

NOTES

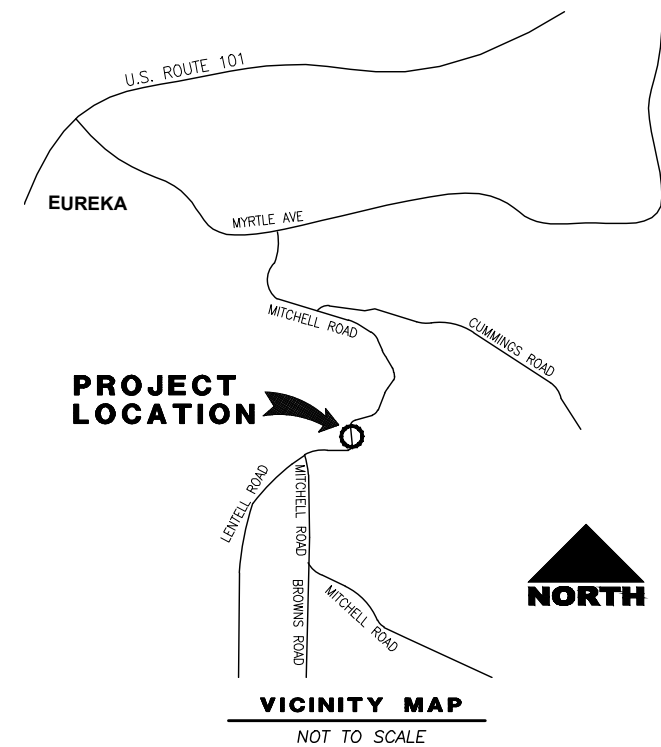
THE CONTRACTOR MUST HAVE A CLASS "A" LICENSE FOR THIS PROJECT.
STANDARD PLAN LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE SPECIAL PROVISIONS.

INDEX OF SHEETS

- 1 TITLE SHEET
- 2 TYPICAL ROAD SECTIONS
- 3 PROJECT CONTROL
- 4 LAYOUT
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- 11 EROSION CONTROL
- 12 SIGNING & STRIPING
- 13-21 STRUCTURES PLANS

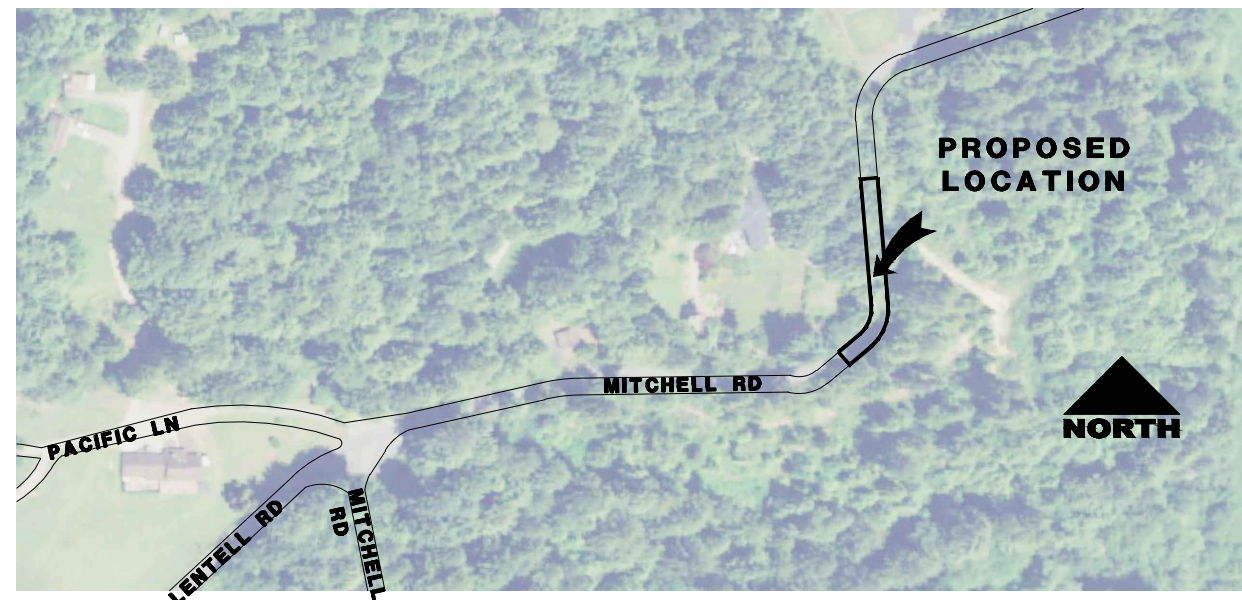
GEOTECH REPORT

2018 CRAWFORD & ASSOCIATES



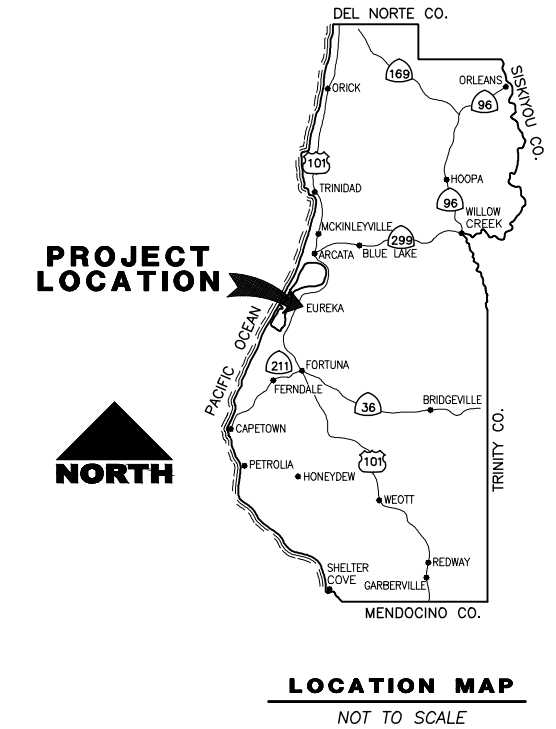
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS PROJECT PLANS FOR CONSTRUCTION OF MITCHELL ROAD (C4J090) AT P.M. 1.15 STORM DAMAGE PROJECT FEMA 4301-DR-CA PW 1029 CONTRACT NO. 217300

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
STANDARD PLANS, STANDARD SPECIFICATIONS, AND LATEST REVISED 2018 STANDARD SPECIFICATIONS



ROAD NAME: MITCHELL ROAD	MARK THOMAS
ROAD NO: C4J090	DESIGNED BY: LF
MILE POST: 1.15	DRAWN BY: CM
FEMA 4301-DR-CA PW 1029	REVIEWED BY: JT
CONTRACT NO.: 217300	APPROVED BY: JW
DATE: JANUARY 2019	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 1 OF 21
MITCHELL ROAD STORM DAMAGE PROJECT	
TITLE SHEET	



Jake W. Weir
JAKE W. WEIR
RCE 72382, EXP. 6/30/2020
1/30/19
DATE



Jason B. Hickey
JASON B. HICKEY
RSE S5783, EXP. 6/30/2020
1/30/19
DATE



ORIGINAL LOW BID PRICE	CONSTRUCTED BY	RESIDENT ENGINEER
	PROJECT COMPLETED / /	CONSTRUCTION COST \$

NOTES:

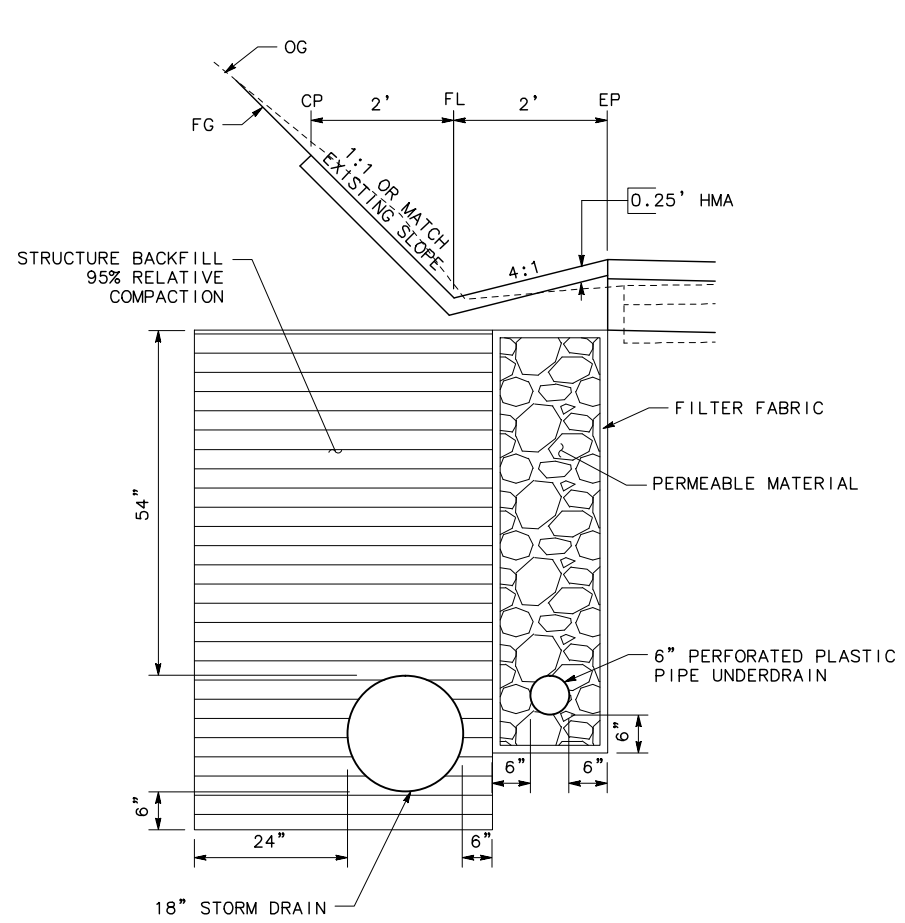
1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATION.
2. FOR UNDERDRAIN DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLANS, D102.
3. FOR PLASTIC CULVERT EXCAVATION AND BACKFILL NOT SHOWN, SEE CALTRANS STANDARD PLANS, A62F.



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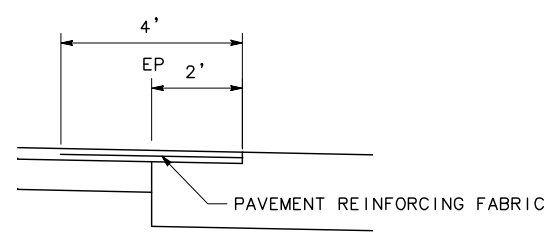
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
MITCHELL ROAD STORM DAMAGE PROJECT
TYPICAL ROAD SECTIONS

SHEET
2
OF
21



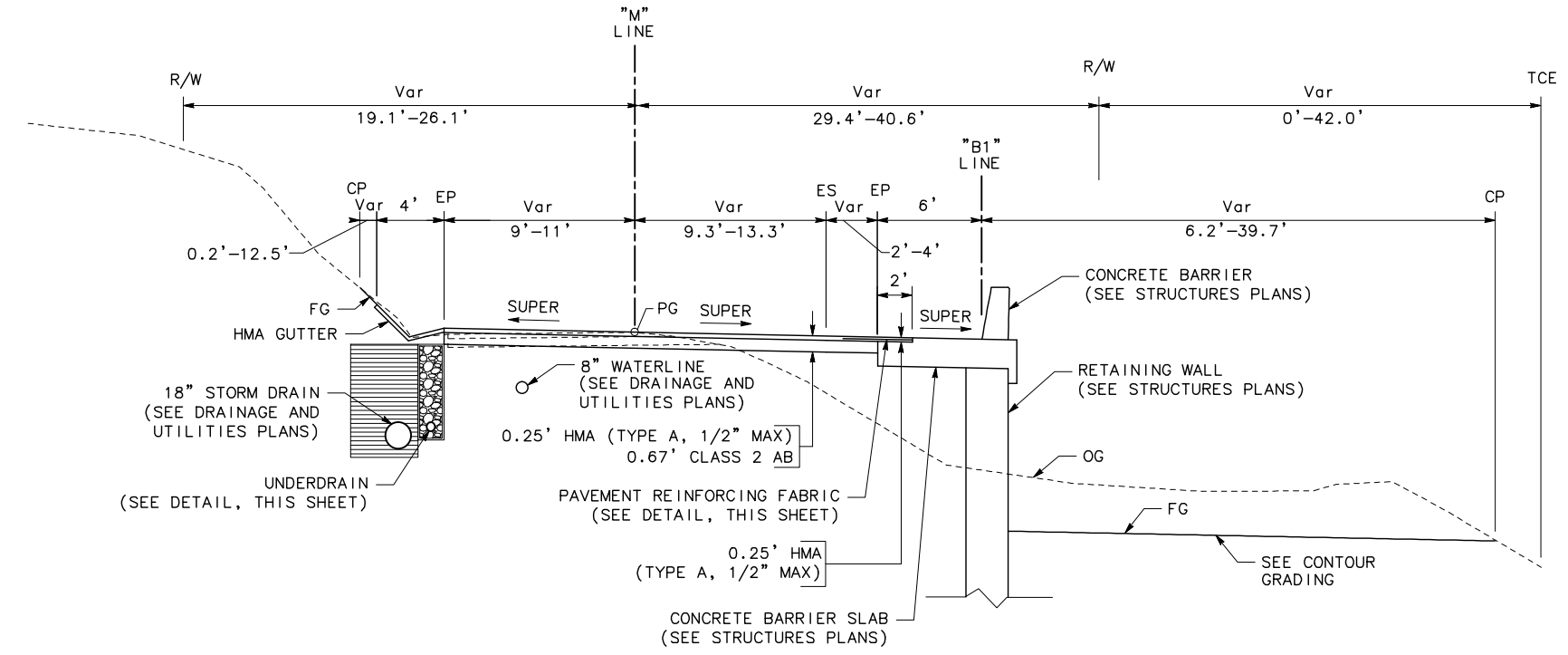
UNDERDRAIN DETAIL

NO SCALE



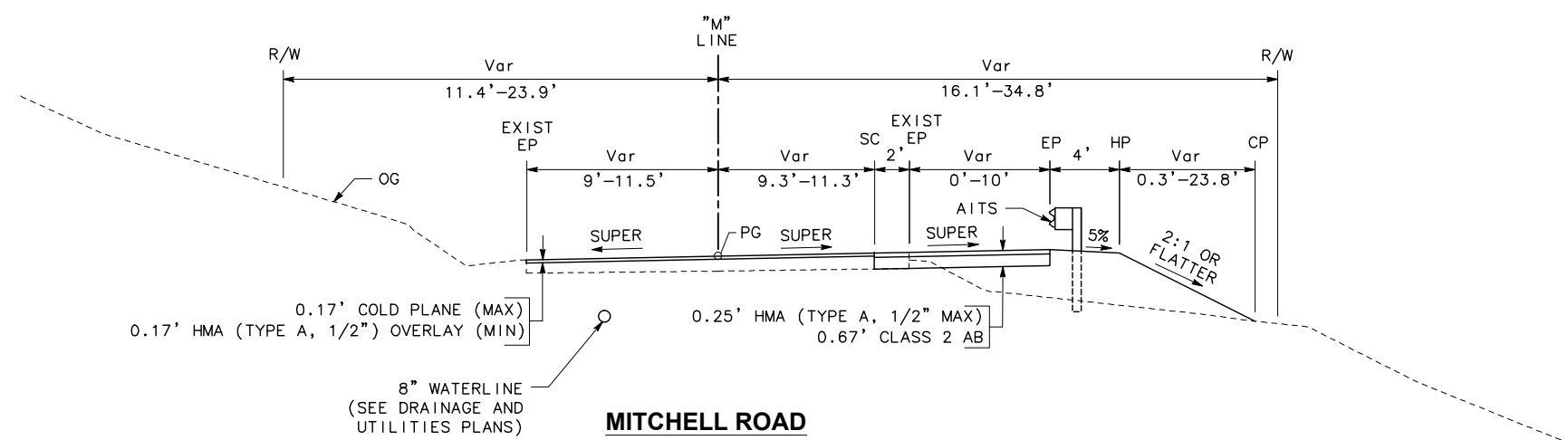
PAVEMENT REINFORCING FABRIC DETAIL

NO SCALE



MITCHELL ROAD

"M" 11+05.25 TO 12+67.23
NO SCALE



MITCHELL ROAD

"M" 10+61.06 TO 11+05.25
"M" 12+67.23 TO 13+33.68
NO SCALE

NOTES:

1. CONTRACTOR MUST COMPLY WITH BUSINESS AND PROFESSIONS CODE SECTION 8771 (b) REGARDING REFERENCING, PRESERVING AND RECONSTRUCTING MONUMENTS, WHETHER OR NOT MONUMENTS ARE SHOWN IN THESE PLANS.
2. IF MONUMENT IS DAMAGED BY CONTRACTOR'S OPERATIONS, CONTRACTOR SHALL REPLACE MONUMENT AT CONTRACTOR'S EXPENSE.

ABBREVIATIONS:

NGS NATIONAL GEODETIC SURVEY
PID PERMANENT IDENTIFIER

LEGEND:

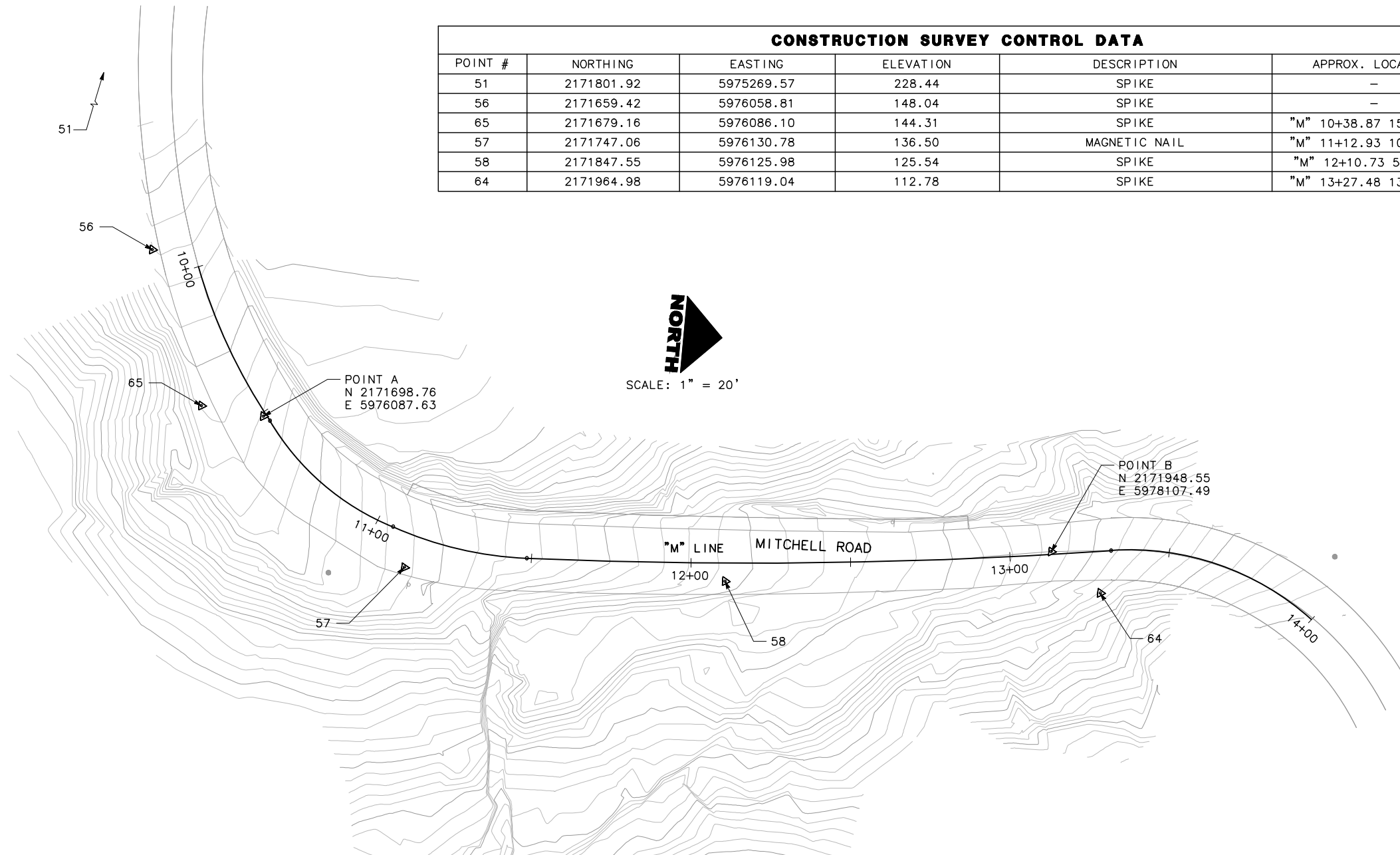
▲ CONTROL POINT

DATUM:

1. COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 1, NAD 83, EPOCH 2007.00 BASED ON A STATIC GPS CONTROL SURVEY. THE MAPPING ANGLE IS 1 DEGREE 23 MINUTES 05 SECONDS- ROTATE BEARINGS COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.9998908 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR TAKEN AT CONTROL POINT NO. 51. HORIZONTAL CONTROL IS IN US SURVEY FEET AND IS BASED ON STATIC GPS TIE TO NGS PID "LV180", AN NGS HPGN NETWORK POINT AT MURRAY FIELD IN EUREKA ON ABOVE STATED EPOCH. VERTICAL CONTROL IS ALSO BASED ON NGS PID "LV1180" NAVD 88 DATUM, WITH ELEVATION OF 6.10 FEET.
2. NO DEEDED RIGHT OF WAY IS ON FILE WITH HUMBOLDT COUNTY FOR THIS SECTION OF MITCHELL ROAD PER RESEARCH BY HUMBOLDT COUNTY RIGHT OF WAY AGENT. THE DEEDS FOR BOTH PROPERTIES ARE DESCRIBED IN DOCUMENT NO. 2007-15242-4 (PARCEL FIVE) AND DOCUMENT NO. 2002-15676-2. BOTH DEEDS CALL TO SIDELINES OF A FORTY FOOT ROAD AND CONTAIN CONSISTENT BEARINGS. THIS SURVEY HELD THE COURSES IN 2007-15242-4 (PARCEL FIVE) ON THE DOWNHILL SIDE OF THE PROJECT. THESE COURSES WERE OFFSET 40 FEET, SCALED TO GRID, AND ROTATED 2 DEGREES 00 MINUTES 34 SECONDS CLOCKWISE BASED ON THE PHYSICAL CENTER OF THE EXISTING ROAD AT POINTS "A" AND "B".



BAR IS ONE INCH ON ORIGINAL DRAWING	ROAD NAME: MITCHELL ROAD	MARK THOMAS	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
	ROAD NO: C4J090		MITCHELL ROAD STORM DAMAGE PROJECT	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	MILE POST: 1.15	DESIGNED BY: LF	PROJECT CONTROL	
	FEMA 4301-DR-CA PW 1029	DRAWN BY: CM		
	CONTRACT NO.: 217300	REVIEWED BY: JT		
	DATE: JANUARY 2019	APPROVED BY: JW	SHEET 3 OF 21	



POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	APPROX. LOCATION
51	2171801.92	5975269.57	228.44	SPIKE	-
56	2171659.42	5976058.81	148.04	SPIKE	-
65	2171679.16	5976086.10	144.31	SPIKE	"M" 10+38.87 15.88' Rt
57	2171747.06	5976130.78	136.50	MAGNETIC NAIL	"M" 11+12.93 10.46' Rt
58	2171847.55	5976125.98	125.54	SPIKE	"M" 12+10.73 5.70' Rt
64	2171964.98	5976119.04	112.78	SPIKE	"M" 13+27.48 13.06' Rt

NOTE

1. PROVIDE CONCRETE VEGETATION CONTROL UNDER TRANSITION RAILING (TYPE WB-31) AND ALTERNATIVE IN-LINE TERMINAL SYSTEM PER CALTRANS STANDARD PLANS A77N6 & A77N7.

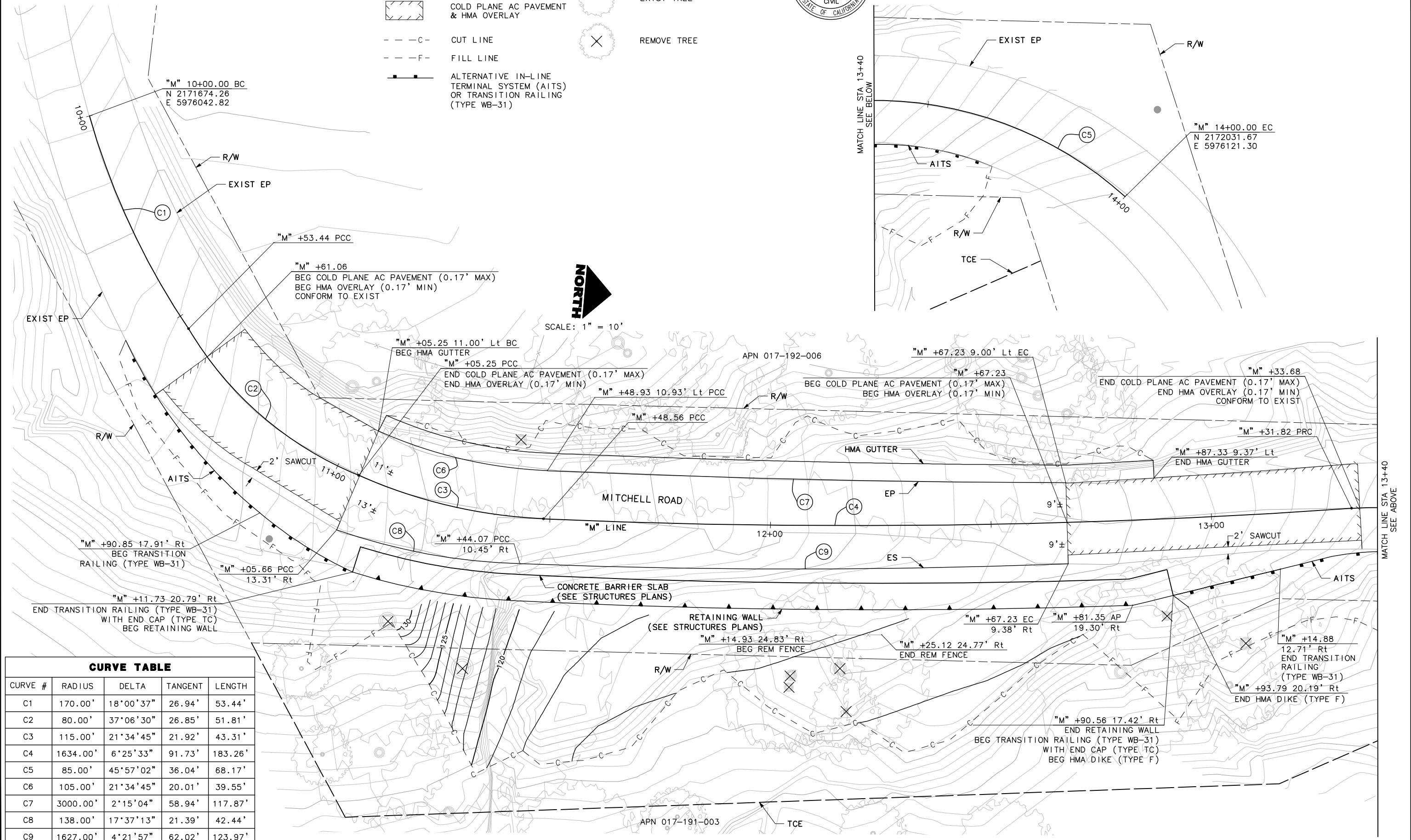
LEGEND

- X--- EXIST FENCE
- EXIST UTILITY POLE
- ▨ COLD PLANE AC PAVEMENT & HMA OVERLAY
- - -C- CUT LINE
- - -F- FILL LINE
- ▲— ALTERNATIVE IN-LINE TERMINAL SYSTEM (AITS) OR TRANSITION RAILING (TYPE WB-31)
- ▲ RETAINING WALL
- EXIST TREE
- ⊗ REMOVE TREE



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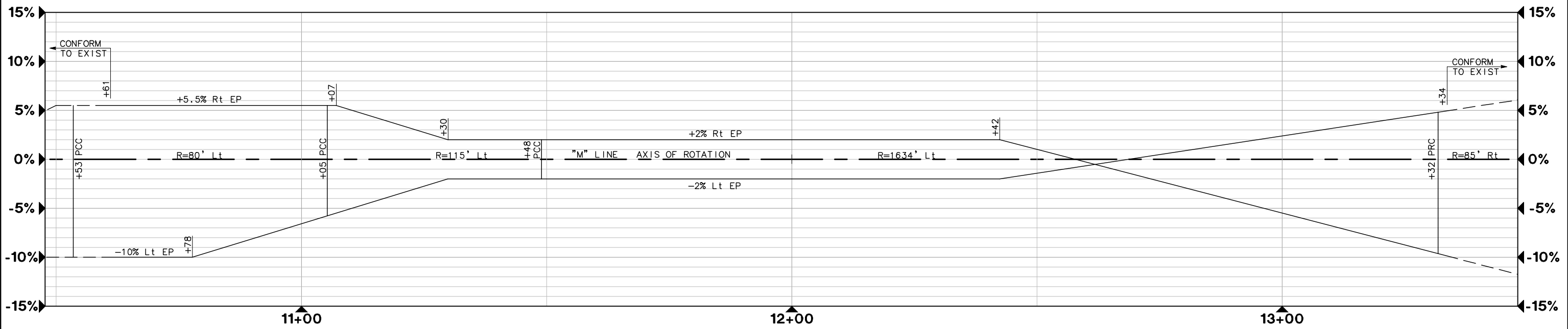
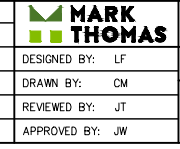
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS MITCHELL ROAD STORM DAMAGE PROJECT LAYOUT	SHEET 4 OF 21
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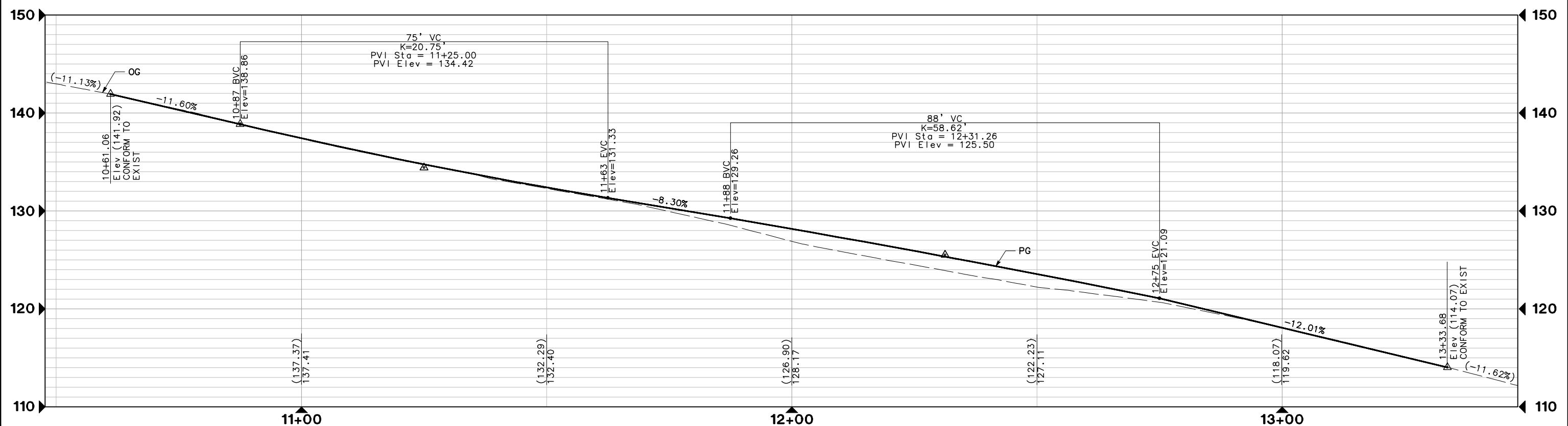
CURVE TABLE				
CURVE #	RADIUS	DELTA	TANGENT	LENGTH
C1	170.00'	18°00'37"	26.94'	53.44'
C2	80.00'	37°06'30"	26.85'	51.81'
C3	115.00'	21°34'45"	21.92'	43.31'
C4	1634.00'	6°25'33"	91.73'	183.26'
C5	85.00'	45°57'02"	36.04'	68.17'
C6	105.00'	21°34'45"	20.01'	39.55'
C7	3000.00'	2°15'04"	58.94'	117.87'
C8	138.00'	17°37'13"	21.39'	42.44'
C9	1627.00'	4°21'57"	62.02'	123.97'



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SUPERELEVATION "M" LINE
SCALE: HORIZ: 1" = 10'



PROFILE "M" LINE
SCALE: HORIZ: 1" = 10'
VERT: 1" = 20'

NOTES

1. THE CONTRACTOR MUST POT HOLE AND VERIFY THE DEPTH OF THE EXISTING WATERLINE PRIOR TO THE INSTALLATION OF PROPOSED WATER FACILITIES. ANY UNANTICIPATED CONFLICTS SHALL BE REDESIGNED PRIOR TO BEGINNING WORK.
2. FOR UNDERDRAIN DETAILS NOT SHOWN, SEE CALTRANS STANDARD PLANS, D102.
3. PIPE INLETS MUST BE PROTECTED WITH BITUMINOUS OR POLYMERIC SHEET COATING.
4. WHERE WATERLINE CROSSES STORM DRAIN, A FULL LENGTH STICK OF WATER MAIN PIPE MUST BE CENTERED ON THE CROSSING SO THE WATER PIPE JOINTS ARE AS FAR FROM THE CROSSING AS POSSIBLE.
5. SEE HUMBOLDT COMMUNITY SERVICES DISTRICT STANDARD PLAN FOR WATERLINE TRENCH AND TRACER WIRE DETAILS (WS-100A & WS-100B).
6. INSTALL MECHANICAL RESTRAINTS ON ALL WATERLINE BENDS AND JOINTS.

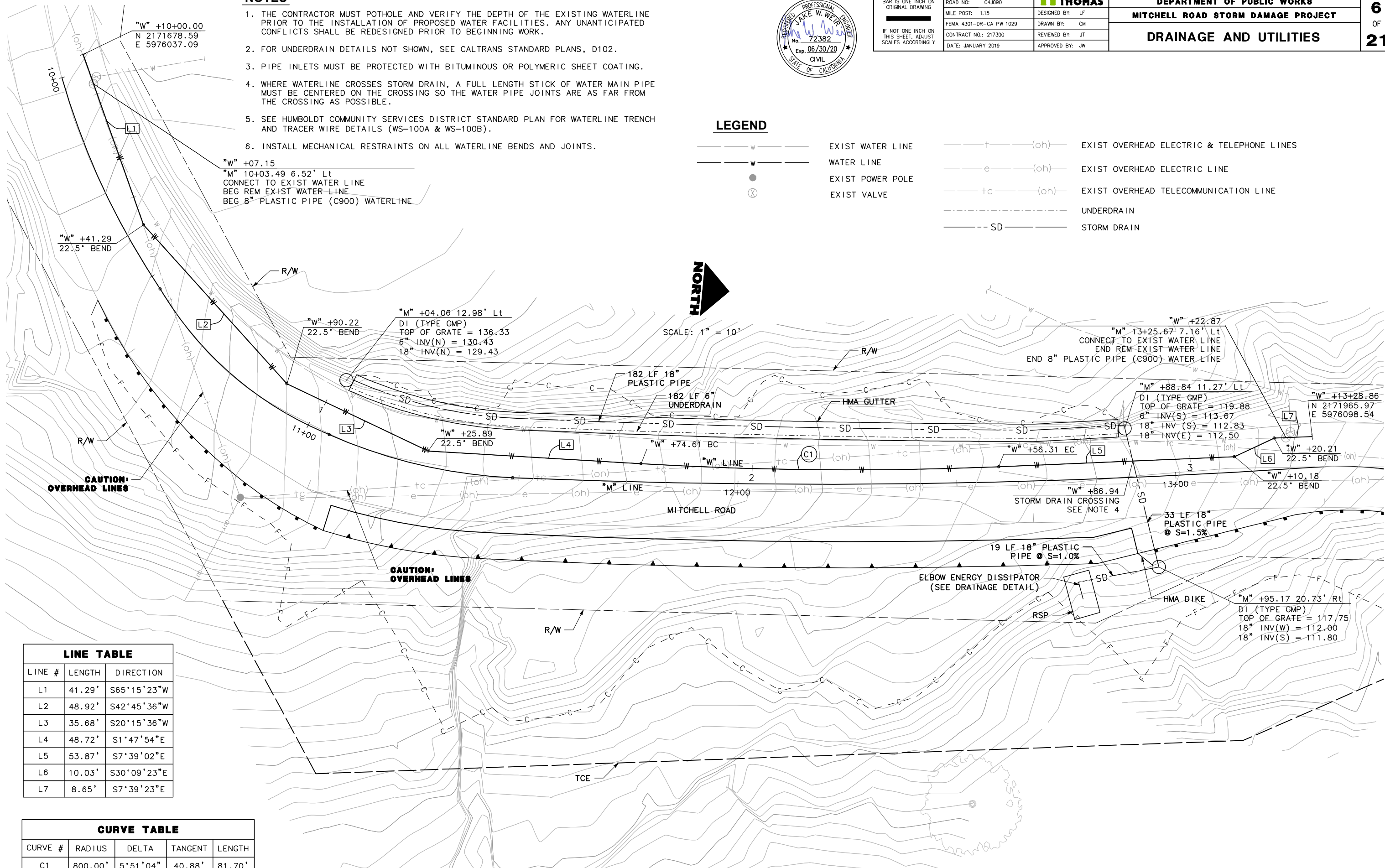


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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 6 OF 21
MITCHELL ROAD STORM DAMAGE PROJECT	
DRAINAGE AND UTILITIES	

LEGEND

--- W ---	EXIST WATER LINE	--- (oh) ---	EXIST OVERHEAD ELECTRIC & TELEPHONE LINES
--- W ---	WATER LINE	--- e --- (oh)	EXIST OVERHEAD ELECTRIC LINE
●	EXIST POWER POLE	--- tc --- (oh)	EXIST OVERHEAD TELECOMMUNICATION LINE
⊗	EXIST VALVE	---	UNDERDRAIN
		--- SD ---	STORM DRAIN



LINE TABLE

LINE #	LENGTH	DIRECTION
L1	41.29'	S65°15'23"W
L2	48.92'	S42°45'36"W
L3	35.68'	S20°15'36"W
L4	48.72'	S1°47'54"E
L5	53.87'	S7°39'02"E
L6	10.03'	S30°09'23"E
L7	8.65'	S7°39'23"E

CURVE TABLE

CURVE #	RADIUS	DELTA	TANGENT	LENGTH
C1	800.00'	5°51'04"	40.88'	81.70'

THIS PLAN ACCURATE FOR DRAINAGE AND UTILITY WORK ONLY

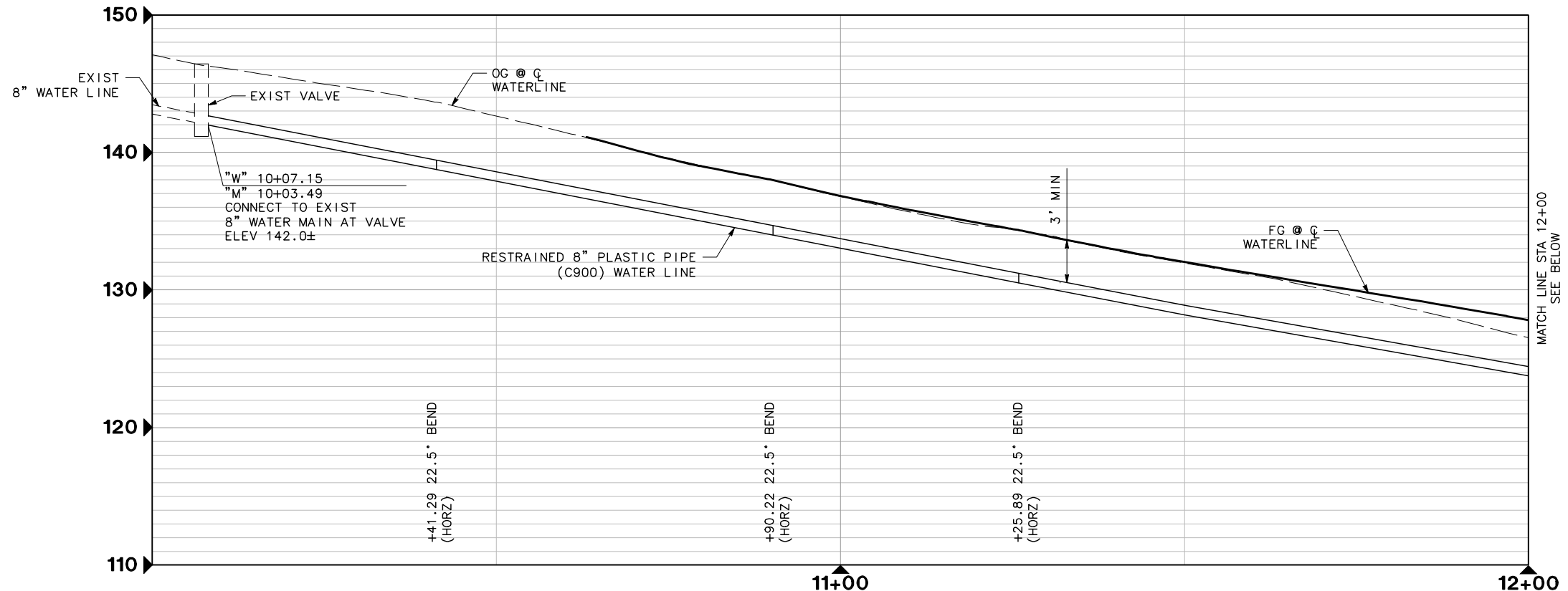
GENERAL NOTES

1. THE CONTRACTOR MUST POTHOLE AND VERIFY THE DEPTH OF THE EXISTING WATERLINE PRIOR TO THE INSTALLATION OF PROPOSED WATER FACILITIES. ANY UNANTICIPATED CONFLICTS SHALL BE REDESIGNED PRIOR TO BEGINNING WORK.
2. WHERE WATERLINE CROSSES STORM DRAIN, A FULL LENGTH STICK OF WATER MAIN PIPE MUST BE CENTERED ON THE CROSSING SO THE WATER PIPE JOINTS ARE AS FAR FROM THE CROSSING AS POSSIBLE.
3. SEE HUMBOLDT COMMUNITY SERVICES DISTRICT STANDARD PLAN FOR WATERLINE TRENCH AND TRACER WIRE DETAILS (WS-100A & WS-100B).
4. INSTALL MECHANICAL RESTRAINTS ON ALL WATERLINE BENDS AND JOINTS.

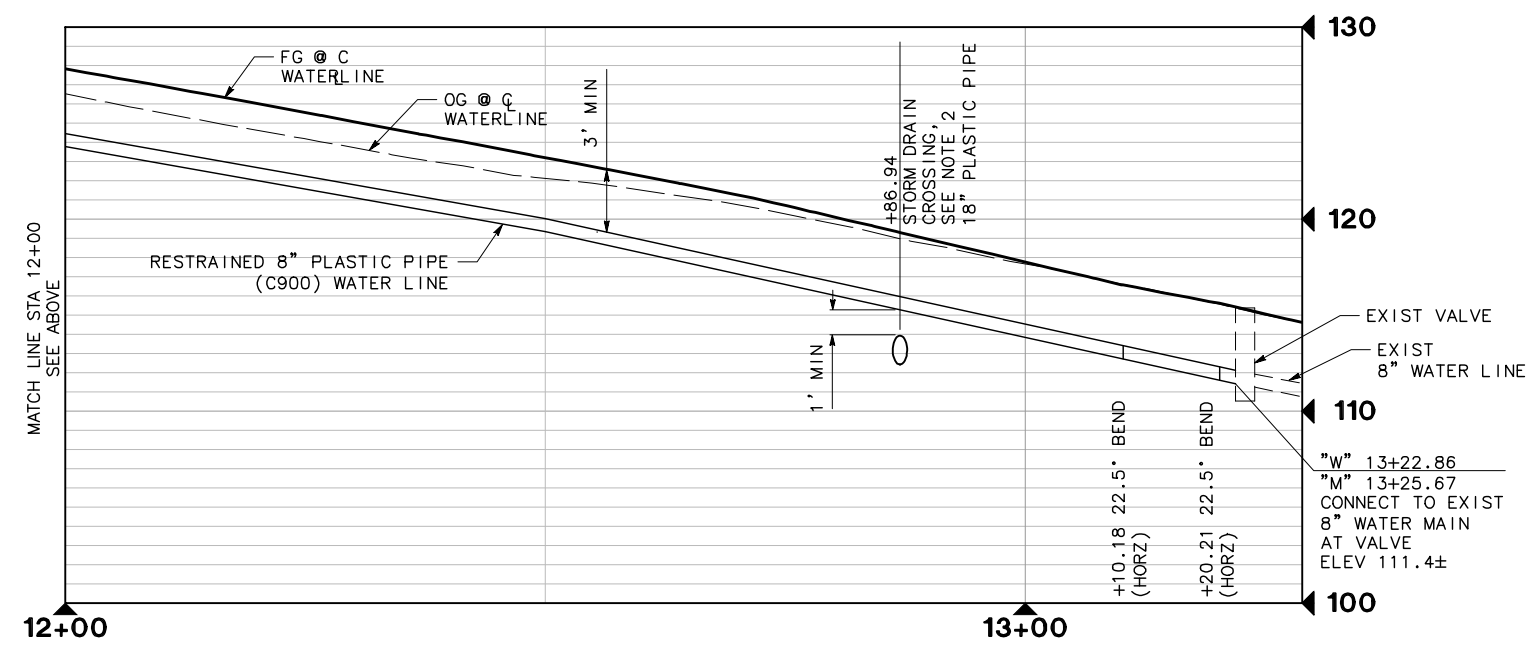


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CONTRACT NO.: 217300	APPROVED BY: JW
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 7
MITCHELL ROAD STORM DAMAGE PROJECT	OF
WATER LINE PROFILE	21



PROFILE "W" LINE
SCALE: HORIZ: 1" = 10'
VERT: 1" = 2'



PROFILE "W" LINE CONTINUED
SCALE: HORIZ: 1" = 10'
VERT: 1" = 2'

THIS PLAN ACCURATE FOR WATER LINE ONLY



BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK THOMAS

DESIGNED BY: LF

DRAWN BY: CM

REVIEWED BY: JT

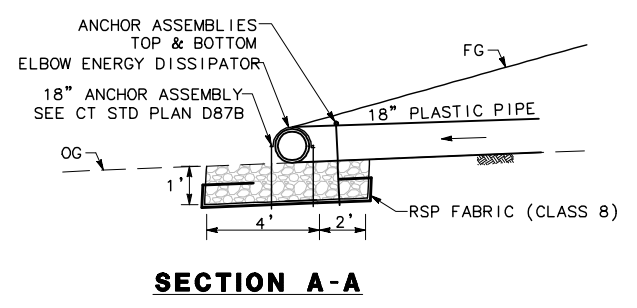
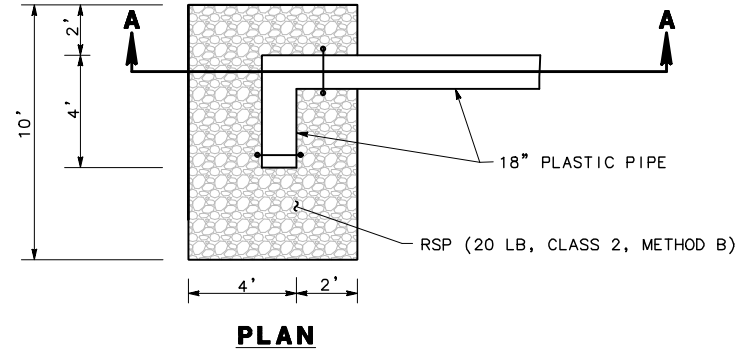
APPROVED BY: JW

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

MITCHELL ROAD STORM DAMAGE PROJECT

DRAINAGE DETAILS

SHEET **8**
OF
21



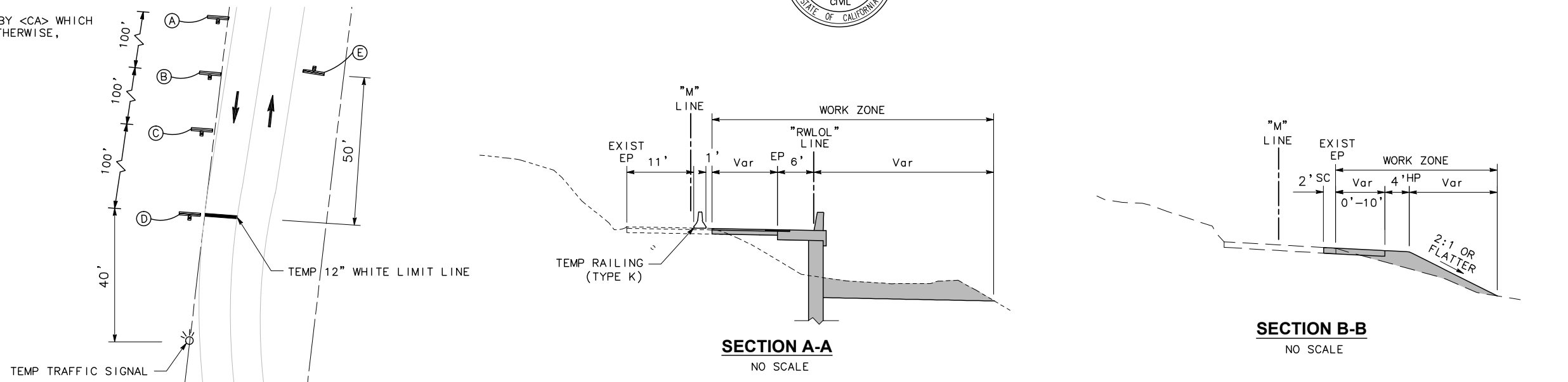
ELBOW ENERGY DISSIPATOR & ROCK SLOPE PROTECTION (RSP)

NOTES

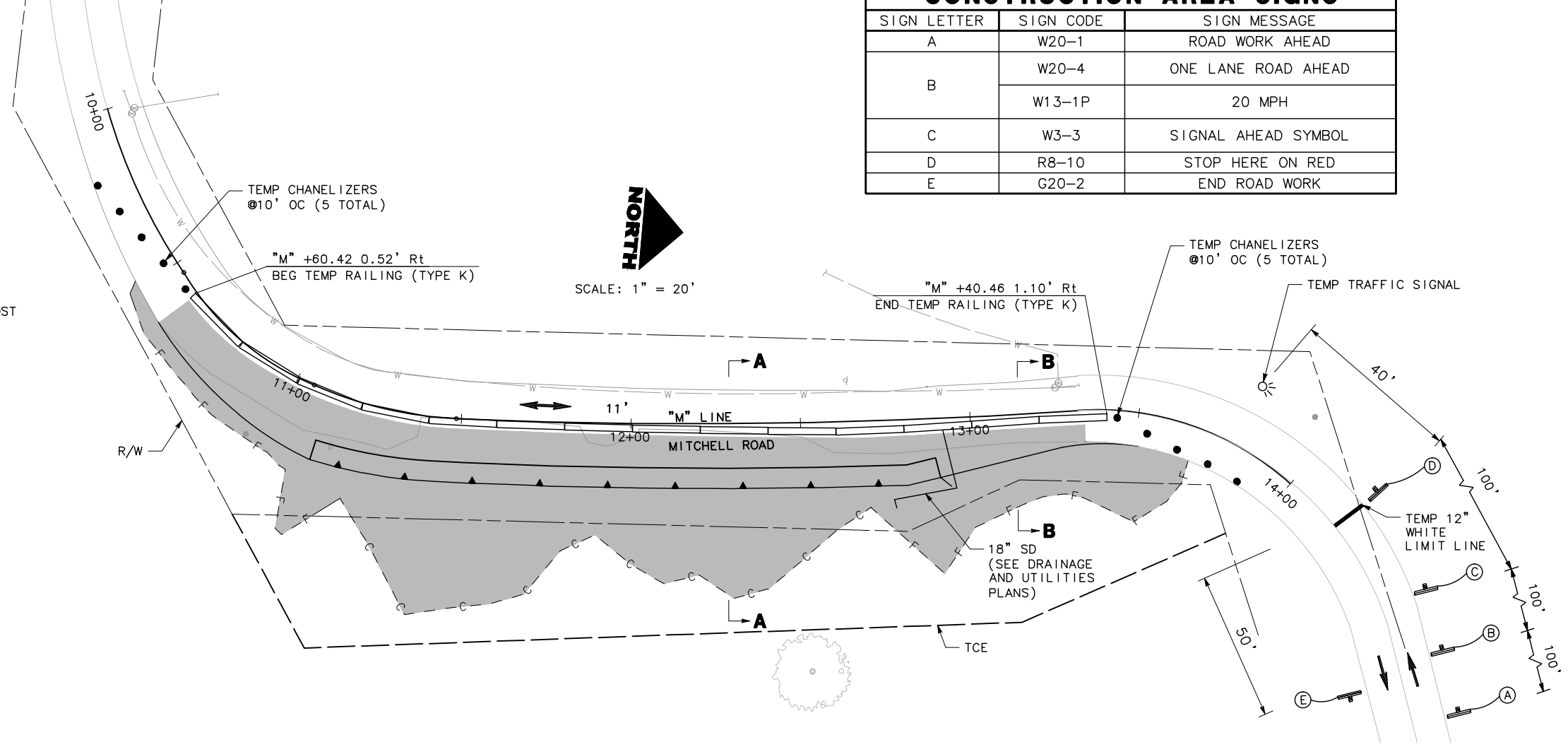
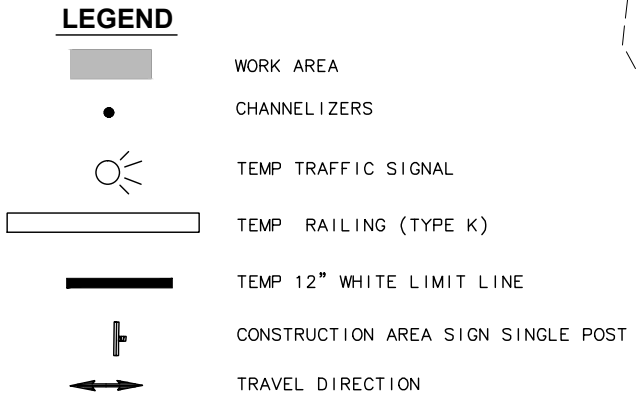
- PERMANENT DRAINAGE AND UTILITIES NOT SHOWN ON THESE PLANS. SEE DRAINAGE AND UTILITY PLAN.
- ALL CALLOUTS REFERENCE "M" LINE UNLESS OTHERWISE NOTED.
- CA MUTCD CODES SHOWN AS DESIGNATED BY <CA> WHICH INDICATES A CALIFORNIA SIGN CODE. OTHERWISE, FEDERAL MUTCD CODES ARE SHOWN.



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CONSTRUCTION AREA SIGNS		
SIGN LETTER	SIGN CODE	SIGN MESSAGE
A	W20-1	ROAD WORK AHEAD
B	W20-4	ONE LANE ROAD AHEAD
	W13-1P	20 MPH
C	W3-3	SIGNAL AHEAD SYMBOL
D	R8-10	STOP HERE ON RED
E	G20-2	END ROAD WORK



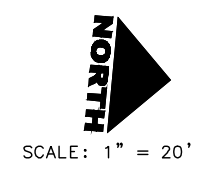
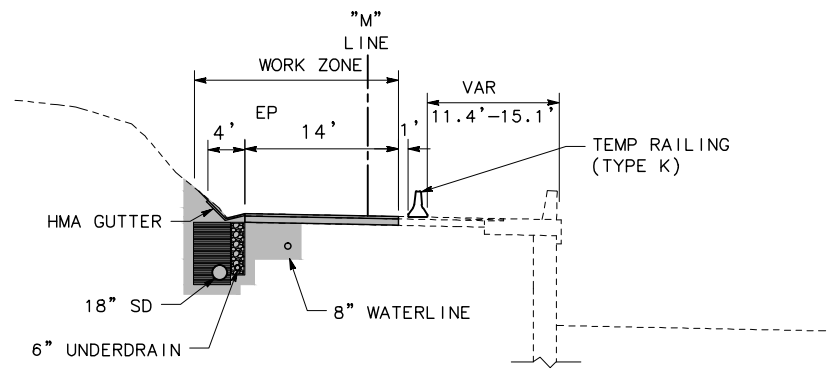
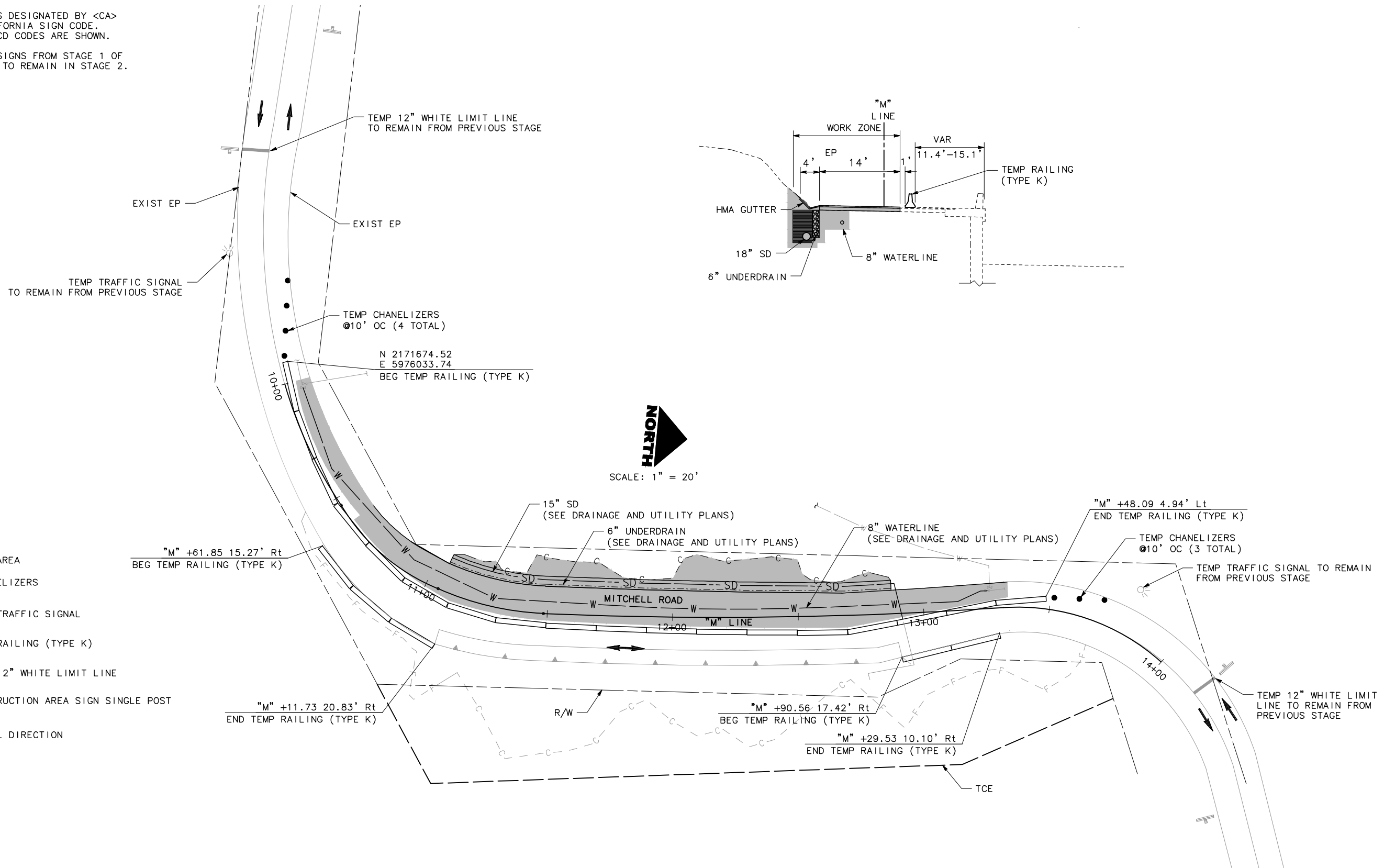
NOTES

1. PERMANENT DRAINAGE AND UTILITIES NOT SHOWN ON THESE PLANS. SEE DRAINAGE AND UTILITY PLAN.
2. ALL CALLOUTS REFERENCE "M" LINE UNLESS OTHERWISE NOTED.
3. MIDWEST GUARDRAIL SYSTEM TO BE INSTALLED LAST.
4. CA MUTCD CODES SHOWN AS DESIGNATED BY <CA> WHICH INDICATES A CALIFORNIA SIGN CODE. OTHERWISE, FEDERAL MUTCD CODES ARE SHOWN.
5. ALL CONSTRUCTION AREA SIGNS FROM STAGE 1 OF STAGE CONSTRUCTION ARE TO REMAIN IN STAGE 2.



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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS MITCHELL ROAD STORM DAMAGE PROJECT	SHEET 10 OF 21
STAGE CONSTRUCTION - STAGE 2	



LEGEND


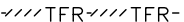

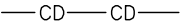

	WORK AREA
	CHANNELIZERS
	TEMP TRAFFIC SIGNAL
	TEMP RAILING (TYPE K)
	TEMP 12" WHITE LIMIT LINE
	CONSTRUCTION AREA SIGN SINGLE POST
	TRAVEL DIRECTION

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION ONLY


NOTES

1. CONSTRUCTION ENTRANCES BMP'S MUST BE INSTALLED TO CONTROL VEHICLE TRACKING.

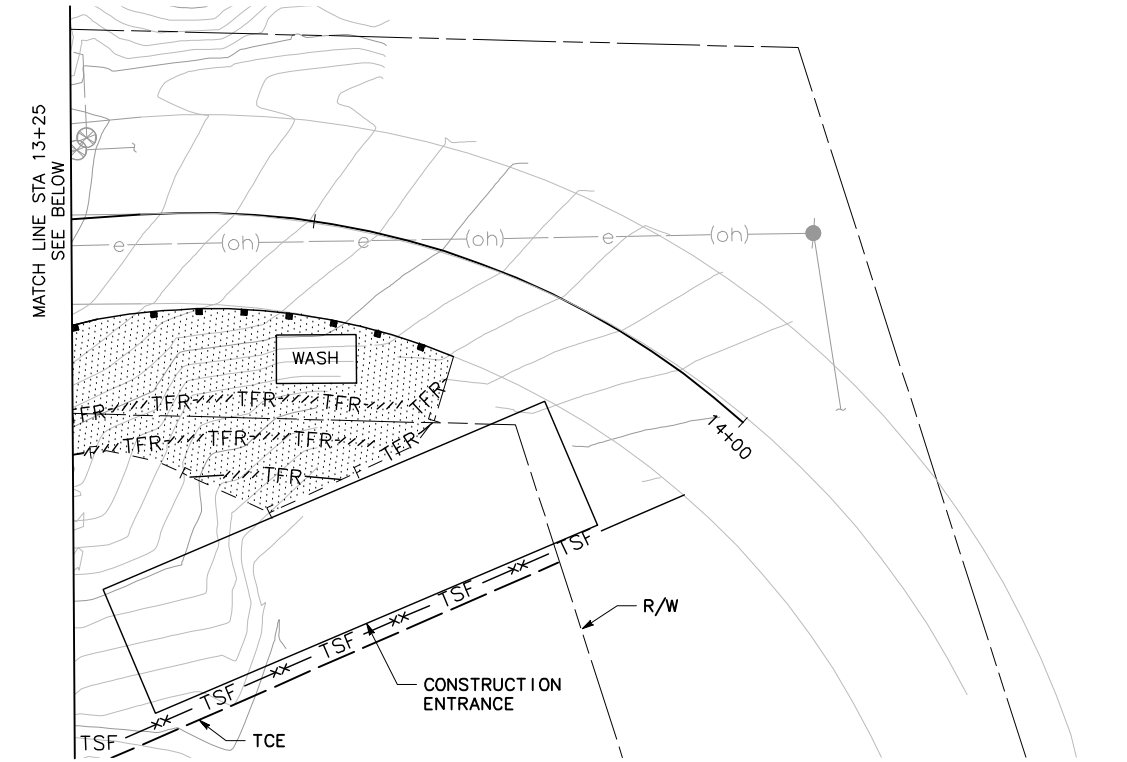
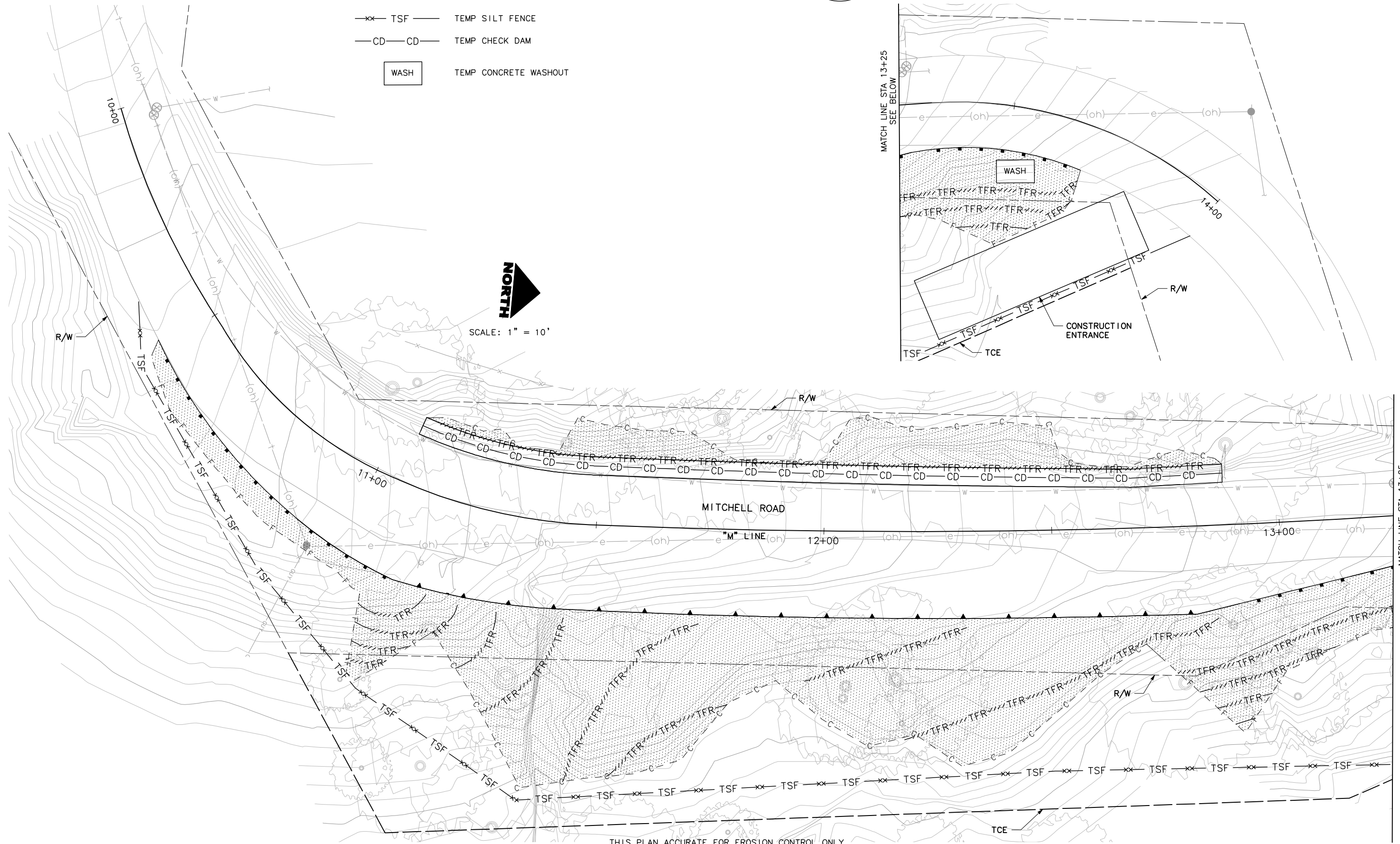
LEGEND

-  HYDROSEED
-  TFR-TFR TEMP FIBER ROLL
-  TSF TEMP SILT FENCE
-  CD-CD TEMP CHECK DAM
-  WASH TEMP CONCRETE WASHOUT



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	REVIEWED BY: JT
	APPROVED BY: JW

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 11 OF 21
MITCHELL ROAD STORM DAMAGE PROJECT	
EROSION CONTROL	



THIS PLAN ACCURATE FOR EROSION CONTROL ONLY

NOTES

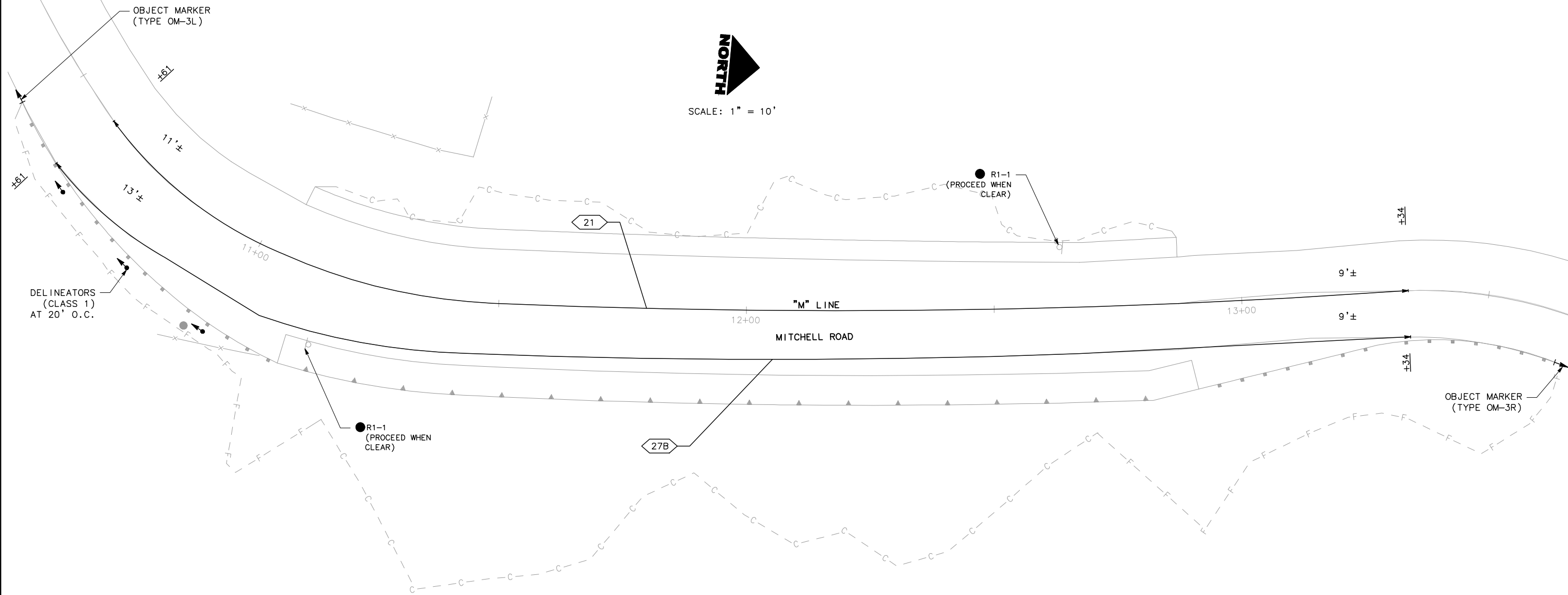
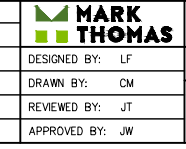
1. CA MUTCD CODES SHOWN AS DESIGNATED BY <CA> WHICH INDICATES A CALIFORNIA SIGN CODE. OTHERWISE, FEDERAL MUTCD CODES ARE SHOWN.

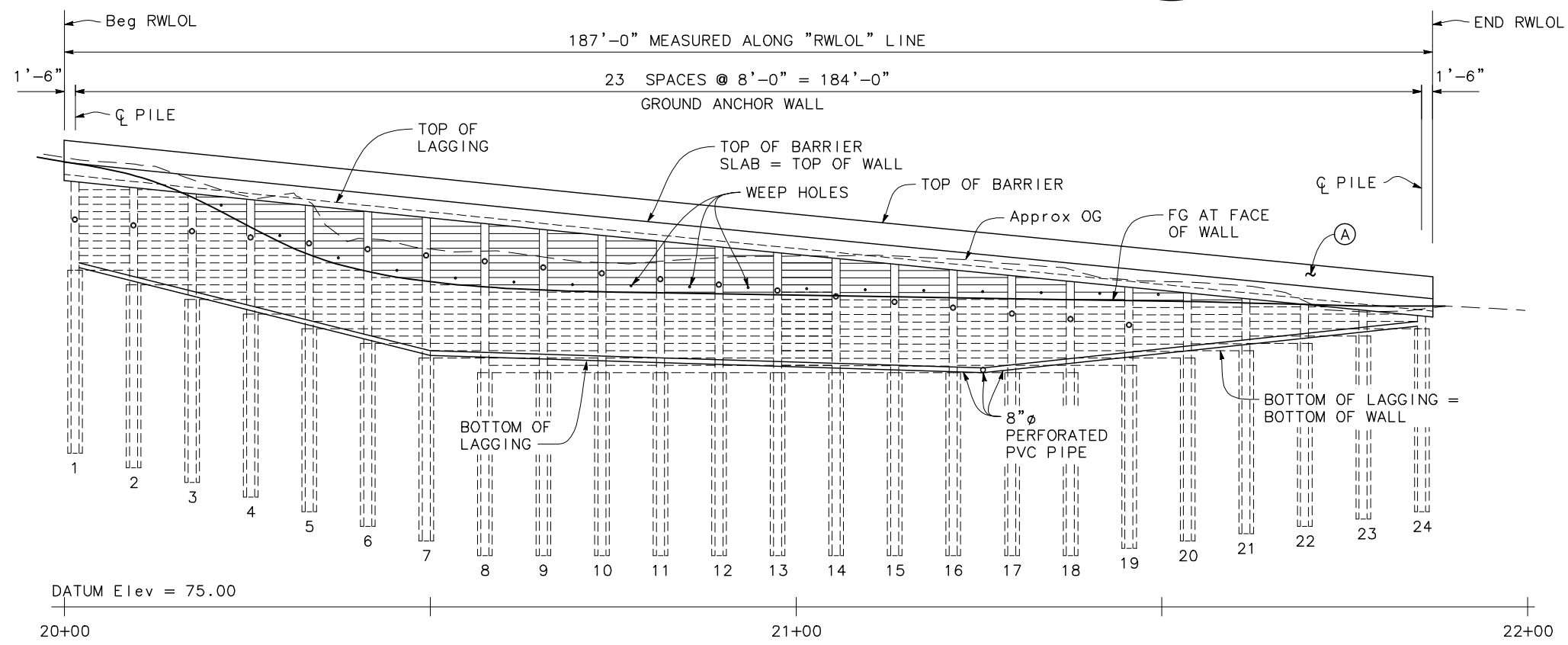
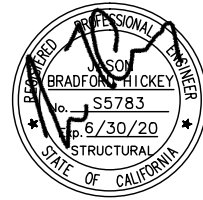
LEGEND

- REMOVE ROADSIDE SIGN
- ◁No.▷ PAVEMENT DELINEATION DETAIL
- ∅ EXISTING ROADSIDE SIGN
- ▲ OBJECT MARKER
- ↔ DELINEATOR

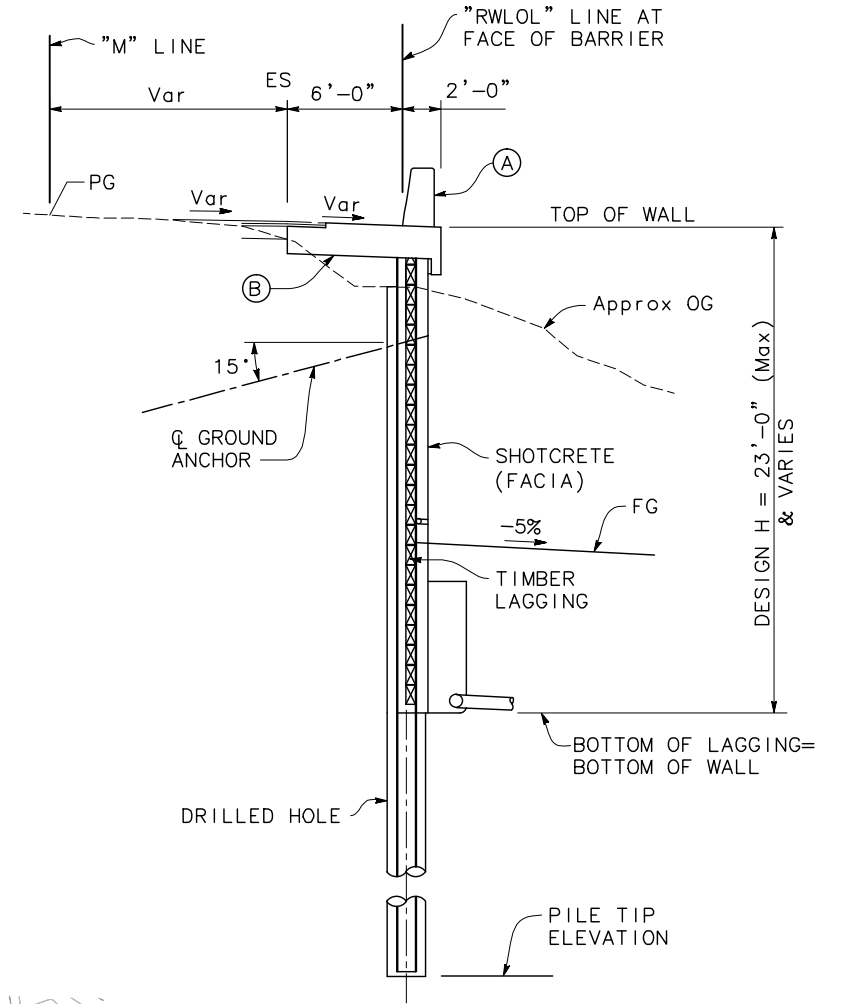


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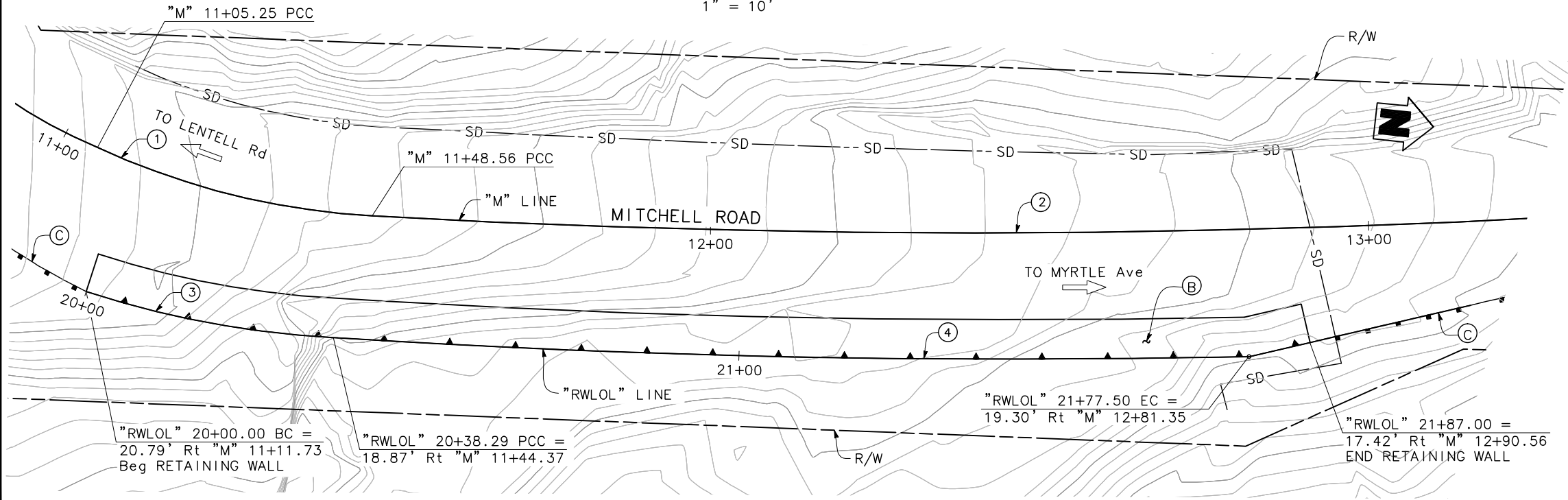




DEVELOPED ELEVATION
1" = 10'



TYPICAL SECTION
1" = 5'



PLAN
1" = 10'

- NOTES:
- (A) Concrete Barrier Type 836 (Mod)
 - (B) Concrete Barrier Slab
 - (C) MGS, SEE "ROADWAY PLANS"

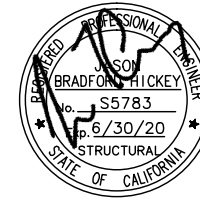
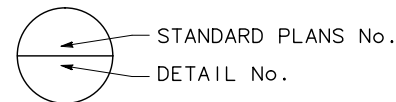
CURVE TABLE				
CURVE #	RADIUS	DELTA	TANGENT	LENGTH
①	115.00'	21°34'45"	21.92'	43.31'
②	1634.00'	6°25'33"	91.73'	183.26'
③	145.32'	15°05'55"	19.26'	38.29'
④	1635.55'	4°52'36"	69.65'	139.21'

INDEX TO PLANS

SHEET NO.	TITLE
13	GENERAL PLAN
14	INDEX TO PLANS
15	FOUNDATION PLAN
16	TYPICAL SECTION
17	CONCRETE BARRIER SLAB DETAILS
18	SOLDIER PILE WALL LAGGING DETAILS
19	SOLDIER PILE WALL DETAILS NO. 1
20	SOLDIER PILE WALL DETAILS NO. 2
21	SUB HORIZONTAL GROUND ANCHOR DETAILS

STANDARD PLANS DATED 2018

A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
RSP B11-79	CONCRETE BARRIER TYPE 836 DETAILS No. 1
RSP B11-80	CONCRETE BARRIER TYPE 836 DETAILS No. 2



BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: MITCHELL ROAD		COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 14 OF 21
	ROAD NO: C4J090		MILE POST: 1.15	MITCHELL ROAD STORM DAMAGE PROJECT	
	FEMA NO.: 4301-DR-CA PW 1029	DESIGNED BY: JB	INDEX TO PLAN		
	CONTRACT NO.: 217300	EA NO.:			
	DWG. FILE NAME:	APPROVED BY: JH			
	DATE: JANUARY 2019	REVISION DATE:	REVIEWED BY: MM		

GENERAL NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments.

LIVE LOAD: 240 psf equivalent to 2 feet soil weight.

SOIL PARAMETERS: (For determination of Design Lateral Earth Pressures)

Backfill soil weight = 120 lb/ft^3
 Friction Angle = 34°
 Active Pressure coefficient, $K_a = 0.283$

SEISMIC PARAMETERS: $k_h = 0.28$
 Active (seismic) pressure coefficient, $k_e = 0.092$

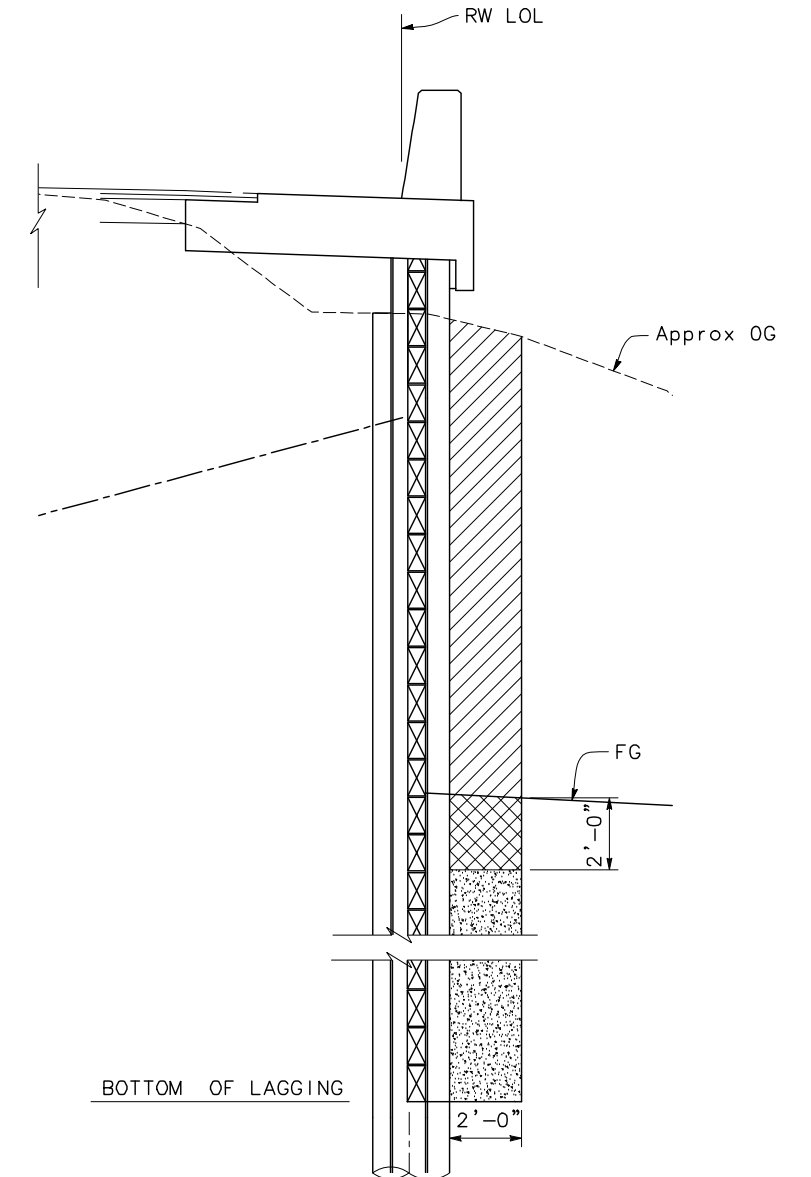
STEEL SOLDIER PILES: ASTM A572/A, ASTM 572M Grade 50 Min, or ASTM A992

SHOTCRETE (FASCIA): $f'_c = 4000 \text{ psi}$
 $f_y = 60 \text{ ksi}$

STRUCTURAL TIMBER: Treated Douglas Fir, Grade No. 1 or better
 Timber to be full sawn.

PRESTRESSING STEEL (GROUND ANCHORS):
 Bars - ASTM Designation: A722 Type II (150 ksi)
 Strand Tendons - ASTM Designation: A416 (270 ksi Low relaxation steel)
 $T =$ Design force on ground anchor (kips)
 $f_{pu} =$ Minimum ultimate tensile strength of ground anchor steel
 $A_s (\text{Min}) =$ Minimum cross sectional area of steel in ground anchor. (sq. in)
 $A_s (\text{Min}) = \frac{1.0T}{0.75 f_{pu}}$ (STRANDS)
 $A_s (\text{Min}) = \frac{1.0T}{0.80 f_{pu}}$ (BARS)

REINFORCED CONCRETE: $f'_c = 3,200 \text{ psi}$ (Concrete compressive strength at 28 days)
 $f_y = 60,000 \text{ psi}$ (Yield strength of reinforcement)



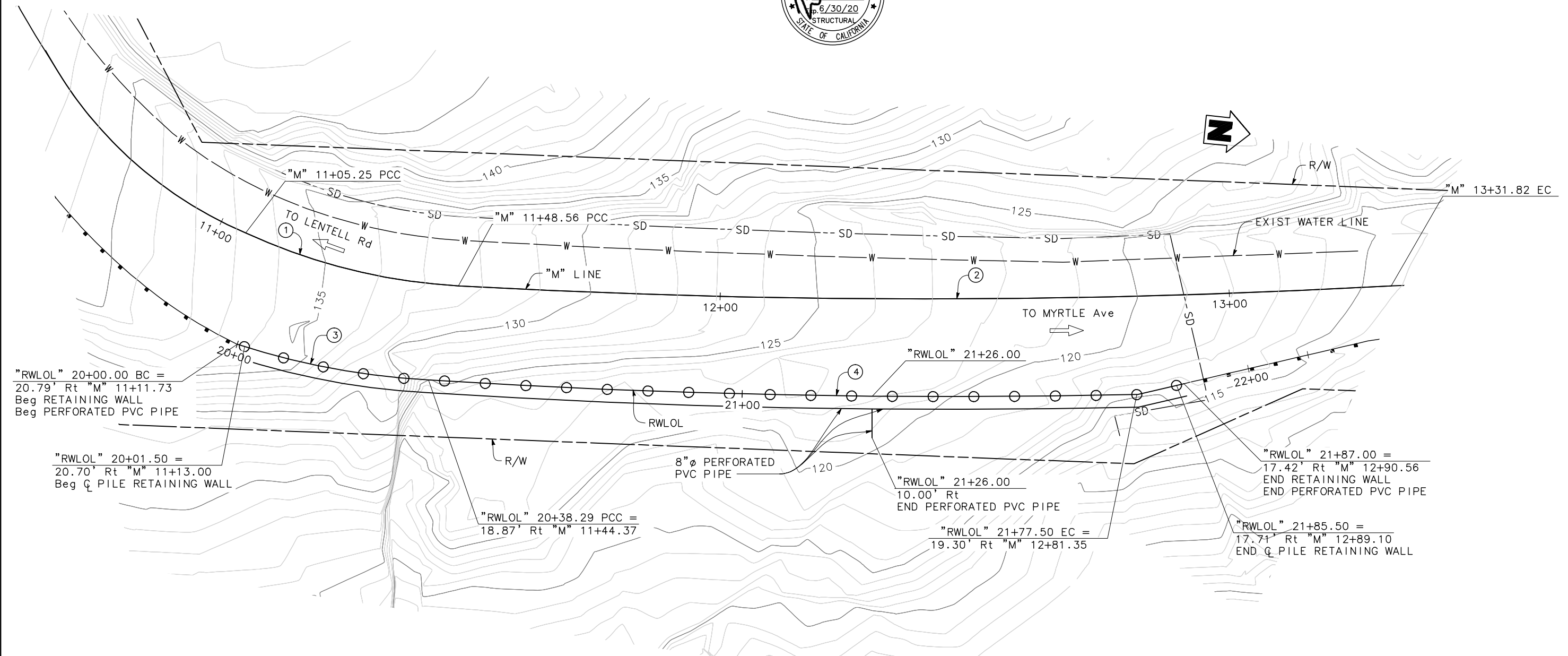
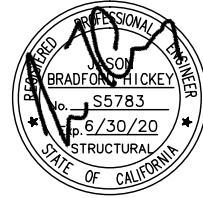
STRUCTURE BACKFILL AND EXCAVATION

NO SCALE

- Indicates Structure Excavation, Soldier Pile Wall
- Indicates Structure Backfill, Soldier Pile Wall
- Indicates Permeable Material Class 3

NOTES:

1. Lagging and Backfill behind lagging shall be placed to at least 3'-0" above Ground Anchor prior to construction of the Anchor
2. Excavation shall not extend more than 3'-0" below a Ground Anchor until it is completely constructed and stressed
3. Contractor may submit alternative plans & details for approval by the Engineer
4. For limits of payments for roadway excavation, see "ROADWAY PLANS"



"RWLOL" 20+00.00 BC =
 20.79' Rt "M" 11+11.73
 Beg RETAINING WALL
 Beg PERFORATED PVC PIPE

"RWLOL" 20+01.50 =
 20.70' Rt "M" 11+13.00
 Beg Q PILE RETAINING WALL

"RWLOL" 20+38.29 PCC =
 18.87' Rt "M" 11+44.37

"RWLOL" 21+26.00
 10.00' Rt
 END PERFORATED PVC PIPE

"RWLOL" 21+77.50 EC =
 19.30' Rt "M" 12+81.35

"RWLOL" 21+87.00 =
 17.42' Rt "M" 12+90.56
 END RETAINING WALL
 END PERFORATED PVC PIPE

"RWLOL" 21+85.50 =
 17.71' Rt "M" 12+89.10
 END Q PILE RETAINING WALL

CURVE TABLE				
CURVE #	RADIUS	DELTA	TANGENT	LENGTH
①	115.00'	21°34'45"	21.92'	43.31'
②	1634.00'	6°25'33"	91.73'	183.26'
③	145.32'	15°05'55"	19.26'	38.29'
④	1635.55'	4°52'36"	69.65'	139.21'

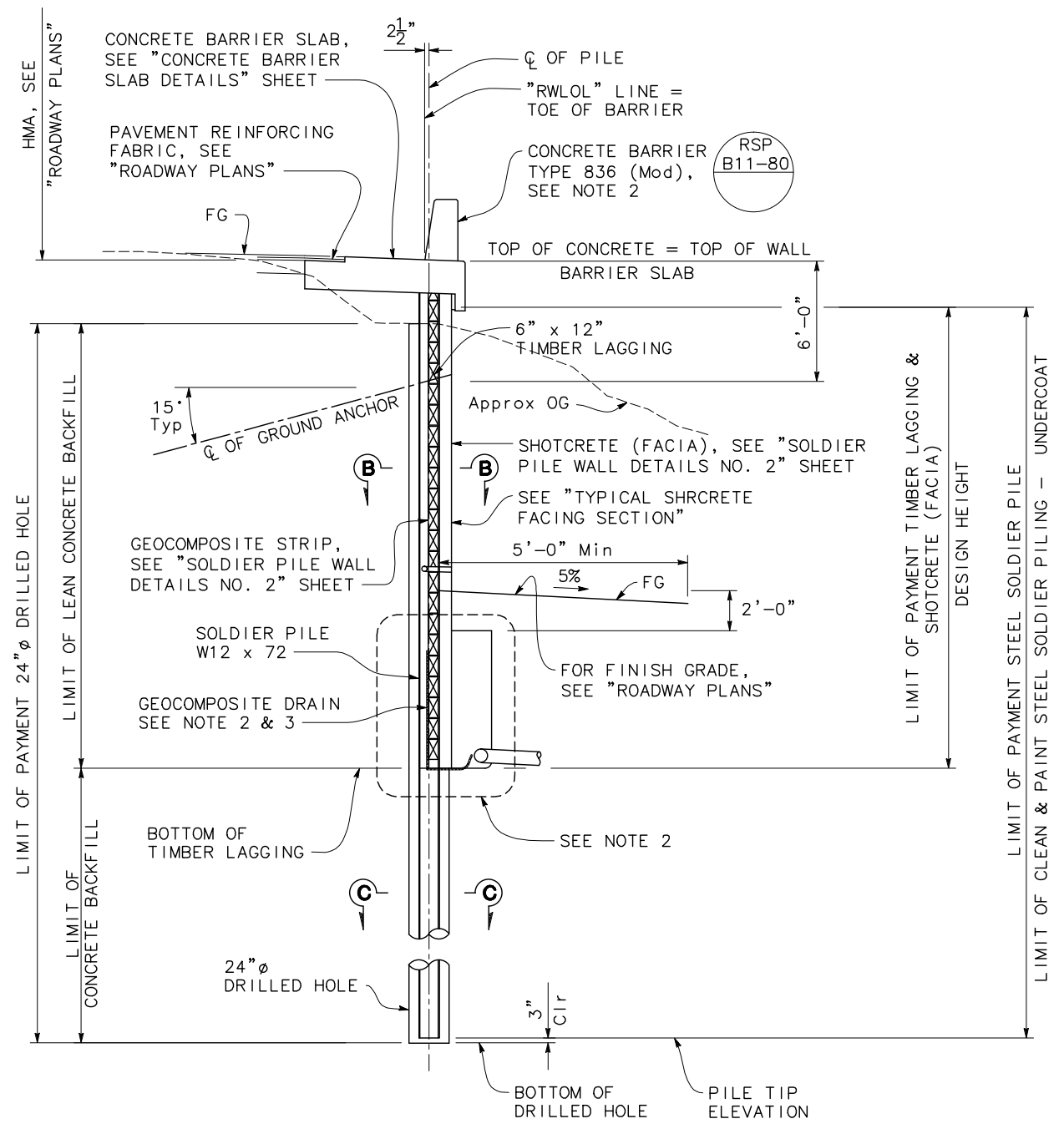
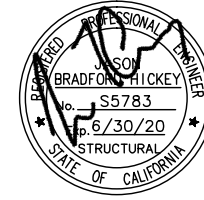
PLAN
 1" = 10'

LEGEND

○ - 24 inch diameter drilled hole

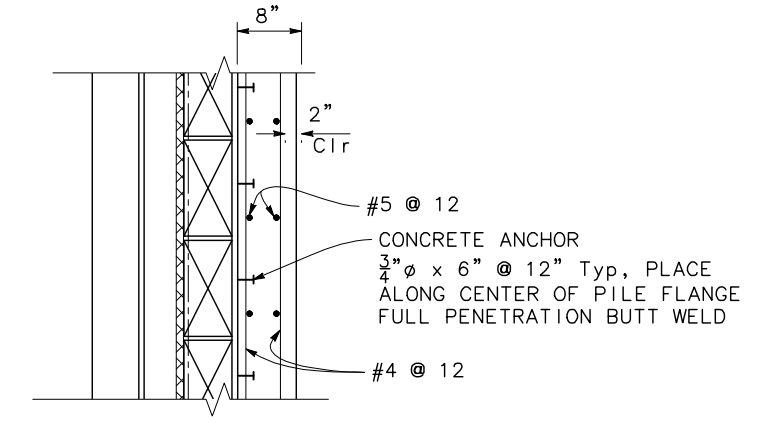
BENCHMARK

Coordinates for this survey are California Coordinate System of 1983 (CCS83) Zone 1, NAD 83, Epoch 2007.00 based on a static GPS Control Survey. The mapping angle is 1 degree 23 minutes 05 seconds— rotate bearings counterclockwise by this angle to obtain "Trueφ or Geodetic bearings. Grid distances shown should be divided by the Combined Scale factor of 0.99988908 to obtain ground distances. Mapping angle and grid scale factor taken at Control Point No. 51. Horizontal control is in US Survey feet and is based on static GPS tie to NGS PID "LV1180", an NGS HPGN Network point at Murray Field in Eureka on above stated Epoch. Vertical control is also based on NGS PID "LV1180", NAVD 88 datum, with elevation of 6.10 feet.



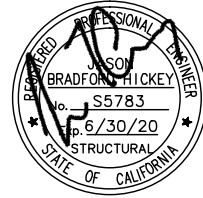
TYPICAL SECTION - GROUND ANCHOR WALL
 1/4" = 1'-0"

- NOTES:
- For "SECTION B-B" and "SECTION C-C", see "SOLDIER PILE WALL LAGGING DETAILS" sheet.
 - For "WALL DRAIN DETAIL", see "SOLDIER PILE WALL DETAILS No. 2" sheet.
 - Continue geocomposite drain under wall into permeable material

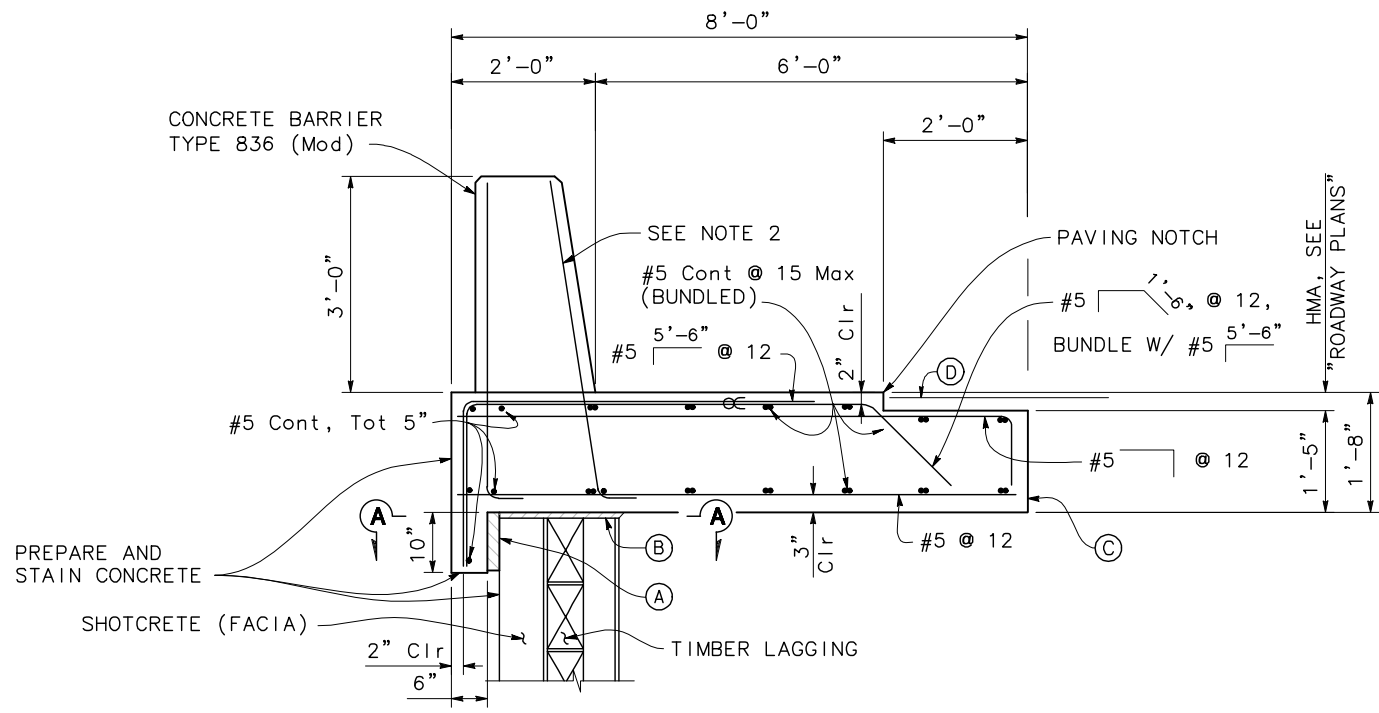


TYPICAL SHOTCRETE FACING SECTION
 1" = 1'-0"

PILE AND GROUND ANCHOR DATA TABLE						
PILE NUMBER	"RWLOL" LINE STATION	TOP OF WALL ELEVATION (ft)	BOTTOM OF LAGGING ELEVATION (ft)	PILE TIP ELEVATION (ft)	GROUND ANCHORS	
					T (kips)	UNBONDED LENGTH (ft)
1	20+01.50	137.03	121.0	96.0	110	30.0
2	20+09.50	136.08	119.0	94.0	110	30.0
3	20+17.50	135.16	117.0	92.0	110	30.0
4	20+25.50	134.33	115.0	90.0	110	30.0
5	20+33.50	133.73	113.0	88.0	110	30.0
6	20+41.50	133.11	111.0	86.0	160	40.0
7	20+49.50	132.45	109.0	84.0	160	40.0
8	20+57.50	131.78	107.0	82.0	160	40.0
9	20+65.50	131.12	107.0	82.0	160	40.0
10	20+73.50	130.47	107.0	82.0	160	40.0
11	20+81.50	129.81	107.0	82.0	160	40.0
12	20+89.50	129.13	107.0	82.0	160	40.0
13	20+97.50	128.44	107.0	82.0	160	40.0
14	21+05.50	127.74	107.0	82.0	110	30.0
15	21+13.50	127.03	107.0	82.0	110	30.0
16	21+21.50	126.30	107.0	82.0	110	30.0
17	21+29.50	125.57	107.0	82.0	110	30.0
18	21+37.50	124.82	108.0	82.0	110	30.0
19	21+45.50	123.88	109.0	83.0	110	30.0
20	21+53.50	122.90	110.0	84.0	110	30.0
21	21+61.50	121.90	111.0	85.0	N/A	N/A
22	21+69.50	120.89	112.0	86.0	N/A	N/A
23	21+77.50	119.77	112.0	87.0	N/A	N/A
24	21+85.50	118.67	113.0	88.0	N/A	N/A



BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: MITCHELL ROAD		COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 17 OF 21
	ROAD NO: C4J090		MILE POST: 1.15	MITCHELL ROAD STORM DAMAGE PROJECT	
	FEMA NO.: 4301-DR-CA PW 1029	DESIGNED BY: JB			
	CONTRACT NO.: 217300	EA NO.:			
	DWG. FILE NAME:	DRAWN BY: GB			
	DATE: JANUARY 2019	REVIEWED BY: MM			
	REVISION DATE:	APPROVED BY: JH			

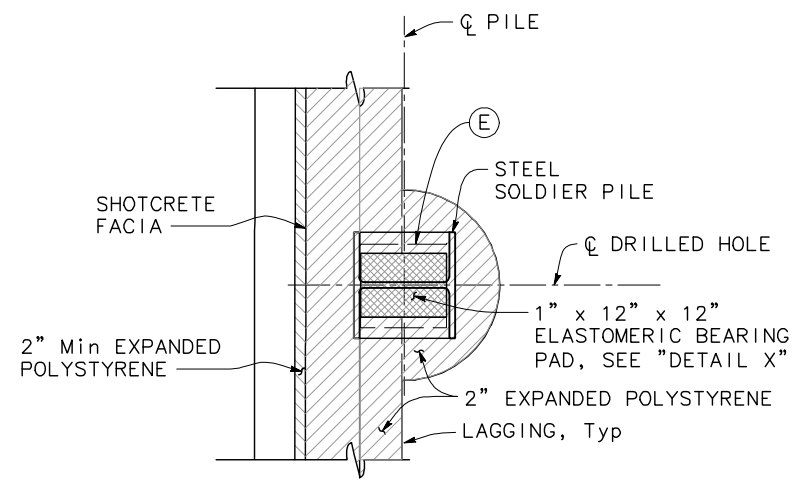


- NOTES:
1. Clearance to reinforcing steel in concrete barrier to be 1".
 2. Not all barrier reinforcement shown.
 3. No expansion joints in concrete barrier or barrier slab within wall limits.
 4. Prepare and stain concrete on all exposed surfaces of concrete barrier.
- (A) 2" Min Expanded Polystyrene
 (B) 2" Expanded Polystyrene, see "SECTION A-A" for Soldier Pile
 (C) Contact joint
 (D) Pavement reinforcing fabric, see "ROADWAY PLANS"
 (E) 1/2" x 15 1/2" x 16" Cover Plate welded to the top of pile, see "SECTION Y-Y"

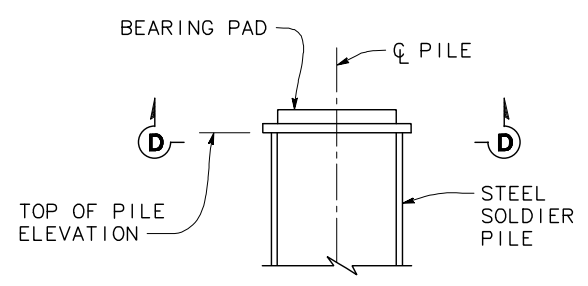
- LEGEND:
- Indicates 1" Expanded Polystyrene
 - Indicates 2" Min Expanded Polystyrene
 - Indicates Bearing Pad
 - Indicates bundled bars

CONCRETE BARRIER SLAB WITH PAVING NOTCH

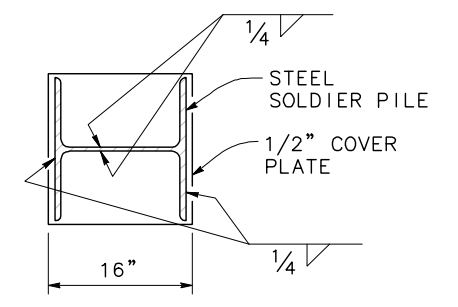
$3/4" = 1'-0"$



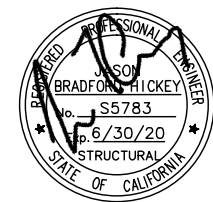
SECTION A-A
NO SCALE



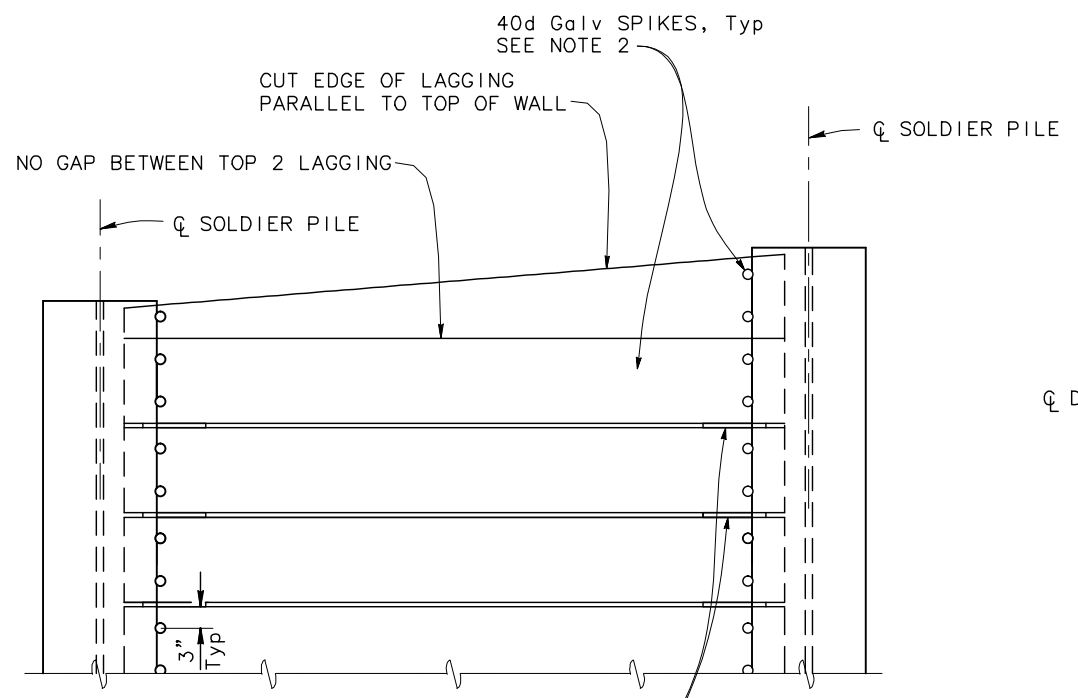
DETAIL X
NO SCALE



SECTION D-D
NO SCALE

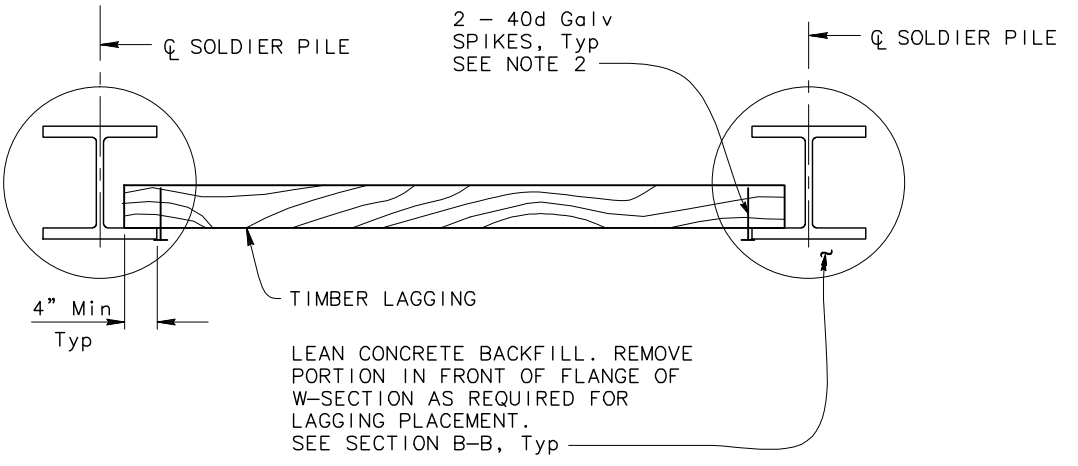


BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: MITCHELL ROAD		COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 18 OF 21
	ROAD NO: C4J090		MILE POST: 1.15	MITCHELL ROAD STORM DAMAGE PROJECT	
	FEMA NO.: 4301-DR-CA PW 1029	DESIGNED BY: JB			
	CONTRACT NO.: 217300	EA NO.:			
	DWG. FILE NAME:	DRAWN BY: GB			
	DATE: JANUARY 2019	REVIEWED BY: NM			
	REVISION DATE:	APPROVED BY: JH			



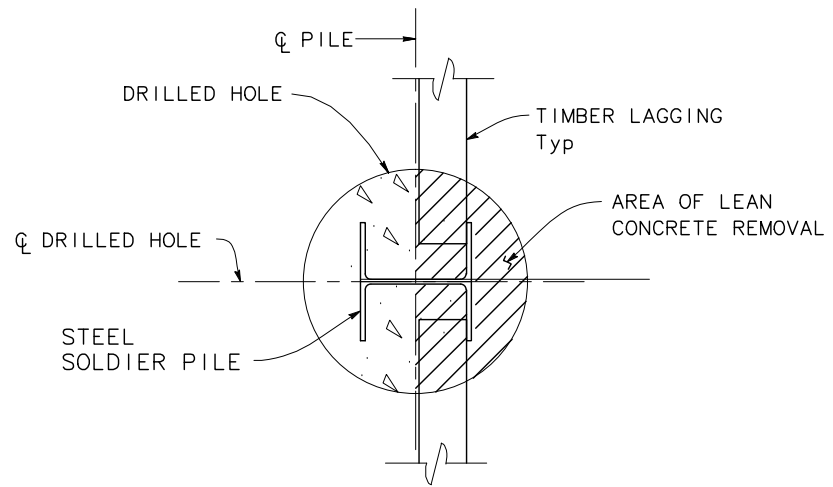
1/2" x 6" x 18" HIGH DENSITY POLYETHYLENE SHIM, Tot 2, BETWEEN LAGGING MEMBERS. SECURE WITH 2-12d Galv NAILS, Typ

PART ELEVATION LAGGING DETAILS
NO SCALE

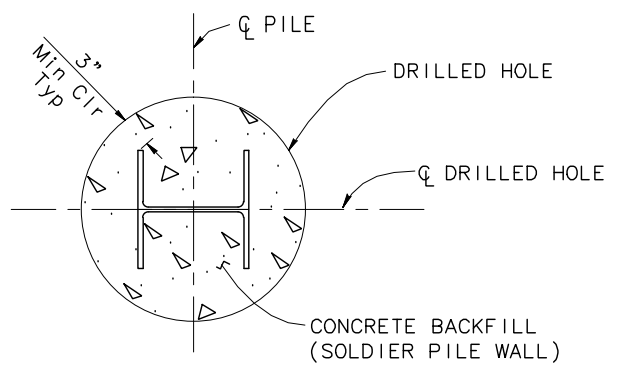


PART PLAN OF TIMBER LAGGING MEMBER
NO SCALE

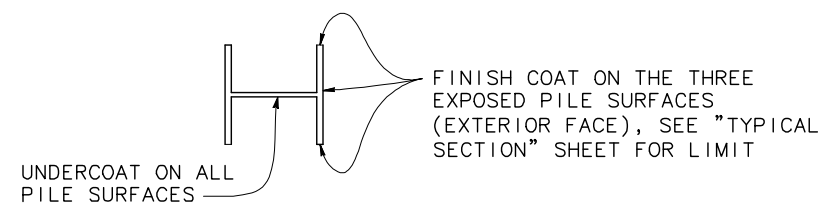
- NOTES:
- No clipping of timber lagging corners allowed. Lagging corners may be chamfered to facilitate placement. Max 2 corner per lagging
 - Spikes shall not be bent



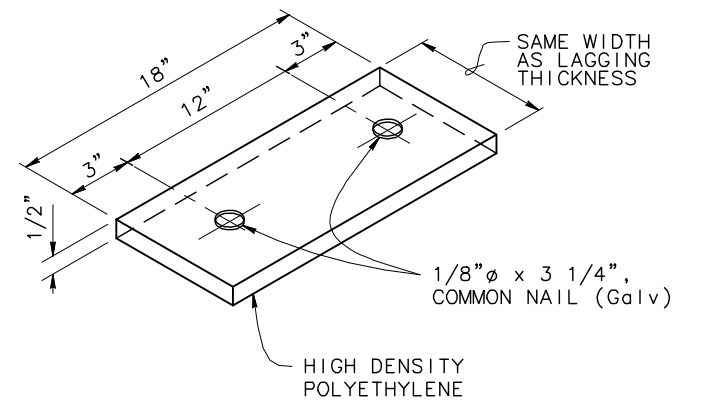
SECTION B-B
NO SCALE



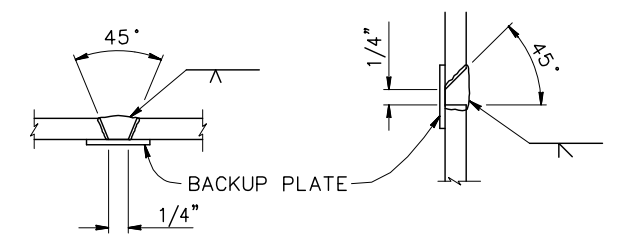
SECTION C-C
NO SCALE



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILES
NO SCALE

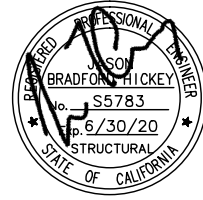


SHIM DETAIL
NO SCALE

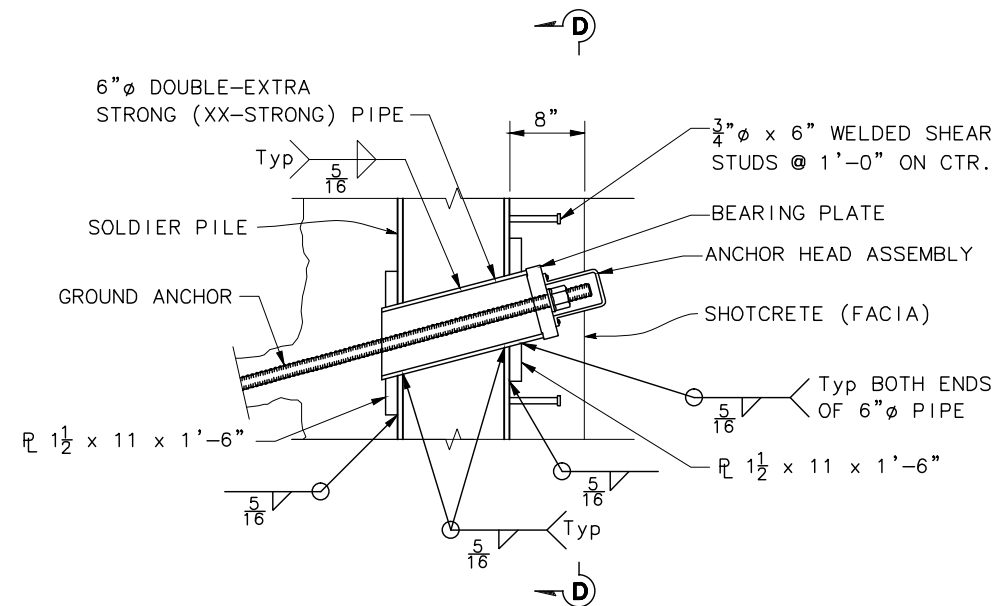


PILE WELDING DETAIL-BUTT JOINTS
NO SCALE

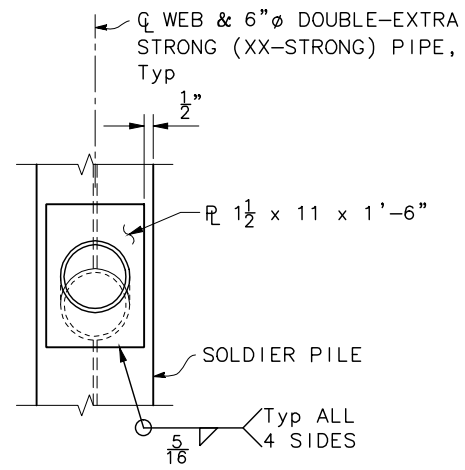
- NOTES:
- Single vee-groove and square groove permitted for all positions.
 - Single bevel-groove permitted for horizontal joints only.



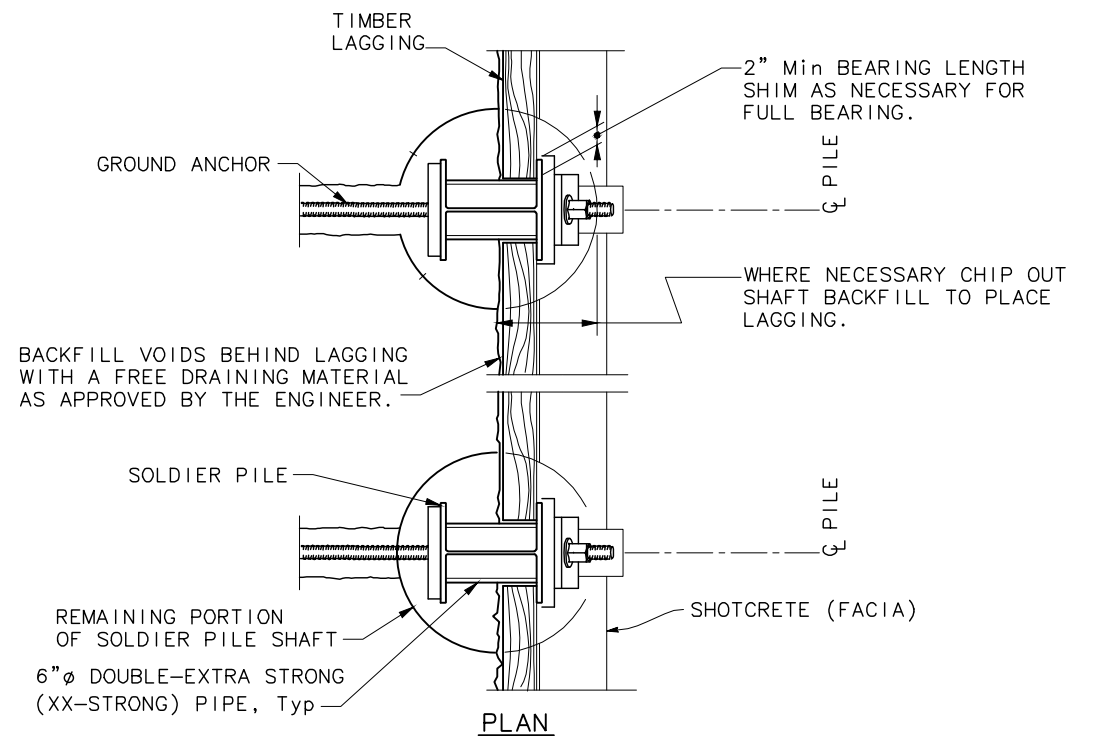
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	ROAD NAME: MITCHELL ROAD		COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 19 OF 21
	ROAD NO: C4J090		MILE POST: 1.15	MITCHELL ROAD STORM DAMAGE PROJECT	
	FEMA NO.: 4301-DR-CA PW 1029	DESIGNED BY: JB			
	CONTRACT NO.: 217300	EA NO.:			
	DWG. FILE NAME:	DRAWN BY: GB			
	DATE: JANUARY 2019	REVIEWED BY: NM			
	REVISION DATE:	APPROVED BY: JH			



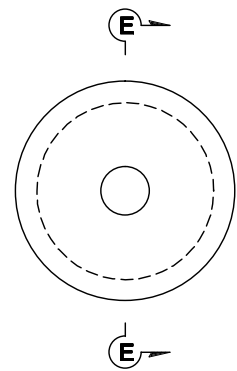
ELEVATION - SOLDIER PILE WITH SHGA THRU WEB



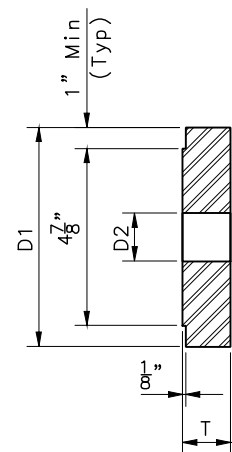
SECTION D-D
NO SCALE



SOLDIER PILE WALL
NO SCALE

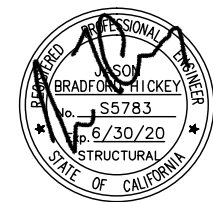


BEARING PLATE
NO SCALE



SECTION E-E
NO SCALE

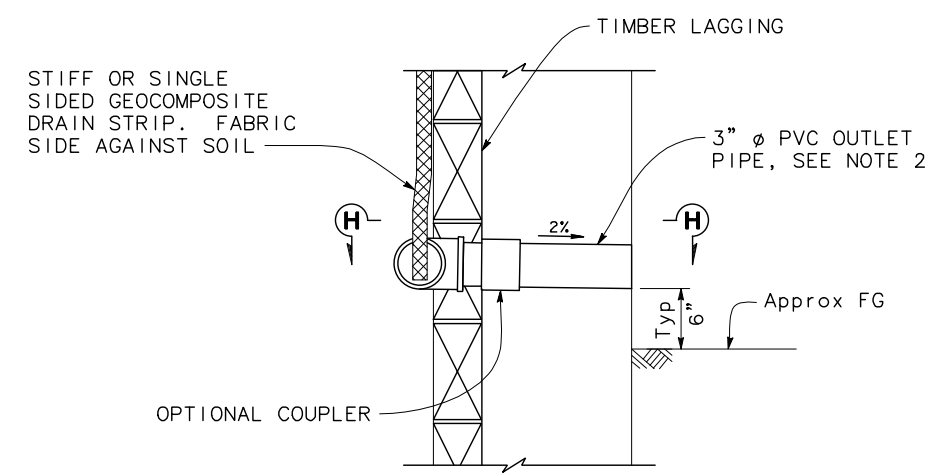
BEARING PLATE SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL IN ACCORDANCE WITH THE STANDARD SPECIFICATION SECTION 50-1.01C.



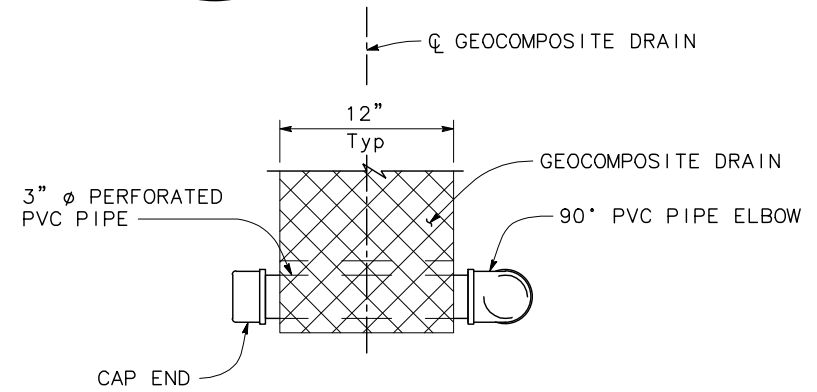
ROAD NAME: MITCHELL ROAD	DESIGNED BY: JB
ROAD NO: C4J090	DRAWN BY: GB
FEMA NO.: 4301-DR-CA PW 1029	REVIEWED BY: MM
MILE POST: 1.15	APPROVED BY: JH
CONTRACT NO.: 217300	DATE: JANUARY 2019
EA NO.:	REVISION DATE:

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS MITCHELL ROAD STORM DAMAGE PROJECT SOLDIER PILE WALL DETAILS NO. 2

SHEET
20
OF
21

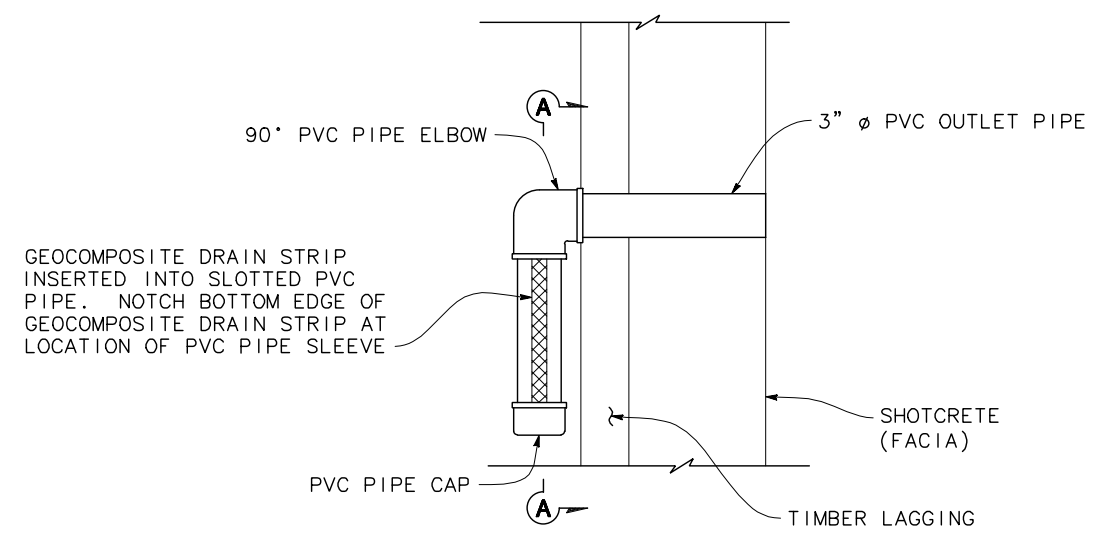


WALL DRAIN DETAIL AT WEEPHOLE
NO SCALE

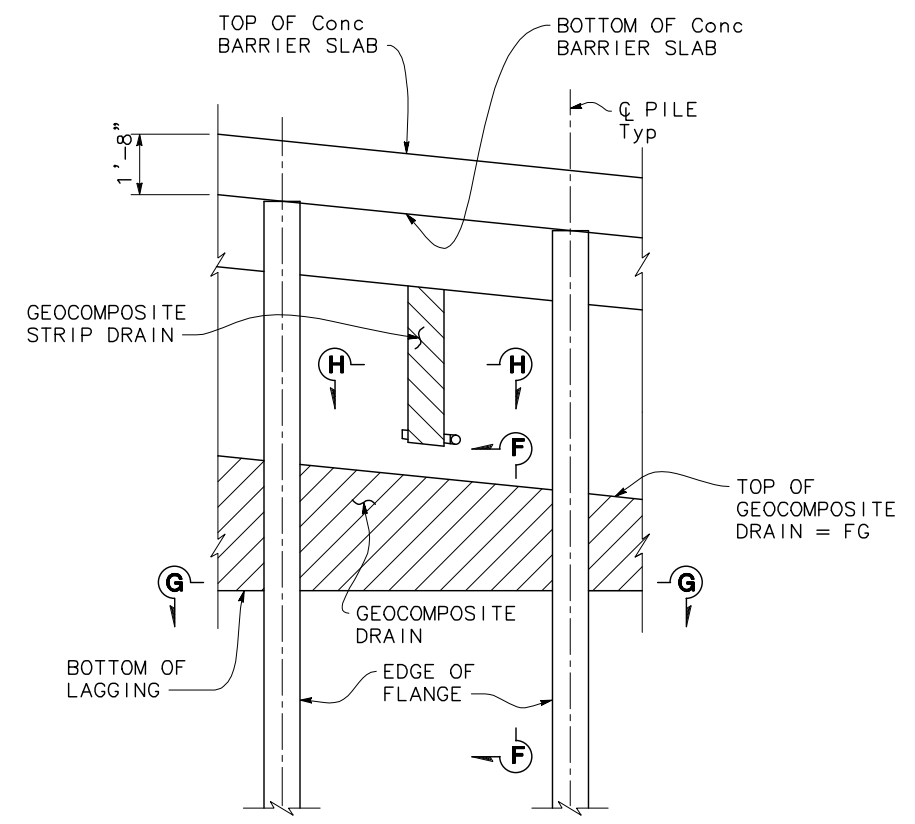


VIEW A-A
NO SCALE

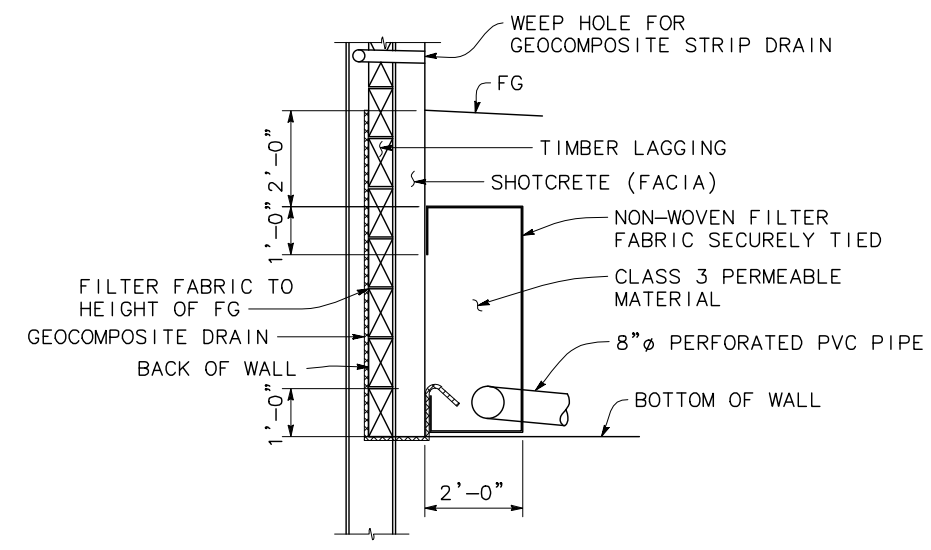
- NOTES:
1. Geocomposite drain strip per Section 88 Geosynthetics of the Standard Specifications
 2. Elevation of drains and weepholes as shown elsewhere on plans



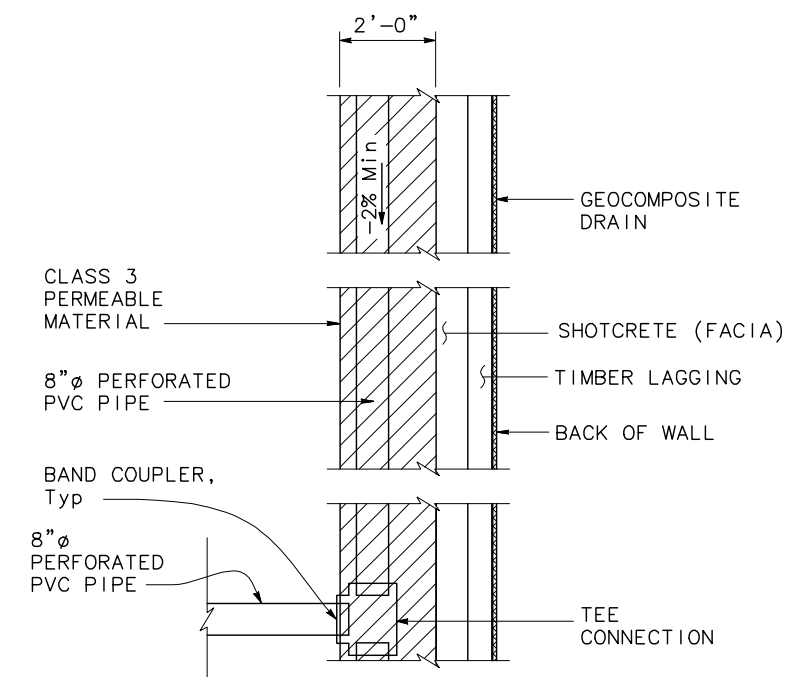
SECTION H-H
NO SCALE



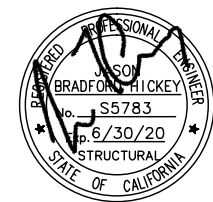
PART ELEVATION DRAIN AT SOLDIER PILE WALL
NO SCALE



WALL DRAIN DETAIL
NO SCALE



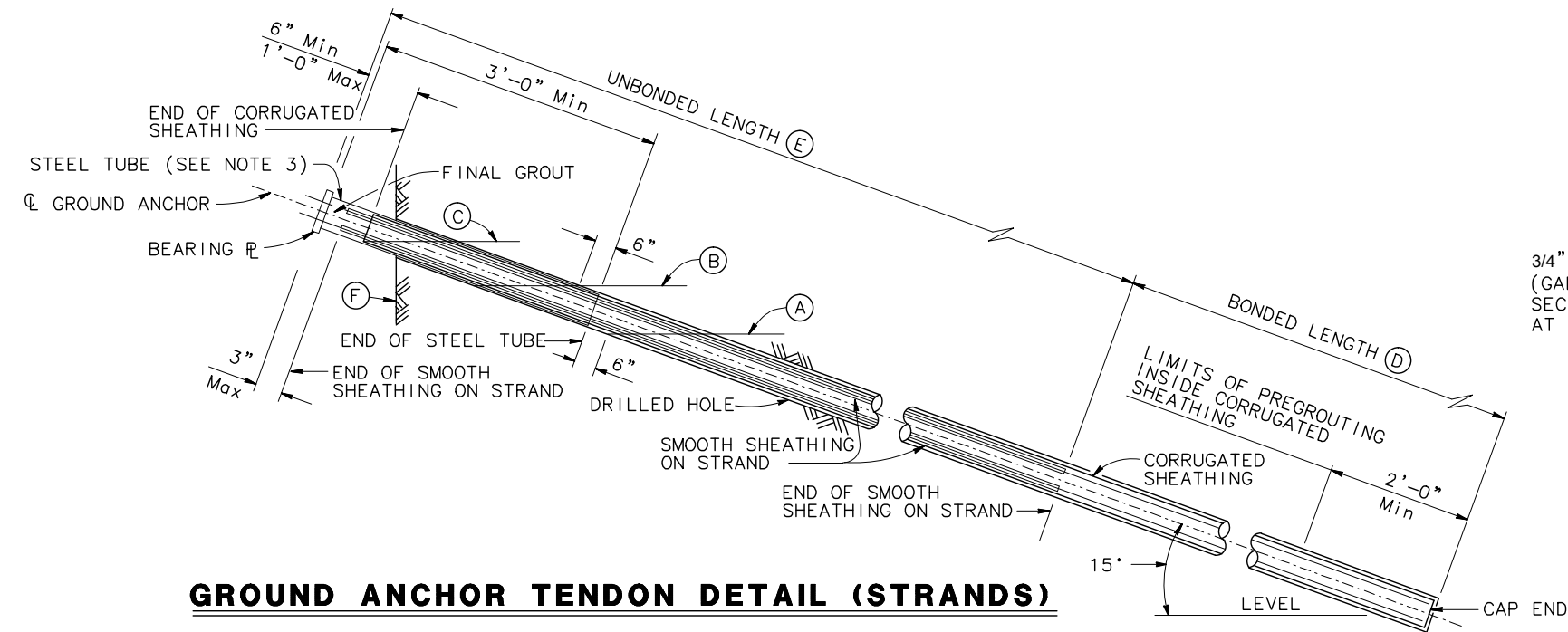
SECTION G-G
NO SCALE



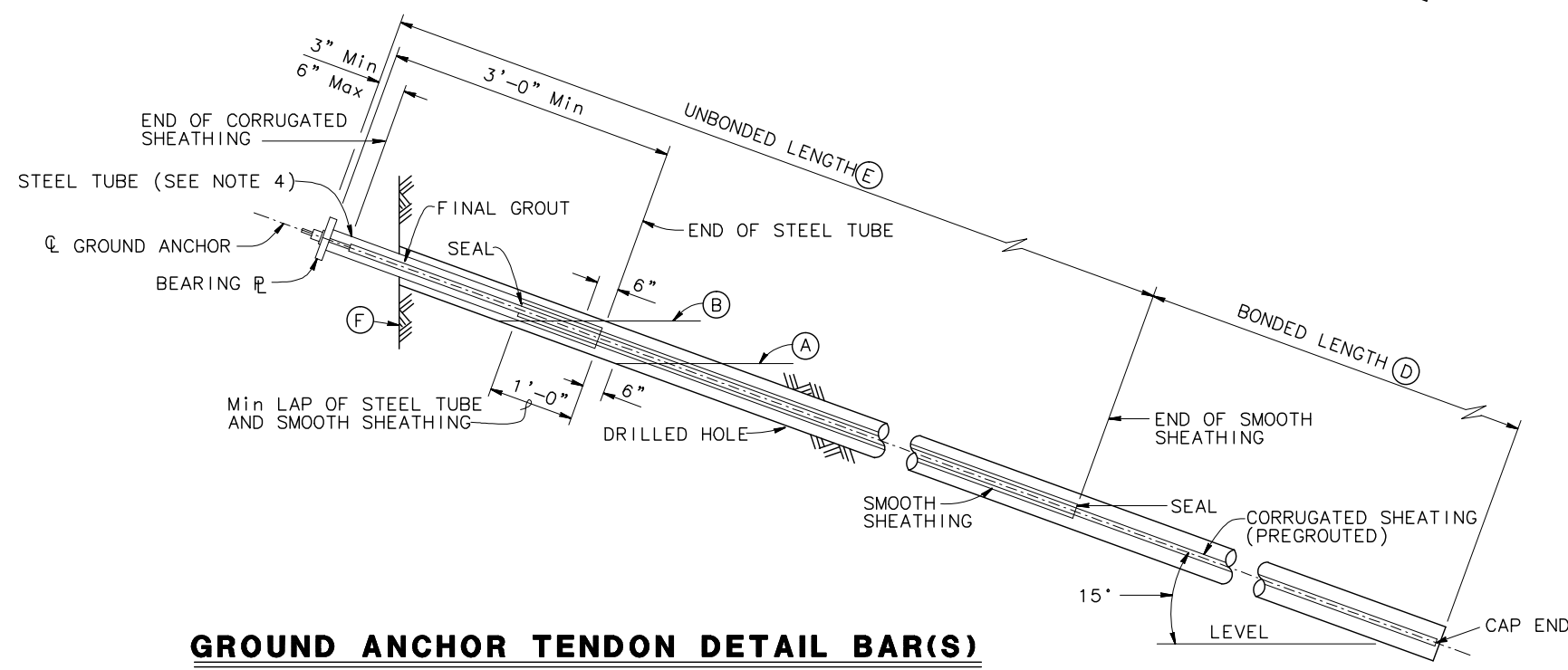
ROAD NAME: MITCHELL ROAD		MARK THOMAS		COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS		SHEET 21 OF 21
ROAD NO: C4J090		DESIGNED BY: JB		MITCHELL ROAD STORM DAMAGE PROJECT		
FEMA NO: 4301-DR-CA PW 1029		DRAWN BY: GB		SUB HORIZONTAL GROUND ANCHOR DETAILS		
CONTRACT NO: 217300		REVIEWED BY: MM		DATE: JANUARY 2019		
MILE POST: 1.15		APPROVED BY: JH		REVISION DATE:		
EA NO:						
DWG. FILE NAME:						

- NOTES:
- (A) Level of initial grouting for drilled hole 6" in diameter or smaller
 - (B) Level of secondary grouting
 - (C) Level of initial grouting inside corrugated sheathing
 - (D) Bonded length shall be determined by the contractor
 - (E) For unbonded length, see "PILE AND GROUND ANCHOR DATA TABLE" ON "SOLDIER PILE WALL DETAILS NO. 1" SHEET
 - (F) Face of Wall Excavation

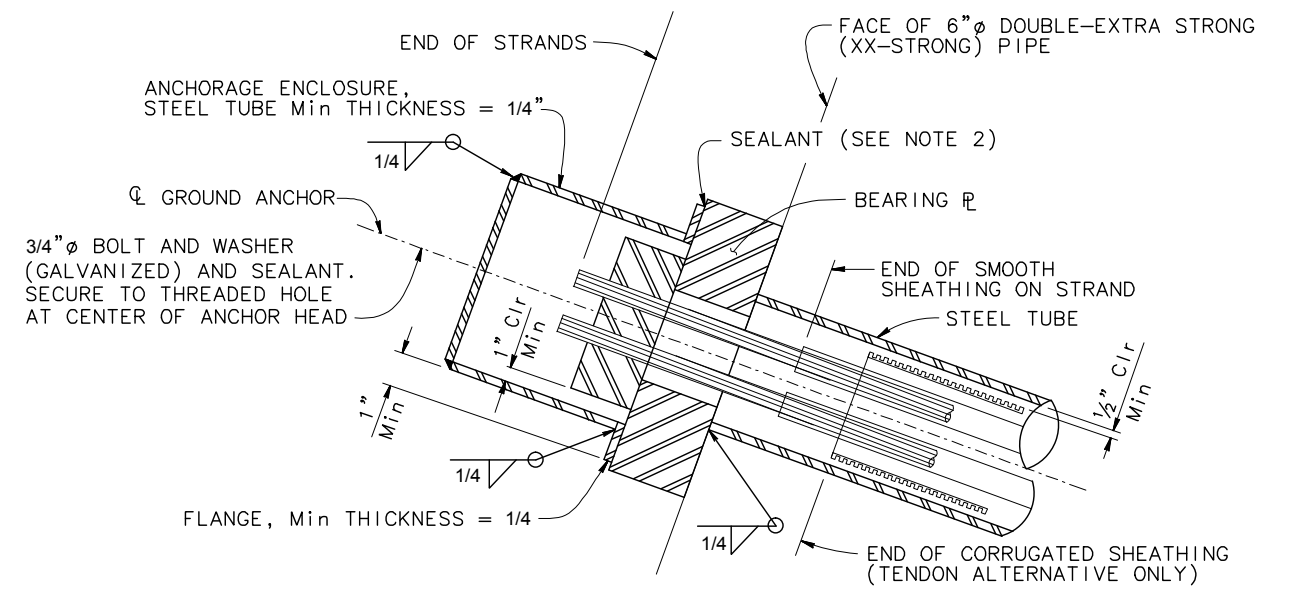
- NOTES:
1. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
 2. Silicone sealant to cover full width of flange.
 3. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
 4. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
 5. Galvanize assembly after fabrication.



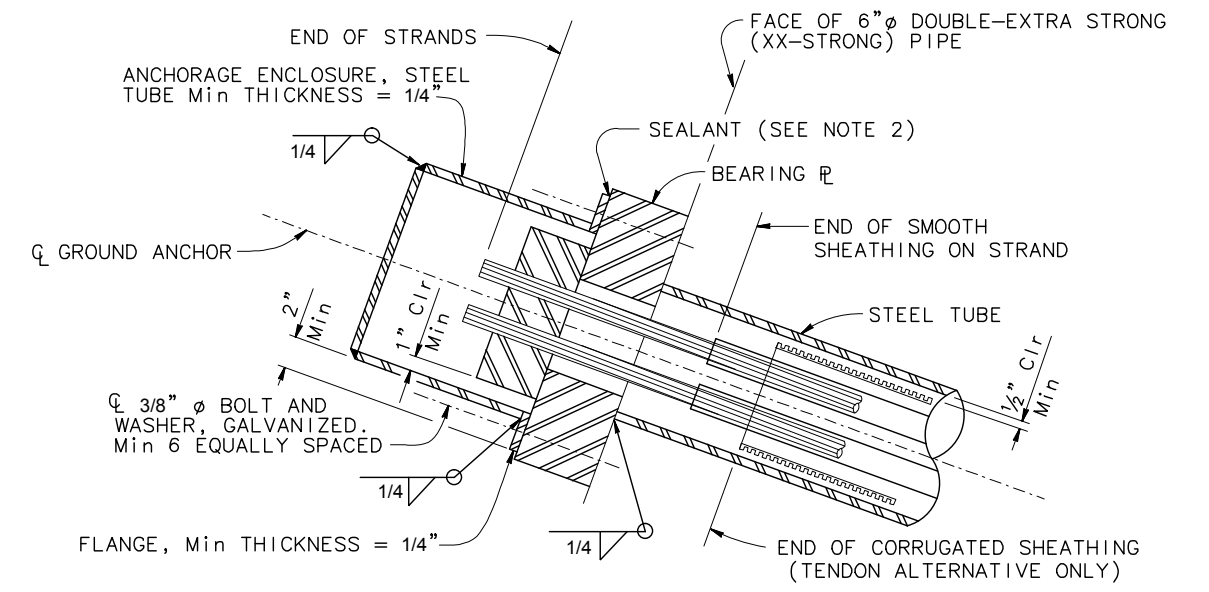
GROUND ANCHOR TENDON DETAIL (STRANDS)



GROUND ANCHOR TENDON DETAIL BAR(S)



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS