

DIGITAL 299 FIBER PROJECT BH2

HORIZONTAL DIRECTIONAL DRILL CONTINGENCY PLAN

Humboldt County, Shasta County & Trinity County, California

November 2021

Prepared By



Robert Stevens
415.533.1864
rstevens@cswst2.com

Prepared For



Josh Nelson
850.490.0409
jnelson@veronetworks.com

THIS PAGE IS BLANK

TABLE OF CONTENTS

1-INTRODUCTION	1
2-OBJECTIVES	2
3-BEST MANAGEMENT PRACTICES	2
4-PLAN IMPLEMENTATION	3
4.1 Drilling Procedures.....	3
4.1.1 Inadvertent Release	3
4.1.2 Prior to Construction.....	3
4.1.3 During Construction.....	4
4.2 NOTIFICATIONS, MONITORING, AND DOCUMENTATION PROCEDURES	5
4.2.1 Monitoring Procedures	5
4.2.2 Notification	6
4.2.3 Documentation	6
4.2.4 Corrective Actions	7
4.3 CONTACT INFORMATION.....	7

APPENDICES

Appendix A: Plan and Profile

Appendix B: Contact Information for Contractors

Appendix C: Inspection Forms

1-INTRODUCTION

This Horizontal Directional Drill Contingency Plan (Plan) discusses how Vero Fiber Networks and its contractors will implement procedures to minimize impacts from an inadvertent release during horizontal directional drilling (HDD) during construction of the Digital 299 Fiber Project BH2 (Project).

The Project includes installation of approximately 183 miles of fiber optic cable, mostly buried along existing roads. New road construction is not proposed. Construction of the Proposed Action would be in two phases, the first phase including construction of the middle-mile fiber optic facilities and vaults, which would be entirely buried.

The project must cross numerous culverted blue line streams and open channels waterways. To avoid impacting environmental resources, the project will install the conduits below the waterways using the HDD method or bridge attachment. There will be no trenching through waterways. Table 1 is a list of open channel waterways crossed via HDD.

Table 1. Open Channel Waterway Crossings

Waterbody I.D.	Segment	Waterbody	Location	
			Latitude	Longitude
AQ-40	1	McDaniel Slough	40°52'55"	124°05'30"
AQ-68	2	Lindsay Creek	40°54'10"	124°01'46"
AQ-78	3	North Fork Mad River	40°52'13"	123°57'41"
AQ-113	6	Windy Creek	40°53'21"	123°47'32"
AQ-131	7	East Fork Willow Creek	40°54'30"	123°42'28"
TBD	14A	Big French Creek	40°46'48"	123°18'34"
AQ-294	14	Trinity River	40°44'19"	123°15'08"
AQ-307	17	No Name	40°45'27"	123°09'02"
AQ-318	18	Trinity River	40°45'35"	123°05'39"
AQ-360	20	East Weaver Creek	40°44'19"	122°55'33"
AQ-447	23	French Gulch	40°41'52"	122°38'18"
AQ-488	28	Canyon Hallow Creek	40°33'11"	122°23'18"
n/a	28	Oregon Gulch	40°32'47"	122°23'13"
AQ-489	28	Anderson Cottonwood Canal	40°32'17"	122°23'08"
AQ-490	28	Olney Creek	40°31'40"	122°23'00"
AQ-496	25	Spring Gulch	40°28'00"	122°19'29"
AQ-499	28	Anderson Creek	40°26'51"	122°17'48"
AQ-503	29	Anderson Cottonwood Canal	40°23'48"	122°16'24"

This project requires approval from the California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement (SAA) as well as a State of California Department of Transportation encroachment permit.

2-OBJECTIVES

This Plan has been prepared to provide methods and procedures that will minimize the impacts associated with the HDD activities. The HDD practices and construction methods presented in this Plan are intended to accomplish the following objectives:

- To avoid direct impacts to creek crossings during the rainy season using HDD techniques and in a manner that does not result in sediment-laden discharge or hazardous materials release into waters.
- To address procedures for containing an inadvertent release of drilling fluid (frac-out) during HDD activities.
- To coordinate HDD activities with the CDFW in accordance with the Section 1602 SAA.

3-BEST MANAGEMENT PRACTICES

The contractor will implement several Best Management Practices (BMP) to protect the slough including:

1. Site preparation shall begin no more than 10 days prior to initiating horizontal bores to reduce the time soils are exposed adjacent to creeks and drainages.
2. Trench and/or bore pit spoil shall be stored a minimum of 50 feet from the top of the bank or wetland/riparian boundary. Spoils shall be stored behind a sediment barrier and covered with plastic or otherwise stabilized (i.e., tackifiers, mulch, or detention).
3. Portable pumps and stationary equipment located within 100 feet of a water resource (i.e., wetland/riparian boundary, creeks, and drainages) shall be placed within secondary containment with adequate capacity to contain a spill (i.e., a pump with 10-gallon fuel or oil capacity should be placed in secondary containment capable of holding 15 gallons). A spill kit shall be maintained on site at all times.
4. Immediately following backfill of the bore pits, disturbed soils shall be seeded and stabilized to prevent erosion, and temporary sediment barriers shall be left in place until restoration is deemed successful.
5. The applicant shall obtain the required permits prior to conducting creek crossing work, namely a CDFW Lake and Streambed Alteration Agreement (pursuant to Section 1602 of the California Fish and Game Code). The applicant shall implement all pre- and post-construction conditions identified in the permits issued.
6. All slurry mix material will be stored in water tight containers or beneath coverings.
7. Contract shall have the project biologist conduct clearance surveys for special-status plan species immediately prior to construction in appropriate habitat. A biological monitor shall be responsible for designating an appropriate buffer area or bore depth to minimize potential adverse impacts to the plants and their roots. If re-alignment is required on BLM-, USFS-, or Whiskeytown National Recreation Area managed lands, the agency botanist must be contacted prior to work.
8. Construction activities shall not occur within perennial aquatic habitats.

4-PLAN IMPLEMENTATION

The HDD methodology will be utilized on this Project to bore at different locations along the fiber optic line. Bore pits will be located on each side of the proposed bore segment. Boring depths will vary depending on the location and should not exceed 20 feet below grade.

This document includes descriptions of construction methods and drilling procedures, spill prevention measures, notification, documentation, and corrective action procedures. While avoiding impacts to sensitive resources, HDD has the potential to inadvertently release drilling fluids, but properly managed released material can be contained, removed and disposed of safely.

4.1 Drilling Procedures

HDD are technically advanced procedures that involve trenchless drilling to minimize impacts to sensitive habitats and waterways. The HDD process uses a combination of water and bentonite slurry (naturally occurring clay) for drilling fluids. The non-hazardous mixture consists of a combination of active clay, inert solids and water. The fluid is prepared in a mixing tank and is pumped through the center of the drill pipe to the cutters. The fluid is pumped at rates of 100 gallons per minute (gpm) to 1,000 gpm. The fluid used during this process acts as a coolant and a lubricant during the drilling process and removes the cuttings and stabilizes the borehole. The cuttings are returned to the entry pit where it is pumped to processing equipment. The fluid is cleaned and recycled while the cuttings are disposed of at an approved disposal facility.

4.1.1 Inadvertent Release

The process of HDD can cause drilling fluid to be released during installation, which can occur when pressure in the drill hole is not maintained and a loss of circulation of drilling fluids occurs. Drilling fluid loss is typical in small amounts when layers of soil, gravel, and rocks are encountered and the drilling fluid fills voids in the materials; however, there is a potential for the inadvertent release of drilling fluid. Drilling fluid release is usually caused by the drill hole pressure going beyond the containment capacity due to fractures in bedrock or other significant voids in geologic strata that allows fluids to surface. A good indicator that a significant amount of loss has occurred is when the returning drilling fluid volume is significantly lower than the pumping fluid volume. The following provides the steps that will be taken in an effort to avoid an inadvertent release of HDD fluid.

4.1.2 Prior to Construction

All sediment and erosion control measures will be installed by the contractor. The measures include the following:

- Storm drain inlets will be protected.
- Large diameter fiber rolls (straw wattles) will be placed around proposed work areas.
- Silt fencing will be placed as needed.
- A site entrance and exit will be established to avoid track out.
- The site will be evaluated for areas that have potential for inadvertent release of fluids (dry and cracked soils) and an inventory of proper drilling fluids and equipment will be on site to deal with the potential problem areas.
- Containment areas will be set up for equipment, drilling fluids, and cuttings storage. Containment

areas consist of some type of plastic sheathing formed with straw waddles to form a pit like area.

- Spill kits and cleanup materials, as described in Section 4.1.5 Spill Kit Equipment, will be available on site prior to any construction activities.
- The BMPs, emergency spill kit, and the Frac-Out kit will be staged nearby for immediate spill response.

4.1.3 During Construction

- All equipment within 100 feet from any drainage or other water resource will be placed in a double containment area.
- Drilling fluid and any waste will be contained in containment areas and stored in storage tanks.
- Spoil stockpiles will be stored behind a sediment barrier and covered with a plastic sheathing. Spoils will be stored at least 50 feet from any waterbodies.
- Monitoring of fluid pressure, bore paths, and water bodies will continue during the duration of the construction activities by the Qualified Drilling Monitor (see Section 4.2 Notifications, Monitoring, and Documentation Procedures for monitoring and documentation procedures).
- A vacuum truck with sufficient hoses to reach all areas along the bore alignment will be staged on site prior to and during all drilling operations for emergency response. If workspace does not permit a vacuum truck to be staged on site, the truck will be readily available at a nearby work location or staging area via on-call procedures.
- An interim pump will be on site to reach low areas and assist the vacuum truck.
- Good housekeeping procedures will be maintained during construction at all times. Tailboard meetings will be held before work each day to discuss housekeeping and safety along with other topics.

4.1.4 Post Construction

- Following completion of trenchless excavation activities for the Project, all cuttings and other spoils will be hauled off site to an approved facility.
- All drilling fluids will be removed and hauled off site to an approved facility throughout construction; however, all drilling fluids, cuttings, and spoil piles associated with trenchless excavation activities for the Project will be removed upon completion of those activities.
- All pre-construction sediment and erosion control measures described previously will continue to remain in place and will be monitored until the site has been stabilized and the spoils have been removed.

4.1.5 Spill Kit Equipment

The materials provided in the Emergency Spill Kit may include the following items:

- Three (3) absorbent socks
- Six (6) disposal bags and ties
- Two (2) pair of safety glasses
- Two (2) pair of rubber gloves
- One (1) sorbent drip pillow
- Twelve (12) sorbent pads
- One (1) Emergency Response Guidebook

- Two (2) sorbent spill pillows
- Four (4) hazardous labels
- One (1) bag Lite-Dri Absorbent
- One (1) shovel & 1 broom
- Absorbent skipper booms
- One (1) 55-gallon storage barrel

The materials provided in the Frac-Out Kit may include the following items:

- One hundred (100) sand bags
- Vacuum truck with sufficient length of vacuum hose
- Intermediate pump
- Hundred (100) feet of fiber rolls
- Twenty (20) straw bales
- Two (2) shovels
- Lumber
- One (1) 3,000-gallon tank for storage of released material

4.2 NOTIFICATIONS, MONITORING, AND DOCUMENTATION PROCEDURES

As identified in the Project plans, and the Project's federal, state and local permits, HDD locations will be monitored, in Section 4.2.1 Monitoring Procedures of this Plan, until the sites are stabilized and the spoils have been removed.

4.2.1 Monitoring Procedures

During drilling operations, the drilling contractor will have a Qualified Drilling Monitor present on site, who will perform the following activities:

- Visually inspect the bore path at the completion of each joint and inspect 100 feet upstream and downstream along bore alignment.
- Monitor drilling mud pressures and return flows. Shut down drilling operations immediately if more than 2% of the total fluid volume in circulation is lost during the drilling of one (1) joint (30 feet max).
- Visually inspect the bore alignment and a 100-foot radius around the HDD operation.
- If drilling fluids begin to decline, two (2) crew members will continue to monitor until drilling fluid returns are stabilized.
- Communicate regularly regarding the drilling conditions during the course of the drilling activities.
- Inspect all stream crossings with flowing water.
- Monitoring for frac-outs shall continue 48 hours after all the drilling and reaming is completed.
- Contain all drilling fluids and cuttings for proper disposal at an approved facility.

A daily inspection form with hourly inspection intervals is included in Attachment B: Inspection Forms.

Prior to the commencement of drilling operations, the environmental monitor will identify any sensitive environmental resources located in the area of potential frac-out. The location of these resources will be communicated to the drilling contractor verbally.

An environmental monitor will be present at all times when HDD activities are being performed. As discussed in Section 4.2.4 Corrective Actions, in the event of an inadvertent release outside of the approved work area, the construction contractor will conduct cleanup and inspections of the area via foot when feasible and, if it is safe to do so, will be accompanied by the appropriate environmental, archeological, and biological monitor(s).

4.2.2 Notification

In the event that an inadvertent release is discovered, the required notifications will be made according to the Project's permits and plans. Specifically, as required by the Project's Section 404, 401, and 1602 permits, the United States Army Corps of Engineers, Regional Water Quality Control Board, CDFW, and CPUC will be notified of any inadvertent release impacting jurisdictional waters. The notification(s) will be made as soon as an impact to a resource has been identified and sufficient data has been gathered to release the report. Vero Fiber Networks will endeavor to make the required notifications by phone or in writing within 24 hours following discovery of the release, if feasible.

4.2.3 Documentation

In the event that an inadvertent release is discovered, the following information will be documented:

- Name and telephone number of the person reporting release
- Date and time of release
- Location of release
- Nature of the release (type, quantity, size, etc.)
- How the release occurred
- Type of activity occurring around area
- Description of sensitive areas and their location in relation to the release
- Any identified impacts to biological, cultural, or paleontological resources
- Corrective actions taken
- Information regarding the potential threat to public health and safety (if any)

After the information detailed previously has been gathered, Vero Fiber Networks will provide the appropriate information in writing within 48 hours to the requisite agencies, as discussed in Section 4.2.2 Notification. However, in the event that the information cannot be gathered and/or cleanup activities are not completed within 48 hours, a final report documenting the information discussed in Section 4.2.2 Notification will be submitted to the requisite agencies as soon as practicable.

4.2.4 Corrective Actions

In the event that an inadvertent release/frac-out is discovered, the following corrective actions will take place:

- Drilling operations will stop immediately.
- Notification procedures will be implemented.
- The material will be removed and/or contained to minimize the affected area. Environmental monitors will be on site at all times while HDD activities are performed to ensure environmental requirements are met for removals in sensitive areas.
- The spill kit equipment will be kept on a trailer to facilitate rapid response to the site of the inadvertent release.
- The least damaging equipment (i.e. vacuum truck and sandbags) and techniques will be used to clean up the spill. In the event that cleanup of an unanticipated release is necessary outside of the approved Project area and procedures beyond the use of foot traffic are required, the equipment and access route to be utilized for cleanup activities will be approved by CPUC prior to the completion of these activities, if feasible. However, the primary objective of the contractor in the event of a release will be to secure the site to prevent harm to human health and the environment.
- Impacted soils and any other materials associated with spill containment will be removed as soon as practical to an approved disposal facility.

4.3 CONTACT INFORMATION

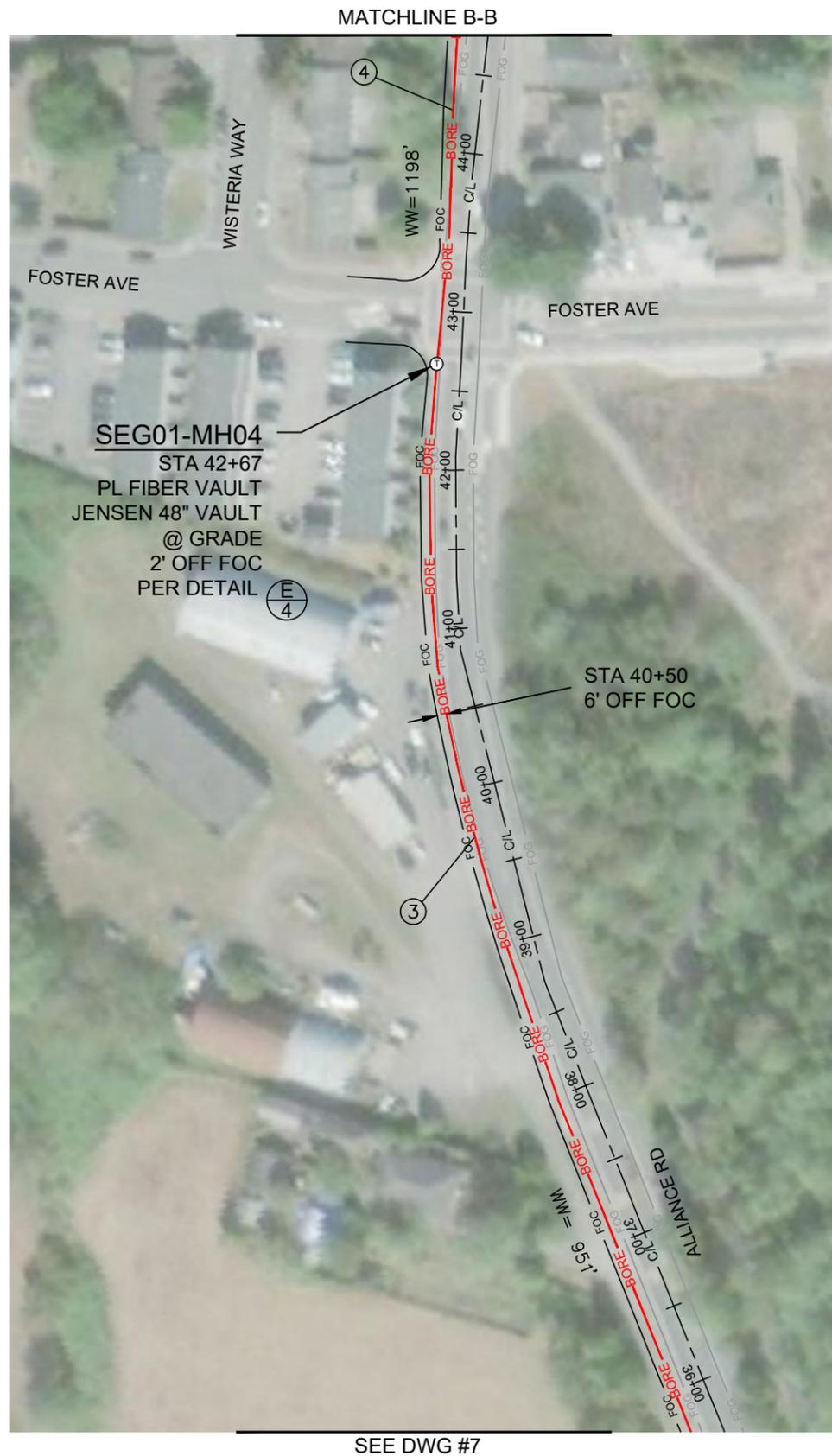
The following table lists the individuals responsible for implementation of this Plan during construction.

Company/Organization	Name/Title	Telephone Number
Vero Fiber Networks	Josh Nelson, Project Manager	850.490.0409
Contractor	See Appendix B	See Appendix B
CSW ST2	Robert Stevens, Project Manger	415.533.1864
CSW ST2	Julia Harberson, Project Engineer	415.599.9564

APPENDIX A

PLAN AND PROFILE

SEGMENT 01



SEE DWG #7



MATCHLINE B-B

PLACEMENT NOTES:

- ③ SEG01-MH03 STA 22+22
SEG01-MH04 STA 42+67
BORE ON DWG# 6
⑤ 1" SDR11 DUCTS
MIN DEPTH 42"
PER DETAIL (D/3)
- ④ SEG01-MH04 STA 42+67
SEG01-MH05 STA 64+57
BORE 1198'
⑤ 1" SDR11 DUCTS
MIN DEPTH 42"
PER DETAIL (D/3)

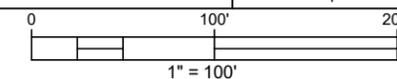
CSW ST2

CSW/Stuber-Strook
Engineering Group, Inc.
41 Leavelle Court, Arcata, CA 95521
Phone: 415-599-9564 Fax: 415-599-9565

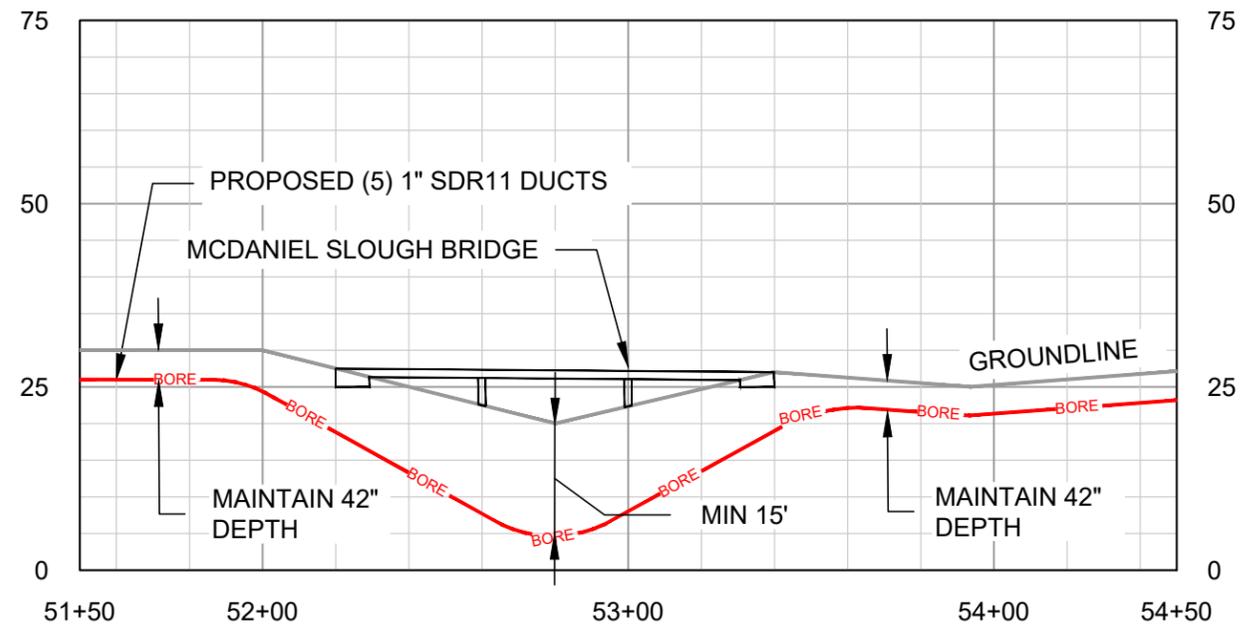
JOB NO. D299 - SEGMENT 1
LOCATION ARCATA, CA
ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
TYPE OF CONST
DUCT PLACEMENT
DWG 7 OF 15

VERSION
02-26-2021



VERO
Fiber Networks



PROFILE VIEW - MCDANIEL SLOUGH - STA 51+50 TO 54+50
 SCALE: HOR. 1" = 50' VERT. 1" = 25'



JOB NO. D299 - SEGMENT 1
 LOCATION ARCATA, CA
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 16 OF 16

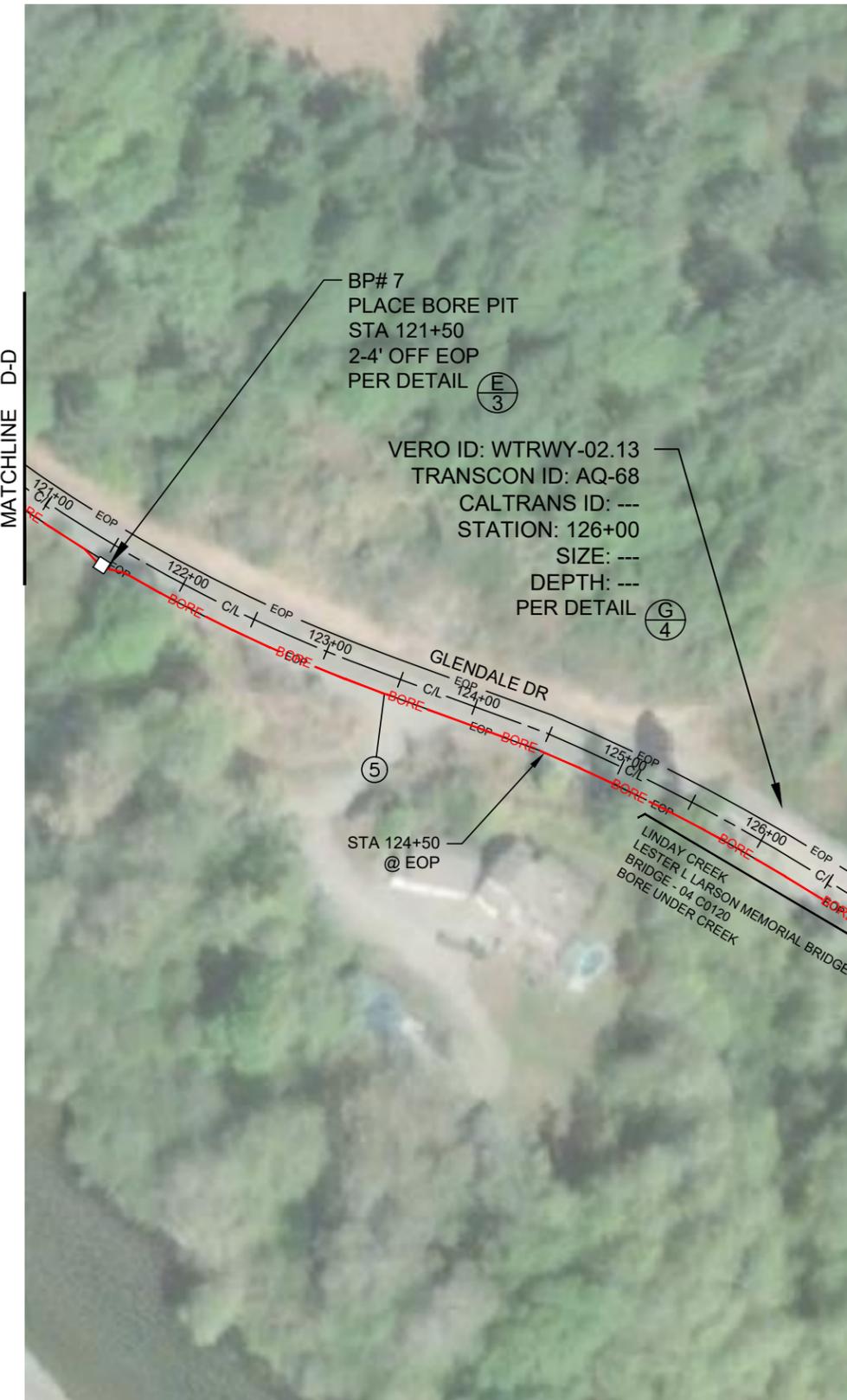
VERSION
 02-26-2021



SEGMENT 02



MATCHLINE D-D



SEE DWG #15

- PLACEMENT NOTES:**
- ⑤ SEG02-MH04 STA 108+16
 - SEG02-MH05 STA 134+85
 - BORE ON DWG# 11
 - ⑤ 1" SDR11 DUCTS
 - PER DETAIL (D/3)



JOB NO. D299 - SEGMENT 02
 LOCATION HUMBOLDT COUNTY - ARCATA TO BLUE LAKE
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 12 OF 31

VERSION
 02-26-2021





PLACEMENT NOTES:

- ⑤ SEG02-MH04 STA 108+16
 SEG02-MH05 STA 134+85
 BORE ON DWG# 11
 (5) 1" SDR11 DUCTS
 PER DETAIL (D/3)

- ⑥ SEG02-MH05 STA 134+85
 SEG02-MH06 STA 12+40
 BORE 2406'
 (5) 1" SDR11 DUCTS
 PER DETAIL (D/3)

SEE DWG #14

SEE DWG #16

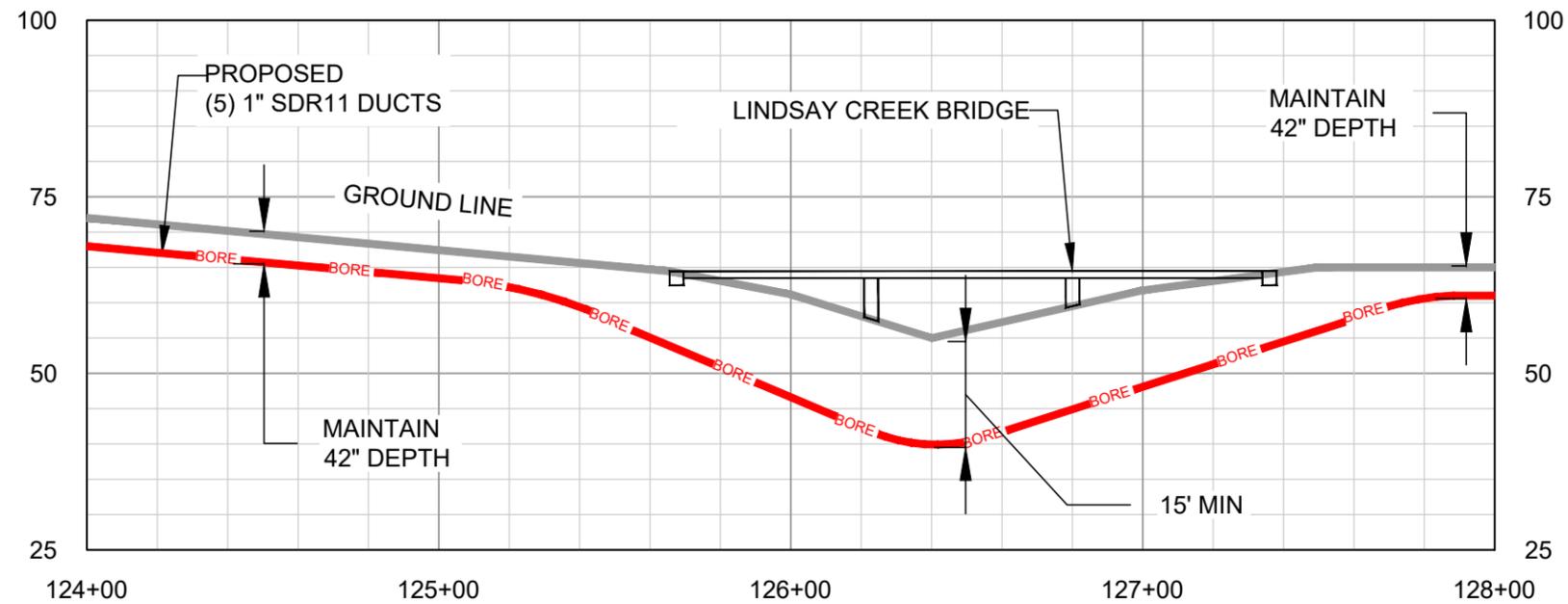


JOB NO. D299 - SEGMENT 02
 LOCATION HUMBOLDT COUNTY - ARCATA TO BLUE LAKE
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 13 OF 31

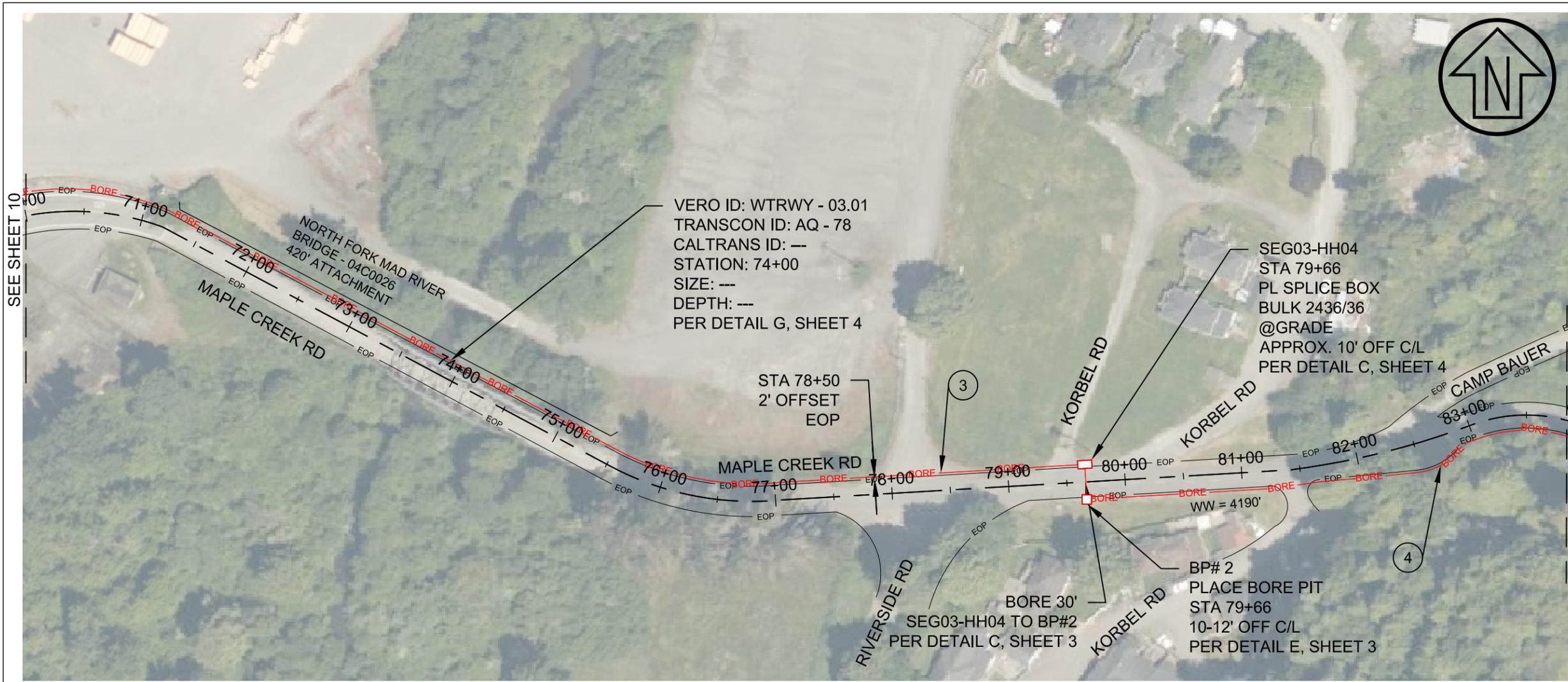
VERSION
 02-26-2021





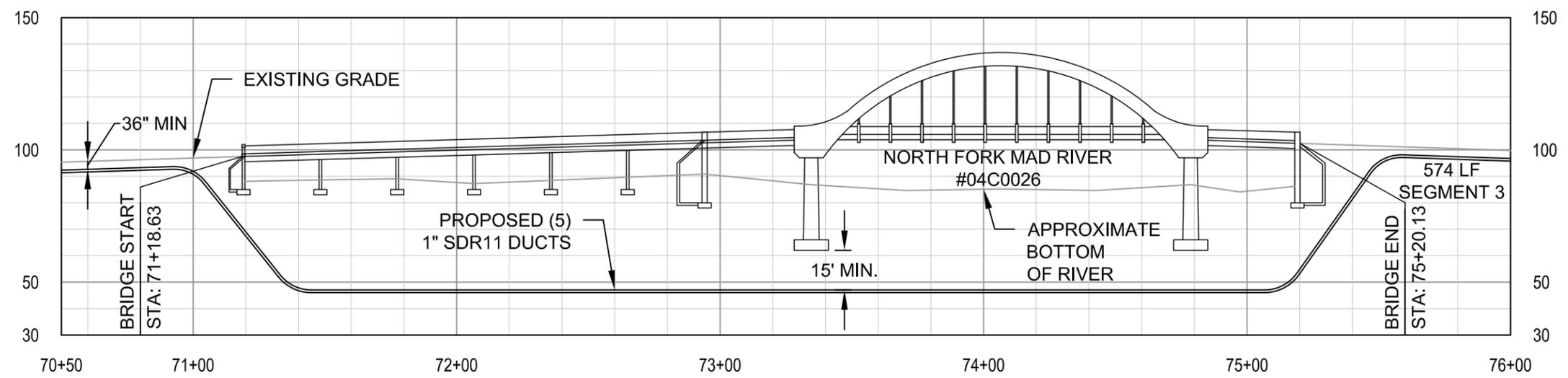
PROFILE - LINDSAY CREEK CROSSING - STA 124+00 TO 128+00
 SCALE: HOR. 1" = 50' VERT. 1" = 25'

SEGMENT 03



PLACEMENT NOTES:

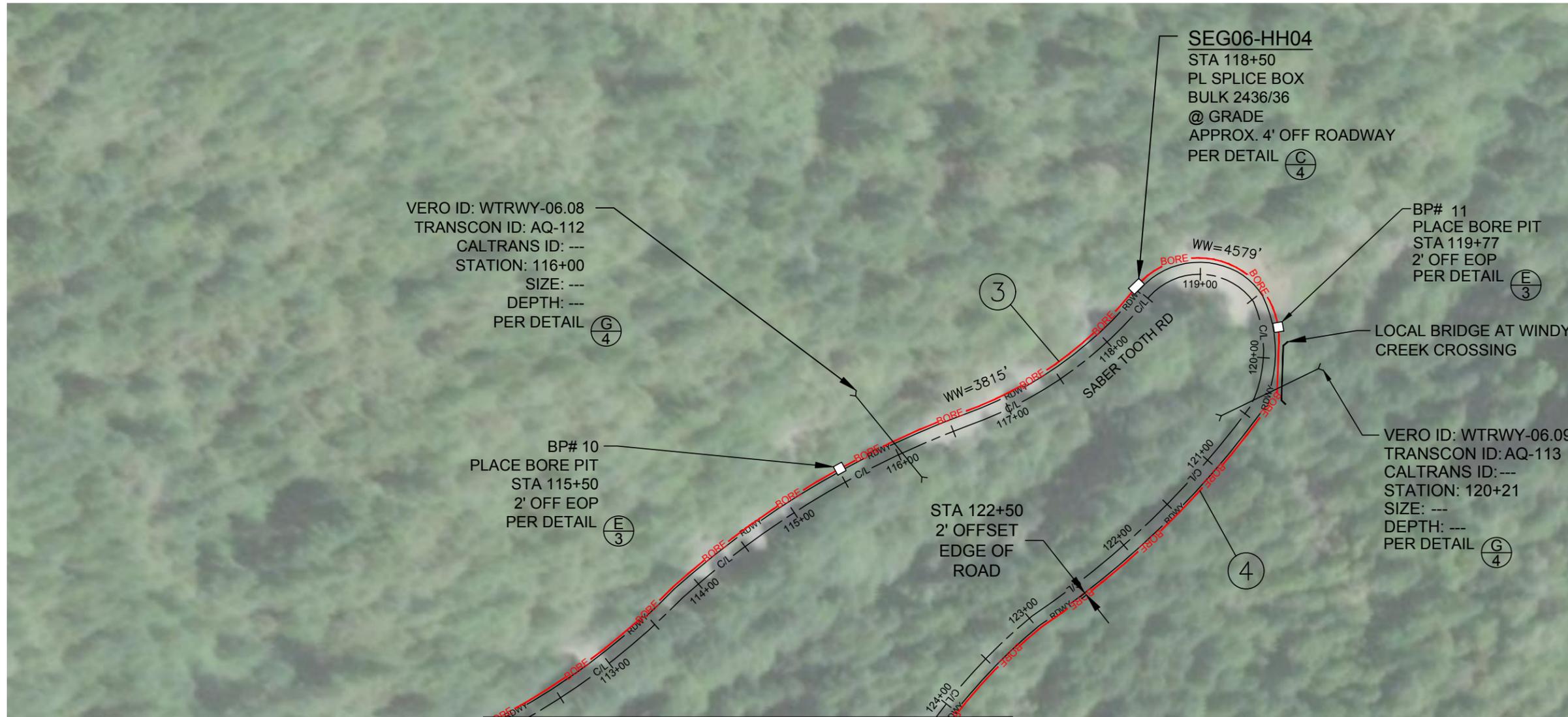
- ③ SEG03-HH03 STA 63+35
SEG03-HH04 STA 79+66
BORE ON SHEET 10
(5) 1" SDR11 DUCTS
PER DETAIL C, SHEET 3
- ④ SEG03-HH04 STA 79+66
SEG03-HH05 STA 121+36
BORE 4190'
(5) 1" SDR11 DUCTS
PER DETAIL C, SHEET 3



NORTH FORK MAD RIVER
SCALE: HOR. 1" = 50' VERT. 1" = 50'

	JOB NO. <u>D299 - SEGMENT 03</u>	SUBJECT TRENCH ALIGNMENT	VERSION 02-19-2021		
	LOCATION <u>HUMBOLDT COUNTY - HWY 299 TO KOREBLE ON TO BLUE LAKE</u>	TYPE OF CONST DUCT PLACEMENT			
ENGR <u>JULIA HARBERSON</u>	TEL <u>415-599-9564</u>	DWG <u>11</u> OF <u>98</u>			

SEGMENT 06



PLACEMENT NOTES:

- ③ SEG06-HH03 STA 80+05
SEG06-HH04 STA 118+50
BORE ON DWG# 9
⑤ 1" SDR11 DUCTS
MIN 42" COVER
PER DETAIL (D/3)
- ④ SEG06-HH04 STA 118+50
SEG06-HH05 STA 164+28
BORE 4579'
⑤ 1" SDR11 DUCTS
MIN 42" COVER
PER DETAIL (D/3)

VERO ID: WTRWY-06.08
TRANSCON ID: AQ-112
CALTRANS ID: ---
STATION: 116+00
SIZE: ---
DEPTH: ---
PER DETAIL (G/4)

BP# 10
PLACE BORE PIT
STA 115+50
2' OFF EOP
PER DETAIL (E/3)

STA 122+50
2' OFFSET
EDGE OF ROAD

SEG06-HH04
STA 118+50
PL SPLICE BOX
BULK 2436/36
@ GRADE
APPROX. 4' OFF ROADWAY
PER DETAIL (C/4)

BP# 11
PLACE BORE PIT
STA 119+77
2' OFF EOP
PER DETAIL (E/3)

LOCAL BRIDGE AT WINDY CREEK CROSSING

VERO ID: WTRWY-06.09
TRANSCON ID: AQ-113
CALTRANS ID: ---
STATION: 120+21
SIZE: ---
DEPTH: ---
PER DETAIL (G/4)

SEE DWG #11

CSW ST2

CSW/Stuber-Strook
Engineering Group, Inc.
41 Leavelle Court, Suite 415
Humboldt, CA 99901
Tel: 415-599-9564

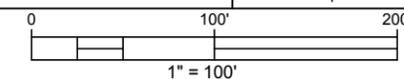
JOB NO. D299 - SEGMENT 6 - SABER TOOTH RD
LOCATION HUMBOLDT COUNTY - SABER TOOTH RD
ENGR JULIA HARBERSON TEL 415-599-9564

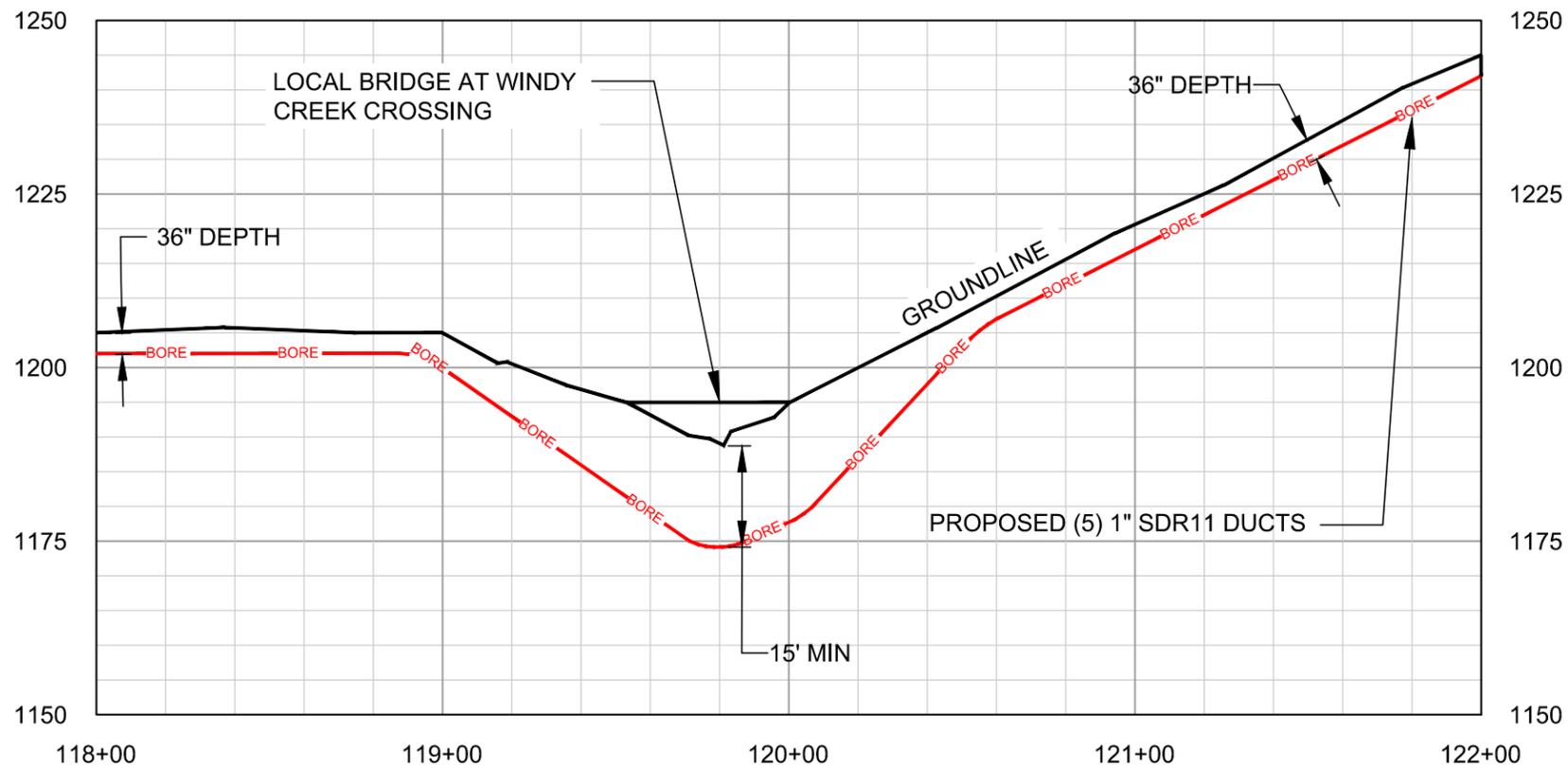
SUBJECT
TRENCH ALIGNMENT

TYPE OF CONST
DUCT PLACEMENT

DWG 12 OF 22

VERSION
02-26-2021



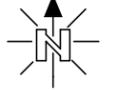
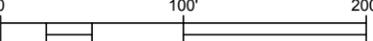


PROFILE VIEW - 12 - STA 118+00 TO 122+00
 SCALE: HOR. 1" = 50' VERT. 1" = 25'



JOB NO. D299 - SEGMENT 6 - SABER TOOTH RD
 LOCATION HUMBOLDT COUNTY - SABER TOOTH RD
 ENGR JULIA HARBERSON TEL 415-599-9564

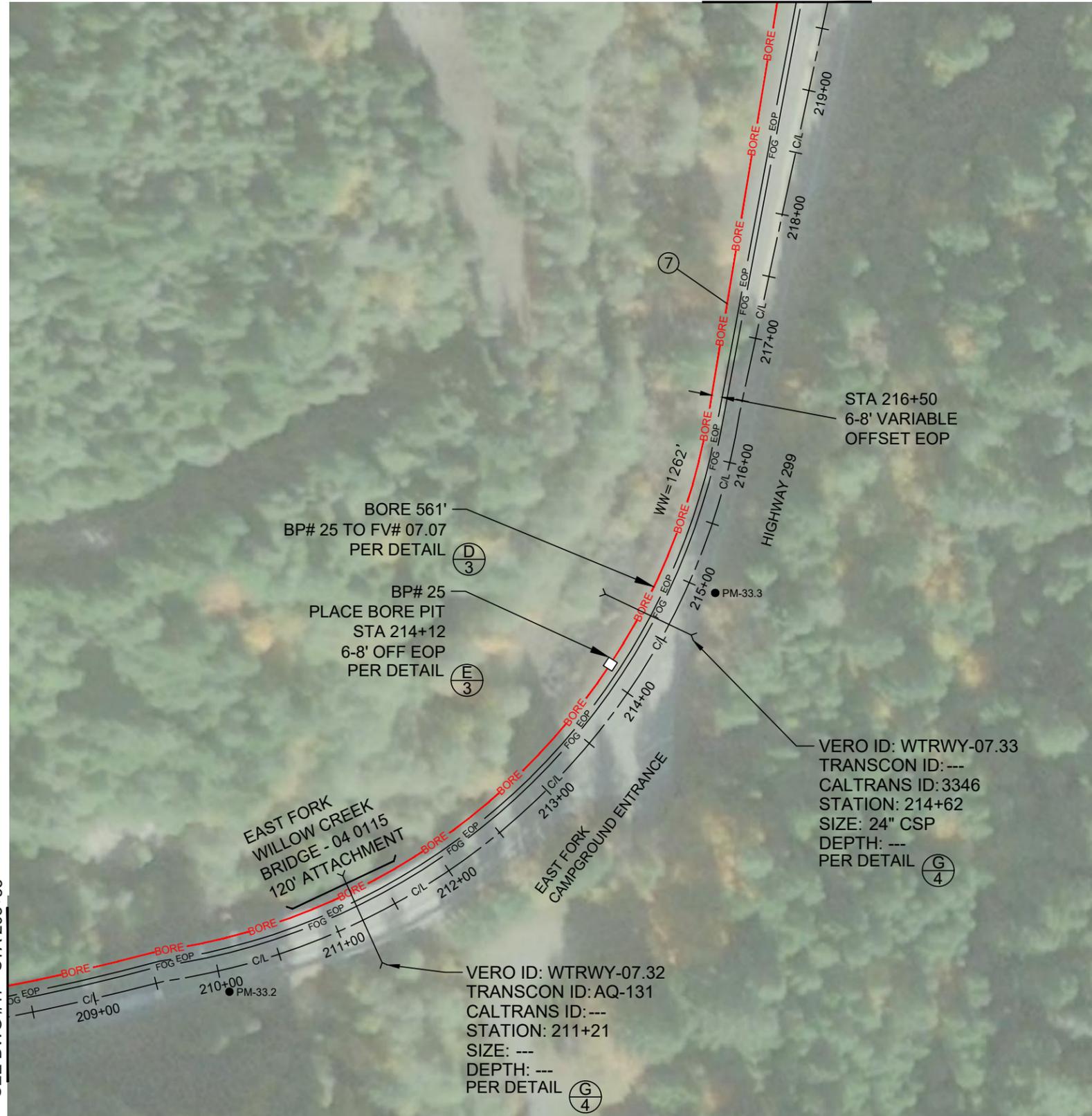
SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 23 OF 23

VERSION
 02-26-2021


 1" = 100'



SEGMENT 07

SEE DWG #19 - STA 219+68



VIEWPORT 18 SEE PROFILE DWG# 49

PLACEMENT NOTES:

- ⑦ SEG07-MH06 STA 206+90
SEG07-MH07 STA 219+82
BORE ON DWG# 17
- ⑤ 1" SDR11 DUCTS
MIN 42" COVER
PER DETAIL (D/3)

SEE DWG #17 - STA 208+35

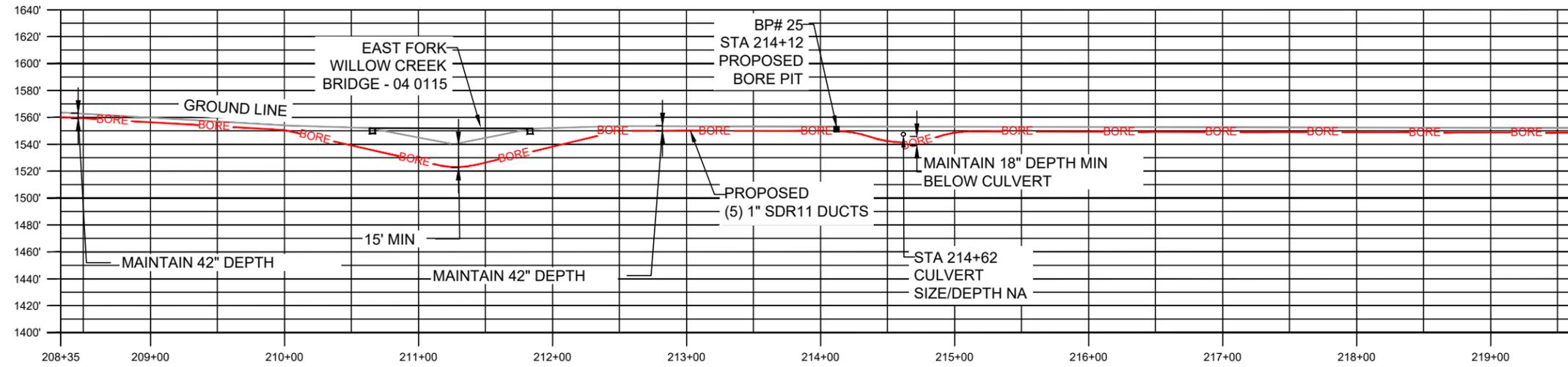


JOB NO. D299 - SEGMENT 7
 LOCATION HWY 299-COUNTY RTE 7K100 TO WILLOW CREEK
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT **TRENCH ALIGNMENT**
 TYPE OF CONST **DUCT PLACEMENT**
 DWG 18 OF 62

VERSION
02-26-2021





PROFILE - 18
 LOOKING WEST
 1:100 SCALE



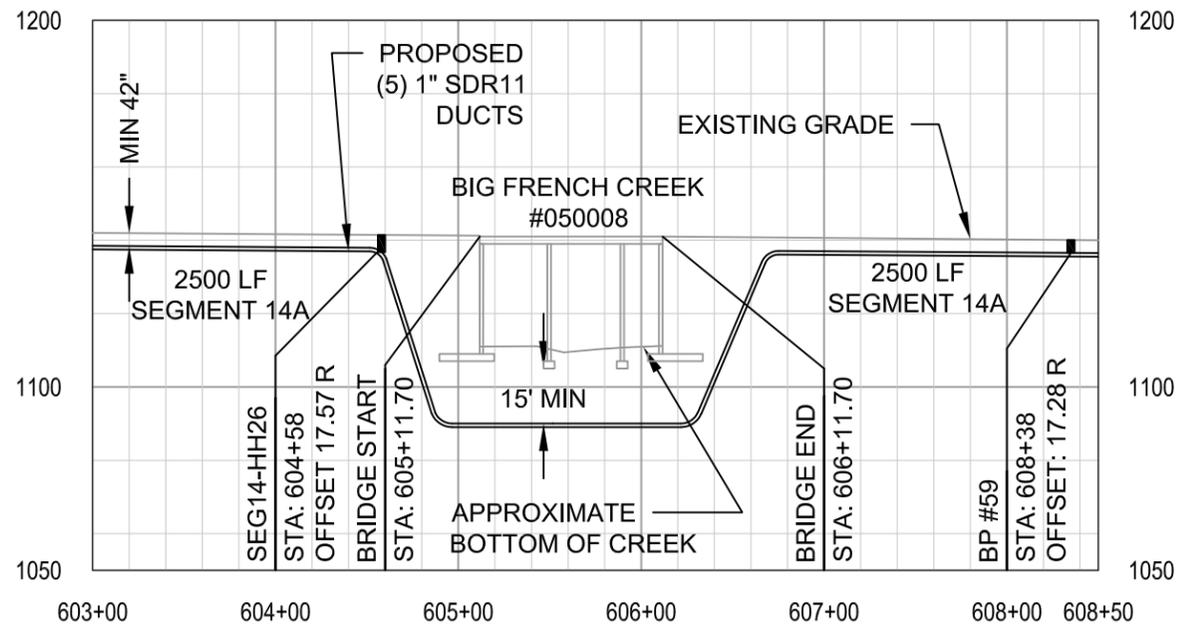
JOB NO. D299 - SEGMENT 7
 LOCATION HWY 299-COUNTY RTE 7K100 TO WILLOW CREEK
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 49 OF 62

VERSION
 02-26-2021



SEGMENT 14A



BIG FRENCH CREEK
SCALE: HOR. 1" = 10' VERT. 1" = 5'

PLACEMENT NOTES:

26 SEG14-HH25 STA 579+56
SEG14-HH26 STA 604+58
BORE 2500'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL **D**
3

27 SEG14-HH26 STA 604+58
SEG14-HH27 STA 630+08
BORE 2500'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL **D**
3

VERO ID: WTRWY-14.59
TRANSCON ID: ---
CALTRANS ID: ---
STATION: 605+94
SIZE: UNK
DEPTH: UNK
PER DETAIL **G**
4

SEG14-HH26
STA 604+58
PL SPLICE BOX
BULK 2436/36
@ GRADE
APPROX 2' OFF EOP
PER DETAIL **C**
4

BP# 59
PLACE BORE PIT
STA 608+38
2' OFF EOP
PER DETAIL **E**
3

BP# 58
PLACE BORE PIT
STA 595+47
2' OFF EOP
PER DETAIL **E**
3

MATCHLINE
SEE SHEET 39

MATCHLINE
SEE SHEET 37

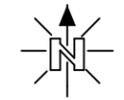
CSW | ST2

CSW/Stuber-Strook
Engineering Group, Inc.
45 Levental Court Tel: 415.953.6800
Novato, CA 94946 Fax: 415.953.9535

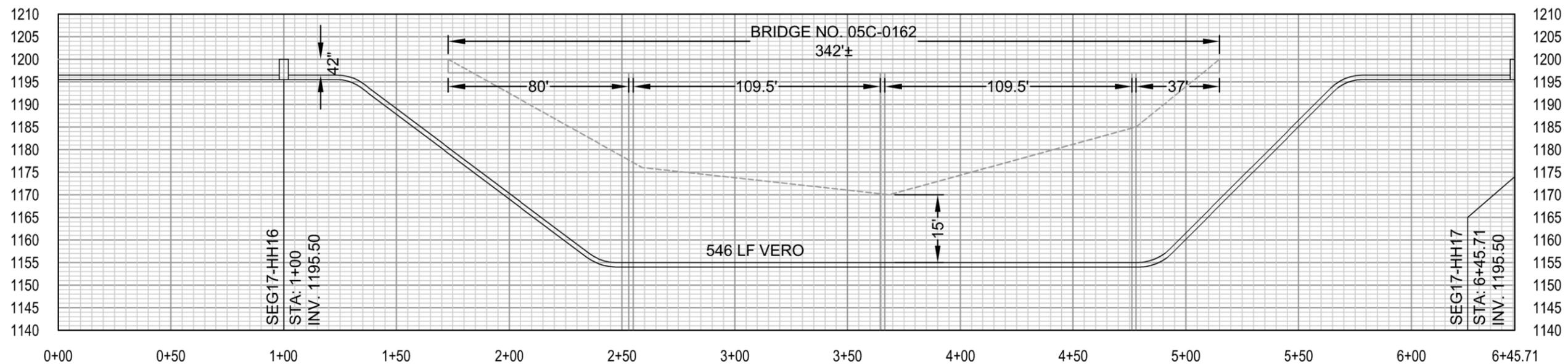
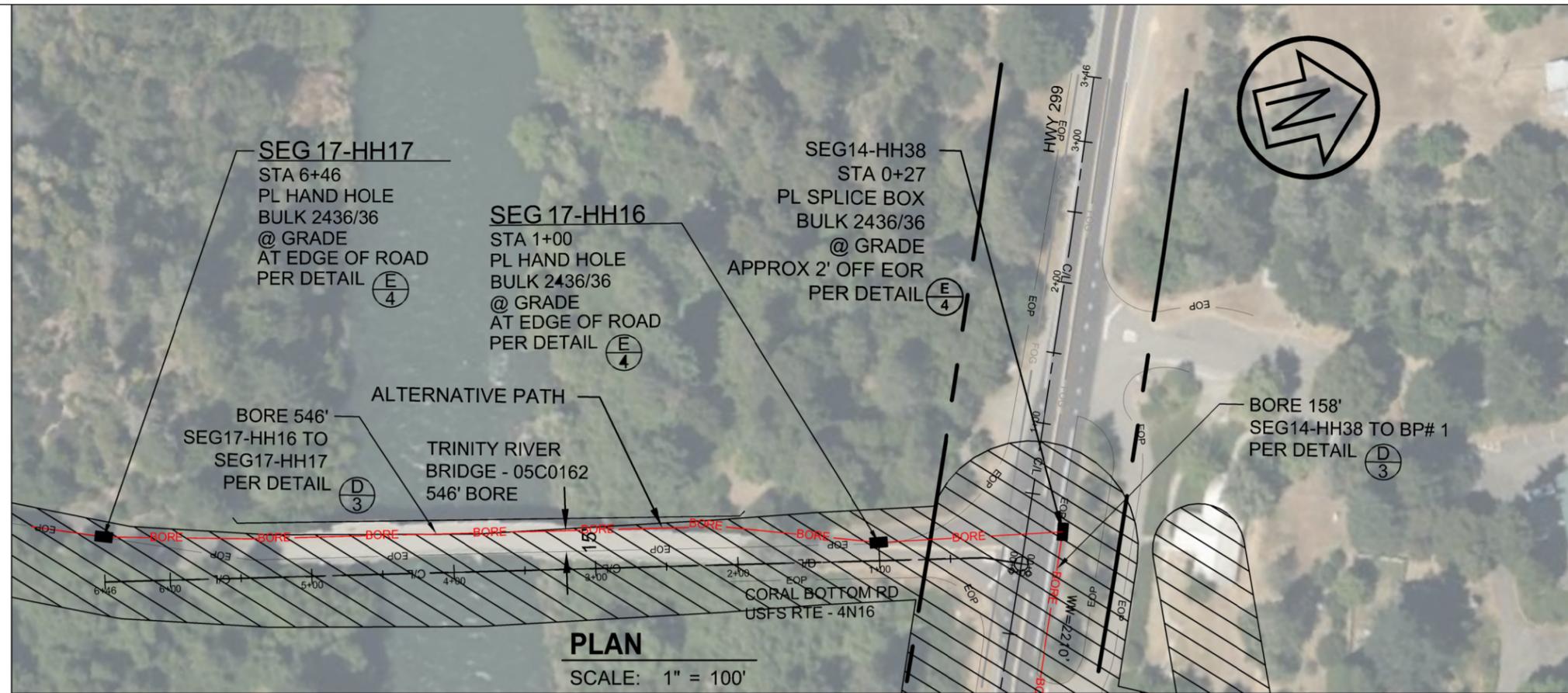
JOB NO. D299 - SEGMENT 14
LOCATION HWY 299 BETWEEN BURNT RANCH AND BIG BAR
ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT
TRENCH ALIGNMENT
TYPE OF CONST
DUCT PLACEMENT
DWG 38 OF 93

VERSION
02-26-2021
0 100' 200'
1" = 100'

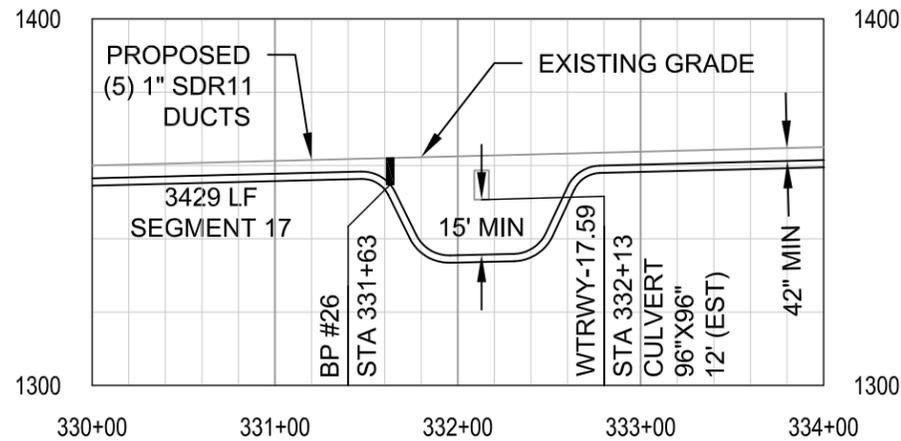


SEGMENT 14



CORRAL BOTTOM RD BRIDGE
 SCALE: HOR. 1" = 10' VERT. 1" = 5'

SEGMENT 17



BOX CULVERT
SCALE: HOR. 1" = 10' VERT. 1" = 5'

SEE DWG #28 - STA 341+93

SEG17-MH13
STA 341+35
PL FIBER VAULT
JENSEN 48" VAULT
@ GRADE
8-10' OFF EOP
PER DETAIL (E) 4

- PLACEMENT NOTES:**
- (13) SEG17-MH12 STA 307+00
SEG17-MH13 STA 341+35
BORE 3429'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL (D) 3
 - (14) SEG17-MH13 STA 341+35
SEG17-MH14 STA 369+28
BORE 2825'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL (D) 3

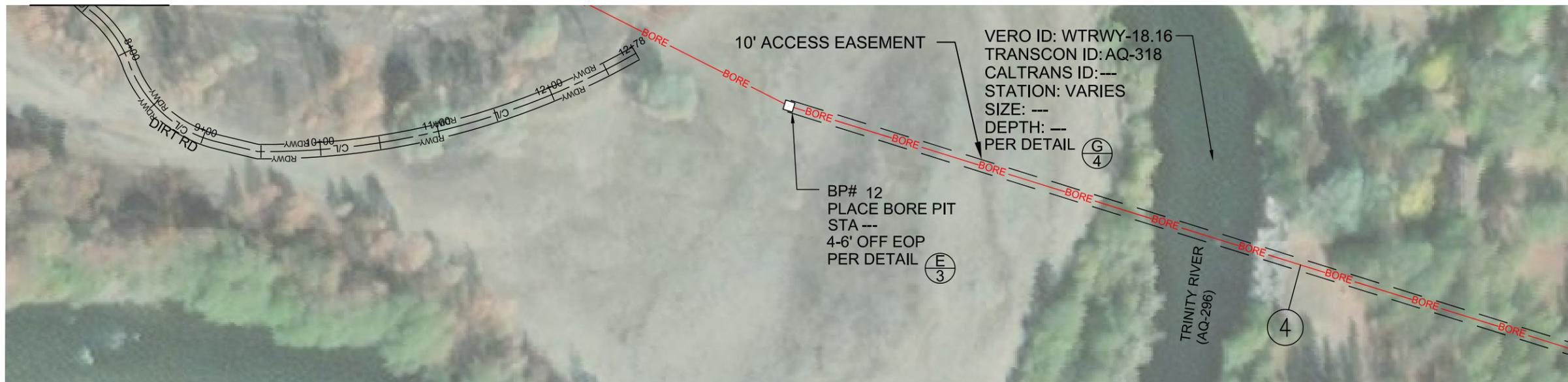
VERO ID: WTRWY-17.59
TRANSCON ID: AQ-307
CALTRANS ID: 251
STATION: 332+13
SIZE: 96"X96"
DEPTH: 12' EST
PER DETAIL (G) 4

BP# 26
PLACE BORE PIT
STA 331+63
1-2' OFF EOP
PER DETAIL (E) 3

SEE DWG #26 - STA 327+30

SEGMENT 18

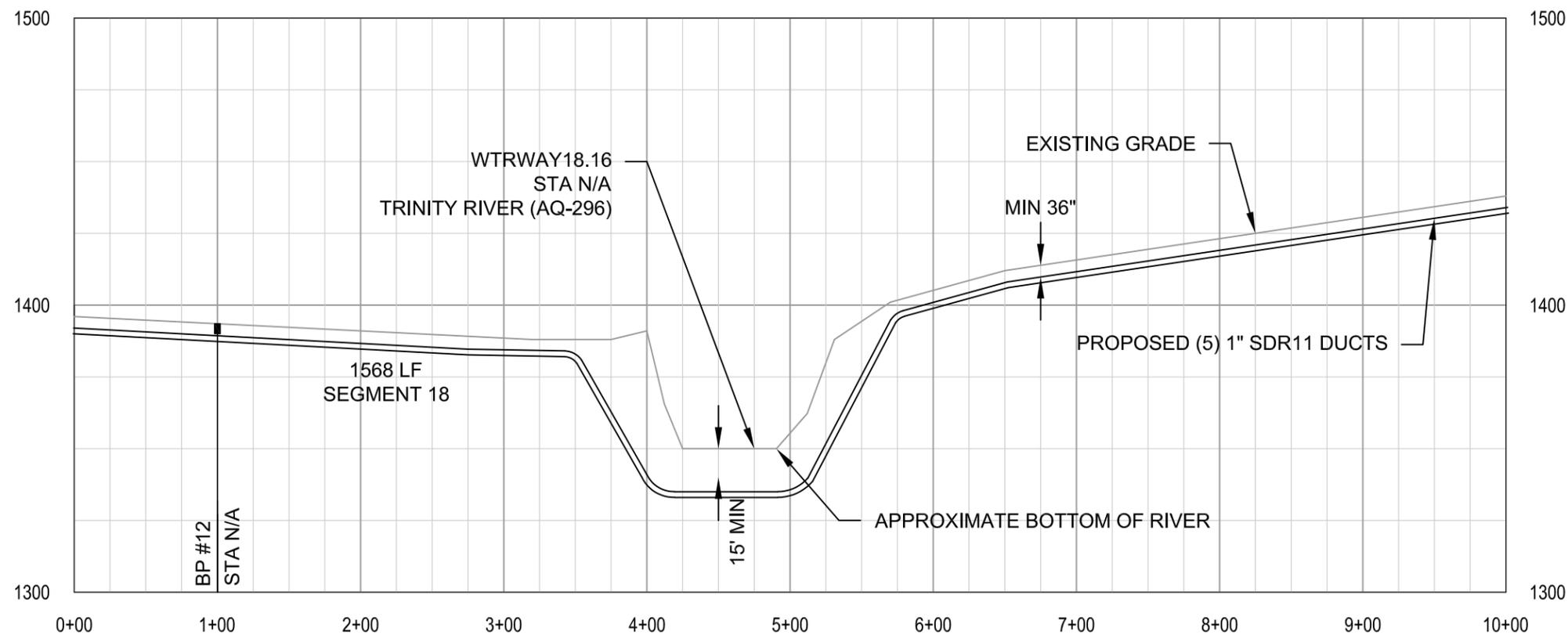
SEE DWG #11



PLACEMENT NOTES:

- ④ SEG18-MH04 STA 101+76
SEG18-HH05 STA 0+74
BORE 1568'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL **(D/3)**
- ⑤ SEG18-HH05 STA 0+74
SEG18-HH06 STA 0+14
BORE 1129'
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL **(C/3)**
- ⑥ SEG18-HH06 STA 0+14
SEG18-HH07 STA 27+25
BORE 2698'
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL **(C/3)**

MATCHLINE P-P



TRINITY RIVER

SCALE: HOR. 1" = 100' VERT. 1" = 50'

SEE DWG #13



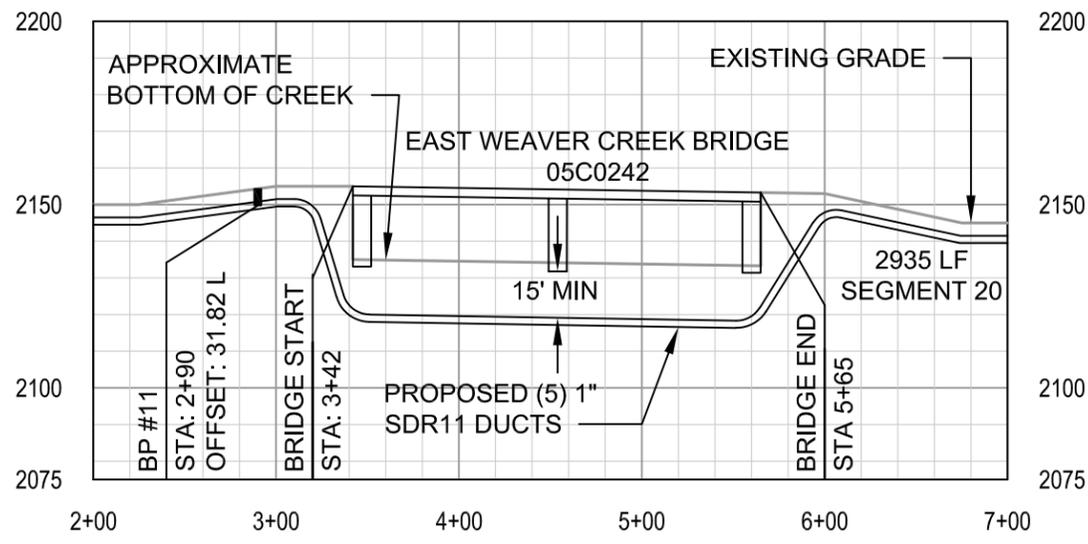
JOB NO. D299 - SEGMENT 18
 LOCATION HWY 299 FROM HELENA THROUGH JUNCTION CITY
 ENGR JULIA HARBERSON TEL 415-599-9564

SUBJECT **TRENCH ALIGNMENT**
 TYPE OF CONST **DUCT PLACEMENT**
 DWG 12 OF 59

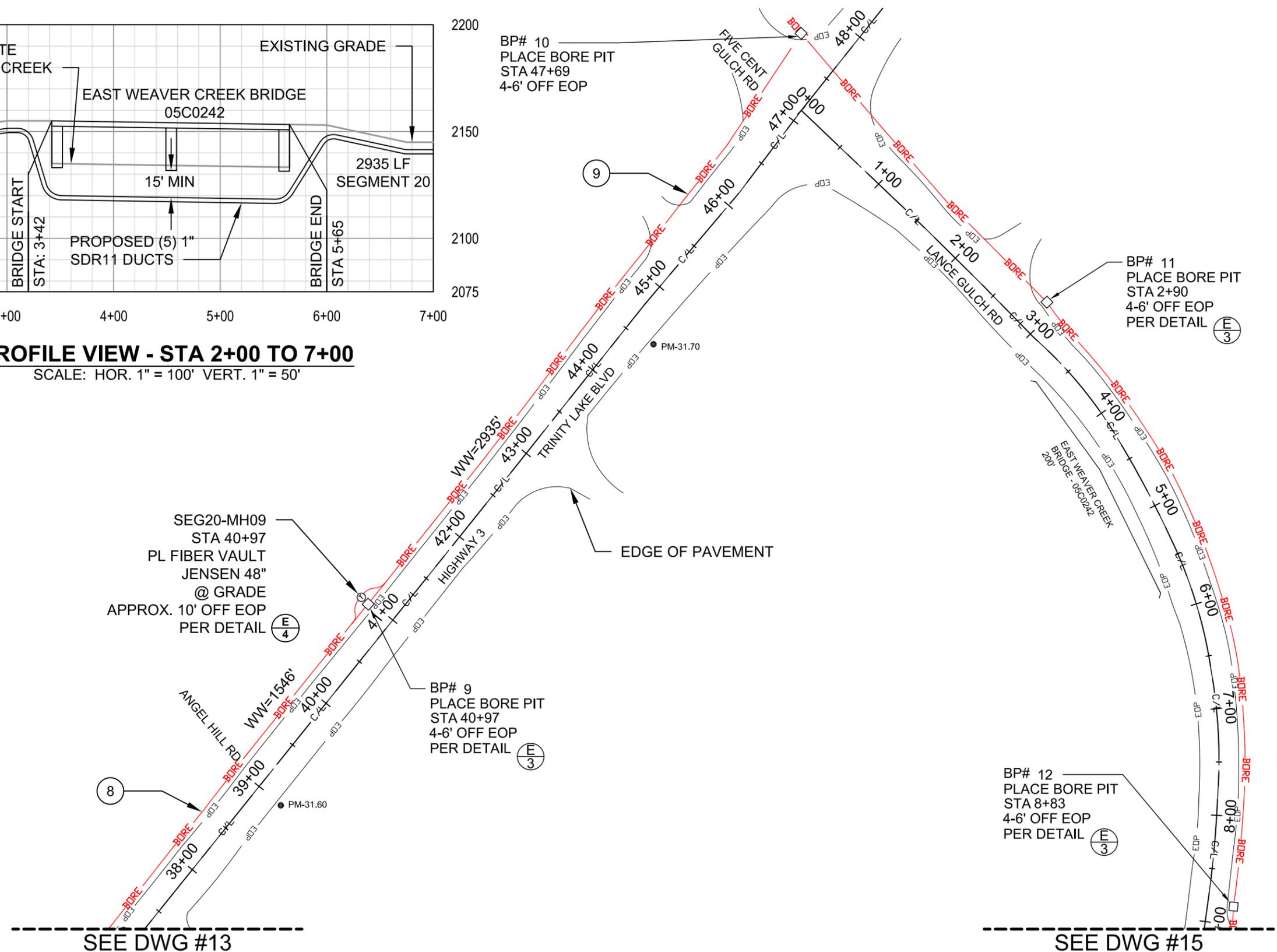
VERSION 02-26-2021



SEGMENT 20



PROFILE VIEW - STA 2+00 TO 7+00
SCALE: HOR. 1" = 100' VERT. 1" = 50'



- PLACEMENT NOTES:**
- ⑧ SEG20-MH08 STA 25+50
SEG20-MH09 STA 40+97
PLACE 1546'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL **D**
3
 - ⑨ SEG20-MH09 STA 40+97
SEG20-MH10 STA 21+79
PLACE 2935'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL **D**
3

SEG20-MH09
STA 40+97
PL FIBER VAULT
JENSEN 48"
@ GRADE
APPROX. 10' OFF EOP
PER DETAIL **E**
4

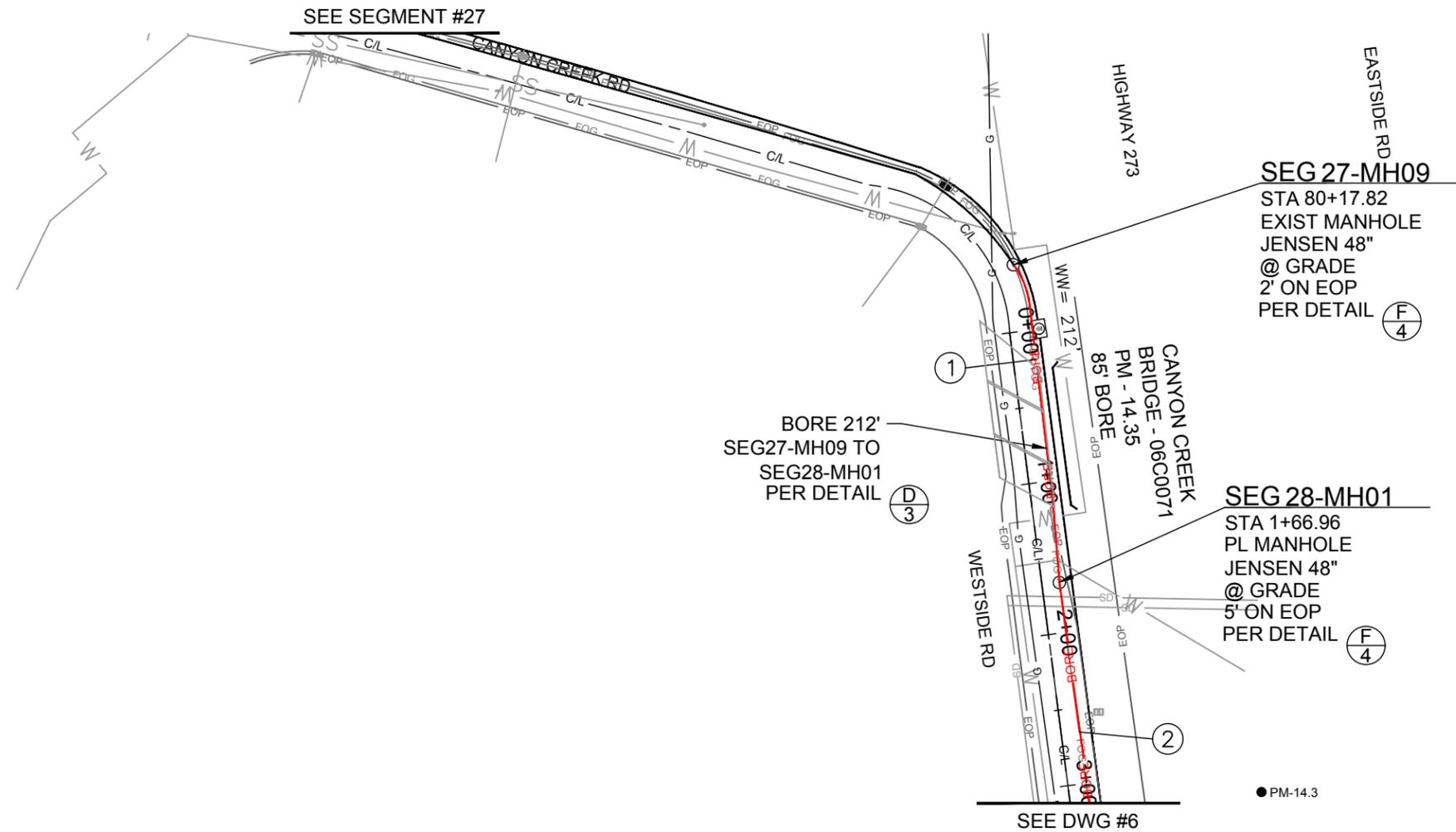
BP# 9
PLACE BORE PIT
STA 40+97
4-6' OFF EOP
PER DETAIL **E**
3

BP# 12
PLACE BORE PIT
STA 8+83
4-6' OFF EOP
PER DETAIL **E**
3

SEE DWG #13

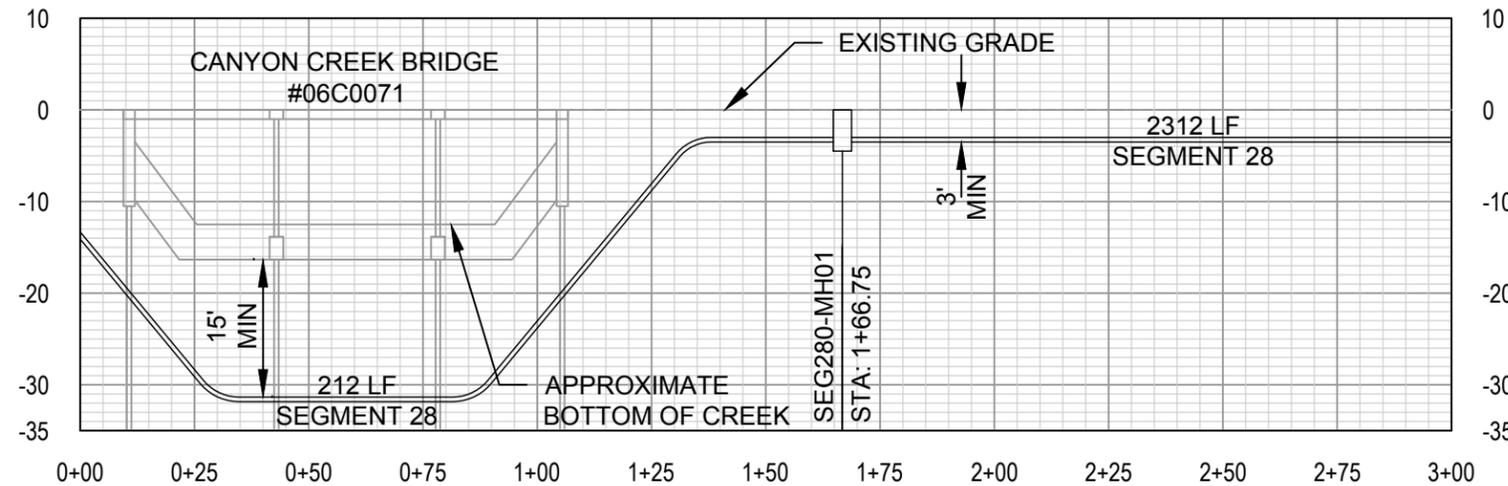
SEE DWG #15

SEGMENT 28



PLACEMENT NOTES:

- ① SEG27-MH09 STA 80+17.82
SEG28-MH01 STA 1+66.96
BORE 212'
⑤ 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ② SEG28-MH01 STA 1+66.96
SEG28-MH02 STA 24+67.40
BORE 2312'
⑤ 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)



CANYON CREEK

SCALE: HOR. 1" = 10' VERT. 1" = 5'

CSW ST2

CSW/Stuber-Strook
Engineering Group, Inc.
45 Lowell Court, Ste. 415
Hayward, CA 94545
Tel: 415.882.0200

JOB NO. D299 - SEGMENT 28

LOCATION HWY 273 & WESTSIDE RD - REDDING TO ANDERSON

ENGR VICTOR VALLERGA TEL 707-551-8200

SUBJECT

TRENCH ALIGNMENT

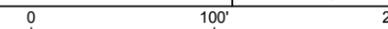
TYPE OF CONST

DUCT PLACEMENT

DWG 5 OF 46

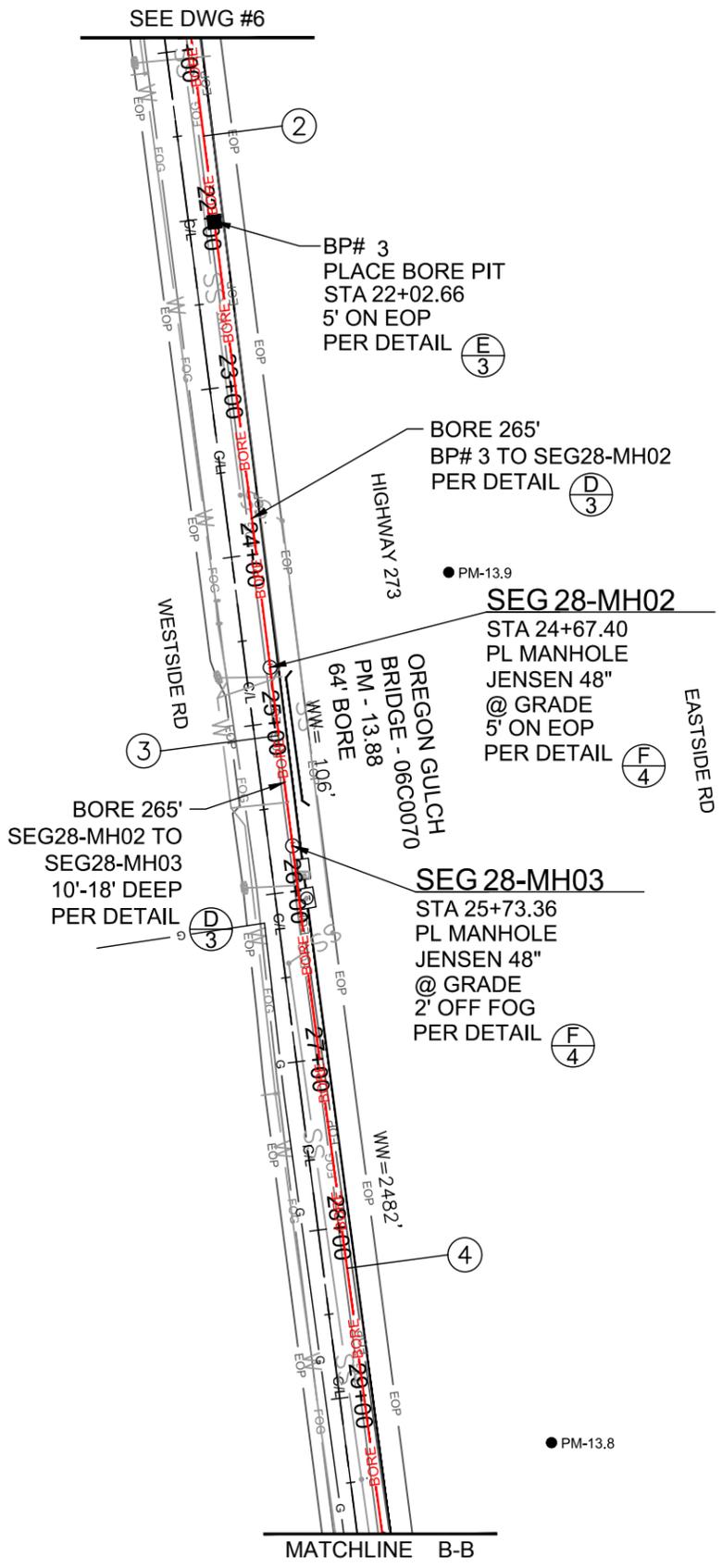
VERSION

02-19-2021



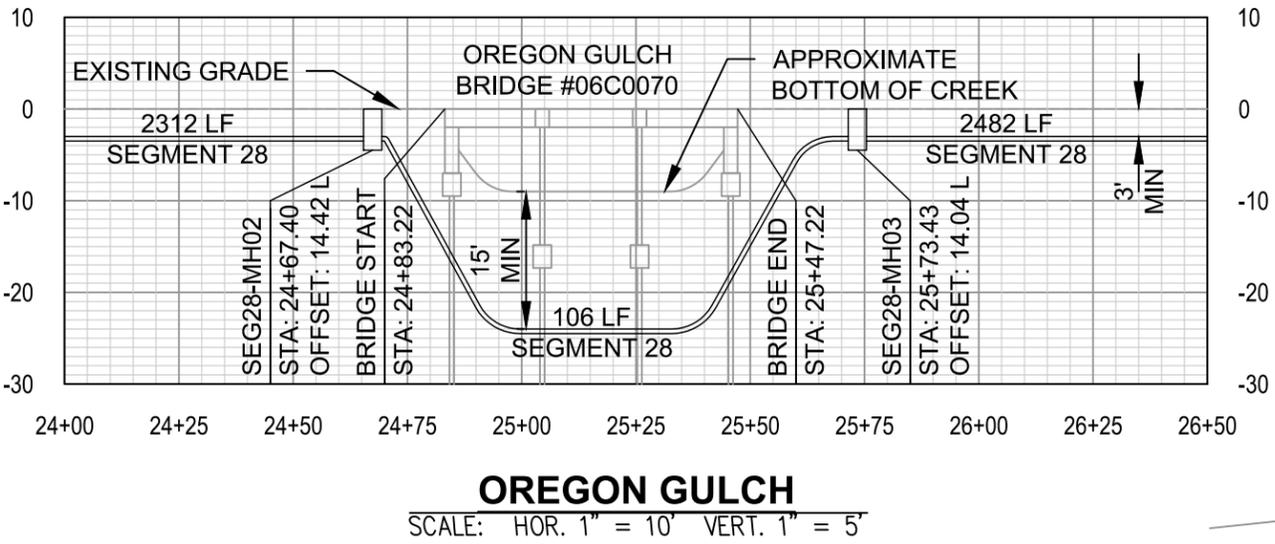
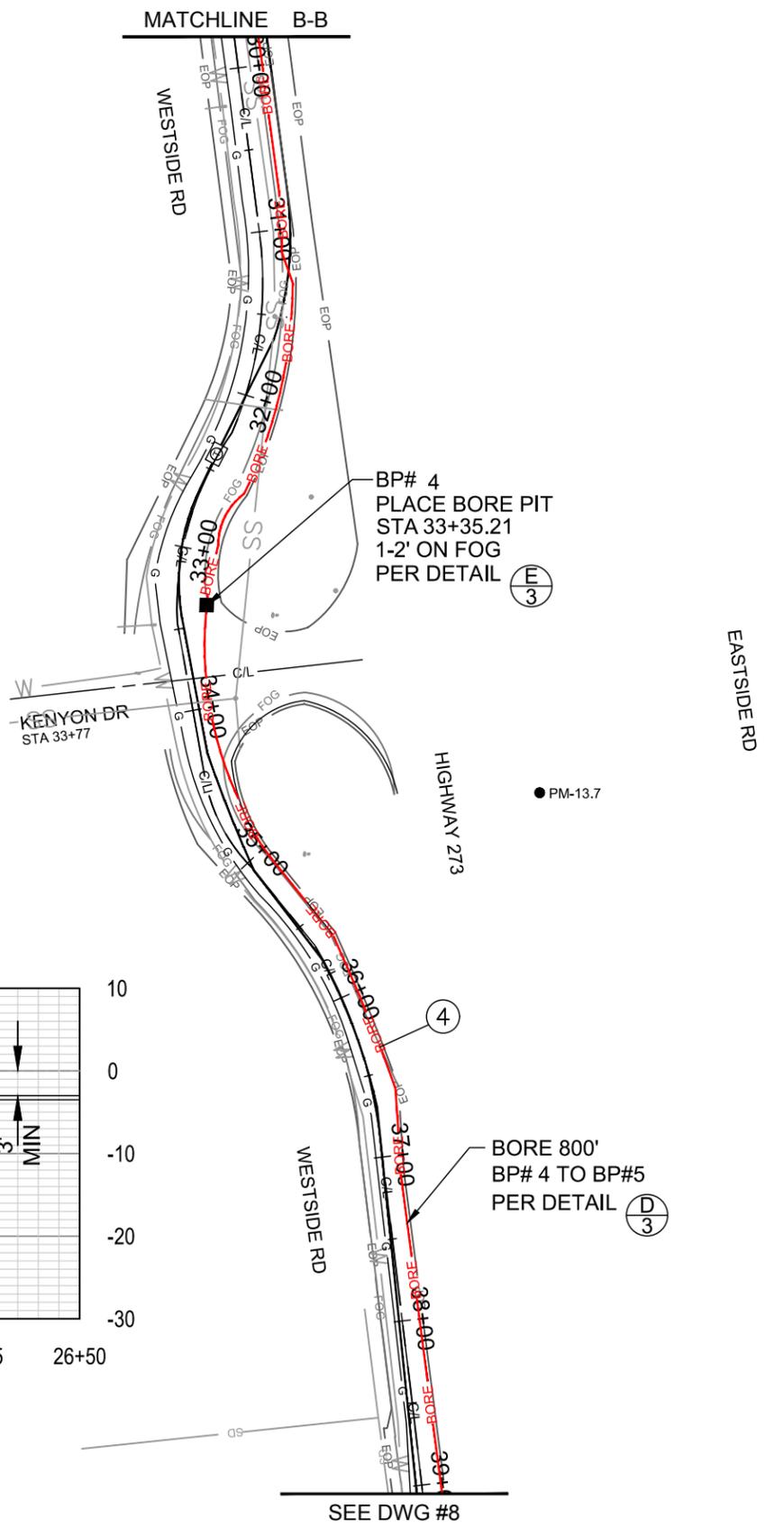
1" = 100'

C:\Users\jason\Documents\Vero Logo.png



PLACEMENT NOTES:

- ② SEG28-MH01 STA 1+66.96
SEG28-MH02 STA 24+67.40
BORE ON DWG# 5
⑤ 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ③ SEG28-MH02 STA 24+67.40
SEG28-MH03 STA 25+73.36
BORE 106'
⑤ 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ④ SEG28-MH03 STA 25+73.36
SEG28-MH04 STA 50+55.04
BORE 2482'
⑤ 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)

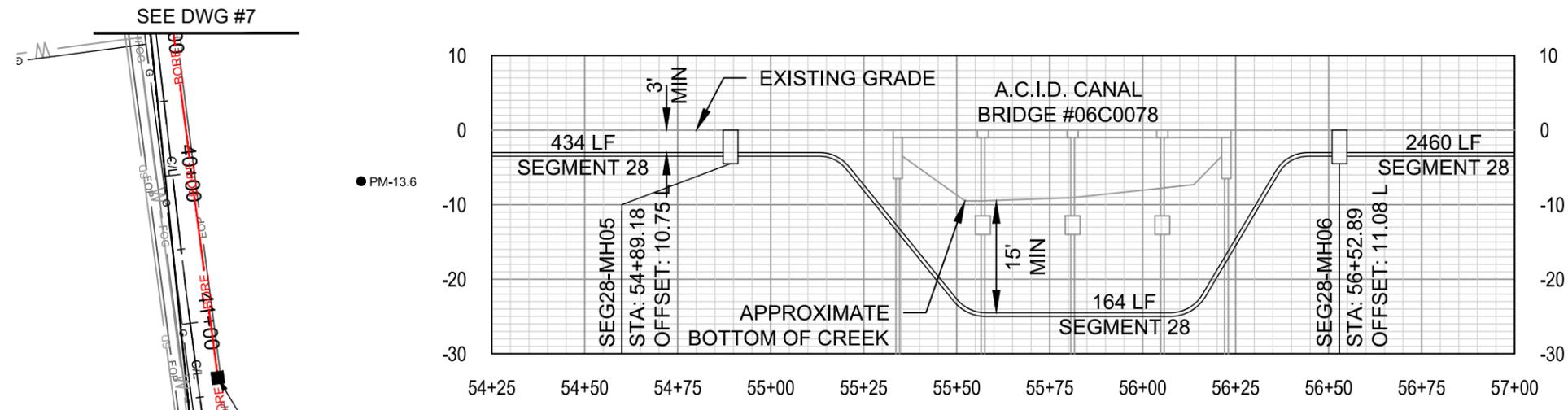


JOB NO. D299 - SEGMENT 28
 LOCATION HWY 273 & WESTSIDE RD - REDDING TO ANDERSON
 ENGR VICTOR VALLERGA TEL 707-551-8200

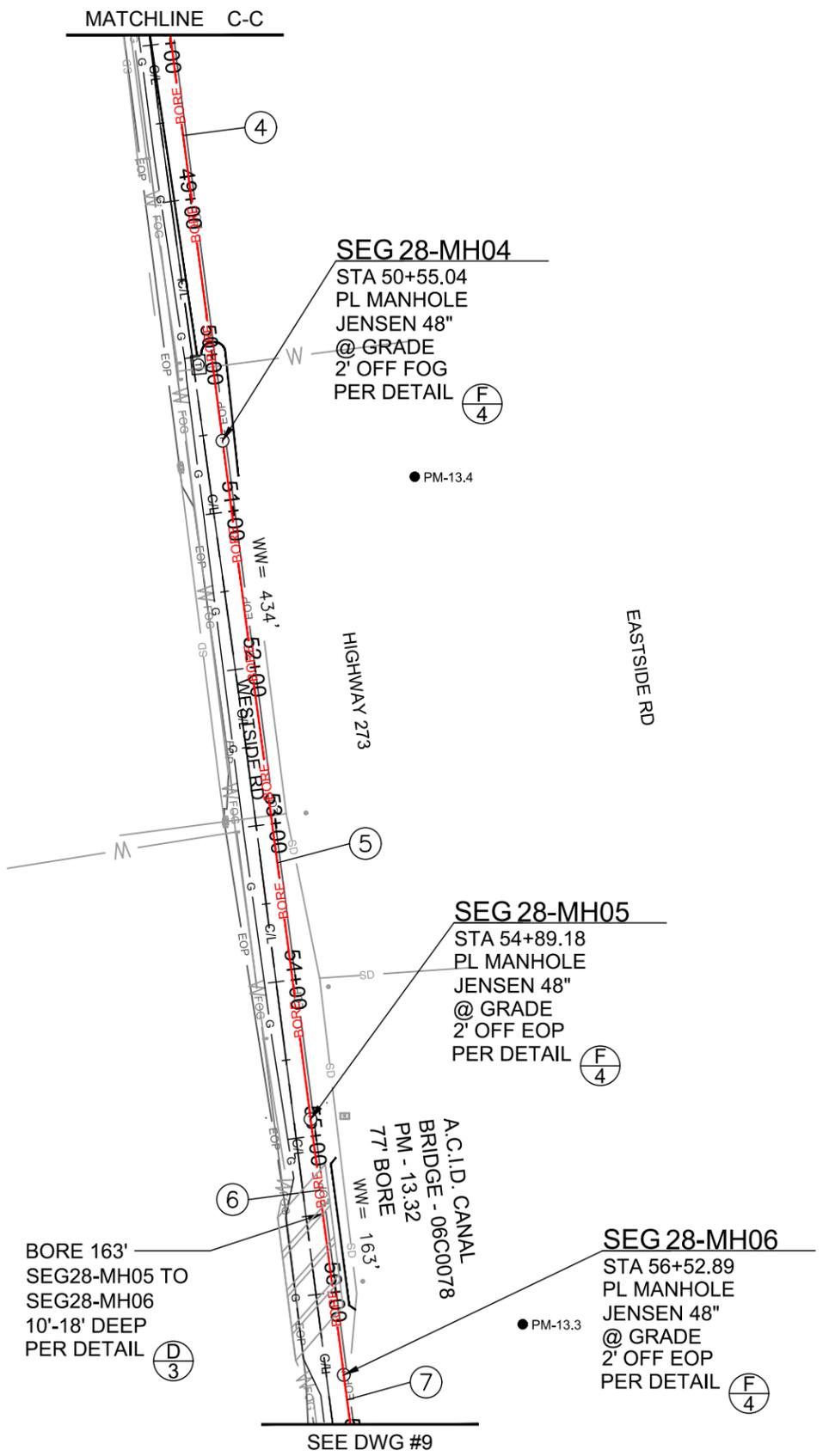
SUBJECT **TRENCH ALIGNMENT**
 TYPE OF CONST **DUCT PLACEMENT**
 DWG 7 OF 46

VERSION 02-19-2021

C:\Users\jason\Documents\Vero Logo.png



A.C.I.D. CANAL
SCALE: HOR. 1" = 10' VERT. 1" = 5'



PLACEMENT NOTES:

- ④ SEG28-MH03 STA 25+73.36
SEG28-MH04 STA 50+55.04
BORE ON DWG# 7
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ⑤ SEG28-MH04 STA 50+55.04
SEG28-MH05 STA 54+89.18
BORE 434'
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ⑥ SEG28-MH05 STA 54+89.18
SEG28-MH06 STA 56+52.89
BORE 163'
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)
- ⑦ SEG28-MH06 STA 56+52.89
SEG28-MH07 STA 81+22.37
BORE 2460'
(5) 1" SDR11 DUCTS
MIN COVER 36"
PER DETAIL (D/3)

BP# 5
PLACE BORE PIT
STA 41+38.58
2' ON EOP
PER DETAIL (E/3)

SEG 28-MH04
STA 50+55.04
PL MANHOLE
JENSEN 48"
@ GRADE
2' OFF FOG
PER DETAIL (F/4)

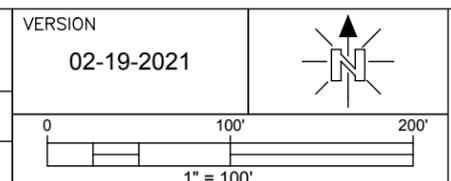
SEG 28-MH05
STA 54+89.18
PL MANHOLE
JENSEN 48"
@ GRADE
2' OFF EOP
PER DETAIL (F/4)

SEG 28-MH06
STA 56+52.89
PL MANHOLE
JENSEN 48"
@ GRADE
2' OFF EOP
PER DETAIL (F/4)



JOB NO. D299 - SEGMENT 28
LOCATION HWY 273 & WESTSIDE RD - REDDING TO ANDERSON
ENGR VICTOR VALLERGA TEL 707-551-8200

SUBJECT
TRENCH ALIGNMENT
TYPE OF CONST
DUCT PLACEMENT
DWG 8 OF 46



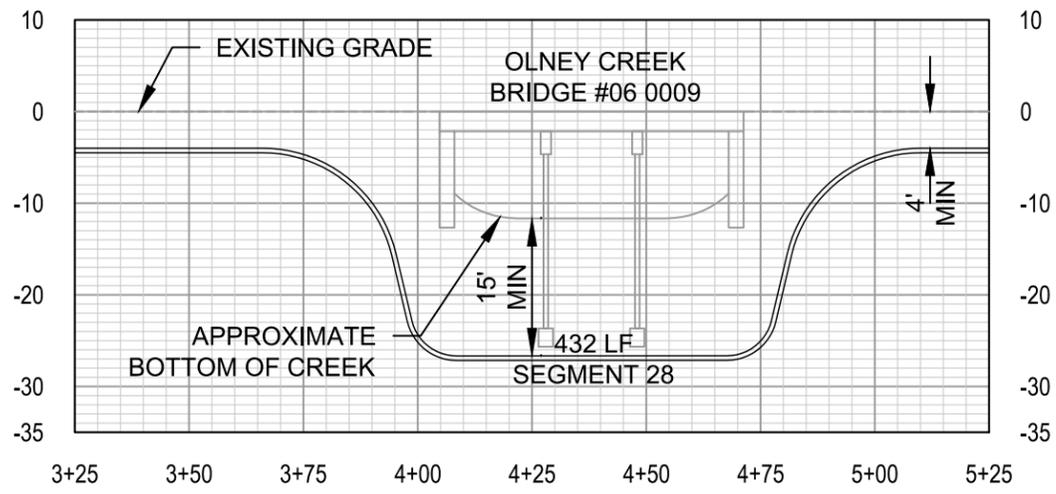
C:\Users\jason\Documents\Vero Logo.png

PLACEMENT NOTES:

- ⑨ SEG28-MH08 STA 1+67.86
SEG28-MH09 STA 5+99.64
BORE ON DWG# 10
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL (D) 3
- ⑩ SEG28-MH09 STA 5+99.64
SEG28-MH10 STA 12+47.54
BORE 647'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL (D) 3
- ⑪ SEG28-MH10 STA 12+47.54
SEG28-MH11 STA 30+84.11
BORE 1906'
(5) 1" SDR11 DUCTS
MIN COVER 42"
PER DETAIL (D) 3

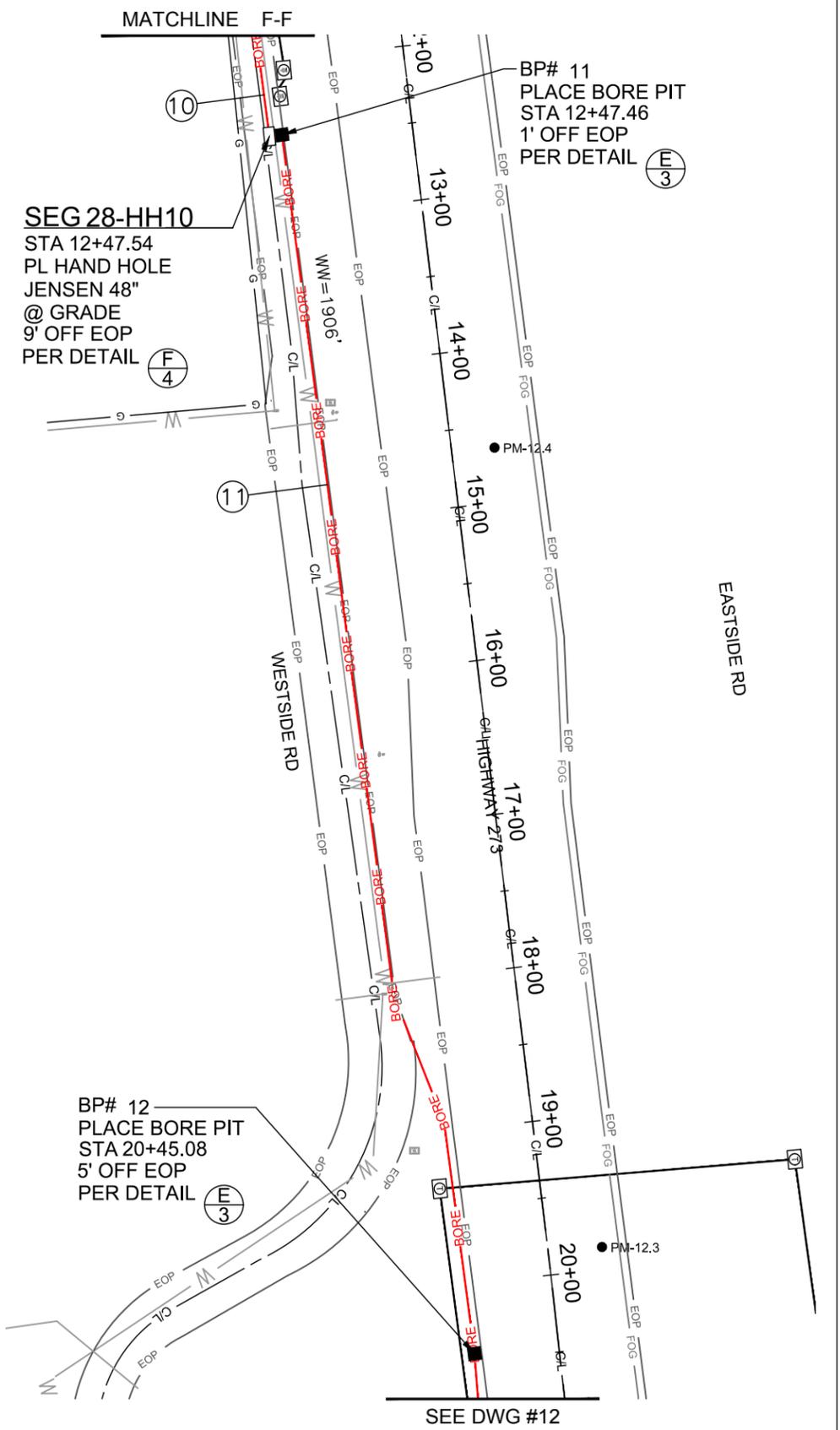
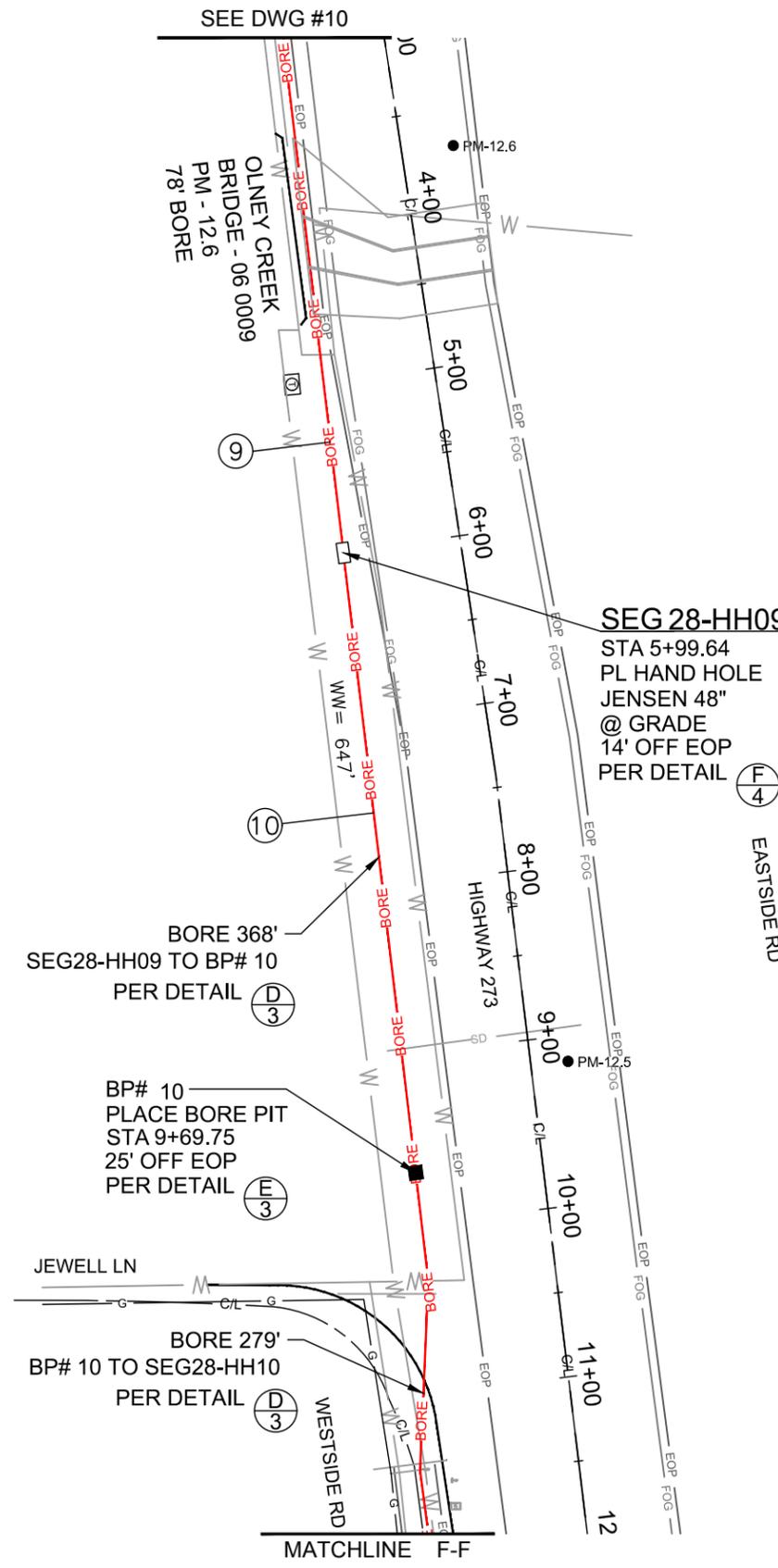
SEG 28-HH09
STA 5+99.64
PL HAND HOLE
JENSEN 48"
@ GRADE
14' OFF EOP
PER DETAIL (F) 4

SEG 28-HH10
STA 12+47.54
PL HAND HOLE
JENSEN 48"
@ GRADE
9' OFF EOP
PER DETAIL (F) 4



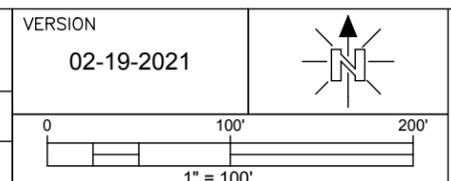
OLNEY CREEK

SCALE: HOR. 1" = 10' VERT. 1" = 5'

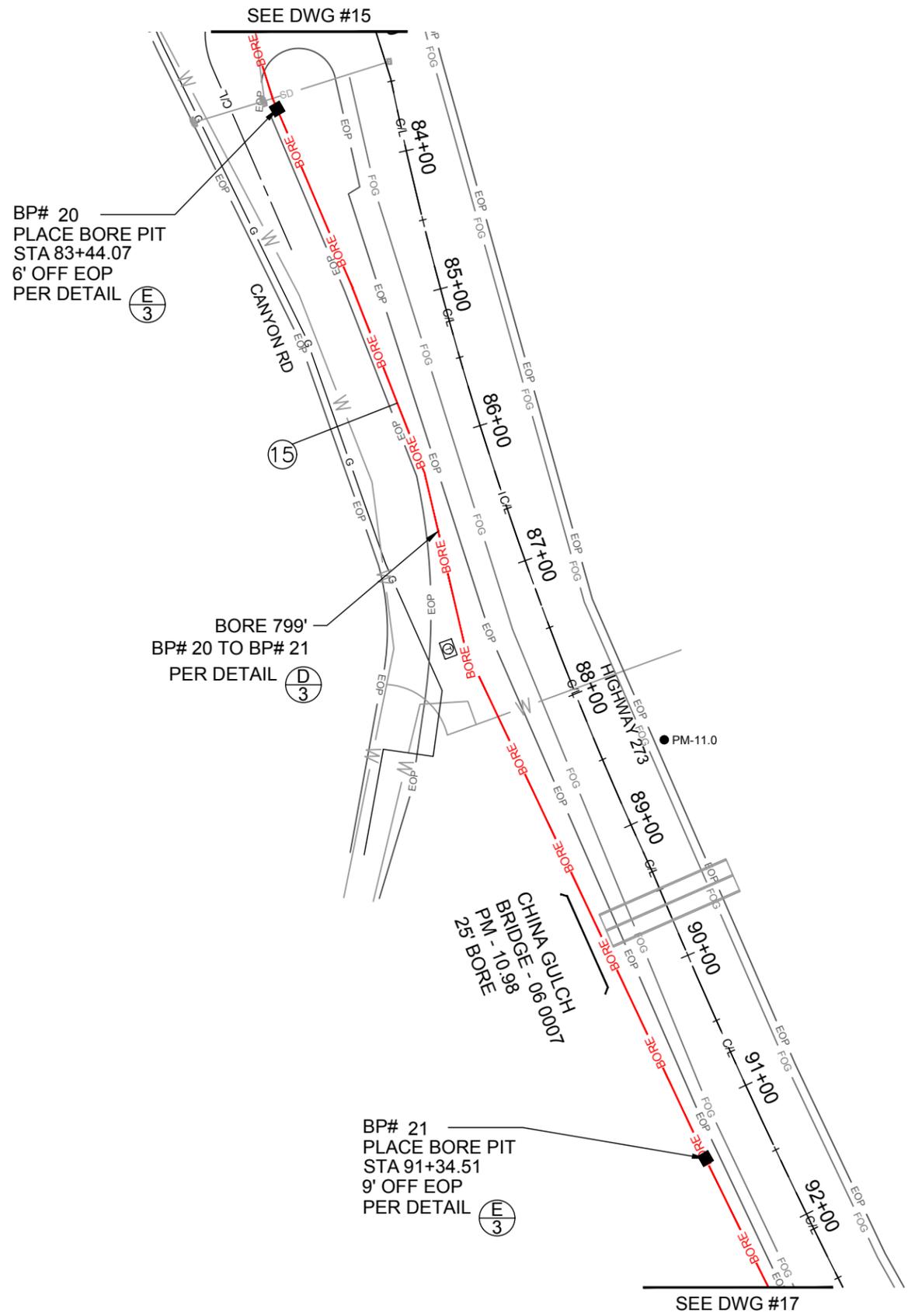


JOB NO. D299 - SEGMENT 28
LOCATION HWY 273 & WESTSIDE RD - REDDING TO ANDERSON
ENGR VICTOR VALLERGA TEL 707-551-8200

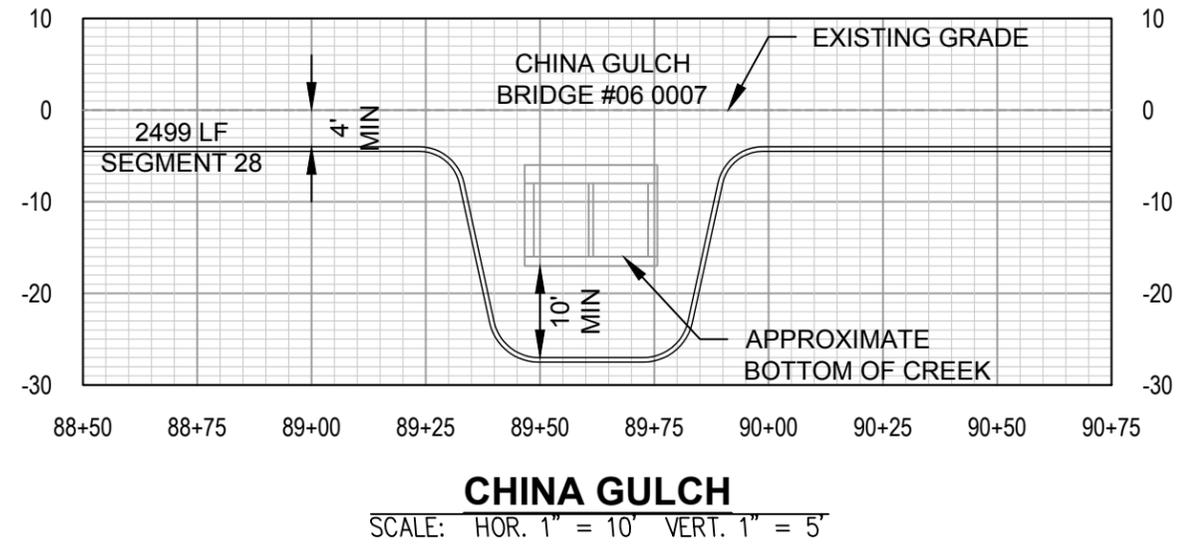
SUBJECT **TRENCH ALIGNMENT**
TYPE OF CONST **DUCT PLACEMENT**
DWG 11 OF 46



VERSION 02-19-2021
C:\Users\jason\Documents\Vero Logo.png



- PLACEMENT NOTES:**
- ⑮ SEG28-MH14 STA 75+58.87
 - SEG28-MH15 STA 100+19.40
 - BORE ON DWG# 14
 - ⑤ 1" SDR11 DUCTS
 - MIN COVER 42"
 - PER DETAIL (D/3)



JOB NO. D299 - SEGMENT 28
 LOCATION HWY 273 & WESTSIDE RD - REDDING TO ANDERSON
 ENGR VICTOR VALLERGA TEL 707-551-8200

SUBJECT
TRENCH ALIGNMENT
 TYPE OF CONST
DUCT PLACEMENT
 DWG 16 OF 46

VERSION
02-19-2021

 1" = 100'

C:\Users\jason\Documents\Vero Logo.png

APPENDIX B

CONTACT INFORMATION FOR CONTRACTORS

APPENDIX C

INSPECTION FORMS

PROJECT NAME: _____

DIALY INSPECTION LOG

DATE	TIME	INSPECTION LOCATION	NOTES	INSPECTOR NME
	7 AM			
	8			
	9			
	10			
	11			
	12 PM			
	1			
	2			
	3			
	4			
	5			
	6			
	7 pm			
	7 AM			
	8			
	9			
	10			
	11			
	12 PM			
	1			
	2			
	3			
	4			
	5			
	6			
	7 pm			

RELEASE INSPECTION AND DOCUMENTATION FORM

Name and Title: _____

Date: _____

Location of Release: _____

Approximate amount of boring actives completed (feet): _____

Nature of Release:

How release occurred:

Description of sensitive area:

Corrective Action taken:

Attach photograph here

Signature _____