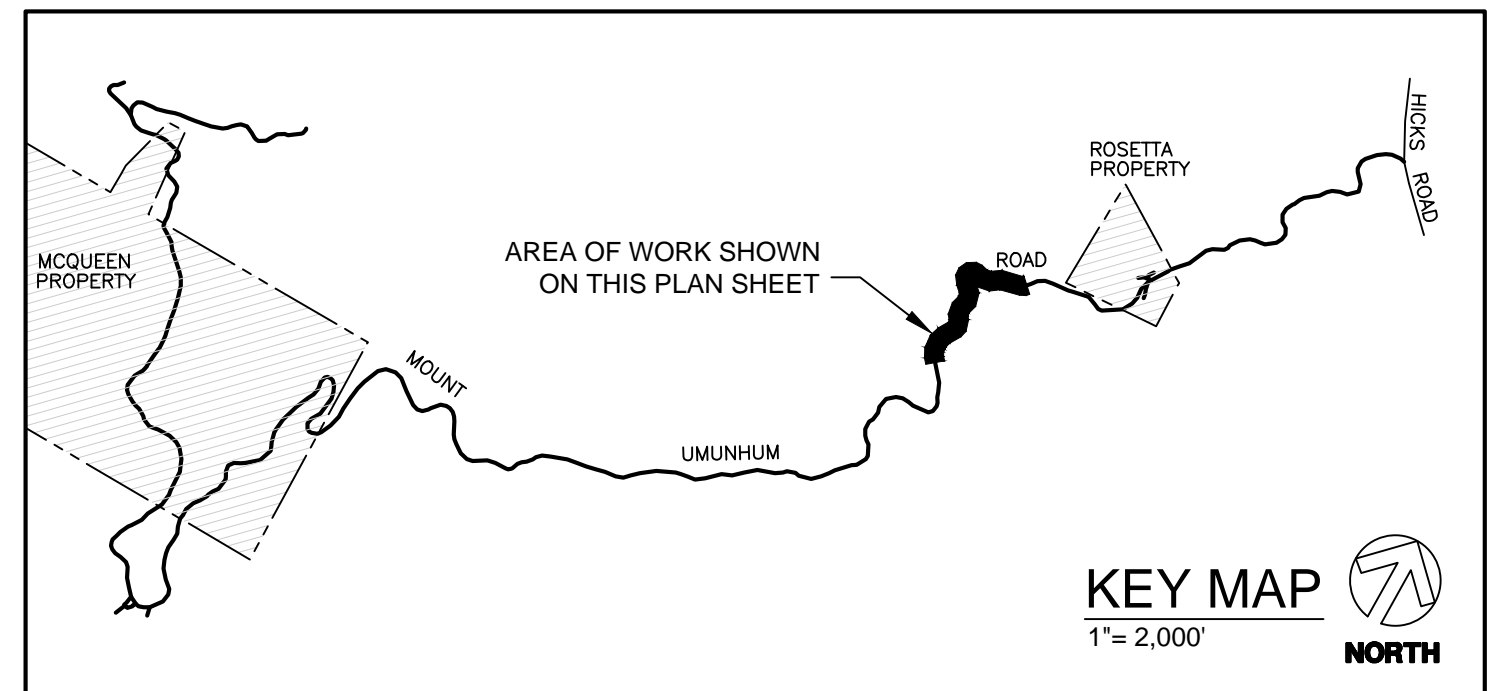
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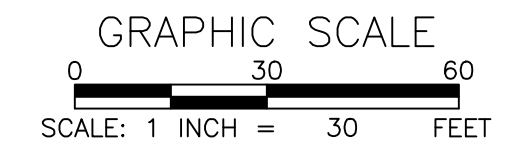
BORING LOG

NO.	AC	AB	R-VALUE
46	2-1/2"	0"	36
47	4"	3"	-
48	4"	3"	-
49	4"	1"	-



- NOTES:**
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.1]
 - 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
 - 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.2]
 - 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
 - 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12 D.2]
 - 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
 - 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
 - 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.3]
 - 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.3]
 - 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]

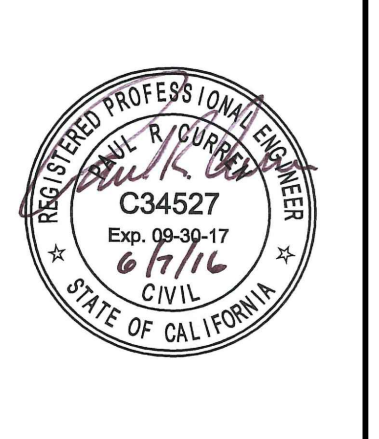
- SHEET SPECIFIC NOTES:**
- 1 INSTALL SIGN POST & MOUNT "FALLING ROCK" SIGN. [7 D.4]
 - 2 INSTALL PRE-CAST CONCRETE BARRIER. [2 D.1]
 - 3 EXISTING PAVED DITCH TO REMAIN; CLEAR OF DEBRIS & MAKE REPAIRS IF NECESSARY.
 - 4 REMOVE EXCESS ASPHALT BEYOND NEW EDGE OF PAVEMENT.
 - 5 REMOVE EX. PAVEMENT & PERFORM SHALLOW PAVEMENT REPAIRS TO UNDERLYING SECTION. [3 D.1]
 - 6 CLEAR BRUSH IN SHOULDER FROM STA. 234+80 TO 236+30
 - 7 REMOVE EX. PAVEMENT & PERFORM DEEP PAVEMENT REPAIRS TO UNDERLYING SECTION. [4 D.1]
 - 8 INSTALL SIGN POST & MOUNT "CURVE" SIGN. [7 D.4]
 - 9 EXTEND PAVING TO MATCH FLUSH W/EXISTING PAVED DITCH. [10 D.1]
 - 10 INSTALL SIGN POST & MOUNT "MULTI-CURVE" SIGN. [7 D.4]
 - 11 INSTALL SIGN POST & MOUNT "SHARE THE ROAD" SIGN. [7 D.4]



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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 229+21 TO STA. 247+31



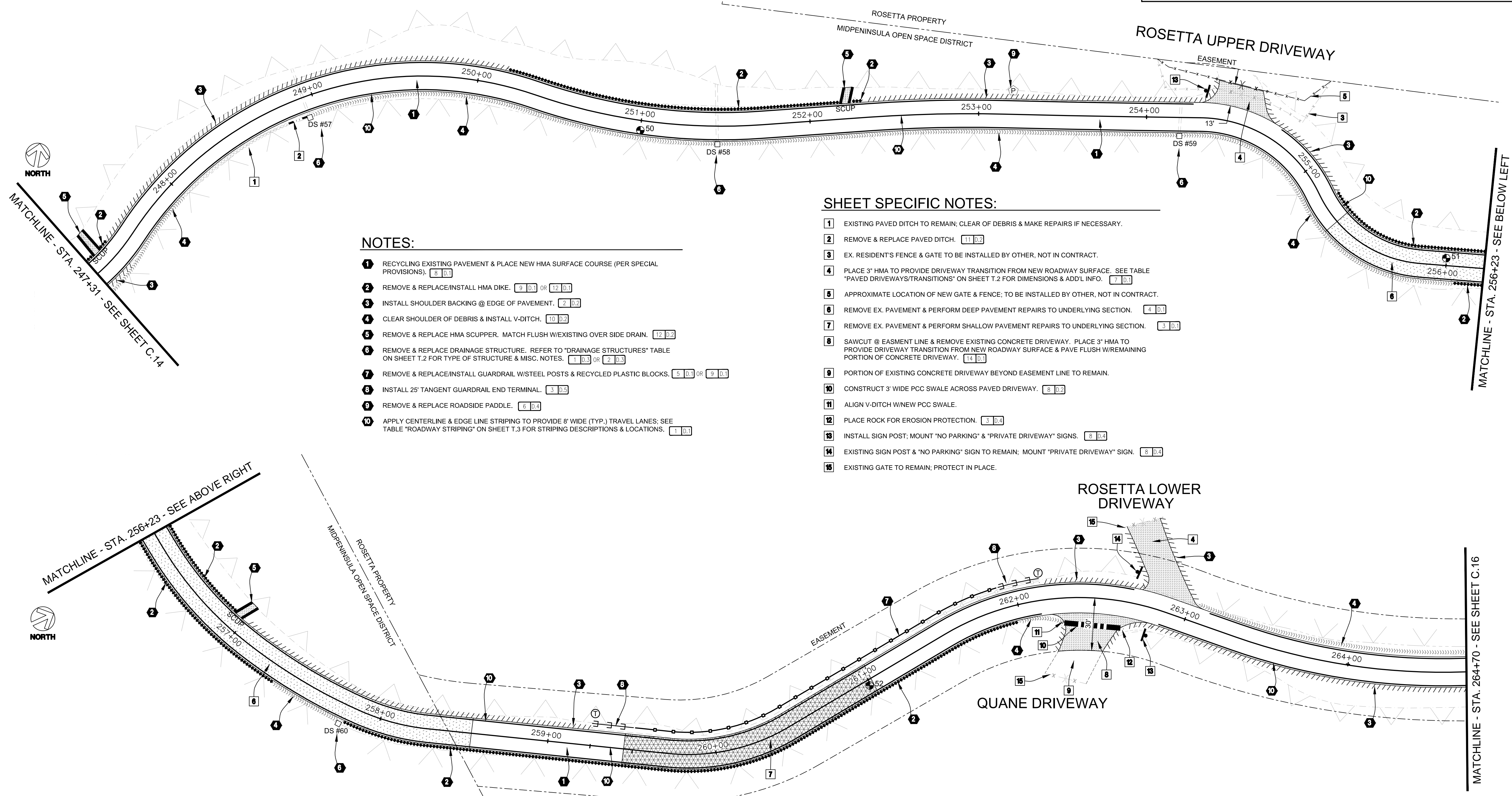
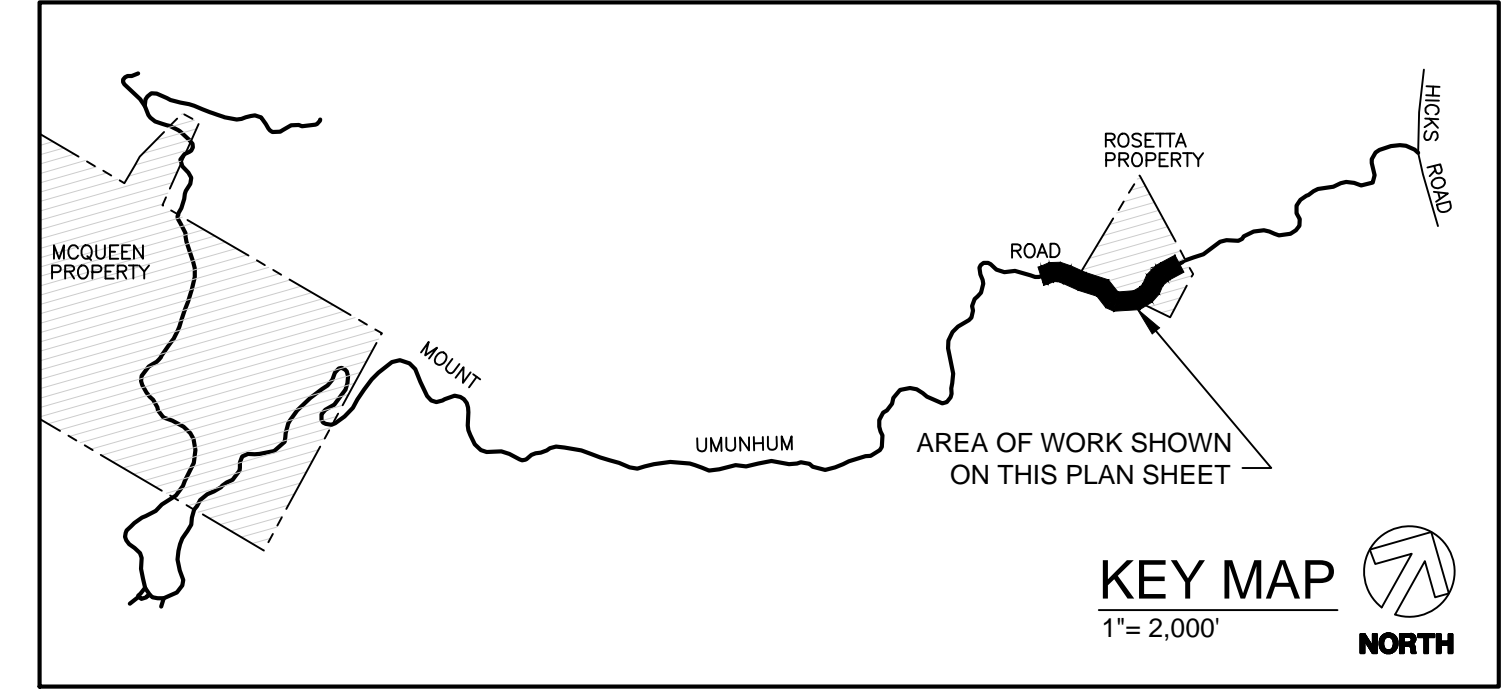
DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.14

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BORING LOG

NO.	AC	AB	R-VALUE
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51	4"	3"	39
52	4"	3"	-

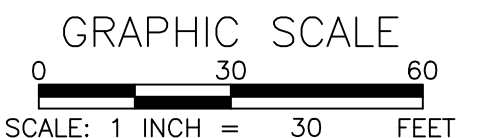


NOTES:

- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8] [D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9] [D.1] OR [12] [D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2] [D.2]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10] [D.2]
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. [12] [D.2]
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1] [D.3] OR [2] [D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5] [D.1] OR [9] [D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3] [D.3]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6] [D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1] [D.4]

SHEET SPECIFIC NOTES:

- 1 EXISTING PAVED DITCH TO REMAIN; CLEAR OF DEBRIS & MAKE REPAIRS IF NECESSARY.
- 2 REMOVE & REPLACE PAVED DITCH. [11] [D.2]
- 3 EX. RESIDENT'S FENCE & GATE TO BE INSTALLED BY OTHER, NOT IN CONTRACT.
- 4 PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7] [D.1]
- 5 APPROXIMATE LOCATION OF NEW GATE & FENCE; TO BE INSTALLED BY OTHER, NOT IN CONTRACT.
- 6 REMOVE EX. PAVEMENT & PERFORM DEEP PAVEMENT REPAIRS TO UNDERLYING SECTION. [4] [D.1]
- 7 REMOVE EX. PAVEMENT & PERFORM SHALLOW PAVEMENT REPAIRS TO UNDERLYING SECTION. [3] [D.1]
- 8 SAWCUT @ EASMENT LINE & REMOVE EXISTING CONCRETE DRIVEWAY. PLACE 3" HMA TO PROVIDE DRIVEWAY TRANSITION FROM NEW ROADWAY SURFACE & PAVE FLUSH W/REMAINING PORTION OF CONCRETE DRIVEWAY. [14] [D.1]
- 9 PORTION OF EXISTING CONCRETE DRIVEWAY BEYOND EASEMENT LINE TO REMAIN.
- 10 CONSTRUCT 3' WIDE PCC SWALE ACROSS PAVED DRIVEWAY. [8] [D.2]
- 11 ALIGN V-DITCH W/NEW PCC SWALE.
- 12 PLACE ROCK FOR EROSION PROTECTION. [3] [D.4]
- 13 INSTALL SIGN POST; MOUNT "NO PARKING" & "PRIVATE DRIVEWAY" SIGNS. [8] [D.4]
- 14 EXISTING SIGN POST & "NO PARKING" SIGN TO REMAIN; MOUNT "PRIVATE DRIVEWAY" SIGN. [8] [D.4]
- 15 EXISTING GATE TO REMAIN; PROTECT IN PLACE.



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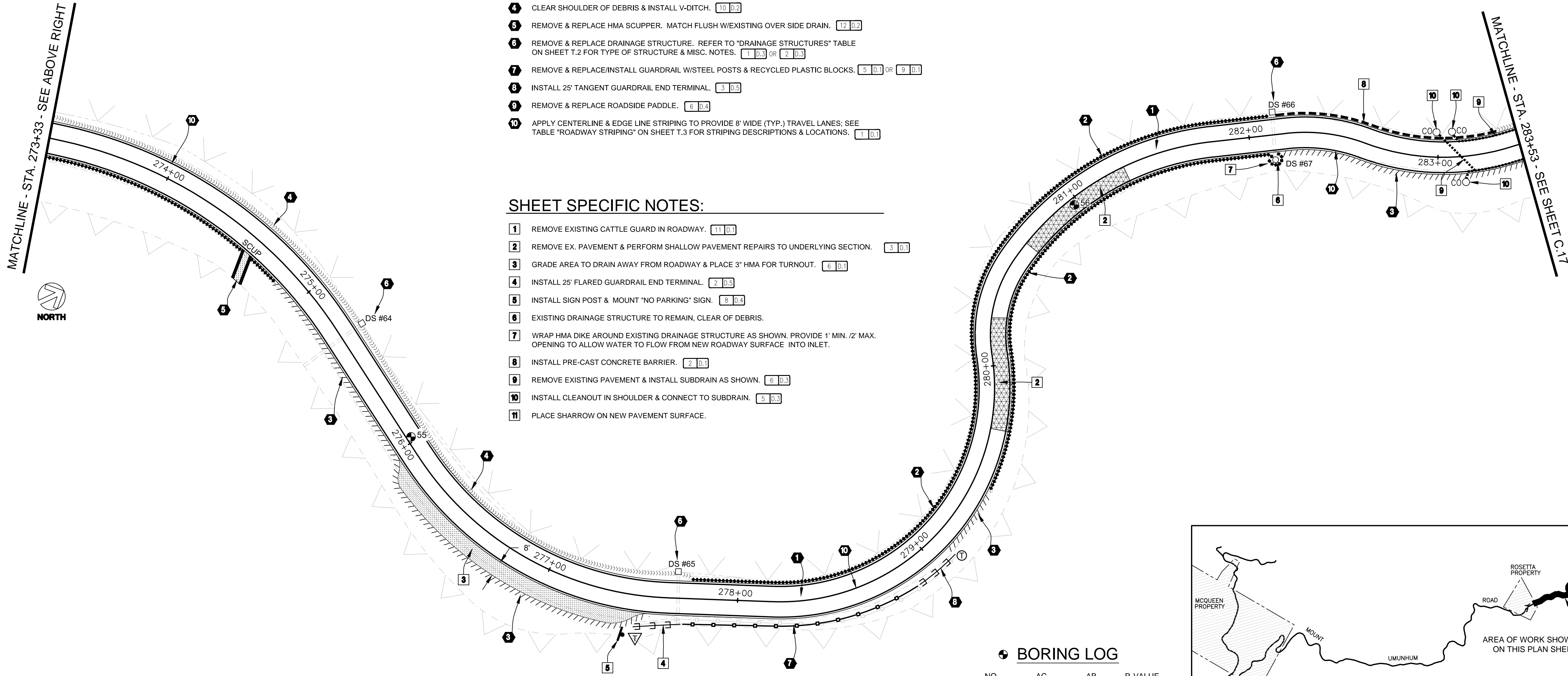
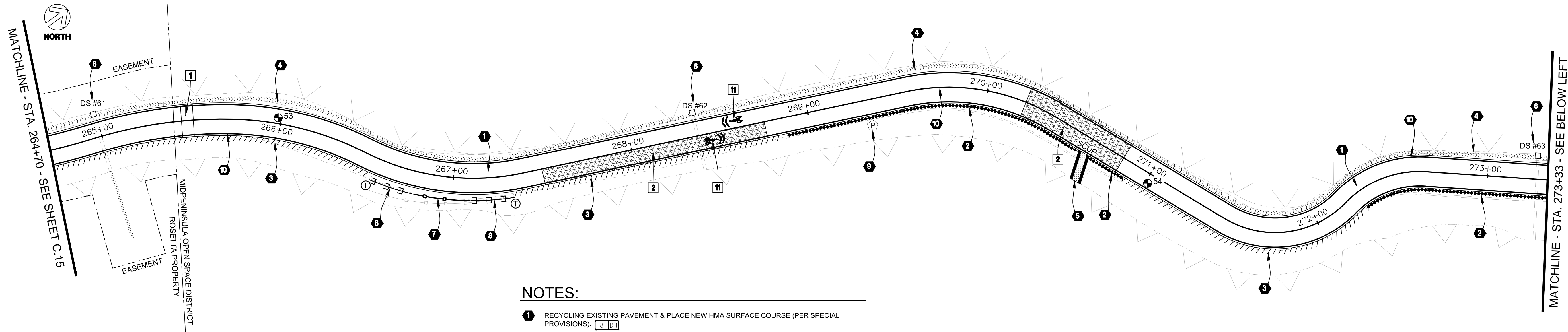
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 247+31 TO STA. 264+70



DRAWN BY: JRE
 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
 DATE: JUNE 2016
 SHEET NUMBER:

C.15

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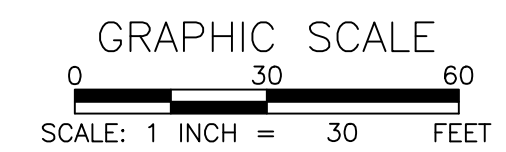
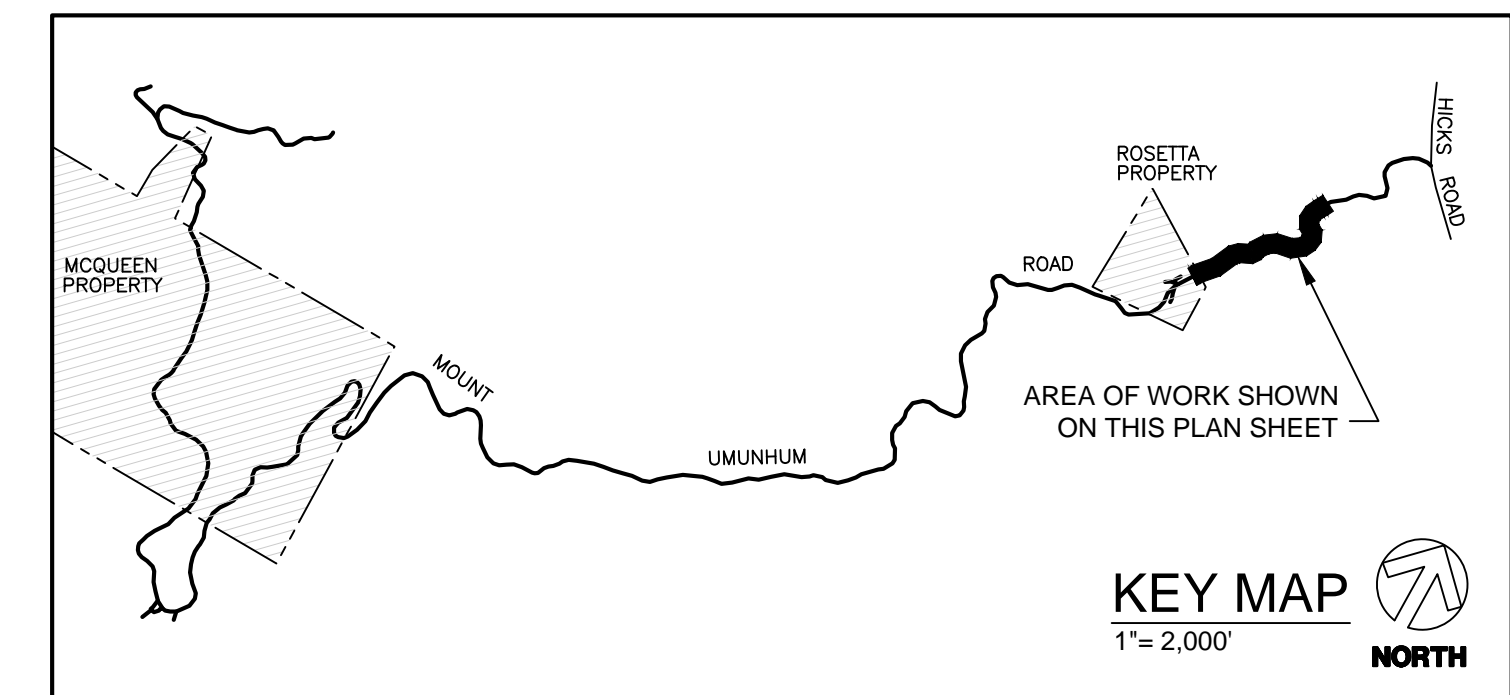
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). (8 D)
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. (9 D) OR (12 D)
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. (2 D)
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. (10 D)
- 5 REMOVE & REPLACE HMA SCUPPER. MATCH FLUSH W/EXISTING OVER SIDE DRAIN. (12 D)
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. (1 D) OR (2 D)
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. (5 D) OR (9 D)
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. (3 D)
- 9 REMOVE & REPLACE ROADSIDE PADDLE. (6 D)
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. (1 D)

SHEET SPECIFIC NOTES:

- 1 REMOVE EXISTING CATTLE GUARD IN ROADWAY. (11 D)
- 2 REMOVE EX. PAVEMENT & PERFORM SHALLOW PAVEMENT REPAIRS TO UNDERLYING SECTION. (3 D)
- 3 GRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE 3" HMA FOR TURNOUT. (6 D)
- 4 INSTALL 25' FLARED GUARDRAIL END TERMINAL. (2 D)
- 5 INSTALL SIGN POST & MOUNT "NO PARKING" SIGN. (8 D)
- 6 EXISTING DRAINAGE STRUCTURE TO REMAIN. CLEAR OF DEBRIS.
- 7 WRAP HMA DIKE AROUND EXISTING DRAINAGE STRUCTURE AS SHOWN. PROVIDE 1' MIN. /2' MAX. OPENING TO ALLOW WATER TO FLOW FROM NEW ROADWAY SURFACE INTO INLET.
- 8 INSTALL PRE-CAST CONCRETE BARRIER. (2 D)
- 9 REMOVE EXISTING PAVEMENT & INSTALL SUBDRAIN AS SHOWN. (6 D)
- 10 INSTALL CLEANOUT IN SHOULDER & CONNECT TO SUBDRAIN. (5 D)
- 11 PLACE SHARROW ON NEW PAVEMENT SURFACE.

BORING LOG

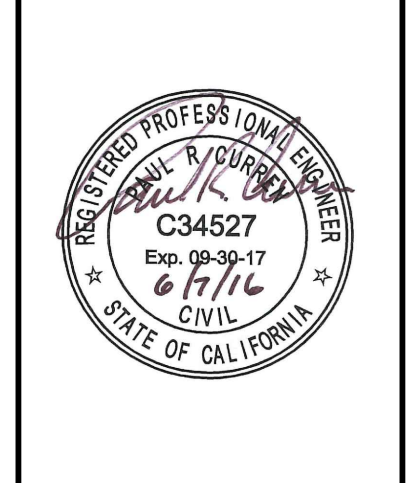
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54	5"	3"	-
55	4"	3-1/2"	-
56	4-1/2"	3-1/2"	25



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 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 264+70 TO STA. 283+53



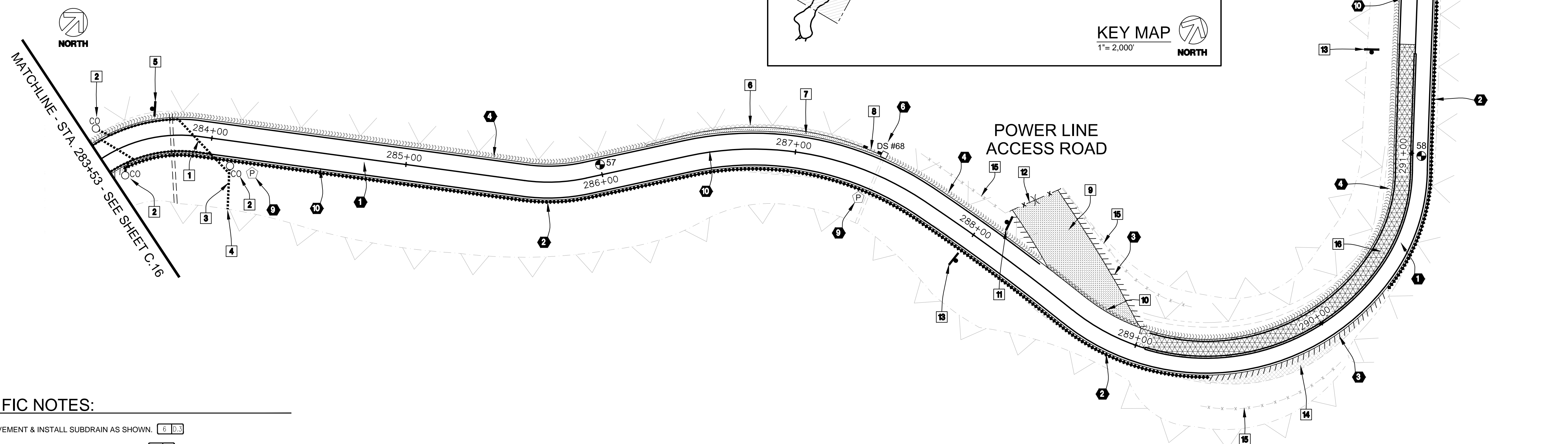
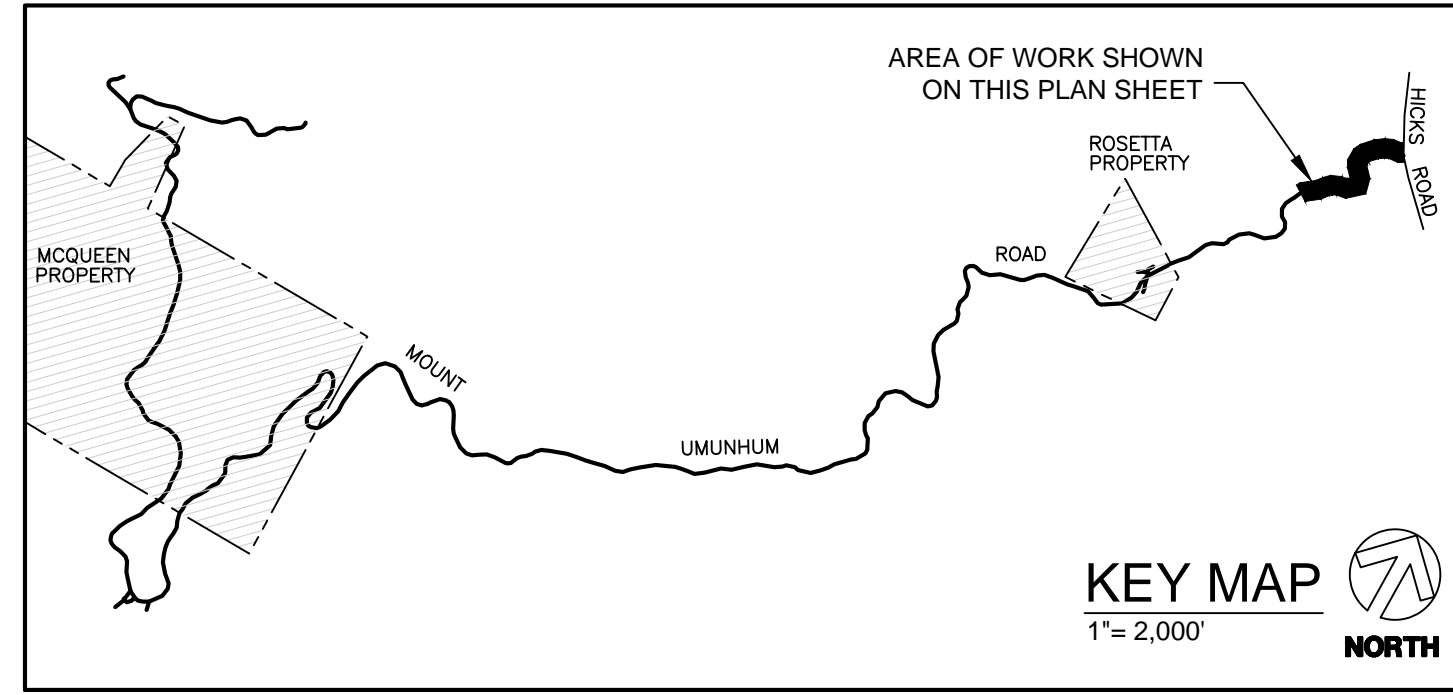
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 PROJECT NUMBER: 150175
 SCALE: 1" = 30'
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 SHEET NUMBER:

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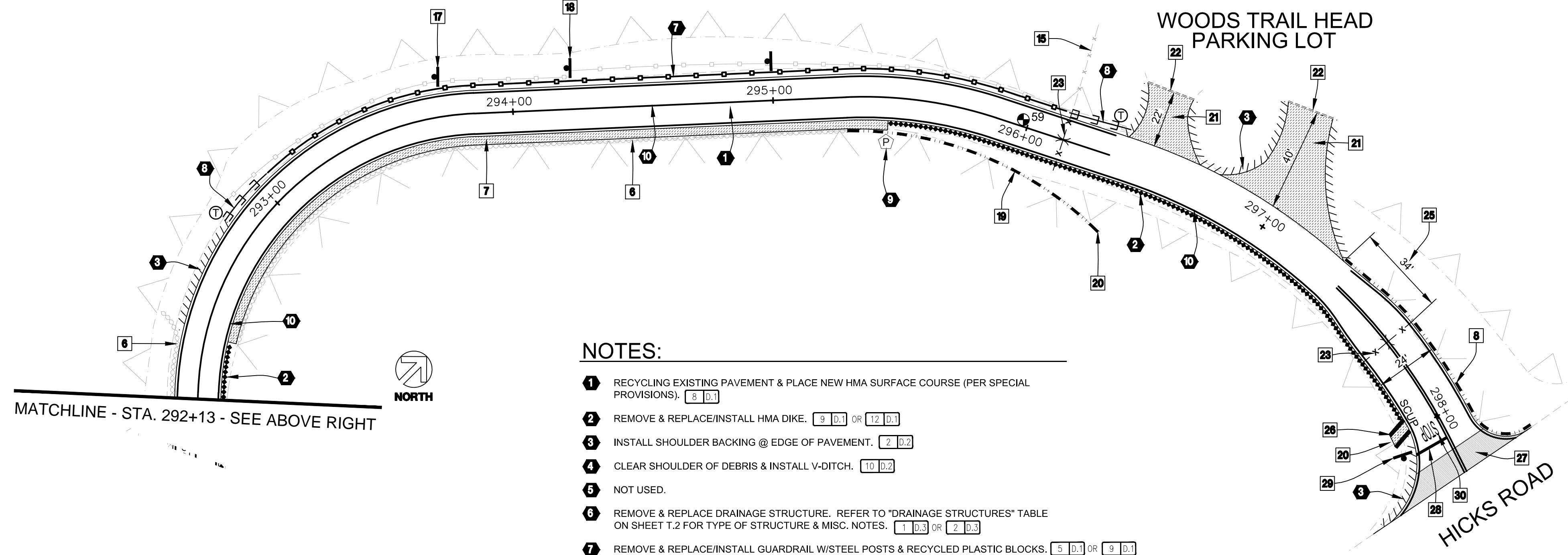
BORING LOG

NO.	AC	AB	R-VALUE
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58	3-1/2"	3-1/2"	-
59	3"	4"	-



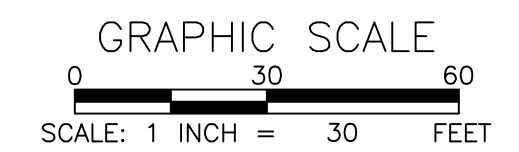
SHEET SPECIFIC NOTES:

- 1 REMOVE EXISTING PAVEMENT & INSTALL SUBDRAIN AS SHOWN. [6 D.3]
- 2 INSTALL CLEANOUT IN SHOULDER & CONNECT TO SUBDRAIN. [5 D.2]
- 3 CONNECT 4" SCH. 40 OR SDR. 28 PVC PIPE TO SUBDRAIN & DAYLIGHT @ HINGPOINT.
- 4 PLACE ROCK EROSION PROTECTION @ SUBDRAIN OUTLET. [4 D.4]
- 5 INSTALL SIGN POST & MOUNT "FALLING ROCK" SIGN. [7 D.2]
- 6 EXISTING PAVED DITCH TO REMAIN; CLEAR OF DEBRIS & MAKE REPAIRS IF NECESSARY.
- 7 EXTEND PAVING TO MATCH FLUSH W/EXISTING PAVED DITCH. [10 D.1]
- 8 REMOVE & REPLACE/INSTALL PAVED DITCH. [11 D.2]
- 9 GRADE AREA TO DRAIN AWAY FROM ROADWAY & PLACE 3" HMA FOR DRIVEWAY TRANSITION. SEE TABLE "PAVED DRIVEWAYS/TRANSITIONS" ON SHEET T.2 FOR DIMENSIONS & ADD'L INFO. [7 D.1]
- 10 INSTALL MOUNTABLE HMA DIKE ACROSS PAVED DRIVEWAY TRANSITION. [6 D.2]
- 11 INSTALL SIGN POST; MOUNT "NO PARKING" & "NO STOPPING" SIGNS. [8 D.4]
- 12 EXISTING GATE TO REMAIN, PROTECT IN PLACE.
- 13 INSTALL SIGN POST & MOUNT "CURVE" SIGN. [7 D.4]
- 14 REMOVE EXCESS PAVEMENT BEYOND NEW PAVEMENT EDGE.
- 15 EXISTING FENCE TO REMAIN, PROTECT IN PLACE.
- 16 REMOVE EX. PAVEMENT & PERFORM SHALLOW PAVEMENT REPAIRS TO UNDERLYING SECTION. [3 D.3]
- 17 REMOVE & REPLACE "25 MPH SPEED LIMIT" SIGN ON EXISTING POST. [7 D.4]
- 18 EXISTING "TRAILHEAD" SIGN TO REMAIN, PROTECT IN PLACE.
- 19 BACKFILL EXISTING SCoured DITCH W/NATIVE SOIL/GRAVEL & INSTALL PAVED DITCH. [11 D.2]
- 20 PLACE ROCK FOR EROSION PROTECTION. [3 D.4]
- 21 REMOVE EXISTING PAVEMENT & PLACE 3" HMA FOR DRIVEWAY TRANSITION. [10 D.1]
- 22 EXISTING CONCRETE COLLAR TO REMAIN; PAVE FLUSH.
- 23 PROPOSED GATE LOCATION; Reference E.4 Solar Powered Gate System Requirements
- 24 NOT USED.
- 25 TRANSITION ROADWAY WIDTH FROM 18' TO 24'.
- 26 INSTALL HMA SCUPPER & EXTEND TO HINGE POINT. [12 D.2]
- 27 REMOVE EXISTING PAVEMENT & CONSTRUCT TRAVERSE CONFORM @ HICKS ROAD. [13 D.1]
- 28 APPLY 12" WIDE WHITE LIMIT LINE TO NEW PAVEMENT SURFACE.
- 29 INSTALL SIGN POST ADJACENT TO LIMIT LINE & MOUNT "STOP" SIGN. [7 D.4]
- 30 APPLY "STOP" PAVEMENT LEGEND TO NEW PAVEMENT SURFACE.



NOTES:

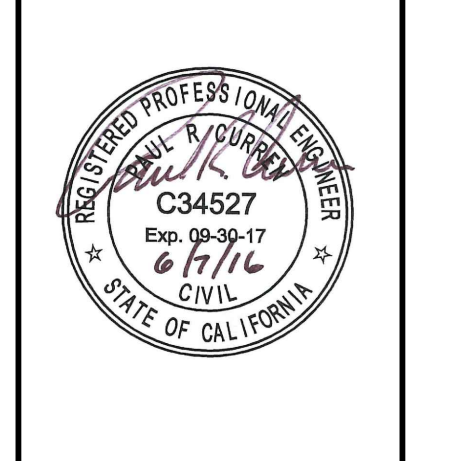
- 1 RECYCLING EXISTING PAVEMENT & PLACE NEW HMA SURFACE COURSE (PER SPECIAL PROVISIONS). [8 D.1]
- 2 REMOVE & REPLACE/INSTALL HMA DIKE. [9 D.1] OR [12 D.1]
- 3 INSTALL SHOULDER BACKING @ EDGE OF PAVEMENT. [2 D.3]
- 4 CLEAR SHOULDER OF DEBRIS & INSTALL V-DITCH. [10 D.2]
- 5 NOT USED.
- 6 REMOVE & REPLACE DRAINAGE STRUCTURE. REFER TO "DRAINAGE STRUCTURES" TABLE ON SHEET T.2 FOR TYPE OF STRUCTURE & MISC. NOTES. [1 D.3] OR [2 D.3]
- 7 REMOVE & REPLACE/INSTALL GUARDRAIL W/STEEL POSTS & RECYCLED PLASTIC BLOCKS. [5 D.1] OR [9 D.1]
- 8 INSTALL 25' TANGENT GUARDRAIL END TERMINAL. [3 D.2]
- 9 REMOVE & REPLACE ROADSIDE PADDLE. [6 D.4]
- 10 APPLY CENTERLINE & EDGE LINE STRIPING TO PROVIDE 8' WIDE (TYP.) TRAVEL LANES; SEE TABLE "ROADWAY STRIPING" ON SHEET T.3 FOR STRIPING DESCRIPTIONS & LOCATIONS. [1 D.1]



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MIDPENINSULA REGIONAL OPEN SPACE DISTRICT
 MT. UMUNHUM ROAD REHABILITATION PROJECT
SITE PLAN
 STA. 283+53 TO HICKS ROAD



DRAWN BY:	JRE
PROJECT NUMBER:	150175
SCALE:	1" = 30'
DATE:	JUNE 2016
SHEET NUMBER:	C.17

C.17



Mount Umunhum Road Rehabilitation Project

PROJECT DIVISION 1, GENERAL SPECIFICATIONS

Date: June 10, 2016

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**PROJECT DIVISION 1,
GENERAL SPECIFICATIONS
FOR
MOUNT UMUNHUM ROAD REHABILITATION PROJECT**

JUNE 10, 2016

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MOUNT UMUNHUM ROAD REHABILITATION PROJECT

**GENERAL SPECIFICATIONS,
DIVISION 1**

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01060 REGULATORY REQUIREMENTS
01100 SPECIAL PROJECT PROCEDURES
01110 HANDLING, TRANSPORT, AND DISPOSAL OF HAZARDOUS MATERIALS
01300 ADMINISTRATIVE REQUIREMENTS
01325 CONSTRUCTION PROGRESS SCHEDULE
01410 TESTING AND INSPECTION
01500 TEMP CONSTRUCTION FACILITIES
01700 EXECUTION REQUIREMENTS
01710 CLEANING AND DUST CONTROL
01720 RECORD DOCUMENTS

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**SECTION 01010
SUMMARY OF WORK****PART 1 - GENERAL****1.01 WORK COVERED BY MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS**

- A. The following brief description is not intended to limit or define the scope of work. Refer to the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS for the entire Work included. The drawings, specifications, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. describe the minimum requirements for:
1. Pulling all required permits as necessary including but not limited to all permits required by Federal, State of California, County of Santa Clara, Bay Area Air Quality Management District, Regional Water Quality Control Board, and other public or quasi public agencies. As noted in other documents, the District will pay for and obtain all permits, but the contractor will be required to schedule all relevant inspections.
 2. Rough and fine grading as outlined in Construction Documents.
 3. Installation of new asphalt roadway.
 4. Rehabilitation of existing roadway.
 5. Installation of concrete barrier
 6. Installation of rock fencing
 7. Installation of AC dike
 8. Installation of AC ditch
 9. Installation of gates
 10. Installation of drainage inlet structures
 11. Installation of gabion walls
 12. Installation of concrete headwalls
 13. Deep and shallow pavement repairs
 14. Installation of metal beam guard rail
 15. Additional work as shown on the drawings, and described in the Specifications.
 16. Protection of existing construction on and adjacent to the Project Site including streets and utilities that are scheduled to remain in service throughout the project.
 17. Water, electric power, and communications services will not be available on the Project Site. Provide all utilities necessary to execute the Work.
 18. The Contractor is responsible for developing and monitoring compliance with the Contractor's Health and Safety Plan, and for providing temporary site security and other items as required in the TEMPORARY CONSTRUCTION FACILITIES Section during the execution of the Work.

1.02 CONTRACTOR'S DUTIES

- A. Except as otherwise specifically excluded, provide and pay for:
1. Labor, materials, and transportation.
 2. Tools, construction equipment, and machinery.
 3. Utilities required for construction. See TEMPORARY CONSTRUCTION FACILITIES Section.
 4. Other facilities and services necessary for proper execution and completion of the Work.
- B. Pay legally required sales, consumer, and use taxes.
- C. Secure, as necessary for proper execution and completion of Work: Licenses and permits.
- D. Give all notices as noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, and as required to comply with all

- applicable statutes, laws, regulations, rules, ordinances, codes, orders, and other legal requirements of public or quasi-public authorities.
- E. Comply with all statutes, laws, regulations, rules, ordinances, codes, orders, and other legal requirements of public or quasi-public authorities which bear on performance of the Work. See the REGULATORY REQUIREMENTS Section, the drawings, other Sections of the Specifications, or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - F. Comply with all project-conditional and project-specific requirements of public or quasi-public authorities.
 - G. All specific requirements placed on the Contractor's work as noted on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS shall be enhanced or modified as necessary to comply with the requirements of all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 - H. Enforce strict discipline and good order among employees. Do not employ on Work:
 - 1. Unfit persons.
 - 2. Persons not skilled in assigned tasks.
 - 3. Persons not certified to perform assigned tasks when such certification is required by documents included in the MOUNT UMUNHUM MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS or by applicable regulations.

1.03 CONTRACTOR USE OF PREMISES

- A. Confine operations at site to areas permitted by the most restrictive of the following:
 - 1. Statute.
 - 2. Law.
 - 3. Regulations.
 - 4. Rules.
 - 5. Ordinances.
 - 6. Permits.
 - 7. Requirements noted on drawings, requirements noted in the Specifications, or requirements noted in other documents included in the MOUNT UMUNHUM MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- B. Move any stored materials, equipment, or other items which interfere with the operations of the District, or District's other contractors. Obtain the approval of the District or the District's designated representative with regard to a location on the Project Site.
- C. Obtain and pay for use of additional storage or work areas needed for operations.
- D. Maintain good "housekeeping" at all times around the Project Site. Minimize airborne dust particulate emissions during the execution of the work in accordance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
- E. Protect existing facilities and site improvements indicated to remain, including utilities. Protect offsite storm drains from contamination by oils, solvents, or other unidentified materials that may contain hazardous materials.
- F. Use of site: Comply with applicable statutes, laws, regulations, rules, ordinances, codes, orders, and other legal requirements of public or quasi-public authorities which bear on performance of the Work and District's requirements for:
 - 1. Access and egress procedures.
 - 2. Identification of workers.
 - 3. Prohibition against firearms.
 - 4. Prohibition against alcohol and drugs.
 - 5. Prohibition against smoking on site.
 - 6. Prohibition against dogs and other pets.
 - 7. Prohibition against audible electronic devices except for those required to execute the Work.
 - 8. Storage facilities.
 - 9. Vehicles.

- 10. Safety and fire prevention.
- 11. Limitations on working hours.
- G. Noise control requirements: Comply with applicable Federal, State of California, regional, and local statutes, laws, regulations, rules, and ordinances and applicable project-specific environmental mitigation requirements.
- H. Pollution control requirements: Comply with applicable Federal, State of California, regional, and local statutes, laws, regulations, rules, and ordinances and applicable project-specific environmental mitigation requirements.
- I. Working Hours: In accord with applicable regulations.
- J. Lunch area: Locate the lunch area in an area of the Project Site acceptable to the District.
- K. Comply with such other rules and procedures as the District may reasonably establish from time to time for the entire property, Project Site, and the project.

1.04 WORK SEQUENCE

- A. Coordinate construction schedule and operations with the District.

1.05 DISTRICT'S RIGHT TO ACCESS FOR OBSERVATION OR OTHER WORK

- A. The District reserves the right of access to any part of the Project Site or Work, at any time, for the purpose of observation, or to install or remove other work, either with their own forces or utilizing other contractors. The District's right to access any part of the Project Site or the Work, at any time, for any purpose shall not be construed by the Contractor as interference with the execution of the Work by the District.
- B. The District will not consider requests for changes to the Contract Sum and the Contract Sum shall not be changed as a result of the District or the District's representatives, representatives of public agencies, or representatives of public utility companies accessing any part of the Project Site or the Work, at any time, for any purpose.
- C. Such access is not to be construed to mean partial acceptance of the Work by District.
- D. Cooperate with the District or the District's representatives during access for inspections, testing, air monitoring, and observation of work, and coordinate work with all other requirements of the District or the District's representatives.
- E. Cooperate and coordinate with Utility Companies and District's separate contractors performing work in other areas of the site.

End of Section 01010

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**SECTION 01060
REGULATORY REQUIREMENTS****PART 1 - GENERAL****1.01 SCOPE**

- A. Compliance with regulatory requirements:
1. Perform all Work in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances. Requirements noted in applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances are amended frequently and the Contractor is responsible for complying with all amendments as they become effective.
 - i. Interim rules and similar published documents shall be included as a part of all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 2. Comply with applicable building codes and authorities as herein specified and with all other applicable building codes, standards, and regulations including amendments by local authorities. Unless otherwise specified or specifically approved by the local building authority having jurisdiction, comply with the latest edition of the applicable building code, standard, or regulation. Comply with applicable amendments by local jurisdictions as though they were specifically identified and included herein.
 3. Nothing stated on the drawings, in this Section of the Specifications, in other Sections of the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS shall be construed as allowing work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes, and standards.
 4. Where there is a conflict between applicable Federal, State, regional, and/or local statutes, laws, regulations, rules, ordinances, or codes on the one hand, and the Specifications and/or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, the Contractor shall comply with the most stringent applicable requirement.
- B. Obtain all Federal, State of California, State in which disposal facility is located if not in California, regional, and local permits and any other approvals from agencies and authorities required to perform the Work prior to undertaking any action for which a permit or approval is required.
1. The District will review all permit submittals prior to their being submitted to any agencies. Do not apply to agencies for permits until the District's approval of the application has been received.
 2. Obtain and maintain current all required licenses, registrations, and certifications including but not limited to the following:
 3. State of California, Department of Consumer Affairs, Contractors License.
 4. CCR Title 8, Sections 5200 - 5220, Cal-OSHA carcinogens standards.
 5. Registration with CAL/OSHA of the Department of Industrial Relations; Division of Occupational Safety and Health Requirements for : Permits Registrations Certifications and Notifications.
- C. Submit all required notifications to Federal, State of California, State in which disposal facility is located if not in California, regional, and local agencies with regulatory responsibilities associated with the work activities that are included in the project. All notifications shall be served in writing, in the form required by the agency requiring notification, and in a timely manner so as not to negatively impact the project schedule. Serve notifications at least 10 days in advance [or earlier if required by agency] of activity requiring notice. Submit copies of all notices served to all agencies to the District as follows:

1. Submit copies of all notifications as actually served to agencies.
 2. Submit copies of applicable notifications required by Division of Occupational Safety and Health Requirements for: Permits Registrations Certifications and Notifications.
- D. The Contractor shall serve all required notifications in writing to all governmental and quasi-governmental agencies having notification requirements pertaining to any portion of the work included in the project. Agencies that may require notification include but are not limited to the following:
1. Bay Area Air Quality Management District.
 2. Local CAL/OSHA Office.
 3. EPA Region 9 Office.
 4. Santa Clara Valley Water District.
 5. Regional Water Quality Control Board/San Francisco Bay Regional Water Quality Control Board.

1.02 RELATED DOCUMENTS

- A. All Work shown on the drawings, described in the Sections of the Specifications, or described in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

1.03 POTENTIALLY APPLICABLE STATUTES, LAWS, REGULATIONS, RULES, ORDINANCES, CODES, AND STANDARDS

- A. Other Sections of the Specifications may include lists of other applicable statutes, laws, regulations, rules, ordinances, codes, and standards. References to applicable statutes, laws, regulations, rules, ordinances, codes, and standards in the Specifications is not intended to be a complete listing. The Contractor is solely responsible for:
1. Researching and determining the extent to which all applicable statutes, laws, regulations, rules, ordinances, codes, and standards apply to the Work of this Contract.
 2. Complying with all applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
 3. Complying with all amendments to applicable statutes, laws, regulations, rules, ordinances, codes, and standards including amendments by the County of Santa Clara, and other public or quasi public agencies.
- B. Unless otherwise noted, the latest edition of all applicable codes, standards, and regulations adopted by the governmental body or department, or agency having jurisdiction shall be incorporated into this Section of the Specifications as if included in full herein and the Contractor shall comply with the most stringent applicable requirements.
- C. Comply with applicable building codes and regulations. The following is not intended as a complete list but is intended to assist the Contractor.
1. Uniform Building Code.
 2. Uniform Plumbing Code.
 3. Uniform Mechanical Code.
 4. National Electrical Code.
 5. U.S. Department of Labor Occupational Safety and Health Administration (OSHA).
 6. California Code of Regulations.
 7. Applicable local codes.
 8. Uniform Fire Code (with local amendments).
 9. National Fire Protection Association (NFPA).
 10. Applicable Environmental Protection Agency rules and regulations.
- D. Comply with all applicable Federal, State of California and local statutes, regulations and standards, and testing requirements.

1.04 HEALTH AND SAFETY

- A. During all phases of work Contractor shall comply with all applicable sections of State of California Code of Regulations (CCR), Industrial Safety Orders (Title 8), as well as Federal and State of California Occupational Safety and Health Administration (OSHA) regulations.

1.05 SCHEDULING

- A. The Contractor shall notify the District a minimum of five [5] days prior to executing any work that requires either the approval or observance by a representative of a Federal, State, regional, or local agency having jurisdiction; includes regional and local public and quasi public agencies having jurisdiction.
- B. The Contractor shall notify Federal, State, regional, or local agencies having jurisdiction, including regional and local public and quasi public agencies, a minimum of five [5] days, or more if required by the agency having jurisdiction, prior to executing any work that requires their approval or review.

End of section 01060

**SECTION 01100
SPECIAL PROJECT PROCEDURES****PART 1 - GENERAL****1.01 SCOPE**

- A. It is the intent of this Section of the Specifications to specify project requirements for the following:
 - 1. General requirements related to the handling of all materials on the Project Site. Other Sections of the Specifications contain requirements for the demolition, handling, transport, and disposal of materials on the Project Site. The requirements described in this Section of the Specifications are additional to any other requirements noted on the drawings or in other Sections of the Specifications, and/or that are required by applicable Federal, State, regional, and/or local statutes, laws, regulations, rules, ordinances, or codes. Where there is a conflict between applicable Federal, State, regional, and/or local statutes, laws, regulations, rules, ordinances, or codes on the one hand, the Specifications, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, the Contractor shall immediately notify the District or the District's designated representative.
- B. Additional procedures related to recycling, and reuse of recovered materials are described in the Special Provisions.
- C. Additional procedures related to the handling, transport, and disposal of hazardous materials are described in Section 01110 HANDLING, TRANSPORT, AND DISPOSAL OF HAZARDOUS MATERIALS.
- D. Additional procedures related to the handling, transport, and disposal of construction debris are described in Special Provisions.

1.02 RELATED DOCUMENTS

- A. All Sections of the Specifications.

1.03 SUBMITTALS

- A. See ADMINISTRATIVE REQUIREMENTS Section.
- B. Requests for changes in the procedures specified herein are considered requests for substitutions and shall be submitted in accordance with ADMINISTRATIVE REQUIREMENTS Section.
- C. Tools and heavy equipment: If during the execution of the work, the Contractor deems it necessary to use powered equipment that does not comply with the requirements of this Section of the Specifications, the Contractor shall submit an alternative proposal in accordance with the requirements of the ADMINISTRATIVE REQUIREMENTS Section. The submittal shall include a written and graphic description of special procedures or equipment the Contractor proposes to use to protect the health of workers and to ensure that the work complies with the intent of the Contract Documents. Unless the alternative proposal is approved in writing by the District or the District's designated representative, the Contractor shall proceed in accordance with the requirements of this Section of the Specifications.

PART 2 - PRODUCTS**2.01 EQUIPMENT AND TOOLS**

- A. Provide all equipment, including vehicles and tools necessary to perform the work. Equipment shall meet the following minimum requirements:
 - 1. All equipment brought on site shall be steam cleaned and free from all contamination from previous work, in good working order, with as little leakage of hydraulic fluid, motor oil, and fuel as possible.

2. All equipment used in or near any potentially explosive atmosphere shall be explosion proof, grounded and/or non-sparking (as required by the individual piece of equipment).
3. All equipment brought on site shall be free of weed seeds, contaminated soil, and cleaned after use on other sites.

2.02 MATERIAL FOR PLACING UNDER AND COVERING SOIL STOCKPILES

- A. Minimum standards for stockpile management are described in Caltrans Storm Water Quality Handbooks, Construction Site Best Management Practices Manual; with regard to Stockpile Management [BMP WM-3].
- B. The material shall be protective of groundwater quality, prevent dust generation, and provide a barrier beneath the stockpile to prevent contamination of the underlying soil.

PART 3 - EXECUTION**3.01 WARNING LABELS AND SIGNS:**

- A. Provide all warning labels and signs as required by OSHA/CAL OSHA regulations, and other applicable Federal, State, or local statutes or regulations.
- B. All required warning labels and signs shall be posted in English and Spanish, in other languages as required by all applicable Federal, State of California, regional and local statutes, laws, rules, regulations, ordinances, codes and standards and as required to protect the health and safety of all persons.

3.02 USE OF TOOLS, EQUIPMENT, AND VEHICLES IN INTERIOR AREAS

- A. Tools and equipment except vehicles, tractors, caterpillar tractors and cranes, shall be either air, hydraulic, or electrically powered. The use of gasoline or diesel powered tools or equipment is prohibited except as follows:
 1. Use of certain equipment items powered by diesel or gasoline may be permitted provided special precautions and measures are taken to prevent engine exhaust gases from accumulating in the work area, and if approved in writing by the District.
- B. Vehicles continuously operated in enclosed interior areas shall either use propane as fuel or another fuel that does not cause exhaust that may result in an atmosphere not suitable for breathing by persons, and/or not complying with OSHA/CAL OSHA requirements.
- C. The requirements of this Section of the Specifications also apply to negative pressure enclosures.

3.03 CUTTING TOOL RESTRICTIONS

- A. The use of gas torch cutting and other methods of cutting that produce extremely high temperatures will not be permitted anywhere on the Project Site unless approved in writing by the District. This approval shall not unreasonably be withheld.
- B. The use of high pressure water type cutting tools will not be permitted anywhere on the Project Site unless approved in writing by the District. This approval shall not unreasonably be withheld.

3.04 USE OF WATER

- A. Spraying of water is restricted to misting to prevent the emission of dust into the atmosphere from demolition and removal operations. A surfactant chemical approved by the District may be added to the water to reduce the amount required.
- B. Provide temporary curbs, or earth berms protected with plastic sheeting as required to prevent the runoff of water used in the execution of the work off the Project Site. Do not permit such water to spill on soil or paved areas outside the limits of the Project Site.

- C. Plug all existing drains, sumps, and entrances to underground piping or conduit of any kind at the limits of the Project Site to prevent the runoff of water used in the execution of the work off the Project Site.
- D. The requirements of this Section of the Specifications for control of water runoff apply to water provided and used by the Contractor and not to natural runoff caused by rainfall.

3.05 SPILL OR RELEASE OF A HAZARDOUS SUBSTANCE

- A. In the event of a spill or release of a hazardous substance [as designated in applicable Federal and State of California laws, regulations, rules, and ordinances], pollutant, contaminant, or oil [as designated in applicable Federal and State of California laws, regulations, rules, and ordinances] the Contractor shall immediately notify the District, and comply with all applicable notification statutes and regulations.
- B. If the spill or release exceeds the reporting threshold [as designated in applicable Federal and State of California laws, regulations, rules, and ordinances] the Contractor shall follow the pre-established procedures as described in the Contractor's SPILL/RELEASE RESPONSE PLAN for containment; see the TEMPORARY REQUIREMENTS Section.
 - 1. The contractor shall implement immediate containment actions to minimize the effect of any spill, leak, or release.
 - 2. Cleanup shall be in accordance with applicable Federal and State of California laws, regulations, rules, and ordinances.
 - 3. The District may direct the Contractor to arrange for additional testing and material characterization related to materials in the vicinity of the spill, leak, or release to verify that spills, leaks, or releases have been cleaned up. The analytical results of the material characterization shall be provided to the District for review. The District will direct the Contractor with regard to implementing any special procedures regarding the removal, handling, transport, and disposal of materials.
- C. Provide a written report with photographs documenting the spill or release of a hazardous substance. The report shall clearly document all actions that were taken by the Contractor to contain the spill or release.
- D. The Contractor shall be solely responsible for all costs and damages relating to or arising from a spill or release, including costs of investigation and clean up, and no additional charges will be allowed for work caused by the spill or release [the Contract Sum shall not be changed].

3.06 EXISTING SOIL

- A. The District or the District's designated representatives may provide periodic inspection of soils in the vicinity of all excavations. The purpose of the inspection is to determine if there is any soil containing materials or substances whose physical properties have not been previously characterized or identified as required.
- B. The District or the District's representative reserves the right to stop work in any area at any time for the purposes of inspecting and testing soils. If the Contractor is required to stop work in an area, the Contractor shall proceed with execution of the Work in all other areas as required in the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- C. If the Contractor is required to stop work in an area at any time for the purposes of inspecting and testing soils the Contractor shall comply with the following procedures:
 - 1. The contractor shall cooperate with the District or the District's representative who are providing inspection and testing services.
 - 2. Provide access to the area as may be required to complete inspections and testing laboratory services.
 - 3. As requested by the District or the District's designated representative the contractor shall provide assistance in the collection of additional soil samples in the vicinity of the excavation including excavation base and side walls. Assistance shall include providing an operated backhoe or other piece of

equipment and personnel skilled in obtaining soil samples at no additional cost to the District.

4. After the soil samples have been collected by the District or the District's representative, the Contractor shall place barricades around the excavation.
5. The Contractor shall anticipate 10 working days before receipt of analytical results with regard to soil samples. After the District or the District's representative has received analytical results the District or the District's representative will direct the Contractor with regard to the removal, handling, stockpiling, transport, and disposal of the soil.
 - i. If the District or the District's representative directs the Contractor to proceed without implementing any special procedures regarding the removal, handling, transport, and disposal of the soil in the vicinity of the excavation, the Contractor shall proceed with execution of the work as noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS and the Contract Sum shall not be changed.
 - ii. If the District or the District's representative directs the Contractor to implement special procedures regarding the removal, handling, transport, and disposal of the soil in the vicinity of the excavation, the Contractor shall proceed with execution of the special procedures and shall be compensated for the additional work in accordance with the unit prices described in the UNIT PRICES Section or in accordance with procedures included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

End of Section 01100

**SECTION 01110
HANDLING, TRANSPORT, AND DISPOSAL OF HAZARDOUS MATERIALS****PART 1 - GENERAL****1.01 SCOPE**

- A. It is the intent of this Section of the Specifications to specify project requirements in accordance with the following:
 - 1. Execute handling and storage of hazardous waste materials after their removal as specified herein.
 - 2. Execute transportation of hazardous waste materials as specified herein.
 - 3. Execute disposal of hazardous waste materials as specified herein.
- B. It is the intent of this Section of the Specifications to specify project requirements for:
 - 1. Handling, transport, and disposal of building materials as hazardous waste.
 - 2. These requirements are in addition to and supplement other requirements that are specified in other Sections of the Specifications, and/or that are required by applicable Federal, State, regional, and/or local statutes, laws, regulations, rules, ordinances, or codes. Where there is a conflict between applicable Federal, State, regional, and/or local statutes, laws, regulations, rules, ordinances, or codes on the one hand, and the Specifications and/or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, the Contractor shall immediately notify District.
- C. Provide special project procedures to handle, store, transport and dispose of all hazardous waste materials, including all materials existing on the Project Site and all materials generated on the Project Site as part of the removal process, as specified herein and in accordance with TSCA, Federal, State of California, State in which disposal facility is located, regional, and local statutes, laws, regulations, rules, ordinances, codes, and standards.
- D. Additional sampling and analyses to the extent required by the disposal facility is the responsibility of the Contractor unless specified herein or in other Sections of the Specifications. The drawings, specifications, exhibits, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS provide information and data regarding hazardous materials that have been identified by the District as present on the Project Site. No additional charges will be allowed for sampling and analyses of hazardous waste materials as required by the disposal facility [the Contract Sum shall not be changed].
- E. The Contractor shall not construe any special requirements specified in this Section of the Specifications to allow the handling, storage, transportation, or disposal of any construction debris except in strict accordance with applicable Federal, State of California, State in which disposal facility is located, regional, and local statutes, laws, regulations, rules, and ordinances, codes, and standards. Compliance with this requirement is the sole responsibility of the Contractor.
- F. Other Sections of the Specifications describe minimal acceptable requirements for the removal of hazardous materials. The Contractor is solely responsible for any additional abatement, handling, transportation, or disposal costs that may be incurred as a result of means and methods chosen by the Contractor to demolish the existing construction, including but not limited to buildings, other structures, paving, above grade and underground utilities, and other site improvements that results in the commingling of hazardous materials with construction debris, and the resulting characterization of the construction debris as hazardous waste materials [the contract sum shall not be changed].

1.02 RELATED DOCUMENTS

- A. All Sections of the Specifications.

1.03 DEFINITIONS

- A. Hazardous materials or hazardous waste materials: See SECTION 01060 REGULATORY REQUIREMENTS and SECTION 01094 DEFINITIONS.
- B. Material removal, storage and handling: As specified in other Sections of the Specifications, in this Section of the Specifications, and in accordance with all Federal, State of California, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
- C. Material transportation: As specified in other Sections of the Specifications, in this Section of the Specifications, and in accordance with all applicable Federal, State of California, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards. If the disposal facility is located in a State that requires that materials be transported into or across the boundaries of a State other than the State of California, comply with all applicable statutes, laws, regulations, rules, ordinances, codes, and standards regarding the transport of materials in the State having jurisdiction over the transport of the materials.
- D. Material disposal:
 - 1. As specified in this Section of the specifications, and in accordance with all Federal, State of California, State in which disposal facility is located, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
 - 2. Asbestos and lead containing materials are identified in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM SUMMIT CONTRACT DOCUMENTS and shall be removed in accordance with the requirements noted in the applicable Section of the Specifications. Requirements related to the abatement of asbestos and lead are additional to other requirements specified in other Sections of the Specifications or in this Section of the Specifications.

1.04 REGULATORY REQUIREMENTS

- A. See REGULATORY REQUIREMENTS Section.
- B. Compliance with regulatory requirements:
 - 1. Perform all handling, storage, transportation, and disposal of hazardous waste materials in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 - 2. Comply with applicable building codes and authorities as herein specified and with all other applicable building codes, standards, and regulations including amendments by local authorities. Unless otherwise specified or specifically approved by the local building authority having jurisdiction, comply with the latest edition of the applicable building code, standard, or regulation. Comply with applicable amendments by local jurisdictions as though they were specifically identified and included herein.
 - 3. Nothing stated on the drawings, in this Section of the Specifications, in other Sections of the Specifications, in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS., or the Bidding Documents or other documents that may be provided to the Contractor "for information only" shall be construed as allowing work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes, and standards.
- C. Transport:
 - 1. Comply with U.S. Department of Transportation (DOT) rules and regulations including, but not limited to: Hazardous Substances: Final Rule:
 - 2. Regulations:
 - i. 49 CFR, Parts 171, 172, and 173.
 - ii. CCR: Applicable sections.
- D. Obtain all Federal, State of California, State in which disposal facility is located if not in California, regional, and local permits and any other approvals from agencies and authorities required to perform the Work prior to undertaking any action for which a permit or approval is required.

1. The District will review all permit applications prior to their being made to agencies. Do not apply to agencies for permits until the Contractor has received the District's approval of the application.
 2. Submit permit applications and permits to the District as follows:
 - i. Submit permit applications for review and approval by the District at least 10 days prior to date such applications are scheduled to be made to agencies.
 - ii. Submit copies of all permit applications as actually made to agencies.
- E. Submit all required notifications to Federal, State of California, State in which disposal facility is located if not in California, regional, and local agencies with regulatory responsibilities associated with the Work. All notifications shall be served in writing, in the form required by the agency requiring notification, and in a timely manner so as not to negatively impact the project schedule.
1. All notifications shall be reviewed and approved by the District prior to being submitted to agencies.
 2. Submit copies of all notifications as actually served to agencies to the District.

1.05 LICENSES, PERMITS AND NOTIFICATIONS

- A. Licenses:
1. The Contractor shall be currently licensed by the State of California to perform demolition work, and removal, handling, storing, and transportation of hazardous waste materials, and shall also maintain current any additional registrations and certifications required by Federal, State of California, regional, or local governmental or quasi-governmental agencies, or other entities having jurisdiction.
 2. Hazardous waste materials shall be transported only by companies specifically licensed to do so and approved by the District.
 3. All required registrations and certifications shall be current and free of pending revocation proceeding or disciplinary action.
- B. Permits:
1. Obtain and pay for all Federal, State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, and regional, and local permits required for performance of work specified in this Section of the Specifications.
 2. All permit applications shall be reviewed and approved by the District prior to being submitted to agencies.
- C. Notifications:
1. Serve all required notifications to Federal, State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, and regional, and local agencies having notification requirements pertaining to the work specified in this Section of the Specifications as specified in the REGULATORY REQUIREMENTS Section.
 2. All notifications shall be reviewed and approved by the District prior to being served to agencies.
- D. Asbestos containing material: Maintain current licenses as required by Federal, State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, and regional, or local governmental or quasi-governmental agencies, or other entities having jurisdiction for the transporting, or other regulated activity related to the handling, storage, transportation, and disposal of asbestos containing materials [ACM].

1.06 QUALITY ASSURANCE

- A. The contractor shall designate a Hazardous Waste Management Coordinator [HWMC] to be responsible for overseeing and coordinating the handling, transport, and disposal of hazardous waste materials.
1. The HWMC shall be an employee of the contractor who is knowledgeable with regard to the abatement, packaging, transport, and disposal of hazardous

- materials. The HWMC shall have completed appropriate training and shall have acquired any special pertinent licenses or certificates.
2. The HWMC shall report at each progress meeting on current activities related to the abatement, handling, transport, and disposal of hazardous materials, and shall accompany the verbal report with a written report.
- B. The contractor's hazardous materials employees, including the employees of all tiers of subcontractors, shall be trained, tested, and certified to safely and effectively carry out their assigned duties.
 - C. The contractor's employees, including the employees of all tiers of subcontractors, transporting hazardous waste materials or preparing hazardous waste materials for transportation, including samples, shall be trained, tested, and certified in accordance with applicable Federal, State of California, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards.

1.07 SUBMITTALS

- A. Submit in accordance with the ADMINISTRATIVE REQUIREMENTS Section.
- B. Requests for changes in the products, materials or procedures specified are considered requests for substitutions and shall be submitted in accordance with the ADMINISTRATIVE REQUIREMENTS Section.
- C. Prior to the start of the work, the contractor shall submit a plan detailing the manner in which hazardous waste materials will be managed. The plan shall describe in detail the procedures the contractor intends to implement to ensure that all work is executed in accordance with the provisions of the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS and in accordance with all Federal, State of California, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
- D. Training: Submit documentation that employees handling and transporting hazardous waste materials have been trained, tested, and certified in accordance with applicable Federal, State of California, regional, and local applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
- E. Hazardous waste materials handling and storage facilities: Submit the following items for review and approval prior to the start of demolition and removal work:
 1. Shop drawings showing layout and construction details of hazardous waste materials storage facilities to be constructed on site.
 2. Manufacturers literature and specifications for hazardous waste materials storage facilities to be purchased or rented.
 3. Manufacturers literature and specifications for hazardous waste materials storage and shipping containers.
- F. Permit Applications and Notifications:
 1. Submit to the District for review and approval prior to delivery to agencies.
 2. Submit copies of permit applications and notifications as actually made to agencies.
 3. Submit copies of permits received.
- G. Packaging: The contractor shall submit data from the package manufacturers or other persons certifying compliance with the packaging provisions required by applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
- H. Labeling: The contractor shall submit data from the package manufacturers or other persons certifying compliance with the packaging provisions with regard to labeling as required by applicable statutes, laws, regulations, rules, ordinances, codes, and standards.
- I. Shipping documents: Submit copies of all transportation related shipping documents to the District for review a minimum of twenty-one [21] days prior to the anticipated pickup. Shipping documents include but are not limited to:
 1. Hazardous waste manifests.
 2. Asbestos waste shipment records.
 3. Bills of lading for hazardous materials.
 4. Waste profiles and supporting waste analysis documents.

- J. Hazardous Substance Transporter Licenses and Permits:
1. The transporter company shall be approved by the District.
 2. Prior to moving or transporting any hazardous waste materials, submit copies to the District of the following for the transporter company:
 - i. Licensed status to haul hazardous waste materials.
 - ii. EPA identification number.
 - iii. HMTA/DOT and (if applicable) State transportation compliance program.
 - iv. DHS/EPA manifest handling procedures.
 - v. A certificate that there is no State of California administrative action or license revocation proceeding pending against it.
- K. Transportation Routes: Submit for approval detailed plans showing the transportation routes which will be used to transport materials to each disposal facility along with evidence that such routes comply with applicable Federal, State(s) which the transportation routes cross, regional, and local regulations and copies of special permits required, if applicable.
- L. Hazardous substance treatment; Disposal Facility Permits and Licenses: Before transportation of any hazardous waste materials to a hazardous substance treatment storage or disposal facility, the Contractor shall submit for review copies of the following for each facility:
1. TSCA permit and any other required permits to receive hazardous waste materials.
 2. RCRA/LDA disposal, dilution, and storage prohibitions.
 3. Regional Water Quality Control Board [Regional Boards] restrictions and prohibitions.
 4. Current DHS/EPA manifest handling procedures.
- M. Disposal facilities compliance and commitment: Prior to off-site transport of any materials, submit copies of letters of commitment from all proposed disposal facilities unless such letters of commitment are specified herein or in other Sections of the Specifications to be obtained by the District. Each letter shall state the following:
1. That the facility and its operations are in compliance with all Federal, State in which the disposal facility is located, regional, and local requirements.
 2. That the facility can and will accept the hazardous waste materials proposed for disposal at the facility.
 3. Restrictions of the disposal facility that may cause rejection of transported materials; RCRA/LDA prohibitions.
 4. Sampling and characterization of materials required prior to delivery of materials to the facility.
 5. Restrictions on delivery schedules.
 6. Full disclosure concerning any existing, imminent or pending corrective action programs which may impact the ability of the facility to accept materials from the Project Site during performance of this Contract.
- N. Submit copies of all manifests, weight receipts, material analyses, waste profiles, disposal facility receipts, and all other documents and records pertaining to the categorization, transport, and disposal of all materials required to be removed and disposed of in accordance with the requirements of this Section of the Specifications.
- O. Asbestos containing material: Submit copies of current valid permits required by the State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, and regional and local regulations, including arrangements for storage, and transportation of asbestos containing materials.
- P. The review by the District of the above required submittals is intended only to be for general conformance with the requirements of the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS and the District will assume no responsibility for permits, licenses, notices, materials and methods, equipment or temporary construction required to execute the work shown on the drawings, described in this Section of the Specifications or in other Sections of the Specifications, or in other

documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

1.08 HEALTH AND SAFETY

- A. Provide protection for personnel in accordance with the Contractor's Health and Safety Plan, in compliance with all OSHA/CAL OSHA and all other Federal, State of California, regional, and local statutes, laws, regulations, rules, and ordinances, and take all additional precautions necessary to safely execute the Work.
- B. Enforcement of personnel protection requirements and compliance with NIOSH and OSHA/CAL OSHA requirements are the sole responsibility of the Contractor. The Contractor shall determine the level of hazard resulting from actual conditions at the work site, and shall ensure that safety procedures employed and protective gear provided to workers are appropriate for the conditions and in compliance with all applicable regulations and standards.
- C. Comply with all applicable OSHA and CAL OSHA requirements.
- D. EPA and CAL-EPA requirements:
 - 1. The contractor is solely responsible for compliance with all applicable EPA and CAL-EPA statutes, laws, regulations, rules, and ordinances relating to waste disposal.
 - 2. Waste from demolition and abatement activities must be evaluated for the Resource Conservation and Recovery Act (RCRA) Toxicity Characteristics. The contractor shall comply with RCRA requirements as defined in Subtitles C and D, and other State of California waste management requirements.
- E. During all phases of work, the Contractor shall comply with all applicable sections of State of California Code of Regulations (CCR), Industrial Safety Orders (Title 8), as well as Federal and State of California Occupational Safety and Health Administration (OSHA) regulations, including the Hazardous Waste Operations and Emergency Response regulation (Title 8, Section 5192 and 29 CFR 1910.120). These regulations require all on-site personnel working with potentially hazardous materials to be 40-hour health and safety trained and to have an annual 8-hour refresher course and medical examination.
 - 1. Prior to commencement of any work the Contractor shall provide evidence that all personnel working on the Project Site with potentially hazardous materials have completed 40-hour health and safety training and have completed an annual 8-hour refresher course and medical examination.
 - 2. Prior to commencement of any work, instruct all workers regarding the hazards involved in removal of each specific building material, and ensure that all workers are properly trained in the methods and work procedures to be employed and in the operation of all equipment to be used.
 - 3. Provide all workers with protective disposable clothing, including appropriate headgear, non-skid foot coverings, gloves, and respiratory protection as required in this Section of the Specifications, other Sections of the Specifications, and the requirements of applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances. Workers shall wear protective safety eyewear when full face respirators are not required.
 - 4. All protective clothing and equipment shall be appropriate for the conditions of service and procedures employed and shall be approved by NIOSH and OSHA for those conditions and procedures. All protective gear shall be properly fitted and maintained, and all workers shall be trained in proper fitting, maintenance, and use. The use of torn or defective protective clothing and equipment is not permitted.
 - 5. Decontaminate or properly dispose of protective clothing and equipment in accordance with the requirements of applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
- F. Do not permit visitors in work areas unless authorized by the District. Provide all such authorized visitors with a full set of appropriate protective clothing and respirators as required in this Section of the Specifications, other Sections of the Specifications, and the

requirements of applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances whenever they are required to enter work areas.

PART 2 - PRODUCTS

(not used)

PART 3 - EXECUTION

3.01 HANDLING AND STORAGE OF HAZARDOUS WASTE MATERIALS

- A. Comply with all Federal, State of California, regional, and local statutes, laws, regulations, rules, and ordinances regarding the handling and storage of hazardous waste materials.
- B. The contractor shall provide all containers for packaging hazardous waste materials consistent with applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 - 1. The Contractor shall also provide other packaging related materials such as materials used to cushion or fill voids in containers.
 - 2. The Contractor shall provide labels as required by applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances. Labels shall be durable and weather resistant and capable of withstanding, without deterioration or substantial color change, a 180 days exposure to conditions reasonably expected to be encountered during storage and transport.
- C. Storage:
 - 1. The Contractor is responsible that containers used to store hazardous waste materials shall be closed except when adding or removing waste.
 - 2. All containers storing hazardous waste materials shall be marked as required by applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 - 3. The Contractor shall be responsible for inspecting containers storing hazardous waste materials daily to identify signs of deterioration, and shall be responsible for spills or leaks as described in this Section of the Specifications or in other Sections of the Specifications. The Contractor is responsible for maintaining a daily log of inspections including the date and time of inspection, name of individual conducting the inspection, problems noted, and any corrective action take.
 - 4. Provide a bermed secondary containment area if required by applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances. See the SPECIAL PROJECT PROCEDURES Section for requirements related to the construction of a contained area surrounded by a berm.
 - 5. The Contractor shall not permit the storing of hazardous waste materials on the Project Site beyond those time frames permitted in applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances. Accumulation start dates shall commence when waste is first generated.

3.02 TRANSPORTATION

- A. Comply with all Federal, State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, regional, and local statutes, laws, regulations, rules, and ordinances regarding the transportation of hazardous waste materials.
- B. Packaging and placarding shall comply with 49CFR Part 173 - Shippers General Requirements for Shipments and Packagings in addition to other requirements noted in this Section of the Specifications, other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

- C. Load hazardous waste material in a manner that will prevent contamination of hauling equipment and vehicles, and properly secure loads for safe transport. Decontaminate vehicles when required. Decontaminate all vehicles before they leave the Project Site.
- D. Vehicles and containers used for transport shall comply with all applicable Federal, State of California, State in which disposal facility is located, other States through which the transport vehicle is required to travel to reach the disposal facility, regional, and local laws and regulations. Vehicle operators shall be properly trained and licensed.
- E. Cover all trucks hauling hazardous materials to eliminate the emission of dust and airborne particulate matter.
- F. Provide all material characterizations and weight records required by regulations and by disposal facilities, and properly label all containers and vehicles.
- G. Properly document and manifest each shipment of materials using District's identification numbers where required.
- H. Provide to the District a daily log [offhaul log] of all materials that are transported from the Project Site to either a recycling or disposal facility.

3.03 DISPOSAL

- A. Disposal facilities shall be in compliance with all applicable Federal, State in which disposal facility is located, regional, and local laws, rules, and regulations. Applicable regional and local laws, rules, and regulations shall be those of the governmental or quasi-governmental agencies, or other entities having jurisdiction at the disposal facility.
- B. All solid material shall be disposed of in a permitted disposal facility approved by the District. All hazardous material disposed of in the State of California shall be disposed of in a Class I disposal facility unless otherwise approved in writing by the District.
- C. Disposal of asbestos containing materials: In addition to the disposal requirements specified herein, comply with all Federal, State in which disposal facility is located, regional, and local laws, rules, and regulations regarding the disposal of asbestos containing materials. Applicable regional and local laws, rules, and regulations shall be those of the governmental or quasi-governmental agencies, or other entities having jurisdiction at the disposal facility.
- D. Disposal of light fixtures ballasts containing PCBs: If light fixtures with ballasts containing PCBs are included in the work the disposal method shall be as follows: incinerate.

3.04 CLOSURE REPORT

- A. The Contractor shall prepare a Closure Report within 10 working days of completing all work included in this Section of the Specifications. The closure report shall include the following:
 - 1. A cover letter certifying that all work related to the handling, transport, and disposal of hazardous materials or hazardous waste materials has been performed in accordance with the terms and conditions of the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS and regulatory requirements.
 - i. The cover letter shall be signed by the following:
 - (a) An officer of the Company responsible for the work included in this Section of the Specifications.
 - (b) A responsible company official representing the Contractor.
 - 2. A narrative report including but not limited to the following:
 - i. A description of the means and methods employed with regard to the removal handling, transport, and disposal of hazardous materials or hazardous waste materials.
 - ii. A description of any special procedures that were employed during the execution of the work related to hazardous materials or hazardous waste materials that were not included on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

HANDLING, TRANSPORT, AND DISPOSAL OF HAZARDOUS MATERIALS

- iii. A description of citations from public agencies related to hazardous materials or hazardous waste materials; attach applicable documentation.
3. Include appendices to the narrative report with the following:
- i. Data from any field samples related to hazardous materials or hazardous waste materials collected by the Contractor; provide sample locations, sampling method, sample collection data, and copies of chemical and physical test results.
 - ii. Copies of all manifests and all land disposal restrictions for hazardous materials or hazardous waste materials.
 - iii. Copies of waste profile sheets.
 - iv. Copies of all certifications of final disposal signed by a responsible official from the disposal facility.

End of Section 01110

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**SECTION 01300
ADMINISTRATIVE REQUIREMENTS****PART 1 - GENERAL****1.01 SCOPE**

- A. The sections includes requirements for meetings, submittals, substitutions, progress reports and photos, and the administrative duties of the Contractor.
- B. The Contractor is responsible for all superintendence, project coordination, and project management.
- C. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient men and adequate equipment to complete all the necessary work requirements within the specified period of time.
- D. Duties of Contractor: The following is not intended to limit the responsibilities of the Contractor, but is intended to provide for an understanding of the requirements.
 - 1. Coordinate scheduling, submittals, and the Work of the various Sections of Specifications to ensure efficient and orderly sequence of the Work.
 - 2. Retain on the work during its progress the following:
 - i. A competent full-time project manager representative who shall act as the representative of the Contractor. The project manager shall be in full charge of the work and all instructions given to the project manager by the District shall be binding.
 - ii. A competent full-time project superintendent. The project superintendent shall be in full charge of the execution of the Work.
 - iii. Personnel assigned to administer, manage, and supervise the project shall not be changed unless the consent of the District is obtained.
 - 3. Establish on-site lines of authority and communication. Coordinate work of all subcontractors.
 - 4. Construction schedules:
 - i. Monitor schedules as Work progresses.
 - ii. Observe Work to monitor compliance with schedule.
 - iii. Verify that labor and equipment are adequate to meet and maintain the schedule for the Work.
 - iv. Verify that products, equipment, containers or packaging, and hauling transport vehicles are available and adequate to meet and maintain the schedule for execution of the Work.
 - v. Report any noncompliance to District with recommendations for remedy.
 - vi. Verify that adequate services are provided to comply with requirements for Work and climatic conditions.
 - vii. Verify proper maintenance and operation of temporary facilities.
 - 5. Changes:
 - i. Recommend necessary or desirable changes to District.
 - ii. Review subcontractors' requests for changes and substitutions. Submit recommendations to District.
 - iii. Process Revision Orders.
 - 6. Permits and fees: Verify that subcontractors have obtained all required permits and inspections.
 - 7. Interpretations of Contract Documents:
 - i. Consult with the District to obtain interpretations or clarifications for any portions of the Work noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS which are unclear or ambiguous.
 - ii. Assist in answering questions which may arise.

8. Maintain reports and records at job site:
 - i. Document existing conditions prior to performing work.
 - ii. Provide a daily log of progress of the work shall be submitted to the District at the end of each day showing type of work performed at each building or area of the site, work-force engaged by the Contractor and each subcontractor, materials delivered to or removed from the site, inspections made by the District, equipment used, weather conditions and other pertinent data, and all logs and other documentation as noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - iii. Provide a daily log of the condition of facility structures indicated to remain on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - iv. Provide a daily log of the condition of facility structures indicated to remain on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - v. Assemble, and thoroughly review prior to submission, all documentation related to any claims or disputes which may arise.
9. Ensure that specified cleaning is done during the execution of the Work.
10. Administer traffic and parking controls for construction workers.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. All Sections of the Specifications.
- B. Project scheduling requirements are described in SECTION 01325 CONSTRUCTION PROGRESS SCHEDULE.

1.03 SUBMITTALS

- A. Submit the qualifications of all personnel to be assigned to administer, manage, and supervise the execution of the work for review to the District.
 1. The District reserves the right to require that the Contractor provide personnel with qualifications appropriate to the type of Work to be executed by the Contractor.
 2. If the District deems the personnel proposed by the Contractor are not qualified, the Contractor shall remove from participation in the project those persons the District deems not qualified, and provide alternative personnel for review by the District.
- B. Submit a management organization chart that shows all personnel who will be assigned to administer, manage, and supervise the execution of the work for review to the District. The management organization chart shall clearly show the personnel responsibilities and reporting procedures.

1.04 PROJECT COORDINATION

- A. Coordinate and cooperate with the District regarding mobilization on the Project Site.
- B. Coordinate installation of field offices, and project site access, traffic and truck lanes, parking facilities, and radiation monitoring station with the District.
- C. Coordinate use of the Project Site and existing facilities with the District.
- D. Comply with the District's procedures for intra-project communications, submittals, reports and records, schedules, recommendations, and resolution of ambiguities and conflicts.
- E. Make the following submittals to the District:
 1. Requests for interpretation.
 2. Submittals as required by other Sections of the Specifications.
 3. Applications for payment and change order requests.
 4. Progress schedules.

5. Closeout submittals.

1.05 DISTRICT'S COORDINATION

- A. The District shall take all reasonable steps to help the Contractor to perform his work.
- B. Review of Work: All of the work called for in the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS shall be done to the entire satisfaction of the District, and the District's agents and representatives, who shall at all times have access to and be permitted to observe and review all work, materials, payrolls, and records of personnel and conditions of employment. They shall be furnished with every reasonable facility for ascertaining the following:
 1. The Work is in accordance with the requirements and intent depicted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM SUMMIT CONTRACT DOCUMENTS.
 2. The Work complies with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
 3. The execution of the Work is in accordance with the approved Health and Safety Plan.

PART 2 - PRODUCTS

[not used]

PART 3 - EXECUTION**3.01 PRECONSTRUCTION MEETING**

- A. The District will schedule a meeting after Notice of Award.
- B. Attendance Required:
 1. District [or District's designated representative].
 2. Contractor's Project Manager and Contractor's Project Superintendent, Site Safety and Health Coordinator (SSHC).
 3. Representatives from the principal subcontractors.
- C. Agenda:
 1. Personnel to be assigned to the project including but not limited to Project Manager, Project Superintendent, Site Safety and Health Coordinator (SSHC), and representatives of the principal subcontractors.
 2. Schedule for execution of the Work.
 3. Schedule for submission of submittals.
 4. Procedures and processing of field decisions, submittals, applications for payments, proposal requests, Change Orders, and closeout procedures.
 5. Procedures related to protecting buildings, site improvements, and other items noted to remain [not to be removed] on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 6. Inspections and testing to be provided by the District.
- D. The Contractor's Project Manager will record minutes and distribute copies within two days after the meeting to participants, with copies to the District, participants, and those affected by decisions made.

3.02 PRECONSTRUCTION HEALTH AND SAFETY BRIEFING

- A. The Contractor shall schedule a preconstruction health and safety briefing.
- B. Attendance is required by all personnel who will work on the project site, including Contractor's and all Subcontractors' personnel.

- C. Agenda:
 - 1. Health and safety personnel representing the parties to the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - 2. Implementation procedures related to the Contractor's approved Health and Safety Plan.
 - 3. Procedures for reporting non-compliance with the Contractor's approved Health and Safety Plan.
 - 4. Procedures for responding to a fire or explosion on the Project Site.
 - 5. Procedures for responding to spills of hazardous materials on the Project Site.
 - 6. Procedures for responding to an earthquake.
 - 7. Procedures for responding to emergencies not specifically discussed.
 - 8. Inspections and testing to be provided by the District.
- D. The Contractor's Project Manager will record minutes and distribute copies within two days after the meeting to participants, with copies to the District, participants, and those affected by decisions made.

3.03 PRECONSTRUCTION ENVIRONMENTAL BRIEFING

- A. The Contractor shall schedule a preconstruction environmental briefing.
- B. Attendance is required by all personnel who will work on the project site, including Contractor's and all Subcontractors' personnel.
- C. Agenda:
 - 1. Applicable environmental constraints associated with execution of the Work.
 - 2. Contractor's erosion and sediment control plan.
 - 3. Procedures for preventing the emissions of airborne dust particulate matter.
 - 4. Procedures for controlling the spread of dust and debris to areas beyond the Project Site.
 - 5. Special procedures related to areas where the ground water may be contaminated.
 - 6. Special procedures that may be required related to the use of water on the site.
 - 7. Special requirements related to:
 - i. Procedures related to removing and handling hazardous materials.
 - ii. Draining of oil and fluids.
 - iii. Procedures related to unidentified materials or substances that may require sampling and testing.
- D. The Contractor's Project Manager will record minutes and distribute copies within two days after the meeting to participants, with copies to the District, participants, and those affected by decisions made.

3.04 SITE MOBILIZATION MEETING

- A. District will schedule a meeting at the Project Site prior to Contractor mobilizing on the Project Site.
- B. Attendance Required:
 - 1. District.
 - 2. Contractor's Project Manager and Contractor 's Project Superintendent.
 - 3. Representatives from the major subcontractors.
- C. Agenda:
 - 1. Use of premises by District and Contractor.
 - 2. District 's requirements.
 - 3. Security and housekeeping procedures.
- D. The Contractor's Project Manager will record minutes and distribute copies within two days after the meeting to participants, with copies to the District, participants, and those affected by decisions made.

3.05 PROGRESS MEETINGS

- A. The Contractor shall attend weekly [at minimum] progress meetings scheduled and administered by the District.
- B. Progress meetings are intended as a means for reviewing the following:

1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Report from the Site Safety and Health Coordinator.
 4. Field observations, problems, and decisions.
 5. Identification of problems which impede planned progress.
 6. Status of submittals.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of the Work.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- C. The Contractor's Project Manager will record minutes and distribute copies after the meeting to participants, with copies to the District, other participants, and those affected by decisions made.
- D. Progress meetings will be held at the job site weekly unless otherwise designated by the District. The Contractor and his project superintendent, and the subcontractors whose presence is necessary, shall attend progress meetings.

3.06 PRECONSTRUCTION SURVEY

- A. Prior to performing any work on the site the Contractor shall survey the site and the surrounding areas with the District for the purpose of recording existing conditions and identifying any existing damage that could later be claimed to have been caused by the execution of the Work by the Contractor.
- B. Employ video photography and/or still photography to document existing conditions on and near to the Project Site. Photographic methods shall be used to record:
1. Existing condition of all construction scheduled to remain on the site and indicated to be protected.
 2. Existing condition of all construction on public and private property adjacent to the site including streets, curbs, sidewalks, utilities, vegetation, walls, fences, nearby buildings, and any other adjacent or nearby construction or natural area that could be damaged [or later claimed to have been damaged] in any way due to the work executed by the Contractor.
- C. Photographic records shall be made by an experienced photographer [who may be a qualified employee of the Contractor] and shall provide factual presentation with correct exposure and focus. All still photographs and videotape shall clearly identify the location[s] and date[s].
- D. Maintain copies of all prints and videotapes at the Project Site with other Project Record Documents, and deliver three [3] copies of all prints and videotapes to the District upon completion of the preconstruction survey.

3.07 MONTHLY REPORT AND CONSTRUCTION PHOTOGRAPHS

- A. Scope:
1. Provide a report at the end of each month that documents the execution of the Work during the month.
 2. The monthly report shall be provided to the District no later than the fifth working day after the end of the month.
 3. Provide 3 original copies of the monthly report, and one digital copy in PDF format.
- B. The monthly report shall contain the following:
1. A narrative describing the execution of the work during the past month.
 2. Construction photographs as described herein. Photographic prints shall be mounted on card stock in a binder and clearly identified as to location and type work.
 3. Copies of updated project schedules as described in the CONSTRUCTION PROGRESS SCHEDULE Section.

4. Copies of updated logs as noted in this Section of the Specifications.
 5. A spreadsheet showing amounts paid to the Contractor, and showing future estimates of monthly amounts due the Contractor.
 6. A separate report that identifies any potential contractual disputes or potential claims.
- C. Construction photographs.
1. Provide a photographic record of the execution of the Work. Work includes but is not limited to:
 - i. Providing still photography; color prints and negatives.
 - ii. In lieu of color prints and negatives, the Contractor may use a digital camera and provide color prints and files readable by a computer as specified in this Section of the Specifications. The digital camera shall be capable of a minimum image resolution of 1152 x 768 pixels. The quality of the color prints shall be of sufficient clarity to delineate the construction work in detail.
 2. Provide photographs of the execution of the Work produced by an experienced photographer, acceptable to the District.
 3. Document the execution of the Work; take sufficient photographs daily to document all aspects of the execution of the Work unless otherwise approved in writing by the District. Photographs shall clearly document damage to buildings, site improvements, and other items noted to remain [not to be removed], as well as any damage to vehicles or other property not owned by the Contractor, his subcontractors [all tiers], or their employees.
 - i. Prints shall be date stamped.
 - ii. Minimum print size shall be 5x7 inches.
 - iii. Provide factual presentation.
 - iv. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
 4. Maintain copies of all prints at the Project Site with other Project Record Documents.
- D. All costs associated with preparation of the monthly report and construction photographs shall be borne by the Contractor.

3.08 SUBMITTALS

- A. When submittals are specified in individual sections, submit them for review in accordance with this Section of the Specifications.
- B. All submittals shall be accompanied by a transmittal as noted herein, and the transmittal shall be forwarded via email to the District as an email attachment in MS WORD or PDF format.
- C. Submittal procedures:
 1. Transmit each submittal on a form approved by the District. Transmittal form shall contain the following:
 - i. Date.
 - ii. Project title and number.
 - iii. Contractor's name and address.
 - iv. Description of data contained in submittals.
 - v. References to applicable Sections of the Specification.
 - vi. References to applicable standards, such as ASTM or other.
 - vii. Listing of any letters containing description of deviations from the Work shown on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - viii. Contractor's stamp, initialed or signed, certifying to review of submittal, compliance with the drawings, the Specifications, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, and verification of field measurements when applicable.

2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
 3. Make submittals at least 10 working days before dates when reviewed submittals will be needed. Schedule submittals to expedite the execution of the project, and coordinate submission of related items.
 4. For each submittal allow 5 working days, excluding delivery time to and from the Contractor, for review.
 5. Identify variations from the drawings, the Specifications, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, procedural, or other limitations which may be detrimental to successful performance of the Work.
 6. Provide 3 copies of all submittals and a digital attachment via email.
 7. When revised for resubmission, identify all changes made since previous submission.
- D. Resubmission requirements:
1. Shop drawings, work plans, site use drawings and similar items:
 - i. Review drawings and other data, indicate revision date as required, and resubmit as specified for initial submittal.
 - ii. Indicate revised submittal any changes which have been made other than those requested by the District.
 2. Product data: Submit new data as required for first submittals.
- E. Contractor's responsibilities:
1. Review submittals prior to submission to the District.
 2. Verify relevant field conditions.
 3. Coordinate each submittal with work of the project and Contract Documents.
 4. Contractor's responsibility for errors and omissions in submittals or deviations from Contract Documents is not relieved by the District.
 5. Notify the District in writing of deviations from requirements noted on the drawings, in the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS at time submittals are made.
 - i. A "deviation" shall be construed to mean a minor change to the products, procedures, sequences or other requirements noted on the drawings, in the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS
 - ii. A deviation is not intended to allow substitutions or product options.
 6. Do not begin work which requires submittals until submittals have been returned with the District's 's stamp and initials or signature indicating review.
 7. After the District review, distribute copies.
- F. District responsibilities:
1. Review submittals with reasonable promptness on basis of scope of work and information noted on the drawings, in the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS
 2. Attention is directed to the fact that the District's review is only to check for general conformance with the design concept of the project and general compliance with the Work noted on the drawings, in the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. No responsibility is assumed by the District for correctness of dimensions, details, quantities, procedures, or other data shown on shop drawings or submittals.
 3. Omission in submittals of any items required by Specifications or other documents, or otherwise required for proper execution and completion of the Work, does not relieve the Contractor of responsibility for providing such items. Contractor is responsible for coordination with various trades, and conformance to project requirements.
 4. Provide acknowledgment of review of submittal as follows:

- i. Reviewed
 - ii. Make Corrections Noted
 - iii. Revise and Resubmit
5. Return submittals to Contractor for distribution.

3.09 SUBSTITUTIONS

- A. The District will not consider requests for substitutions unless specifically requested by the District.
- B. All requests for substitutions shall be accompanied by a letter as noted herein, and shall be forwarded via email to the District as an email attachment in MS WORD or PDF format.
- C. Document each request with complete data substantiating compliance of proposed substitution with the Work noted on the drawings, in the Specifications, and in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- D. A request for substitution constitutes a representation that the Contractor:
 1. Has investigated proposed procedure or product, and determined that it meets or exceeds the quality level of the specified product or procedure.
 2. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to District.
 3. Waives claims for additional costs or time extension which may subsequently become apparent.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revisions to the drawings, to the Specifications, or to other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- F. Substitution submittal procedure:
 1. Submit three [3] copies of request for substitution for consideration. Limit each request to one proposed substitution.
 2. Submit shop drawings, product data, and certified test results attesting to the proposed product or procedures equivalence. Burden of proof is on the Contractor.
 3. The District will notify the Contractor in writing of decision to accept or reject request.

3.10 CHANGE PROCEDURES

- A. The District will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time.
- B. The District may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications and may also include a change in Contract Time for executing the change. The Contractor shall prepare and submit an estimate within 5 working days.
- C. The Contractor may propose a change by submitting a request for change to the District, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation.
- D. All requests for changes by the Contractor shall be in the form a letter as noted herein, and shall be forwarded via email to the District as an email attachment in MS WORD format.
- E. Change procedure types:
 1. Stipulated Sum Change Order: Based on Proposal Request and Contractor's price quotation as approved by the District.
 2. Unit Price Change Order: For pre-determined unit prices and quantities as listed on the Bid Form attached to the MOUNT UMUNHUM SUMMIT CONTRACT DOCUMENTS, the Change Order will be executed on a fixed unit price basis.
 3. The District may issue a directive, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. The directive

- will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute the change.
4. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. The District will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents.
 - i. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- F. Change procedure logs:
1. The Contractor shall maintain a log of all changes requested by the District, and the contractor.
 2. The logs shall be in spreadsheet format and shall clearly indicate the following:
 - i. Unique number identifying the change.
 - ii. Name of change requestor.
 - iii. Description identifying the change.
 - iv. References to applicable documents such as RFPs, FWOs and RFIs. Provide a separate column for each type of change request.
 - v. Amount of change in the contract sum requested, if known.
 - vi. Change in Contract Time if applicable.
 - vii. Status of change.
 3. Submittal requirements:
 - i. 3 days prior to submitting a payment request the Contractor shall submit updated logs in spreadsheet format [MS Excel file]. Updated change procedure log files shall be submitted electronically as an attachment to an email.
 - ii. Changes in the contract sum which have not been executed or are not included in the updated logs shall not be included in the payment request.

3.11 REQUESTS FOR INFORMATION

- A. The Contractor may submit "Requests for Information" [RFIs]. The "Request for Information" shall clearly state why the Contractor requires additional information or a clarification to the contract documents. The "Requests for Information" shall include the following:
 1. A unique number identifying the "Request for information".
 2. Date when the Contractor first encountered a condition requiring additional information or a clarification to the contract documents.
 3. Location where additional information or a clarification is required.
 4. A sketch showing existing conditions and describing the specific reason he is not able to continue with execution of the work.
 5. Relevant drawing and detail numbers, specifications section and paragraph numbers.
- B. "Requests for Information" shall be submitted on a form approved by the District.
- C. All "Requests for Information" shall on a form as noted herein, and shall be forwarded via email to the District as an email attachment in MS WORD or PDF format.
- D. A "Request for Information" will be promptly reviewed by the District. The Contractor shall assume that the District are responding in a timely manner and shall not request an immediate response. Where conditions prevent the Contractor from proceeding with execution of the Work at the location where additional information is needed, he shall continue to execute the rest of the work in accordance with the requirements of the contract documents.
 1. The District will respond to RFIs that require a minor change in the Work not involving an adjustment to Contract Sum or Contract Time using a Field Work Order [FWO].
 2. If major differences between conditions shown on the drawings as existing and actual field conditions are encountered by the contractor, the contractor shall

immediately inform the District and shall stop work in the area where the contractor has encountered major differences between conditions shown on the drawings as existing and actual field conditions. The District will provide instructions for proceeding in the area where the contractor has encountered major differences between conditions shown on the drawings as existing and actual field conditions in a timely manner. If the contractor is required to stop work in an area due to the contractor encountering major differences between conditions shown on the drawings as existing and actual field conditions he shall proceed with all other work items as required by the contract documents.

- E. "Request for Information" logs:
1. The Contractor shall maintain a log of all "Requests for Information".
 2. The logs shall be in a spreadsheet format [Excel] and shall clearly indicate the following:
 - i. Unique number identifying the "Request for Information".
 - ii. Date "Request for Information" was sent to the representative.
 - iii. Date an answer to the "Request for Information" was received.
 - iv. Name of information requestor.
 - v. Description identifying the "Request for Information".
 - vi. References to applicable contract documents and other relevant documents..
 - vii. Status of "Request for Information".
 3. Submittal requirements:
 - i. 3 days prior to submitting a payment request the Contractor shall submit updated logs in spreadsheet format [MS Excel file]. Updated "Request for Information" log files shall be submitted electronically as an attachment to an email.
- F. "Field Work Order" logs:
1. The Contractor shall maintain a log of all "Field Work Orders" that result from "Requests for Information".
 2. The logs shall be in a spreadsheet format [Excel] and shall clearly indicate the following:
 - i. Unique number identifying the related "Field Work Order".
 - ii. Description identifying the scope of the "Field Work Order".
 - iii. Data substantiating the scope of work, such as quantities related to unit prices.
 - iv. Additional cost data related to the "Field Work Order", such as material and labor costs.
 - v. Status of "Field Work Order".
 3. Submittal requirements:
 - i. 3 days prior to submitting a payment request the Contractor shall submit updated in spreadsheet format [MS Excel file]. Updated "Field Work Order" log files shall be submitted electronically as an attachment to an email.
 - ii. All "Field Work Orders" shall be included in the updated logs.

End of Section 01300

MOUNT UMUNHUM SUMMIT PROJECT

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**SECTION 01325
CONSTRUCTION PROGRESS SCHEDULE****PART 1 - GENERAL****1.01 SCOPE**

- A. Prepare and provide a bar chart and a critical path method [CPM] schedule for the entire work.
- B. Revise the bar chart and a critical path method [CPM] schedule periodically, as directed by the District, as noted herein, and as required by other Sections of the Specifications and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- C. The Contractor shall anticipate normal weather patterns and adjust the project schedule accordingly. Requests for additional time due to inclement weather will only be granted if the Contractor can demonstrate that abnormal weather patterns occurred during the time period allowed for execution of the work. Data regarding normal weather patterns are available from National Oceanic and Atmosphere Administration [NOAA].

1.02 RELATED DOCUMENTS

- A. ADMINISTRATIVE REQUIREMENTS Section.
- B. TEMPORARY CONSTRUCTION FACILITIES Section.

1.03 PROJECT SCHEDULE

- A. Form of Construction Progress Schedule: Prepare and provide a construction progress schedule in the form of a bar chart and a critical path network. Critical path network shall use a precedence diagramming method format. The schedule shall be prepared in accordance with current accepted practice with regard to project scheduling for large construction projects.
- B. Content of Construction Progress Schedule:
 - 1. Project Bar Chart: The project bar chart shall identify the work of the entire project.
 - 2. Detailed Network Schedule: The Detailed Network Schedule shall be used to monitor the progress of the work and shall therefore be maintained throughout the contract as the Contractor's current schedule for work to be performed.
 - i. Show complete sequence of construction by activity.
 - ii. Reference each item to an applicable Section of the Specifications.
 - iii. Identify work of logically grouped activities.
 - iv. Show progress of permits, notifications, submittals, and other related activities.
 - v. Provide a legend for symbols and abbreviations used.
 - 3. The District will receive and review updates from the Contractor bi-weekly.
- C. Revisions to schedules:
 - 1. Update Project Bar Chart and detailed Network Schedule bi-weekly.
 - 2. Show all changes which have occurred since the previous update and submittal. If revisions show a completion date that results in a TIME OF COMPLETION that exceeds the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, the Contractor shall provide documentation showing the means and methods the Contractor intends to employ to ensure the project is completed in accordance with the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- D. Form of Construction Progress Schedule:
 - 1. The Construction Progress Schedule shall be prepared using Microsoft Project.
 - 2. With each required submittal provide updated file(s) containing the information included in the submittal in an attachment to an email. The updated file(s) shall

be compatible with Microsoft Project software and a current Windows operating system.

1.04 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with five years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout.

1.05 SUBMITTALS

- A. Construction Progress Schedule:
1. Within 10 days after a Notice to Proceed has been issued, submit a preliminary bar chart schedule defining the planned operations for the first 90 days of Work, with a general outline for the remainder of the Work.
 2. Within 15 days after a Notice to Proceed has been issued, submit Detailed Network Schedule for review.
 3. With each Application for Payment submit updated Project Bar Chart, and Detailed Network Schedule with the following:
 - i. Percentage of completion of each work task.
 - ii. Annotations showing status and changes which have occurred since the previous update and submittal.
- B. Schedule format:
1. Listings: In chronological order according to the start date for each activity.
 2. Diagram Sheet Size: Maximum 11x17 inches.
 3. Sheet Size: Multiples of 8-1/2 x 11 inches.

1.06 CONTRACTOR'S RESPONSIBILITIES

- A. Coordinate the scheduled work of its own personnel and that of all its subcontractors in accordance with the construction schedule.
- B. Incorporate the work of all subcontractors into the construction schedule.
- C. Provide Project Schedule update information to all subcontractors.
- D. Maintain a management organization to fulfill the requirements of this Section.

1.07 THE DISTRICT'S RESPONSIBILITIES

- A. Review the Project Schedule submittals on the basis of information contained in the Contract Documents.
- B. Return submittals with comments to the Contractor.
- C. Attention is directed to the following:
1. The review by the District is only to check for general conformance with the requirements of the Contract Documents. The District will assume no responsibility for means, methods, and work task sequences proposed by the Contractor. The execution of the Work is solely the Contractor's responsibility, and the Contractor shall be solely liable for the means and methods the Contractor selects for executing the Work.
 2. Omission from the Project Schedule of work tasks required for proper execution and completion of the Work, does not relieve the Contractor of responsibility for executing the complete Work as required in the Contract Documents.

PART 2 - PRODUCTS

[not used]

PART 3 - EXECUTION

3.01 DETAILED NETWORK SCHEDULE

- A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.
- B. Illustrate order and interdependence of activities and sequence of work. Show how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify each activity in accordance with Critical Path Method standards. Typical information associated with an activity include the following:
 - 1. Preceding and following event numbers.
 - 2. Activity description.
 - 3. Estimated duration of activity.
 - 4. Earliest start date.
 - 5. Earliest finish date.
 - 6. Actual start date.
 - 7. Actual finish date.
 - 8. Latest start date.
 - 9. Latest finish date.
 - 10. Total and free float: Float time shall accrue to the District's benefit.
 - 11. Monetary value of activity.
 - 12. Percentage of activity completed.
- D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.

3.02 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work including percentage of completion of each work task.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain dates of Substantial Completion.
 - 1. Provide documentation showing the means and methods the Contractor intends to employ to ensure the project is completed in accordance with the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. The documentation shall clearly describe any additional manpower or equipment that is required to complete the work in accordance with the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - 2. Provide a revised project schedule that indicates the resource modifications that will be required to complete the Work in accordance with the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. The revised project schedule shall include manpower and equipment resources that clearly depict that the Contractor has the resources and management capability to complete the Work in accordance with the TIME OF COMPLETION noted in documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- F. Submit reports required to support recommended changes.

3.03 DELAYS

- A. The contract sum shall not be changed if a delay or contract modification will not affect existing critical activities or cause noncritical activities to become critical, i.e., a delay or modification may result in only absorbing a part of the available total float that may exist

within an activity chain of the network, thereby not causing any effect on the Contract completion date or time.

- B. Extensions of time can be granted for a delayed or impacted activity only for the duration of the time adjustment which exceeds the total float for the schedule path wherein the activity is located. The adjustment is only applicable during the time the delay occurred or when the change is ordered. The Contractor shall provide evidence that a delayed or impacted activity exceeds the total float for the schedule path wherein the activity is located.

End of Section 01325

**SECTION 01410
TESTING AND INSPECTION****PART 1 - GENERAL****1.01 SCOPE**

- A. Inspection services provided by the District.
- B. Testing laboratory services provided by District.
- C. Contractor's responsibilities.
- D. The District will provide periodic inspection of all materials noted to be removed in the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. The purpose of the inspection is to determine if there are any materials or substances whose physical properties have not been previously characterized or identified and may require testing.
- E. The District reserves the right to stop work in any area at any time for the purposes of inspecting and testing materials. If the Contractor is required to stop work in an area, he shall proceed with execution of the Work in all other areas as required in the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. The Contractor will not be paid additional monies if the District stops work in any area at any time for the purposes of inspecting and testing materials unless the scope of work described on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS is substantially modified [the Contract Sum shall not be changed].

1.02 RELATED SECTIONS

- A. All Sections of the Specifications.

1.03 TESTING LABORATORY SERVICES

- A. Purpose: Independent testing laboratory services are required to provide unbiased quality control information necessary to protect the interests of the District and to furnish such technical knowledge as may be of benefit to the project.
- B. The District will pay all costs for testing except for testing and testing laboratory services specifically required to be provided by the Contractor as noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
- C. Extent of services and procedures: The District will direct testing laboratory as to which services will be required for the Work, and the type and extent of reports which will be required.
- D. Testing laboratory will perform and report all specified tests, and additional tests which may be necessary, and will conduct tests and provide reports as soon as possible so as not to delay the Work
- E. Testing laboratory is not authorized to:
 - 1. Release, revoke, alter, or enlarge upon requirements noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - 2. Approve or accept any portion of the work.
 - 3. Perform any duties of the Contractor.
- F. Employment of testing laboratory by the District in no way relieves Contractor of his obligation to perform work as described on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

- G. Cost for testing materials or procedures that are deviations or substitutions from the work described on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS shall be borne by the Contractor if the tests are conducted to determine the acceptability of the proposed deviation or substitution [the Contract Sum shall not be changed].

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with the District or the District's representative(s) who are providing services as specified in this Section of the Specifications. Provide access to the Work as may be required to complete air monitoring, inspections, and testing laboratory services.
- B. If required by the District or the District's representative, provide to laboratory in required quantities, all representative samples of materials to be tested as not additional cost to the District [the Contract Sum shall not be changed].
- C. Furnish casual labor and facilities to provide access to work to be tested, facilitate air monitoring, inspections, and tests, and to obtain and handle samples at the job site.

PART 2 - PRODUCTS

(not used)

PART 3 - EXECUTION

3.01 REQUIRED TESTS

- A. See other Sections of the Specifications.
- B. Compaction of soil and crushed concrete rubble used as backfill.

End of Section 01410

**SECTION 01700
EXECUTION REQUIREMENTS****PART 1 - GENERAL****1.01 SCOPE**

- A. Project coordination.
- B. Repair of damaged site improvements or buildings noted to remain, whether located within the Project Site or on adjacent public or private property.
- C. Close-out procedures.

1.02 RELATED SECTIONS

- A. ADMINISTRATIVE REQUIREMENTS Section.
- B. TEMPORARY CONSTRUCTION FACILITIES Section.

1.03 SUBMITTALS

- A. Cutting and patching: Submit written request in advance of cutting or alteration which affects the structural integrity of any site improvement or building noted to remain on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. Prior to doing any cutting which would affect structural safety of structure, submit written notice to District, requesting consent to proceed with cutting.

1.04 COORDINATION

- A. Coordinate scheduling, submittals, and the work described on the drawings, in the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS to ensure an efficient and orderly sequencing of the execution of the Work.
- B. Coordinate completion and clean-up of work of separate Sections of the Specifications.
- C. Coordinate access to site for correction of defective work and work not in accordance with the drawings, the Specifications, or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

1.05 PAYMENT FOR COSTS

- A. Costs caused by ill-timed or defective work, or work not conforming to requirements noted on the drawings, in this Section of the Specifications, in other Sections of the Specifications, or in other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, including the compensation for the additional engineering services made necessary thereby, shall be borne by the Contractor.
- B. All costs resulting from necessary repairs [restoring to its original condition] due to damage caused by the Contractor or any of his subcontractors [all tiers] to existing site improvements, utilities, or buildings noted on the drawings to remain, site improvements, utilities, or buildings located outside the boundaries of the Project Site, and vehicles and other property not owned by the Contractor or the Contractor's subcontractors [all tiers], including the cost of reasonable consequential damages, shall be borne by the Contractor.

PART 2 - PRODUCTS**2.01 PRODUCTS FOR REPAIRING SITE IMPROVEMENTS AND BUILDINGS**

- A. New materials: To match the existing site improvement or building that was damaged.

PART 3 - EXECUTION

3.01 PROTECTION OF EXISTING SITE IMPROVEMENTS AND BUILDINGS

- A. Protect existing site improvements or buildings noted on the drawings to remain, and site improvements or buildings located outside the boundaries of the Project Site as required to prevent damage of any type. Provide special protection as required to prevent damage including marring, scratching, or other incidental damage to existing site improvements or buildings noted on the drawings to remain, and site improvements or buildings located outside the boundaries of the Project Site.
- B. Provide special protection as required to prevent damage including marring, scratching, or other incidental damage to vehicles parked on the Project Site or parked outside the boundaries of the Project Site.

3.02 EXAMINATION

- A. Survey existing damaged site improvements or buildings noted on the drawings to remain, or located outside the boundaries of the Project Site as required to accurately describe their condition.

3.03 REPAIR OF DAMAGED SITE IMPROVEMENTS OR BUILDINGS

- A. Patch or replace the following at no cost to the District:
 - 1. Damaged site improvements including utilities that are noted on the drawings to remain or located outside the Project Site boundaries.
 - 2. Damaged buildings that are noted on the drawings to remain or located outside the Project Site boundaries.

3.04 CLOSEOUT PROCEDURES

- A. General:
 - 1. Notify the District when work is considered ready for Substantial Completion.
 - 2. Submit written certification that all drawings, Specifications, or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS. have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS and ready for the District review.
 - 3. Accompany the District on preliminary inspection to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion.
 - 4. Correct items of work listed in executed Certificates of Substantial Completion.
 - 5. Notify the District when work is considered finally complete.
 - 6. Complete items of work noted by the District as incomplete after the final inspection.
- B. Certificates of Disposal: Certificates documenting the final disposal of all waste materials shall be submitted to the District. Receipt of these certificates will be required prior to final acceptance of the Project.
- C. Construction photographs: Two [2] copies, minimum print size 5X7, and negatives of all prints shall be delivered to the District upon completion of the project. In lieu of negatives, digital files in PDF format readable by a personal computer using a current Windows operating system are acceptable.
- D. Final acceptance:
 - 1. If the work has been completed in accordance with the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS, and no further corrective measures are required, the District will accept the Project and the District will sign the Notice of Completion.
 - 2. Upon acceptance of the Project, the Contractor shall submit his request for final payment. Final payment will be made by the District in accordance with provisions of the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.

End of Section 01700

**SECTION 01710
CLEANING AND DUST CONTROL****PART 1 - GENERAL****1.01 SCOPE**

- A. Prevent the spread of dust and debris to areas beyond the Project Site
- B. Prevent the spread of dust and debris to avoid the creation of a nuisance in the surrounding area. Prevent the spread of dust and debris to avoid the contamination of uncontaminated materials.
- C. Maintain job site, surrounding areas, and public properties free from accumulations of waste, debris, and rubbish, caused by operations, and maintain control of airborne dust.

1.02 RELATED WORK

- A. See the drawings, this Section of the Specifications, other Sections of the Specifications, or other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS for specific requirements regarding the control of dust during demolition operations. The requirements for dust control during abatement and demolition operations are additional to the requirements in this Section of the Specifications.
- B. The requirements for cleaning, dust control, and containment of hazardous materials during abatement operations are additional to the requirements in this Section of the Specifications.

1.03 REGULATORY REQUIREMENTS

- A. See Section 01060 REGULATORY REQUIREMENTS
- B. The Contractor shall comply with Best Demonstrated Practice as described in applicable CALTRANS standards, guidelines, and similar documents. Minimum requirements are as required by the County of Santa Clara and Bay Area Air Quality Management District applicable regulatory requirements.

1.04 SUBMITTALS

- A. Submittals for review for the following procedures are required prior to the start of any work on the Project Site:
 - 1. Site dust control procedures.
 - 2. Procedures for the disposal of dust, debris, and other wastes.
- B. The review by the District of the above required submittals is only intended to be for general conformance with the requirements of the Contract Documents and the District will assume no responsibility for dust control procedures or the disposal of dust, debris, or other wastes from the site in accordance with procedures proposed by the Contractor.

PART 2 - PRODUCTS

(not used)

PART 3 - EXECUTION**3.01 CLEANING - GENERAL**

- A. Conduct cleaning and disposal operations in accord with legal requirements.
- B. Do not burn or bury rubbish and waste materials on job site.
- C. Hazards control:
 - 1. Prevent accumulation of wastes which create hazardous conditions.
 - 2. Provide adequate ventilation during use of volatile or noxious substances.

3.02 CLEANUP DURING CONSTRUCTION

- A. Execute cleaning to ensure that job site, premises, adjacent and public properties are maintained free from accumulations of dust, waste materials, and rubbish.
- B. Lightly mist dry materials and staged materials with water to lay dust.
- C. At the end of every day during progress of Work, clean public properties, including adjacent roads, to "broom clean" condition, and dispose of waste materials, debris and rubbish in a legal manner .
- D. Vacuum dust and collect debris from all adjacent areas outside the Project Site on daily basis.
- E. Provide dump containers on job site for collection of waste materials, debris and rubbish.
- F. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from height.
- G. If the Contractor has reasonable cause to believe that materials that were not previously contaminated with a hazardous material or non-hazardous levels of petroleum or VOCs have become contaminated with a hazardous material or non-hazardous levels of petroleum or VOCs due to the migration of airborne particulate matter [dust or debris] the Contractor shall immediately inform to the District. The District will arrange for necessary testing and analysis and will provide instructions to the Contractor regarding the removal, handling, storage, transport, and disposal of the materials.
 - 1. If the Contractor is required to stop work in an area, the Contractor shall proceed with execution of the Work in all other areas as required by the Contract Documents.
 - 2. No additional charge or extension of time will be allowed for additional work related to the contamination [commingling] of non contaminated materials with a hazardous material or substance as a result of the migration of airborne particulate matter [dust or debris] resulting from the execution of the Work by the Contractor [the Contract Sum shall not be changed].

3.03 DUST CONTROL

- A. Airborne dust particulate emissions shall be minimized during the execution of the work. The Contractor shall take special precautions to avoid the migration of dust and debris to adjacent property, or the emission of dust into the atmosphere.
- B. Do not use water to control the dust particulate emissions if it results in hazardous or objectionable conditions such as pollution.
- C. The Contractor shall take the following precautions to control dust particulate air emissions.

End of Section 01710

**SECTION 01720
PROJECT RECORD DOCUMENTS****PART 1 - GENERAL****1.01 SCOPE**

- A. Maintain at job site for the use of the District one copy of each of the following as record documents; additional requirements related to maintaining and submitting record documents are described herein.
 - 1. Drawings, Specifications, and other documents included in the MOUNT UMUNHUM ROAD REHABILITATION CONTRACT DOCUMENTS.
 - 2. Approved shop drawings and samples.
 - 3. Modifications: Revision Orders, Directives, and other written amendments to the Contract.
 - 4. Field test records.
 - 5. Record Photographs.
- B. Adhere to following guidelines for maintenance of record documents:
 - 1. Store record documents apart from documents used for construction purposes.
 - 2. Maintain record documents in clean, dry, and legible condition.
 - 3. Do not use record documents for construction purposes.
 - 4. Make record documents available at all times for inspection by District, and other authorized users.

1.02 RECORDING

- A. Label each record document "PROJECT RECORD" in 2-inch-high printed letters.
- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.
- D. Record Contract Drawings: The set of drawings shall be used as a working set to record the work installed for the project.
- E. Record Specifications: Legibly mark up each Section to record "as-built" conditions including but not limited to the following:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product.
 - 2. Changes made by Change Order and other modifications.
 - 3. Other work not originally specified.
- F. Record Photographs:
 - 1. Provide record photographs pre and post improvements of each element.
 - 2. Provide record photographs depicting typical pre-removal and post removal conditions at locations where utilities and other site improvements are noted to be removed as part of the execution of the work.
 - 3. 01300 ADMINISTRATIVE REQUIREMENTS describes requirements related to construction photographs, and the contractor shall assume that requirements related to construction photographs apply to record photographs.
 - i. Photographs shall be clearly identified with regard to the date and location. If the photograph references a building location the contractor shall label the photograph using the building number noted in the database, and shall reference the building number on the forms provided for recording information noted TO BE PROVIDED BY CONTRACTOR.
- G. Shop drawings and samples: Maintain as record documents. Legibly annotate shop drawings and samples to record changes made after approval.

1.03 AUDIT

- A. Project record documents will be reviewed monthly by the District, who will use the current completeness of the record documents in evaluating the monthly progress payment request.

1.04 SUBMITTAL

- A. At completion of the project, deliver record documents to the District.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 - 1. Date, project title and number, Contractor's name and address, title and number of each record document, certification that each document as submitted is complete and accurate, and signature of Contractor, or its authorized representative.

End of Section 01720



E.3 PROJECT SPECIAL PROVISIONS

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

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Section 10
SPECIAL PROVISIONS
MT. UMUNHUM PAVEMENT REHABILITATION PROJECT

10 RESPONSIBILITIES OF THE CONTRACTOR

10-1 STAFFING AND RESOURCES

10-1.1 The Contractor commits to providing the manpower and equipment necessary to accomplish the work in the designated contract schedule and time frame.

10-1.2 If the Contractor falls behind in the work schedule accomplishment, additional resources shall be provided to return the work to schedule.

10-2 PROJECT SCHEDULE

The following dates/milestones shall be incorporated into the Contractor's schedule.

Activity	Tentative Date

10--3 EMERGENCY INFORMATION

The Contractor shall provide the following information in writing and submit it with the signed contract, contract bonds and certificates of insurance. Failure to comply may result in delays in the processing of the contract documents.

1. Name of authorized representative at the job site.
2. Address and telephone number where the above person can be reached 24 hours a day.
3. Address of the nearest office of the Contractor and the name and telephone number of a person at that office who is familiar with the project.
4. Address and telephone number of the Contractor's main office and the name and telephone number of the person at that office familiar with the project.

10-4 SUBMITTALS

The Contractor shall provide the following submittals prior to the preconstruction meeting.

- Traffic Control Plan
- Emergency Contact List
- Project Superintendent
- Project Manager

QSP
Subcontractor Request List
Contractor's Equipment List
Submittals included in Technical Sections

10-5 ORDER OF WORK

The Contractor shall phase the Work according to the following:

1. General
 - a. The purpose of the order of work is to provide a predictable sequence of construction to the community and business owners in or near the project area.
 - b. Unless unknown conditions arise which prevents compliance with the order of work and designated project phasing, the order of work shall be followed as outlined.
2. Layout and Survey Controls
3. Demolition
4. Clearing and Grubbing
5. Roadway Repairs and Gabion Wall Installation
6. Removal of rocks and boulders
7. Excavation and cleaning of ditches and shoulders
8. Installation of drainage structures
9. Recycling of existing roadway pavement into base material
10. Placement of HMA
11. Placement of concrete barriers, rock fences, AC berms, shoulder backing, guardrail and other finish roadway features
12. Installation of pavement markings and signage
13. Installation of permanent erosion control measures

10-6 BID ITEM DESCRIPTIONS

10-6.1 BID ITEM 1 – MOBILIZATION

- A. Scope of Work
1. Costs associated to mobilize crew and equipment
 2. Set up storage yard, fencing, security, etc.
 3. Provide Construction Water
 4. Other initial costs not covered by other items

10-6.2 BID ITEM 2 – TRAFFIC CONTROL (TCP)

- A. Scope of Work
1. Preparation of Traffic Control Plan by Civil Engineer which will be submitted to the District 10 working days prior to beginning construction activities.
 2. In addition, scope of work for this section includes all items and activities included in Section 10-9, "Traffic Control."

10-6.3 BID ITEM 3 - POTHOLE EXISTING UTILITIES

- A. Scope of Work
1. Locate AT&T lines under roadway and along shoulder.
 2. Coordinate with AT&T as needed to relocate utilities which conflict with proposed improvements.

10-6.4 BID ITEM 4 – TEMPORARY EROSION CONTROL & SWPPP

- A. Scope of Work
 - 1. District to provide SWPPP & QSD/QSP Services
 - 2. Contractor's responsibility includes:
 - a. Implement BMPs.
 - b. Provide monitoring reports on a weekly basis.
 - c. Removal of BMP's at catch basins shall be under District supervision

10-6.5 BID ITEM 5 - CONSTRUCTION LAYOUT AND STAKING

- A. Scope of Work
 - 1. All construction layout and surveying as outlined in these Special Provisions
 - 2. Copy of all Plan sheets to be provided to Engineer prior to work
 - 3. Maintain/Restore as necessary.
 - 4. Provide restoration of all permanent survey markers as required by California Law.

10-6.6 BID ITEM 6 – CLEARING AND GRUBBING

- A. Scope of Work
 - 1. Clear and grub per specifications
 - 2. Provide safe access for inspection personnel at all times.

10-6.7 BID ITEM 7– TREE REMOVAL

- A. Scope of Work
 - 1. Remove and chip trees per plan locations
 - 2. Haul chips to location on site per District direction

10-6.8

BID ITEM 8 – TREE STUMP REMOVAL

- A. Scope of Work
 - 1. Remove tree stumps by grinding per plan locations

10-6.9 BID ITEM 9 - REMOVE TREE ROOTS UNDER PAVEMENT

- A. Scope of Work
 - 1. Remove existing pavement over root removal area by cold planing. Stockpile cold planed grindings adjacent to area for replacement.
 - 2. Scarify and remove roots in designated area. Replace grindings after tree roots removed. Recompact disturbed area as required.
 - 3. Chip removed roots and dispose in accordance with Section 10-12.2.5.

10-6.10 BID ITEM 10 –DEMOLITION

- A. Scope of Work
 - 1. Excludes all demolition activities related to pavement recycling.
 - 2. Excludes all demolition relating to other pavement removal items including cold planing.
 - 3. Includes all other demolition work not included in the above items. Work includes by may not be limited to removal of the cattle guard, fencing, existing guardrail, signage, concrete post supports in pavement, existing drainage inlets to be replaced, etc.
 - 4. Includes protection of existing buildings and facilities during demolition work.

10-6.11 BID ITEM 11 – ROCK AND BOULDER CLEARING

- A. Scope of Work

1. Includes all labor and equipment necessary to dislodge rocks and boulders designated for removal by the Engineer in accordance with the specifications.

10-6.12 BID ITEM 12 – EXCAVATION AND GRADING

A. Scope of Work

1. Excavation, transporting, and stockpiling of excavated material at designated disposal sites within project limits.
2. Includes all work necessary to construct ditches, remove excess material from slopes adjacent to the roadway, prepare shoulders for placement of HMA paving, and all other miscellaneous excavation and grading. Excavated rocks and boulders to be transported to a location designated on or near the project by the District.
3. Includes all necessary incidental work to complete in place.
4. Excludes excavation related to shallow and deep pavement repairs.

10-6.13 BID ITEM 13 –DISPOSAL OF EXCAVATED MATERIAL

A. Scope of Work

1. Incremental cost of transporting and disposing of material at District-designated disposal site.

10-6.14 BID ITEM 14 & 15–PAVEMENT REPAIRS

A. Scope of Work

1. Includes cost of cold planning and temporary stockpiling existing asphalt concrete
2. Includes cost of excavation and temporary stockpiling of excavated materials.
3. Compaction of existing subgrade
4. Placement of geosynthetic reinforcing grid
5. Backfill and compaction of excavated material
6. Replacement and compaction of grindings

10-6.15 BID ITEM 16 INSTALL GABION RETAINING WALLS

A. Scope of Work

1. Remove and dispose of existing retaining wall materials
2. Cold plane existing asphalt concrete and stockpile for replacement
3. Excavate to lines and grades for placement of gabions
4. Place gabions and fill with rock per detail and specifications
5. Backfill with native soils as required
6. Place native materials over gabions as shown
7. Place grindings on surface for recycling as base
8. Backfill and compact native materials at face of gabions to match preexisting slope

10-6.16 BID ITEM 16 through 19 – DRAINAGE INLETS

B. Scope of Work

1. Verify relative location of existing culvert to new surface depth at each inlet prior to ordering as first order of work.
2. Provide precast inlets per plan details
3. Excavate hole to install new inlet and dispose of surplus material in stockpile.
4. Protect existing pipe culvert during excavation and installation.
5. Trim or extend existing pipe as necessary, grout in place
6. Backfill with CLSM and native soils as shown
7. Construct ditch entrance per plan detail

- 10-6.17 **BID ITEM 20 – INSTALL 18” CMP PIPE EXTENSIONS AT INLETS**
C. Scope of Work
 1. Provide pipe matching existing diameter
 2. Install per specifications including concrete collar
 3. Backfill with CLSM
 4. Trim and grout at inlet.
- 10-6.18 **BID ITEM 21 – INSTALL 12” CMP PIPE**
A. Scope of Work
 1. Provide and install pipe per specifications
- 10-6.19 **BID ITEM 22 – INSTALL PRECAST HEADWALL**
A. Scope of Work
 1. Provide and install concrete headwall per detail
 2. Work includes excavation, placement and backfill
 3. Includes protection of new inlets.
- 10-6.20 **BID ITEM 23 –INSTALL DOWN DRAIN**
A. Scope of Work
 1. Regrade hill side and entrance at the top of the slope to install over-side drainage inlet per plan detail.
 2. Install down drain per plan
 3. Secure down drain per plan detail
- 10-6.21 **BID ITEM 24 – INSTALL PCC CURB**
A. Scope of Work
 1. Excavate to provide depth and configuration as indicated on the plans and as directed in the field by Engineer
 2. Form, place and finish concrete curb
 3. Apply curing compound
 4. Backfill and grade behind curb as necessary
- 10-6.22 **BID ITEM 25 – INSTALL PCC SWALE**
A. Scope of Work
 1. Excavate to provide depth and configuration as indicated on the plans and as directed in field by Engineer
 2. Prepare subgrade by moisture conditioning and compaction
 3. Install reinforcement per detail
 4. Form, place and finish concrete
 5. Apply curing compound
 6. Backfill and grade as necessary to complete in place
- 10-6.23 **BID ITEM 26 – INSTALL ROCK DRAINAGE PROTECTION**
A. Scope of Work
 1. Excavate to provide depth and configuration as indicated on the plans and as directed in field by Engineer
 2. Place geosynthetic fabric and fasten to subgrade
 3. Place rock protection per detail and specifications
 4. Regrade surrounding area as necessary.
- 10-6.24 **BID ITEM 27 – INSTALL ROCK LINED DITCH**
A. Scope of Work
 1. Excavate to provide depth and configuration as indicated on the plans and as directed in field by Engineer

2. Place geosynthetic fabric and fasten to subgrade
3. Place rock protection per detail and specifications
4. Regrade surrounding area as necessary.

10-6.25 BID ITEM 28 – ROADWAY SUBDRAIN PIPING

1. Excavate to provide depth and configuration as indicated on the plans and as directed in the field by the Engineer.
2. Place geosynthetic fabric
3. Place perforated pipe and fittings in fabric sock
4. Install cleanout covers
5. Backfill with drain rock

10-6.26 BID ITEMS 29 through 31 – INSTALL SUBDRAIN AND EDGEDRAIN

A. Scope of Work

1. Excavate for appropriate drainage item per detail
2. Stockpile excavated asphalt concrete material for reuse in pavement recycling.
3. For edge drain, do not extend work past edge of existing pavement into environmental sensitive area.
4. Place geosynthetic fabric, pipe and rock for subddrain.
5. Place edgedrain into trench and backfill with sand per installation detail.
6. Install cleanouts per appropriate plan detail
7. Connect to existing inlet or extend piping to daylight as shown on plans.

10-6.27 BID ITEM 32 & ADDITIVE/DEDUCTIVE ALTERNATIVE – CONSTRUCT RECYCLED BASE WITH HMA PAVING

A. Scope of Work

1. This bid item provides for two alternatives for construction:
Option One: Pulverize all existing asphalt concrete into aggregate base, grade and recompact as base and place 3 inches of HMA per plan detail
 - a. Item includes excavating and including in pulverization process all existing asphalt concrete including driveway, excess width of pavement not to be replaced, paving to over-side drains, existing AC berm and any cold planed area due to pavement repairs.
 - b. Item includes all required compaction testing for both the CIR and HMA as outlined in the specifications.Option Two: Cold in place recycle (CIR) all existing asphalt concrete using emulsion and place as new base for HMA paving. Resurface with 2 inches of HMA per plan detail
 - a. Item includes excavating and including in CIR process all existing asphalt concrete including driveway, excess width of pavement not to be replaced, paving to over-side drains, existing AC berm and any cold planed area due to pavement repairs.
 - b. Contractor responsible for all field investigation and testing, laboratory testing, preparation of the job mix formula and any other costs in designing the CIR.
 - c. Item includes all required compaction testing for both the CIR and HMA as outlined in the specifications.
2. For either alternative, work includes preparing subgrade for paving shoulders to receive HMA paving under concrete barrier or HMA berm.
3. For either alternative, work includes placement of surface course (either 2 inches or 3 inches of HMA, depending on selected option) in areas to receive concrete barrier or HMA berm

- 10-6.28 **BID ITEM 33 – MISCELLANEOUS PAVING**
A. Scope of Work
1. Excavation and subgrade preparation per specifications
2. Includes excavation and grading of driveways including indicated swales.
3. Placement and compaction of 3 inches of HMA paving per details
4. Placement of fog seal over miscellaneous paved areas after installation of HMA berms and final finish grading.
- 10-6.29 **BID ITEM 34 & 35 – INSTALL HMA DIKE**
A. Scope of Work
1. Install HMA dike of the type and at the locations indicated on the plans or as directed by the Engineer.
- 10-6.30 **BID ITEM 36– INSTALL CONCRETE BARRIER & END SECTION**
A. Scope of Work
1. Have custom steel forms prepared for designed concrete barrier segments.
2. Cast concrete barrier segments per specifications.
3. Provide undamaged (may be used) 6 steel forms to the District prior to completion of the project. Deliver to address designated by Engineer.
4. Deliver and install only after completion of HMA paving and installation of fog line. Repair any damaged fog line.
- 10-6.31 **BID ITEM 37 – INSTALL ROCK FENCE**
A. Scope of Work
1. Provide and install rock fencing per plan
- 10-6.32 **BID ITEM 38 – INSTALL SHOULDER BACKING**
A. Scope of Work
1. Prepare shoulders to receive additional material
2. Place and compact shoulder backing per detail and specifications
- 10-6.33 **BID ITEM 39 – PLACE 3” BASE ROCK**
A. Scope of Work
1. Regrade to drain away from driveway transitions
2. Place 3” base rock and compact per specifications
- 10-6.34 **BID ITEM 40– INSTALL GUARDRAIL AND TERMINAL ENDS**
A. Scope of Work
1. Install guardrail and terminal ends per plan and specifications
- 10-6.35 **BID ITEM 41 – INSTALL ROADSIDE SIGNS**
A. Scope of Work
1. Provide and install signs as indicated on the drawings or as directed by the Engineer
- 10-6.36 **BID ITEM 42 – INSTALL ROADSIDE PADDLES**
A. Scope of Work
1. Provide and install roadside reflective paddles to replace existing paddles removed during paving rehabilitation work and as directed by the District.
- 10-6.37 **BID ITEM 43– PAVEMENT MARKINGS**
A. Scope of Work
1. Install fog line prior to installation of concrete barriers

2. Repair any damage to fog line after barrier placement
3. Place all other pavement markings after all other work complete

10-6.38 BID ITEM 44 – ELECTRICAL CONDUITS

- A. Scope of Work
1. Trenching conduit runs per plans and specifications
 2. Install Conduits & junction boxes
 3. Backfill w/CLSM under roadway

10-6.39 BID ITEM - 45 through 47 INSTALL GATE SYSTEM

- A. Scope of Work
1. Install pipe gates as indicated on the drawings or as directed by the Engineer or District representative
 2. Install solar powered automatic gate system, per requirements E.4 of the Project Scope Documents
 3. Install solar powered light system, per requirements E.4 of the Project Scope Documents

10-6.40 BID ITEM 48 – Install Double Chip Seal

- A. Scope of Work
1. See Double Chip Seal Specifications

10-7 GENERAL REQUIREMENTS

10-7.1 GENERAL

10-7.1.1 SUMMARY

- A. Includes But Not Limited To:
1. General Requirements for the Work
 2. Protection of existing facilities
 3. Repair, cleaning and restoration

10-7.1.2 SUBMITTALS

- A. Record Drawings – Continuously update record drawings as work progresses. Provide complete set of record drawings prior to final payment.

10-7.1.3 SCHEDULING

- A. Include on Construction Schedule detailed sequence of individual site demolition operations’
- B. Coordinate with Owner for equipment and materials to be removed by Owner, if necessary.

10-7.1.4 TEST METHODS

- A. Maximum Laboratory Density – either CT 216 or ASTM D1557.
- B. Nuclear Gauge – ASTM D6938

10-7.2 PRODUCTS

- A. Controlled Low Strength Material (CLSM) conforming to the following:
1. Contains minimum of 94 lbs. and maximum of 188 pounds of cementitious material per yard.
 2. Compressive strength between 75 and 150 psi at 28 days.
 3. Fly ash is permitted.

4. Air entrainment additives for workability
 5. Submit mix design to Engineer for review at least 10 days prior to use on site.
- B. Class 2 Aggregate Base
1. Shall conform to 2010 Caltrans Standard Specifications Section 26
 2. Shall have a minimum dry unit weight based on ASTM D 1557 of 135 pcf.

10-7.3 EXECUTION

10-7.3.1 EXAMINATION

- A. Examine site to determine extent of work necessary to isolate work to be removed from work to remain. If separation procedure is unclear, request clarification from Owner's Agent at least 2 working days in advance of demolition.

10-7.3.2 PREPARATION

- A. Notify corporations, companies, individuals, and local authorities owning utilities within the project area.
- B. Disconnect electrical wires and feeds in such a manner that accidental re-energization cannot occur.
- C. Protect and maintain conduits, drains, sewers, pipes, and wires that are to remain.
- D. Contractor shall be responsible for protecting existing facilities.
- E. Protection – protect all buildings and existing features from damage.
- F. Spillage -
1. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
 2. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
- G. Dust Control -
1. Take precautions necessary to prevent dust nuisance, both on-site and adjacent to public and private properties.
 2. Correct or repair damage caused by dust.
- H. Existing Plants and Features - Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Owner's Agent. Do not damage other plants and features which are to remain. Any damaged plants or features shall be replaced at the contractor's expense.
- I. If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.
- J. Contractor shall comply with all local, state, and federal storm water protection regulations.
- K. Obtain Construction Water
1. Obtain construction water from an approved source
 2. Rent hydrant or bridge meter
 3. Pay deposits, permits, fees and invoices.

10-7.3.3 NOISE CONTROL

- A. Monitor noise to assure compliance with County Noise ordinance and OSHA requirements.

10-7.3.4 PERFORMANCE

- A. Execute work in an orderly and careful manner, with due consideration for other Contractors and local residents including facility owners
- B. Concrete and Paving removal
- C. Full depth saw cut joints between material to be removed and material to remain.
- D. Disposal

1. Legally dispose of all materials and pay disposal fees.
 2. If hazardous materials are encountered refer to the General Conditions.
- E. Backfill
1. Backfill holes made due to removal with CLSM
 2. Alternative backfill methods may be used if approved by the Engineer in writing prior to work performance.
- F. Site Maintenance
1. Broom clean all remaining surfaces immediately after demolition and removal of debris. Maintain broom clean condition.
 2. Maintain all storm water protection measures.

10-7.3.5 REPAIR/RESTORATION

- A. Adjust existing covers, boxes, and vaults to finish grade per plans.
- B. Replace broken or damaged covers, boxes, and vaults.
- C. Site Cleaning Immediately Prior To Acceptance
 1. All surfaces shall be broom clean and free from any accumulation of debris.
 2. Clean tack coat on concrete surfaces. Tack coat within 1 inch of pavement on curbs or gutter is not required to be cleaned.
 3. Remove all traffic control devices, excess materials, debris and signage from site.
 4. Remove all debris and sediment from the existing storm drain structures.

10-8 MOBILIZATION

10-8.1 GENERAL

Mobilization shall conform to the provisions in Section 9-1.16D "Mobilization" of the Standard Specifications and to these Special Provisions. Mobilization shall include the obtaining of all permits, moving onto the site of all equipment, temporary buildings, if needed, and other construction facilities as required for the proper performance and completion of the work.

Mobilization shall include but not be limited to the following principal items:

1. Signed Contract by the District and the Contractor.
2. Completion of all tasks and submittal of all documents (bonds, insurance, schedule, etc.) required as conditions of issuing the Notice to Proceed.
3. Moving onto the site of all Contractor's equipment required for operations.
4. Installing temporary construction water supply, power, wiring and lighting facilities, as required.
5. Providing field office trailers if needed by the Contractor and approved by the Engineer.
6. Providing all on-site communication facilities, including telephones and radio pagers.
7. Having all OSHA required notices and establishment of safety programs.
9. Attendance at Pre-Construction Conference of Contractor's principal construction personnel.
10. Physical verification (potholing) of existing utilities as requested by District.
11. Beginning work on the project or at the subject site as applicable.

10-9 TRAFFIC CONTROL

10-9.1 GENERAL

The Contractor shall be responsible for all aspects of traffic control. The Contractor shall supply, place, and maintain all necessary traffic control devices during construction in accordance with the applicable requirements of the County of Santa Clara, the California Manual of Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, and the traffic control plans approved by the District.

It is the intent to completely close the road to all traffic except local residents, private property owners and representatives, District staff, consultants, and contractors during the work day of 7 AM to 6 PM. A locked gate shall be installed just past the parking lot off of Hicks Road to prevent access during non-work hours. Arrangements shall be made with all stakeholders to provide each landowner or occupant, either a key to a lock or a place to place an access lock. The locking mechanism shall be consistent with the gates already present on the roadway.

During the work day, the Contractor shall provide a full time person to make arrangements for ingress and egress to properties. A pilot vehicle shall be provided to escort vehicles through the work zone. Access for emergency vehicles shall be maintained at all times.

Delays up to one hour may occur but only with 24 hours notice to residents that such delays will occur. The notice will be given both in writing and by personal contact.

Other contractors will be working on the site and require access. Every endeavor shall be made to accommodate access to these Contractors and their personnel and delivery vehicles. Wait times for Contractors delivery vehicles shall not exceed 10 minutes from time of arrival to any section of the roadway that is completely closed to traffic. The Contractor shall cooperate with others doing work near or at the site of the work and shall prepare and adjust his construction schedule at no cost to the District.

During excavation of roadway repairs and installation of the gabion walls, the contractor shall prepare the roadway and shoulders to provide a minimum of 9 foot of unrestricted travel lane around the excavations. During non-work hours, if the excavation drop exceeds 3 inches, the excavation shall be protected by concrete barrier (K rail) and should be signed per the CA MUTCD, 2014 Edition. If the excavation drop is between 1/2 inch and 3 inches, these areas should also be signed per the CA MUTCD, 2014 Edition. Clear signage and temporary delineation will be placed to allow night time passage of local access residents and persons.

Advance construction warning signs shall be placed on Hicks Road as required by the County. Such signs shall be in place prior to any work being performed. An encroachment permit for such signage shall be obtained from the County

10-10 POTHOLING EXISTING UTILITIES

10-10.1 GENERAL

Have all existing utilities marked by USA prior to start of potholing work.

The Contractor shall pothole existing utility facilities. These are composed mostly of communication lines. There are some private utility crossings which need to be identified and protected. The Contractor shall pothole existing utility facilities at sufficient locations to provide assurance that the facilities will not be damaged during the work.

Potholing shall occur as a first order of work and be completed within 15 days of the project start and prior to any excavation.

If utility conflicts are found, notify District representative and Engineer immediately.

10-11 TEMPORARY EROSION CONTROL AND SWPPP

10-11.1 GENERAL

Contractor shall install and maintain temporary erosion control facilities for the duration of the project in conformance with the SWPPP/QSD/QSP requirements provided by the District. SWPPP and QSD/QSP services will be provided by the District; acquisition, installation and maintenance of stormwater BMPs shall be the Contractor's responsibility.

10-11.2 SWPPP

Contractor shall ensure the project site is compliant with the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order #2009-0009-DWQ as amended by 2010-0014 DWQ and 2012-0006 DWQ). This includes but is not limited to: acquisition, installation and maintenance of BMP's as designed in the approved project SWPPP, coordination with the project Qualified SWPPP Developer (QSD) and the Qualified SWPPP Practitioner (QSP), handling and treatment of storm and non-storm effluent, and mitigation of construction-related pollution at all times.

10-12 CONSTRUCTION LAYOUT AND SURVEYING

10-12.1 GENERAL

The stationing on the plans was established using a measuring wheel traversing the existing centerline. These field marked stations were then recorded using GPS technology to prepare the rough alignment for drafting purposes. Roadway feature were field measured and indicated on the drawing. Thus the plans are schematic in nature rather than precise. The station distances are measurements along the roadway surface and are not horizontal measurements.

The intent of the project is to rehabilitate the existing roadway in its current alignment, both vertically and horizontally.

10-12.2 CONSTRUCTION LAYOUT AND SURVEYING

It is the Contractor's responsibility to establish sufficient control along the alignment such that after the existing centerline marks are obliterated for any reason, the centerline can be reestablished. To this end, the Contractor shall perform the following minimum work:

- A. Prior to any work being performed, refresh the current stationing and establish 50 foot intermediate stations using a measuring wheel.
- B. Mark the final center and pavement locations for review by the Engineer. It is the intent to provide a full 18 foot wide roadway at all locations where this is feasible. There are some locations where only 17 feet or less will be feasible. Clearly indicate these locations on the ground and on a set of plans. Shifting the roadway centerline to accomplish this intent is expected. Such shifts are not expected to exceed 2 foot at the maximum.
- C. Where the existing roadway width exceeds 18 feet, locate the roadway such that the distance of the roadway edge to the uphill slope is the greatest feasible without moving closer to the downhill edge. Mark excess pavement to be removed in field and on plans.
- D. Review proposed alignment with Engineer and gain concurrence on layout.
- E. After final layout is established, provide reference staking at each full and half station (50 foot interval) at locations which can be easily reference by Engineer and Contractor during construction and which will not disturbed during work. To this end, such permanent referencing may occur after completion of roadway repairs, gabion wall placement, rock removal from slopes and excavation of ditches and banks. In addition to the physical reference markings, the Contractor shall obtain GPS coordinates at each final

centerline station. The GPS file shall be submitted and approved prior to recycling of the existing pavement.

- F. The work does not have to be performed by a licensed surveyor. However, the personnel performing the GPS work shall be skilled and knowledgeable in GPS technology.
- G. Prior to final acceptance, all survey marking shall be removed.
- H. Provide restoration of all permanent survey markers as required by California Law.
- I. Provide routine survey layout and staking for improvements at Hicks Road. This work shall be performed by licensed surveyor.

10-13 CLEARING AND GRUBBING

10-13.1 GENERAL

The work shall conform to Section 16 of the 2010 Caltrans Standard Specifications and the Special Provisions. The work shall include but not be limited to the following:

1. Clear 5 feet beyond the project edge of the pavement, HMA berm or back of guardrail on downhill slopes
2. Uphill slopes shall be cleared to 10 feet of the pavement edge or front face of HMA berm or concrete barrier on uphill slopes.
3. Removal of trees, tree stumps, and tree roots indicated on the plans

10-13.2 CONSTRUCTION

10-13.2.1 CLEARING

Prior to performing any clearing, clearly delineate limits of clearing and trees from removal for review and approval of the Engineer. Allow 4 working days for approval. Clear all organic material including bushes and small trees less than 10 inches in diameter. The removal shall be performed with equipment which does not substantially disturb the native soils. Remove stumps and roots in clearing area if they are in an area of ditch or other excavation. Conditions set forth in the Projects Mitigation Monitoring Plan shall be followed to ensure protected plant species within the Project area are not disturbed.

10-13.2.2 TREE REMOVAL

Trees designate on the plans shall be removed to within 4 inches of the ground. The removed trees shall either cut into lengths and removed from the site or chipped and disposed on site. Care shall be taken to protect existing facilities. Nest and bird surveys must be conducted by a qualified biologist prior to the removal of any tree during the nesting season (March – September).

10-13-2.3 TREE STUMP REMOVAL

All tree stumps designate for removal shall be ground in place to a minimum depth of 12 inches and a minimum of 36 inches away from the trunk except roots under pavement.

10-13.2.4 TREE ROOT REMOVAL UNDER PAVEMENT

Areas for tree root removal under pavement shall be marked and approved by the Engineer prior to the work. The pavement shall be removed by cold planing and stockpiled nearby. The base rock under the pavement shall be scarified to locate and remove roots (full depth of base rock, up to 12 inches). After root removal, the area shall be compacted to 95% relative compaction and graded to match the existing. The grinding shall be spread back over the removal area, graded smooth and compacted.

10-13.2.5 DISPOSAL

All tree trunks under 12 inches and all other organic debris including removed roots shall be chipped to a maximum thickness of ½ inch. All organic debris shall be collected, chipped, transported and stockpiled at locations on site designated by the Engineer. Tree trunks over 12 inches shall either be chipped or removed from the site.

10-14 DEMOLITION

10-14.1 GENERAL

The scope of demolition work consists of all demolition work not related to pavement recycling or items where demolition is included in the specific work item. These items include, but are not limited to removal of the cattle guard, fencing, posts, gates, guardrail, signage, concrete supports in pavement, existing drainage inlets to be replaced, etc.

10-14.2 CONSTRUCTION

The contractor shall separate the facilities to be demolished from surrounding facilities to remain but cutting through the work at the limit of demolition using whatever cutting means is appropriate and will not damage the existing facility to remain.

Most of the drainage inlets are to be removed. Prior to removal, the concrete shall be fractured into sub 12 inch pieces prior to removal. Removal methods shall be such that the existing RCP pipes shall be protected and preserved.

The voids left by removal shall be backfilled and compacted using one of the following methods

1. Voids outside the pavement area or more than 12 inches below the existing pavement surface may be backfilled with native material and compacted to a minimum of 90% relative compaction.
2. Voids within 12 inches of the pavement surface shall be backfill with similar native soils to that in the excavation and compacted to a minimum of 95% relative compaction.
3. Small voids (less than 3 square feet) may be filled with CLSM.

All non-organic material with the exception of asphalt concrete materials shall be removed from the site and disposed at the contractor's expense.

Any disturbed areas shall be regraded to match the preexisting surface contours.

All gates are to be salvaged and turned over to District personnel

10-15 ROCK AND BOULDER CLEARING

10-15.1 GENERAL

The work consists of manually or mechanically loosening rocks and boulders on the existing uphill road slopes which pose the possibility of coming down during storm events in the near future. The intent of this specification is to remove loose or partially embedded cobbles and boulders locate within cuts or in some areas, individual rock units at and above the tops of cuts that may present a fall or rolling hazard to persons or equipment below the slopes above the road. In general, this applies to individual rock units greater than about 6 inches in "size" when they are loose, or embedded/partially embedded units greater than about 12 inches in "size". These are generalizations, and there is to be some contractor/owner/design engineer discretion regarding removal of these rock units.

10-15.2 EQUIPMENT

The contractor shall provide a 2 person telescopic boom man lift having a reach vertical reach of 70 feet and horizontal reach of 40 feet. The contractor shall also have hand held bars and leveraging devices of sufficient size and number to perform dislodgement of boulders.

10-15.3 CONSTRUCTION

The Contractor shall take safety precautions to prevent injury to personnel or damage to either equipment or the roadway. As a minimum, portable segments of concrete K rail shall be used to stop dislodged rocks and boulders from traveling beyond the bottom of the slope onto the roadway. Care shall also be taken to not dislodge rocks and boulders during the passage of vehicles.

All loose or overhanging rocks within the identified areas, both in or on the slopes and in the area immediately above the cut slopes are to be barred or scaled down to the toe of the slope and removed to the stockpile of excavated materials.

Partially embedded rock units greater than about 10 inches that appear to have approximately half or greater of the rock “diameter” exposed above the plane of the soil/weathered rock matrix of the slope are to be barred using manual means. If these units show ANY signs of looseness such as rocking, opening or separation from the slope matrix, or similar, the individual units are to be removed. This can be done with an excavator bucket, digging bar, pick, or other equipment of the contractors’ choice depending upon their means and methods.

The Engineer shall provide staff to monitor rock and boulder removal such that as areas are cleared they will be accepted as complete.

Dislodged rock and boulders shall be transported and stockpiled as part of excavation work.

10-16 EXCAVATION AND GRADING

10-16-1 GENERAL

The scope of work includes removal of excess soil and rock resulting from rock and boulder clearing, ditch excavation, slope cleaning, slide removal, excess material from demolition work, or materials to be removed to construct facilities such as pipelines or drainage inlets.

10-16.2 CONSTRUCTION

10-16.2.1 INVESTIGATION

No geotechnical report was prepared for the project beyond core sampling of the existing pavement. The native soils consist mostly of fragmented rock of various degrees of integrity. Removal may require use of demolition type devices on backhoes or excavators. The contractor shall make a thorough investigation relative to the difficulty in excavating. The most difficult excavation is likely to be at the drainage and headwall locations.

10-16.2.2 EXCAVATION

The contractor shall use the appropriate equipment, means and methods for excavation. Blasting will not be allowed. The excavated areas shall conform to the lines and grades presented in the plans. Excavations for drainage structures, headwalls and pipe shall be kept to the minimum necessary for placement of the structure or pipe.

10-16.2.3 DISPOSAL OF EXCAVATED MATERIAL

The contractor shall segregate the material by source of material. Material from ditch excavations which contain organic debris shall be separated and placed into one stockpile. Rock and boulders shall be segregated into a separate stockpile. The remaining majority of the excavated material shall be placed in a third stockpile. Stockpiles will be designated on site.

Prior to stockpiling any material, the location(s) shall be graded smooth and surveyed by the Contractor at sufficient points to create an accurate digital terrain model. Stockpile location(s) shall be determined by the District. **Mount Thayer is the identified permanent stockpile location for the Project. All native and organic graded and excavated material may be permanently stockpiled at Mount Thayer.**

The Contractor shall stockpile the excavated material in a uniform and ordered stockpile. The material shall be graded and shaped periodically, but at least one per week, during the work. The sides of the stockpiles shall not exceed 2H to 1 V. The stockpiles do not need to be compacted. After completion of the work, the final quantity will be determined using the same GPS methodology used to determine the pre-stockpile digital terrain model.

Some or all of the material may be designated for disposal offsite, at the discretion of the District. For this work, the contractor shall transport the material in street legal loads to the disposal site. Dumps fees

shall be paid by the contractor. Contractor shall be responsible for providing all dump fee receipts to the District.

10-17 PAVEMENT REPAIRS

10-17.1 GENERAL

Pavement repairs consist of two types: shallow and deep. Details are provided on the plans. Generally, the repairs consist of removing the existing pavement by cold planning and stockpiling the grinding for replacement; removing and stockpiling underlying soils to the depth shown; smoothing the subgrade and placing geotextile grid; backfilling and compacting in lifts as indicated; and replacing, grading and compacting the grinding over the surface until recycling.

10-17.2 MATERIALS

The geogrid shall be Tensar BX1200, US Fabrics BaseGrid 2, or equal approved prior to bid.

10-17.3 CONSTRUCTION

The limits of repair shall be marked and verified by the Engineer prior to start of work. The existing pavement shall be cold planed and the grinding stockpiled for reuse at the same location. The existing soils shall be excavated to the depths indicated on the drawings.

A 9 foot traffic lane shall be maintained through the excavation site during construction and at night. During the day, a 1 hour delay period can be used if prearranged with road users per the traffic control requirements. Staging the excavation and backfill will be a challenge at some locations with minimum pavement width. At these locations, a portion of the shoulder may need to be utilized for the bypass lane.

During non-work hours, if the excavation drop exceeds 3 inches, the excavation shall be protected by concrete barrier (K rail) and should be signed per the CA MUTCD, 2014 Edition. If the excavation drop is between 1/2 inch and 3 inches, these areas should also be signed per the CA MUTCD, 2014 Edition. Clear signage and temporary delineation will be placed to allow night time passage of local access residents and persons.

Geogrid shall be placed such that the edge of the geogrid is no more than 3 inches away from the excavation wall. Around turns, the geogrid shall be cut into segments and lapped to fulfill this requirement. The minimum lap shall be 12 inches.

After geotextile grid placement, the excavation shall be backfilled and compacted using one of the following methods

1. Backfill more than 12 inches below the existing pavement surface shall be backfilled with the removed material and compacted to 90% relative compaction.
2. Backfill within 12 inches of the pavement surface shall be backfill with and compacted to 95% relative compaction.
3. Surface grinding shall be replaced, graded and rolled to provide a temporary travel surface. This surface must be maintained until recycling.

For deep excavations, a second layer of geogrid reinforcement shall be placed as indicated on the drawings.

Where the entire width of the roadway is repaired, a minimum of an 18 inch grid lap shall be provided. This shall be accomplished by lapping the geogrid up the excavation wall at the centerline. When the second half is excavated, excavation shall be performed using means and methods which do not damage the grid lap material.

10-18 INSTALL GABION RETAINING WALLS

10-18.1 GENERAL

This work shall consist of gabions (welded wire mesh) and filling the gabions with rock in accordance with the details shown on project plans and special provisions. The work includes cold planing the existing pavement within the gabion wall work area: demolition and disposal of the existing retaining wall materials; excavation to the lines and grades indicated on the plan details; placement of gabion baskets and rock fill; backfill surrounding the installed gabions; and placement of native materials over the installed gabions; and placing, spreading and compaction of the grinding.

The work shall conform to Section 72-16 of the 2010 Standard Specifications and these special conditions

10-18.2 MATERIALS

Gabions shall be cubical style. Gabions shall be of a single unit construction. The base, ends, sides, and lid shall be either welded into a single unit or shall be connected in such a manner that strength and flexibility at the connection are at least equal to that of the wire mesh. The gabions shall be fabricated in such a manner that they can be assembled at the construction site with Spiral Binders and pre-formed stiffeners into rectangular baskets of the specified size. The height, length, and width of the gabions shall not vary more than 5 percent from the dimensions shown on the plans.

Gabions shall be divided into cells of equal length, not more than 3 feet long, by diaphragms made of the same wire mesh as used for the gabion body. Each gabion shall be fabricated with the necessary diaphragm or diaphragms secured in proper position on the base in such a manner that no additional tying at the base will be necessary.

Wire for the manufacture and assembly of gabions shall meet or exceed any combination of the following requirements:

Wire Requirement: 3"x3" (7.62 cm x 7.62 cm), 9 Ga. - 0.144 in. min. (3.66 mm) Welded Wire Fabric Conform to ASTM A185, A370 with the following exception: Exception: Weld Shear at 800 lbf min.

Wire Galvanization: (9 Ga. 0.90 oz/SF); 9 Ga. Galvanized Pre-Formed Stiffener N/A; 9 Ga. Galvanized Spiral Binder - min. 0.144 in. (3.66 mm); 13.5 Ga. Tie Wire - min. 0.086 in. (2.2 mm) Galvanized 0.70 oz/SF. All galvanization shall conform to ASTM A641, A90

Fill Rock: 100% passing 8 inches (20.3 cm), 0-5% passing 4 inches (10.2 cm).
Rock shall meet materials properties per Caltrans 2010 Specifications, Section 72, Rock Materials Properties. Rock unit weight must be at least 110 lb.cfm.

Filter Fabric: TenCate Mirafi 160N, ProPex 601, US Fabrics 160, or equal approved prior to bid.

10-18.3 CONSTRUCTION

10-18.3.1 EXCAVATION AND PREPARATION

The layout of the gabion walls shall be approved in advance by the Engineer. The existing asphalt concrete pavement shall be cold planed and grindings stockpiled for later replacement. The site shall be excavated to the lines and grades detailed in the plans. Subgrade shall be battered at 7 degrees, +/- 1 degree, with the back side lower than the front, to provide a battered exposed face. The subgrade shall be reviewed and approved prior to placement of gabion baskets.

Any loose or soft fill soil found to exist underlying the proposed gabion area is to be entirely removed. Subsequently, if fill is required to re-level portions of the gabion foundation area, such fill is to consist of approved native materials. If fill is required to develop a smooth foundation for the gabion to rest upon, it is to be placed upon an approved rock subgrade, consist of native materials approved by the civil or

geological engineer, and shall be compacted to not less than 90 percent of the soils maximum dry density per ASTM D 1557 current edition or CT 216G..

10-18.3.2 GABION CONSTRUCTION

It is anticipated that a combination of single and stacked gabions will be used for roadway support. A combination of cut and fills, with fill limited to a maximum depth of 1.5 feet, shall be used to develop a level or even top of the gabions suitable for subgrade support of the HMA paving.

Gabions shall first be assembled individually as empty units. Each gabion shall be manufactured with the necessary panels, properly spaced and secured, so they can be rotated into position at the construction site with no additional tying of the rotation joint. The panels and diaphragms shall be rotated into position and joined along vertical edges.

For welded-mesh, the joint shall be constructed using alternating single and double half hitches (locked loops) in every mesh opening along the joint. When 9-gauge spiral binders are used, the spiral shall be screwed into position such that it passes through each mesh opening along the joint. Both ends of all 9-gauge spiral binders shall be crimped to secure the spiral in place. Temporary fasteners may be used to hold panels wherever gabions-to-gabion joints will be constructed. Temporary fasteners may remain in place.

Empty gabions shall be set in place. Individually constructed empty gabions shall be joined successively to the next empty gabion with 9-gauge spirals, before filling with rock begins. Nine(9)-gauge spiral binders shall secure, in one pass, all selvage or end wires of panels of all the adjacent gabions along the joint.

Multi-layered gabion configurations shall not be stepped but shall be battered as shown on the plan detail. Joints shall be staggered or as directed by the Engineer. When constructing multi-layered gabion configurations, each layer of gabions shall be joined to the underlying layer along the front, back, and ends. Single-layered gabion configurations shall be staggered and joined along the front, back, and ends, including tops and bottoms of adjacent gabions.

10-18-3.3 FILLING WITH ROCK

When constructing with 1.5-foot high or 3-foot high gabions, pre-formed stiffeners shall be used to produce a flat, smooth external surface. Pre-formed Stiffeners shall be installed on the exposed face of the gabion prior to rock placement, two rows at 1/3 points on 3' high gabions, one row at 1/2 point in 1.5' high gabions. When filling 3-foot high gabions, rock shall be placed in 3 nominal 12-inch layers; when filling 1.5-foot high gabions, rock shall be placed in two 9-inch layers.

Rock shall be placed in gabions to insure proper alignment, avoid bulges, and provide a minimum of voids. All exposed rock surfaces shall have a smooth and neat appearance. No sharp edges shall project through the wire mesh. The last layer of rock shall slightly overfill the gabions such that the lid will rest on rock when it is closed. Lids shall be tied along the front, ends, and diaphragms of individual gabions and to successive gabions with 9-gauge spiral binders in the same manner as specified elsewhere in this specification.

10-18.3.4 BACKFILLING

A layer of geotextile shall be placed atop and alongside the completed gabion structure prior to placement of any overlying aggregate base of fill. The fabric on the sides shall extend to the bottom of the baskets. Fabric laps shall be a minimum of 12 inches. Fabric shall be secured to the gabions using galvanized tie wire sufficiently to prevent fabric shifting during backfill and compaction.

The void at the sides and back of the gabions shall be backfilled and compacted in 8 inches lifts to not less than 90% relative compaction with excavated materials. The top layer of backfill shall be placed in one lift with the top 6 inches compacted to not less than 95% relative compaction. The top of the backfill shall be to the bottom of the existing asphalt concrete. The grindings shall be replaced in the pavement area, graded and compacted to form a temporary roadway prior to recycling.

The exposed face of the gabion wall shall be backfilled to the approximate slope of the existing bank prior to construction. The backfilled material shall be compacted using a machine-mounted vibrating plate compactor.

Excess excavated material shall be placed in the stockpiles per Section 10-16 herein.

10-19 STORM DRAINAGE

10-19.1 GENERAL

The work includes but is not limited to installation of drainage structures including inlets of various kinds, installation of storm drain pipe, installation of precast headwalls, and down drains.

10-19.2 MATERIALS

10-19.2.1 DROP INLETS AND CURB INLETS

Drop inlets, curb inlets, and headwalls shall be precast and conform to the dimensions indicated on the plans. The precast concrete supplier shall design the reinforcement for all structures and headwalls and provide a submittal for the structures prior to fabrication. Precast inlets shall conform to Section 51-7 of the 2010 Caltrans Standard Specifications and these Special Provisions.

10-19.2.2 PIPE & GROUT

New culvert and culvert pipe extensions shall be CMP (steel) and conform to Section 66 of the 2010 Caltrans Standard Specifications. Joints to existing pipes shall be made with coupling bands complying with Section 66-1.02 D.

Non-shrink grout shall be Sakrete non-shrink construction grout, Quikrete Fast Set Non-Shrink Grout, Sika SikaGrout 212 Non-Shrink Grout, or equal approved by the District prior to bid.

10-19.2.3 BEDDING AND BACKFILL

3/4 inch Class 2 Aggregate Base per Section 26 of Caltrans Standard Specifications may be used as bedding under drop and curb inlet structures.

CLSM per these special provisions shall be used as backfill either up to the trench flow line or to the bottom of the new HMA pavement.

10-19.2.4 DOWN DRAINS

Down drain materials shall conform to 2010 Caltrans Standard Plan D87A and the applicable 2010 Caltrans Standard Specifications. All pipe, fittings, anchors, etc. shall be galvanized steel. Down drains shall be 12" CMP pipe with a Type 1 Entrance Taper and Alternative A Anchor Assembly. The down drain shall terminate with a CMP coupled Tee at the V Ditch. Anchors shall be placed at 6 foot maximum spacing.

10-19.3 CONSTRUCTION

10-19.3.1 INLETS AND HEADWALLS

Prior to ordering any inlets, the contractor shall verify the distance from the projected top of the new HMA pavement to the invert of the existing pipe. This height will vary depending on the pavement recycling and surfacing option chosen. Any discrepancies shall be reported to the Engineer immediately.

Care shall be taken during all operations to protect the integrity of the existing pipe.

The holes for the inlets shall be excavated with a minimum of 6 inches clearance from inlet wall to face of excavation, except where headwalls are to be placed. For locations with headwalls, the minimum clearance shall be 15 inches from the back of the inlet adjacent to the headwall. The depth of the holes shall not be deeper than 6 inches below the bottom of the structure. Bedding shall be placed, graded and compacted to not less than 90% relative compaction prior to placement of the structure. Structures shall be placed such that the longitudinal slope matches the pavement slope. Traverse to the roadway shall be set level such that the back of the inlet is plumb.

Unless shown stepped back from the pavement, the edge of the structure shall be 9 feet from the intended roadway centerline. The existing pipe may be required to be trimmed in length to accommodate the coupling. In all cases, the pipe shall be trimmed such that it is flush with the inside of the inlet wall to within 2 inches inside the structure from the inside wall. The annular space shall be completely grouted with non-shrink commercial grout. The grout shall be smoothed both inside and out.

Above the CLSM backfill, native soils shall be placed and compacted to not less than 90% relative compaction. Ditches shall be graded to direct the water flow into the inlet per the plan detail.

Headwalls shall be placed to directly touch the back of the adjacent inlets. The headwalls shall be centered on the inlet structure. Headwalls shall be longitudinally sloped to match the adjacent longitudinal pavement slope. The headwalls shall be backfilled with CLSM to the level even with the top of the structure. Above the CLSM, the backfill shall be native soils and be graded to match the existing slope.

10-19.3.2 PIPE

The trenchline pavement shall be cold planed and grindings stockpiled for replacement.

The CMP pipe shall be placed to the lines and slopes indicated on the drawings. The pipe shall be backfilled to within 3 inches of the new pavement surface. The grinding shall be replaced and compacted to form a temporary pavement surface until pavement recycling occurs.

At inlets where the CMP pipe is to be extended, the new pipe shall be coupled to the old pipe using standard couplers. This may require shortening the existing pipe to allow for the coupling to be outside of the structure. After installation, the pipes shall be backfilled with CLSM to the surface.

10-19.3.3 DOWN DRAINS

The down drains shall be constructed in accordance with 2010 Caltrans Standard Plan D87A. The inlet at the top of the bank shall be constructed according to the plan detail. The pipe shall be buried below the existing surface by a minimum of 6 inches. The backfill around the entrance taper and tailpiece shall be CLSM. The native soil entrance to the entrance taper shall be graded to capture all channelized flow at the top of the bank currently flowing down the bank. A headwall of CLSM shall be built around the entrance taper and shape to provide a smooth transition into the entrance taper.

The remaining over-side drain pipe shall be placed on the surface. The surface shall be graded to provide for full contact along the pipe. The pipe shall be coupled with standard couplings. Anchors shall be placed at the top and bottom and a maximum of 6 feet along the pipe.

At the bottom, the pipe shall be placed in a rock-lined ditch as indicated with a tee fitting directing flow longitudinally down the rock-lined ditch.

10-20 CONCRETE WORK

10-20.1 GENERAL

10-20.1.1 SUMMARY

Includes but not limited to installing concrete swales at driveway entrances and installing curbs. Comply with 2010 Caltrans Standard Specifications Section 73 and 90 and these Special Provisions.

Includes construction and placement of concrete barriers. Barriers shall be precast. Comply with applicable portions of 2010 Caltrans Standard Specifications Section 51, 52, 83 and 90 and these Special Provisions.

10-20.1.2 DELIVERY, STORAGE, AND HANDLING

Reinforcing steel shall be free of heavy rust scales and flakes, or other coating at time of delivery and placing. Properly protect rebar on site after delivery.

10-20.1.4 SUBMITTALS

A. Concrete Mix Designs

a.

B. Delivery Tickets - Require mix plant to furnish delivery ticket for each batch of concrete. Keep delivery tickets at job-site for use of Owner or representatives. Tickets shall show following:

Name of ready-mix plant

Serial number of ticket

Date and truck number

Name of Contractor

Name and location of Project

Specific class or designation of concrete in conformance with the specifications.

Class or designation shall match mix approved mix design.

Amount of concrete

Time loaded

Type, name, and amount of admixtures used.

Amount and type of cement

Total water content including water added on site

Sizes and weights of sand and aggregate

Fiber additive

10-20.2 PRODUCTS

10-20.2.1 MATERIALS

A. Formwork

1. Material: Wood, metal or plastic

2. a. Size

a. Straight Runs - 2 inch nominal minimum thickness.

b. Curves - laminated to 3/4 inch minimum thickness.

c. Depth - Within 2 inches of specified depth.

B. Staking - 2 foot maximum spacing.

C. Expansion Joints

1. Manufactured commercial fiber type meeting requirements of ASTM D 1751 and 1/2 inch thick.

D. Concrete Reinforcing Steel -Grade 60 deformed bars.

E. Concrete -

1. Type I/II Cement
 2. All concrete:
 - b. 1" maximum aggregate size.
 - c. 5 sack minimum.
 - d. 3,000 psi in 28 days for swales and curb, 3,500 psi for concrete barrier
 - e. 4 inch maximum slump.
 - f. Submit Scofield or Davis color chart for concrete barrier color
- F. Concrete Barrier Forms
1. Constructed of Steel
 2. 6 sets shall be provide to District upon completion of project delivered to location designated by Engineer
 3. Completed barrier shall conform to drawing details. Submit shop drawings prior to fabrication of forms.

10-20.3 EXECUTION

10-20.3.1 PREPARATION

- A. Survey and stake concrete work to indicate location and elevations..
- B. Subgrade

Fine grade to elevations required by Contract Documents with allowances for required concrete and aggregate base thickness. Compact to not less than 90 percent relative compaction at optimum moisture +/- 2 percent.

10-20.3.2 INSTALLATION – CURBS AND SWALES

1. Forms
 - a. Vertical surfaces shall be formed to within 2 inches of subgrade.
 - b. Gaps between forms shall not exceed 1/4".
2. Expansion Joints with joint material
 - a. Full depth of curbs
 - b. If reinforcement required, rebar to extend through expansion joint material.
 - c. Place 5' from beginning & end of radii
 - d. Install so top of expansion joint material is 3/8 to 1/2 inch below finished concrete surface.
 - e. No expansion joint required between curbs and walks parallel to curb.
 - f. Seal Joints in accordance with Manufacturer's application instructions.
3. Contraction Joints
 - a. Spacing – 8 feet on center for all concrete facilities (unless indicated otherwise on plans).
 - b. Contraction Joint Depth
 - 1) 1-1/2 inch minimum depth.
 - 2) 1/4 to 1/3 concrete thickness.
 - c. Type
 - 1) Tooled joint up to 6" concrete depth. Saw cuts not allowed. Tooled joint may be deepened with saw cut within 24 hours of concrete placement if necessary.
 - 2) Saw cut or parting strip for concrete depths over 6 inches. All saw cuts shall be made within 24 hours of concrete placement.
 - 3) Quality of control joint finish evaluated as part of test panel
 - d. Crack Repair - Cracks resulting from failure to comply with requirements will require removal and replacement of entire panel or section of concrete to adjacent contraction joints.

- A. Finish

1. Curbs, swales, and miscellaneous -
 - a. Light Broom finish.
 - b. Round edges including edges formed by expansion joints.
 - c. Remove edger marks.
2. Curb Faces -
 - a. Remove forms as soon as practical.
 - b. Fill voids with fresh concrete if necessary.
 - c. Finish face full depth with smooth steel trowel finish.
 - d. Remove any excess concrete beyond form line at bottom of curb face at time of finishing.

10-20.3.3 CONCRETE BARRIERS

Conform to applicable Caltrans standard specification sections referenced above for fabrication and finish.

Units shall not be delivered until the site is ready for placement. Place barriers as indicated on the drawings adjacent to the outside edge of the fog line. Damage to fog line during placement shall be repaired at the contractors' expense. The gap between barriers shall be 2 inches +/- 1 inch. Tapered end sections shall be placed at the start and end of each section.

10-21 COLD PLANING

10-21.1 GENERAL

Cold planing shall be used to remove existing pavement over areas to receive work. The grindings shall be stockpiled and then replaced over the roadbed to then be recycled into new base material.

10-21.2 CONSTRUCTION

10-21.2.1 LAYOUT

Layout milling limits for Owner to review prior to proceeding with the work. Lower utility facilities prior to reducing pavement thickness by cold milling.

10-21.2.2 EQUIPMENT

Cold planers shall be equipped with water spray devices to prevent the creation of dust. Cold planing equipment shall not be cleaned on site using water application unless specific measures for such cleaning have been addressed in the project SWPPP.

10-21.2.3 APPLICATION

All pavement grindings shall be stockpiled at locations which allow for traffic movement as required and in areas where contamination of the grinding will be avoided. If the depth of pavement removal extends into native material, the removal shall be performed in two steps to prevent contamination of the grindings with native material. Cold planers and sweepers shall maintain spray application to prevent dust at all times.

10-22 ROCK DRAINAGE PROTECTION & ROCK LINED DITCH

10-22.1 GENERAL

The work consists of excavation, geosynthetic placement, and rock placement

10-22.2 MATERIALS

10-22.2.1 GEOSYNTHETIC FABRIC

Geosynthetic fabric placed under rock shall either be TenCate Mirafi 160N, ProPex 601, US Fabrics 160, or equal approved prior to bid. Fabric staples may be metal or non-metallic and shall be a minimum of 6 inches long.

Rock shall be as specified for a 5 inch thick rock layer in accordance with Section 72-4.02 Materials of the 2010 Caltrans Standard Specifications.

10-22.3 CONSTRUCTION

The ditch or area to be protected shall be excavated to provide a minimum of 5 inches or rock placement. Removed material shall be removed and stockpiled as excavation material. The area needs to have loose soil removed and be smoothed but not compacted prior to fabric installation. Fabric shall be installed and fastened to the earth with staples on 2 foot centers in the field and 2 feet along each edge. Fabric laps shall be a minimum of 12 inches. The uphill fabric shall overlay the downhill fabric. Rock shall be placed and spread to provide a uniform surface and shape.

10-23 EDGE AND SUBDRAINS

10-23.1 GENERAL

The work consists of installing edge drains and pavement subdrains as indicated on the plans. The edge drains are to installed adjacent to environmentally sensitive areas. Care needs to be exercised to avoid damaging the roadside vegetation. The roadway subdrain system is to be installed in an area of historic subsurface drainage.

10-23.2 MATERIALS

Edge Drains: 12 inch manufactured by ADS AdvanEdge or MultiFlow with appropriate and compatible fittings.

Filter Fabric: Amoco4553, Mirafi 140N, Typar 3601 or approved equal prior to bid. Pipe sleeve shall be Carriff Drain Sleeve 04100 or 04101.

Pipe: SDR 26 or Schedule 40 PVC. Fittings shall be elastomeric seals. No glued fittings allowed. Wyes and 1/8 bend maximum. No Tees or 1/4 bends allowed. For angles greater than 1/8 bend, use combination of bends of 1/8 bend or less with 12 inch separation for horizontal laid pipes.

Drain Rock: ¾" x No. 4 Rock; 100% passing the 1 inch sieve, 0-5% passing the No. 4; Durability Index of 40.; Cleanness Value of 70; Loss in LA Rattler after 500 revs is 45% max.

Backfill: No. 10 to No. 50 Sand.

Cleanouts: Use Inspection Fitting for Multiflow, use detail for other cleanout parts. Covers shall be Christy Model GR Traffic Cover with Cast Iron Lid.

10-23.3 CONSTRUCTION

10-23.3.1 EDGE DRAIN

1. Excavate trench as close to roadway edge as possible. <C:\Users\zalexander\AppData\Roaming\Microsoft\Word\02315.wpd>
2. Runs shall be as close as possible to those shown on Drawings.
3. Excavate to required depth and grade from downstream end up slope.
4. Remove debris from trench prior to installation of edge drain.
5. Place edge drain on side of trench away from water source such as landscaping.
6. Do not cut trenches near footings without consulting Client.
7. Secure edge drain from floating during backfill.
8. Backfill only after edge drains have been tested, inspected and approved by District. Flood backfill sand, and mechanically compact top. Washing sand into place from ready-mix truck is acceptable.
9. Edge drains shall be within 0.1 foot of design grades when backfilled and shall be free of dips or humps.

10-23.3.2 SUBDRAINS

1. Runs shall be as close as possible to those shown on Drawings.
2. Excavate to required depth and grade from downstream end up slope.
3. Remove debris from trench prior to placing fabric.
4. Place filter fabric
5. Place pipe with perforations down.
6. Place drain rock in 8 inch maximum loose lifts. Compact with vibraplate with 2 complete passes on each lift. First compaction shall be performed within 6 to 8 inches of top of pipe.
7. Lap fabric at top of drain rock.
8. Place a minimum of 2 inches of backfill over fabric and under paving.
9. Backfill as indicated in Contract Drawings.

10-23.3.3 CONNECTING PIPES

1. Runs shall be as close as possible to those shown on Drawings.
2. Excavate to required depth and grade from downstream end up slope.
3. Remove debris from trench prior to placing fabric.

10-24 RECYCLED BASE (PULVERIZED OR COLD IN PLACE RECYCLED)

10-24.1 GENERAL

The work consists of recycling the existing asphalt concrete pavement and HMA Dikes into pavement base. Two methods are allowed: Pulverization of the existing material and Cold In Place (CIR) using emulsion. The HMA pavement section depends on the type of base used. The contractor will have the option of using either a pulverized or a CIR base with the corresponding HMA pavement section. The same method shall be used for the entire project.

It is the intent of these specifications that all costs associated with recycling the base be included in the unit cost of the work as described in these specifications. This includes removal of any excess pavement area that is not to receive new HMA pavement. The excess materials from existing pavement and HMA Dikes is to be incorporated into the new recycled base such that there is no offhaul of asphalt concrete materials from the project.

The Contractor is responsible for quality control of the work including development of the JMF in the case of CIR; process testing; and compaction testing of the completed work.

10-24.2 OPTION 1 – PULVERIZE, REGRADE AND COMPACT BASE

This option consists of pulverizing the existing asphalt concrete and intermixing with a portion of the underlying base. Because of the varying depth of the existing asphalt pavement, the depth of the pulverization will vary to provide approximately a 50/50 mix of the pulverized pavement to the underlying base. In no case shall less than the entire thickness of existing asphalt concrete be pulverized and in no case shall the total pulverize depth need to exceed 7 inches.

10-24.2.1 PULVERIZED MATERIAL

Recycled base material shall be uniformly graded and shall conform to the following gradation after final placement and compaction:

Sieve Sizes	Percentage Passing
2-1/2"	100

Pulverized asphalt concrete pieces larger than 2-1/2 inches, or which are loose and segregated on the surface of the aggregate base, shall be removed.

10-24.2.1 CONSTRUCTION

Existing pavement & underlying base shall be thoroughly processed using equipment specifically designed for pulverization. Cold planers shall not be used for pulverization process. Pulverization depth shall be to the bottom of the existing pavement layer minimum to 7 inches maximum.

The intent is to generally maintain the existing longitudinal and traverse slopes and cross sections.

Pulverized base material shall be graded to approximately the same plane as the previously existing pavement. Make adjustments to the graded plane to improve existing drainage or to work around existing facilities as shown on plans. Grade and removal additional material to provide transitions to adjacent matching surfaces. Removed material from excess pavement areas shall be broadcast across the area of pulverization or added at various locations to improve surface slopes as necessary.

Compaction shall be performed using a combination of vibrating sheepsfoot and steel rollers. Graded, pulverized material shall be compacted to not less than 95% relative compaction. Contractor shall attain the proper moisture content during compaction. All segregated or loose material shall be removed.

10-24.2.2 QUALITY CONTROL TESTING

Compaction shall be testing in lots not exceeding centerline distance 1000 feet. Lots may be subdivided into smaller lots if materials characteristics change sufficiently to affect achieving minimum compaction results. Testing shall be performed by qualified personnel from a Caltrans or AMRL certified laboratory. All CT 216 tests shall be performed in the field. The contractor shall provide portable laboratory facilities on site

Tests	Method	Frequency	Requirement	Location	Reporting
Laboratory maximum wet density (lb/cu ft)	California Test 216	1 minimum per lot*	Use for relative compaction calculation	Same location as a California Test 231 location	Immediately, but no later than beginning of next work day
Relative compaction (% , min)(wet density)	California Test 231	1 per lot	95	Compacted Pulverized Base	Immediately, but no later than beginning of next work day

* If compaction tests fails, rerun points performing individual CT 216 test for each test locations to isolate failed areas or to identify significant changes in laboratory maximum density.

10-24.3 OPTION 2 – FULL DEPTH COLD IN PLACE RECYCLING USING EMULSION

The Contactor shall comply with the following Caltrans based Non-Standard Special Provisions (NSSP). For purpose of clarity, the numbering from the NSSP has been retained:

30-5.01 FULL-DEPTH RECLAMATION-ENGINEERED EMULSION

30-5.01A GENERAL

30-5.01A(1) Summary

Section 30-5 includes specifications for constructing a base using full-depth reclamation–engineered emulsion (FDR–E).

FDR–E consists of:

1. Pulverizing existing asphalt concrete pavement and underlying materials
2. Mixing with water, cement, engineered emulsion, and if specified, supplementary aggregate
3. Grading and compacting the mixture
4. Applying asphaltic emulsion

30-5.01A(2) Definitions

OMC: Optimum moisture content determined under California Test 216

lot: 1,000 sq yds of FDR-E

30-5.01A(3) Submittals

30-5.01A(3)(a) General

At least 30 days before starting FDR-E work, submit to the Engineer the name of your authorized laboratory.

Submit a certificate of compliance for cement. Include the source name and location. The certificate of compliance must be signed by the cement supplier.

At least 20 days before starting FDR-E work, submit to the Engineer:

1. Mix design
2. QC plan
3. Two 0.5-gallon samples of engineered emulsion

Submit to your authorized laboratory's field personnel under Caltrans SP section 94-1.01B one 0.5-gallon sample of engineered emulsion from each load delivered to the job site. Submit no later than 1 hour after sampling.

30-5.01A(4) Quality Control Plan

The QC plan must describe the organization, responsible parties, and procedures you will use for:

1. QC including sampling, testing, and reporting
2. Determining action limits when corrective actions are needed
3. Implementing corrective actions
4. Ensuring FDR-E pulverizing, mixing, compacting, grading, and finishing activities are coordinated

The QC plan must include copies of the forms that will be used to provide the required inspection records and sampling and testing results. The form for recording and reporting the QC measurements must show the engineered emulsion, cement, and water proportions.

The QC plan must include a contingency plan that describes the corrective actions you will take in the event of equipment break down. The corrective actions must include repairing and reopening the roadway to traffic using minor HMA under section 39-1.15.

30-5.01A(5) Mix Design

Submit to the Engineer each FDR-E mix design on a form you create specifically for FDR-E. Each mix design submittal must be signed and sealed by an engineer who is registered as a civil engineer in the State.

Submit multiple mix designs as necessary to represent each area of uniform pavement, underlying base, and conditions.

Each mix design submittal must include:

1. Field investigation report including:

- 1.1. General description of materials
- 1.2. Station of materials sampling locations
- 1.3. Station limits of pavement area represented
2. Test results including:
 - 2.1. Sand equivalent of sampled material
 - 2.2. Percent of sampled material passing the No. 200 sieve
 - 2.3. Tests specified in the table titled "FDR-E Properties"
3. Gradation of the mixture before addition of engineered emulsion
4. Engineered emulsion content in percent by weight of the dry mixture and target application rate in lb/sq yd
5. Supplementary aggregate in percent by weight of the dry mixture and target application rate in lb/sq yd, if supplementary aggregate is specified
6. Target moisture content of the material immediately before mixing engineered emulsion, relative to OMC
7. Any worksheets, photographs, and graphs
8. Grade and certification for asphalt binder under section 92-1.01D(2)
9. Type, grade, and certificate of compliance for asphaltic emulsion under section 94-1.01B

30-5.01A(6) Test Strip

Submit to the Engineer a summary of the determinations made from the test strip specified in section 30-5.01B(3).

30-5.01A(7) Quality Control Reporting

For each lot, submit to the Engineer a report daily that includes the following items at the frequencies specified in section 30-5.01B(4):

1. General Information:
 - 1.1. Lot number
 - 1.2. Location description
 - 1.3. Beginning and ending stations
 - 1.4. Lane number and offset from centerline
 - 1.5. Weather:
 - 1.5.1. Ambient air temperature before starting daily FDR-E activities including time of temperature reading
 - 1.5.2. Ambient road surface temperature before starting daily FDR-E activities including time of temperature reading
 2. Calculated engineered emulsion application rate in lb/sq yd and percent by weight of dry mixture
 3. Calculated cement application rate in lb/sq yd and percent by weight of dry mixture.
 4. Calculated supplementary aggregate application rate in lb/sq yd and percent by weight of dry mixture if supplementary aggregate is specified
 5. For FDR-E processing:
 - 5.1. Depth of cut
 - 5.2. Average forward speed
 6. FDR-E quality control test results for:
 - 6.1. Gradation including percent passing the no. 200 sieve
 - 6.2. Sand equivalent
 - 6.3. Moisture content
 - 6.4. Indirect tensile strength when a lot is a test strip
 - 6.5. In-place wet density
 - 6.6. Relative compaction

7. For asphalt emulsion used on finished FDR-E surface:
 - 7.1. Emulsion type
 - 7.2. Emulsion application rate in gal/sq yd
 - 7.3. Emulsion dilution as the weight ratio of added water to asphaltic emulsion
8. Note on the daily report the postmile or station limits of any unsuitable materials locations and when the Engineer was notified

Update each day's submitted report within 24 hours of obtaining test results. Consolidate all lots completed in a day in one report with each lot reported separately.

30-5.01A(8) Asphaltic Emulsion

With each dilution of asphaltic emulsion used for finishing under section 30-4.03H, submit to the Engineer:

1. Weight ratio of water to bituminous material in the original asphaltic emulsion
2. Weight of asphaltic emulsion before diluting
3. Weight of added water
4. Final dilution weight ratio of water to asphaltic emulsion

30-5.01B Quality Control and Assurance

30-5.01B(1) General

Schedule a pre-operation conference at a mutually agreed time at the job site to meet with the Engineer. Discuss the project specifications and methods of performing each item of the work. Items discussed must include the processes for:

1. Determining the mix designs
2. Production
3. Compacting
4. Grading
5. Finishing
6. Implementing the authorized QC plan
7. Implementing the authorized contingency plan
8. QC sampling and testing
9. Acceptance criteria

Pre-operation conference attendees must sign an attendance sheet provided by the Engineer. The pre-operation conference must be attended by your:

1. Project superintendent
2. Project manager
3. QC manager
4. Workers and your subcontractor's workers, including:
 - 4.1. Foremen
 - 4.2. FDR-E machine operators
 - 4.3. Grading and compacting equipment operators
 - 4.4. Ground supervisors
 - 4.5. Representative from authorized testing lab
5. Engineered emulsion supplier's representative

Testing laboratories for mix design and QC testing must be qualified under AASHTO Materials Reference Laboratory program (ARML) and the Department's Independent Assurance Program.

Do not start FDR-E activities, including test strips, until the listed personnel have attended a preoperation conference.

Divide the area to receive FDR-E into lots of FDR-E produced except the test strip is the first lot and must be at least 2,000 sq yd. A quantity of FDR-E placed at the end of a work shift greater than 500 sq yd is considered 1 lot. If a quantity of FDR-E placed at the end of a work shift is less than 500 sq yd, you may either count this quantity as 1 lot or include the test results for quality control in the previous lot.

For any lot including the test strip, stop FDR-E activities and immediately inform the Engineer whenever:

1. Any test result shown in the QC Requirements table or the FDR-E Acceptance Criteria Testing table does not comply with the specifications
2. Visual inspection shows evidence of
 - 2.1. Poor dispersion or dry spots
 - 2.2. Segregation, raveling, and loose material
 - 2.3. Variance of more than 0.05 foot measured from the lower edge of a 12-foot straightedge
 - 2.4. Non-uniform surface texture throughout the work limits
 - 2.5. Repaired areas

If FDR-E activities are stopped, before resuming activities:

1. Notify the Engineer of the adjustments you will make
2. Reprocess, remedy, or replace the noncompliant lot until it complies with specifications
3. Construct a new test strip of FDR-E with proposed adjustments demonstrating ability to comply with the specifications
4. Obtain authorization

30-5.01B(2) Mix Design Sampling and Testing

Notify the Engineer at least 2 business days before sampling. Testing must be performed by an authorized laboratory.

Obtain and test material from at least 27 (approximately each 1000 feet) sampling locations from the existing pavement structure by coring. Determine sampling locations to represent areas of uniform pavement, underlying base, and conditions. Perform a mix design for each sampling location. The cores obtained at the sampling locations must not be in the shoulders. Provide enough material from each sampling locations for a full mix design.

Use materials from the specified FDR-E mixing depth. If any portion of existing asphalt concrete pavement is to be removed before pulverizing, remove that portion of asphalt concrete pavement from the samples used in the mix design. If additional samples of subgrade material are needed, sampling locations may be excavated outside the edge of pavement. Characterize and record sampling location features such as layer thicknesses and types, distresses, interlayers, thin or thick areas, digouts, and adhesion to the base. Use the sampled material to determine the mix design represented by the sampling location, according to the proportions of the pavement structure shown.

Before opening the mix design sampling locations to traffic, backfill sampling locations by replacing and compacting with an authorized material or minor HMA. Backfill and compact to the existing grade and thickness of asphalt concrete pavement, in the Engineer's presence.

The mix design must produce FDR-E with the following properties:

FDR-E Properties

Property Criteria	Type I ^a	Type II ^b
Short-term strength test, 1 hour – modified cohesiometer, AASHTO T 246, g/25 mm of width ^c	180 min	175 min
Indirect tensile strength (ITS), ASTM D 4867, 25 degrees C, psi ^d	40 min	35 min
Conditioned ITS, ASTM D 4867, psi	25 min	20 min
Resilient modulus, ASTM D 7369, 25 degrees C, psi x 1,000	300 min	240 min

^a For mixtures containing < 8 percent passing no. 200 sieve.

^b For mixtures containing ≥ 8 percent passing no. 200 sieve.

^c Use a Hveem cohesiometer apparatus with the following exceptions:

1. Capability of testing 150 mm diameter specimens
2. Shot flow rate of 2,700 ± 50 g/minute
3. Cure each specimen at each emulsion content for 60 ± 5 minutes at 25 degrees C and 10 to 70 percent humidity after compacting and before testing

^d Prepare specimens with Superpave Gyrotory Compactor under AASHTO T 312 at 30 gyrations.

Do not include cement in the mix design.

The engineered emulsion content shall be determined as a percent by dry weight of FDR-E with a dry unit weight of lb /cu ft as determined during the mix design, except you must propose the optimal engineered emulsion content based on your mix design. The Engineer orders an increase or decrease in the engineered emulsion content to comply with your mix design. During progress of the work, if you encounter an isolated area that requires a change in the engineered emulsion content from the mix design for that area, notify the Engineer before mixing the engineered emulsion.

Your mix design test results must include data to support your proposed engineered emulsion content is the optimum percentage to comply with the specifications. Take variability of the FDR-E materials into account.

30-5.01B(3) Test Strip

On the 1st day of FDR-E activities and using the same equipment and materials that will be used during production, construct a test strip of at least 1,500 feet in a single lane width to determine the:

1. Equipment, materials, and processes can produce FDR-E in compliance with the specifications
2. Effect of varying the pulverizing machine's forward speed and drum rotation rate on the consistency of the pulverized material
3. Optimal proportions of supplementary aggregate, engineered emulsion, and water
4. Rolling method and sequence needed to reach the break-over point
5. Application rate of asphaltic emulsion for opening to traffic

The Engineer tests each test strip under section 30-5.01B(5). Do not proceed with FDR-E activities until the Engineer informs you the test strip is acceptable. If QC or Engineer's acceptance test results are not available, you may proceed at your own risk.

30-5.01B(4) Quality Control, Sampling, and Testing

The QC plan must describe the organization, responsible parties, and procedures you will use to perform the following:

1. Control quality including sampling, testing, and reporting
2. Determine action limits when corrective actions are needed
3. Implement corrective actions
4. Ensure FDR-E pulverizing, mixing, compacting, grading, and finishing activities are coordinated

The QC plan must contain copies of the forms that will be used to provide the required inspection records and sampling and testing results. On the form used to record and report the QC measurements, also show the engineered emulsion proportion and the amount of any water added in addition to water in the emulsion.

The QC plan must include a contingency plan that describes the actions you will take to ensure that the roadway will be open to traffic at the close of every work shift. The corrective actions must include repairing and reopening the roadway to traffic using minor HMA under section 39-1.15.

Designate a ground supervisor whose sole purpose is to monitor the FDR-E activities, advise project personnel, and interface with the quality control testing personnel. The ground supervisor must not have any sampling or testing duties.

Take samples under California Test 125.

Quality control and assurance for cement must comply with section 90-1.01D(1).

Testing must be performed by an authorized laboratory. The authorized laboratory must provide field personnel to receive QC samples immediately after they are taken.

Perform sampling and testing for each test strip and at the specified frequency for the quality characteristics shown in the following table:

Quality Control Requirements

Quality characteristic	Test method	Minimum sampling and testing frequency	Requirement	Sampling location	Maximum reporting time allowance
Water sulfates ^a (ppm, max)	California Test 417	1 per source	1,300	Source	Before work starts
Water chlorides ^a (ppm, max)	California Test 422	1 per source	650	Source	
Gradation (% passing) ^b Sieve Size 3 inch 2 inch 1.5 inch	California Test 202	Test strip and 1 per lot	100 95-100 85-100	Loose mix after pulverizing and before mixing	24 hours
Passing No. 200 sieve (% max)	California Test 202	Test strip and 1 per lot	20 ^c	Loose mix after pulverizing and before mixing	24 hours
Sand equivalent (min)	California Test 217	Test strip and 1 per lot	25 ^c	Loose mix after pulverizing and before mixing	24 hours
Moisture content (%)	ASTM D 4643	Test strip and 1 per lot	From 99 to 101% of mix design requirement	Loose mix after pulverizing and before mixing ^d	24 hours
Engineered emulsion properties	Section 30-5.02B	Each load delivered	Section 30-5.02B	From delivery truck at the job site	24 hours
Indirect tensile strength (psi, min)	ASTM D 4867 ^e	Test strip	90% of mix design requirement	Loose mix after mixing engineered emulsion	5 business days
Laboratory maximum wet density (lb/cu ft)	California Test 216	Test strip and 2 per day	Use for relative compaction calculation	Same location as a California Test 231 location	24 hours
Relative compaction (% min)(wet density)	California Test 231	Test strip and 1 per lot	97	Compacted FDR-E	24 hours

^a Only required for non-potable water sources.

^b Remove solids larger than 3 inches. Every 9,000 sq yd, report percent passing the 2", 1.5", No. 4, No. 100, and No. 200 sieves.

^c If test fails, recommend an adjustment in the engineered emulsion content.

^d Also test compacted material at the end of work shift at the same location, report only.

^e Report the average of 2 tests from a single sample. For field ITS, immediately compact using a Marshall hammer, 75 blows per face or a superpave gyratory compactor under AASHTO T 312 at 30 gyrations.

Measure and record the actual cut depth at both ends of the pulverizing drum at least once every 300 feet along the cut length. Take measurements in the Engineer's presence.

30-5.01B(5) Acceptance Criteria

FDR-E acceptance is based on:

1. Visual inspection for the following:
 - 1.1. Segregation, raveling, and loose material
 - 1.2. Variance of more than 0.05 foot measured from the lower edge of a 12-foot straightedge

- 1.3. Uniform surface texture throughout the work limits
- 1.4. Repaired areas
- 2. Compliance with the quality characteristics shown in the following table:

FDR-E Acceptance Criteria Testing

Quality Characteristic	Test Method	Requirement
Relative compaction (% min)(wet density)	California Test 231	97
Thickness (ft) ^a	Core measurements	±0.05 ft of the thickness shown

^a Take 4- or 6-inch cores from random locations the Engineer selects. The Engineer may require 3 locations per lot. Coring more than 3 locations per lot is change order work. At time of coring, submit cores to the Engineer for measurement.

30-5.02 MATERIALS

30-5.02A General

Reserved

30-5.02B Cement

Cement must be Type II or Type V portland cement specified in ASTM C 150/150M.

30-5.02C Supplementary Aggregate

Supplementary aggregate must be RAP or must comply with the table titled "Aggregate Quality" for Class 2 aggregate base in section 26-1.02B. If supplementary aggregate is not RAP, it must weigh at least 105 lb/cu ft, determined under California Test 212, Compacted Method (by Rodding).

Not used

30-5.02D Engineered Emulsion

Engineered emulsion must contain asphalt binder in compliance with any of the PG grades specified in section 92-1.02 except polymer modified asphalt binder. Engineered emulsion must comply with the following:

Engineered Emulsion Requirements

Property	Test method	Requirement	
		Minimum	Maximum
Test on emulsion:			
Sieve test, % of weight sample	AASHTO T 59	--	0.1
Residue by evaporation, %	California Test 330	63	67
Test on residue by evaporation:			
Penetration at 25 °C, 100 g/ 5 sec	AASHTO T 49	40	120
Ductility at 25 °C and 50 mm/minute, mm	AASHTO T 51	400	--
Flexural creep stiffness, Test temperature, °C max S-value, MPa min m-value	AASHTO T 313	Note a	

^a Comply with the requirements for the PG binder specified for the region where the project is located.

30-5.02E Water

Notify the Engineer if a water source other than potable water is used and perform testing for chlorides and sulfates.

30-5.02F Mixed Material

The pulverized mixture of asphalt concrete, underlying material, cement, and supplementary aggregate must comply with the grading requirements for the sieve sizes shown in the following table:

Sieve Size	Percentage Passing
3"	100
2"	95-100
1.5"	85-100

The moisture content at the time of mixing must be from 99 to 101 percent of the mix design requirement.

30-5.02G Asphaltic Emulsion

Asphaltic emulsion must be Grade SS1h or CSS1h.

For dilution, the weight ratio of water added to asphaltic emulsion must not exceed 1 to 1.

30-5.02H Core Backfill Material

Material to fill cored holes for thickness measurements must be packaged rapid-hardening cementitious material under ASTM C 928, Type R2 or R3.

30-5.03 CONSTRUCTION

30-5.03A General

Do not perform FDR-E activities under the following conditions:

1. Pavement surface is wet
2. Rain is forecasted within 24 hours
3. Pavement temperature is less than 60 degrees F
4. Ambient temperature is less than 50 degrees F
5. 30 minutes before sunset

Before starting daily FDR-E activities, sweep the previously constructed FDR-E area to remove loose material.

30-5.03B Equipment

Do not interrupt traffic while servicing FDR-E equipment.

The FDR-E machine must have independent and interlocked systems for water and must include the following:

1. Digital electronic controller system
2. Pumping system
3. Automatic spray bar system

Storage equipment for water must be attached to the FDR-E machine and not leak.

Grading and compacting equipment must be self-propelled and reversible. The frequency and amplitude of vibrating rollers must be adjustable and exceed a force of 15 tons in vibratory mode.

Grading equipment must be a motor grader with automatic grade controls for profile elevation and cross slope.

30-5.03C Surface Preparation

Before FDR-E activities start, prepare the existing roadway surface by:

1. Clearing foreign matter including vegetation
2. Removing standing water
3. Referencing the profile and cross slope
4. Marking the proposed longitudinal cut lines on the existing pavement as follows:
 - 4.1. Cut lines must coincide with points where the existing cross slope changes, approximately at the centerline and edge of traveled way
 - 4.2. Cut lines must indicate the sequence of the cuts

If excess material is to be stored adjacent to the shoulder, clear and dispose of the weeds, grass, and debris from the area.

30-5.03D Spreading Materials

Spread supplementary aggregate in compliance with the mix design. Spread supplementary aggregate uniformly over the full roadway surface width before initial pulverization. The spread rate must be as determined during the mix design in lb/sq yd \pm 5 percent.

Spread cement after initial pulverizing and before mixing the engineered emulsion. The spread rate must be as determined during the mix design ± 0.5 lb/sq yd.

30-5.03E Pulverizing and Mixing

Do not leave a wedge where the pulverizing drum cuts into the existing material. The 1st cut width must use the full width of the pulverizing drum. Subsequent cuts must overlap at least 4 inches. Do not leave a gap of unpulverized material between cuts. With each cut, adjust the amount of water proportionally to the actual cut width. If an overlap is more than 4 inches, immediately adjust. If an overlap is less than 4 inches, immediately back up and pulverize the deviation along the correct cut line without adding water or Engineered emulsion.

Mark the existing pavement where the center of the pulverizing drum stops. Start the following cut on this alignment at least 2 feet behind the mark.

Mix water sufficient to produce the FDR-E material mixing moisture content described in the mix design.

Inject engineered emulsion in compliance with the application rate calculated from the mix design content ± 5 lb/sq yd. Inject after initial pulverizing, mixing water, and spreading cement.

If you encounter unstable subgrade or rocks greater than 4 inches in the roadway section notify the Engineer. The Engineer determines the extent of the problem and the corrective measures to be taken.

Before compacting, remove solids larger than 3 inches in any dimension.

30-5.03F Compacting and Grading

Immediately after pulverizing and mixing, compact FDR-E to the minimum relative compaction.

Perform initial compaction with a sheepsfoot roller.

Shape to established grade. If the established grade will cause noncompliance with the thickness requirements, notify the Engineer.

30-5.03G Recompacting and Finishing

Immediately after initial compaction, apply water and roll with pneumatic-tired rollers or steel drum roller with no vibration. The finished surface must be free of ruts, bumps, indentations, segregation, raveling, and any loose material.

Do not open to traffic (1) within 4 hours of mixing with emulsion and (2) without authorization.

Before opening to traffic, proof-roll surface for deformations using a 2-axle, fully loaded 2,000 gal capacity water truck. Do not allow traffic on these areas until material dries and stabilizes or until corrective action is taken. Verify relative compaction for areas that display movement.

Apply a coat of diluted asphaltic emulsion to the finished surface when it is damp but free of standing water. The application rate of asphaltic emulsion must be a residual rate from 0.03 to 0.07 gal/sq yd. Do not water after applying asphaltic emulsion.

While open to traffic and before placing HMA, maintain the FDR-E surface free of ruts, bumps, indentations, raveling, and segregation. Repair damaged FDR-E material with minor HMA.

Take cores to determine the finished FDR-E thickness before placing HMA.

Recompact the FDR-E surface:

1. Within 48 to 72 hours after initial compaction
2. Before smoothness testing
3. Before placing the HMA surfacing

Use the same equipment and rolling pattern used for recompacting the authorized test strip. Adjustments must be authorized.

The finished FDR-E surface must not vary more than 0.05 foot from the lower edge of a 12-foot straight edge laid in directions parallel and perpendicular to the centerline.

Do not place HMA until moisture content at mid depth is below 2.5 percent of dry material.

If a core indicates FDR-E thickness is less than the specified thickness by more than 0.05 foot, core in the vicinity of the noncompliant core to determine the extent of the deficient thickness. Remove the FDR-E material deficient in thickness by cold planing to a depth of 0.2 foot below the finished FDR-E grade. Replace the planed FDR-E with the HMA specified for the project and compact under section 39-2.04.

Immediately before placing HMA, apply asphaltic emulsion at a rate from 0.03 to 0.05 gal/sq yd residual binder content.

Do not place HMA until authorized.

10-25 HOT MIX ASPHALT (HMA)

10-25.1 GENERAL

10-25.1.1 SUMMARY

A. Includes But Not Limited To

1. Prepare pavement sub-grade to receive paving.
2. Furnish and install hot-mix asphalt for pavement repairs, leveling course and surface course.
3. Complete HMA Paving as provided in Section 39 of 2010 Caltrans Standard Specifications, Section 39- 1 General, Section 39-2 Standard Construction, and Section 39-Method Construction Process and as amended herein.

10-25.1.2 REFERENCES

A. Abbreviations and Acronyms

1. HMA – Hot Mix Asphalt
2. JMF – Job Mix Formula
3. QA – Quality Assurance Inspection and/or testing by Owner
4. QC – Quality Control Inspection and/or testing by Contractor
5. RAP – Reclaimed Asphalt Pavement

B. Reference Standards

1. ASTM - American Society of Testing and Materials or ASTM International
2. CT – Caltrans Test

3. 2010 Caltrans Standard Specifications Section 39
4. AASHTO – American Association of State Highway and Transportation Officials

10-25.1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting
 1. Contractor shall schedule a pre paving meeting no more than 5 working days nor less than 2 working day prior to first paving day.
 2. Attendees at the pre paving meeting shall include but not be limited to:
 - a. Owner's Representative
 - b. Contractor's paving foreman
 - c. Paving fabric installer (if applicable)
 - d. QA Representative
 - e. QC Representative
 - f. Other pavement users or affected parties as applicable.
- B. Sequencing
 1. Contractor shall sequence the work to minimize cold joints.
 2. Contractor shall sequence the work to prevent paving operations damaging new pavement.
 3. Contractor shall not commence paving until all Storm Water protection BMPs have been installed.
 4. Widened areas for Concrete Barrier and HMA Dikes shall be paved concurrently with main line.
 5. Miscellaneous areas shall be paved after main line paving.
- C. Scheduling
 1. Paving work shall not be performed until all excavation and underground work and recycled base is accepted.

10-25.1.4 SUBMITTALS

- A. HMA JMFs
 1. Submit a JMF for each mix to be used. JMF shall be submitted on Caltrans CEM 3511 and CEM 3512 forms. If JMF is verified by Caltrans, submit CEM 3513
- B. Contractor QC Plan
 1. Provide QC Plan indicating compliance with requirements herein. QC Plan shall include the following as a minimum:
 - a. QC Manager and Organization Chart
 - b. AMRL and Caltrans Laboratory Certifications
 - c. Field Personnel Resumes and Certifications
 - d. Sample and Testing Log
 - e. Sample Reports and Labels
 - f. Action Plan for non-complying work or materials
 - g. Random Sampling Plan for materials testing and compaction testing
 2. Nominate Third Party Testing Laboratory

10-25.1.5 CLOSEOUT SUBMITTALS

- A. Delivery Tickets
 1. Submit delivery tickets for all mix used on the project at the end of each paving day. Tickets shall be organized by mix type and in sequential date order for that mix type.
- B. Testing Reports
 1. Provide test results for HMA materials and installation as required herein.

10-25.1.6 QUALITY ASSURANCE

- A. Quality Assurance Inspection and/or Testing
 1. District may, at their option, have independent quality assurance inspection and testing.
 - a. Inspections may be made during or after the work.

- b. QA Inspection and testing is for the sole purpose of providing the Owner a greater degree of assurance that the requirements of the contract have been met. QA inspection and testing does not relieve the Contractor of any responsibility to comply with or perform in accordance with the Contract documents.
- 2. All HMA testing laboratories shall be AMRL and Caltrans certified.
- B. QC/QA Coordination
 - 1. If QA compaction testing utilizing a nuclear gauge is to be used, Contractor shall coordinate gauge correlation testing with QA testing personnel during production startup on the first paving day.
- C. QC/QA Sampling
 - 1. The Contractor shall perform all sampling at both the plant and jobsite. The contractor shall provide qualified personnel for this sampling. Sample sizes shall meet the following minimums in size:

Sample Type	Sample Description	Sample Size (min)	Container
Aggregate	Hot Bin Samples	25 pounds	Bag
	Supplemental Fine Aggregate	5 pounds	Bag
	RAP Stockpile	25 pounds	Bag
	Combined Belt Sample	50 pounds	Bag
Binder		2 Quarts	Quart Metal Cans
Hot Mix		4 boxes	4"x8"x8"

- 2. Contractor shall split and label all samples. Label Samples with the following information:
 - a. Project Name
 - b. Supplier and Plant
 - c. Date, Time, Tonnage Lot (if applicable) & Temperature (if applicable)
 - d. Material Description (Aggregate source, binder type, mix type)
 - e. Continuously maintain a sampling log which includes all of the information indicated above. Provide access to log during progress of the work and a completed copy of the sample log at the completion of work.
- 3. Contractor shall have QA samples transported to the jobsite or elsewhere if agreed upon by District representative.
- D. Dispute Resolution
 - 1. If the QC and QA test results differ on determining compliance, the Contractor can dispute the test results. The third parties shall use remaining test samples or determination of test results if practicable. Third party test results shall govern. Party losing dispute pays cost of third party testing.

10-25.1.7 PROJECT CONDITIONS

A. Project Environmental Requirements

- 1. Do not perform work during following conditions:
 - a. Ambient, base, or pavement temperature below 50 degrees F.
 - b. Presence of free surface water or damp pavement.
 - c. Unstable grade as demonstrated by proof rolling with a minimum of a 10 wheeler truck.
 - d. Over-saturated base and sub-base materials.

10-25.2 PRODUCTS

10-25.2.1 MATERIALS

- A. Tack Coat
 - 1. Tack coat on existing or new pavements shall be utilized and will be emulsified asphalt Grade RS-1, RS-1h, SS-1, or SS-1h and shall conform to Section 94, 'Asphaltic Emulsions', of the Standard Specifications.
 - 2. Paving binder shall not be used as a tack coat
- C. Mixes
 - 1. 1/2" Type A HMA with PG64-16, design air voids of 3.5% to 4.0%.
 - 2. Current, approved Job Mix Formula (JMF) for each mix supplied to the project.
 - 3. Mix verification testing will occur at production startup.

10-25.2.2 CONTRACTOR QUALITY CONTROL

- A. Perform the following QC Testing:

Quality Characteristic	Frequency	Test Results Due
Aggregate Gradation	Production Startup and every 750 tons	Prior to 4 PM on the day following paving
Sand Equivalent		
Asphalt Binder Content		
HMA moisture content		
Aggregate moisture content at continuous mixing plants and RAP moisture content at Continuous mixing plants and batch mixing plants.		
Percent of maximum theoretical density (nuclear gauge per CT 375)	Per Section 3.4.B.6 below	At end of work shift
Maximum Theoretical Unit Weight	1 per day	By end of work shift
Percent of maximum theoretical density (cores)	Production Startup and as needed	Prior to 4 PM on the day following paving
Air void content	Production Startup	3 working days from sample date
Stability value		
Percent Crushed Particles		
LA Rattler		
Flat and elongated particles		
Fine aggregate angularity		
Voids filled with asphalt		
Voids in mineral aggregate		
Dust proportion		

10-25.3 EXECUTION

10-25.3.1 EXAMINATION

- A. Contractor shall visit the site to:
 - 1. Verify that all underground utilities and facilities are complete required including testing.
 - 2. Verify that underlying aggregate base and or native soil subgrade has been properly prepared and tested..
 - 3. Verify that paving subgrade is firm and unyielding.

- D. Notify District representative of any non-compliance issues. Do not pave until issues resolved or directed in writing to proceed.

10-25.3.2 PREPARATION

- A. Protect existing facilities
 1. Protect storm drain systems
 2. Do not clean or wash equipment onsite
 3. Place protective covers over existing pavement or paving subgrade under all motorized paving equipment.

10-25.3.3 APPLICATION

- A. Site Tolerances
 1. Apply HMA paving in single lift up to 3 inches thick minimum after compaction, except where shown thicker on Drawings. Paving thicker than 3 inches may be applied in two or more lifts with a minimum lift thickness of 1-3/4 inches thick.
 2. Paving adjacent to cast-in-place concrete site elements shall be between 1/4 inch higher than concrete and flush with concrete.
 3. Thicknesses
 - a. Average pavement thickness shall equal design thickness
 - b. For total HMA thicknesses less than 4 inches in thickness, the minimum thickness shall be minus 1/4 inch from the design thickness.
 - c. For total HMA thickness 4 inches and greater, the minimum thickness shall be minus 1/2 inch from the design thickness.
- B. Tack Coat
 1. Tack coat shall be applied to every vertical face of concrete to be paved against, including gutters and swales.
 2. Protect concrete above paving line with masking or shield. Clean all tack coat on concrete more than 1 inch above pavement surface.
 3. Brush application allowed
 4. Tack coat application shall be reapplied between paving layers if tack coat application becomes damaged due to scraping by equipment or dust.
- C. HMA Installation
 1. Use self-propelled laydown machine for all surface courses.
 2. Compaction –
 - a. Compact HMA to a lot average of 92.0% to 96.0% of Theoretical Maximum Density per ASTM D2041 or CT 309.
 - b. Compact HMA to individual locations to 91.0% to 97.0% of Theoretical Maximum Density per ASTM D2041 or CT 309.
 - c. Compact handwork areas simultaneously with breakdown rolling. Compact with hand tamps, vibraplates or other means that will provide density and a smooth surface. Failure to keep hand compaction areas concurrent with breakdown rolling shall be cause to stop paving until handwork compaction catches up to breakdown rolling.
 - d. Roll with powered equipment capable of obtaining specified density and smoothness.
 - e. Execute compaction so visibility of joints is minimized. Complete finish rolling to improve asphalt surface as soon as possible after intermediate rolling and while HMA is above 140 °F surface temperature.
 3. Finish
 - a. Surface shall be uniform with no 'birdbaths'. Leave finished surfaces clean and smooth. Variations from specified grades shall not exceed 1/4 inch (0.02 feet). When tested with 10 foot straight edge, surface of complete work shall not contain irregularities in excess of 1/4 inch.

- b. Completed surface shall match the texture of the machine laid mat. Areas worked by raking shall have coarse aggregate removed rather than pushed back onto the mat. Any areas of coarse or segregated surface shall be remedied immediately and prior to finish rolling. Failure to comply with this provision shall cause all paving to stop until mat surface corrections are performed.

10-25.3.4 CONTRACTOR QUALITY CONTROL

- A. Materials Quality Control Testing
- B. Contractor shall perform testing as outlined in the Contractor Quality Control Plan submitted under Section 10–25.1.4.B, “Contractors QC Plan”.
- C. Density Quality Control
 - 1. Divide pavement area into lots in accordance with the following guidelines
 - 2. Each lot not to represent more 1000 lineal feet or less.
 - 3. Each lot must be homogeneous relative to placement time and methods.
 - 4. Correlate gauge using a minimum of 5 cores on first paving day. Core correlation will not be required if 1) the QC and QA gauges are within 0.5% of each other on the average of 5 locations and 2) both QC and QA gauges indicate test results within the range of 92.5% to 95.5% of Theoretical Maximum Density based on the JMF Rice Gravity.
 - 5. Daily Rice Gravity tests shall be used to determine compaction. If Rice Gravity results vary more than 0.03 gm/cc on a daily basis, use a moving average of 5 and recomputed density results
 - 6. Test each lot using randomly determined locations per CT 375 or ASTM D3665.
 - a. Minimum of 3 tests per lot
 - b. One nuclear gauge per 50 tons
 - 7. If nuclear gauge test results determine noncompliance, Contractor may choose to have in place density verified by cores. Cores will be taken at the rate of 1 per 100 tons. Cores will be taken by Contractor and tested by QA laboratory. Take cores in presence of Owner’s representative. Cost of coring shall be borne by Contractor and cost of core testing by Owner. For lot average determination, a minimum of three cores shall be taken. For individual sites, a single core may be taken. Reduced payment will be determined by cores if cores are taken.
- D. Quality Control Reporting
 - 1. If QC Reports indicate non-compliance, paving may continue till the end of the day. Paving shall not be resumed until acceptable changes have been made to either the materials quality or contractor’s placement and compaction operations to assure future compliance with requirements.
 - 2. Failure to supply QC Reports as indicated will be cause for withholding payment for the work until such reports are submitted and evaluated.

10-25.3.5 PROTECTION

- A. Protect completed pavement from damage
 - 1. Equipment and material storage.
 - 2. Fuels or solvents of any kind
 - 3. Staining from shoulder backing
 - 4. Placement of concrete barriers, guardrails, HMA Dike, or other roadside finishing items.

10-26 ROCK FENCE

10-26.1 GENERAL

The work consists of installing chain link fencing at the locations on the slopes as indicated on the plan details. The work shall conform to Section 80-3 of the 2010 Caltrans Standard Specifications and these special provisions.

10-26.2 MATERIALS

The posts and rails shall be galvanized steel pipe of the size and dimensions as indicated on the drawings. Concrete shall be 2500 psi concrete. Fence fabric shall be brown vinyl clad galvanized 9 gauge. Tie wires shall be 6 gauge.

10-26.3 CONSTRUCTION

Construct fence at locations indicated on the drawings prior to placement of concrete barrier. Equipment for drilling holes shall be capable of completing the drilling in the rocky type soils on the project. If large boulders are encountered which prevent post hole location on a consistent spacing, spacing may be reduced to avoid such obstacles. Increased spacing of post shall not be allowed.

The top of the concrete fill shall be shaped in a cone like finish around the poles above the surface. The finished concrete shall extend above the slope by a minimum of 3 inches and a maximum of 12 inches.

10-27 SHOULDER BACKING & BASE ROCK IN DRIVEWAYS

10-27.1 GENERAL

The work includes preparing the existing shoulder and driveways, placement of aggregate base, and finishing.

10-27.2 MATERIALS

Shoulder backing and base rock at driveways shall consist of ¾ inch Class 2 Aggregate Base per 2010 Caltrans Standard Specifications.

10-27.3 CONSTRUCTION

Shoulder backing shall be placed prior to installation of guardrail. Generally, the shoulder backing width will not exceed 3 feet. Some areas may be narrower.

Base rock shall be placed in 3" thick layer over graded surface, extending from edge of paved transition to District gate.

The existing shoulder shall be prepared for shoulder backing by removing all debris, rocks and vegetation. The existing shoulder shall be loosed by scarifying to a depth of 2 to 3 inches and moisture conditioned. While still moist, the shoulder backing material shall be placed using a shoulder backing machine capable of transferring the shoulder backing material from the delivery truck to the shoulder without material being deposited on the new HMA surface. The shoulder backing shall be placed in a taper such that, when compacted, it will be flush with the new HMA surface. The shoulder backing shall be compacted using steel rollers or vibraplates. Moisture content shall be maintained such that during compaction, a slight amount of "slurry" becomes apparent on the surface. The finished surface shall be smooth, dense and without any material segregation. Non complying areas shall be reworked. After completion of the work, the pavement shall be mechanically swept.

Base rock placed at driveways and as part of shoulder backing to be compacted to 90% relative compaction.

10-28 GUARDRAIL

10-28.1 GENERAL

The work includes installing new terminal ends and guardrail at the locations indicated on the plans. The work shall comply with Section 83 of the 2010 Caltrans Standard Specifications, current AASHTO standards, and these special provisions.

10-28.2 MATERIALS

Materials shall comply with the aforementioned standards. Terminal end sections shall be as indicated unless the Contractor believes a different terminal end section is appropriate. If such cases exist, the

Contractor shall bring these locations and specific suggestions to the Engineer's notice at least 45 days prior to installation to allow for consideration of alternatives. All posts shall be steel and all spaces shall be recycled plastic.

10-28.3 CONSTRUCTION

Construction shall conform to the plans, plan details, applicable Caltrans Standard plans and referenced standards. The minimum length of guardrail including terminal ends shall be 50 feet.

Prior to installation, the proposed location of guardrail shall be clearly laid out and marked in the field for the Engineer's review at least 5 days prior to installation. Layout and installation shall be coordinated with layout and placement of HMA Dike.

The installation contractor shall use equipment and techniques which allow installation in the project's rocky native soils.

10-29 SIGNS, PADDLE MARKERS, AND PAVEMENT MARKINGS

10-28.1 GENERAL

The work includes installing all roadside signs, paddle markers, 12" cross walk lines and pavement markings per the plan and plan details.

10-29.2 MATERIALS

Materials shall comply with the applicable portions of Section 82, 84 and 85 of the 2010 Caltrans Standard Specifications. Sign posts shall be steel embedded into concrete. Concrete shall be 2500 psi. Pavement delineation shall be thermoplastic. Sharrows shall be preformed, heat applied thermoplastic. All signs, paddle markers and pavement markings shall comply with the most current CA MUTCD. Paddle markers shall be Class 1 Flexible Posts per Caltrans Standard Plan A73A. The thermoplastic pavement markings shall have glass beads installed when placed.

10-29.3 CONSTRUCTION

The various facilities shall be installed at the locations indicated on the drawings. Sign and paddle locations shall be located at least 5 days in advance of installation for review and approval by the Engineer.

Class 1 markers shall be placed on both sides of each drainage structure, generally approximately 5 feet prior to and after. The reflective markings shall be faced away from the structures.

Contractor shall perform Cat-tracking per Caltrans 2010 Standards, 10 days (minimum) prior to placement of pavement markings in order for District to have adequate time to review in the field. Make adjustments to striping layout as directed by District.

The fog line shall be placed in the locations of concrete barrier prior to barrier installation. The remaining pavement markings shall not be placed until all other roadway and shoulder work is complete.

10-30 ELECTRICAL CONDUIT AND JUNCTION BOXES

10-30.1 GENERAL

The work includes installation of conduit and pull boxes for future utility.

10-30.2 MATERIALS

Conduit: Schedule 40 PVC Pipe; meet requirements of ASTM D 1785.

Pull Rope: 1/4" double-braided polyester composite rope only – no nylon pull rope allowed.
Install pull-rope inside conduit, with 24" minimum rope coiled at each end of each conduit in pull boxes.

Trench Backfill: Controlled Low Strength Material (CLSM)

Pull Box: Christy™ B1730 H/20 Loading Utility Box w/traffic rated lid.

Pea Gravel (for use under pull boxes): 1/2" maximum round, water-worn, washed rock.

10-30.3 CONSTRUCTION

10-30.3.1 PREPARATION

Layout locations for conduit and pull boxes on site. Adjust pull box locations as needed to avoid existing utilities, trees and other obstacles. Pull box locations shown on plans are schematic only.

Locate existing underground utilities crossing proposed conduit and pull box placement. Pothole utilities at all perceived conflicts with new conduit and boxes prior to any excavation or trenching.

Layout conduit runs to maintain straight and true alignment except where required to change direction to connect to pull box. All changes in direction of conduit shall be made by gradual pipe bends only (no angled joints or couplers will be allowed). Curved portions of conduit shall be laid out so as to not exceed manufacturer's recommendations for maximum deflection of PVC pipe.

Longitudinal runs of conduit shall not be located directly over or under other underground facilities. Whenever possible, the horizontal distance between parallel facilities shall be a minimum of 6 inches of separation.

10-30.3.2 CONDUIT INSTALLATION

Excavate trench to 24" minimum depth. Remove debris and loose material from trench prior to pipe placement.

Prior to conduit installation, a continuous No. 6 AWG copper grounding conductor shall be directly buried to the bottom of the trench. Caution ribbon shall be installed above the conduit, 12" above the top of the conduit.

During installation, all conduit ends shall be plugged to prevent entrance of foreign matter. All conduits shall be free and clear of any soil, backfill material, trash and construction debris.

Conduits shall terminate not more than 3 inches inside the pull box. Conduit shall enter the pull box with an electrical sweep or with a very gradual sweeping change of direction. A single run of conduit between pull boxes shall contain no more than two 90 degree sweeps.

All buried joints shall be primed and glued per manufacturer's recommendations. All ends, joints and internal finish of the conduit shall be free of sharp edges or burrs.

Backfill trenches under roadway with CLSM to the top of the existing roadway surface.

10-30.3.3 PULL BOXES:

Top of pull boxes to match flush with finish grade when installed in roadway shoulder and with new pavement surface when installed at edge of roadway. Install boxes with level lid whenever possible. Place 4" minimum pea gravel at bottom of pull box to facilitate drainage. Backfill around box with native spoils and compact backfilled soil as necessary to avoid shifting or future settlement of box.

10-31 DOUBLE CHIP SEAL

10-31.1 GENERAL

The Contractor shall furnish all labor, equipment, material, supplies, environmental protection, no parks, raised markers, signage, traffic control, secondary sweeping, and other incidentals necessary to provide a **double application** of polymerized emulsified asphalt, cover coat aggregate and a Fog Seal to an existing roadway surface.

10-31.2 MATERIALS

Latex Modified Emulsion: Latex Modified Cationic Rapid Set emulsion (CRS-2R) shall be an emulsified blend of asphalt, water, emulsifiers, and latex polymer. The emulsion shall contain a minimum of three percent (3.0%) styrene-butadiene latex rubber (SBR) solids by weight of asphalt cement. The SBR polymer dispersion shall be co-milled during the emulsification process such that a bicontinuous polymer-asphalt network is formed upon curing of the finished emulsion. The emulsion shall be pumpable and suitable for application through a distributor truck. The emulsified asphalt shall conform to the following requirements:

Tests on CRS-2R Emulsion	Minimum	Maximum	Test Method
Viscosity, Saybolt Furol, 50 C, sec. (a)	50	450	ASTM D 244
Storage Stability Test, 24-h, % (a)		1.0	ASTM D 6930
Demulsibility, 35 ml, 0.8% Dioctyl Sodium Sulfosuccinate, %	40		ASTM D 6936
Particle Charge Test	Positive		ASTM D 244
Sieve Test, % (a)		0.1	ASTM D 6933
Distillation: (b)			AASHTO T 59
Oil Distillate, by Volume of Emulsion, %		3.0	AASHTO T 59
Residue, %	65		AASHTO T 59
Tests on Residue (b)			
Penetration, 25 °C, 100g, 5s, dmm	70	150	ASTM D 5
Ductility, 4 °C, 5 cm/min, cm	40		ASTM D 113
Solubility in Trichloroethylene, % (c)	97.5		ASTM D 2042
Toughness, in-lb	90		ASTM D 5801
Tenacity, in-lb	60		ASTM D 5801

The specification for CRS-2R is in accordance with the material properties and test methods as specified by ASTM, AASHTO, and CDOT.

- (a) This test requirement on representative samples is waived if successful application of the material has been achieved in the field.
- (b) Residue by evaporation is intended to provide rapid determination of the percent residue and to provide material for tests on residue. If the percent residue or any test on the residue fails to meet specifications, the tests will be repeated using the distillation test specified by AASHTO T59. For polymer modified emulsions, the distillation and evaporation tests will be modified to include 400F maximum temperature to be held for 15 minutes.
- (c) If the solubility of the residue is less than 97.5%, the base asphalt binder for the emulsion shall be tested. The solubility of the base asphalt binder shall be greater than 99 percent.

Polymer Pre-Modified Base Emulsion: Polymer Modified Cationic Rapid Set emulsion (CRS-2P)

shall be an emulsified blend of polymer modified asphalt, water, and emulsifiers. The emulsion shall contain a minimum of three percent (3.0%) styrene-butadiene (SB) or styrene-butadiene-styrene (SBS) polymer by weight of asphalt cement. The asphalt cement shall be polymer modified prior to emulsification using a block SB or SBS co-polymer. The emulsion standing undisturbed for a minimum of 24 hours shall show no white, milky separation but shall be smooth and homogeneous throughout. The emulsion shall be pumpable and suitable for application through a distributor.

Tests on CRS-2P Emulsion	Minimum	Maximum	Test Method
Viscosity, Saybolt Furol, 50°C, sec, (a)	50	450	ASTM D 244
Storage Stability, 24-hr, % (a)		1.0	ASTM D 6930
Demulsibility, 35 ml, 0.8% Dioctyl Sodium Sulfosuccinate, %	40		ASTM D 6936
Particle Charge	Positive		ASTM D 244
Sieve, % (a)		0.1	ASTM D 6933
Distillation: (b)			AASHTO T 59
Oil Distillate by Volume of Emulsion, %		3.0	AASHTO T 59
Residue, %	65		AASHTO T 59
Tests on Residue (b)			
Penetration, 25 °C, 100g , 5s, dmm	70	150	ASTM D 5
Solubility in Trichloroethylene, % (c)	97.5		ASTM D 2042
Toughness, in-lb	70		ASTM D 5801
Tenacity, in-lb	45		ASTM D 5801

(a) This test requirement on representative samples is waived if successful application of the material has been achieved in the field.

(b) Residue by evaporation is intended to provide rapid determination of the percent residue and to provide material for tests on residue. If the percent residue or any test on the residue fails to meet specifications, the tests will be repeated using the distillation test specified by AASHTO T 59. For polymer modified emulsions, the distillation and evaporation tests will be modified to include 400F maximum temperature to be held for 15 minutes.

(c) If the solubility of the residue is less than 97.5%, the base asphalt binder for the emulsion shall be tested. The solubility of the base asphalt binder shall be greater than 99 percent.

Cover Coat Material: The chip or cover coat aggregate shall be washed, hard, durable, clean rock and free from coatings or deleterious material. All of the aggregate shall be crushed gray granite with 100% fractured faces. The aggregate shall have maximum loss of 20% when tested with the LA Abrasion procedure as defined by AASHTO T96.

The maximum amount of flat and elongated aggregate with a ratio of 3:1 shall not exceed 12% as determined by ASTM D4791. Only one source of aggregate shall be used and shall conform to the following gradations.

Gradation Table - Cover Coat Aggregate (percent passing)

Sieve Size	½" Chip	3/8" Chip	1/4" Chip
1/2"	95-100	100	100
3/8"	0-60	95-100	100
1/4"	0-10	0-35	95-100
No. 8	0-3	0-3	0-3
No. 200	0-1.5	0-1.5	0-1.5

10-31.3 CONSTRUCTION

Equipment: The size and condition of all equipment shall be approved prior to construction. Should equipment be unsatisfactory for whatever cause, the Contractor shall remove and replace the equipment without delay or cost. The equipment shall conform to the following minimum requirements.

Bituminous Distributor: A minimum of two like distributors shall be used on this project. The distributors shall be self-powered and capable of providing a uniform application rate of emulsion varying from .05-1.00 gallons per square yard over a variable width up to twenty feet in a single pass. The uniformity of the distributors shall not vary by more than two-hundredths gallons per square yard. The distributors shall be equipped with a variable power unit for the pump and full circulation spray bars, which are adjustable laterally and vertically. The nozzle angle and bar height shall be set to provide one hundred percent of double coverage in a single pass. Where multiple passes will be required to complete the full width, the four inches adjacent to the second pass may be left with fifty percent coverage so that the next pass will complete the full application rate specified. Distributors shall be self-powered and include a computerized application controls, a tachometer, pressure gauges, accurate volume devices, calibrated tank, and a thermometer for measuring temperatures of the emulsion in the tank.

Aggregate Spreader: The aggregate spreader shall be self-propelled and supported by at least four tires on two axles capable of providing a uniform application rate of aggregate from five to fifty pounds per square yard over a variable width up to 20 feet in a single pass. The uniformity of this machine shall not vary by more than one pound per square yard. The aggregate spreader shall be equipped with the means of applying the cover coat material to the surface with computerized application controls so that the required amount of material will be deposited uniformly over the full width of the bituminous material. A computer rate controlled aggregate spreader shall be required.

Rollers: A minimum of two self-propelled pneumatic tired rollers shall be used on the project unless otherwise requested by the ProjectManager. The rubber tired rollers shall have a gross load adjustable to apply 200 – 250 pounds per inch of rolling width. Tire pressure shall be specified for the pneumatic tire rollers and shall not vary more than plus or minus 5.0 psi. Depending on the speed of the Chip Seal operation and the width of coverage, additional rollers may be required. At no time shall the rollers travel more than 10 miles per hour.

Sweepers: A minimum of two vacuum designed sweepers having only negative air pressure at the road surface capable of removing excess aggregate and debris material shall be used on this project.

The body hoppers of the vacuum sweepers shall be a minimum capacity of ten cubic yards, and the negative air pressure at the intake shall be rated at 46 inches of negative water pressure. Sweepers shall meet applicable U.S. Environmental Protection Agency Standards. No mechanical pick-up brooms will be allowed on the project. Any areas adjacent to the project where a vacuum broom cannot access, shall be removed by the use of a blow pack. No mechanical pick-up brooms will be allowed on the project.

MATERIAL APPLICATION RATES

Material	1/2" x 3/8"	3/8" x 3/8"	3/8" x 1/4"
CRS-2P Chip Seal	.95 - 1.0 Gal/SY	.90 - .95 Gal/SY	.80 - .85 Gal/SY
Fog Seal	.12 Gal/SY Minimum	.11 Gal/SY Minimum	.08 Gal/SY Minimum
Cover Coat Aggregate	55 lbs/SY Minimum	50 lbs/SY Minimum	45 lbs/SY Minimum

The specific emulsion and cover aggregate application rate shall be determined using factors such as surface temperature, traffic volume, existing road condition and time of year. The Contractor may alter the application rate at any time during the course of the construction upon approval by the District.

Manholes, Valve Boxes and Existing ThermoMarkings: Manholes, valve boxes and thermo markings shall be covered with an approved material during the operation and shall be removed immediately after the street has been Chip Sealed and Fog Sealed. The Contractor is responsible for locating all exposed manholes, valve boxes and thermo markings prior to Chip Sealing.

Weather Limitations: The Chip Seal shall not be applied when the pavement is moist, or when the weather is or may be detrimental. Detrimental weather is defined as rain showers, cool temperatures, moist pavements, threat of rain showers, or other environmental factors which could affect the performance of the Chip Seal construction. No Chip Seal shall be applied if either the pavement or air temperature is below 55°F (10°C) and falling, but may be applied when both pavement and air temperatures are above 50°F (7°C) and rising.

EXECUTION:

Surface Preparation: The Contractor shall be responsible for all measures required providing a thoroughly clean and dry pavement surface including vegetation removal and sweeping prior to the Chip Seal application. The Contractor shall observe the condition of the pavement prior to bidding to determine the work necessary to provide a clean, dry pavement for construction and shall include the work necessary in the bid.

Application of Bituminous Materials: The application of the emulsion shall be performed by means of a pressure distributor in a manner to achieve a uniform and continuous spread over the asphalt surface. The temperature of the emulsion shall be a minimum of 160° F.

The quantity of emulsion per square yard shall be as specified herein and agreed upon with the District. The distributor shall be moving forward at the proper application speed at the time the spray bar is opened. If at any time a nozzle becomes clogged or not spraying a proper pattern, the operation shall be immediately halted until repairs are made. Repairs shall be made immediately after deficiencies are noted and prior to the aggregate placement at all times during construction. The width of the emulsion application shall be no greater than the width of the

aggregate spreader except where additional passes are required then the emulsion shall be four inches beyond the aggregate spread at a fifty percent application rate. At no time shall the emulsion be allowed to break, chill, set up, harden, or otherwise impair the aggregate retention before the aggregate has been properly applied and rolled.

Application of Cover Coat Aggregate: The aggregate shall be applied immediately following the emulsion application by the approved aggregate spreader. The quantity of cover coat aggregate per square yard shall be specified herein and agreed upon with the District. The Contractor, prior to start of work, shall calibrate the aggregate spreader to achieve the design application rate of the cover coat aggregate. Spreading shall be accomplished in such a manner that the tires of the trucks and aggregate spreader never contact the newly applied bituminous material. The width of the aggregate spreader shall be equal to the width of the emulsion spread, except where additional passes are required. Areas, which are deficient in aggregate, shall be covered immediately with additional material.

Rolling: Initial rolling shall begin immediately after the application of cover coat aggregate. Rollers shall work in tandem and complete a minimum of three passes with a sufficient overlap. Should the rolling operation be delayed, the aggregate and emulsion spreading shall be halted until the operation regains proper sequencing and timing. The maximum speed of the rolling operations shall be 10 miles per hour.

Sweeping and Fog Seal: Within 24 hours of curing, excess aggregate shall be swept from the roadway and adjacent areas. Excess aggregate that is clean may be stockpiled and re-used in subsequent locations at the discretion of the District. 48 hours after the initial sweeping an application of Fog Seal shall be applied to all areas chip sealed. The polymer modified Fog Seal or approved equal emulsion shall be diluted 40 percent with water. The application rate shall vary between 0.08 and 0.12 gallons per square yard as deemed necessary by the Contractor and District.



E.4 Solar Powered Gate System Requirements

Mount Umunhum Road Rehabilitation Project

**Sierra Azul Open Space Preserve
Santa Clara County, California**

Date: June 10, 2016

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Solar Powered Automatic Gate

Contractor is responsible to provide all necessary equipment, material, and work required to complete the following work:

Installation Requirements

- Install (2) gate operators.
- Gate operators shall be installed on posts and be connected via a Master / Second cable allowing the operators to open and close at the same time.
- Master / Second cable shall be installed inside of a saw cut across the driveway.
- Install batteries and associated containment; batteries compatible with solar power feed and sufficient to power gate operators.
- Install post mounted solar panels & voltage regulator sufficient to power both gate operators in designated location.
- Trench as needed to house conduit and low voltage wires connecting the solar panels and batteries.
- Install auto-exit loops approximately 50' up the roadway from the gates.
- Install infrared photo beam across gate opening, device shall fulfill UL325 requirements for automatic gates.
- Install (1) one keypad approximately 15' from the gate post and include all required wiring, undergrounding, and conduit.
- Install wireless receiver system to allow for remote access, opening of the gate system.
- Install (1) Knox Fire Department access switch, mounted on post (can be same post as keypad).
- Install (1) Intermatic EI600 seven day programmable hold open timer.
- Fill saw cut areas in roadway used to install sensor loops, wires, and backer rods.
- Install removable center post with locking latches that connect to, and lock in place when closed both gate leafs.
- Install removable protective bollards in front and behind center locking post.
- Provide operational testing.
- Furnish guarantee statement

Performance Criteria

Finished product shall provide for the following:

- Automation of both leaves of a double gate at the entry/exit for an existing parking lot.
- Installation of a solar panel and batteries, which will power both gate operators.
- Installation of a 7 day programmable timer that will open and close the gates at programmed times 7 days a week every day of the year.
- Provision of a Knox access switch for fire department access.
- Installation of an access keypad for District access/egress purposes.
- Installation of an access wireless receiver system which will allow for remote access and opening of the gate system. Remotes must be individually programmable to allow for access to only certain gates.
- Installation of a vehicle safety detection system that will prevent openings/closures of the gates when a vehicle is present on outside or inside of gate swing area and allow vehicles/motorcycles to depart when pulling up to the closed gate from the inside.

- Gate must open automatically if there is a loss of power.
- Gate must stop if it hits an obstruction.
- Gate must have override to open or close the gate by keypad operation. The override must be able to be set in an open or a closed position.
- Protective bollards must be removable, and installed at a minimum distance from the center locking post so that the bollards do not interfere with the opening or closing of the gate leafs.
- Protective bollards and center post must have capability of folding down, and must be able to withstand the weight of a vehicle traveling over.
- Gate should not be able to be pushed open when in a closed position. Provide failsafe option described below:
 - Install locking system on center post and gate leafs to ensure that when in the closed position, both gate leafs are securely locked to the center post and cannot be pushed open.
 - Locking system must automatically unlock when gates are to be opened.
- All equipment must be installed and armored to provide protection from potential vandalism.
- For Hicks Road Gate Only
 - Two fully shielded, downturned solar powered motion-triggered security lights will be installed at the gate location to improve nighttime access for District staff and neighboring property owners, as well as provide an added level of security. The lights will be mounted on a new light pole, with one light pointed down towards Hicks Road, and the other positioned down towards the Jacques Ridge parking area and up Mount Umunhum Road. Lights to be powered by the same solar powered system that powers the automatic gate system.