

THIS PROJECT IS FUNDED BY THE US DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION EMERGENCY RELIEF PROGRAM



ABBREVIATIONS
(TO SUPPLEMENT CALTRANS STANDARD PLANS A3A, A3B & A3C)

APN	ASSESSORS PARCEL NUMBER	K	K-VALUE
CL	CENTERLINE	LT	LEFT
CT	CALTRANS	PVI	POINT OF VERTICAL CURVATURE
(E)	EXISTING	RT	RIGHT
(N)	NEW	S	SEWERPHONE
EL	ELEVATION	TEL	

NOTES

1. THE CONTRACTOR SHALL HAVE A CLASS "A" LICENSE FOR THIS PROJECT.
2. STANDARD PLAN LIST APPLICABLE TO THIS CONTRACT INCLUDED IN THE SPECIAL PROVISIONS.
3. GEOTECHNICAL REPORT: CRAWFORD AND ASSOCIATES, FEBRUARY, 2021. (BRICELAND THORN ROAD PM 3.08)
4. GEOTECHNICAL REPORT: CRAWFORD AND ASSOCIATES, AUGUST, 2021. (BRICELAND THORN ROAD PM 5.67)



VICINITY MAP
NOT TO SCALE



VICINITY MAP
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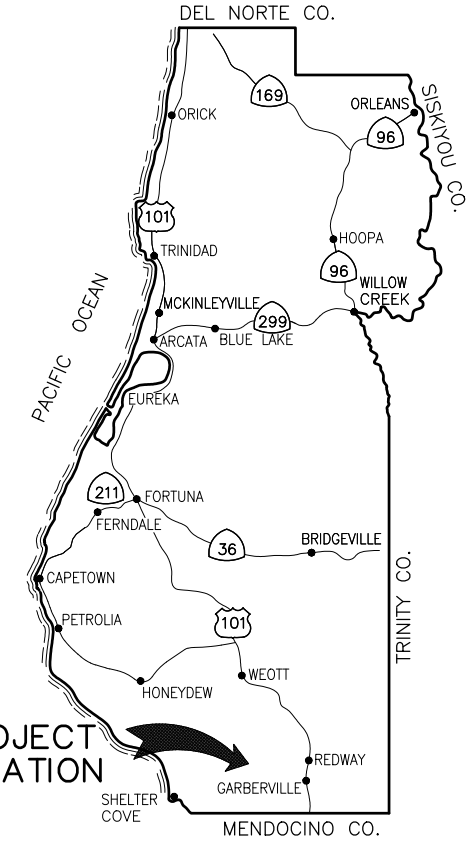


ROAD NAME: BRICELAND THORNE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F5A010	DESIGNED BY: C.HAYES
MILE POST: 3.08, 5.67	DRAWN BY: C.HAYES
PROJECT NO: ER-40A0(050), ER-40A0(060)	REVIEWED BY: J.SVEHLA
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SVEHLA
PLOT DATE: 3/13/23	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 1 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67	
COVER SHEET, SHEET INDEX AND MAPS	

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS
PROJECT PLANS FOR CONSTRUCTION OF
STORM DAMAGE REPAIRS
BRICELAND THORNE ROAD (F5A010) AT PM 3.08 & 5.67
PROJECT NO. ER-40A0(050) & ER-40A0(060)
CONTRACT NO. 219200 & 219207

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION 2022 STANDARD PLANS, 2022 STANDARD SPECIFICATIONS, AND LATEST REVISED STANDARD PLANS AND SPECIFICATIONS.



PROJECT LOCATION

LOCATION MAP

SCALE: 1"=10± MILE



SHEET LIST TABLE

SHEET	SHEET TITLE
1	COVER SHEET, SHEET INDEX AND MAPS
2	TRAFFIC CONTROL PLAN & QUANTITIES
3	CONSTRUCTION DETAILS
4	PM 3.08 SURVEY CONTROL PLAN
5	PM 3.08 TYPICAL SECTIONS
6	PM 3.08 PAYMENT DIAGRAM
7	PM 3.08 ROADWAY PLAN – STA "R" 2+00 TO STA "R" 3+75
8	PM 3.08 ROADWAY PLAN – STA "R" 3+75 TO STA "R" 5+25
9	PM 3.08 ROADWAY PROFILE AND SUPERELEVATION
10	PM 3.08 DRAINAGE PLAN
11	PM 3.08 DRAINAGE PROFILES
12	PM 3.08 EROSION CONTROL PLAN
13	PM 3.08 SIGNING AND STRIPING PLAN
14	PM 3.08 DESIGN SECTIONS 1 OF 2
15	PM 3.08 DESIGN SECTIONS 2 OF 2
16	PM 3.08 STRUCTURAL GENERAL NOTES
17	PM 3.08 RETAINING WALL GENERAL PLAN
18	PM 3.08 RETAINING WALL LAYOUT
19	PM 3.08 STRUCTURAL DETAILS – 1 OF 2
20	PM 3.08 STRUCTURAL DETAILS – 2 OF 2
21	PM 3.08 CULVERT HEADWALL DETAILS
22	PM 3.08 DOWNDRAIN SYSTEM DETAILS
23	PM 3.08 GROUND ANCHOR DETAILS
24	PM 3.08 BARRIER SLAB DETAILS
25	PM 5.67 SURVEY CONTROL PLAN
26	PM 5.67 TYPICAL SECTIONS
27	PM 5.67 PAYMENT DIAGRAM
28	PM 5.67 BUTTRESS DETAILS
29	PM 5.67 ROADWAY PLAN
30	PM 5.67 ROADWAY PROFILE & SUPER ELEVATION
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32	PM 5.67 DRAINAGE PROFILES
33	PM 5.67 EROSION CONTROL PLAN
34	PM 5.67 DESIGN SECTIONS – 1 OF 2
35	PM 5.67 DESIGN SECTIONS – 2 OF 2
36	PM 5.67 CULVERT HEADWALL DETAILS



JEREMY S. SVEHLA
RCE 72169
CIVIL ENGINEER
GHD, INC.

[Signature]

3/15/2023
DATE

APPROVED

TONY R. SEGHEITI
RCE 63714
DEPUTY DIRECTOR OF ENGINEERING
COUNTY OF HUMBOLDT

DATE



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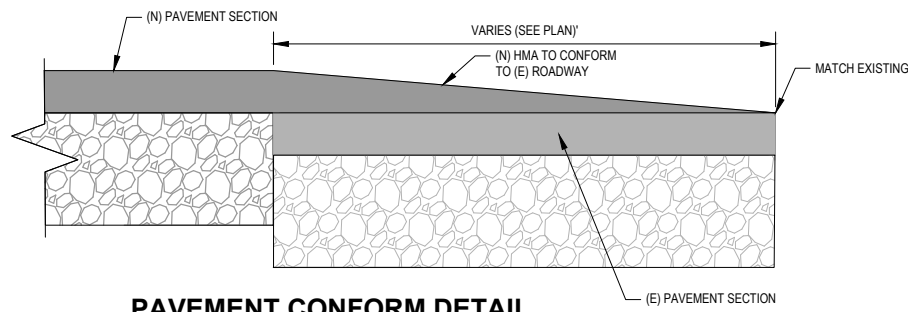


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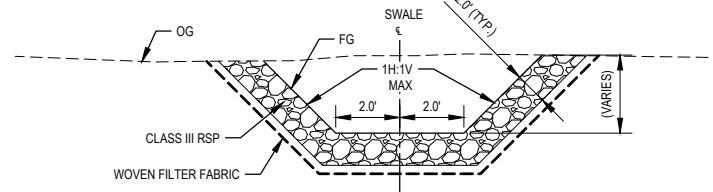
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67
CONSTRUCTION DETAILS



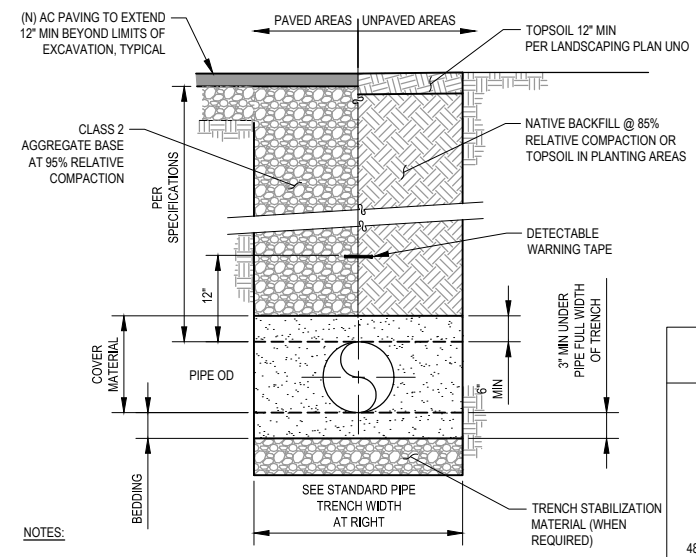
PAVEMENT CONFORM DETAIL

SCALE: NTS



TYPICAL ROCK LINED CHANNEL DETAIL - DRAINAGE SYSTEM 1 (BRICELAND ROAD PM 3.08)

SCALE: NTS



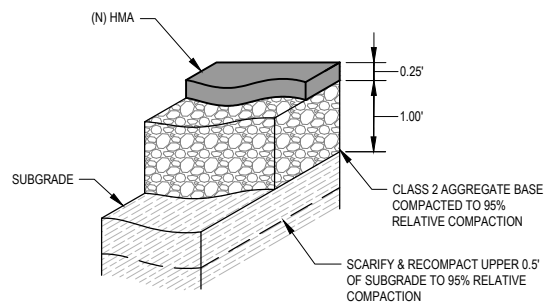
PIPE DIA "D"	MINIMUM "A"	MAXIMUM "A"
< 4"	3"	6"
4" TO 6"	6"	12"
6" TO 15"	8"	14"
16" TO 21"	10"	16"
24" TO 30"	12"	18"
33" TO 42"	15"	21"
48" & LARGER	18"	24"

NOTES:

1. WIDER TRENCHES MAY REQUIRE HIGHER STRENGTH PIPE AND/OR SPECIAL BEDDING.
2. DIFFERING TRENCH WIDTHS REQUIRE PRIOR APPROVAL OF ENGINEER.
3. IN MAKING EXCAVATIONS FOR THIS PROJECT, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROVIDING & INSTALLING ADEQUATE SHEETING, SHORING & BRACING AS MAY BE NECESSARY AS A PRECAUTION AGAINST SLIDES OR CAVE-INS, AND TO PROTECT ALL EXISTING IMPROVEMENTS OF ANY KIND, EITHER ON PUBLIC OR PRIVATE PROPERTY, FULLY FROM DAMAGE.
4. SATISFACTORY NATIVE BACKFILL MATERIAL USED AS UTILITY TRENCH BACKFILL BELOW UNPAVED AREAS SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.
5. 2-SACK SLURRY BACKFILL MAY BE USED IN TRENCH WHEN MINIMUM PIPE COVER NOT POSSIBLE, WHEN APPROVED BY COUNTY'S REPRESENTATIVE.
6. DETECTABLE WARNING TAPE SHALL BE BRIGHT COLORED, CONTINUOUSLY PRINTED, MINIMUM 6" WIDE BY 4 MIL. THICK, MANUFACTURED FOR DIRECT BURIAL.
7. FOR TRENCHING OUTSIDE OF LIMITS OF NEW IMPROVEMENTS GROUND SHALL BE RESTORED TO PRE-PROJECT CONDITIONS, WHICH MAY INCLUDE SEEDING AND/OR MULCHING.
8. WHEN TRENCH IS DUG INTO "OBVIOUS LOOSE" FINE GRAINED UNIFORM SANDS, DEEPEN THE TRENCH 12" BELOW THE DEPTH OF UTILITIES. REPLACE W/ 2-SACK SLURRY OR PEA GRAVEL.

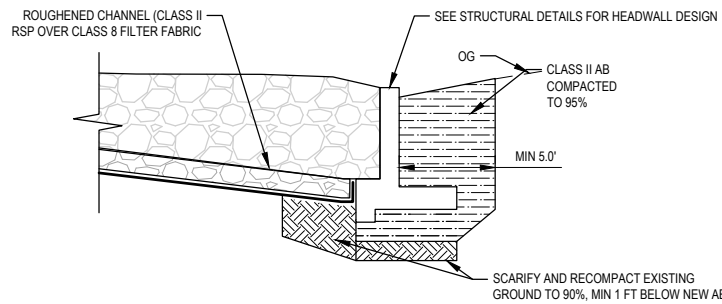
TYPICAL TRENCH DETAIL

SCALE: NTS



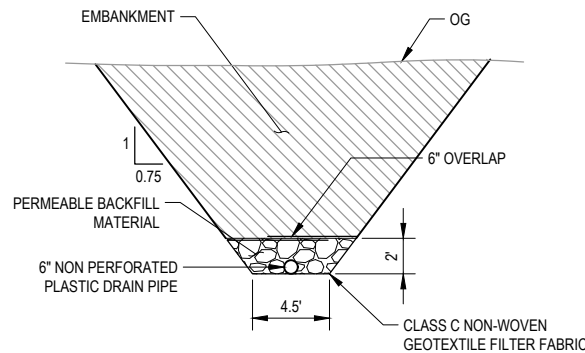
TYPICAL PAVEMENT STRUCTURAL SECTION DETAIL

SCALE: NTS



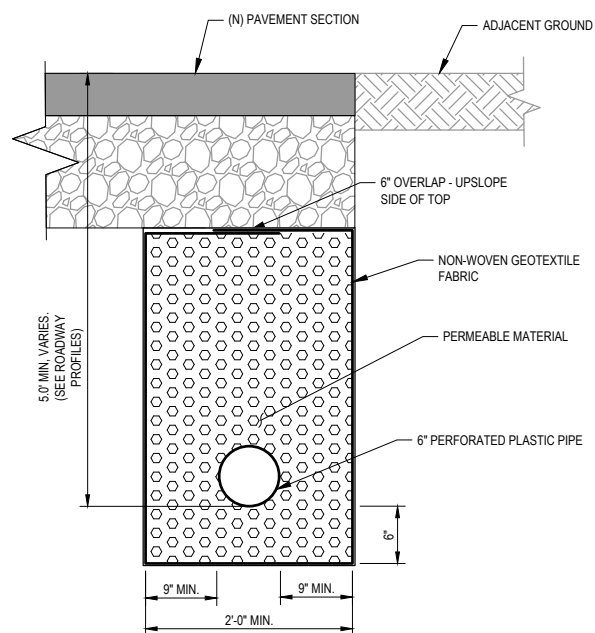
HEADWALL AND EMBANKMENT BACKFILL DETAIL (BRICELAND ROAD PM 3.08)

SCALE: NTS



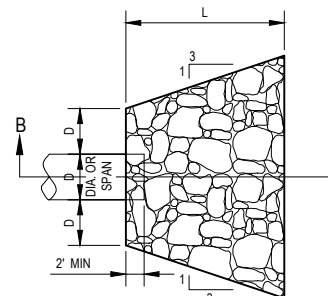
SUBDRAIN OUTLET DETAIL

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TYPICAL TRENCHED UNDERDRAIN

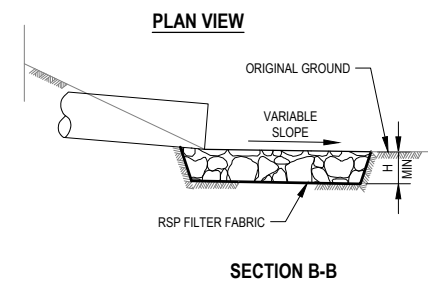
SCALE: NTS



CULVERT SIZE D (inches)	RSP CLASS	MINIMUM LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)
6	2	6	1.5

TYPICAL ROCK APRON

NOT TO SCALE

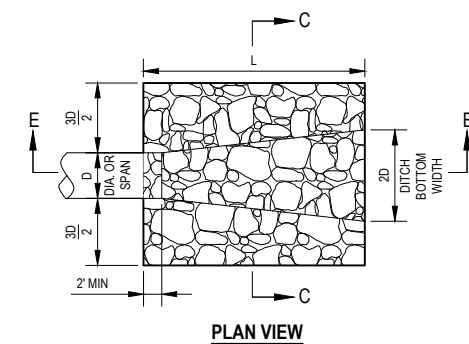


PLAN VIEW

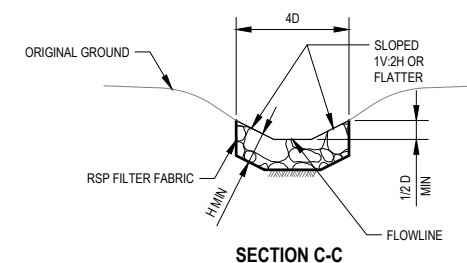
SECTION B-B

NOTE:

1. EXCAVATION FOR PLACEMENT OF RSP WILL NOT BE MEASURED FOR PAYMENT.



PLAN VIEW

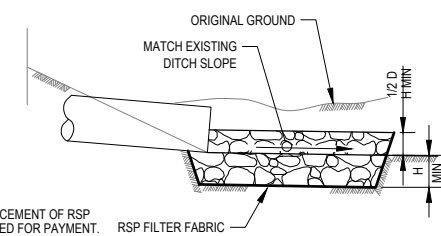


SECTION C-C

TYPICAL RSP ENERGY DISSIPATER

NOT TO SCALE

CULVERT SIZE D (inches)	RSP CLASS	MINIMUM LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)
18	3	PER PLAN	2
30	5	PER PLAN	3



SECTION E-E

NOTE:

1. EXCAVATION FOR PLACEMENT OF RSP WILL NOT BE MEASURED FOR PAYMENT.



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DESIGN SECTION	ENGINEERING
DESIGNED BY:	C.HAYES
DRAWN BY:	C.HAYES
REVIEWED BY:	J.SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67
PM 3.08 SURVEY CONTROL PLAN

SURVEY CONTROL NOTES

- THE PURPOSE OF THIS SURVEY IS TO DETERMINE TOPOGRAPHY FOR THE STORM DAMAGE SLIDE ON BRICELAND-THORNE ROAD POST MILE 3.08. THIS SURVEY WORK REFLECTS CONDITIONS AT THE TIME OF SURVEY, COMPLETED ON JANUARY 24, 2020. ADDITIONAL SURVEY DATA WAS COLLECTED JUNE 3, 2020.
- COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 1, NAD 83 (2011), EPOCH 2010.0 BASED ON A STATIC GPS CONTROL SURVEY USING THE NGS OPUS POST PROCESSING SOFTWARE. THE CONTROL POINT IDENTIFIED AS POINT 59 (GPS PT.# 159) WAS HELD FOR HORIZONTAL POSITIONS SHOWN HEREON. THE MAPPING ANGLE IS 1 DEGREE 16 MINUTES 02 SECONDS; ROTATE BEARINGS HEREON COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.99994133 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR ARE TAKEN AT CONTROL POINT NUMBER 59, A 12 INCH SPIKE. ELEVATIONS ARE NAVD 88 DATUM BASED ON OPUS SOLUTION UTILIZING THE GEOID 12B MODEL: AN ELEVATION OF 869.20 FEET WAS MEASURED AT THE AFOREMENTIONED CONTROL POINT 59.
- CONTOURS AND SPOT ELEVATIONS WERE OBTAINED BY CONVENTIONAL SURVEY TECHNIQUES. ONLY TREES 12 INCH AND BIGGER WERE LOCATED; NUMEROUS OTHER SMALLER TREES EXIST WITHIN AREA SURVEYED AND ARE NOT SHOWN. TREE LOCATIONS ARE GENERALLY SHOWN AT BREAST HEIGHT AND ARE APPROXIMATE DUE TO THE FACT NOT ALL TREES ARE GROWING VERTICALLY.
- THE ONLY UNDERGROUND UTILITY OBSERVED ON THIS SITE ARE THE STORM DRAINS SHOWN. NO OTHER UNDERGROUND UTILITY APPURTENANCES SUCH AS WATER VALVES OR VAULTS WERE OBSERVED. THE OVERHEAD ELECTRIC AND TELEPHONE LINES ARE SHOWN HEREON ARE SCHEMATIC IN NATURE; IN SOME CASES FOR EXAMPLE SEVERAL LINES, (BOTH ELECTRIC AND COMMUNICATION) ARE STRUNG BETWEEN POLES SHOWN.
- THE RIGHT OF WAY SHOWN BASED ON THE PHYSICAL CENTERLINE OF BRICELAND-THORNE ROAD ROAD ALIGNMENT. RIGHT OF WAY WIDTH PER HUMBOLDT COUNTY ROAD REGISTER 1, NO. 140, PG. 235-251, IS 50 FEET BASED ON INFORMATION PROVIDED BY HUMBOLDT COUNTY.
- NO BOUNDARY SURVEYS WERE CONDUCTED. THE OWNERSHIP SHOWN IS BASED ON THE LOCATION OF THIS SITE FALLING WITHIN AP# 220-201-012 AS SHOWN ON THE HUMBOLDT COUNTY GIS AND WAS NOT VERIFIED BY THIS SURVEY.

UNDERGROUND UTILITY NOTE:

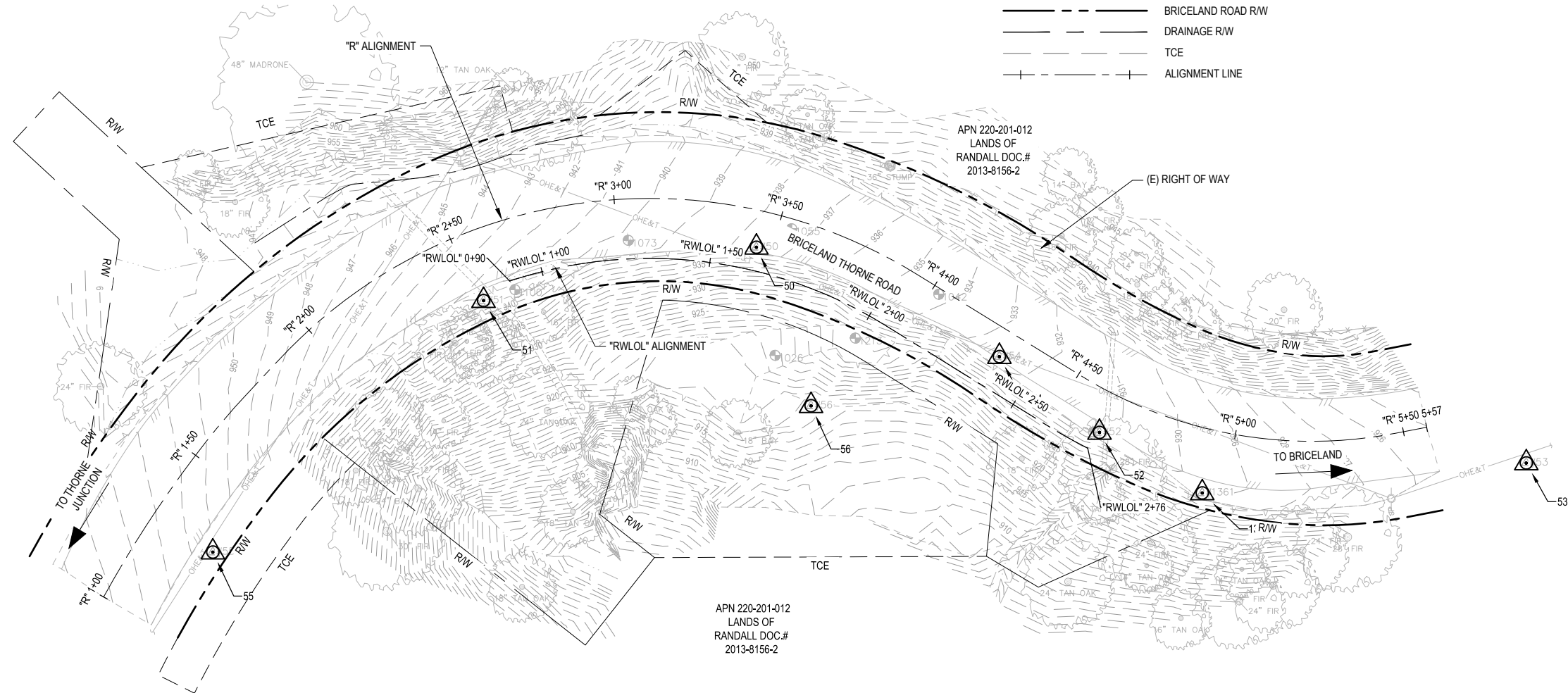
- UNDERGROUND UTILITIES ARE SHOWN BASED ON A COMBINATION OF VISIBLE PHYSICAL EVIDENCE AND RECORDS MADE AVAILABLE TO THE SURVEYOR.
- THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATIONS INDICATED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
- CALL UNDERGROUND SERVICE ALERT (USA) 1-800-642-2444 A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY EXCAVATIONS.

GENERAL NOTES

- 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.
- IF MONUMENT IS DAMAGED BY CONTRACTORS OPERATIONS, CONTRACTOR SHALL REPLACE MONUMENT AT CONTRACTORS EXPENSE.

LEGEND

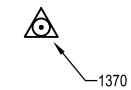
- TEMPORARY CONTROL POINT
- BRICELAND ROAD R/W
- DRAINAGE R/W
- TCE
- ALIGNMENT LINE



POINT TABLE				
POINT #	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
50	6019677.37	1922023.35	937.63	CP_MAG
51	6019693.14	1921942.67	941.96	CP_SPK
52	6019732.13	1922124.83	931.09	CP_SPK
53	6019741.19	1922251.05	923.48	CP_SPK
54	6019709.71	1922095.23	932.38	CP_MAG
55	6019767.56	1921862.59	951.62	CP_SPK
56	6019724.25	1922039.52	917.87	CP_HT
1361	6019750.04	1922155.22	929.40	CP_60D_BY_OTHERS
1370	6019826.77	1922159.91	892.02	FD_5"IP_PP_LS2786

RETAINING WALL CONSTRUCTION CENTERLINE GEOMETRY - "RWLOL" ALIGNMENT						
Segment	Type	Length	Radius	Direction	Start Station	End Station
C5	CURVE	10.00	132.25		"RWLOL" 0+90.00	"RWLOL" 1+00.00
C6	CURVE	105.48	132.25		"RWLOL" 1+00.00	"RWLOL" 2+05.48
L4	LINE	56.99	-	N31° 44' 13.39"E	"RWLOL" 2+05.48	"RWLOL" 2+62.47
C7	CURVE	13.12	147.75		"RWLOL" 2+62.47	"RWLOL" 2+75.59

BRICELAND THORNE ROAD CONSTRUCTION CENTERLINE GEOMETRY - "R" ALIGNMENT						
Segment	Type	Length	Radius	Direction	Start Station	End Station
C1	CURVE	55.03	341.00		"R" 1+00.00	"R" 1+55.03
C2	CURVE	17.78	204.00		"R" 1+55.03	"R" 1+72.81
L1	LINE	14.78	-	N46° 59' 46.38"W	"R" 1+72.81	"R" 1+87.59
C3	CURVE	206.12	150.00		"R" 1+87.59	"R" 3+93.71
L2	LINE	56.99	-	N31° 44' 13.39"E	"R" 3+93.71	"R" 4+50.70
C4	CURVE	96.76	130.00		"R" 4+50.70	"R" 5+47.46
L3	LINE	9.53	-	N10° 54' 30.00"W	"R" 5+47.46	"R" 5+56.99





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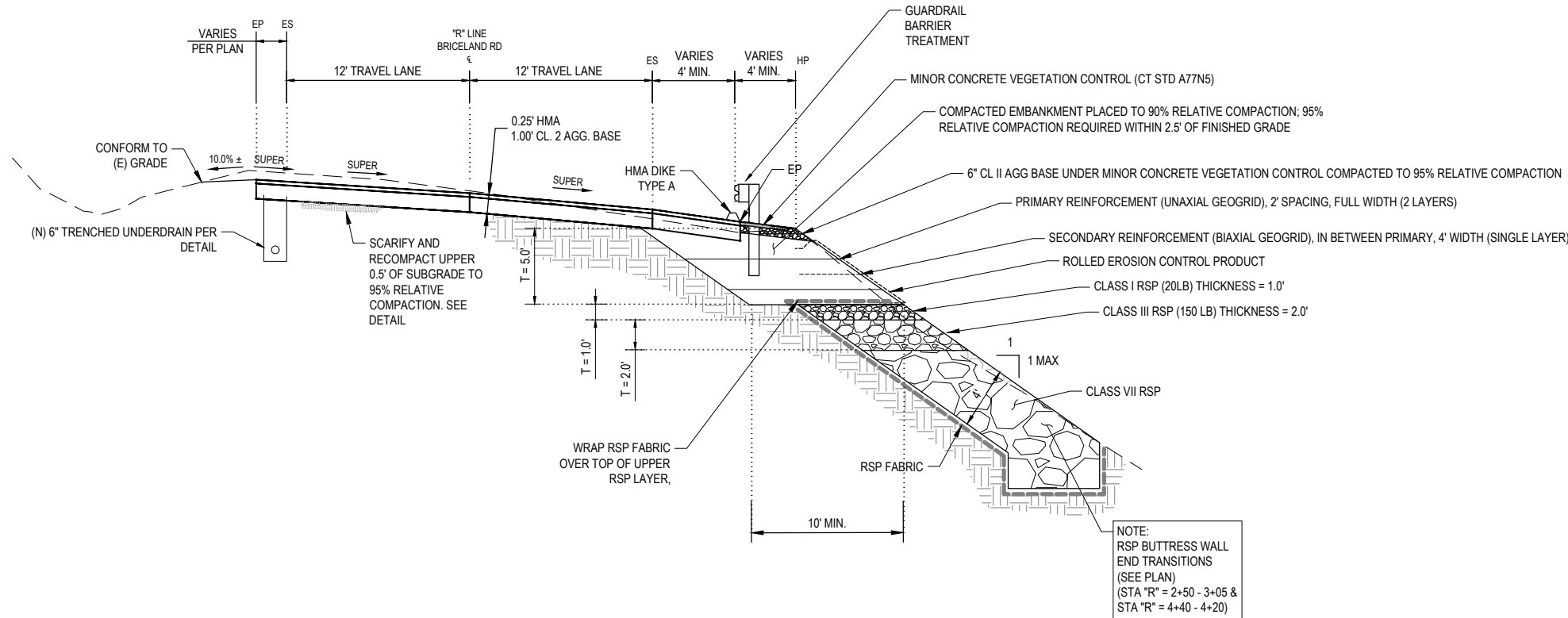


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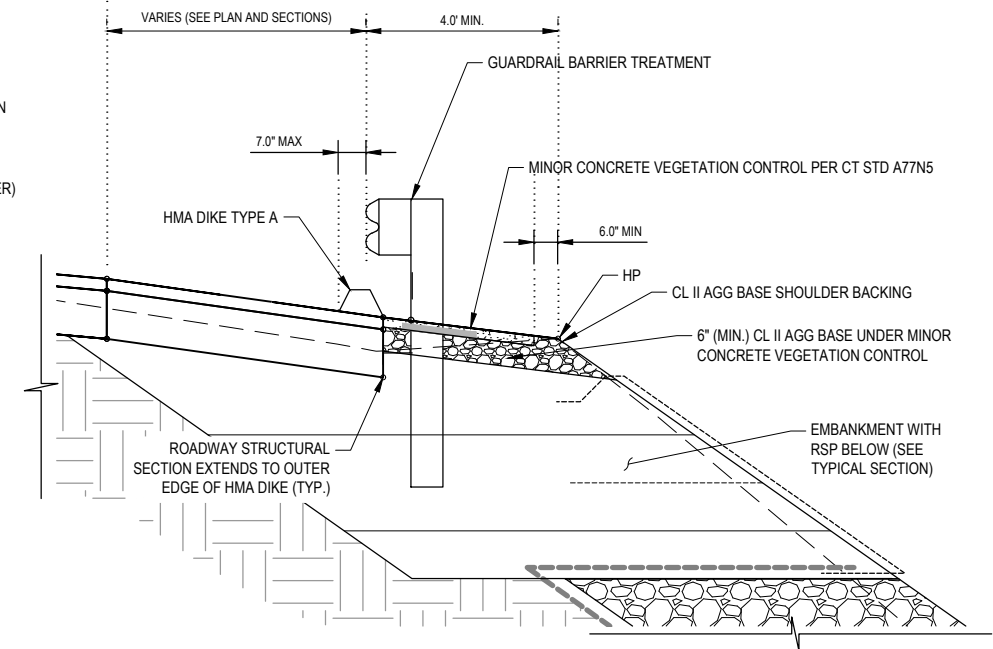
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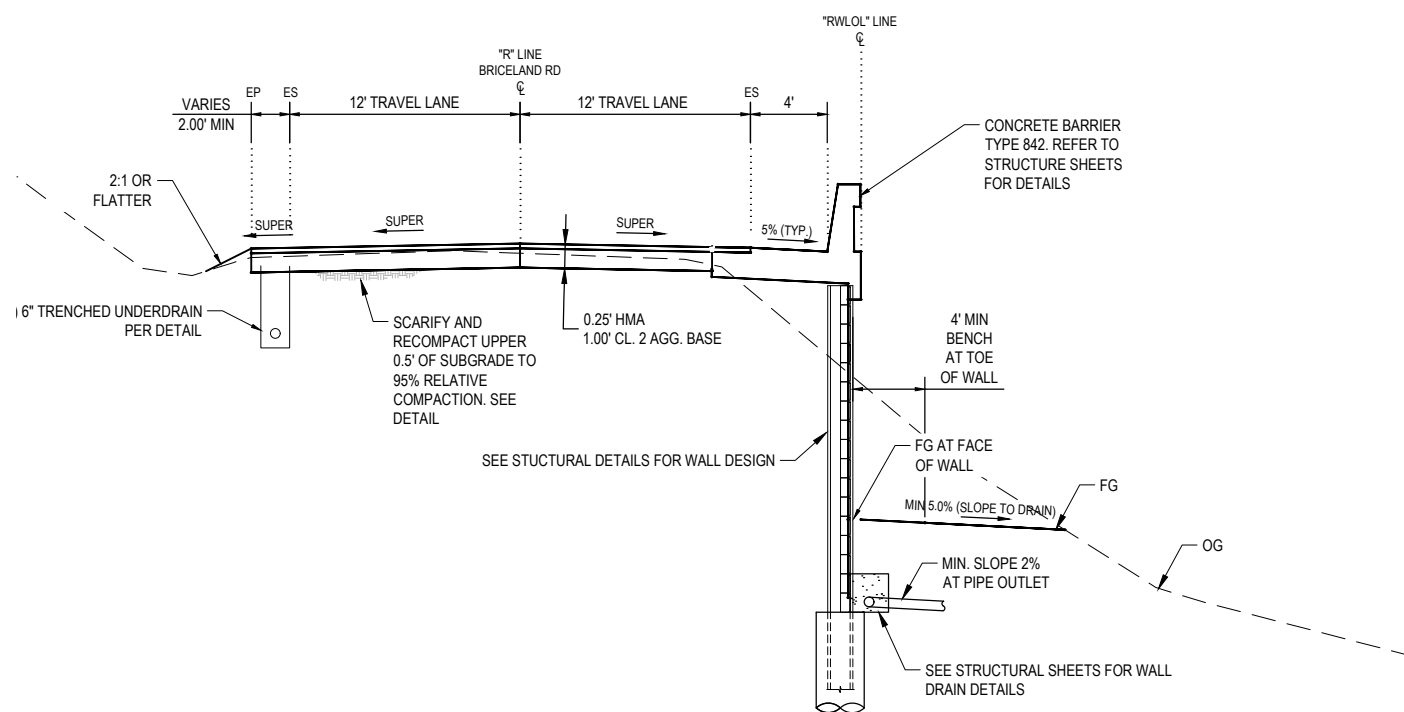
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PM 3.08 TYPICAL SECTIONS



TYPICAL SECTION - BRICELAND ROAD
NTS (STA "R" 2+00.07 - 2+74.00, 4+55.13 - 5+25.00)



DETAIL - GUARDRAIL, MINOR CONCRETE VEGETATION CONTROL & HMA DIKE
NTS



TYPICAL SECTION - BRICELAND ROAD
NTS (STA "R" 2+74.07 - 4+55.13)



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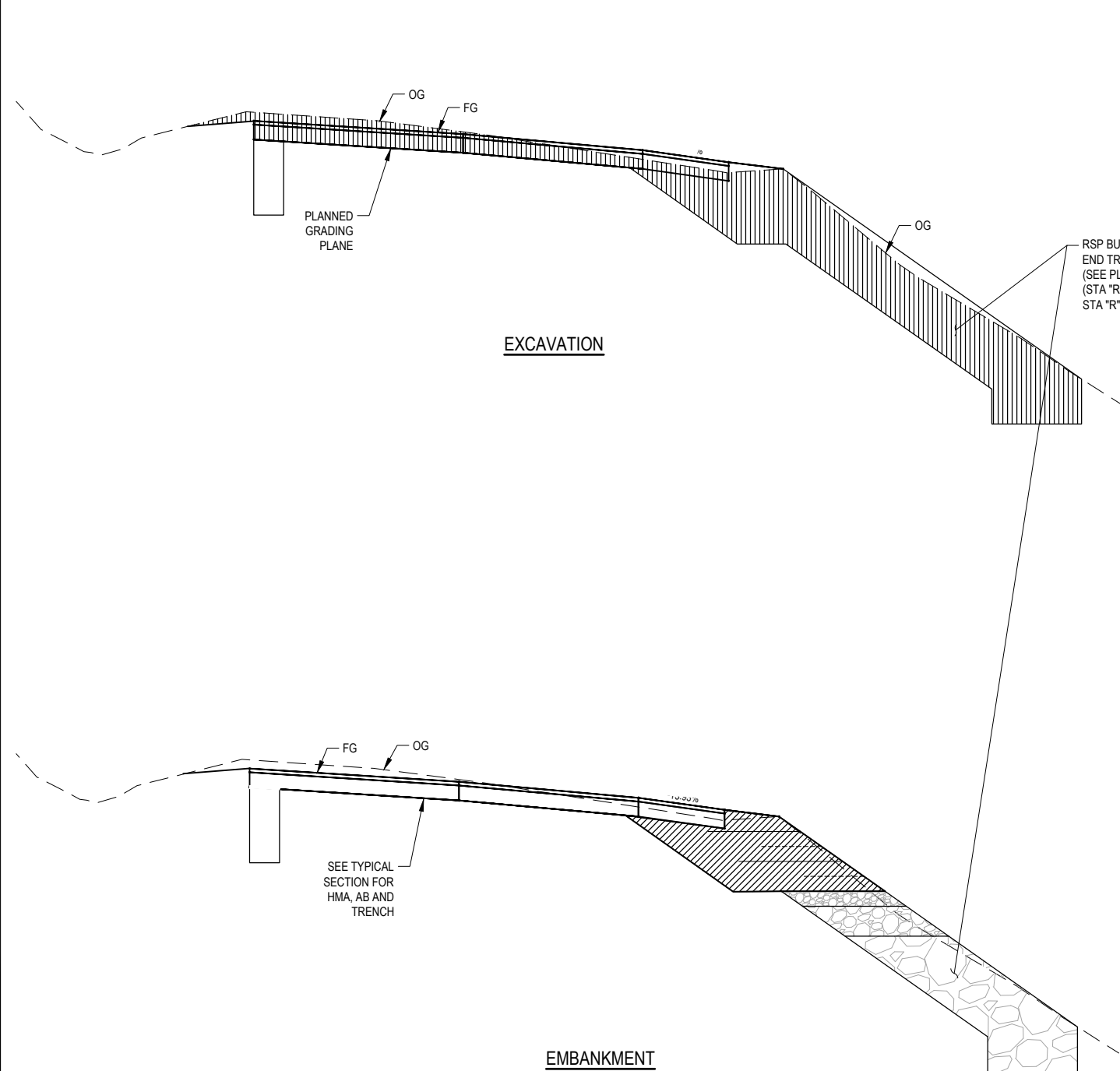
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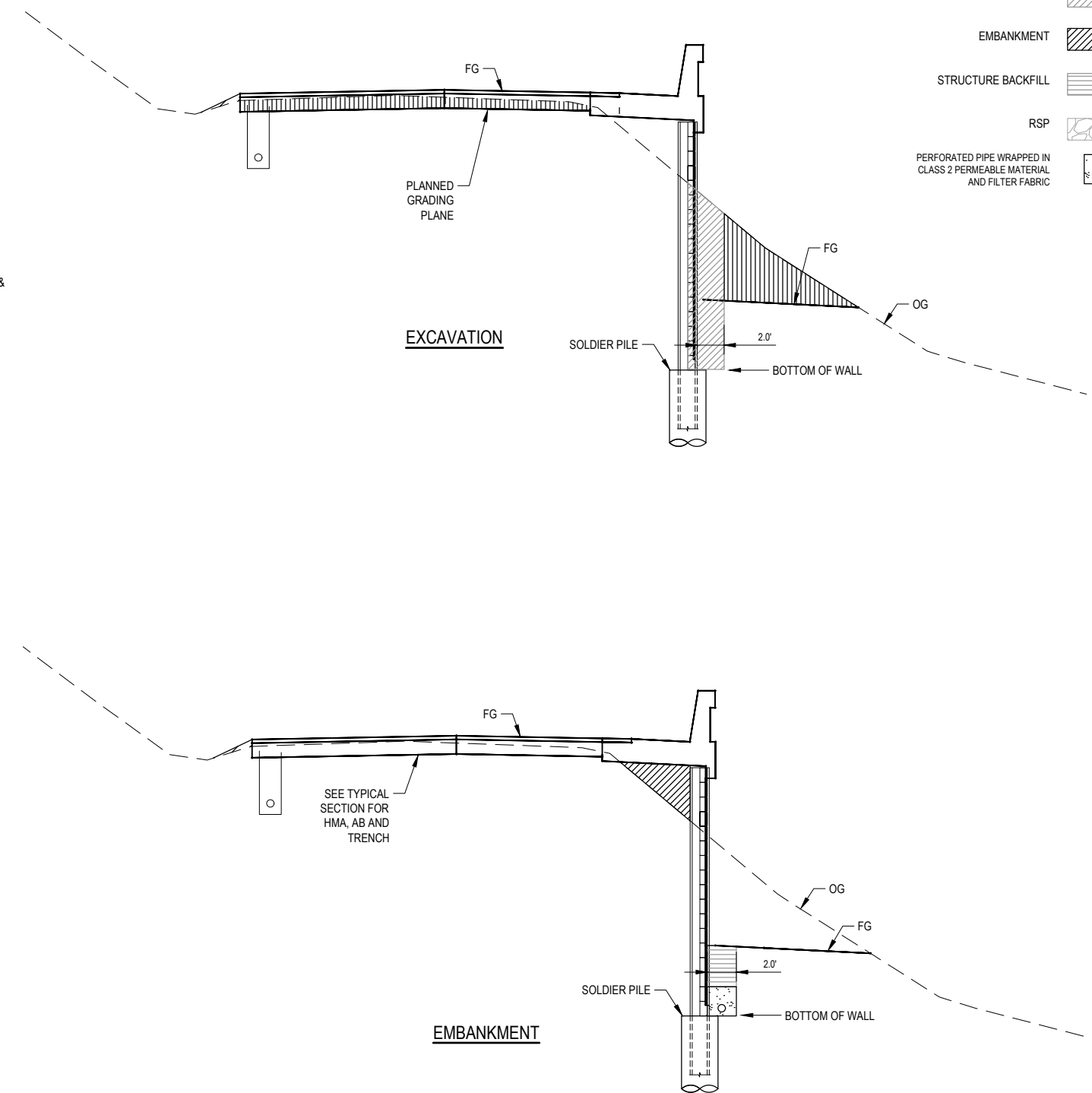
COUNTY OF HUMBOLDT	SHEET 6
DEPARTMENT OF PUBLIC WORKS	OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD	
PM 3.08 & PM 5.67	
PM 3.08 LIMITS OF PAYMENT	

LEGEND

- ROADWAY EXCAVATION
- STRUCTURE EXCAVATION
- EMBANKMENT
- STRUCTURE BACKFILL
- RSP
- PERFORATED PIPE WRAPPED IN CLASS 2 PERMEABLE MATERIAL AND FILTER FABRIC



PAYMENT LIMITS OF EXCAVATION AND EMBANKMENT
NTS (STA "R" 2+00.07 - 2+74.00, 4+55.13 - 5+25.00)



PAYMENT LIMITS OF EXCAVATION AND EMBANKMENT
NTS (STA "R" 2+74.07 - 4+55.13)

LEGEND

- PAVEMENT RECONSTRUCTION
- RSP
- ALTERNATIVE IN-LINE TERMINAL SYSTEM (AITS), STANDARD RAILING SECTION OR TRANSITION RAILING (WB-31) WITH STEEL POSTS
- RETAINING WALL
- STORM DRAIN PIPE
- EDGE OF HMA PAVEMENT SECTION
- FACE OF WALL

100% DESIGN SUBMITTAL - 03/15/2023



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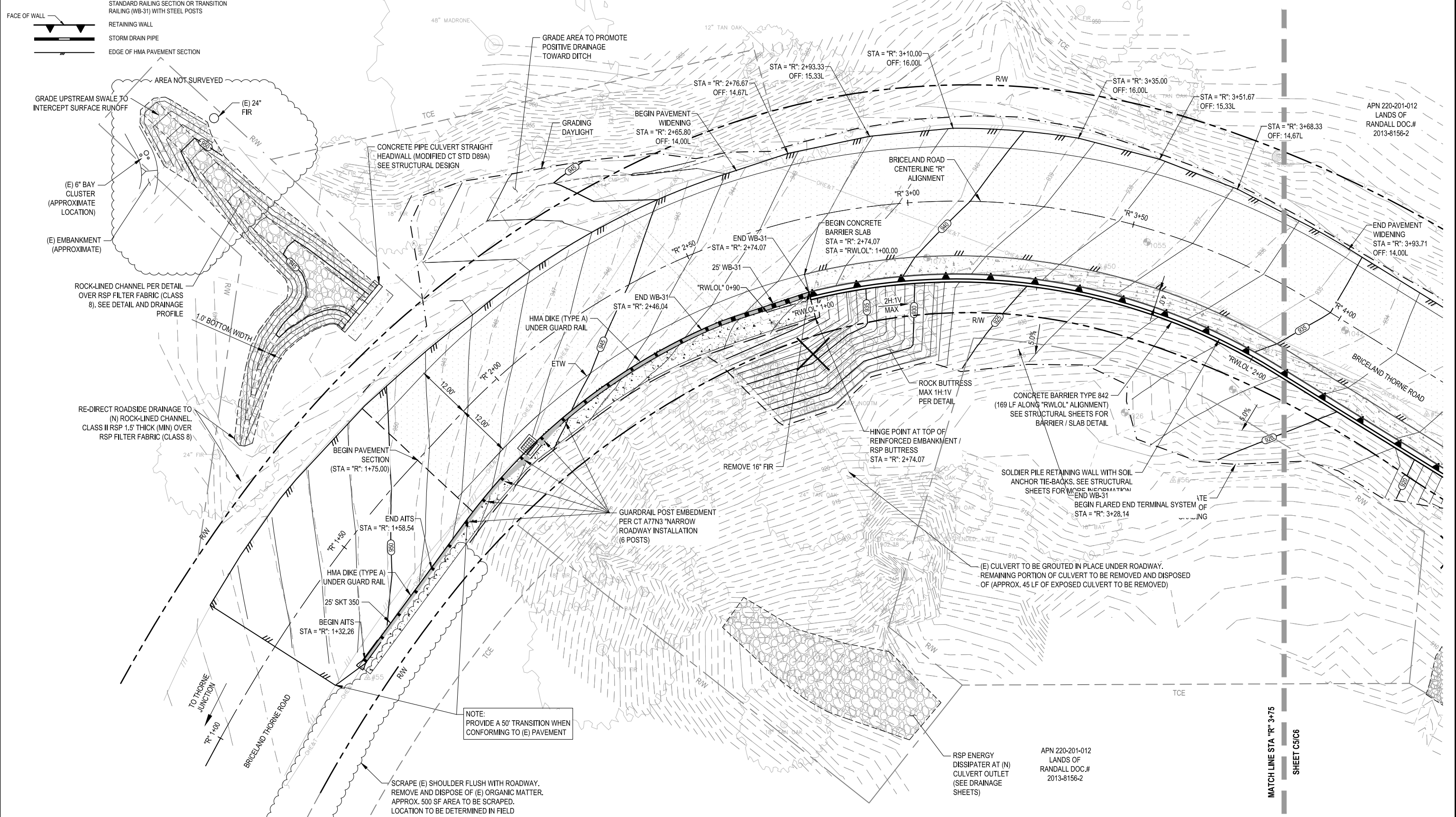
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PM 3.08 ROADWAY PLAN 1 OF 2	

SHEET 7 OF 36



NOTE:
PROVIDE A 50' TRANSITION WHEN CONFORMING TO (E) PAVEMENT

SCRAPE (E) SHOULDER FLUSH WITH ROADWAY. REMOVE AND DISPOSE OF (E) ORGANIC MATTER. APPROX. 500 SF AREA TO BE SCRAPED. LOCATION TO BE DETERMINED IN FIELD

RSP ENERGY DISSIPATER AT (N) CULVERT OUTLET (SEE DRAINAGE SHEETS)

APN 220-201-012
LANDS OF RANDALL DOC.# 2013-8156-2

ROADWAY PLAN STA "R" 2+00 - 3+75



MATCH LINE STA "R" 3+75
SHEET C5/C6



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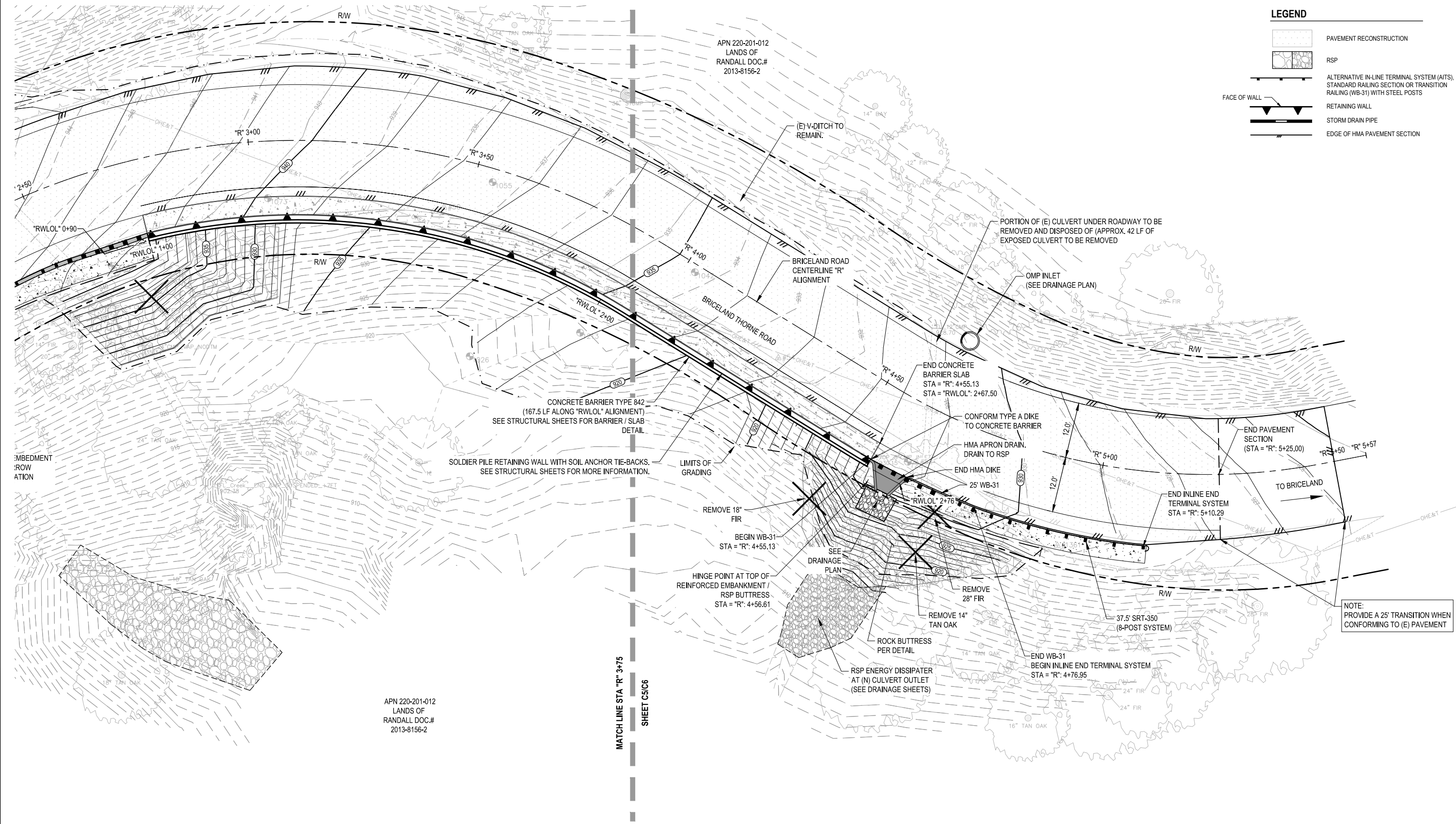
ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40A0(050), ER-40A0(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	3/13/23

DESIGN SECTION	ENGINEERING
DESIGNED BY:	C.HAYES
DRAWN BY:	C.HAYES
REVIEWED BY:	J.SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 3.08 ROADWAY PLAN 2 OF 2

LEGEND

- PAVEMENT RECONSTRUCTION
- RSP
- ALTERNATIVE IN-LINE TERMINAL SYSTEM (AITS), STANDARD RAILING SECTION OR TRANSITION RAILING (WB-31) WITH STEEL POSTS
- RETAINING WALL
- STORM DRAIN PIPE
- EDGE OF HMA PAVEMENT SECTION



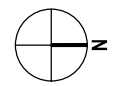
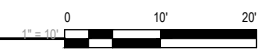
EMBEDMENT
PROTECTION

APN 220-201-012
LANDS OF
RANDALL DOC.#
2013-8156-2

MATCH LINE STA "R" 3+75
SHEET C5/C6

NOTE:
PROVIDE A 25' TRANSITION WHEN
CONFORMING TO (E) PAVEMENT

ROADWAY PLAN STA "R" 3+75 - 5+25





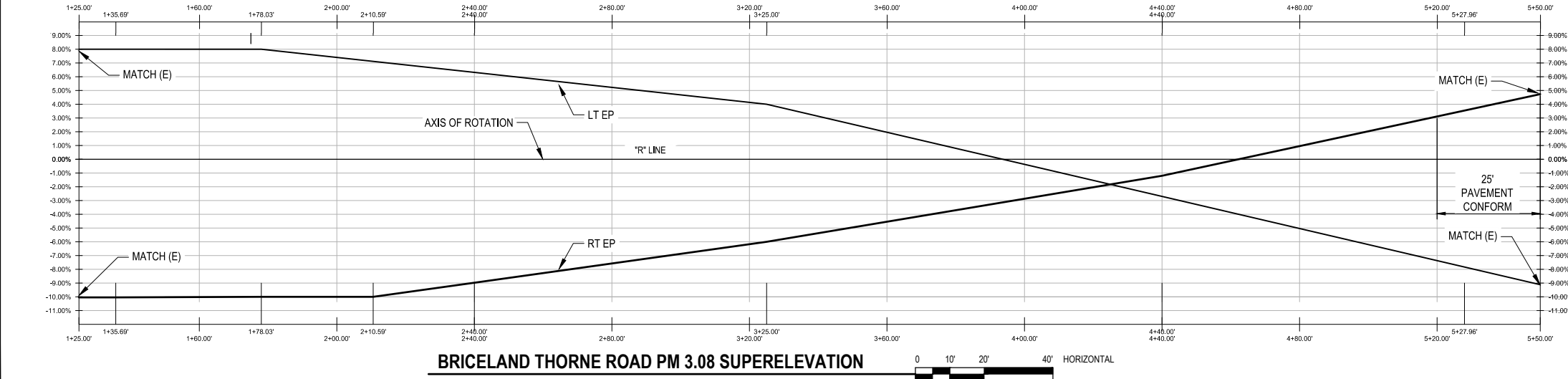
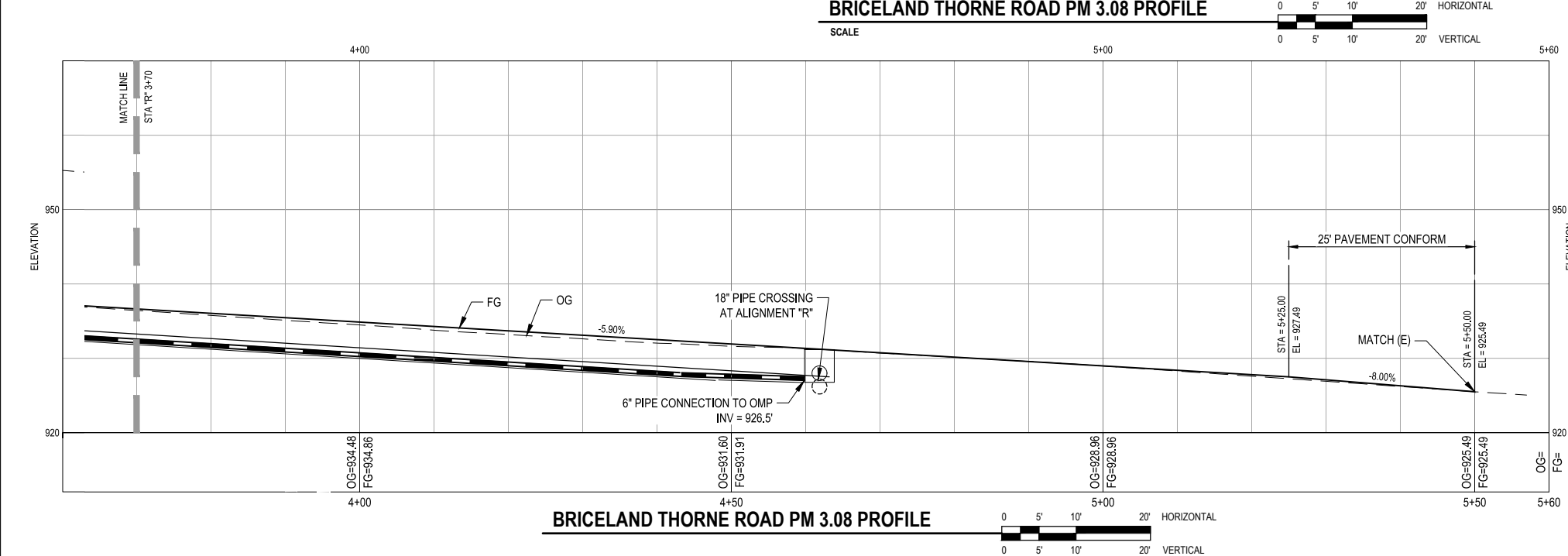
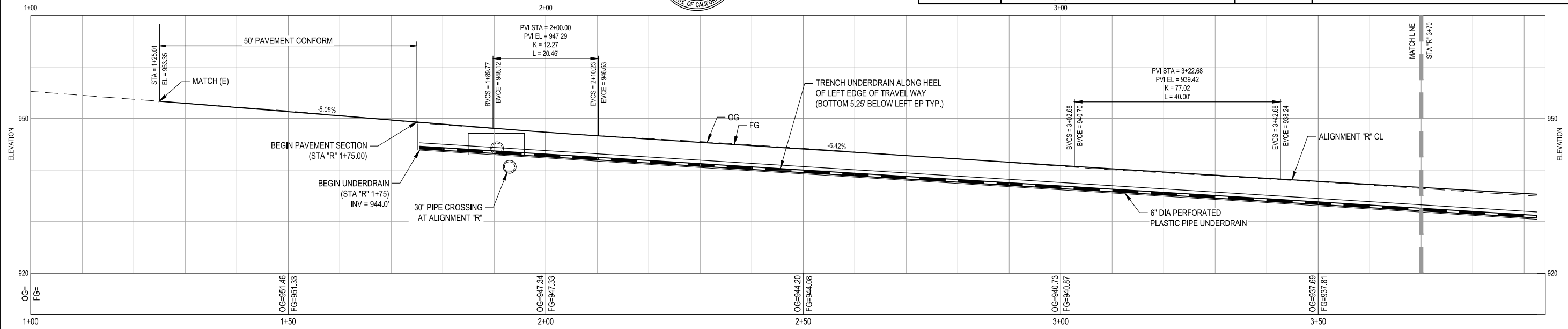
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ROAD NO: F5A010	DESIGNED BY: C.HAYES
MILE POST: 3.08, 5.67	DRAWN BY: C.HAYES
PROJECT NO.: ER-40A0(050), ER-40A0(060)	REVIEWED BY: J.SVEHLA
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SVEHLA
PLOT DATE: 3/13/23	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67
PM 3.08 ROADWAY PROFILE AND SUPERELEVATION



ROADWAY GEOMETRY					
STATION	LEFT TRAVEL LANE CROSS SLOPE	LEFT EDGE ELEVATION	CROWN ELEVATION	RIGHT EDGE ELEVATION	RIGHT TRAVEL LANE CROSS SLOPE
1+25.03	8.00%	954.31	953.35	952.15	-10.00%
1+78.03	8.00%	950.03	949.07	947.87	-10.00%
2+10.59	7.11%	947.46	946.61	945.41	-10.00%
3+25	4.00%	939.78	939.30	938.58	-6.00%
5+50	-9.12%	924.40	925.49	926.06	4.75%

Note: Negative cross slopes indicate downwards sloping away from centerline

ROADWAY ELEVATIONS

NOTE: THIS PLAN IS ACCURATE FOR DRAINAGE AND UTILITIES ONLY

100% DESIGN SUBMITTAL - 03/15/2023



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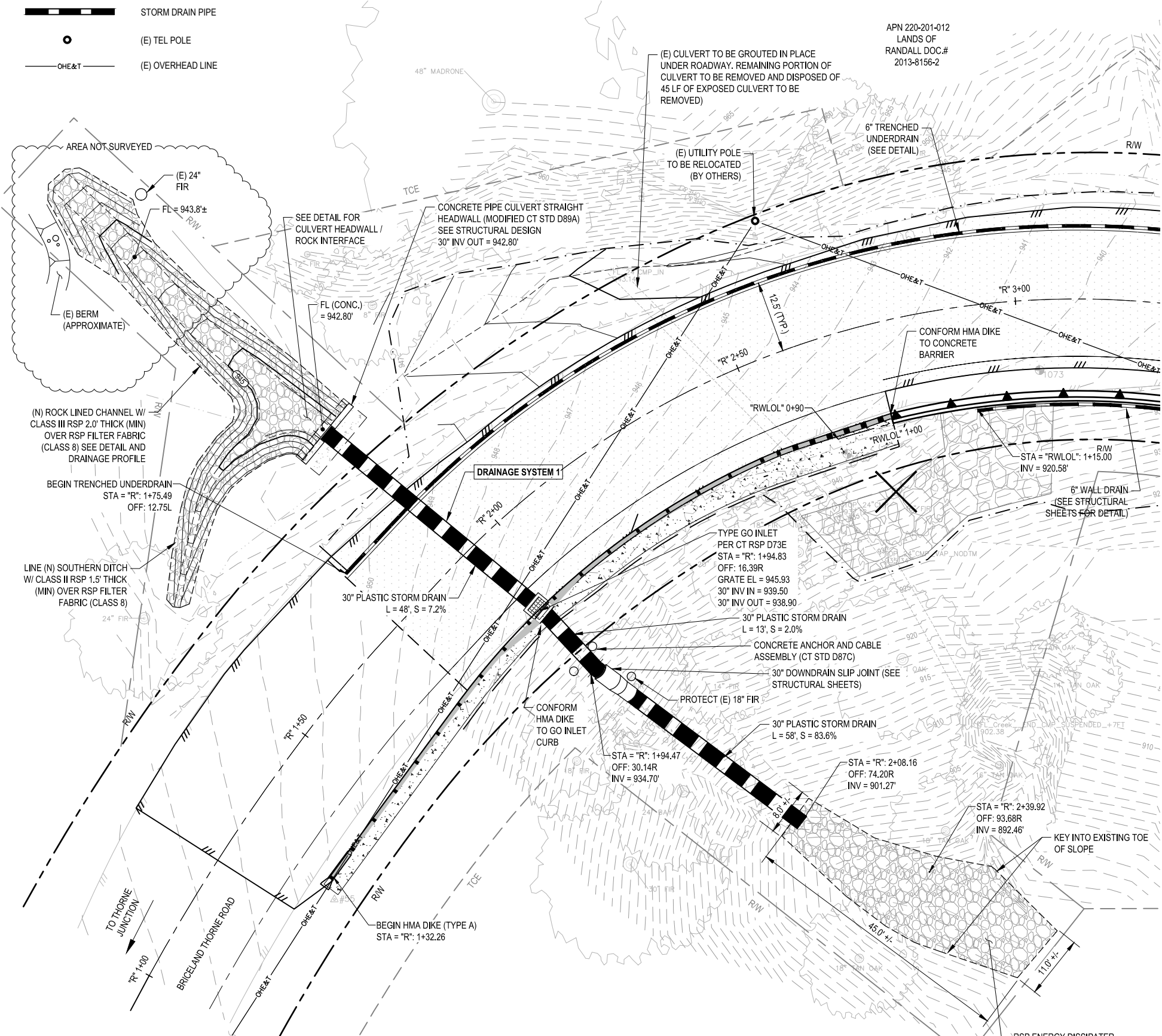
DESIGN SECTION:	ENGINEERING
DESIGNED BY:	C.HAYES
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REVIEWED BY:	J.SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 3.08 DRAINAGE PLAN	

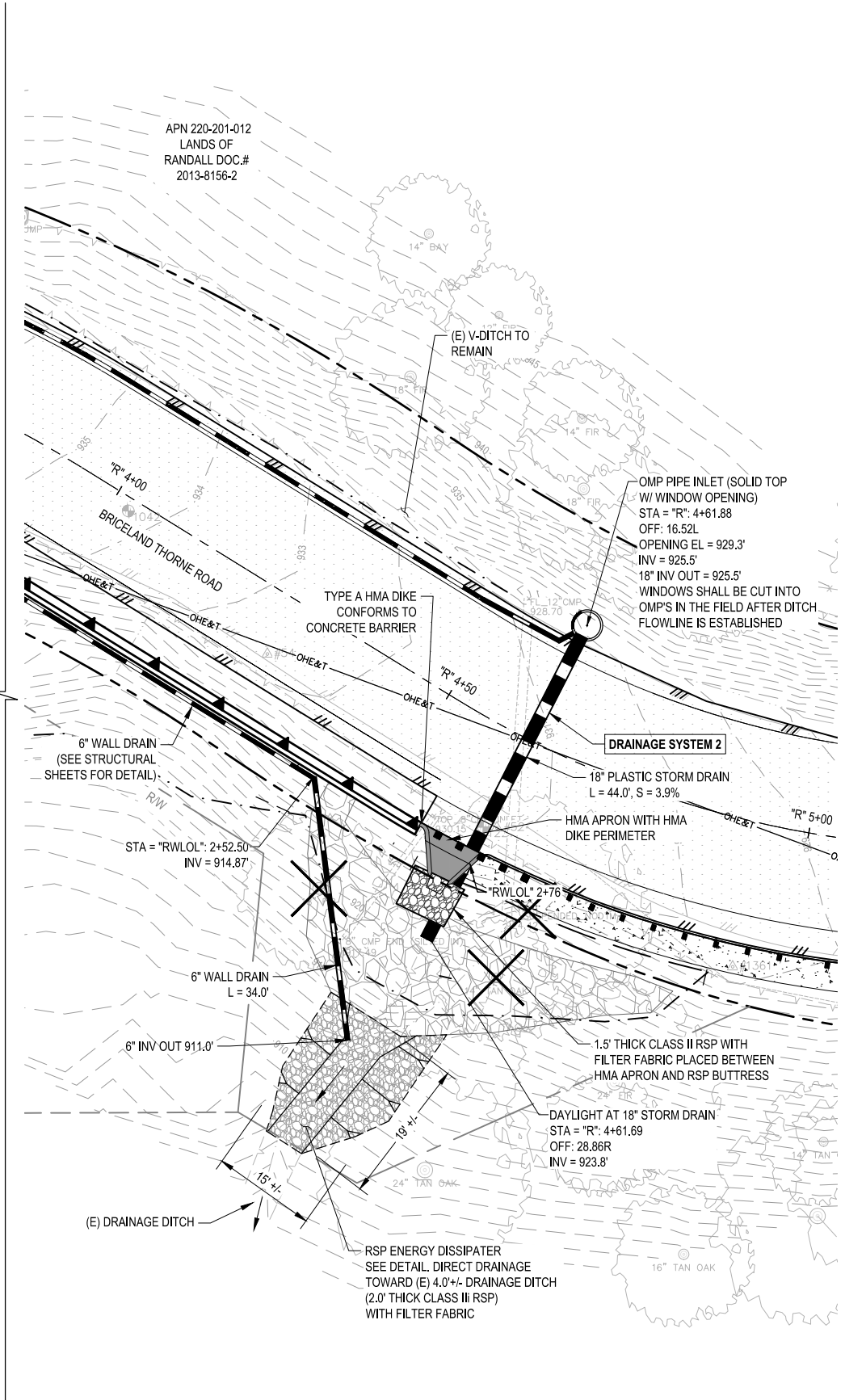
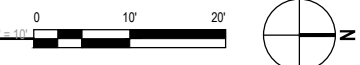
SHEET 10 OF 36

LEGEND

- STORM DRAIN PIPE
- (E) TEL POLE
- (E) OVERHEAD LINE



DRAINAGE PLAN - DRAINAGE SYSTEM 1



DRAINAGE PLAN - DRAINAGE SYSTEM 2





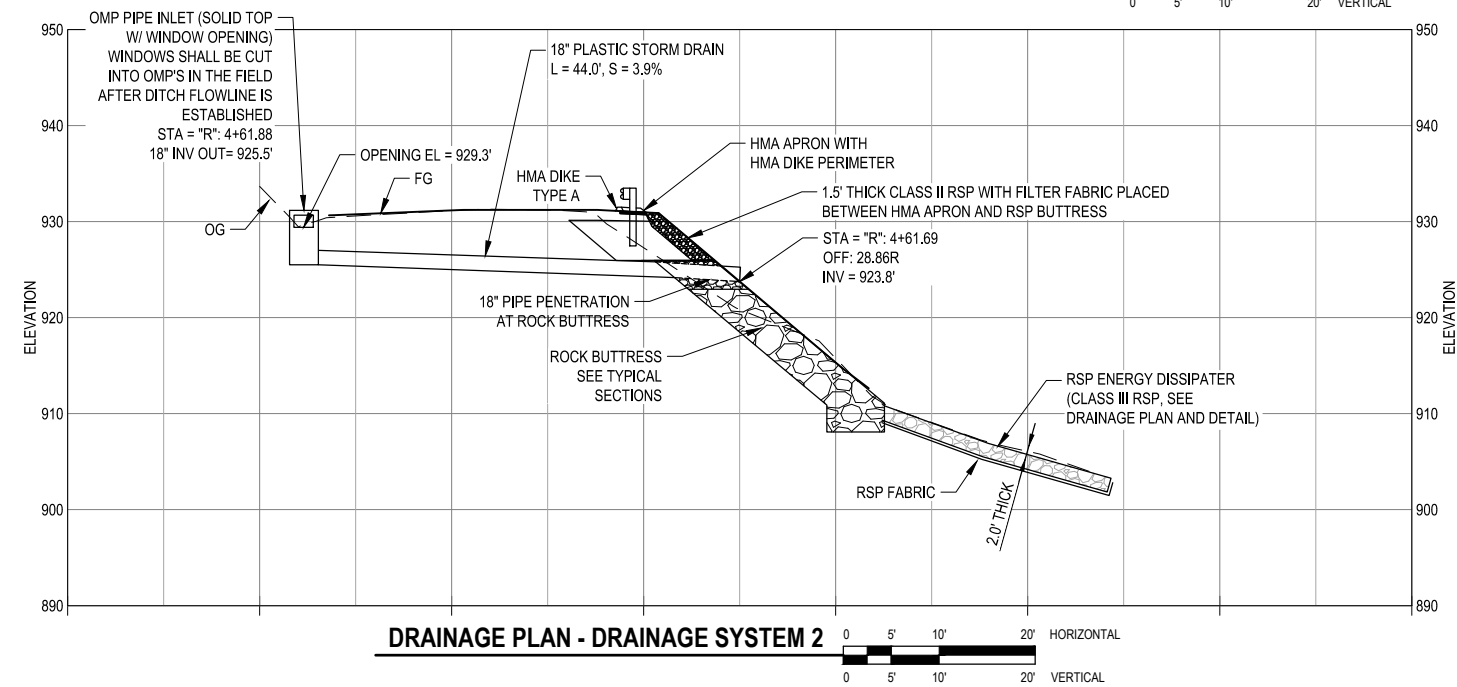
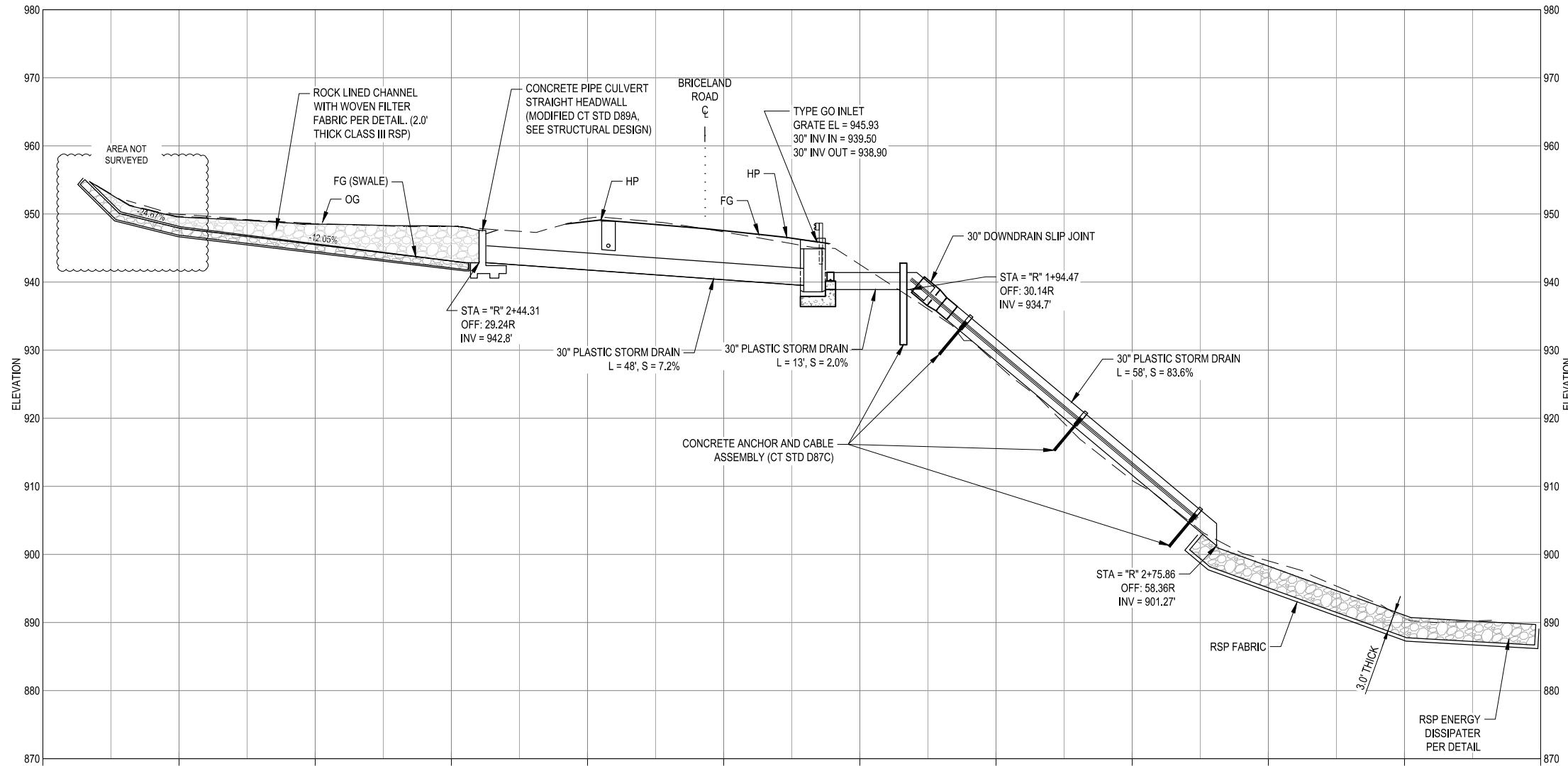
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NOTE: THIS PLAN IS ACCURATE FOR
EROSION CONTROL ONLY

100% DESIGN SUBMITTAL – 03/15/2023



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
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PROJECT NO.:	ER-40AO(050), ER-40AO(060)
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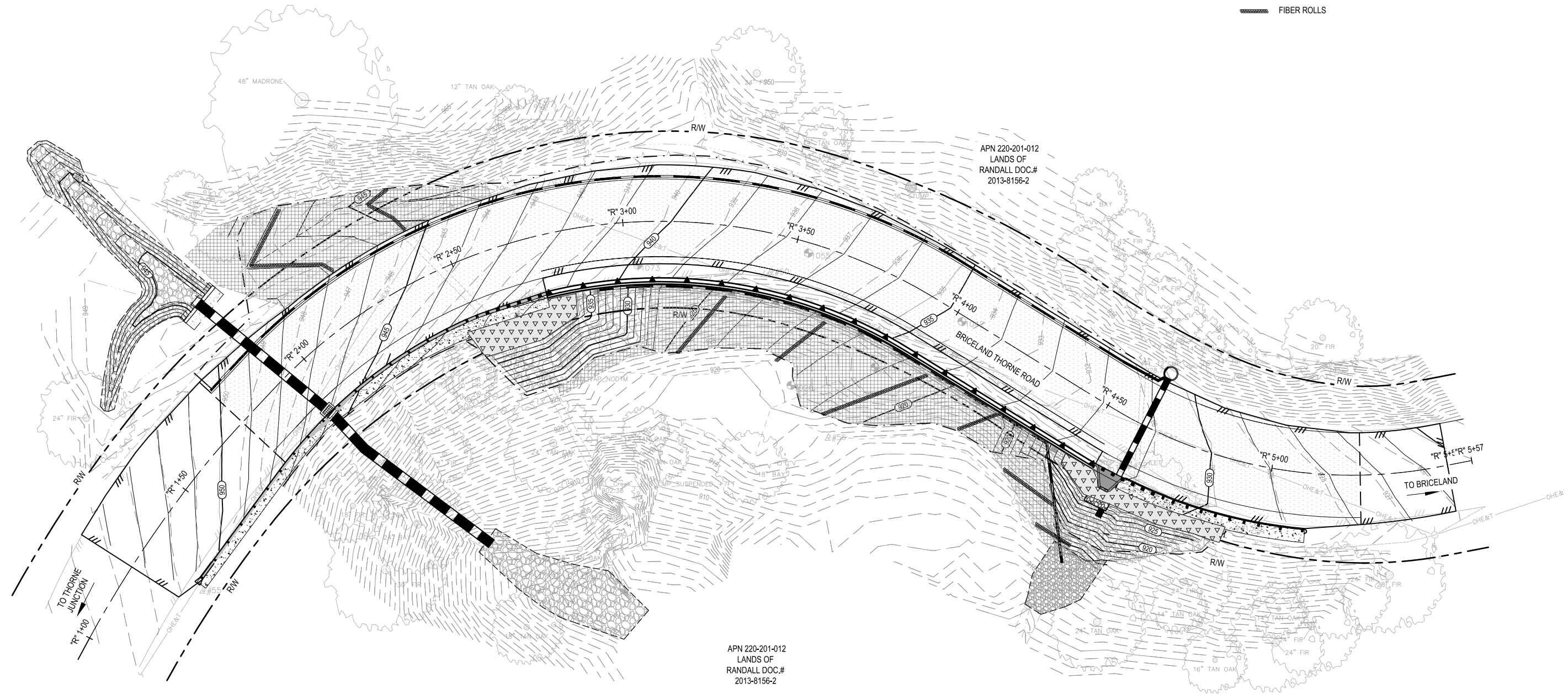
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STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 3.08 EROSION CONTROL PLAN

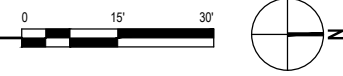
SHEET
12
OF
36

LEGEND

-  HAND SOWN SEED AND STRAW
-  HAND SOWN SEED AND ROLLED EROSION CONTROL PRODUCT
-  FIBER ROLLS



BRICELAND ROAD PM 3.08 PLAN VIEW



C#1370

NOTE: THIS PLAN IS ACCURATE FOR
SIGNING AND STRIPING ONLY

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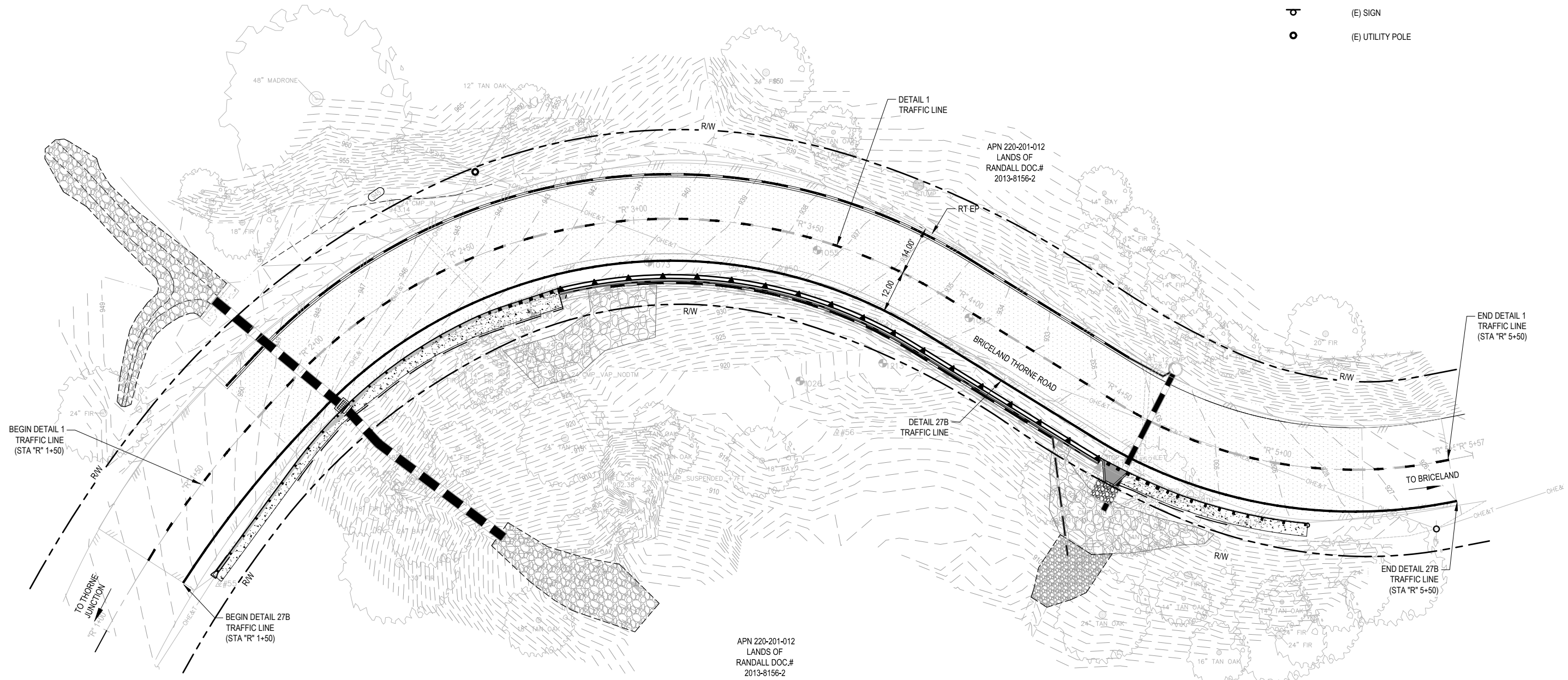
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REVIEWED BY:	J.SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 3.08 SIGNING AND STRIPING PLAN

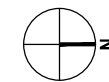
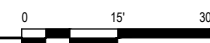
SHEET
13
OF
36

LEGEND

- DETAIL 1 TRAFFIC LINE
- DETAIL 27B TRAFFIC LINE
- (E) SIGN
- (E) UTILITY POLE



BRICELAND ROAD PM 3.08 PLAN VIEW



C#1370



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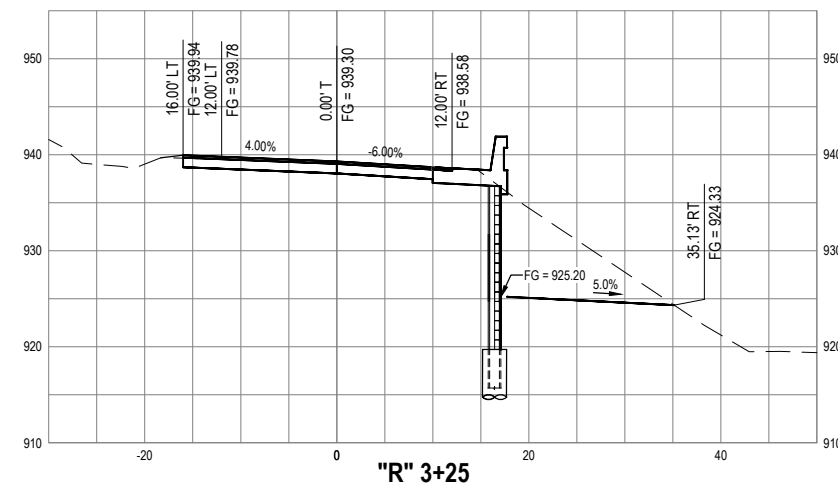
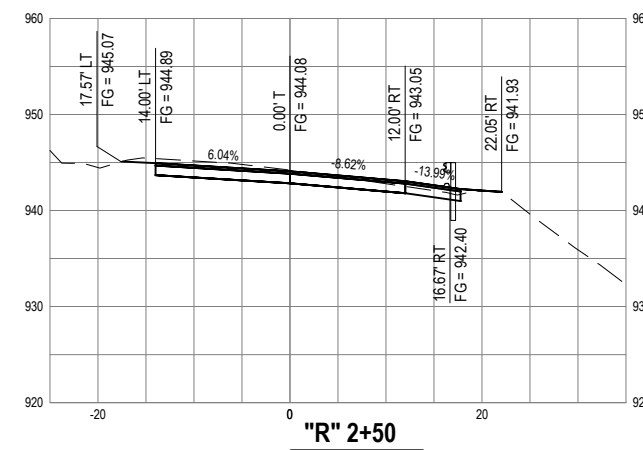
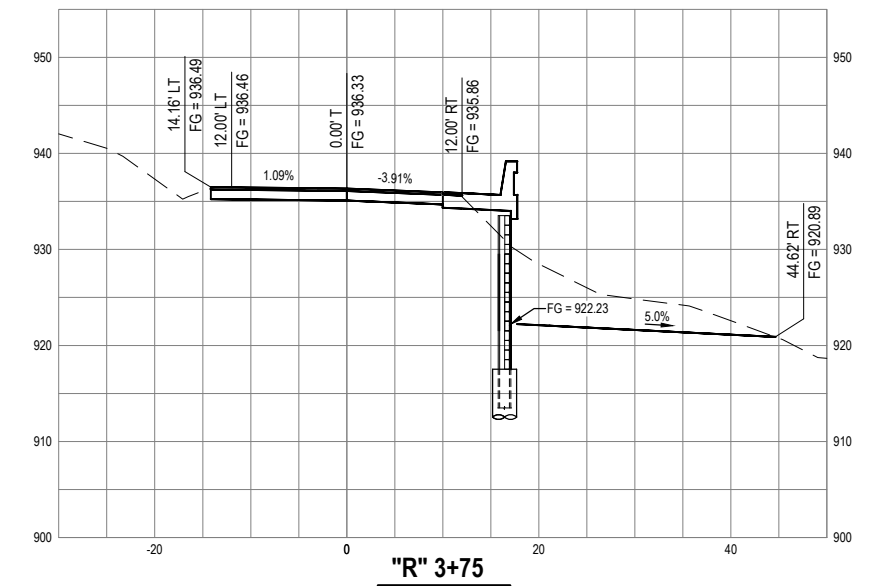
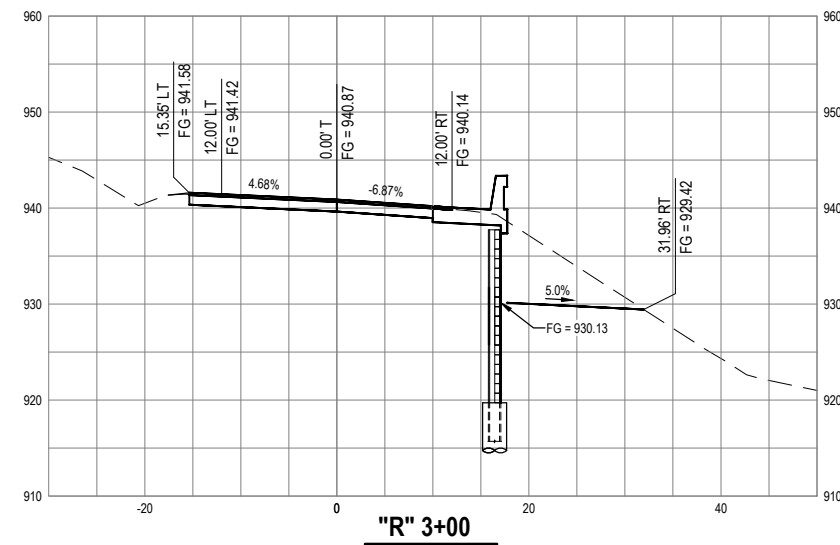
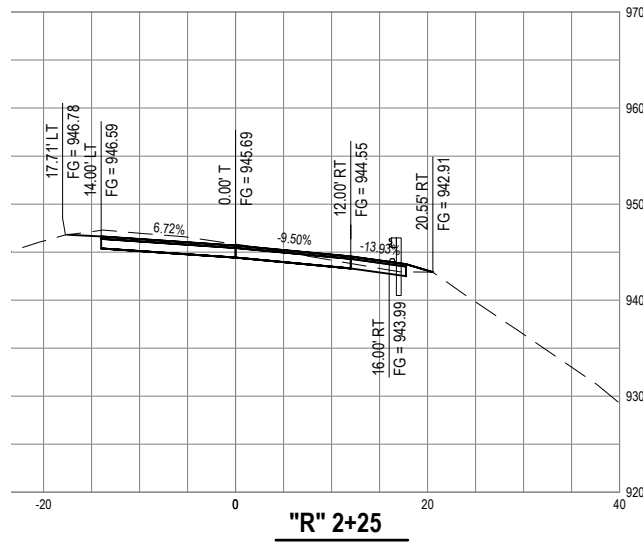
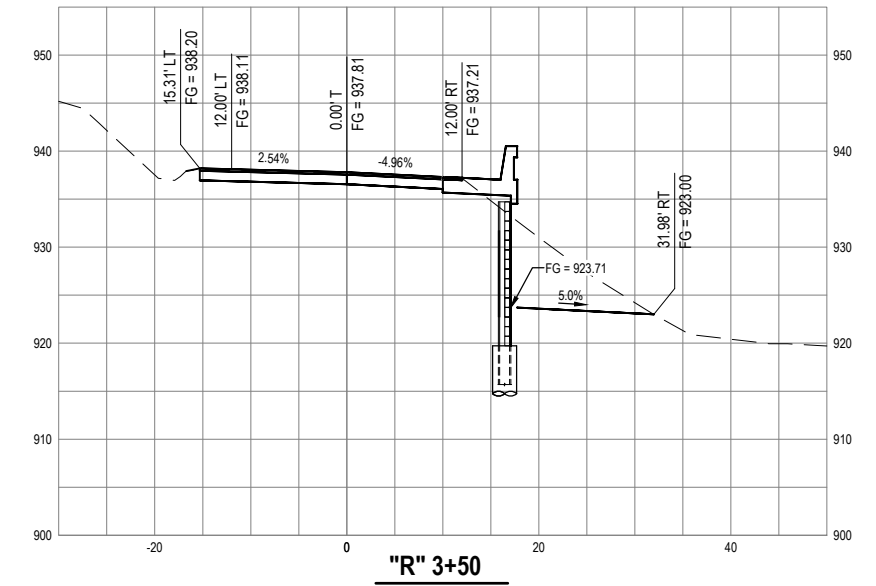
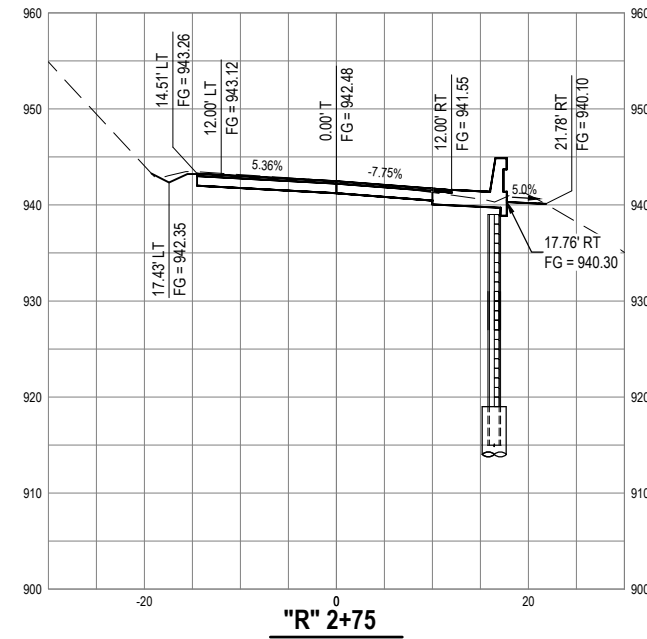
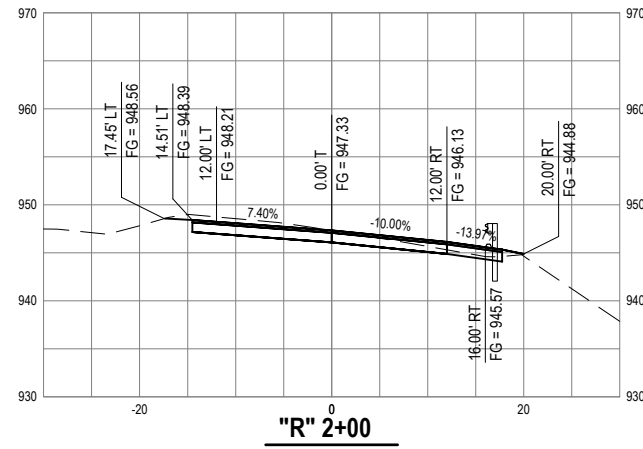
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PROJECT NO: ER-40AD(050), ER-40AD(060)
CONTRACT NO.: 219200, 219207
PLOT DATE: 3/13/23

DESIGN SECTION ENGINEERING
DESIGNED BY: C.HAYES
DRAWN BY: C.HAYES
REVIEWED BY: J.SVEHLA
APPROVED BY: J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67
PM 3.08 DESIGN SECTIONS 1 OF 2





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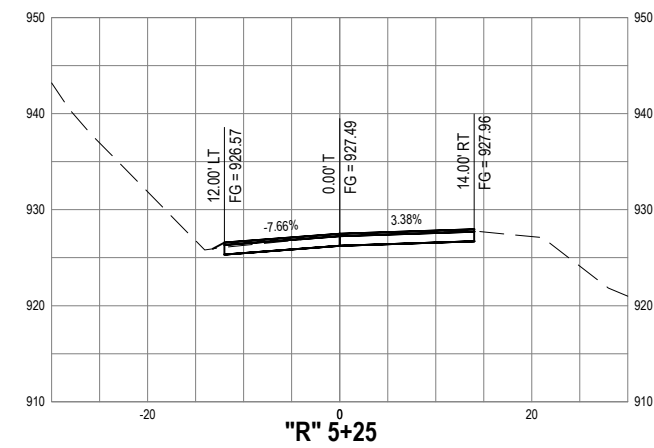
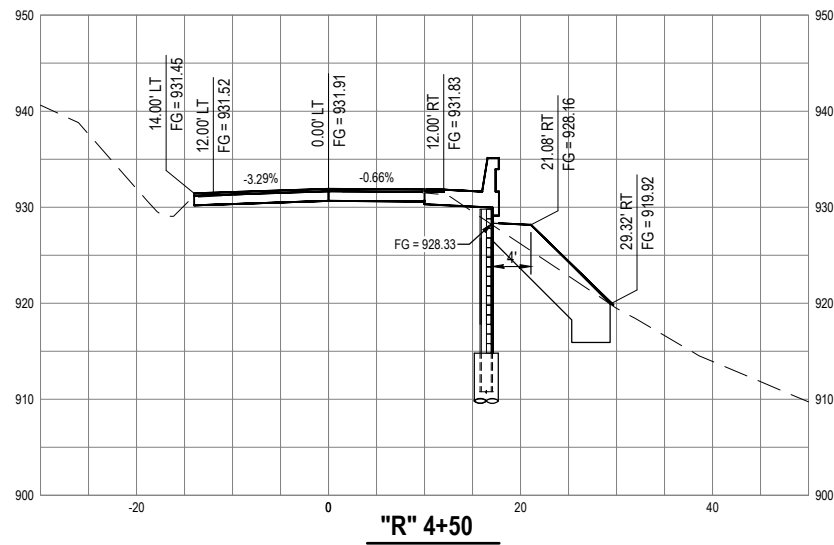
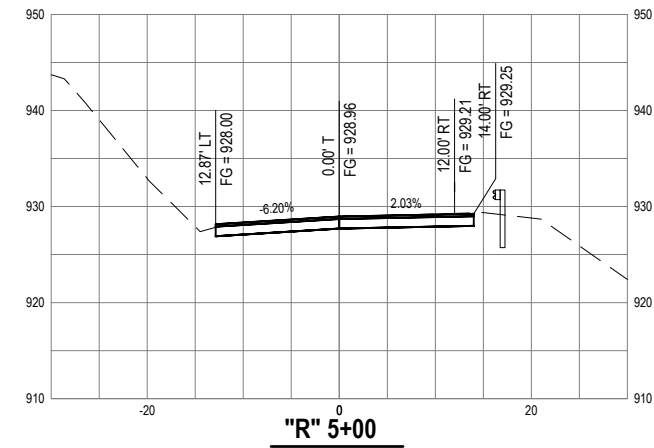
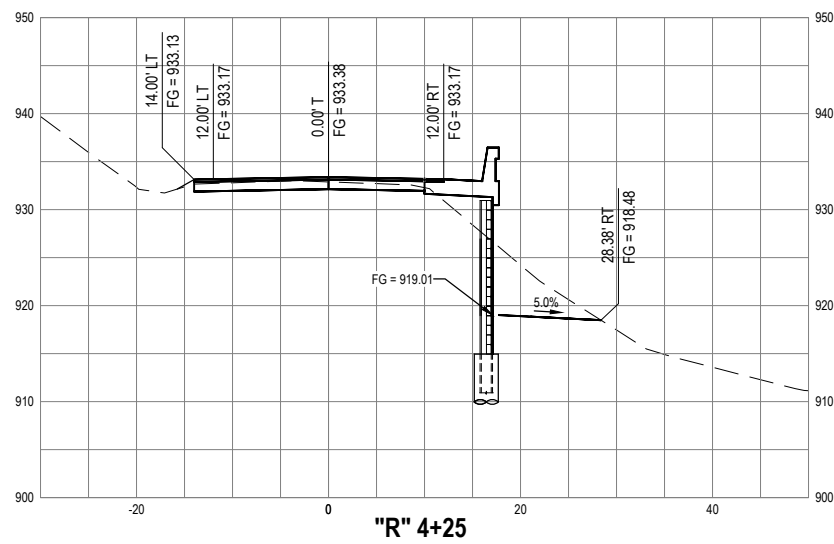
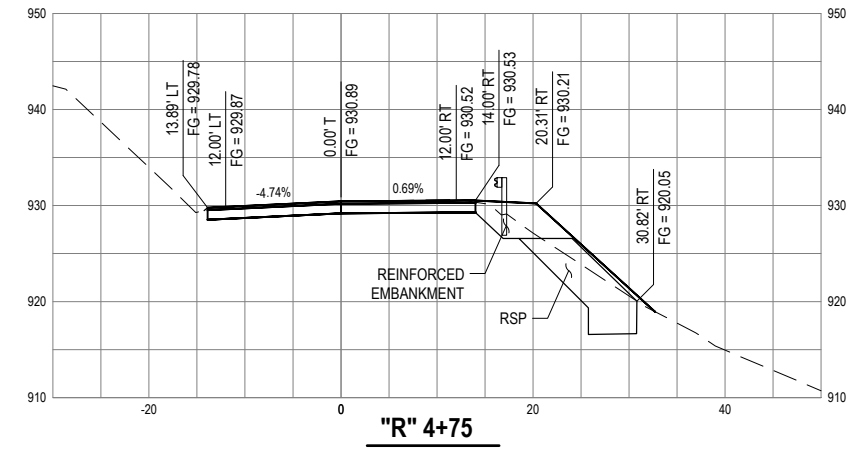
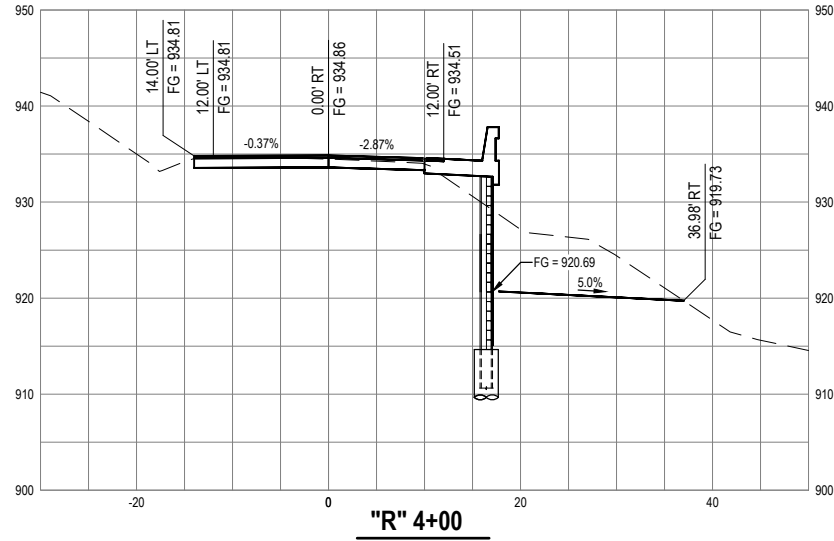


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ROAD NO: F5A010	DESIGNED BY: C.HAYES
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PLOT DATE: 3/13/23	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 15 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67	
PM 3.08 DESIGN SECTIONS 2 OF 2	





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ROAD NAME: BRICELAND THORNE ROAD	DESIGN SECTION ENGINEERING
ROAD NO: F5A010	DESIGNED BY: S.GOULD
MILE POST: 3.08, 5.67	DRAWN BY: S.GOULD
PROJECT NO.: ER-40A0(050), ER-40A0(060)	REVIEWED BY: B.CROWELL
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SVEHLA
PLOT DATE: 3/13/23	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 16 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67	
PM 3.08 STRUCTURAL GENERAL NOTES	

RETAINING WALL GENERAL NOTES

- DESIGN CRITERIA:
 - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION WITH CALTRANS AMENDMENTS, PREFACE DATED SEPTEMBER 2017
 - RETAINING WALL DESIGN IS BASED ON CRITERIA AND RECOMMENDATIONS PRESENTED IN THE GEOTECHNICAL REPORT TASK ORDER 20 - BRICELAND THORNE ROAD PM 3.08 BY CRAWFORD & ASSOCIATES, INC, DATED FEBRUARY 2021.
- REINFORCED CONCRETE AND REINFORCING:
 - ASTM DESIGNATIONS: A706
 - Fy = 60,000 PSI
 - fc = 3,600 PSI
 - PRECAST AND CAST-IN-PLACE CONCRETE (INCLUDING CIDH CONCRETE BACKFILL, WALER, BARRIER SLAB, INLET HEADWALL AND DRAINAGE INLETS):
 - SOILS ON-SITE ARE DEEMED CORROSIVE, REFER TO CALTRANS STANDARD SPECIFICATIONS SECTION 90-1.02H FOR CONCRETE MIX DESIGN REQUIREMENTS .
 - CONCRETE REINFORCING COVER SHALL BE AS FOLLOWS:

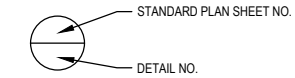
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....	3.0 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER.....	2.0 INCHES
- STRUCTURAL STEEL:
 - STEEL PILES ASTM DESIGNATION: A572/A, A572M GRADE 50 MIN. OR A992/A992M GRADE 50
 - STEEL PLATES ASTM DESIGNATION: ASTM A572/A572M GRADE 50
 - WELDED STUDS ASTM DESIGNATION: A108, AASHTO/AWS D1.5
 - WELDING: AWS D1.1
- SOIL PARAMETERS:
 - UNIT WEIGHT: 125 PCF
 - ACTIVE EARTH PRESSURE: 39 PSF/FT
 - PASSIVE EARTH PRESSURE: 200 PSF/FT + 3,000 PSF
 - SEISMIC EARTH PRESSURE: 13 PSF/FT (ADD'L)
 - MAX PASSIVE PRESSURE: 10,000 PSF
 - PASSIVE ARCHING CAPABILITY: 3.0
- LIVE LOAD:
 - LIVE LOAD SURCHARGE: 250 PSF/FT (2' EQUIV. EARTH PRESSURE)
- TIMBER LAGGING:
 - PRESSURE TREATED DOUGLAS FIR NO. 1 & BETTER, TIMBER TO BE FULL SAWN
- PRESTRESSING STEEL:
 - BARS ASTM DESIGNATION: A722 TYPE II (150 KSI)
 - STRAND TENDONS ASMT DESIGNATION: A416 (270 KSI LOW RELATION STEEL)
 - FDL = FACTORED DESIGN LOAD ON GROUND ANCHOR (KIPS)
 - FTL = FACTORED TEST LOAD PER ANCHOR (KIPS) = 1.0 FDL
 - LL = LOCK-OFF LOAD (KIPS) = 0.55 FDL
 - fpu = MINIMUM TENSILE STRENGTH OF PRESTRESSING STEEL
 - Ag = MINIMUM CROSS SECTIONAL AREA OF PRESTRESSING STEEL IN GROUND ANCHOR (IN²)
 - As(MIN) = $\frac{1.0 FTL}{0.75 fpu}$ (STRANDS)
 - As(MIN) = $\frac{1.0 FTL}{0.80 fpu}$ (BARS)

FOR FDL, SEE "GROUND ANCHOR DATA TABLE" ON SHEET 18 "PM 3.08 RETAINING WALL LAYOUT"

2022 STANDARD PLANS

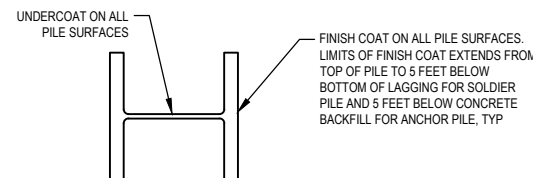
A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
B0-3	BRIDGE DETAILS
B7-8	DECK DRAINAGE DETAILS
RSP B11-82	CONCRETE BARRIER TYPE 842
D102	UNDERDRAINS

LEGEND



ABBREVIATIONS

CL	CENTER LINE
BOW	BOTTOM OF WALL
DIS	DOWN STATION
RWLOL	RETAINING WALL LAYOUT LINE
TOW	TOP OF WALL
US	UP STATION



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE

NO SCALE

REFER TO ROADWAY TYPICAL SECTIONS (SHEET 5) FOR PAYMENT LIMITS

LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL (SOLDIER PILE WALL)



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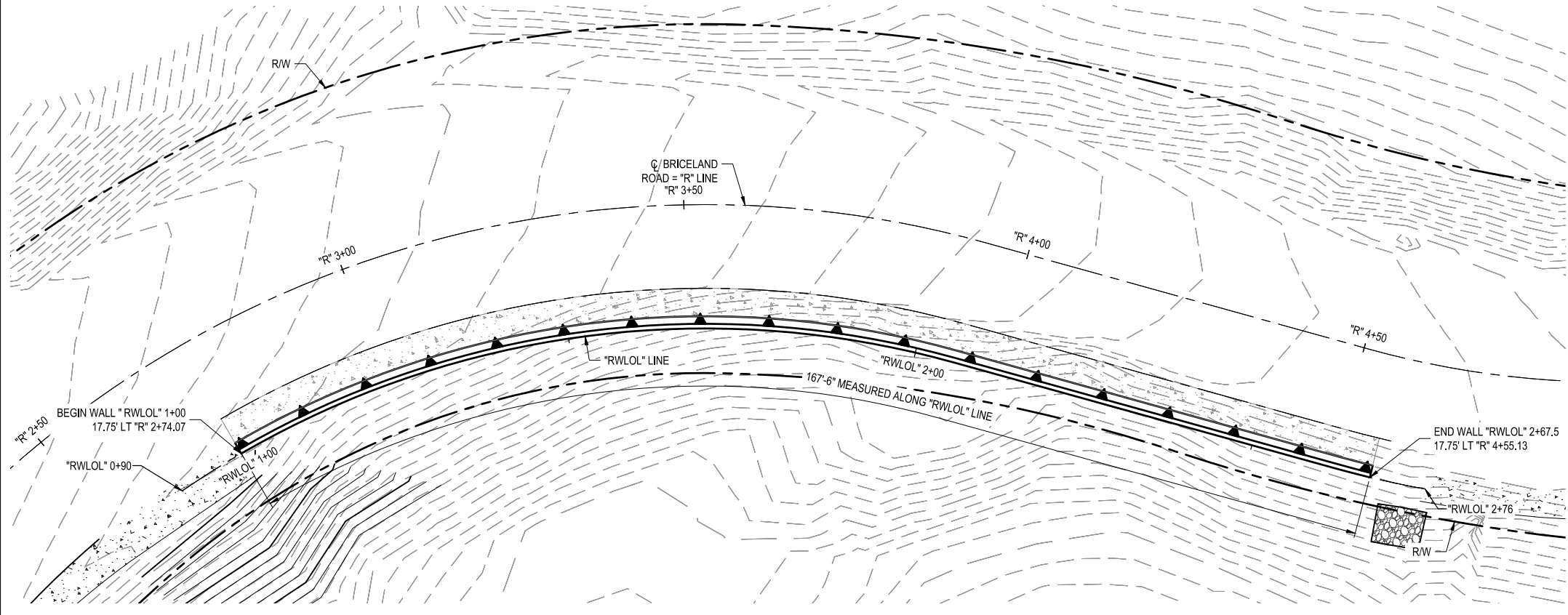


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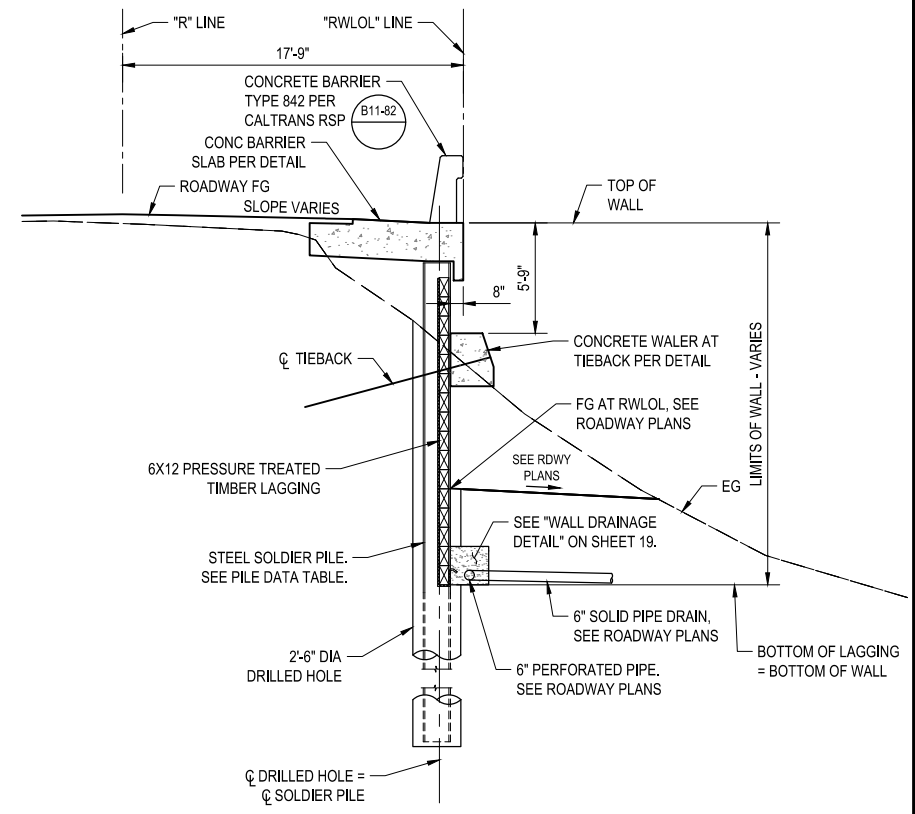
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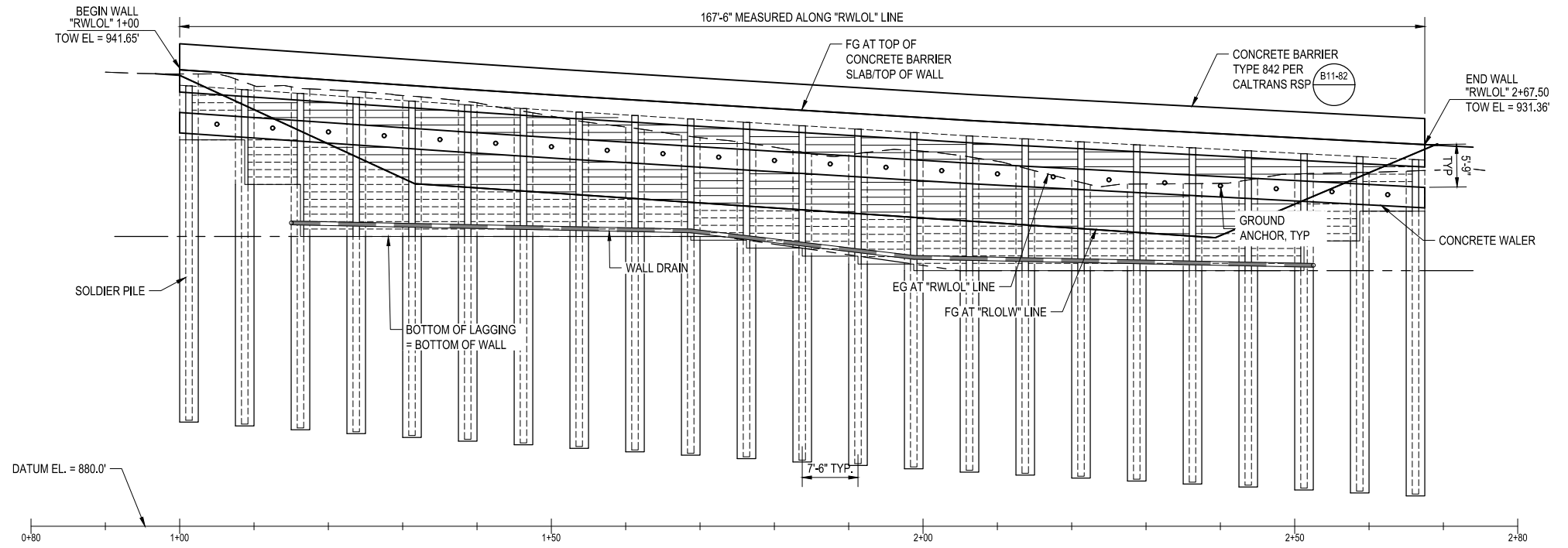
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67
PM 3.08 RETAINING WALL GENERAL PLAN



RETAINING WALL PLAN
SCALE: 1" = 10'-0"
0 10' 20'



RETAINING WALL TYPICAL SECTION
SCALE: 1" = 5'-0"
0 5' 10'



RETAINING WALL ELEVATION
SCALE: 1" = 10'-0"
0 10' 20'

SHEET GENERAL NOTES

- SEE "PM 3.08 SURVEY CONTROL PLAN" ON SHEET 4 FOR RWLOL ALIGNMENT DATA.
- SLOPE 6" PERFORATED DRAIN PIPE AT MIN. 2%. REFER TO ROADWAY PLANS TO DRAINAGE INFORMATION.
- SEE ROADWAY PLANS FOR RIGHT-OF-WAY, UTILITY, DRAINAGE, ROADWAY AND LAYOUT INFORMATION NOT NOTED.



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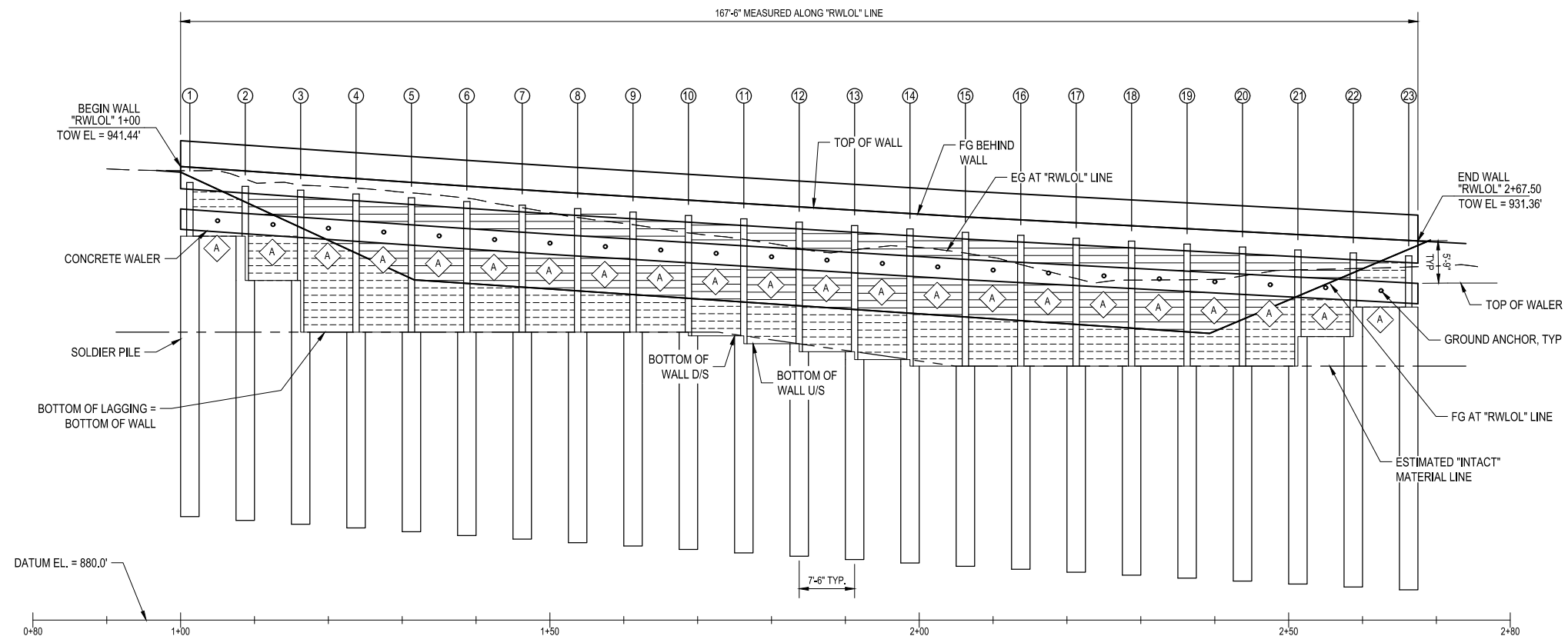


BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40AD(050), ER-40AD(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	3/13/23

DESIGN SECTION	ENGINEERING
DESIGNED BY:	S.GOULD
DRAWN BY:	S.GOULD
REVIEWED BY:	B.CROWELL
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 18 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08 & PM 5.67	
PM 3.08 RETAINING WALL LAYOUT	



DEVELOPED ELEVATION - PILE LAYOUT

SCALE: 1" = 10'-0"

- NOTES:
- TOP OF WALL ELEVATIONS SHOWN ARE BASED ON ROADWAY PLANS, VERIFY ELEVATIONS WITH ROADWAY PLANS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF TOP OF WALL ELEVATIONS ARE HIGHER THAN SHOWN ON PLANS.
 - PER THE GEOTECHNICAL REPORT BY CRAWFORD & ASSOCIATES, INC., DATED SEPTEMBER 2020, THE GROUND ANCHOR UNBONDED LENGTH SHALL EXTEND AT LEAST 5 FEET OR H/5, WHICHEVER IS GREATER (H = WALL HEIGHT) BEYOND THE "INTACT" MATERIAL.

PILE DATA TABLE

PILE #	RWLOL STATION (FT)	PILE SECTION (FT)	TOP OF WALL ELEVATION (FT), SEE NOTE 1	DRILLED HOLE SIZE (IN)	PILE CUTOFF ELEVATION (FT)	BOTTOM OF WALL ELEVATION (FT)		PILE LENGTH (FT)	DRILLED HOLE TIP ELEVATION (FT)
						D/S	U/S		
BEGIN WALL	1+00.00	W16x100	941.44						
1	1+01.25	W16x100	941.35	30	939.27		932.00	45.00	894.27
2	1+08.75	W16x100	940.84	30	938.76	932.00	926.00	45.00	893.76
3	1+16.25	W16x100	940.33	30	938.25	926.00	919.00	45.00	893.25
4	1+23.75	W16x100	939.81	30	937.73	919.00	919.00	45.00	892.73
5	1+31.25	W16x100	939.30	30	937.22	919.00	919.00	45.00	892.22
6	1+38.75	W16x100	938.78	30	936.70	919.00	919.00	45.00	891.70
7	1+46.25	W16x100	938.30	30	936.22	919.00	919.00	45.00	891.22
8	1+53.75	W16x100	937.82	30	935.74	919.00	919.00	45.00	890.74
9	1+61.25	W16x100	937.36	30	935.28	919.00	919.00	45.00	890.28
10	1+68.75	W16x100	936.90	30	934.82	919.00	918.51	45.00	889.82
11	1+76.25	W16x100	936.44	30	934.36	918.51	917.43	45.00	889.36
12	1+83.75	W16x100	935.98	30	933.90	917.43	916.36	45.00	888.90
13	1+91.25	W16x100	935.53	30	933.45	916.36	915.28	45.00	888.45
14	1+98.75	W16x100	935.07	30	932.99	915.28	914.40	45.00	887.99
15	2+06.25	W16x100	934.62	30	932.54	914.40	914.40	45.00	887.54
16	2+13.75	W16x100	934.21	30	932.13	914.40	914.40	45.00	887.13
17	2+21.25	W16x100	933.82	30	931.74	914.40	914.40	45.00	886.74
18	2+28.75	W16x100	933.42	30	931.34	914.40	914.40	45.00	886.34
19	2+36.25	W16x100	933.02	30	930.94	914.40	914.40	45.00	885.94
20	2+43.75	W16x100	932.62	30	930.54	914.40	914.40	45.00	885.54
21	2+51.25	W16x100	932.22	30	930.14	914.40	918.40	45.00	885.14
22	2+58.75	W16x100	931.82	30	929.74	918.40	922.40	45.00	884.74
23	2+66.25	W16x100	931.42	30	929.34	922.40		45.00	884.34
END WALL	2+67.50	W16x100	931.36						

GROUND ANCHOR DATA TABLE

GROUND ANCHOR TYPE	FACTORED DESIGN LOAD, FDL (KIPS)	MINIMUM UNBONDED LENGTH (FT) SEE NOTE 2
A	149	33

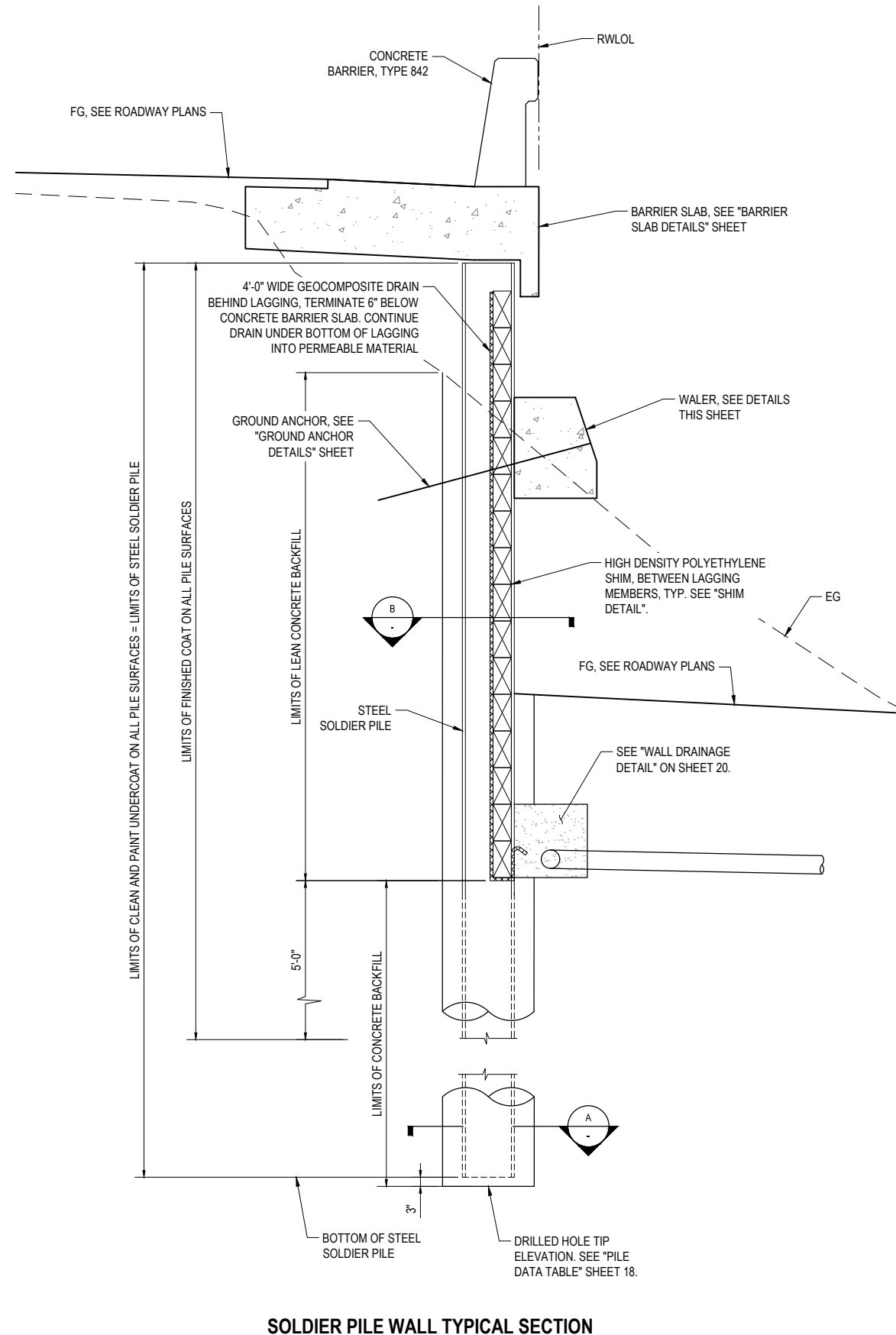


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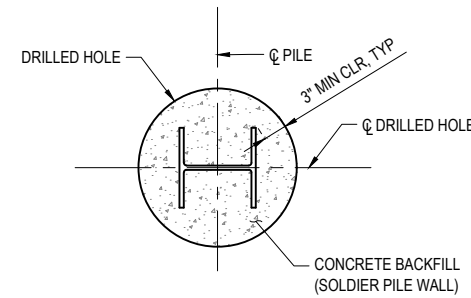


ROAD NAME: BRICELAND THORNE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F5A010	DESIGNED BY: S.GOULD
MILE POST: 3.08, 5.67	DRAWN BY: S.GOULD
PROJECT NO.: ER-40AO(050), ER-40AO(060)	REVIEWED BY: B.CROWELL
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SVEHLA
PLOT DATE: 3/13/23	

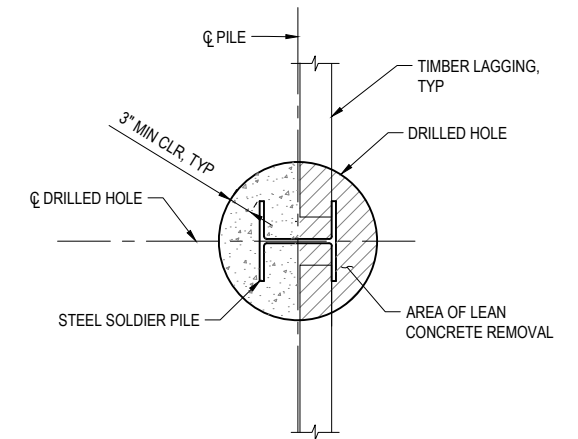
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 19 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 3.08 STRUCTURAL DETAILS 1 OF 2	



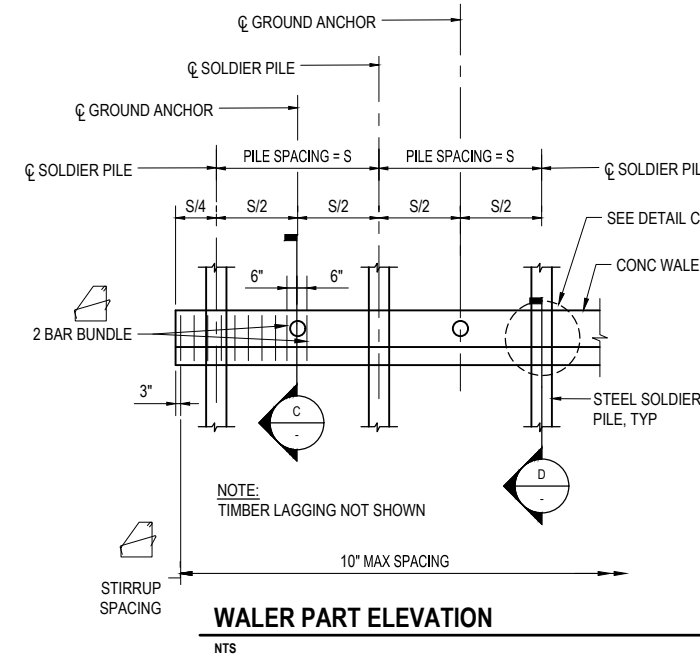
SOLDIER PILE WALL TYPICAL SECTION
SCALE



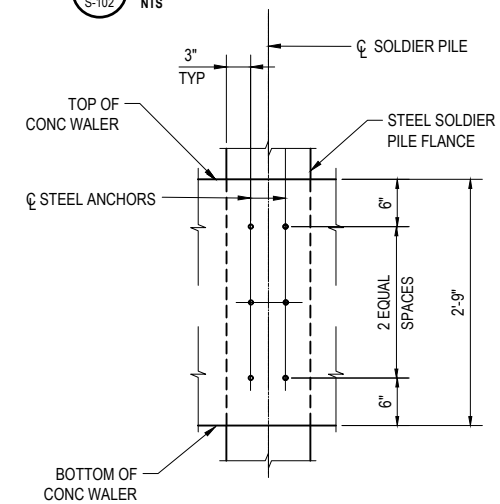
SECTION A
NTS



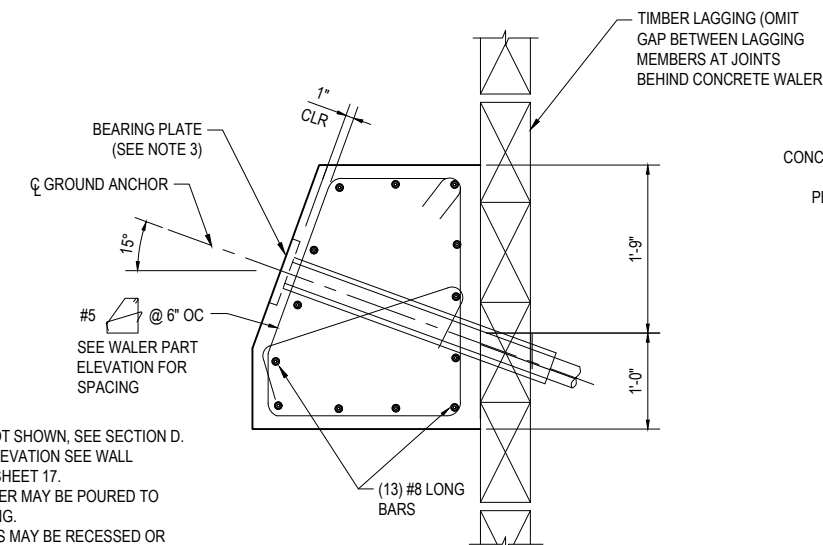
SECTION B
NTS



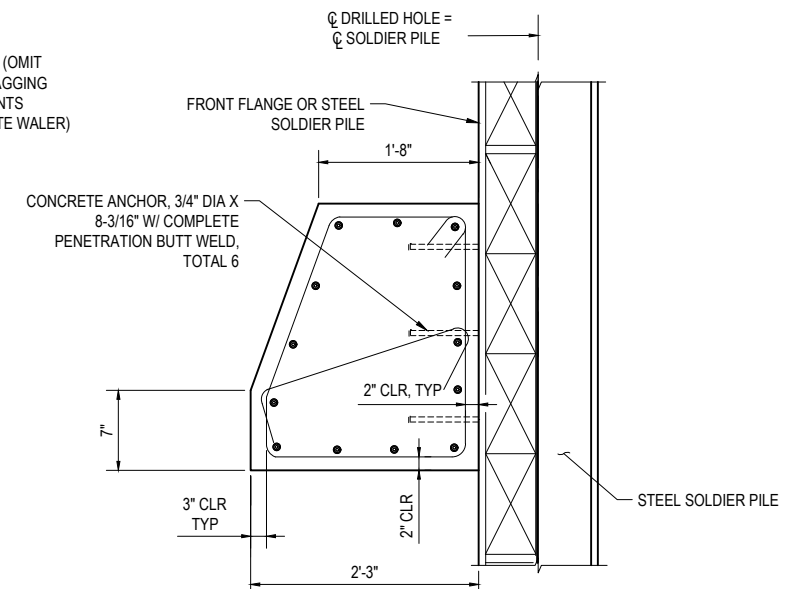
WALER PART ELEVATION
NTS



DETAIL C
NTS



SECTION C
NTS



SECTION D
NTS

- NOTE:**
1. FOR DETAILS NOT SHOWN, SEE SECTION D.
 2. FOR ANCHOR ELEVATION SEE WALL ELEVATION ON SHEET 17.
 3. CONCRETE WALER MAY BE POURED TO FACE OF LAGGING.
 4. BEARING PLATES MAY BE RECESSED OR ON FACE OF CONCRETE WALER.



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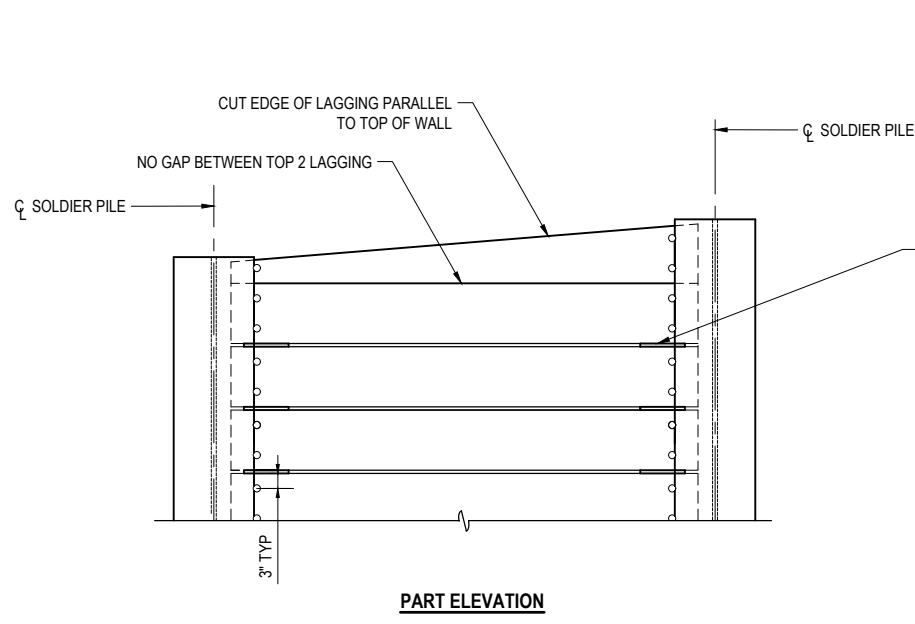


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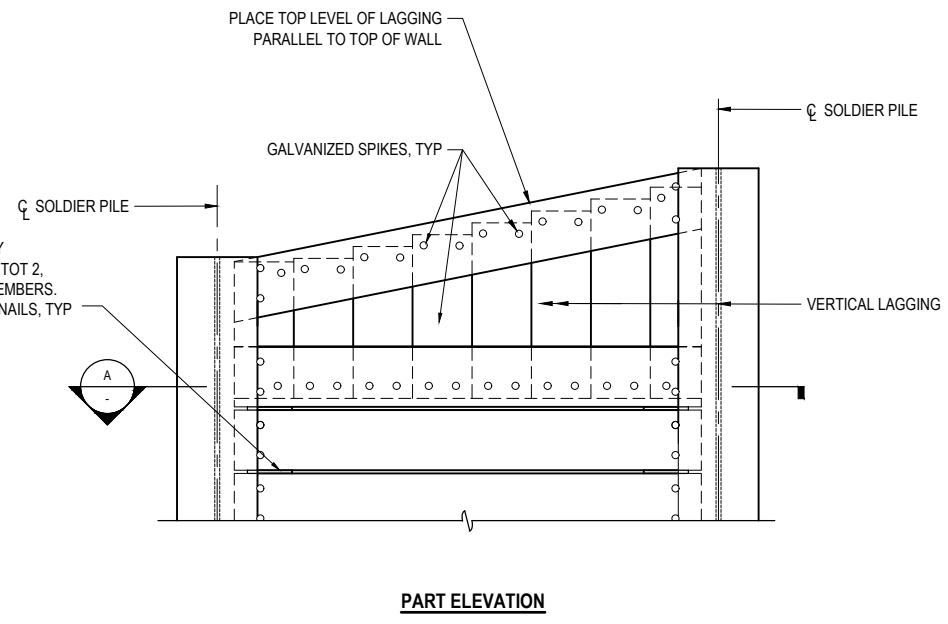
ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40A0(050), ER-40A0(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	3/13/23

DESIGN SECTION	ENGINEERING
DESIGNED BY:	S.GOULD
DRAWN BY:	S.GOULD
REVIEWED BY:	B.CROWELL
APPROVED BY:	J. SVEHLA

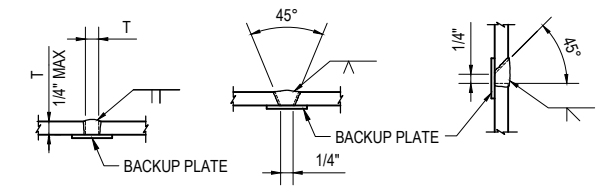
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 3.08 STRUCTURAL DETAILS 2 OF 2



LAGGING DETAILS (ALTERNATIVE 1)
SCALE : NTS

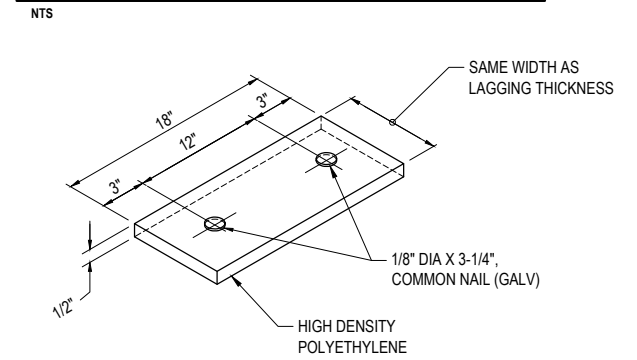


LAGGING DETAILS (ALTERNATIVE 2)
SCALE : NTS

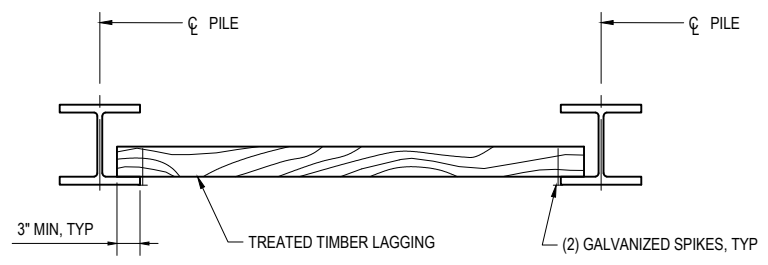


- NOTES:**
1. SINGLE VEE-GROOVE AND SQUARE GROOVE PERMITTED FOR ALL POSITIONS.
 2. SINGLE BEVEL-GROOVE PERMITTED FOR HORIZONTAL JOINTS ONLY.

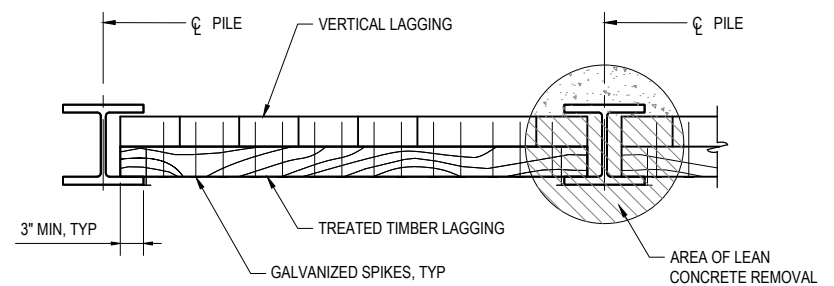
PILE WELDING DETAIL - BUTT JOINTS



SHIM DETAIL
SCALE : NTS

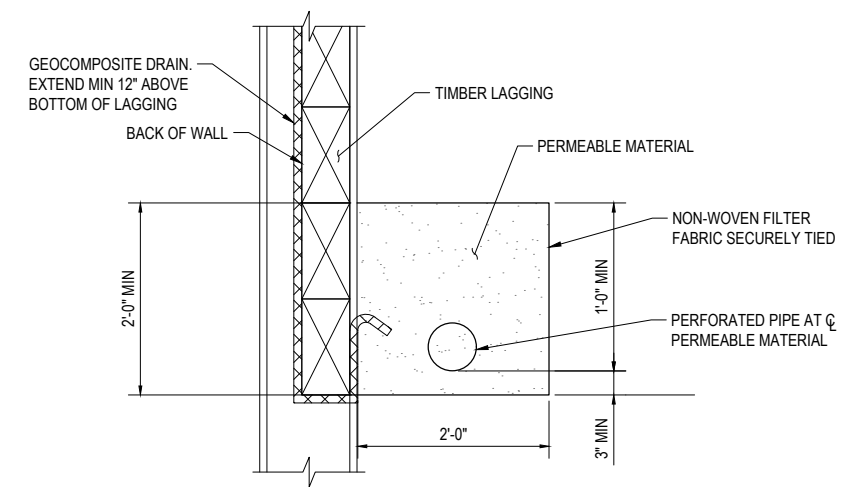


PART PLAN
SCALE : NTS



SECTION A
SCALE : NTS

- NOTES:**
1. NO CLIPPING OF TIMBER LAGGING CORNERS ALLOWED.
 2. USE 16D GALV WIRE SPIKES FOR 4x12 LAGGING. USE 40D GALV WIRE SPIKES FOR 6x12 LAGGING.
 3. SPIKES SHALL NOT BE BENT.



WALL DRAINAGE DETAIL
SCALE : NTS



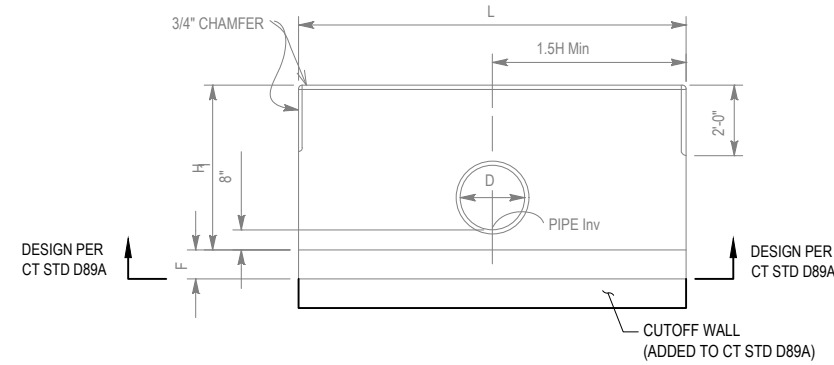
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ROAD NAME:	BRICELAND THORNE ROAD	DESIGN SECTION:	ENGINEERING
ROAD NO.:	F5A010	DESIGNED BY:	C. HAYES
MILE POST:	3.08, 5.67	DRAWN BY:	C. HAYES
PROJECT NO.:	ER-40AD(050), ER-40AD(060)	REVIEWED BY:	J. SVEHLA
CONTRACT NO.:	219200, 219207	APPROVED BY:	J. SVEHLA
PLOT DATE:	3/13/23		

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 21 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 3.08 CULVERT HEADWALL DETAILS	

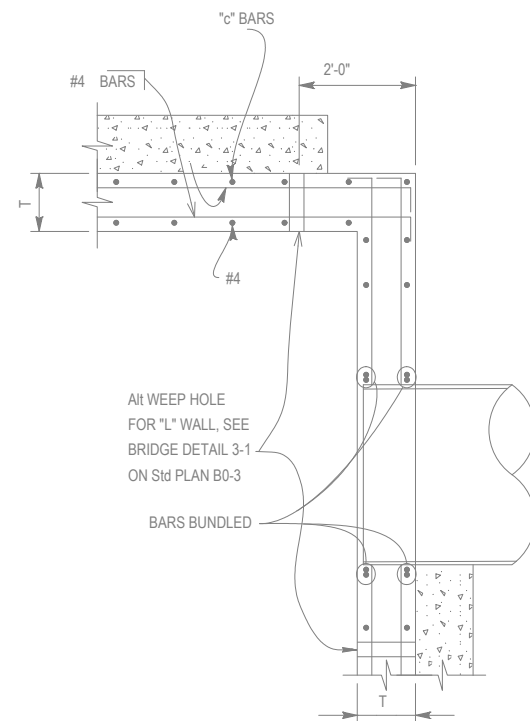


C ELEVATION - STRAIT HEADWALL SINGLE CIRCULAR PIPE
(MODIFIED CT STD D89A), SCALE: NTS

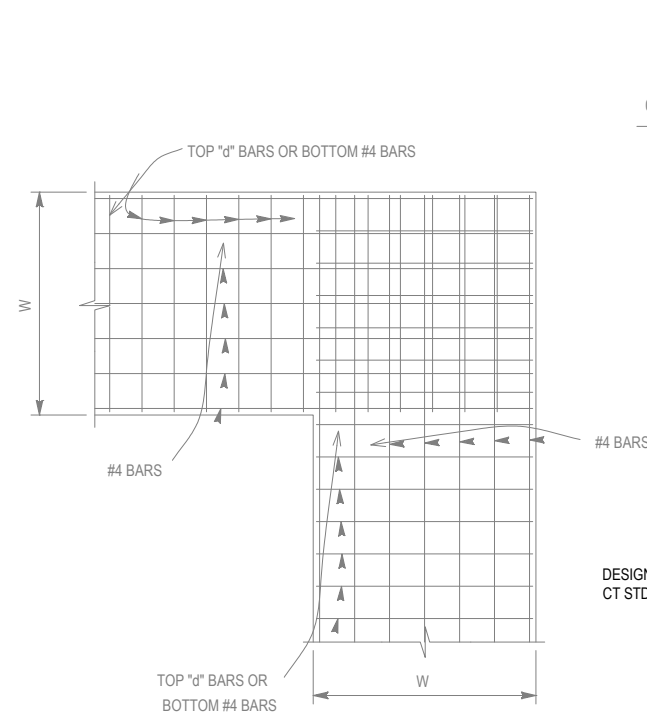
H	5'-5"
T	10"
W	5'-4"
C	1'-4"
B	4'-0"
F	1'-0"
"c" BARS	#4 @ 12
"d" BARS	#5 @ 8
* Conc CY/LF	0.40
* Reinf LB/LF	39
**CASE I Ser (q'o, B')	0.95, 5.00
Str (q'o, B')	1.62, 4.50

H (Min)	CIRCULAR PIPE SIZE D
5'-5"	30"

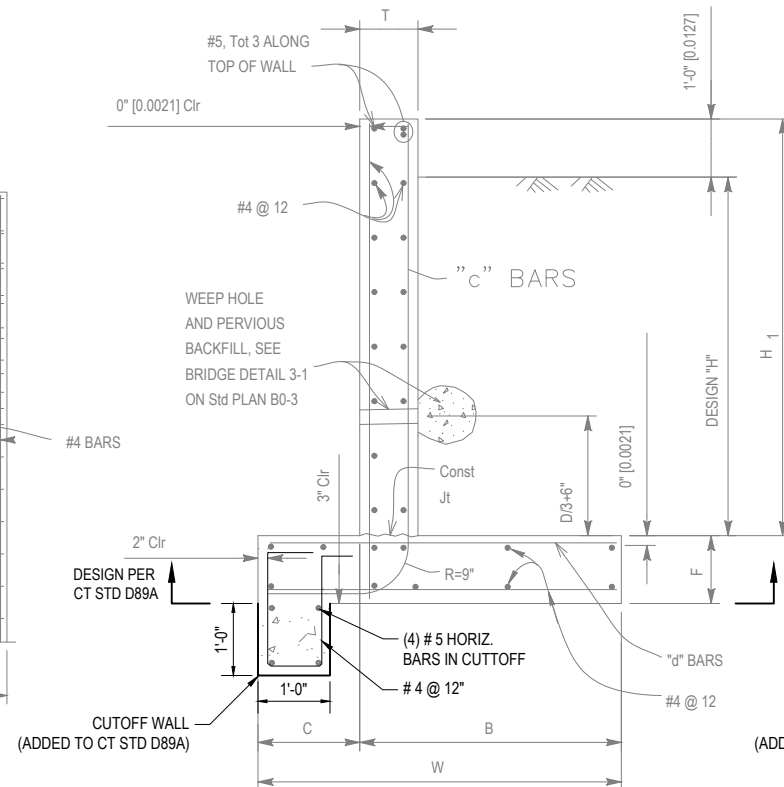
* Quantities include 1'-0" extension above the design "H" limit.
** q'o = net bearing stress (ksf), B' = effective footing width (ft)
Ser - service limit
Str - strength limit



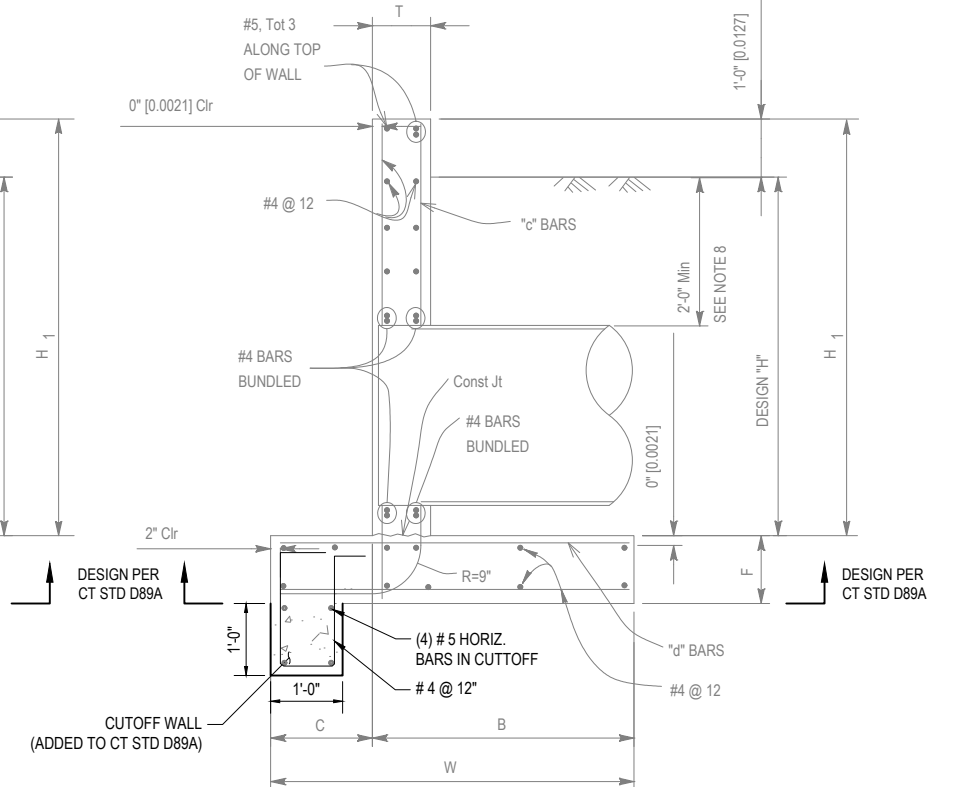
D PLAN VIEW - STRAIT HEADWALL
(MODIFIED CT STD D89A), SCALE: NTS
NOTE: "L" HEADWALL SHOWN. STRAIGHT HEADWALL SIMILAR



E TYPICAL FOOTING DETAIL
(MODIFIED CT STD D89A), SCALE: NTS
NOTE: "L" HEADWALL SHOWN. STRAIGHT HEADWALL SIMILAR



F TYPICAL HEADWALL SECTION
(MODIFIED CT STD D89A), SCALE: NTS



G TYPICAL HEADWALL SECTION THROUGH PIPE
(MODIFIED CT STD D89A), SCALE: NTS



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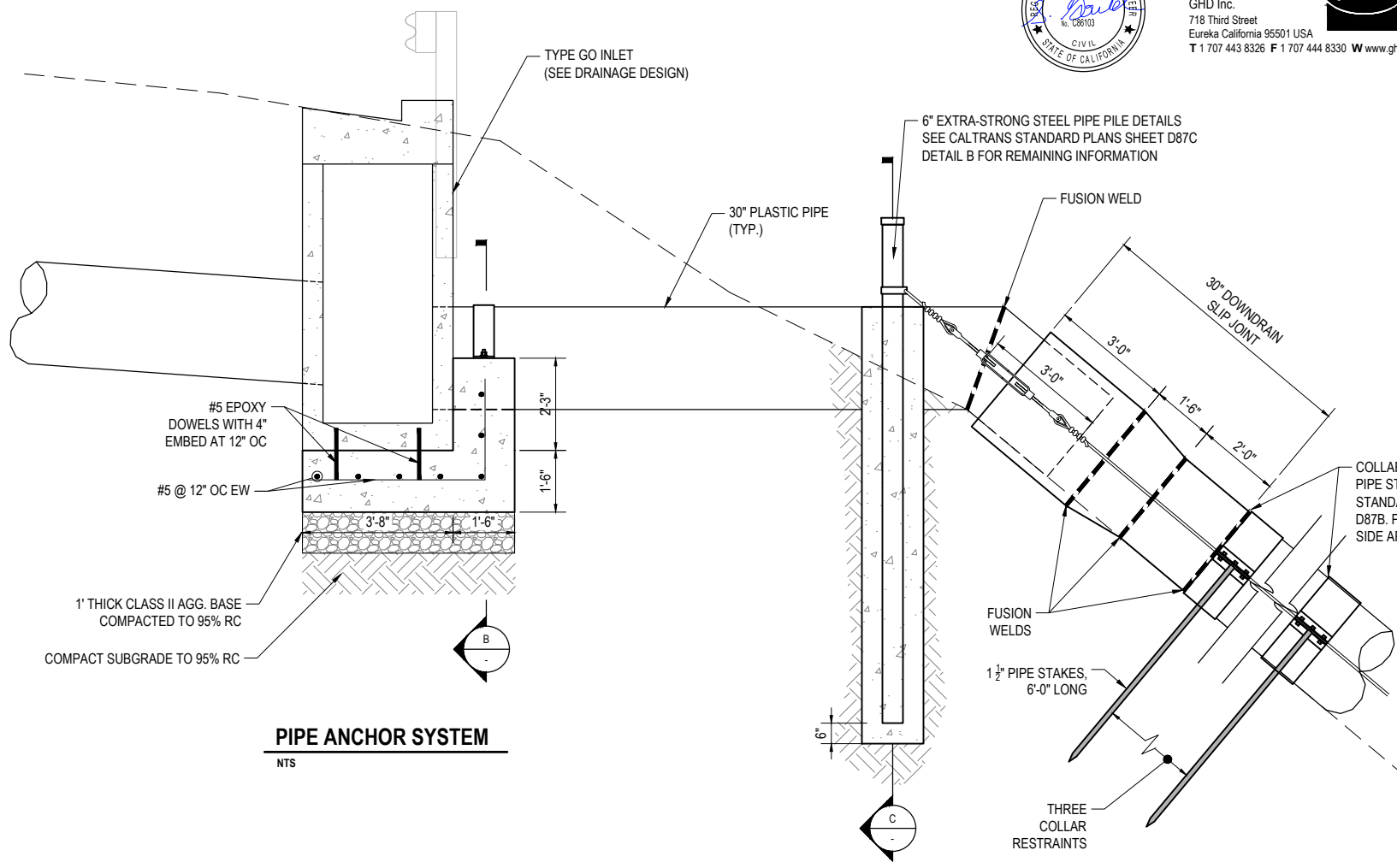


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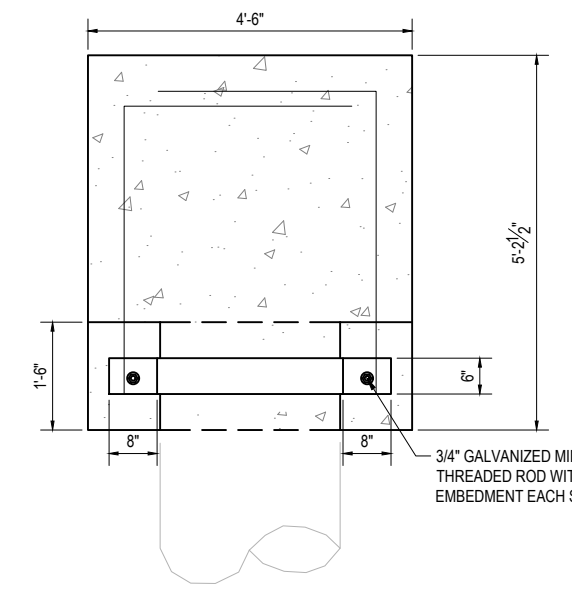
ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40A0(050), ER-40A0(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	3/13/23

DESIGN SECTION	ENGINEERING
DESIGNED BY:	C. HAYES
DRAWN BY:	C. HAYES
REVIEWED BY:	J. SVEHLA
APPROVED BY:	J. SVEHLA

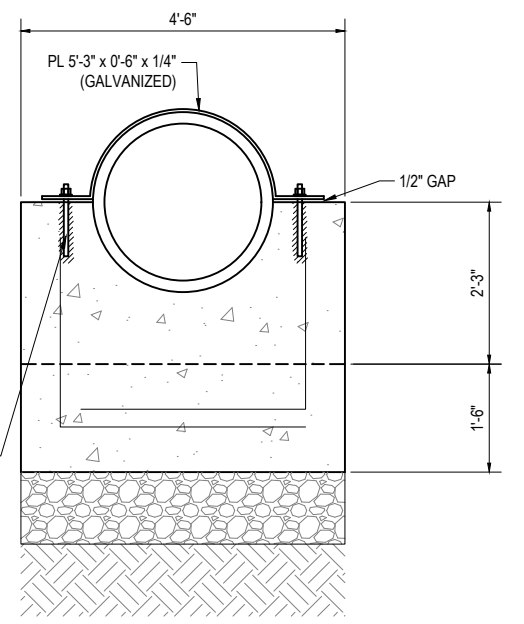
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 3.08 DOWNDRAIN SYSTEM DETAILS



PIPE ANCHOR SYSTEM
NTS

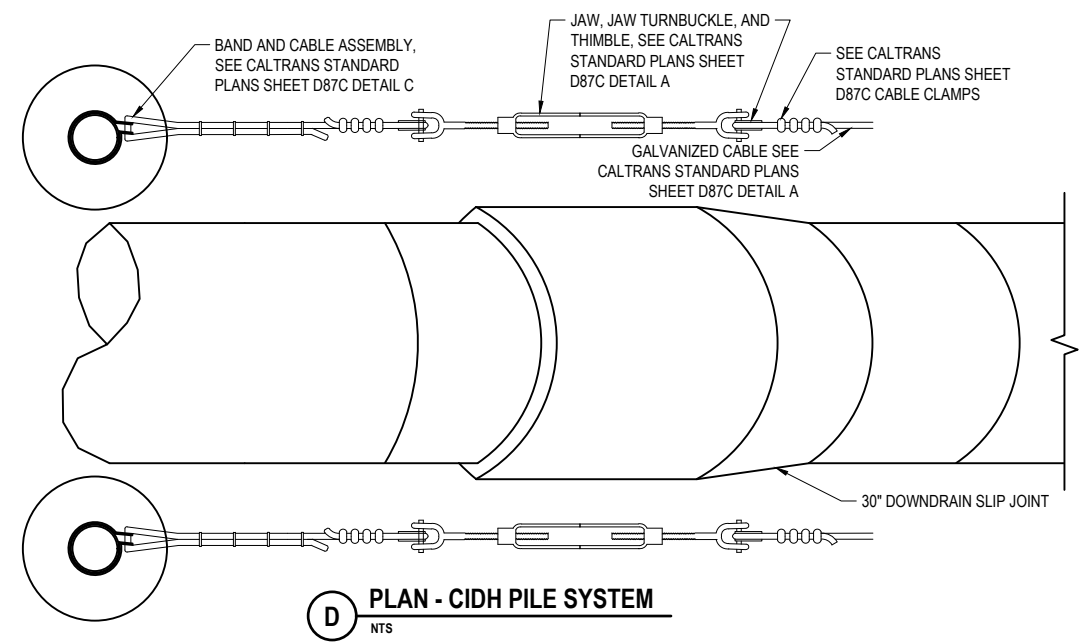


A PLAN - PIPE ANCHOR SYSTEM
NTS

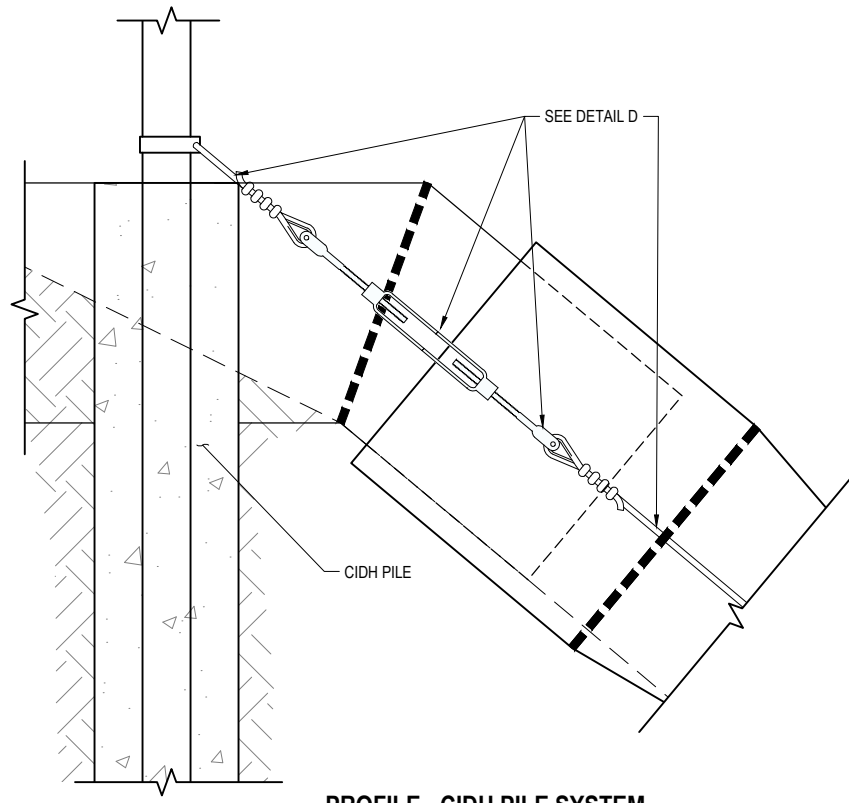


B SECTION - PIPE ANCHOR SYSTEM
NTS

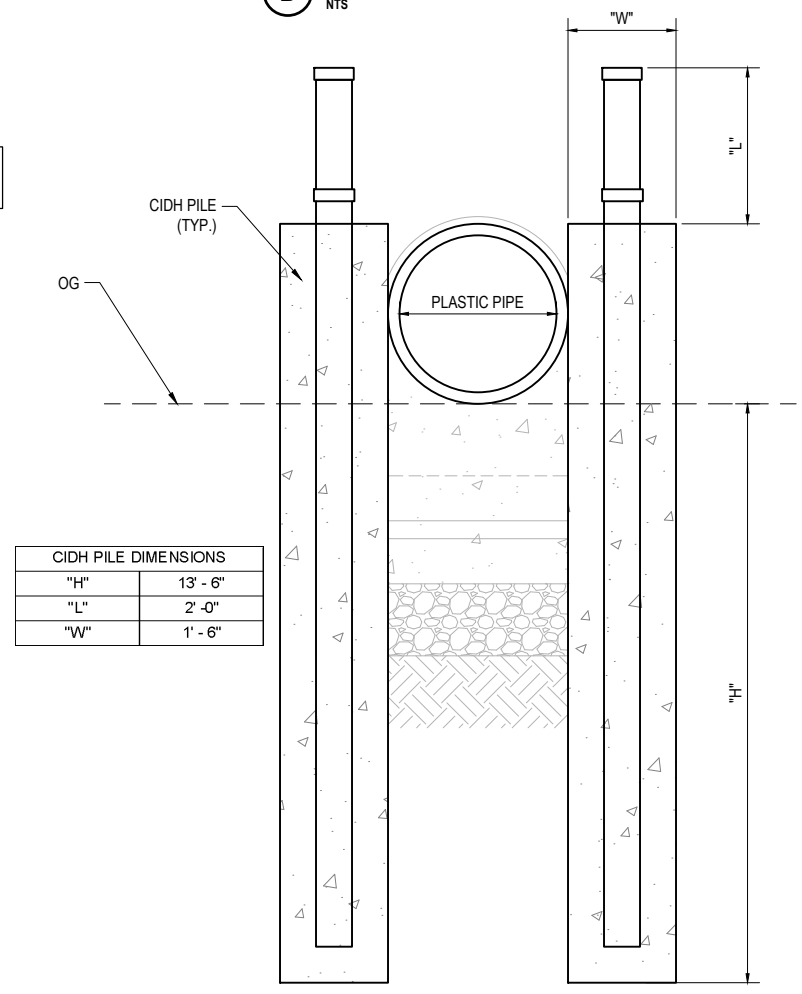
NOTES:
ALL STEEL COMPONENTS, HARDWARE, ANCHORAGE ETC.
SHALL BE HOT-DIPPED GALVANIZED ("GALVANIZED").



D PLAN - CIDH PILE SYSTEM
NTS



PROFILE - CIDH PILE SYSTEM
NTS



C SECTION B - CIDH PILE ANCHORS
NTS



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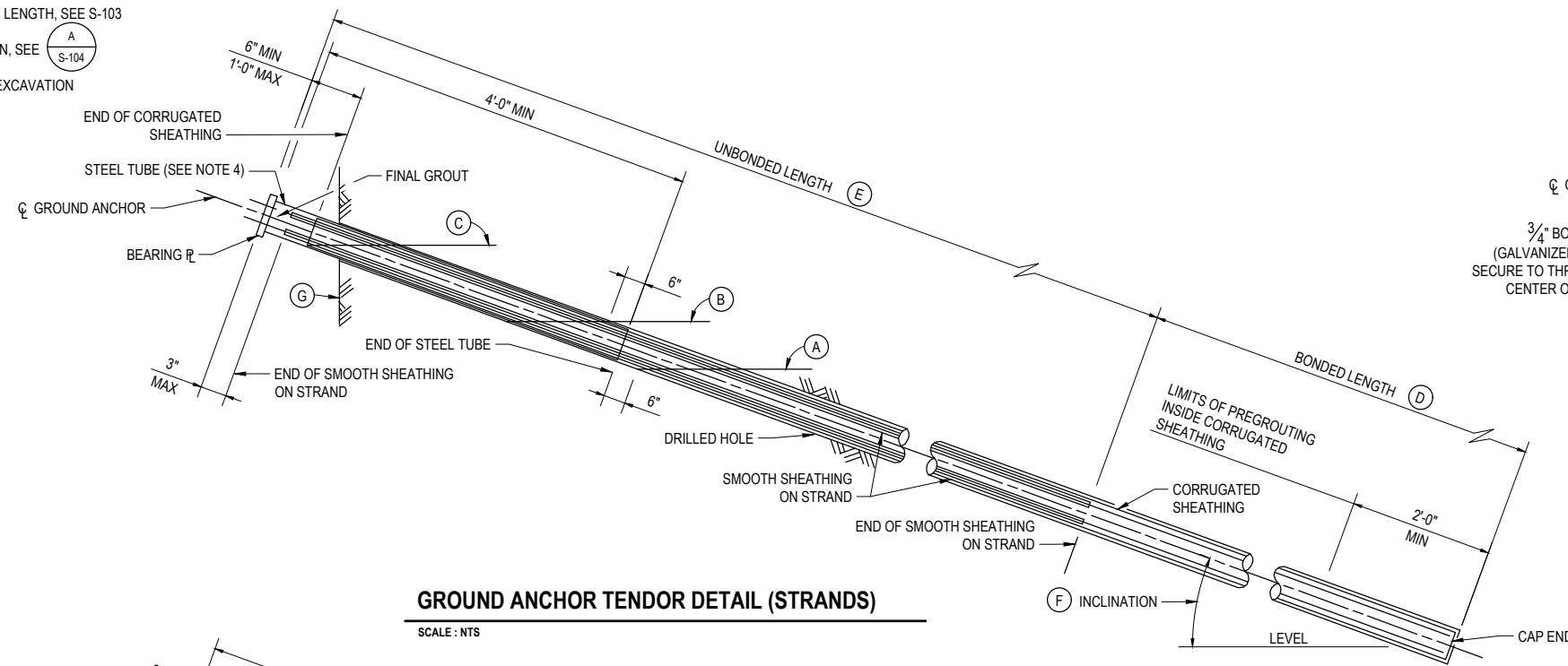
ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40AD(050), ER-40AD(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	3/13/23

DESIGN SECTION	ENGINEERING
DESIGNED BY:	S.GOULD
DRAWN BY:	S.GOULD
REVIEWED BY:	B.CROWELL
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 23 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 3.08 GROUND ANCHOR DETAILS	

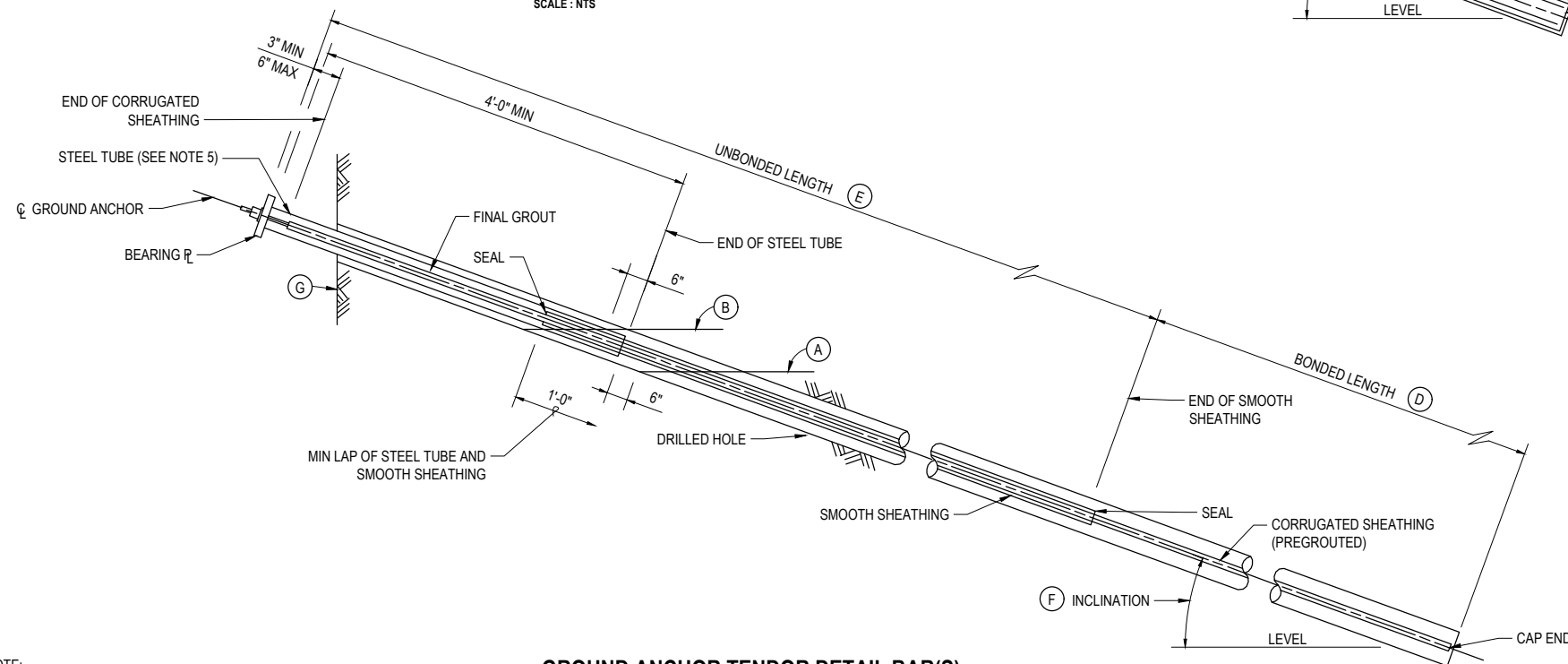
- NOTES:
- (A) LEVEL OF INITIAL GROUTING FOR DRILLED HOLE 6" IN DIAMETER OR SMALLER
 - (B) LEVEL OF SECONDARY GROUTING
 - (C) LEVEL OF INITIAL GROUTING INSIDE CORRUGATED SHEATHING
 - (D) BONDED LENGTH SHALL BE DETERMINED BY THE CONTRACTOR
 - (E) FOR UNBONDED LENGTH, SEE S-103
 - (F) FOR INCLINATION, SEE $\frac{A}{S-104}$
 - (G) FACE OF WALL EXCAVATION

- NOTES:
1. ANCHORAGE ENCLOSURE SHALL ONLY BE USED WHEN ANCHOR HEAD ASSEMBLY IS NOT ENCLOSED IN CONCRETE.
 2. ANCHORAGE ENCLOSURE SHALL HAVE PROVISIONS TO ALLOW INJECTING GROUT AT LOW END AND VENTING AT HIGH END. GALVANIZE AFTER FABRICATION.
 3. SILICONE SEALANT TO COVER FULL WIDTH OF FLANGE.
 4. STEEL TUBE (MIN. THICKNESS = 1/4") WELDED TO BEARING PLATE. GALVANIZE ASSEMBLY AFTER FABRICATION.
 5. 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.
 6. GALVANIZE ASSEMBLY AFTER FABRICATION.
 7. FOR OTHER WALL DETAILS, SEE S-102.



GROUND ANCHOR TENDON DETAIL (STRANDS)

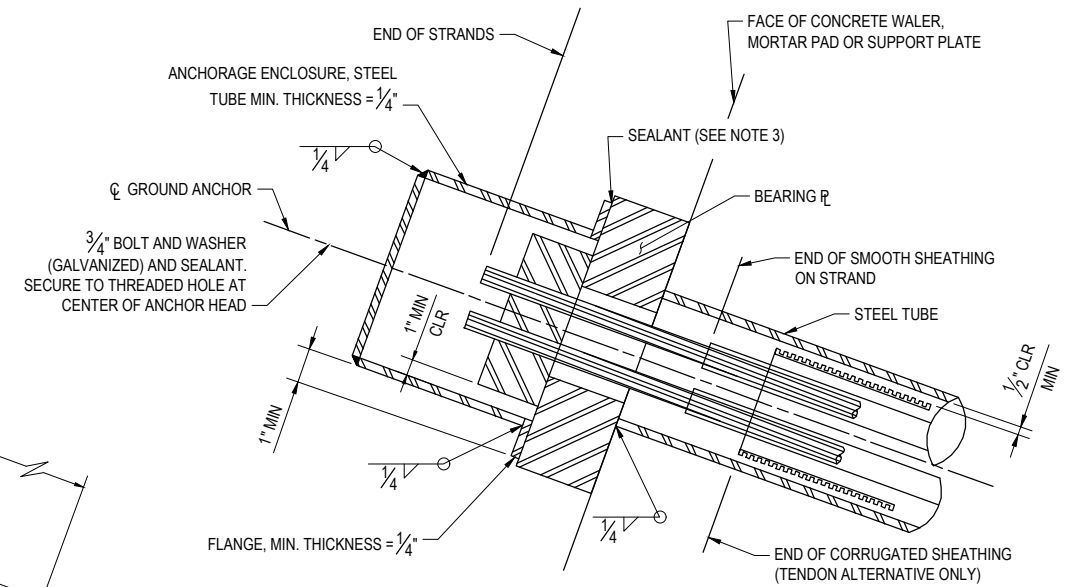
SCALE: NTS



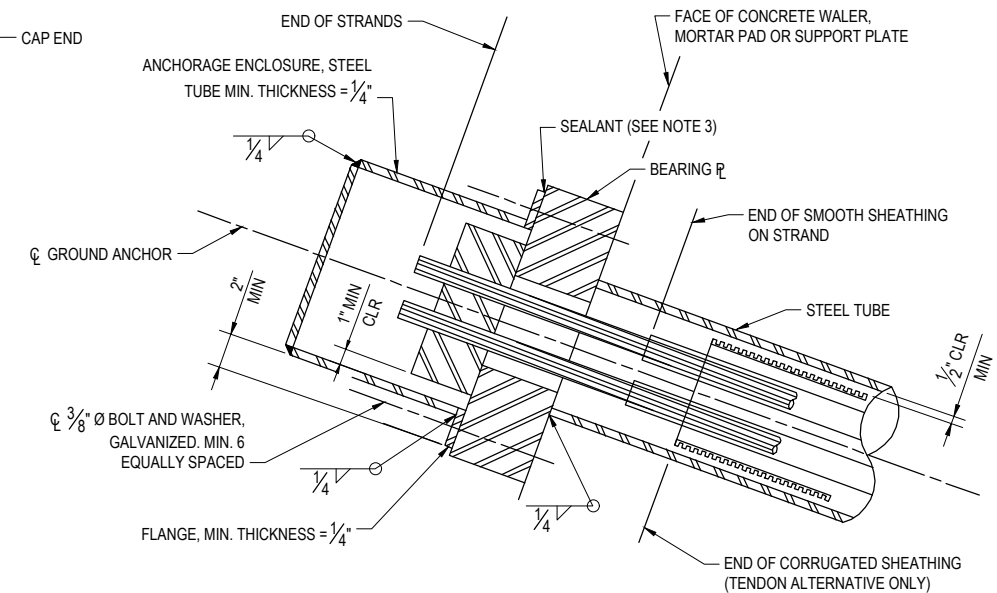
GROUND ANCHOR TENDON DETAIL BAR(S)

SCALE: NTS

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



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS

SCALE: NTS

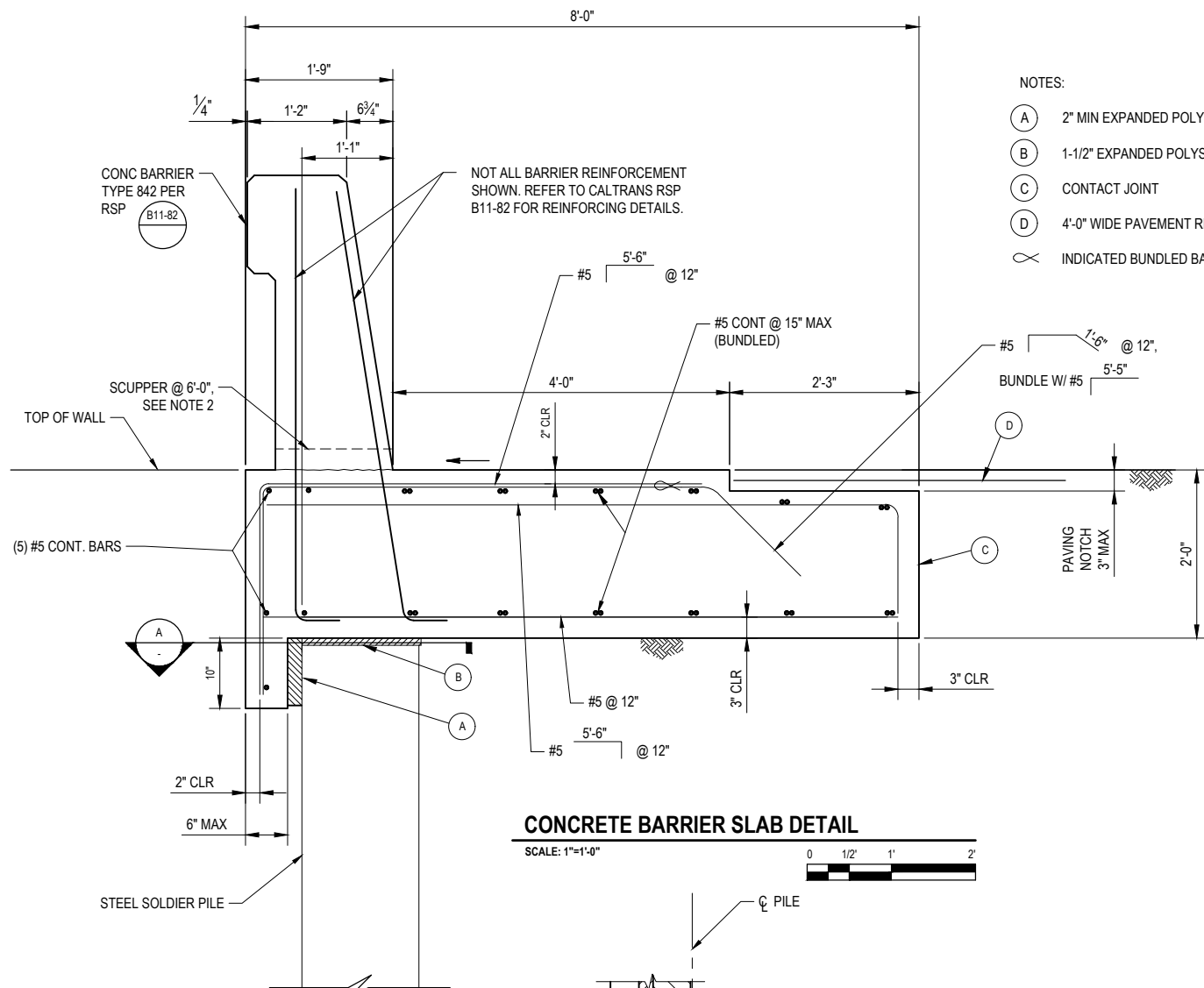


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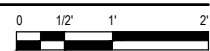
ROAD NAME: BRICELAND THORNE ROAD	DESIGN SECTION ENGINEERING
ROAD NO: F5A010	DESIGNED BY: S.GOULD
MILE POST: 3.08, 5.67	DRAWN BY: S.GOULD
PROJECT NO.: ER-40A0(050), ER-40A0(060)	REVIEWED BY: B.CROWELL
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SVEHLA
PLOT DATE: 3/13/23	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 24 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 3.08 BARRIER SLAB DETAILS	



CONCRETE BARRIER SLAB DETAIL

SCALE: 1"=1'-0"



NOTES:

- (A) 2" MIN EXPANDED POLYSTYRENE
- (B) 1-1/2" EXPANDED POLYSTYRENE
- (C) CONTACT JOINT
- (D) 4'-0" WIDE PAVEMENT REINFORCING FABRIC
- ∞ INDICATED BUNDLED BARS

BARRIER NOTES:

1. NO EXPANSION JOINTS IN CONCRETE BARRIER OR BARRIER SLAB WITHIN WALL LIMITS.
2. REFER TO (B7-8) CALTRANS STANDARD PLANS FOR SCUPPER SIZE. MODIFY BARRIER REINFORCING AROUND SCUPPER SIMILAR TO PULL BOX IN BARRIER DETAIL AS SHOWN IN RSP (B11-82) CALTRANS STANDARD PLANS.

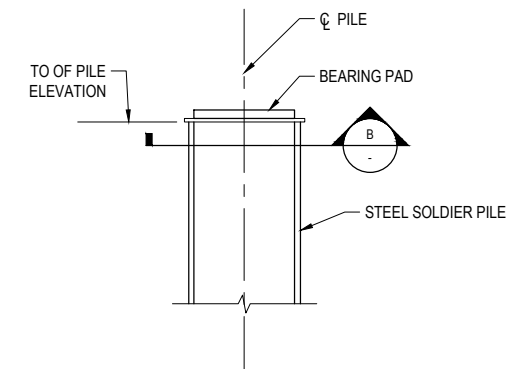
BARRIER SLAB DESIGN DATA:

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, WITH CALIFORNIA AMENDMENTS
DESIGN PER CALTRANS BRIDGE STANDARD DETAIL XS-12-090

F_i: 54 KIPS ON BARRIER
EQE: K_v = 0.2
K_u = 0.0

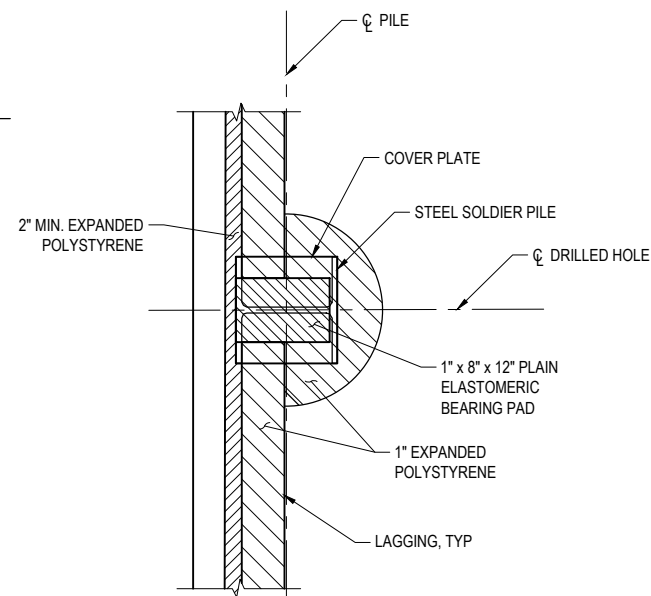
REINFORCED CONCRETE:

f_c = 3600 PSI
F_y = 60 KSI
n = 8



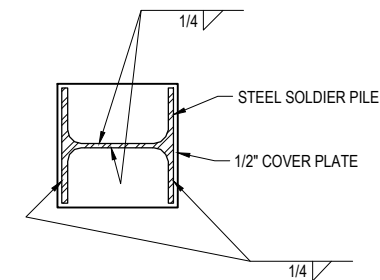
PILE TOP DETAIL

NTS



A SECTION A

NTS



B SECTION B

NTS



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ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40AD(050), ER-40AD(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	1/11/2023

DESIGN SECTION:	ENGINEERING
DESIGNED BY:	C. HAYES
DRAWN BY:	C. HAYES
REVIEWED BY:	J. SWELLA
APPROVED BY:	J. SWELLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 SURVEY CONTROL

SURVEY CONTROL NOTES

- THE PURPOSE OF THIS SURVEY IS TO DETERMINE TOPOGRAPHY FOR THE STORM DAMAGE SLIDE ON BRICELAND-THORNE ROAD POST MILE 5.67. THIS SURVEY WORK REFLECTS CONDITIONS AT THE TIME OF SURVEY, COMPLETED ON JANUARY 29, 2020.
- COORDINATES FOR THIS SURVEY ARE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83) ZONE 1, NAD 83 (2011), EPOCH 2010.0 BASED ON A STATIC GPS CONTROL SURVEY USING THE NGS OPUS POST PROCESSING SOFTWARE. THE CONTROL POINT IDENTIFIED AS POINT 52 (GPS PT.# 552) WAS HELD FOR HORIZONTAL POSITIONS SHOWN HEREON. THE MAPPING ANGLE IS 1 DEGREE 14 MINUTES 59 SECONDS; ROTATE BEARINGS HEREON COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.99994621 TO OBTAIN GROUND DISTANCES. MAPPING ANGLE AND GRID SCALE FACTOR ARE TAKEN AT CONTROL POINT NUMBER 52. A 60 PENNY NAIL. ELEVATIONS ARE NAVD 88 DATUM BASED ON OPUS SOLUTION UTILIZING THE GEOID 12B MODEL. AN ELEVATION OF 721.64 FEET WAS MEASURED AT THE AFOREMENTIONED CONTROL POINT 52.
- CONTOURS AND SPOT ELEVATIONS WERE OBTAINED BY CONVENTIONAL SURVEY TECHNIQUES. ONLY TREES 12 INCH AND BIGGER WERE LOCATED; NUMEROUS OTHER SMALLER TREES EXIST WITHIN AREA SURVEYED AND ARE NOT SHOWN. TREE LOCATIONS ARE GENERALLY SHOWN AT BRESTH HEIGHT AND ARE APPROXIMATE DUE TO THE FACT NOT ALL TREES ARE GROWING VERTICALLY.
- THE ONLY UNDERGROUND UTILITY OBSERVED ON THIS SITE IS THE STORM DRAIN SHOWN. NO OTHER UNDERGROUND UTILITY APPURTENANCES SUCH AS WATER VALVES OR VAULTS WERE OBSERVED. NO OVERHEAD ELECTRIC AND TELEPHONE LINES WERE OBSERVED.
- THE RIGHT OF WAY SHOWN IS BASED ON 2 SOURCES. A 50 FOOT WIDE RIGHT OF WAY BASED ON THE PHYSICAL CENTERLINE OF BRICELAND-THORNE ROAD ALIGNMENT IS SHOWN PER HUMBOLDT COUNTY ROAD REGISTER 1, NO. 140, PG. 235-251. AN ADDITIONAL 95 FOOT WIDE EASEMENT FOR RIGHT OF WAY AND INCIDENTS THERETO FOR A PUBLIC HIGHWAY WAS ACQUIRED IN 1957 PER BOOK 467 OF OFFICIAL RECORDS, PAGE 205, HUMBOLDT COUNTY RECORDS (HCR). THIS EASEMENT IS SHOWN HEREON BASED ON THE TIES TO CENTERLINE MONUMENTS SHOWN ON THE RECORD OF SURVEY FOR THE COUNTY OF HUMBOLDT AT PM 5.5 RECORDED IN BOOK 64 OF SURVEYS, PAGES 76-77, HCR. SAID SURVEY WAS ROTATED 1°07'23" CLOCKWISE (RIGHT) TO GRID BASIS PER SURVEY NOTE 2.
- OTHER THAN THE TIES TO THE CENTERLINE MONUMENTS PER SURVEY NOTE 5, NO BOUNDARY SURVEYS WERE CONDUCTED. THE OWNERSHIPS SHOWN ARE BASED ON DEED DATA FROM HUMBOLDT COUNTY ASSESSOR. DEEDS ON BOTH SIDES OF THIS SITE HAVE BOUNDARY LINE CALLS TO AND ALONG THE "COUNTY ROAD". IT IS ASSUMED THESE CALLS GO TO THE CENTER OF THE ROAD AND FOLLOW THE CENTER OF THE EXISTING ROAD AS SHOWN HEREON.

GENERAL NOTES

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

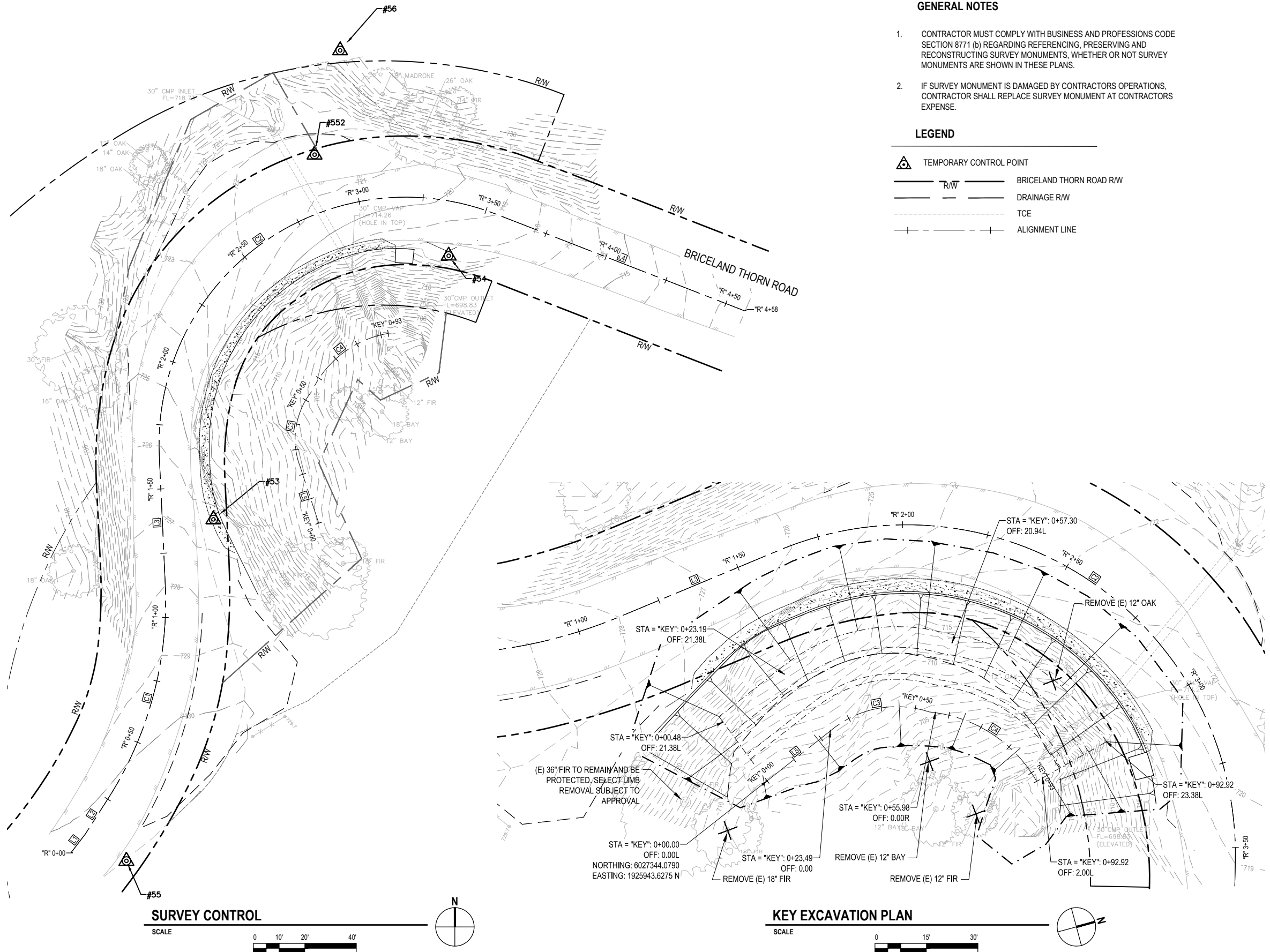
LEGEND

- TEMPORARY CONTROL POINT
- R/W BRICELAND THORNE ROAD R/W
- DRAINAGE R/W
- TCE
- ALIGNMENT LINE

BRICELAND ROAD PM 5.67 GEOMETRY - "R" ALIGNMENT						
Segment	Type	Length	Radius	Direction	Start Station	End Station
L1	LINE	8.79	-	N37° 28' 23.37"E	0+00.00	0+08.79
L2	LINE	15.76	-	N32° 46' 23.22"E	0+08.79	0+24.55
C1	CURVE	86.26	143.00		0+24.55	1+10.82
L3	LINE	52.26	-	N2° 38' 37.89"W	1+10.82	1+63.08
C2	CURVE	190.84	96.00		1+63.08	3+53.92
L4	LINE	104.05	-	S68° 44' 34.64"E	3+53.92	4+57.97

RSP TOE ALIGNMENT - ALIGNMENT "KEY"						
Segment	Type	Length	Radius	Direction	Start Station	End Station
L5	LINE	23.52	-	N18° 16' 15.36"W	0+00.00	0+23.52
C3	CURVE	30.71	29.99		0+23.52	0+54.23
C4	CURVE	38.70	40.39		0+54.23	0+92.92

GEOLOGIC SURVEY POINTS				
POINT#	EASTINGS	NORTHINGS	ELEVATION	DESCRIPTION
53	6027303.14	1925945.08	726.30	CP_SPK
54	6027394.58	1926047.59	717.72	CP_5/8_R&C_PWS_CNTL
55	6027269.30	1925812.29	730.14	CP_SPK
56	6027352.38	1926127.47	732.42	CP_RBR_CSC_PP
552	6027342.45	1926086.95	721.64	CP_52_MP_5.67





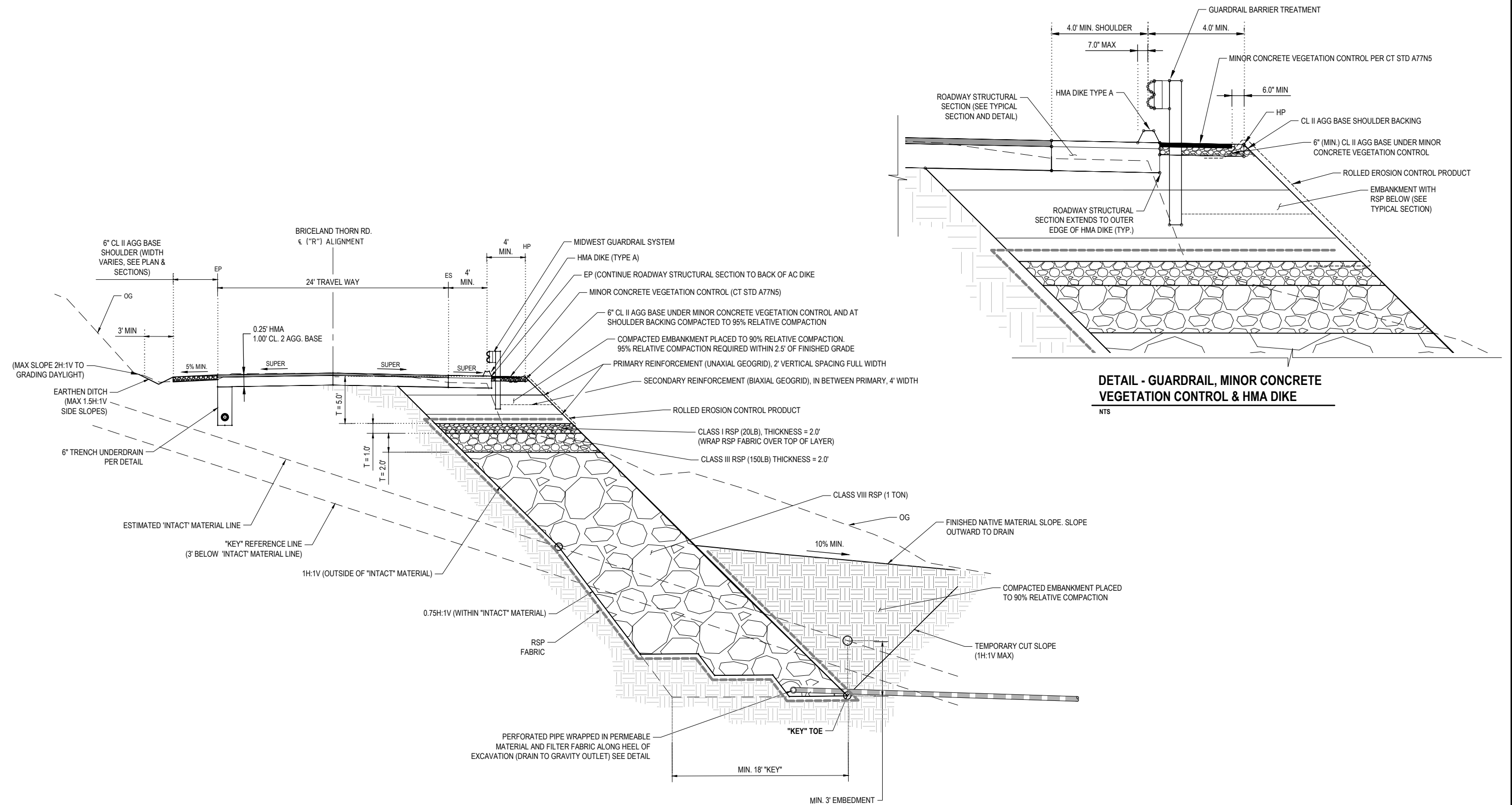
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ROAD NO: F5A010	DESIGNED BY: C. HAYES
MILE POST: 3.08, 5.67	DRAWN BY: C. HAYES
PROJECT NO.: ER-40A0(050), ER-40A0(060)	REVIEWED BY: J. SWEHLA
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SWEHLA
PLOT DATE: 1/11/2023	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 26 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 5.67 TYPICAL SECTIONS	



DETAIL - GUARDRAIL, MINOR CONCRETE VEGETATION CONTROL & HMA DIKE
NTS

TYPICAL SECTION - BRICELAND THORNE ROAD
NTS
STA "R" 1+25 - STA "R" 3+00



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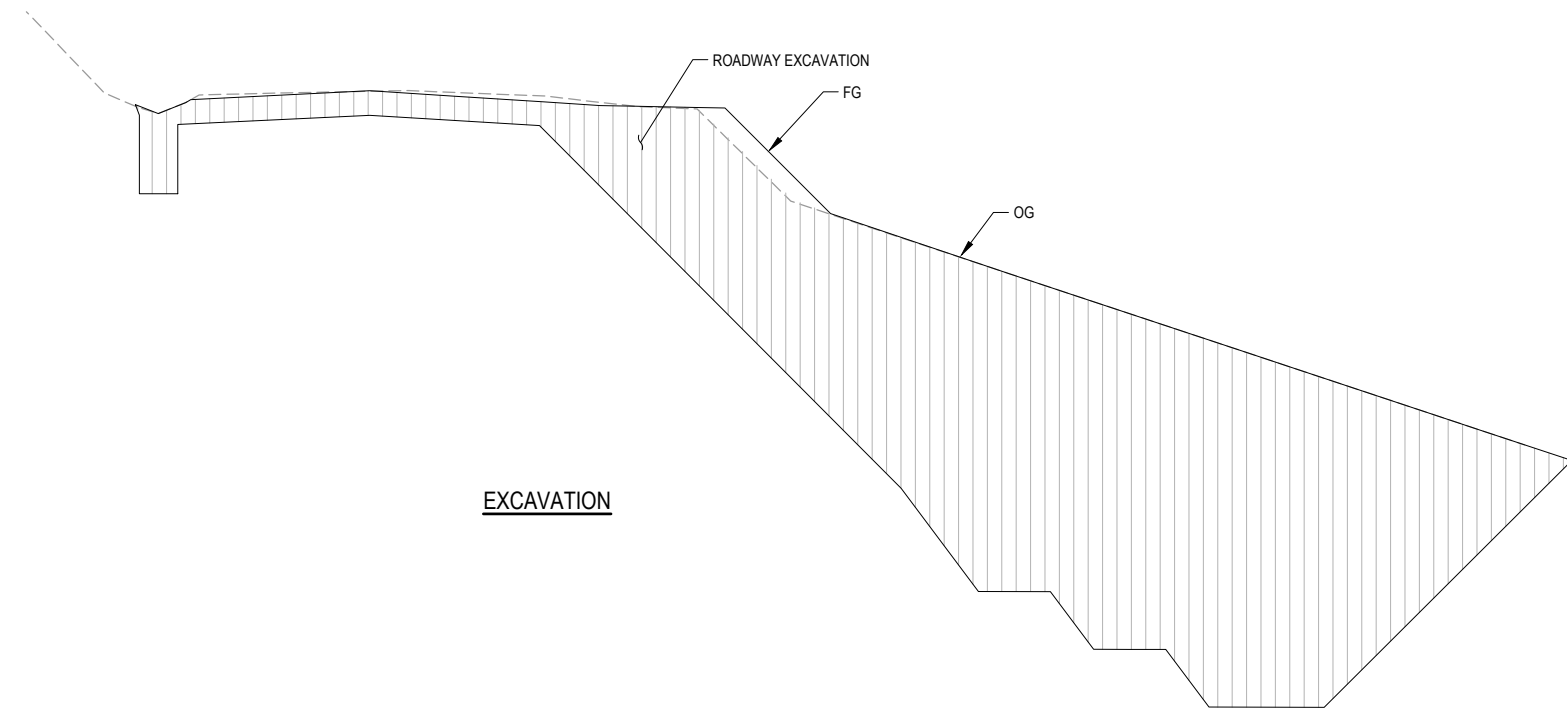


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PROJECT NO.:	ER-40AO(050), ER-40AO(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	1/11/2023

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DESIGNED BY:	C. HAYES
DRAWN BY:	C. HAYES
REVIEWED BY:	J. SWEHLA
APPROVED BY:	J. SWEHLA

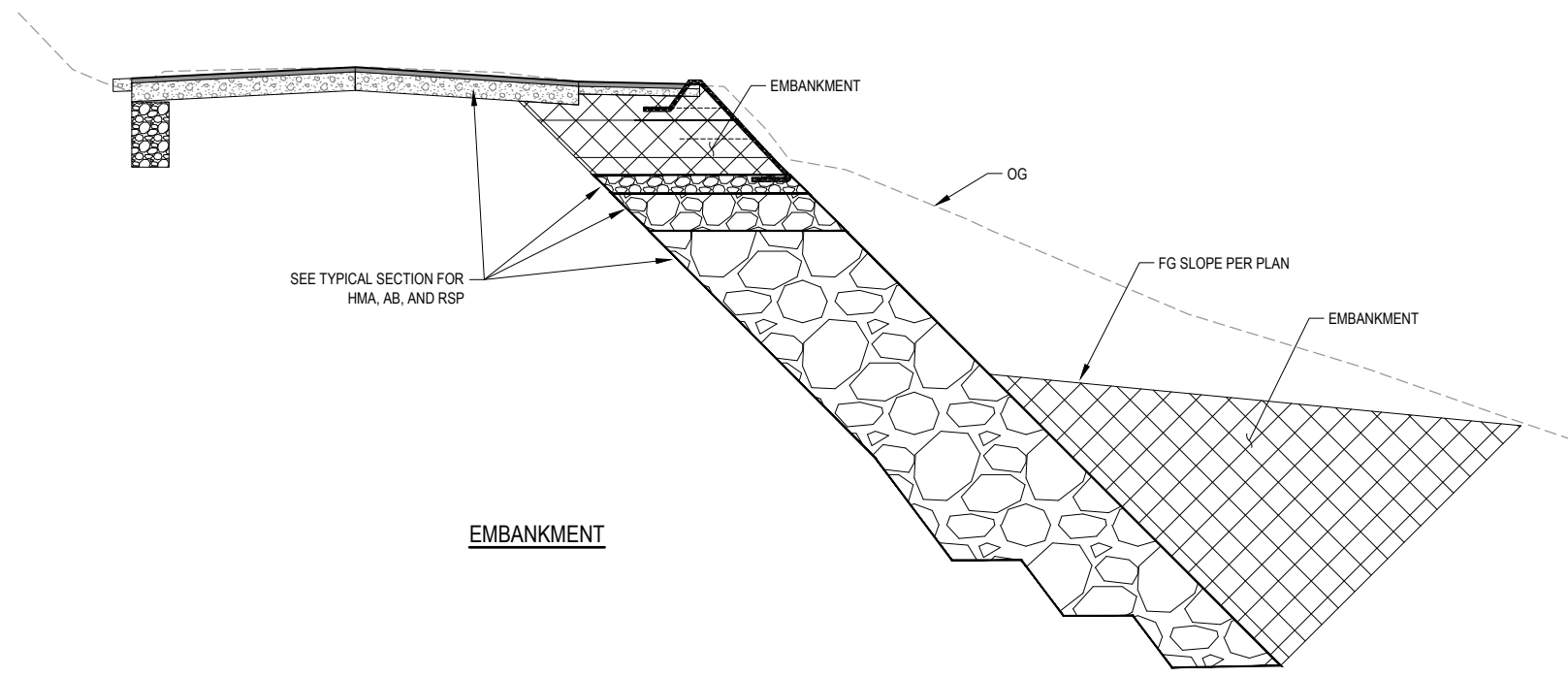
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 PAYMENT DIAGRAMS



EXCAVATION

LEGEND

ROADWAY EXCAVATION	
EMBANKMENT	
RSP	



EMBANKMENT

PAYMENT LIMITS OF EXCAVATION AND EMBANKMENT
NTS STA "R" 1+25 - STA "R" 3+00



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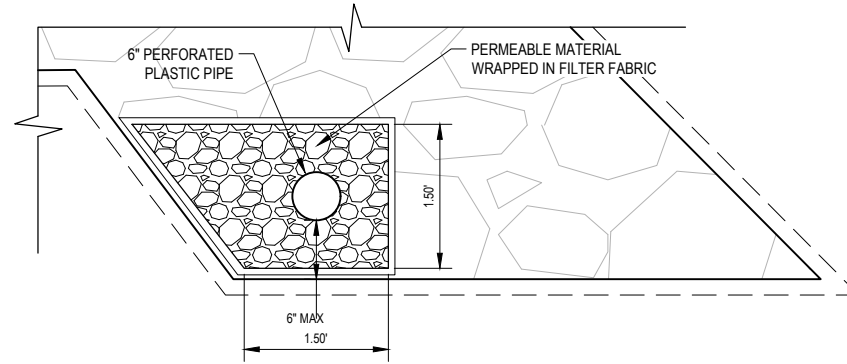


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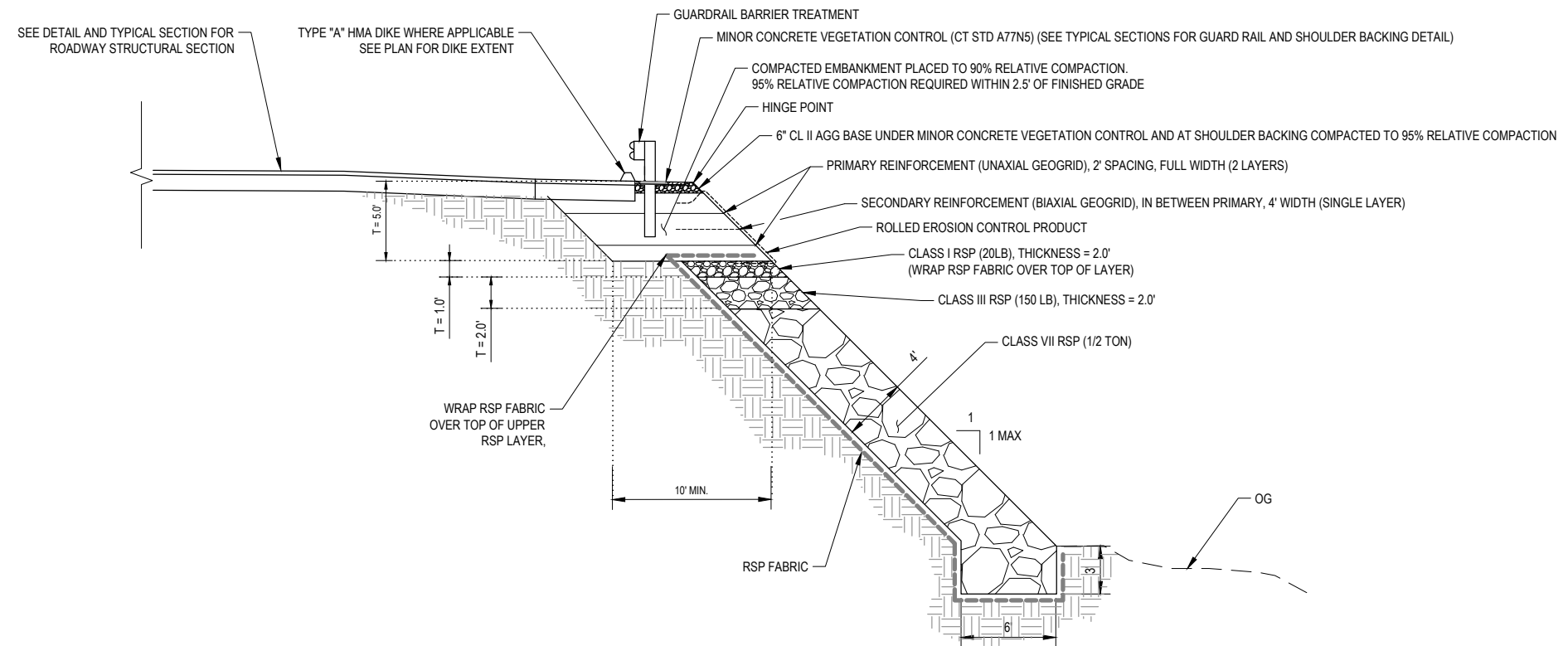
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REVIEWED BY:	J.SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 BUTTRESS DETAILS



TYPICAL RSP UNDERDRAIN RSP EMBANKMENT (BRICELAND ROAD PM 5.67)

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TYPICAL ROCK BUTTRESS - (RSP CONFORM AREAS)

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APPROVED BY:	J. SWEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 ROADWAY PLAN

LEGEND

- +--- ALIGNMENT LINE
- EDGE OF HMA PAVEMENT SECTION
- [Pattern] EXPOSED RSP
- [Pattern] BURIED RSP
- ✕ REMOVE TREE

LANDS OF NAVA
DOC.# 2017-11821
APN 220-061-026

6" THICK 3/4" CLASS II AGGREGATE BASE GRAVEL SHOULDER PLACED TO 95% RELATIVE COMPACTION. CONFORM AGAINST EP. SLOPE -5% AWAY FROM ROAD TOWARD DRAINAGE SWALE

CONFORM EARTHEN DITCH TO RSP FL
STA = "R": 2+69.84
OFF: 43.29L

PLACE CLASS 2 RSP ADJACENT CULVERT INLET. MIN. 1.5" THICK OVER CLASS VIII RSP FABRIC

CONCRETE PIPE CULVERT STRAIGHT HEADWALL (MODIFIED CT STD D89A) SEE STRUCTURAL DESIGN

REMOVE (E) 30" CMP

BEGIN EARTHEN DITCH
STA = "R": 3+14.52
OFF: 21.59LT
FL = 719.25

END HMA DIKE (TYPE A)
STA = "R": 3+13.25

NOTE: PROVIDE 30' TRANSITION WHEN CONFORMING TO (E) PAVEMENT

NOTE: PROVIDE 50' TRANSITION WHEN CONFORMING TO (E) PAVEMENT

BEGIN EARTHEN DITCH
STA = "R": 0+96.53
OFF: 13.60LT
FL = 729.00

BEGIN HMA DIKE (TYPE A)
STA = "R": 1+14.93
OFF: 30.32R

"KEY" ALIGNMENT AT RSP TOE

END GUARDRAIL
STA = "R": 3+52.90
OFF: 17.58RT
(DEPARTURE END)

END EARTHEN DITCH
STA = "R": 3+85.90
OFF: 12.79LT
FL = 714.89

BEGIN WIDENING
STA = "R": 3+55.27
OFF: 12.00RT

BEGIN WIDENING
STA = "R": 1+00.00
OFF: 12.00RT

BEGIN GUARDRAIL
STA = "R": 1+07.02
OFF: 32.85RT
(APPROACH END)

MIDWEST GUARDRAIL TYPE 11J LAYOUT PER CT STD A77P5 W/ TYPE SRT-350 TERMINAL SYSTEM END TREATMENT, EACH END, TYP. WITH GALVANIZED STEEL POSTS (218 LF)

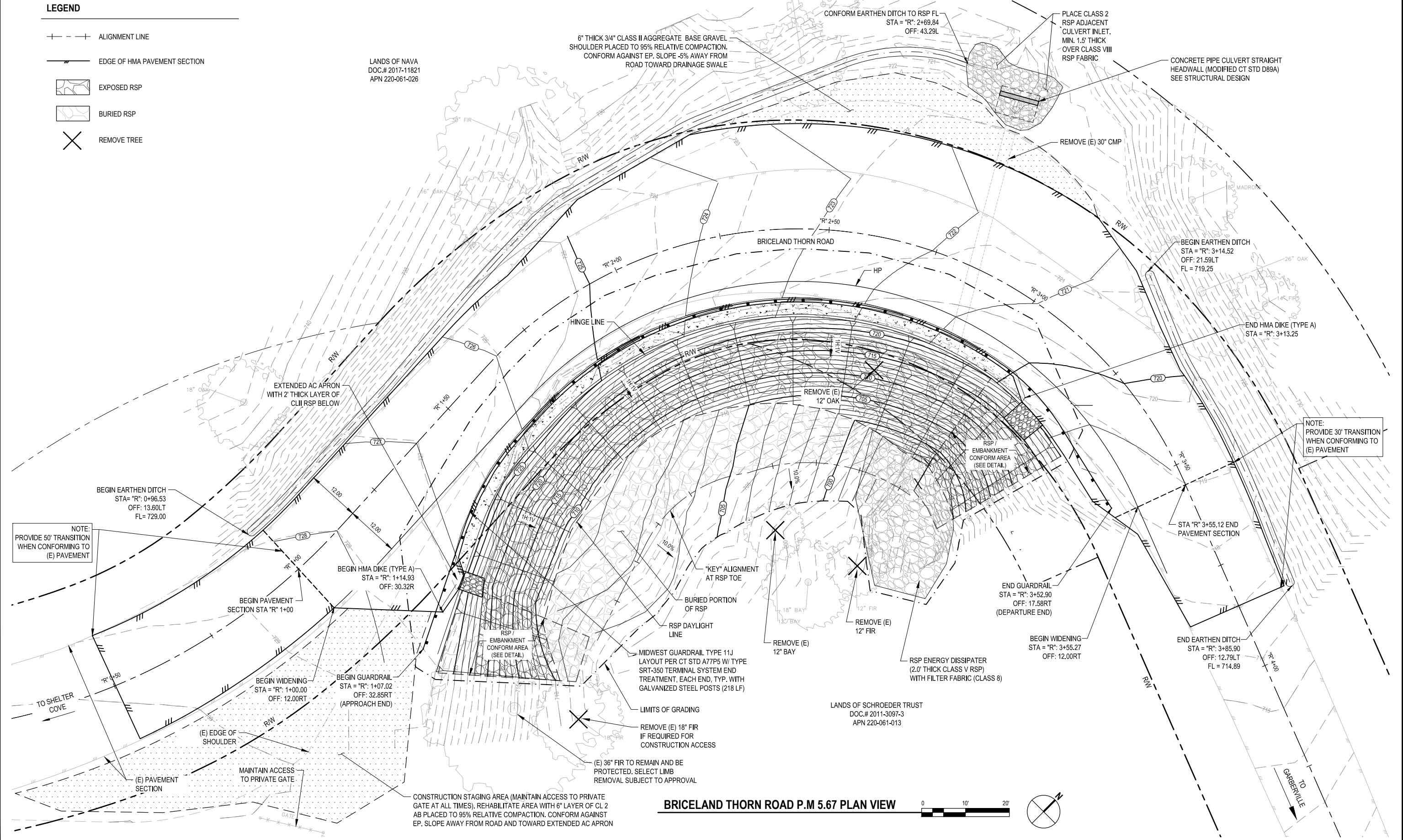
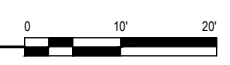
RSP ENERGY DISSIPATER (2.0' THICK CLASS V RSP) WITH FILTER FABRIC (CLASS 8)

LIMITS OF GRADING
REMOVE (E) 18" FIR IF REQUIRED FOR CONSTRUCTION ACCESS
(E) 36" FIR TO REMAIN AND BE PROTECTED. SELECT LIMB REMOVAL SUBJECT TO APPROVAL

LANDS OF SCHROEDER TRUST
DOC.# 2011-3097-3
APN 220-061-013

CONSTRUCTION STAGING AREA (MAINTAIN ACCESS TO PRIVATE GATE AT ALL TIMES). REHABILITATE AREA WITH 8" LAYER OF CL 2 AB PLACED TO 95% RELATIVE COMPACTION. CONFORM AGAINST EP. SLOPE AWAY FROM ROAD AND TOWARD EXTENDED AC APRON

BRICELAND THORNE ROAD P.M 5.67 PLAN VIEW





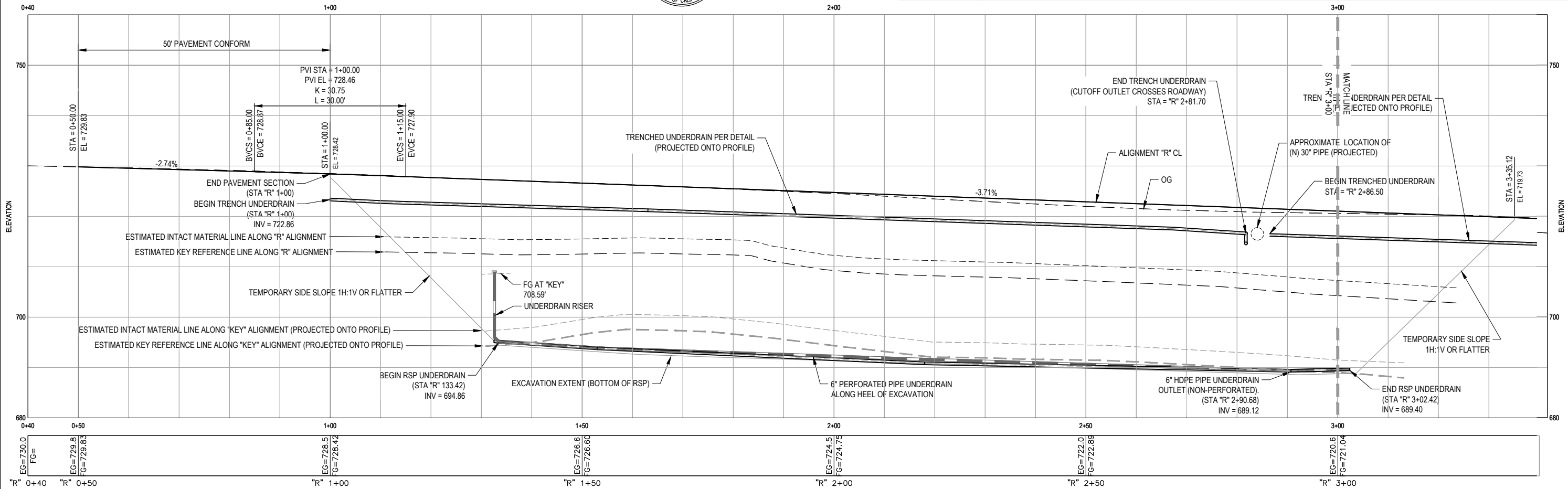
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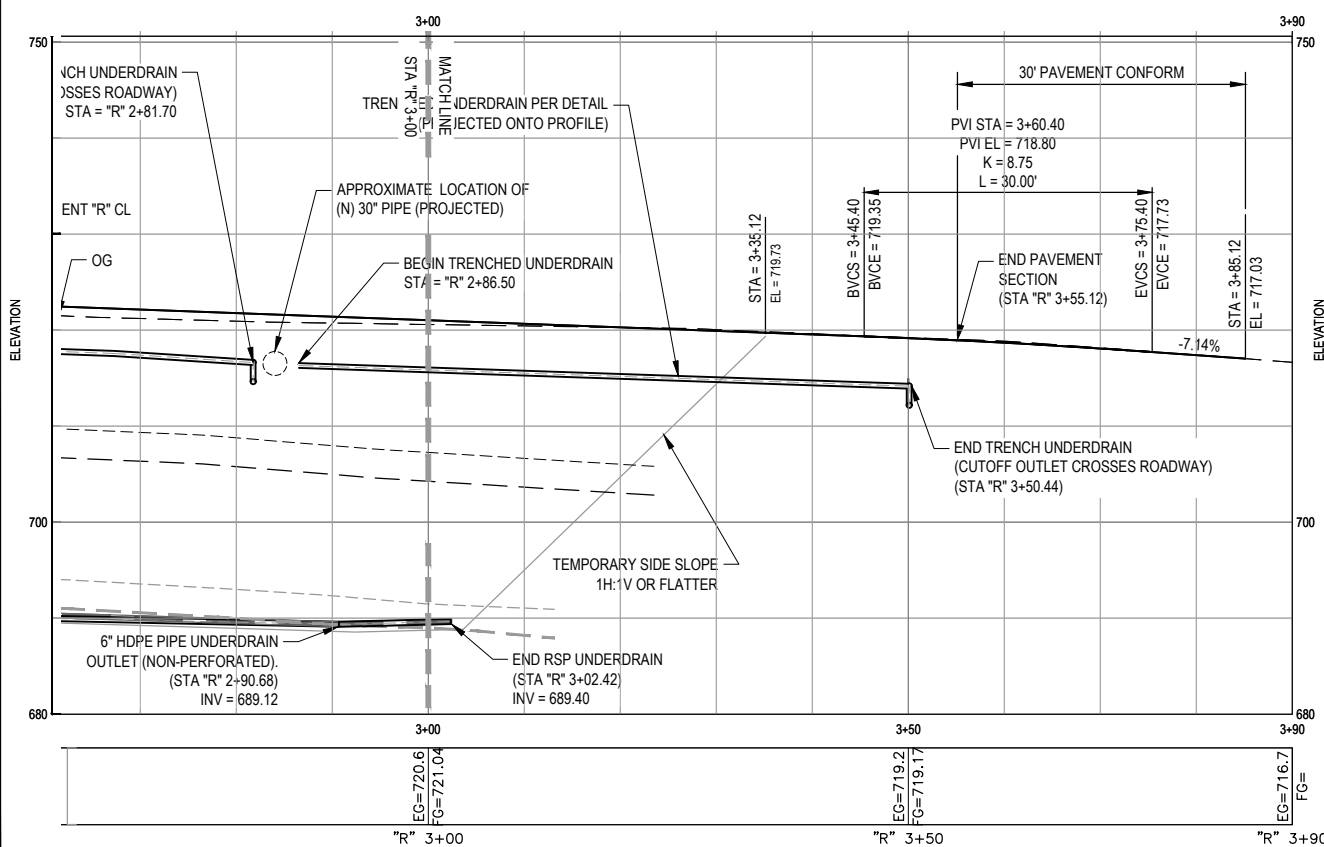
ROAD NAME: BRICELAND THORNE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F5A010	DESIGNED BY: C. HAYES
MILE POST: 3.08, 5.67	DRAWN BY: C. HAYES
PROJECT NO.: ER-40A0(050), ER-40A0(060)	REVIEWED BY: J. SWEHLA
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SWEHLA
PLOT DATE: 1/11/2023	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 30 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 5.67 ROADWAY PROFILE & SUPER ELEVATION	



STATION	LEFT TRAVEL LANE CROSS SLOPE	LEFT EP ELEVATION	CROWN ELEVATION	RIGHT EP ELEVATION	RIGHT TRAVEL LANE CROSS SLOPE
"R" 1+00	-5.50%	727.80	728.46	728.38	-0.70%
"R" 1+22	-4.18%	727.15	727.65	727.41	-2.00%
"R" 2+25	2.00%	724.07	723.83	723.59	-2.00%
"R" 2+38	2.00%	723.59	723.35	723.11	-2.00%
"R" 3+40	2.00%	719.81	719.57	718.60	-8.10%
"R" 3+50	1.40%	719.37	719.20	718.16	-8.70%

Note: Negative cross slopes indicate downwards sloping away from centerline



BRICELAND ROAD PM 5.67 SUPERELEVATION

NOTE: THIS PLAN IS ACCURATE FOR DRAINAGE AND UTILITIES ONLY



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PLOT DATE: 1/11/2023	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 31 OF 36
PM 5.67 DRAINAGE AND UTILITIES	

LEGEND

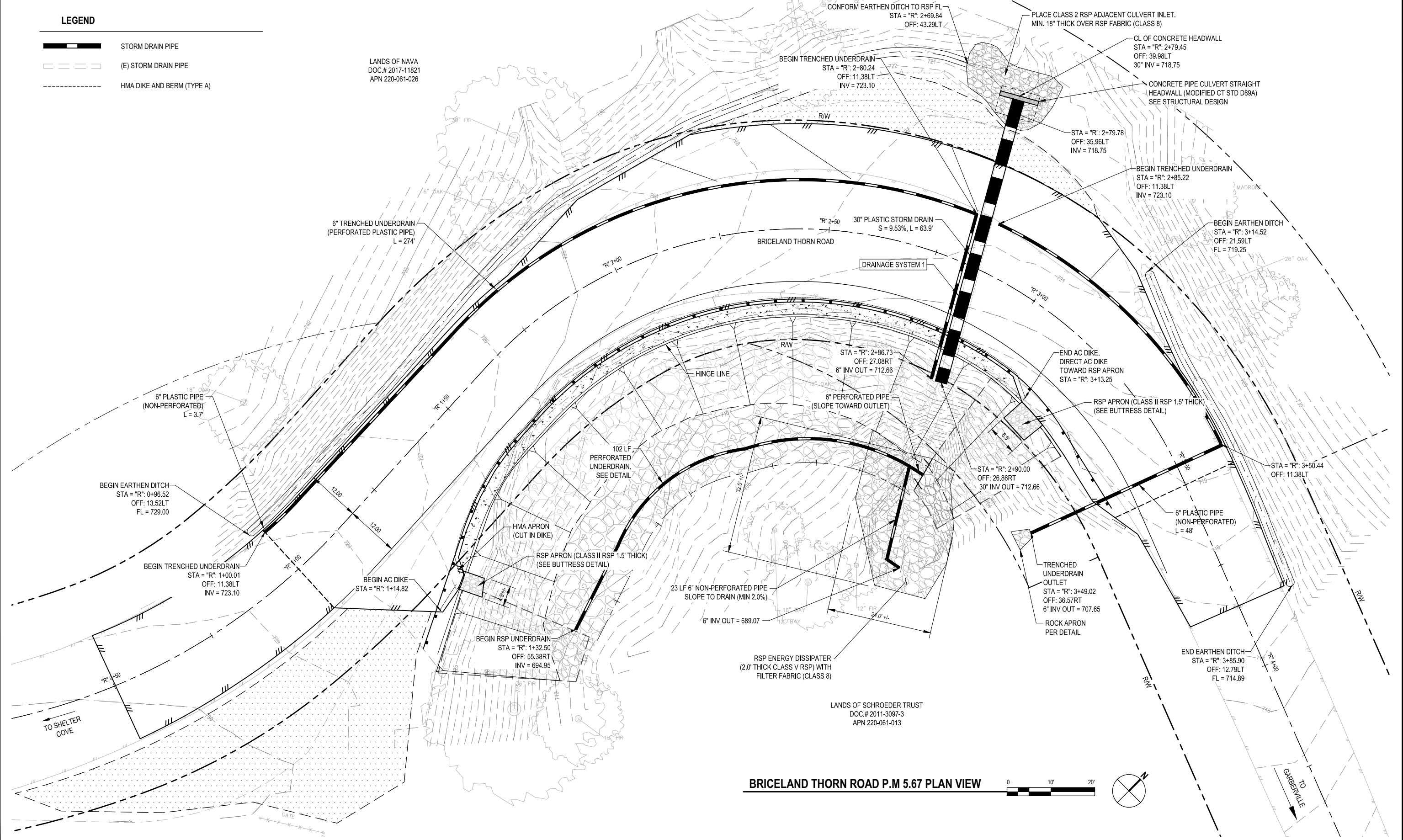
- STORM DRAIN PIPE
- (E) STORM DRAIN PIPE
- HMA DIKE AND BERM (TYPE A)

LANDS OF NAVA
DOC.# 2017-11821
APN 220-061-026

BRICELAND THORN ROAD

DRAINAGE SYSTEM 1

BRICELAND THORN ROAD P.M 5.67 PLAN VIEW





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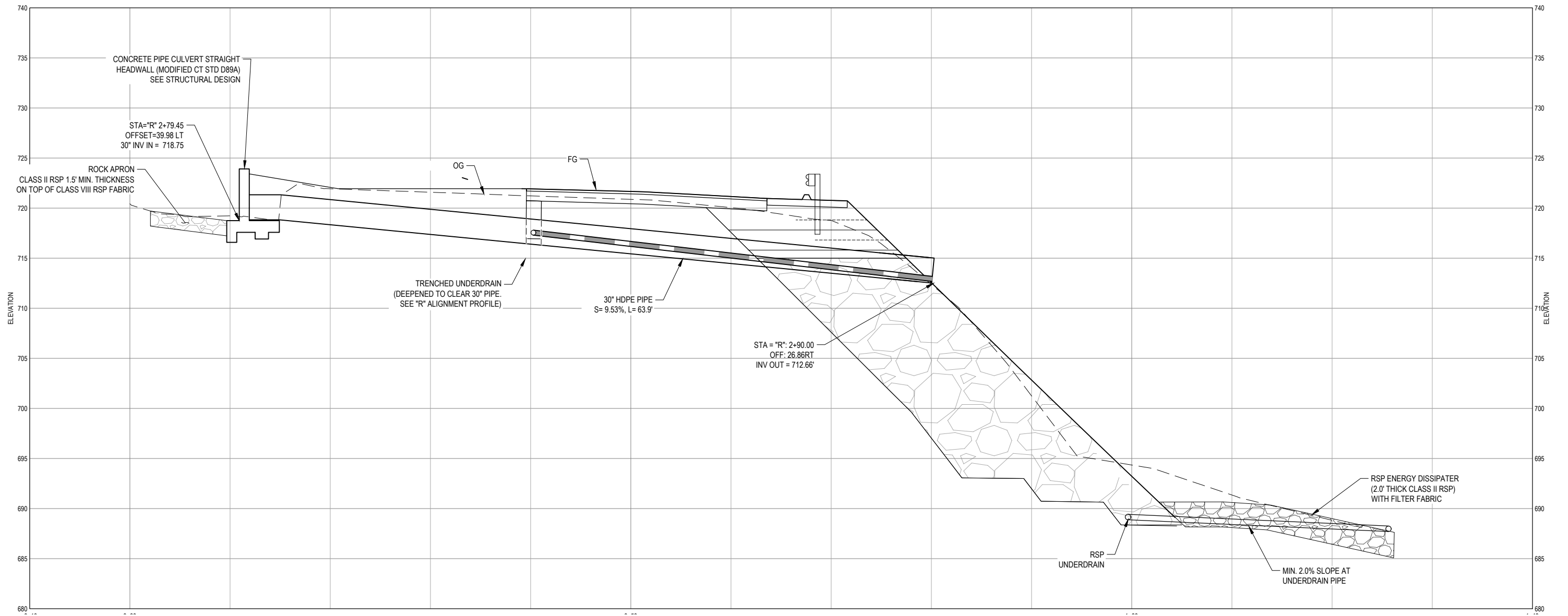
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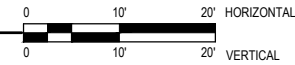
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 DRAINAGE PROFILES



DRAINAGE SYSTEM 1 PROFILE



NOTE: THIS PLAN IS ACCURATE FOR EROSION CONTROL ONLY.



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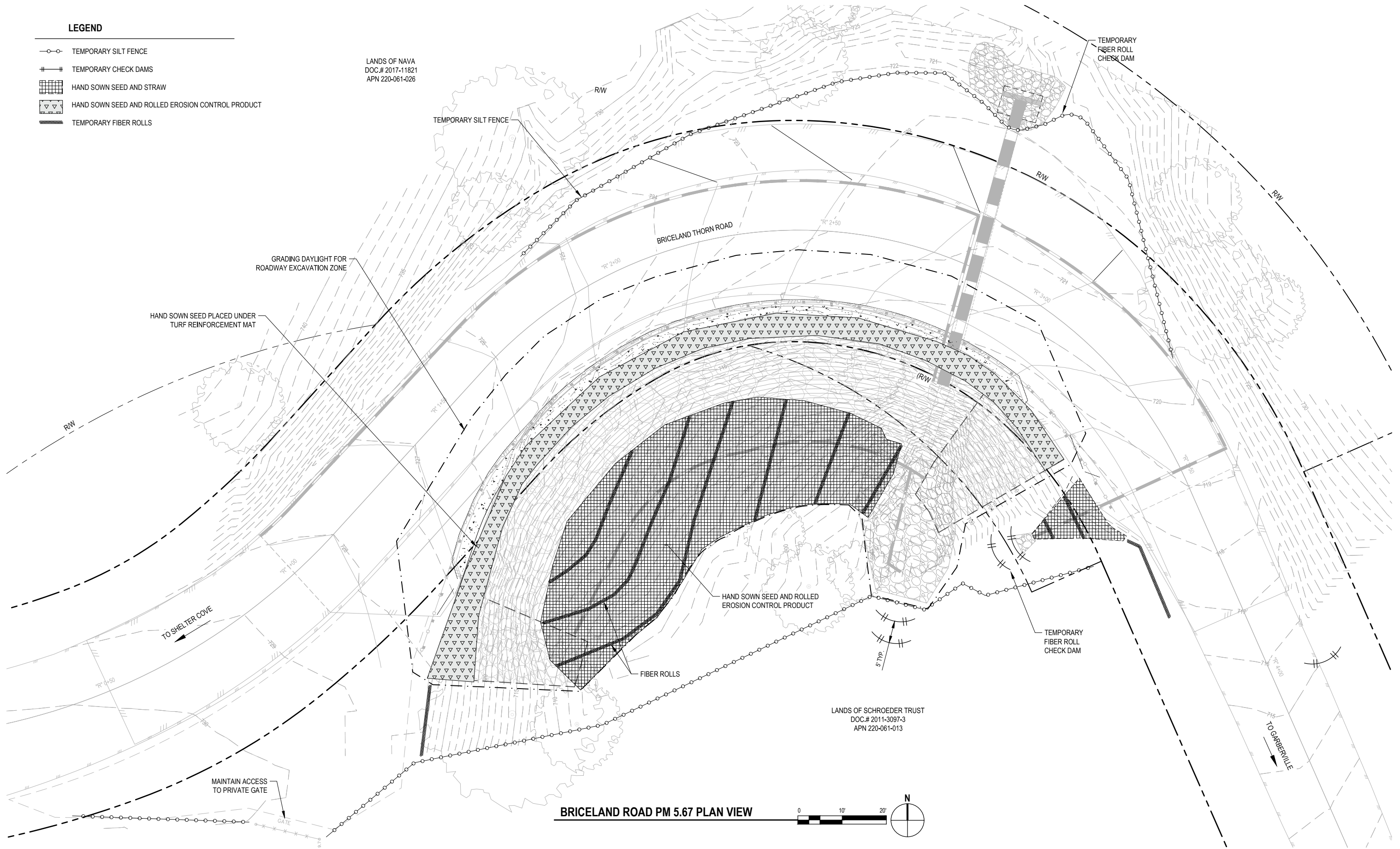
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 EROSION CONTROL PLAN

LEGEND

- TEMPORARY SILT FENCE
- ≡≡≡ TEMPORARY CHECK DAMS
- ▣▣▣ HAND SOWN SEED AND STRAW
- ▽▽▽ HAND SOWN SEED AND ROLLED EROSION CONTROL PRODUCT
- ▨▨▨ TEMPORARY FIBER ROLLS

LANDS OF NAVA
DOC.# 2017-11821
APN 220-061-026



BRICELAND ROAD PM 5.67 PLAN VIEW



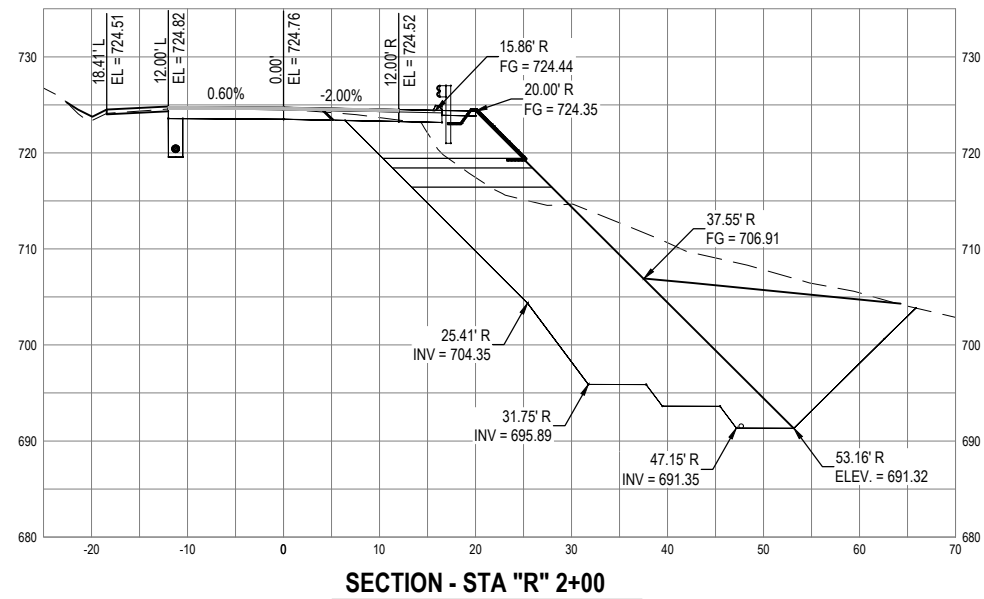
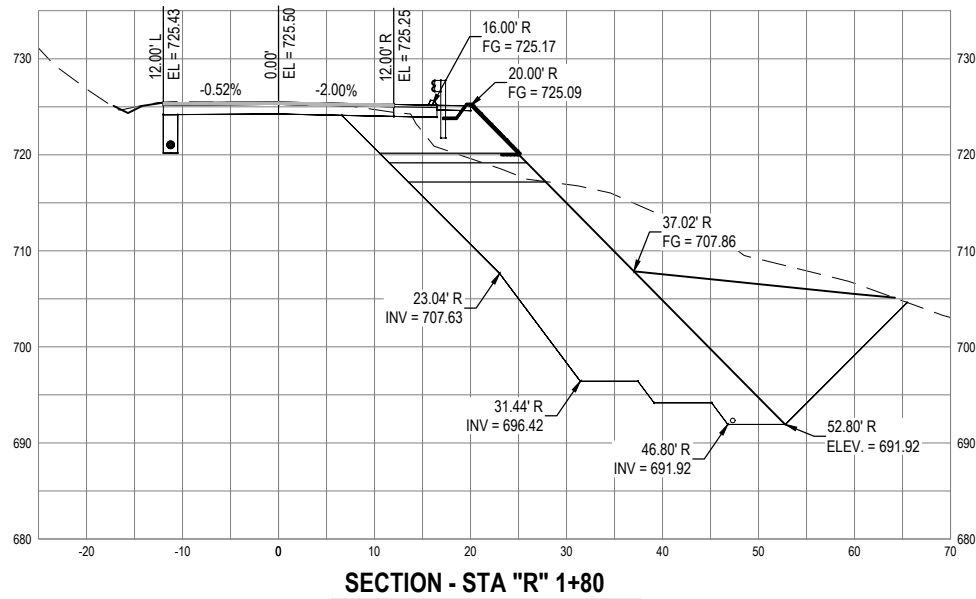
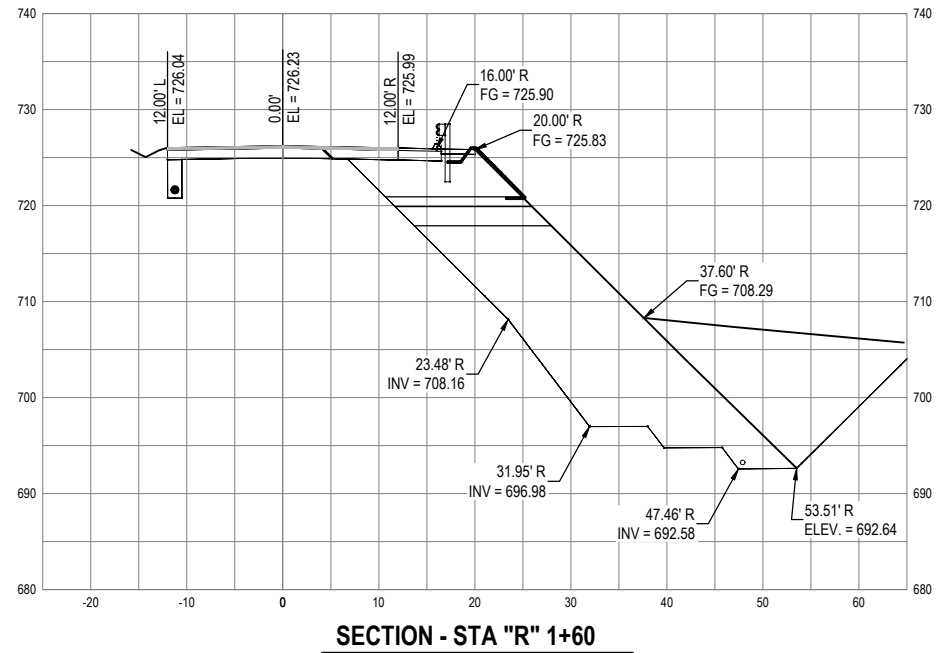
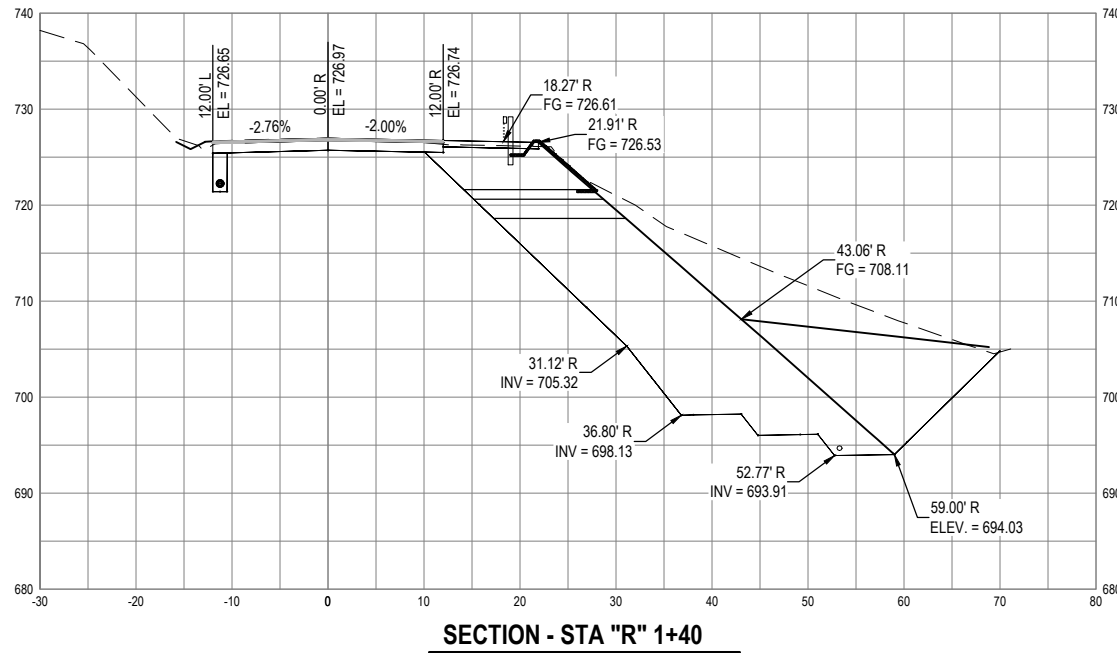
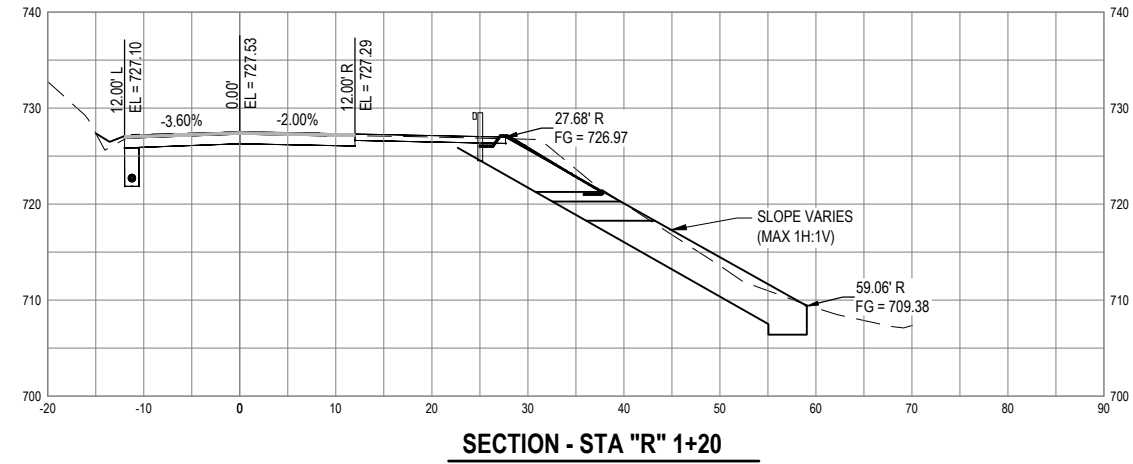
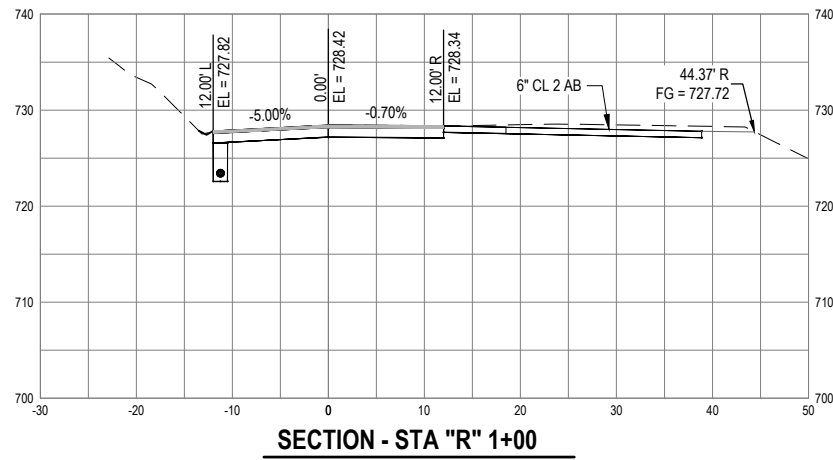
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COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 34 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 5.67 DESIGN SECTIONS 1 OF 2	



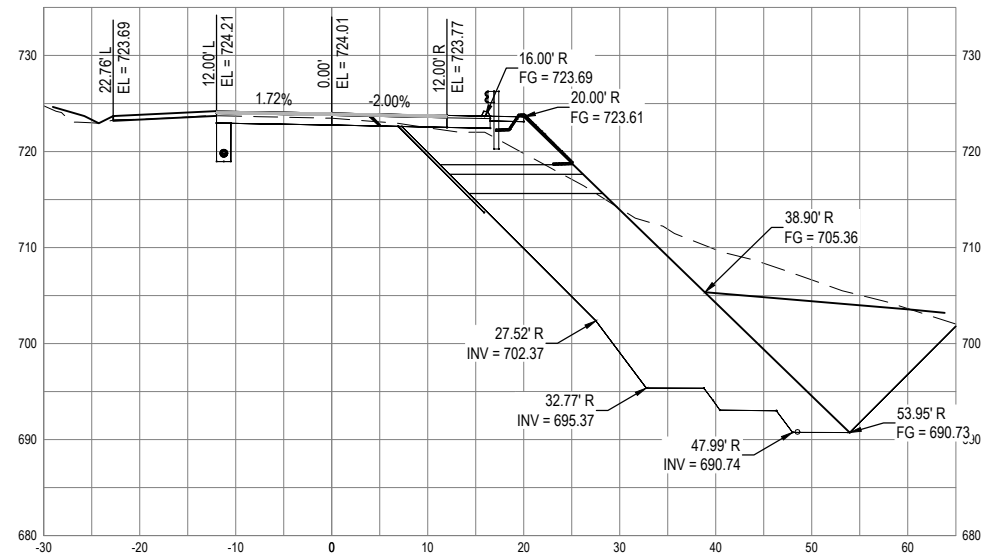


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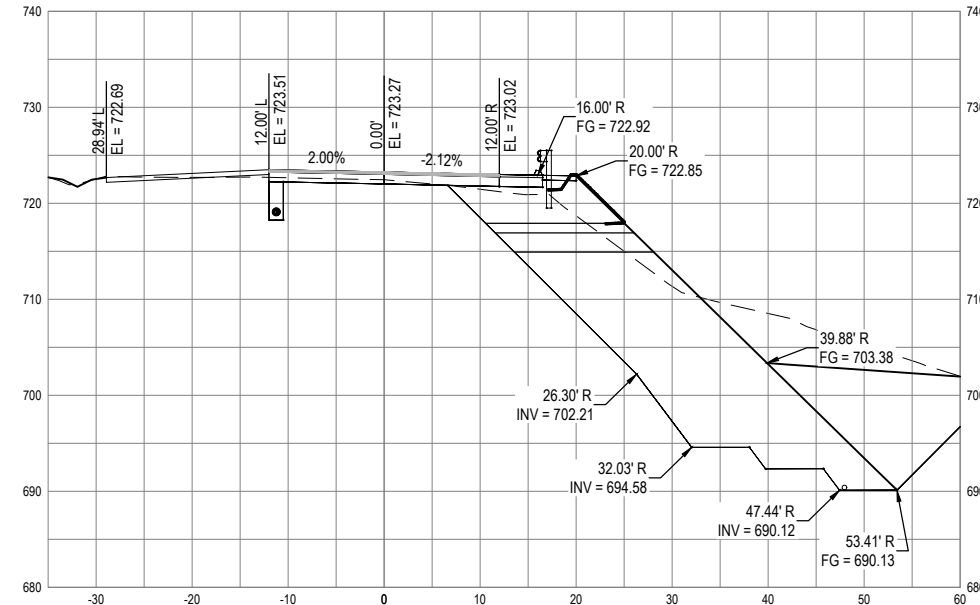


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PROJECT NO.: ER-40AD(050), ER-40AD(060)	REVIEWED BY: J. SWEHLA
CONTRACT NO.: 219200, 219207	APPROVED BY: J. SWEHLA
PLOT DATE: 1/11/2023	

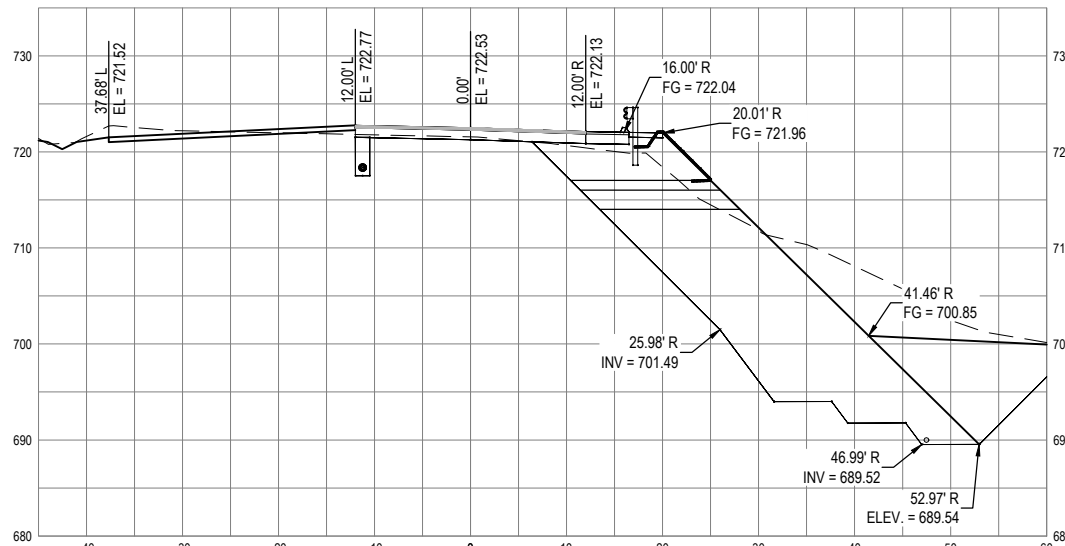
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 35 OF 36
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67	
PM 5.67 DESIGN SECTIONS 2 OF 2	



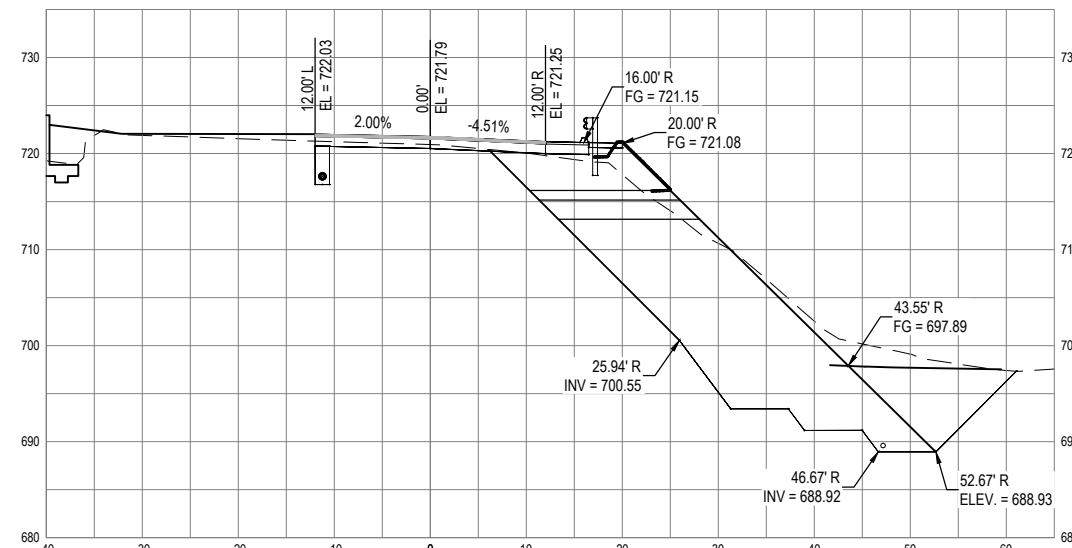
SECTION - STA "R" 2+20



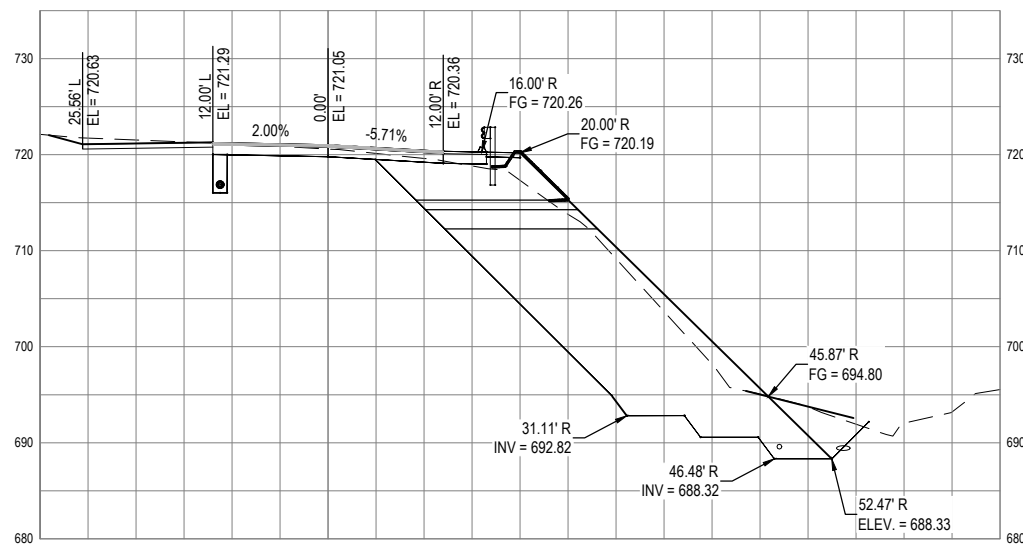
SECTION - STA "R" 2+40



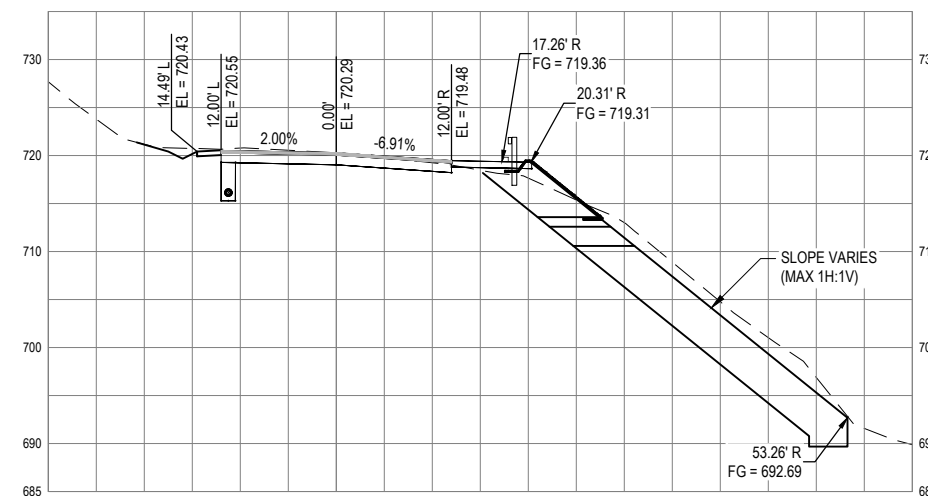
SECTION - STA "R" 2+60



SECTION - STA "R" 2+80



SECTION - STA "R" 3+00



SECTION - STA "R" 3+20



GHD Inc.
718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

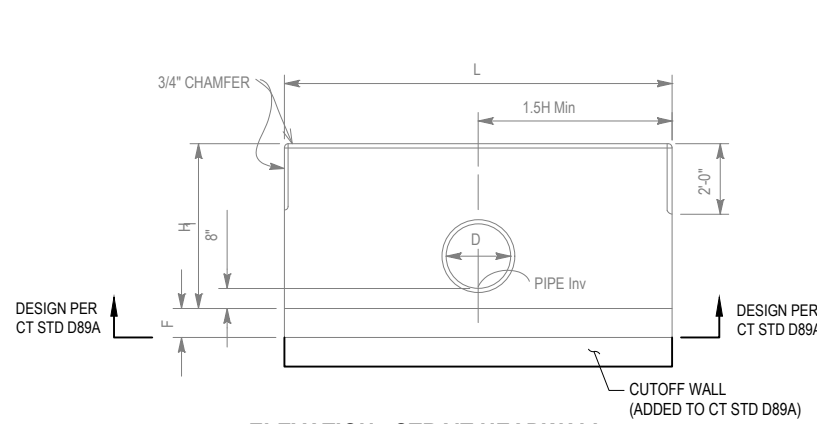


BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME:	BRICELAND THORNE ROAD
ROAD NO.:	F5A010
MILE POST:	3.08, 5.67
PROJECT NO.:	ER-40AD(050), ER-40AD(060)
CONTRACT NO.:	219200, 219207
PLOT DATE:	1/11/2023

DESIGN SECTION	ENGINEERING
DESIGNED BY:	S.GOULD
DRAWN BY:	S.GOULD
REVIEWED BY:	B.CROWELL
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR BRICELAND THORNE ROAD PM 3.08, & PM 5.67
PM 5.67 CULVERT HEADWALL DETAILS

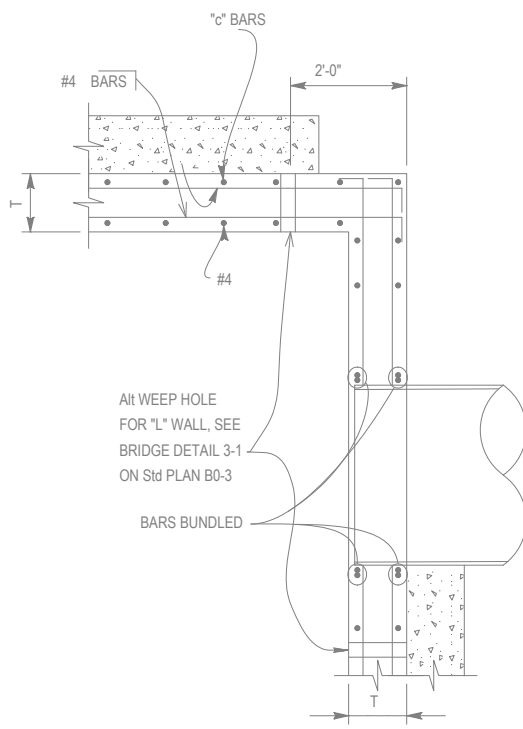


C ELEVATION - STRAIT HEADWALL SINGLE CIRCULAR PIPE
(MODIFIED CT STD D89A), SCALE: NTS

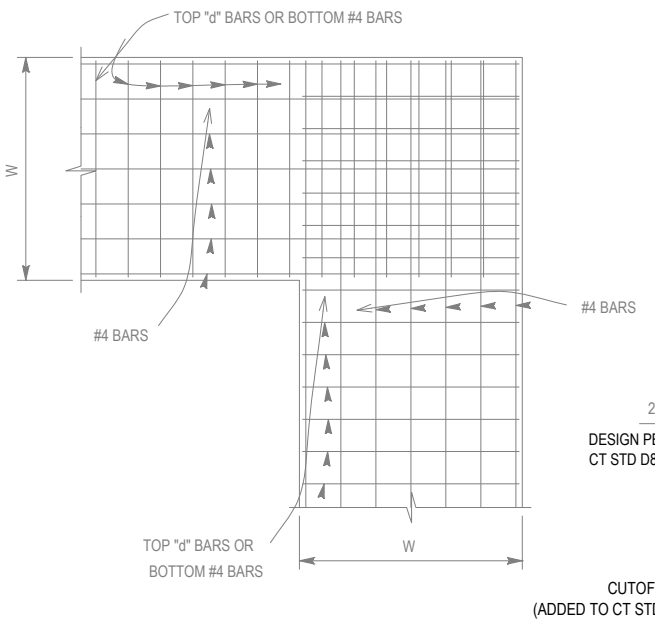
H	5'-5"
T	10"
W	5'-4"
C	1'-4"
B	4'-0"
F	1'-0"
"c" BARS	#4 @ 12
"d" BARS	#5 @ 8
* Conc CY/LF	0.40
* Reinf LB/LF	39
**CASE I Ser (q'o, B')	0.95, 5.00
Str (q'o, B')	1.62, 4.50

H (Min)	CIRCULAR PIPE SIZE D
5'-5"	30"

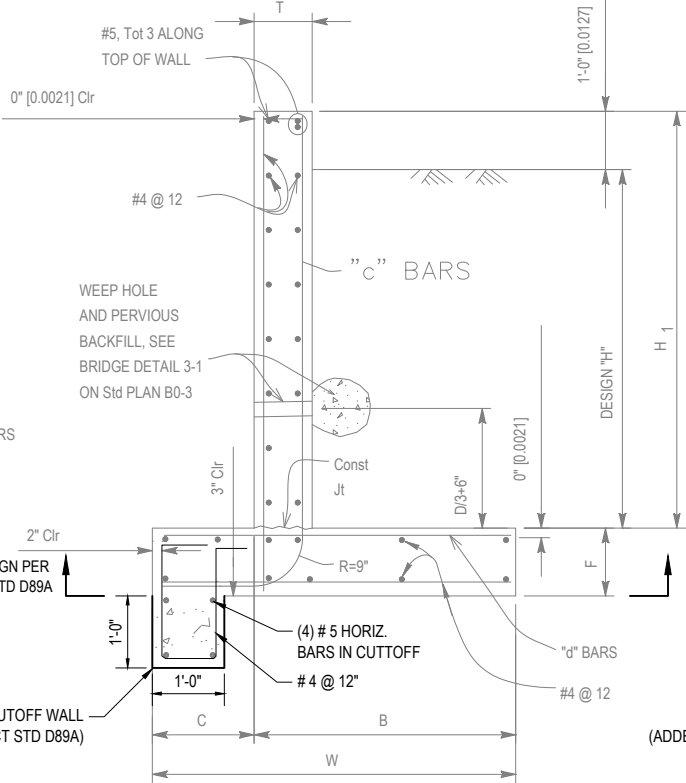
* Quantities include 1'-0" extension above the design "H" limit.
** q'o = net bearing stress (ksf), B' = effective footing width (ft)
Ser - service limit
Str - strength limit



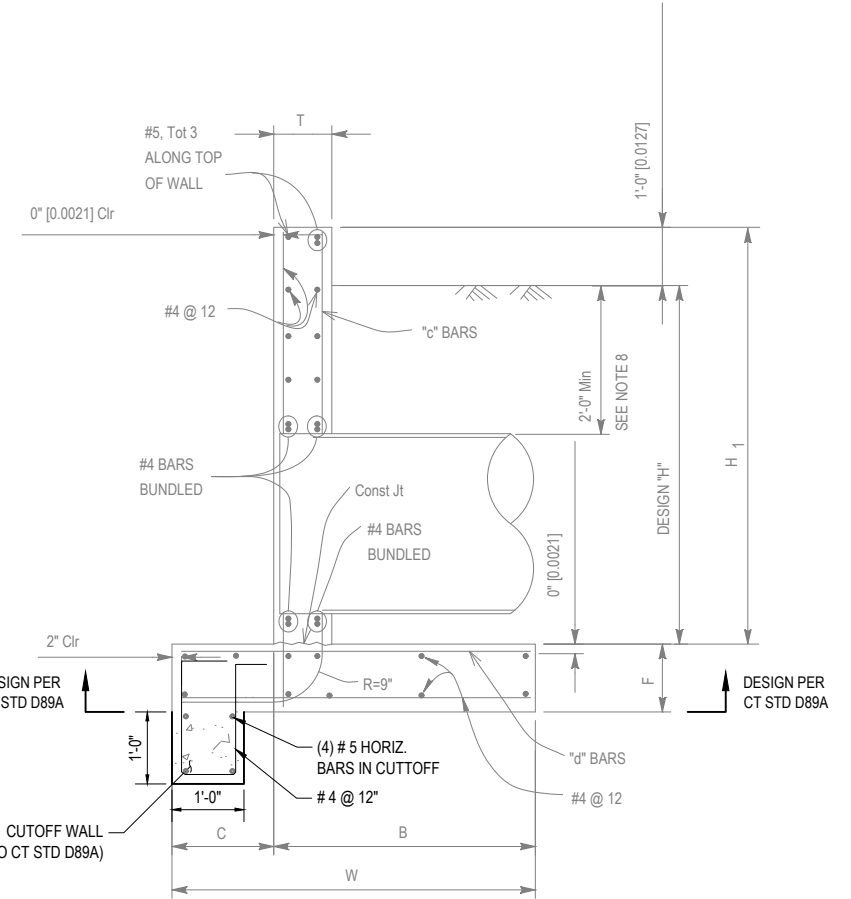
D PLAN VIEW - STRAIT HEADWALL
(MODIFIED CT STD D89A), SCALE: NTS
NOTE: "L" HEADWALL SHOWN. STRAIT HEADWALL SIMILAR



E TYPICAL FOOTING DETAIL
(MODIFIED CT STD D89A), SCALE: NTS
NOTE: "L" HEADWALL SHOWN. STRAIT HEADWALL SIMILAR



F TYPICAL HEADWALL SECTION
(MODIFIED CT STD D89A), SCALE: NTS



G TYPICAL HEADWALL SECTION THROUGH PIPE
(MODIFIED CT STD D89A), SCALE: NTS