



**SURVEY CONTROL NOTES**

1. THE MAJORITY OF THIS MAP IS BASED ON A FIELD SURVEY PERFORMED FROM 5/5/2015 TO 5/8/2019. THE AREA LABELED "LIMITS OF 2019 TOPO" WAS RESURVEYED ON 4/17/2019. THE RESURVEY FOUND THAT AREAS NORTHWEST OF THE MAJOR SCARP AT THE APPROXIMATE CENTER OF THE MAP HAD MOVED APPROXIMATELY 5 FEET HORIZONTAL AND SUBSIDED 2 FEET VERTICAL. THIS MOVEMENT CAN BE SEEN IN THE GRAPHIC POSITIONS OF THE GEOLOGIC MONITORING WELLS AND CONTROL POINT #50 SHOWN IN 2015 AND 2019 HEREON; ARROWS INDICATE THE DIRECTION OF HORIZONTAL MOVEMENT.
2. HORIZONTAL DATUM IS ASSUMED, WITH BEARINGS BASED ON A TRUE COMPASS BEARING BETWEEN CONTROL POINTS #50 AND #51 OF S 17° E. CP#50 HAD AN ASSUMED COORDINATE OF N 50000.00 ; E 80000.00 ON THE ORIGINAL 2015 SURVEY; BECAUSE OF THE SITE MOVEMENT THIS COORDINATE HAS CHANGED. CONTROL POINTS #51 AND #54 WERE FOUND TO BE IN THEIR ORIGINAL POSITION AND WERE HELD FOR THE RESURVEY.
3. VERTICAL DATUM IS ASSUMED. AN ELEVATION OF 1000.00' WAS HELD ON THE FOUND TEMPORARY BENCHMARK (TBM) BY TABER ASSOCIATES AS SHOWN HEREON. SAID BENCHMARK IS A MAGNAIL AND SHINER. THE 2019 RESURVEY MADE A TIE TO A NAVD88 BENCHMARK, NGS PID "LV1209", THAT LIES SOUTH OF THE PROJECT SITE. PER SAID TIE, ASSUMED ELEVATIONS ARE 214.36 FEET BELOW NAVD88 ELEVATIONS.
4. TREES SHOWN HEREON WERE THOSE FOUND ONSITE WITH A DIAMETER AT BREAST HEIGHT OF 12" OR GREATER. TREES WERE LOCATED TO THE CENTER OF THE BASE OF THE TRUNK; SOME OF THE OAKS ON SITE LEAN SIGNIFICANTLY FROM THE BASE POSITION SHOWN HEREON. TREES WERE NOT LOCATED ALONG THE TOP OF BANK NORTH OF THE ROAD AT THE ON THE NORTHERLY PORTION OF THE PROJECT AS NOTED HEREON.
5. MULTIPLE SCARPS AND CRACKS ARE SHOWN HEREON; THESE ARE WHAT WAS VISIBLE AT THE TIME OF THE SITE VISIT.
6. RIGHT OF WAY WAS NOT DETERMINED AS PART OF THIS PROJECT. THE HUMBOLDT COUNTY SURVEYOR HAS PROVIDED A DETERMINATION TO THE ENGINEERING DEPARTMENT AS TO A PRESCRIPTIVE EASEMENT 40 FEET IN WIDTH CENTERED ON THE EXISTING ROADWAY. PER THE HUMBOLDT COUNTY GIS AND FIRST AMERICAN DATATREE GIS, IT APPEARS THE PROJECT SITE IS BISECTED BY A NORTH-SOUTH PROPERTY LINE, THE TOWNSHIP LINE BETWEEN TOWNSHIP 2 SOUTH RANGE 1 WEST AND TOWNSHIP 2 SOUTH, RANGE 1 EAST, BETWEEN 2 PRIVATE OWNERSHIPS. NO BOUNDARY SURVEYS WERE PERFORMED AS PART OF THESE SURVEYS.
7. NO EVIDENCE OF UTILITIES WAS FOUND ONSITE OTHER THAN THE FAILED STORM DRAIN FEATURE NOTED HEREON.
8. THE CREEK THAT FLOWS INTO THE ROADSIDE DITCH AT THE EASTERLY END OF THE PROJECT SITE FLOWS THROUGH THE 24" CPP CULVERT THEN DISAPPEARS INTO THE GROUND IN THE VICINITY OF CP#52. THE NORTHERLY CREEK THAT JOINS THIS DRAINAGE CHANNEL HAD GOOD FLOW AT THE TIME OF THE 2015 AND 2019 SURVEY.

**GENERAL 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 CONTRACTORS OPERATIONS, CONTRACTOR SHALL REPLACE MONUMENT AT CONTRACTORS EXPENSE.

**UNDERGROUND UTILITY NOTE**

1. UNDERGROUND UTILITIES ARE SHOWN BASED ON A COMBINATION OF VISIBLE PHYSICAL EVIDENCE AND RECORDS MADE AVAILABLE TO THE SURVEYOR.
2. 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.
3. CALL UNDERGROUND SERVICE ALERT (USA) 1-800-642-2444 A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY EXCAVATIONS.

MATTOLE RD. PM 2.11 CONSTRUCTION CENTERLINE GEOMETRY						
Segment	Type	Length	Radius	Direction	Start Station	End Station
C1	CURVE	111.07	103.72		"R" 2+00.00	"R" 3+11.07
L1	LINE	61.07	-	N56° 42' 36.92"W	"R" 3+11.07	"R" 3+72.15
C2	CURVE	45.83	195.87		"R" 3+72.15	"R" 4+17.97
C3	CURVE	115.32	42.07		"R" 4+17.97	"R" 5+33.29
C4	CURVE	40.95	240.74		"R" 5+33.29	"R" 5+74.24
C5	CURVE	81.43	918.29		"R" 5+74.24	"R" 6+35.67
C8	CURVE	79.82	150.00		"R" 6+99.95	"R" 7+79.77
C9	CURVE	52.80	120.00		"R" 7+79.77	"R" 8+32.58
L2	LINE	47.53	-	S7° 51' 12.75"E	"R" 8+32.58	"R" 8+80.11

SURVEY CONTROL POINT TABLE				
Point #	Easting	Northing	Elevation	Raw Description
55	79928.8328	50001.7086	973.247	CP_SPK
57	79918.4427	50032.2062	974.234	CP_SPK
58	79956.3318	50100.8788	976.089	CP_SPK
59	79900.6692	50203.2750	916.676	CP_SPK
60	79806.8791	50226.1679	882.032	CP_SPK
61	79863.5840	50176.4572	819.006	CP_SPK_CLRD_CULV
62	79831.5316	50009.6367	939.400	CP_SPK



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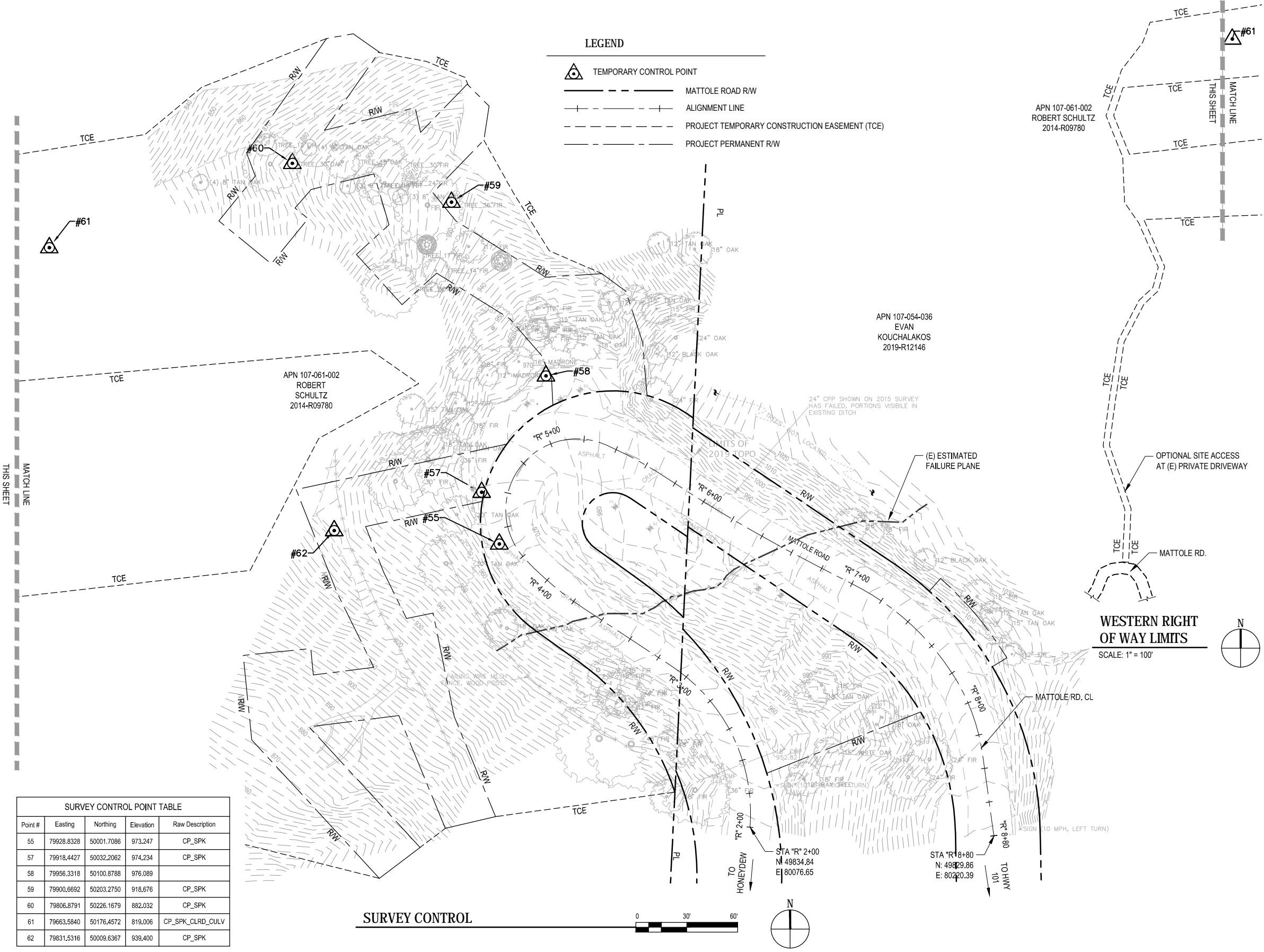
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ROAD NAME:	MATTOLE ROAD	DESIGN SECTION:	ENGINEERING
ROAD NO.:	F30010	DESIGNED BY:	C. HAYES
MILE POST:	2.11	DRAWN BY:	C. HAYES
PROJECT NO.:	ER-32LO(255)	REVIEWED BY:	J. SVEHLA
CONTRACT NO.:	217400	APPROVED BY:	J. SVEHLA
PLOT DATE:	2/2/22		

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 2 OF 13
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11	
SURVEY CONTROL PLAN	

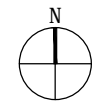
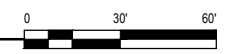
**LEGEND**

- TEMPORARY CONTROL POINT
- MATTOLE ROAD RW
- ALIGNMENT LINE
- PROJECT TEMPORARY CONSTRUCTION EASEMENT (TCE)
- PROJECT PERMANENT RW



**WESTERN RIGHT OF WAY LIMITS**  
SCALE: 1" = 100'

**SURVEY CONTROL**



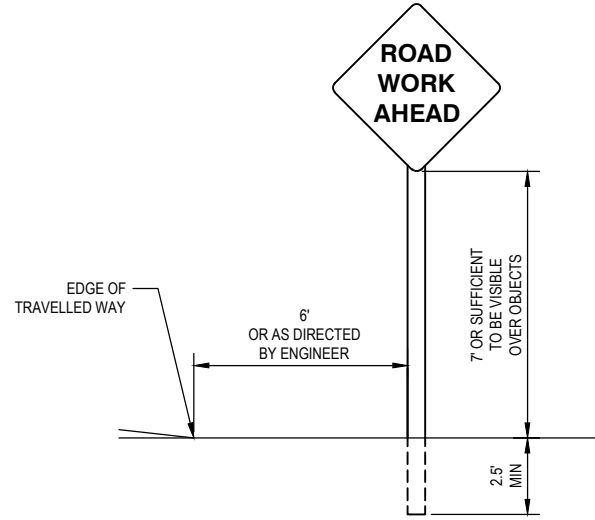
**OPTIONAL SITE ACCESS NOTES**

- OPTIONAL SITE ACCESS ALONG SOUTHERN PRIVATE GRAVEL ROAD MAY BE USED FOR HORIZONTAL DRILLING OPERATIONS ONLY.
- CONTRACTOR SHALL NOT BLOCK ACCESS ALONG SOUTHERN PRIVATE GRAVEL ACCESS ROAD TO EXISTING RESIDENCES AT ANY TIME. VEHICULAR TRAVEL ALONG EXISTING ACCESS ROAD MUST BE MAINTAINED AT ALL TIMES.
- EXISTING SOUTHERN PRIVATE GRAVEL ACCESS ROAD SHALL BE RESTORED BACK TO PRE-PROJECT CONDITIONS AFTER PROJECT COMPLETION.
- GATE ALONG SOUTHERN PRIVATE GRAVEL ACCESS ROAD SHALL REMAIN CLOSED AT MATTOLE ROAD AT ALL TIMES.

**CONSTRUCTION SIGN NOTES:**

- EXACT SIGN LOCATIONS AND POSITIONS TO BE APPROVED BY THE ENGINEER.
- ALL WARNING SIGNS SHALL HAVE A BLACK LEGEND AND BORDER ON ORANGE BACKGROUND.
- ALTERNATIVE POST CONFIGURATION TO BE APPROVED BY ENGINEER.
- REFER TO TABLE 6H-3 RECOMMENDED ADVANCE WARNING SIGN SPACING FOR RURAL ROAD TYPE.
- REFER TO FIGURE 6H-11 FOR LANE CLOSURE ON A TWO-LANE ROAD WITH LOW TRAFFIC VOLUMES (TA-11).
- REFER TO FIGURE 6H-12 FOR LANE CLOSURE ON A TWO-LANE ROAD USING TRAFFIC CONTROL SIGNALS (TA-12)
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA-MUTCD) AND CALTRANS 2018 STANDARD PLANS.
- MAINTAIN ALL SIGNS THROUGHOUT DURATION OF CONSTRUCTION.
- MAINTAIN ONE TRAVEL LANE AT ALL TIMES.
- PROVIDE FLAGGERS AS REQUIRED TO ACCOMMODATE CONSTRUCTION.

SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER & POST SIZE	NO. OF SIGNS
W20-1	36"x36"	ROAD WORK AHEAD	(1) 4"x4"	2
G20-2	36"x18"	END ROAD WORK	(1) 4"x4"	2
W20-4	36"x36"	ONE LANE ROAD AHEAD	(1) 4"x4"	2
R10-6	24"x36"	STOP HERE ON RED	(1) 4"x4"	2
W3-3	36"x36"	SIGNAL WARNING	(1) 4"x4"	2
W1-4	36"x36"	HORIZONTAL ALIGNMENT	(1) 4"x4"	2



TYPICAL STATIONARY CONSTRUCTION AREA SIGNS

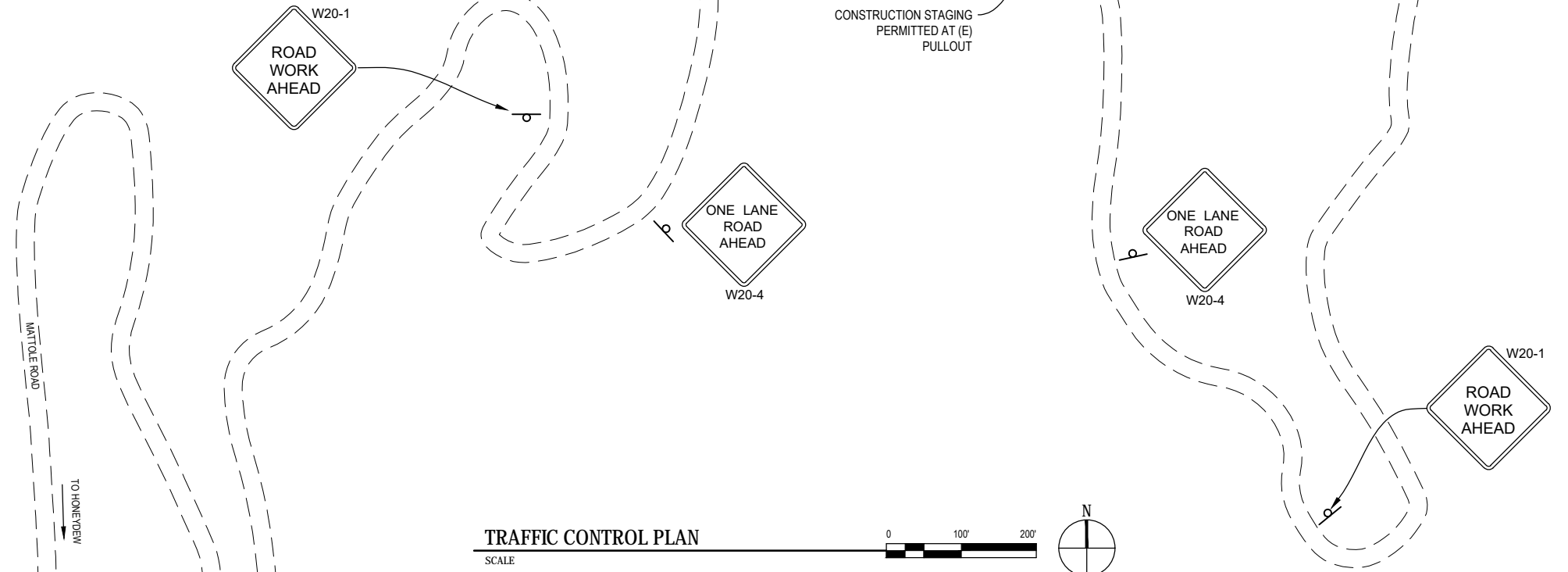
**QUANTITIES**

Item No.	Item No.	Description	Quantity	Unit
1	120090	Construction Area Signs	1	LS
2	120100	Traffic Control System	1	LS
3	120202	Portable Signal System	1	LS
4	130100	Job Site Management	1	LS
5	130200	Prepare Water Pollution Prevention Plan (SWPPP) for 1.36-acre project	1	LS
6	129000	Rain Event Action Plan	16	EA
7	130320	Stormwater Sampling and Analysis Day	8	EA
8	130330	Stormwater Annual Report	1	EA
9	130610	Temporary Check Dam	60	LF
10	130640	Temporary Fiber Roll	100	LF
11	210350	Fiber Rolls	1285	LF
12	130620	Temporary Drainage Inlet Protection	3	EA
13	130680	Temporary Silt Fence	350	LF
14	210430	Dry Seed	22000	SQFT
15	210280	Rolled Erosion Control Product (Blanket)	22000	SQFT
16	170103	Clearing and Grubbing	1	LS
17	190101 F	Roadway Excavation	344	CY
18	198050 F	Roadway Embankment	134	CY
19	390132	Hot Mix Asphalt (Type A)	409	TON
20	190101	Place Hot Mix Asphalt Dike (Type D, Case C-2)	117	LF
21	394076	Place Hot Mix Asphalt Dike (Type E, Case R)	240	LF
22	260203 F	Class 2 Aggregate Base	165	CY
23	027124	Biaxial Geogrid	1120	SQYD
24	393006	Geosynthetic Pavement Interlayer (Paving Grid)	299	SQYD
25	723095	Rock Slope Protection (20 lb. Class I, Method B)	29	CY
26	723060	Rock Slope Protection (60 lb. Class II, Method B)	20	CY
27	723060	Rock Slope Protection (300 lb. Class IV, Method B)	49	CY
28	680902	6" Perforated Plastic Pipe Underdrain	218	LF
29	680903	6" Non-Perforated Plastic Pipe	30	LF
30	641113	24" Plastic Pipe (Heat-Fused HDPE)	266	LF
31	691900	12" Plastic Flume Downdrain	90	LF
32	692101	Tapered Inlet	2	EA
33	692361	Flume Anchor Assembly	2	EA
34	033582	1 1/2" Plastic Pipe (Schedule 80)	250	LF
35	681501 F	Furnish and Install Drain Pipe (Horizontal Drain)	8670	LF
36	681502 F	Drill Hole (Horizontal Drain)	8670	LF
37	030643	6" Collector System (Horizontal Drain)	400	LF
38	030644	Horizontal Drain Connector Unit	25	EA
39	840505	4" Thermoplastic Traffic Stripe	580	LF
40	999990	Mobilization	1	LS

**LEGEND**

- SIGN
- TRAFFIC SIGNAL
- CONSTRUCTION EQUIPMENT AND MATERIAL STAGING AREAS

CONTRACTOR TO COORDINATE GATE LOCK COMBINATION WITH THE COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS



**TRAFFIC CONTROL PLAN**

SCALE



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ROAD NAME:	MATTOLE ROAD
ROAD NO:	F30010
MILE POST:	2.11
PROJECT NO.:	ER-32LO(255)
CONTRACT NO.:	217400
PLOT DATE:	2/2/22

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

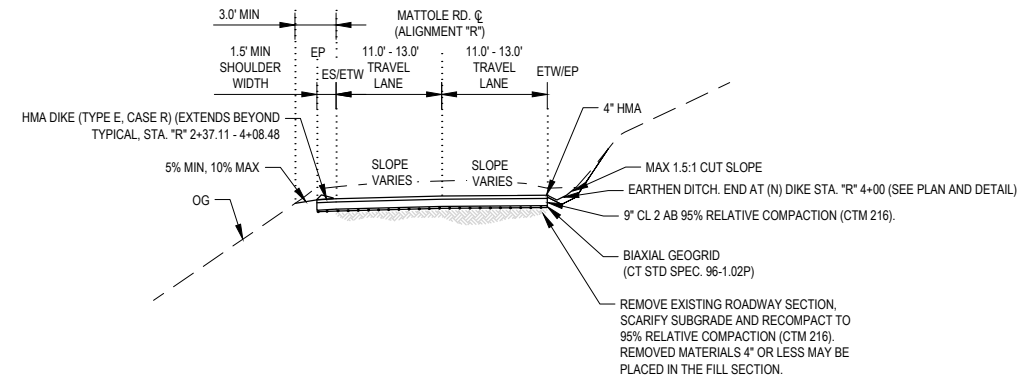
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11	
TRAFFIC CONTROL PLAN AND QUANTITIES	



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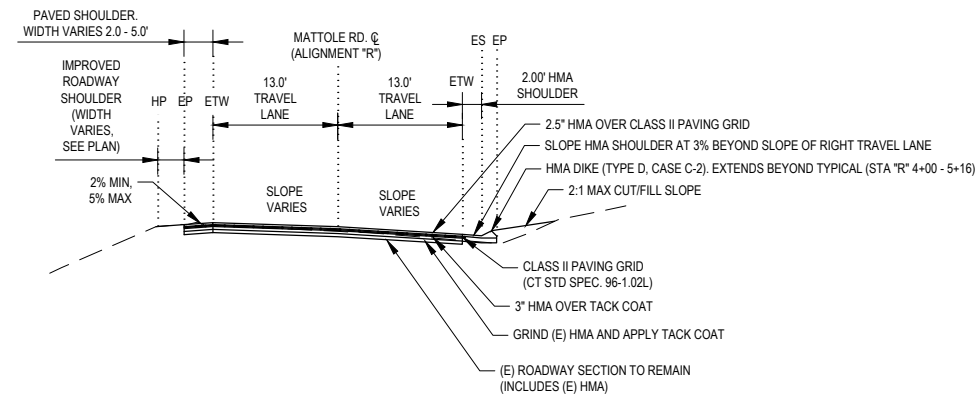


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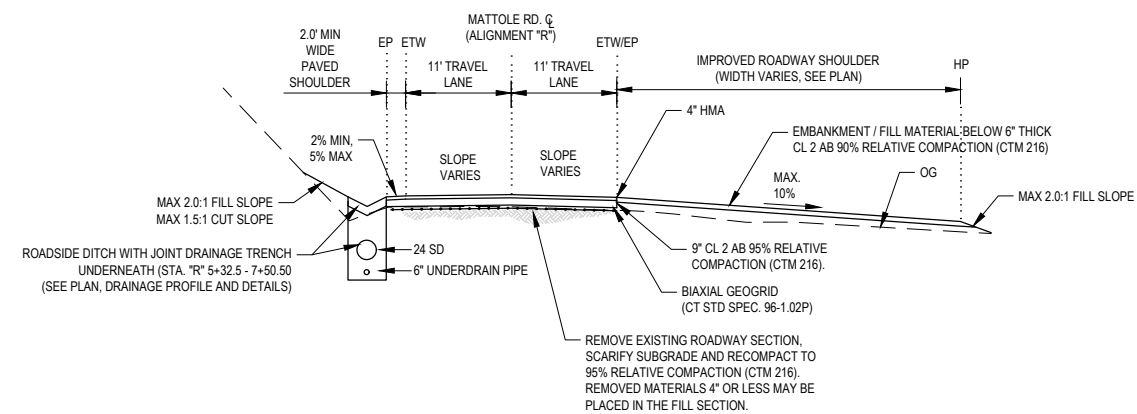
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NOT TO SCALE



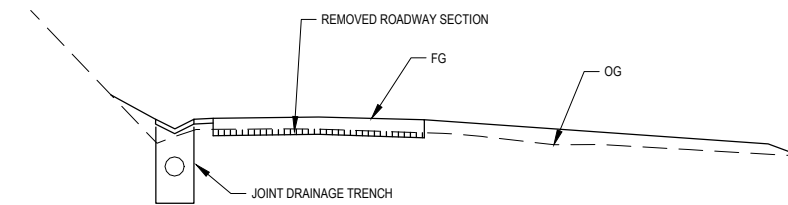
**TYPICAL ROADWAY SECTION STA "R" 4+40 - 5+20**

NOT TO SCALE



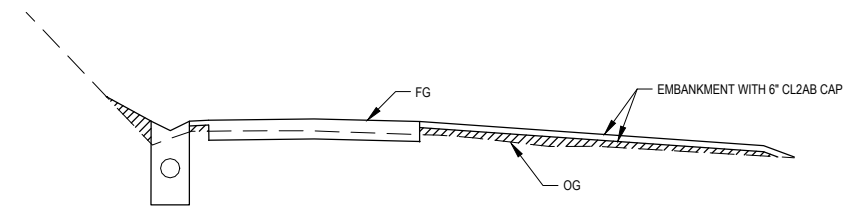
**TYPICAL ROADWAY SECTION STA "R" 5+20 - 7+80**

NOT TO SCALE



**LIMITS OF PAYMENT - CUT**

NOT TO SCALE



**LIMITS OF PAYMENT - FILL**

NOT TO SCALE



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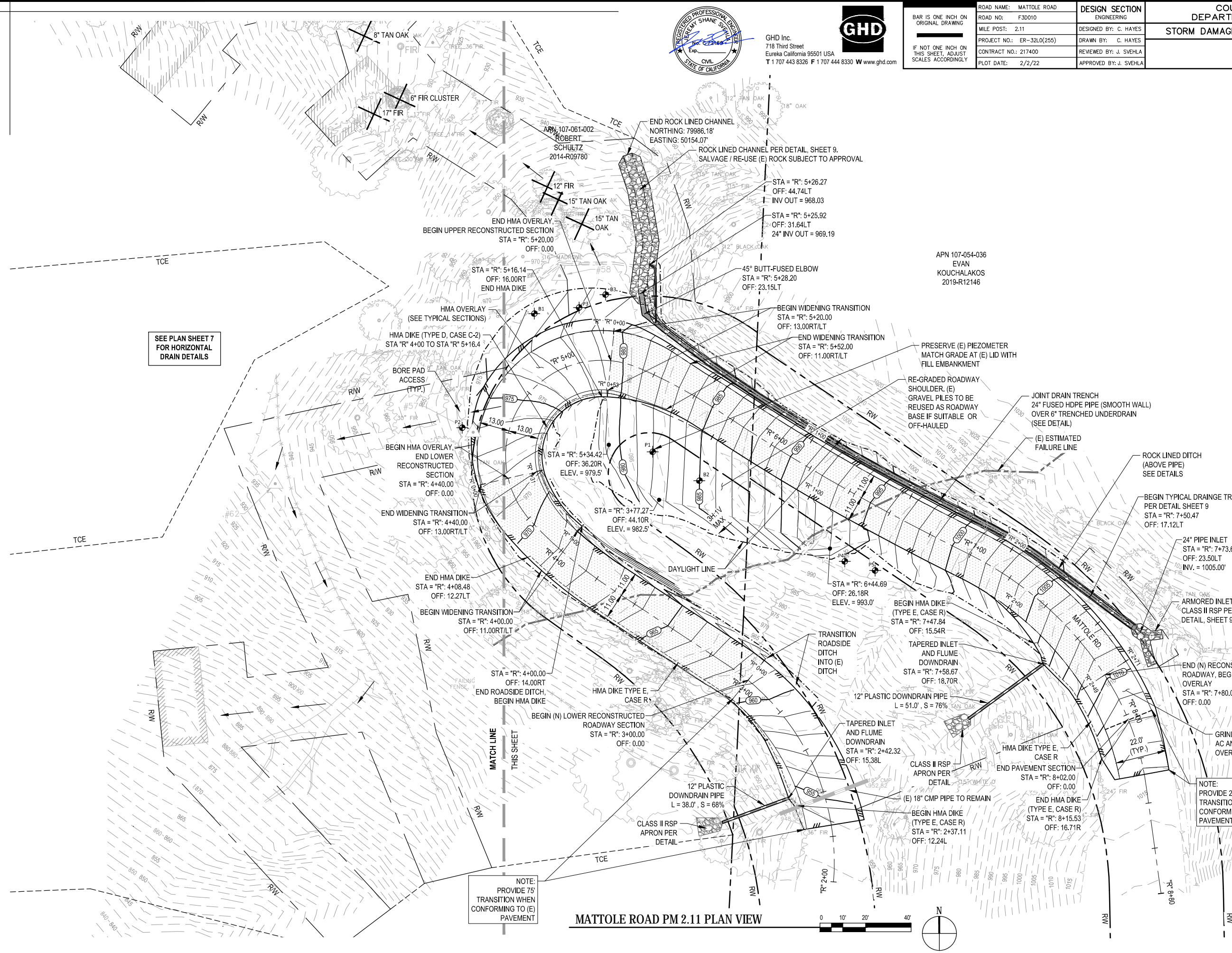
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ROAD NO: F30010	DESIGNED BY: C. HAYES
MILE POST: 2.11	DRAWN BY: C. HAYES
PROJECT NO.: ER-32LO(255)	REVIEWED BY: J. SVEHLA
CONTRACT NO.: 217400	APPROVED BY: J. SVEHLA
PLOT DATE: 2/2/22	

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11
ROADWAY PLAN

SHEET 5 OF 13
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### LEGEND

- EDGE OF HMA PAVEMENT SECTION
- STORM DRAIN PIPE
- (E) STORM DRAIN PIPE
- REMOVE TREE FOR POTENTIAL BORE PAD ACCESS. (SEE SHEET 7)
- RECONSTRUCTED ROADWAY SECTION
- PERMANENT ABOVE GROUND HORIZONTAL DRAIN PIPE CONVEYANCE TO CREEK
- ROCK APRON OR DISSIPATER (SEE DETAIL)
- (E) GEOTECHNICAL PIEZOMETER OR BORING LOCATIONS. 5 TOTAL TO REMAIN AND BE PROTECTED. INCLUDES: P1, P2, P3, P5, B1

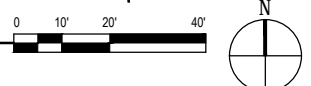


SEE PLAN SHEET 7 FOR HORIZONTAL DRAIN DETAILS

NOTE:  
PROVIDE 75'  
TRANSITION WHEN  
CONFORMING TO (E)  
PAVEMENT

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

MATTOLE ROAD PM 2.11 PLAN VIEW



ROADWAY GEOMETRY					
STATION	LEFT TRAVEL LANE CROSS SLOPE	LEFT EDGE ELEVATION	CROWN ELEVATION	RIGHT EDGE ELEVATION	RIGHT TRAVEL LANE CROSS SLOPE
3+00	7.55%	960.40	961.15	951.52	2.55%
3+40	-4.69%	964.28	964.80	954.85	0.47%
3+80	-1.82%	967.43	967.63	957.44	-1.71%
4+20	1.04%	970.37	970.26	959.78	-3.88%
4+60	-4.36%	974.08	973.51	972.57	-7.26%
5+00	3.42%	977.83	977.35	976.97	-3.22%
5+40	1.10%	981.73	981.59	981.25	-2.46%
5+80	-1.21%	986.17	986.31	986.08	-2.12%
6+20	-2.00%	991.02	991.24	991.07	-2.00%
6+60	-2.00%	995.95	996.17	995.95	-2.00%
7+00	-1.92%	1000.86	1001.10	1000.80	-2.64%
7+40	1.71%	1004.78	1004.83	1004.35	-4.35%
7+80	-1.50%	1009.17	1009.10	1008.43	-6.06%

Note: Negative cross slopes indicate downwards sloping away from centerline



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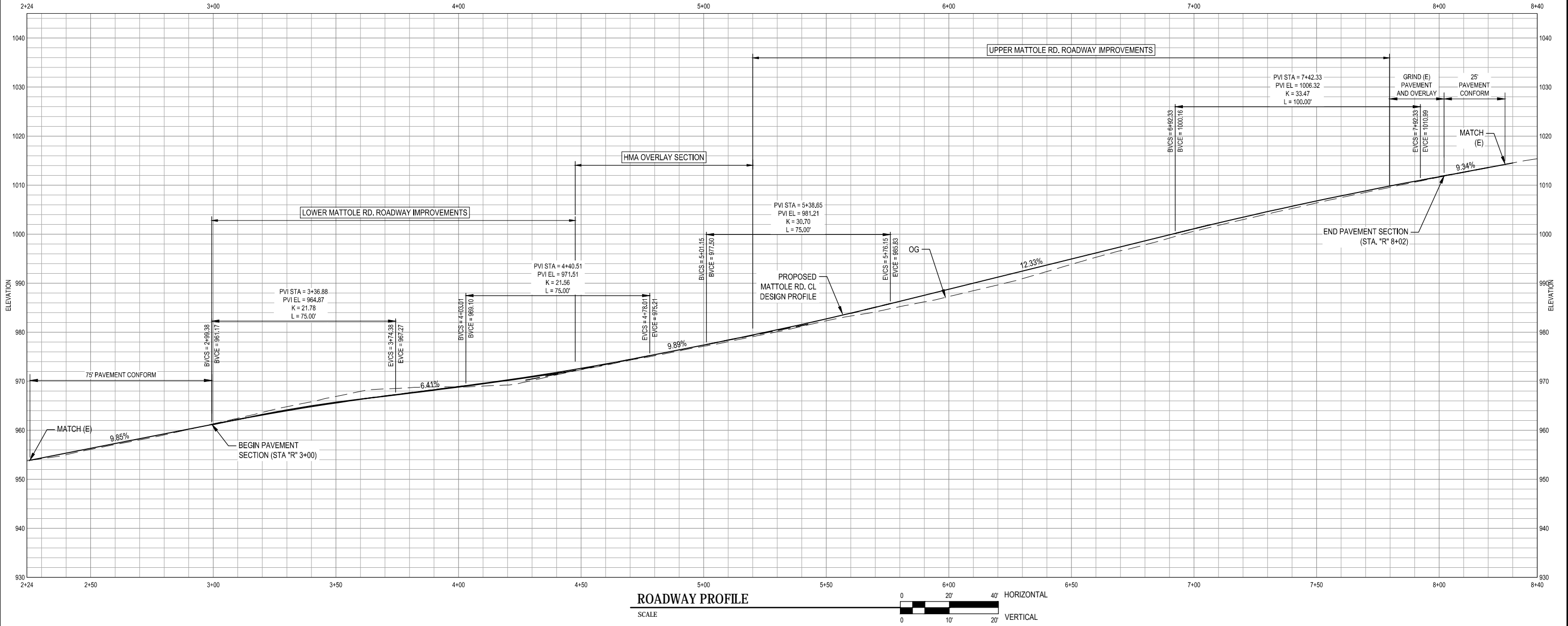
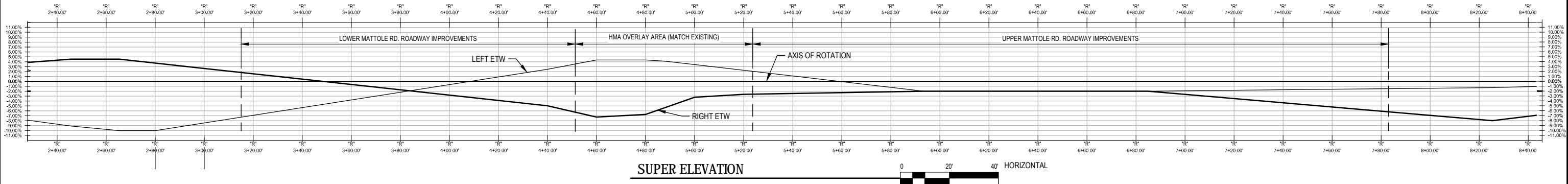
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ROAD NO: F30010  
MILE POST: 2.11  
PROJECT NO.: ER-32L(255)  
CONTRACT NO.: 217400  
PLOT DATE: 2/2/22

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 MATTOLE ROAD PM 2.11  
ROADWAY PROFILE AND SUPERELEVATION

SHEET  
6  
OF  
13



**HORIZONTAL DRAIN - TABLE 1 OF 2**

(SEE NOTE 1, THIS SHEET)

DRAIN TARGET NO. ORDER: N-E TO S-W	DRILL PAD	VERTICAL ANGLE	VERTICAL ANGLE	OUTLET ELEVATION AT MANIFOLD	TARGET ELEVATION	HORIZONTAL DRAIN LENGTH	1.5" SOLID PP EXTENSION LENGTH
(SEE SHEET 8)		% GRADE	DEGREES	FT	FT	FT	FT
T1-1	2	8.8	5.0	874	910	465	10
T1-2	2	9.1	5.2	874	910	448	10
T1-3	2	9.5	5.4	874	910	432	10
T1-4	2	9.9	5.6	874	910	417	10
T1-5	2	10.3	5.9	874	910	403	10
T1-6	2	10.7	6.1	874	910	369	10
T1-7	3	11.1	6.3	885	910	278	10
T1-8	3	12.4	7.1	885	910	254	10
T1-9	3	14.1	8.0	885	910	230	10
T1-10	3	16.4	9.3	885	910	206	10
T2-1	2	14.1	8.0	878	935	459	10
T2-2	2	14.7	8.4	878	935	443	10
T2-3	2	15.3	8.7	878	935	427	10
T2-4	2	16.0	9.1	878	935	413	10
T2-5	2	16.6	9.4	878	935	400	10
T2-6	2	17.3	9.8	878	935	386	10
T2-7	3	23.4	13.2	885	935	271	10
T2-8	3	26.4	14.8	885	935	247	10
T2-9	3	30.3	16.9	885	935	225	10
TOTAL =						6773	

**LEGEND**

- ◆ HORIZONTAL DRAIN TARGET
- POTENTIAL HORIZONTAL DRAIN
- - - POTENTIAL HORIZONTAL DRAIN (LOWER ROW, PAD 2)
- POTENTIAL PIPE DISCHARGE TO CREEK
- ▲ POTENTIAL RSP ENERGY DISSIPATER



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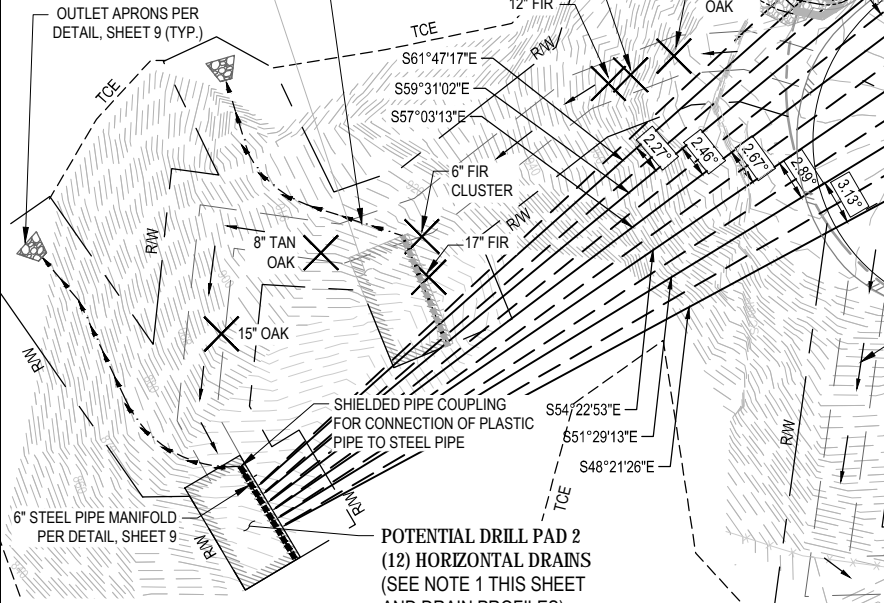
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**HORIZONTAL DRAIN - TABLE 2 OF 2**

(SEE NOTE 1, THIS SHEET)

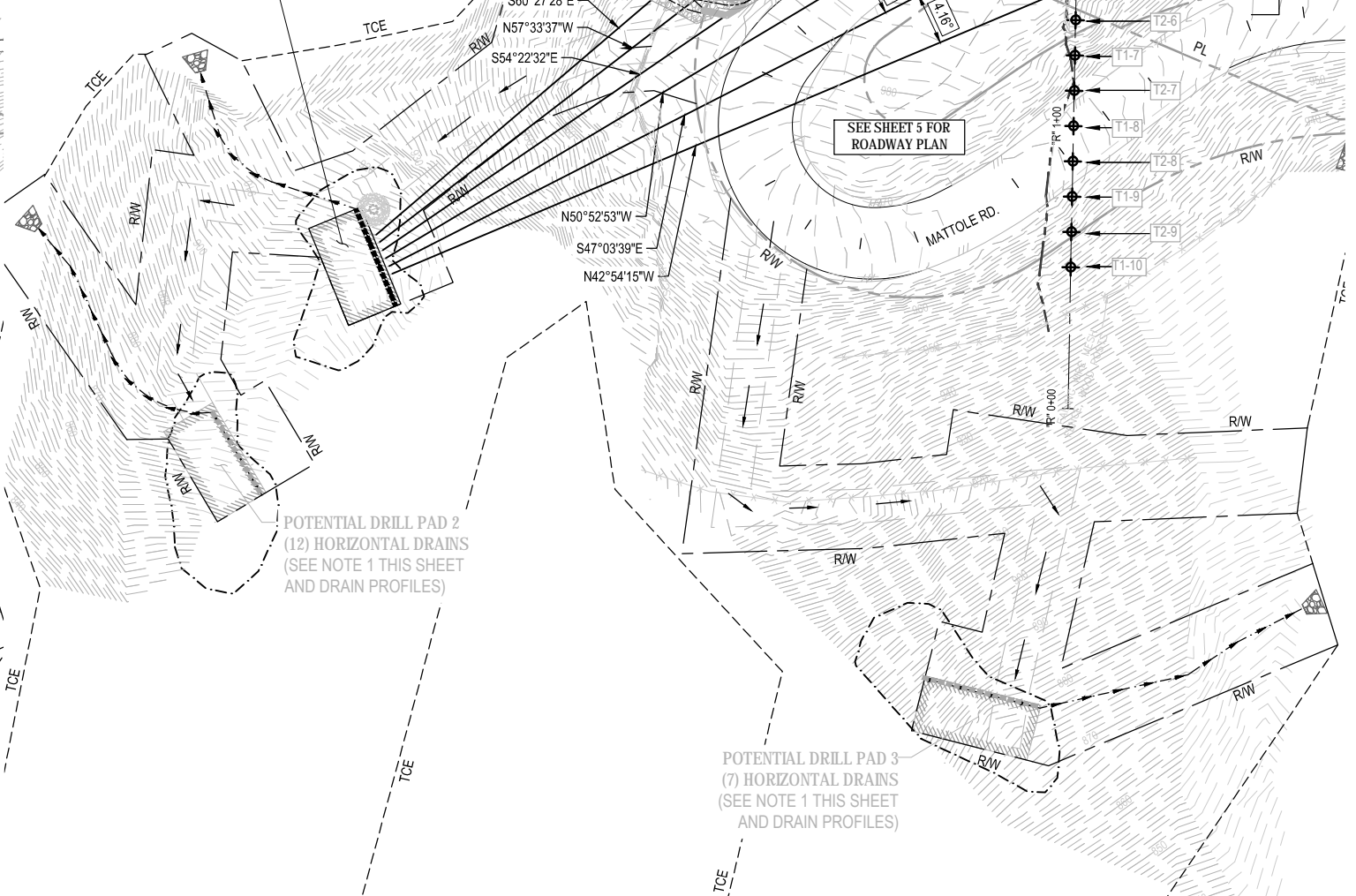
DRAIN TARGET NO. ORDER: N-E TO S-W	DRILL PAD	VERTICAL ANGLE	VERTICAL ANGLE	OUTLET ELEVATION AT MANIFOLD	TARGET ELEVATION	HORIZONTAL DRAIN LENGTH	1.5" SOLID PP EXTENSION LENGTH
(SEE SHEET 8)		% GRADE	DEGREES	FT	FT	FT	FT
T3-1	1	15.2	8.6	910	960	384	10
T3-2	1	15.94	9.1	910	960	369	10
T3-3	1	16.71	9.5	910	960	354	10
T3-4	1	17.49	9.9	910	960	341	10
T3-5	1	18.27	10.4	910	960	330	10
T3-6	1	19.03	10.8	910	960	319	10
TOTAL =						2097	
GRAND TOTAL =						8870	

POTENTIAL DRILL PAD 1 (6) HORIZONTAL DRAINS (SEE NOTE 1 THIS SHEET AND DRAIN PROFILES)



**HORIZONTAL DRAIN PLAN LOWER DRAIN TARGETS**

POTENTIAL DRILL PAD 1 (6) HORIZONTAL DRAINS (SEE NOTE 1 THIS SHEET AND DRAIN PROFILES)



**HORIZONTAL DRAIN PLAN UPPER DRAIN TARGETS**

- NOTES**
- HORIZONTAL DRAIN SYSTEM AND DRILLING PAD LOCATIONS SHOWN HEREON REPRESENT A POTENTIAL LAYOUT TO MEET THE PROJECT REQUIREMENTS, INCLUDING HITTING THE DRAIN TARGETS. MULTIPLE COMBINATIONS OF HORIZONTAL DRAIN ALIGNMENTS AND DRILLING PAD LOCATION(S) EXIST THAT COULD MEET THE PROJECT REQUIREMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A HORIZONTAL DRAIN INSTALLATION PLAN DEMONSTRATING CONFORMANCE WITH THE PROJECT REQUIREMENTS. BASED ON THE CONTRACTORS MEANS AND METHODS, ACTUAL HORIZONTAL DRAIN ALIGNMENTS AND PAD LOCATION(S) COULD VARY FROM THE POTENTIAL LAYOUT SHOWN.
    - (25) HORIZONTAL DRAINS SHALL BE DRILLED TO HIT THE (25) DRAIN TARGETS SHOWN ON ALIGNMENT "C"
    - HORIZONTAL DRAINS SHALL BE INSTALLED AT A MINIMUM SLOPE OF 5-DEGREES (8.75% GRADE).
    - HORIZONTAL DRAINS SHALL EXTEND A MINIMUM 50-FT BEYOND THE TARGET PLANE REFERENCED ALONG EACH DRAIN ALIGNMENT.
    - HORIZONTAL DRAIN MANIFOLDS AND DISCHARGE PIPE SHALL BE LOCATED WITHIN THE PERMANENT RIGHT-OF-WAY BOUNDARIES SHOWN HEREON.
    - ALL CONSTRUCTION ACTIVITY SHALL REMAIN WITHIN THE R/W AND TCE SHOWN HEREON.
    - CONTRACTOR SHALL INCLUDE IN THE HORIZONTAL DRAIN INSTALLATION PLAN THE PROPOSED SEQUENCE TO INSTALL THE HORIZONTAL DRAINS.

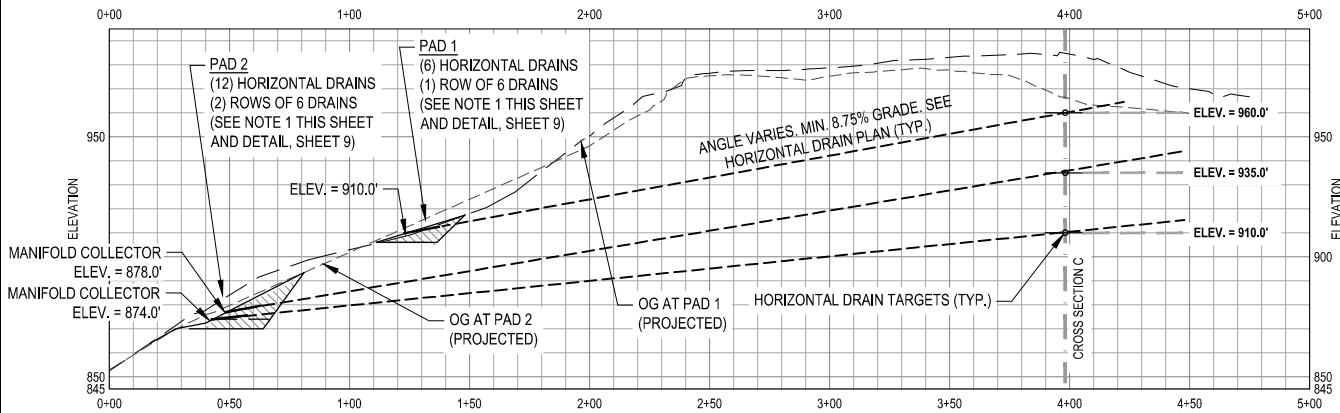


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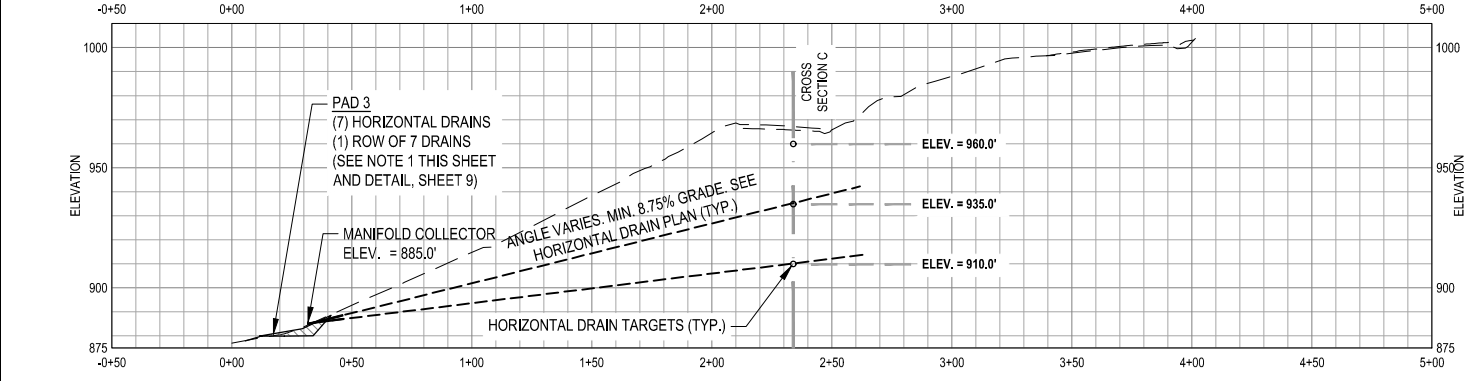


ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F30010	DESIGNED BY: C. HAYES
MILE POST: 2.11	DRAWN BY: C. HAYES
PROJECT NO.: ER-32LO(255)	REVIEWED BY: J. SVEHLA
CONTRACT NO.: 217400	APPROVED BY: J. SVEHLA
PLOT DATE: 2/2/22	

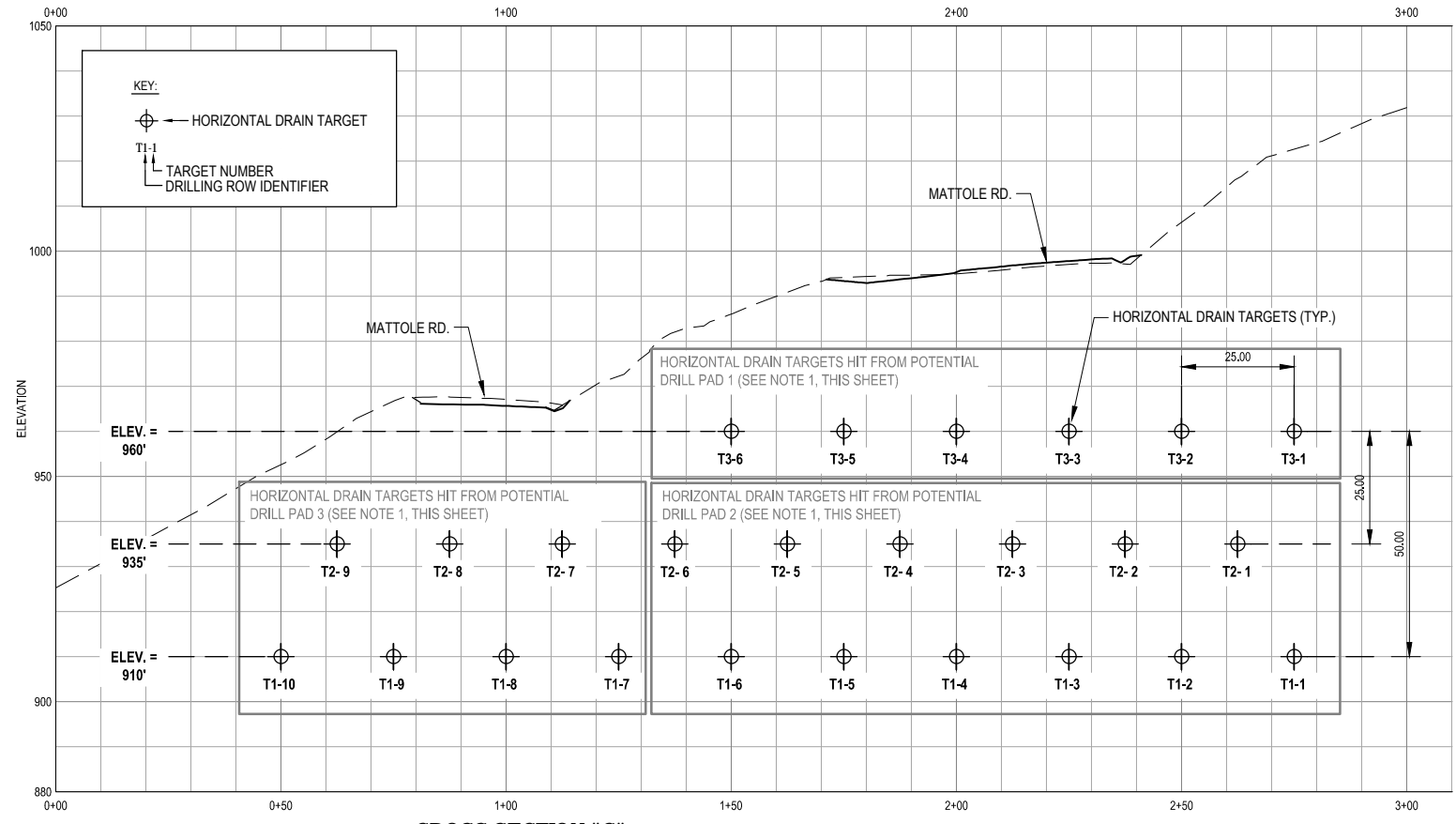
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 8 OF 13
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11	
DRAINAGE PROFILES	



**DRILL PADS 1 & 2 - POTENTIAL HORIZONTAL DRAIN PROFILE**  
(FEATURES SUPERIMPOSED)



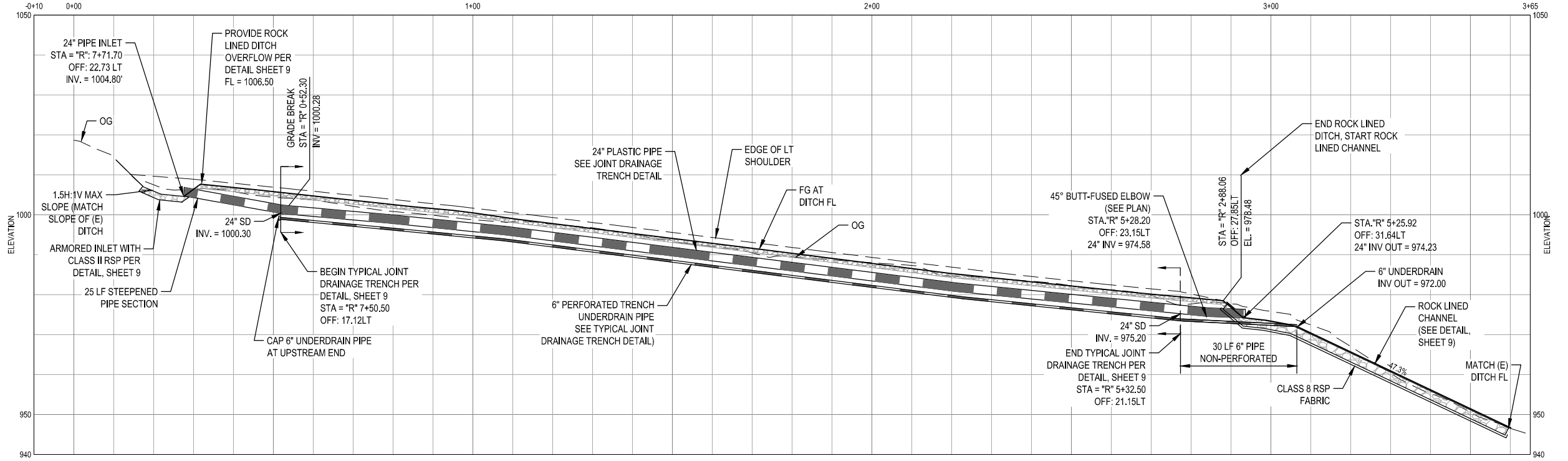
**DRILL PAD 3 - POTENTIAL HORIZONTAL DRAIN PROFILE**  
(DRAIN PIPES SUPERIMPOSED)



**CROSS SECTION "C"  
HORIZONTAL DRAIN TARGETS**

**NOTES**

1. HORIZONTAL DRAIN SYSTEM AND DRILLING PAD LOCATIONS SHOWN HEREON REPRESENT A POTENTIAL LAYOUT TO MEET THE PROJECT REQUIREMENTS, INCLUDING HITTING THE DRAIN TARGETS. MULTIPLE COMBINATIONS OF HORIZONTAL DRAIN ALIGNMENTS AND DRILLING PAD LOCATION(S) EXIST THAT COULD MEET THE PROJECT REQUIREMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A HORIZONTAL DRAIN INSTALLATION PLAN DEMONSTRATING CONFORMANCE WITH THE PROJECT REQUIREMENTS. BASED ON THE CONTRACTORS MEANS AND METHODS, ACTUAL HORIZONTAL DRAIN ALIGNMENTS AND PAD LOCATION(S) COULD VARY FROM THE POTENTIAL LAYOUT SHOWN.
- A. (25) HORIZONTAL DRAINS SHALL BE DRILLED TO HIT THE (25) DRAIN TARGETS SHOWN ON ALIGNMENT "C"
- B. HORIZONTAL DRAINS SHALL BE INSTALLED AT A MINIMUM SLOPE OF 5-DEGREES (8.75% GRADE).
- C. HORIZONTAL DRAINS SHALL EXTEND A MINIMUM 50-FT BEYOND THE TARGET PLANE REFERENCED ALONG EACH DRAIN ALIGNMENT.
- D. HORIZONTAL DRAIN MANIFOLDS AND DISCHARGE PIPE SHALL BE LOCATED WITHIN THE PERMANENT RIGHT-OF-WAY BOUNDARIES SHOWN HEREON.
- E. ALL CONSTRUCTION ACTIVITY SHALL REMAIN WITHIN THE R/W AND TCE SHOWN HEREON.
- F. CONTRACTOR SHALL INCLUDE IN THE HORIZONTAL DRAIN INSTALLATION PLAN THE PROPOSED SEQUENCE TO INSTALL THE HORIZONTAL DRAINS.



**DRAINAGE PROFILE**





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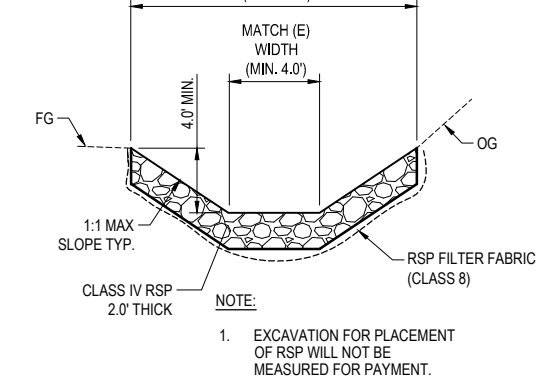
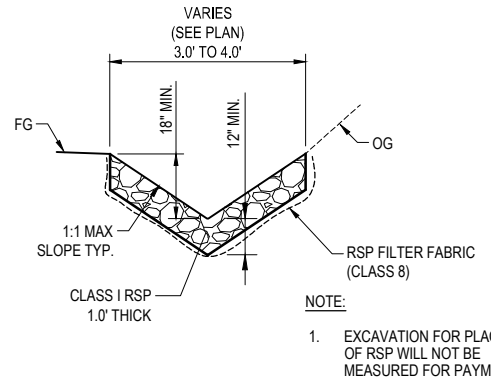
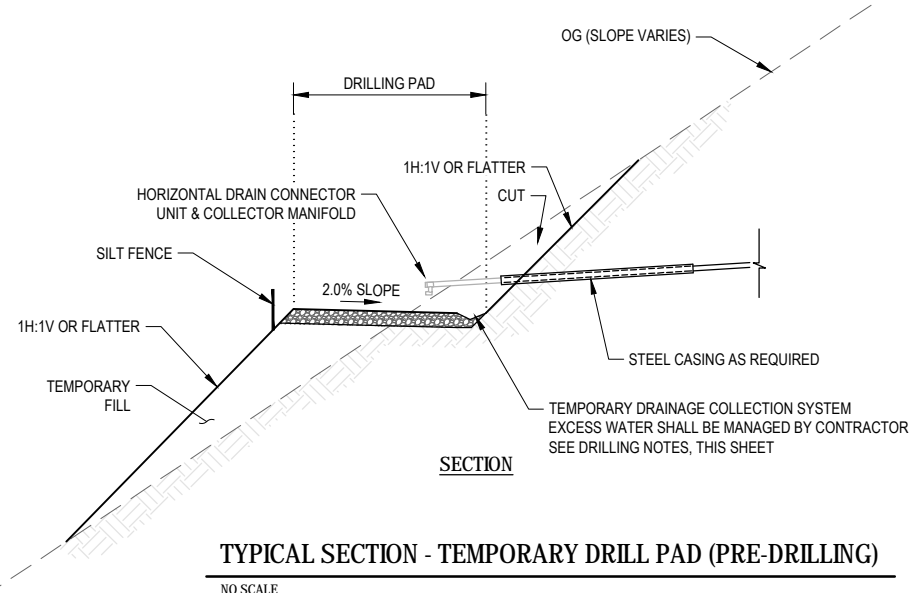


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ROAD NAME:	MATTOLE ROAD
ROAD NO.:	F30010
MILE POST:	2.11
PROJECT NO.:	ER-32L(255)
CONTRACT NO.:	217400
PLANT DATE:	2/2/22

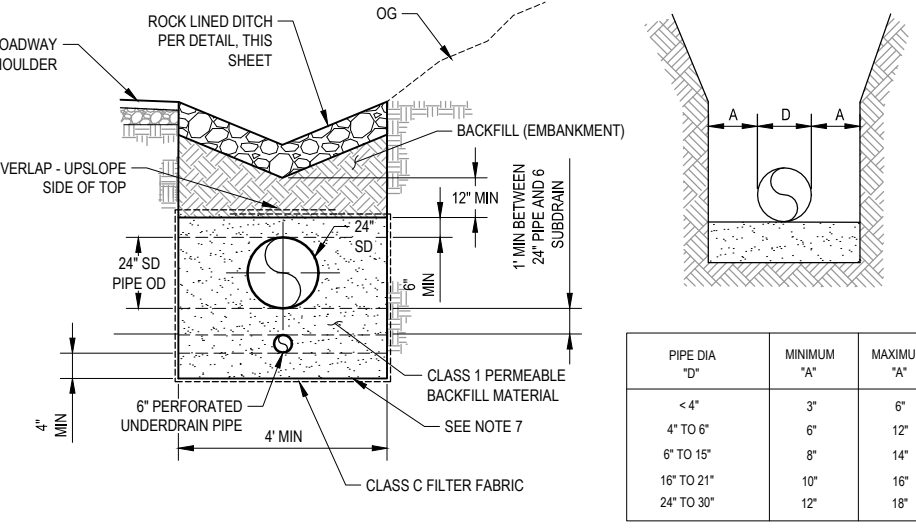
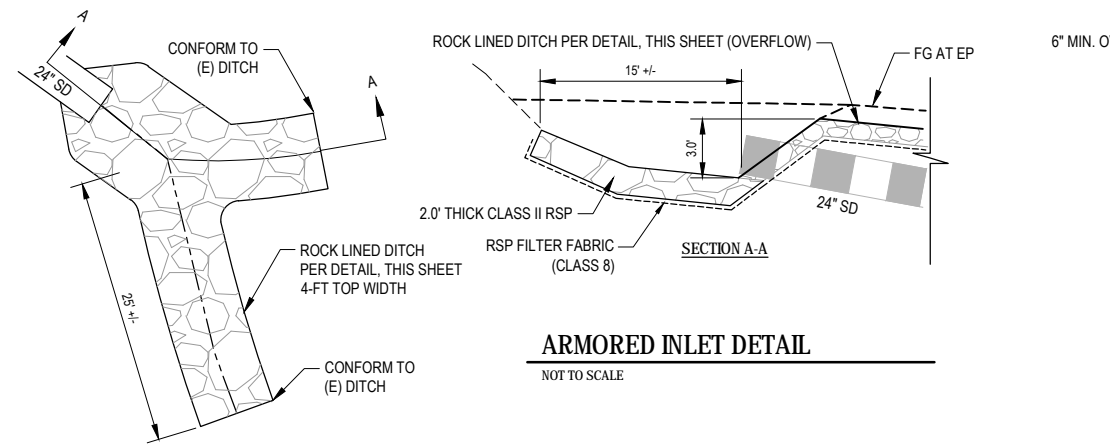
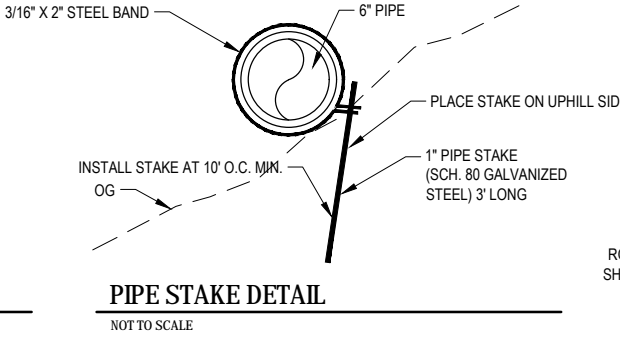
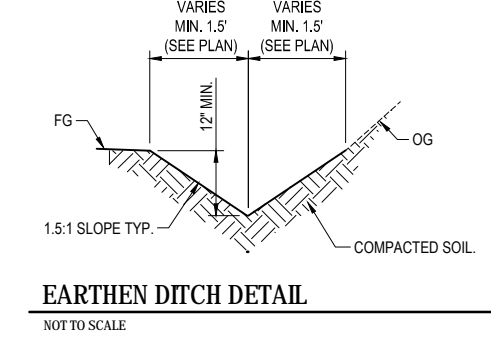
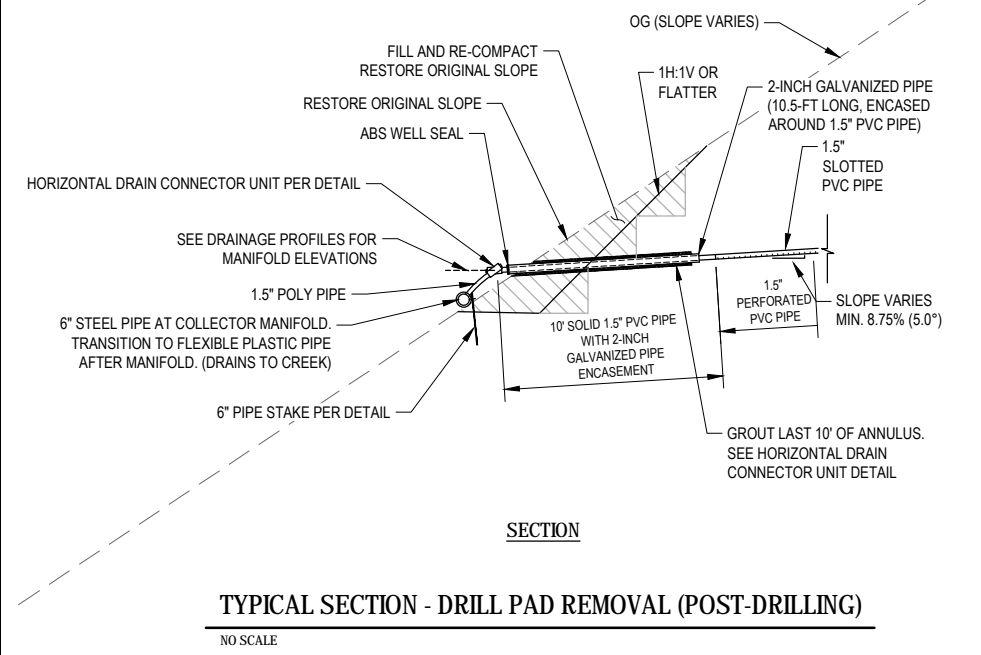
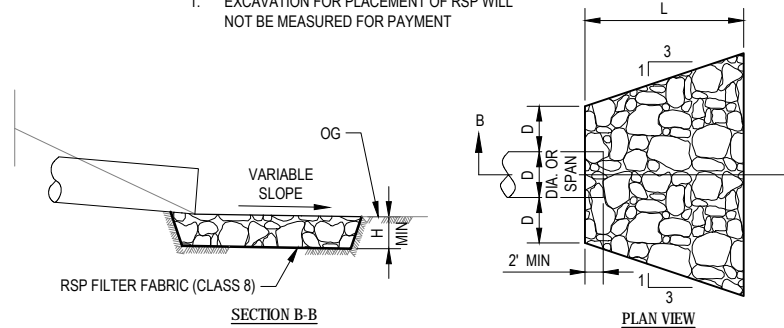
DESIGN SECTION	ENGINEERING
DESIGNED BY:	C. HAYES
DRAWN BY:	C. HAYES
REVIEWED BY:	J. SVEHLA
APPROVED BY:	J. SVEHLA

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11
CONSTRUCTION DETAILS



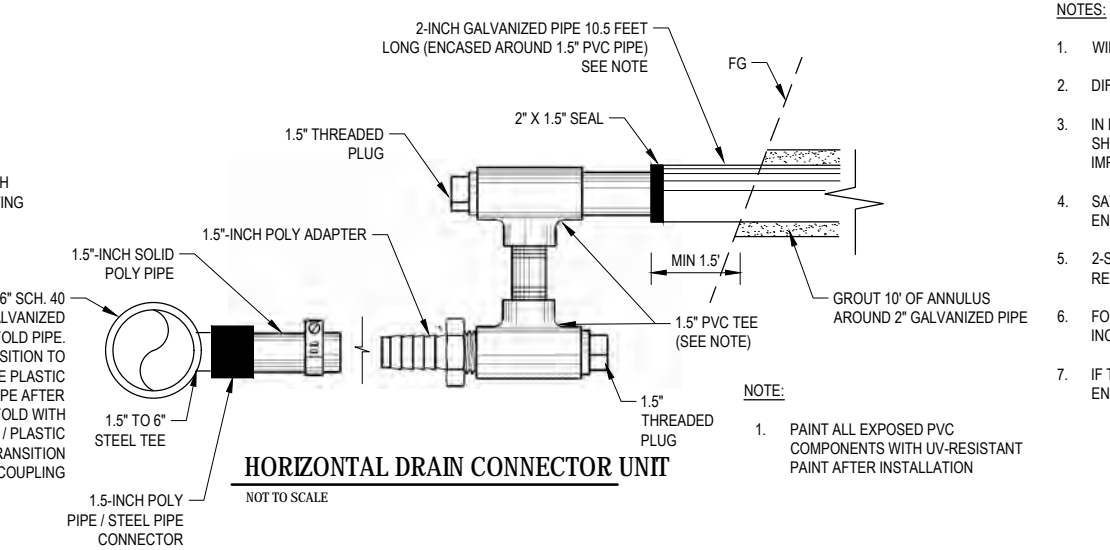
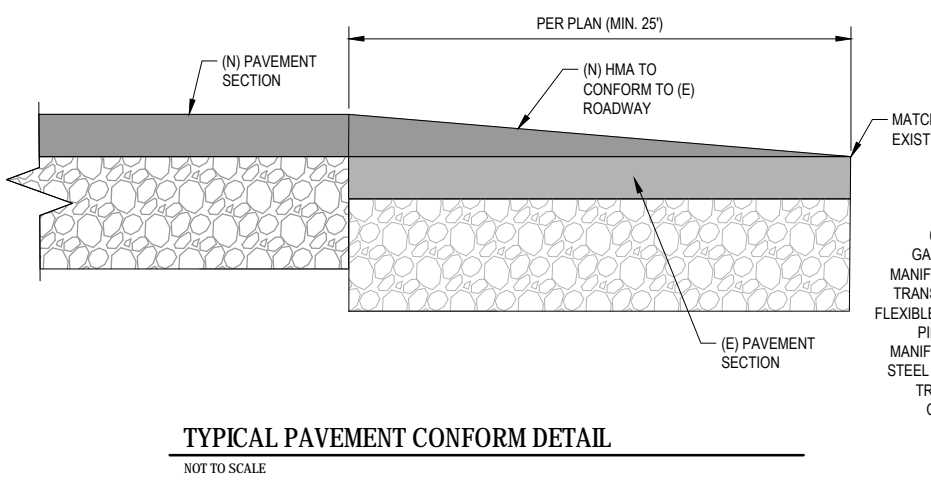
CULVERT SIZE D (inches)	MIN. RSP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)
6	2	6	1.5
12	2	10	1.5

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



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"

- DRILLING NOTES:**
- PROJECT CONTRACTOR TO PROVIDE COLLECTION / CONVEYANCE SYSTEM TO MANAGE WATER DURING DRILLING OPERATIONS WHICH COULD INCLUDE A SUMP/PUMP SYSTEM DOWN-GRADE OF THE PAD LOCATION FOR RE-CIRCULATION OF EXCESS DRILL WATER.
  - DISCHARGE OF WATER FROM DRILLING OPERATIONS TO ADJACENT CREEK IS PROHIBITED.
  - CONTRACTOR AND/OR DRILLING OPERATOR TO SIZE SUMP/PUMP SYSTEM.
  - EXCESS CUTTING, GROUT AND WATER MATERIAL TO BE OFFHAULED.
  - CONTRACTOR TO PROVIDE AN ADDITIONAL WATER TRUCK TO MANAGE WATER TO AND FROM THE DRILLING SITES.



- NOTES:**
- WIDER TRENCHES MAY REQUIRE HIGHER STRENGTH PIPE AND/OR SPECIAL BEDDING.
  - DIFFERING TRENCH WIDTHS REQUIRE PRIOR APPROVAL OF ENGINEER.
  - 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 (E) IMPROVEMENTS OF ANY KIND, EITHER ON PUBLIC OR PRIVATE PROPERTY, FULLY FROM DAMAGE.
  - SATISFACTORY NATIVE BACKFILL MATERIAL USED AS UTILITY TRENCH BACKFILL BELOW UNPAVED AREAS SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.
  - 2-SACK SLURRY BACKFILL MAY BE USED IN TRENCH WHEN MINIMUM PIPE COVER NOT POSSIBLE, WHEN APPROVED BY COUNTY'S REPRESENTATIVE.
  - FOR TRENCHING OUTSIDE OF LIMITS OF NEW IMPROVEMENTS, GROUND SHALL BE RESTORED TO PRE-PROJECT CONDITIONS, WHICH MAY INCLUDE SEEDING AND/OR MULCHING.
  - IF THE TRENCH BOTTOM IS UNSTABLE, REMOVE UNSTABLE MATERIAL TO 1 FOOT BELOW TRENCH BOTTOM, PLACE CLASS B2 SUBGRADE ENHANCEMENT GEOTEXTILE (96-1.020). PERFORATED PIPE SHALL REMAIN 4" FROM TRENCH BOTTOM.

**TYPICAL JOINT DRAINAGE TRENCH DETAIL**  
NO SCALE



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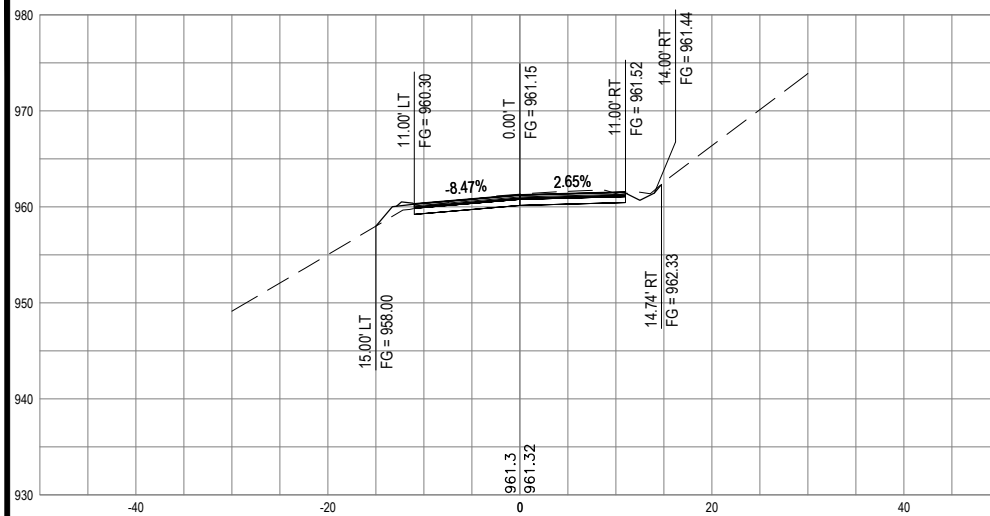
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ROAD NAME: MATTOLE ROAD	DESIGN SECTION: ENGINEERING
ROAD NO: F30010	DESIGNED BY: C. HAYES
MILE POST: 2.11	DRAWN BY: C. HAYES
PROJECT NO.: ER-32L0(255)	REVIEWED BY: J. SVEHLA
CONTRACT NO.: 217400	APPROVED BY: J. SVEHLA
PLOT DATE: 2/2/22	

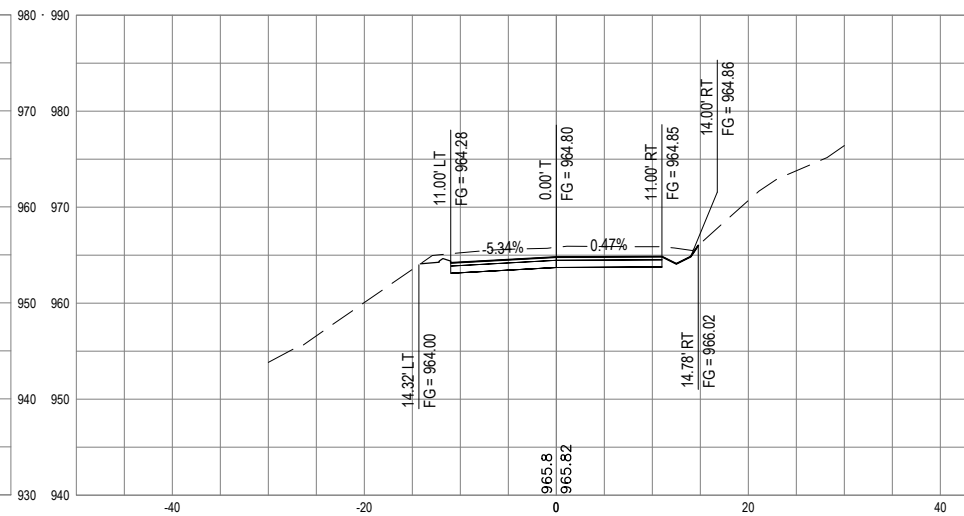
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11
ROADWAY CROSS SECTIONS

SHEET 10 OF 13



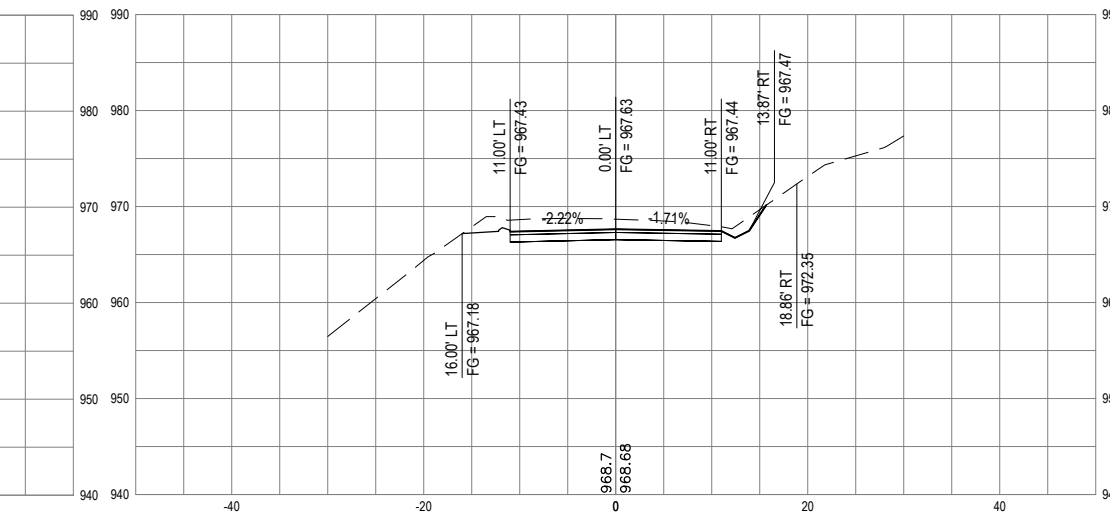
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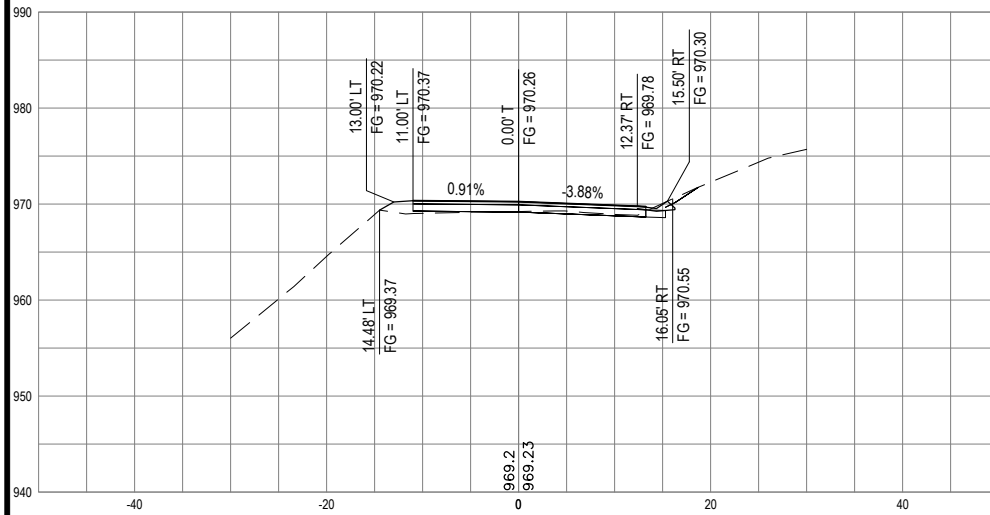
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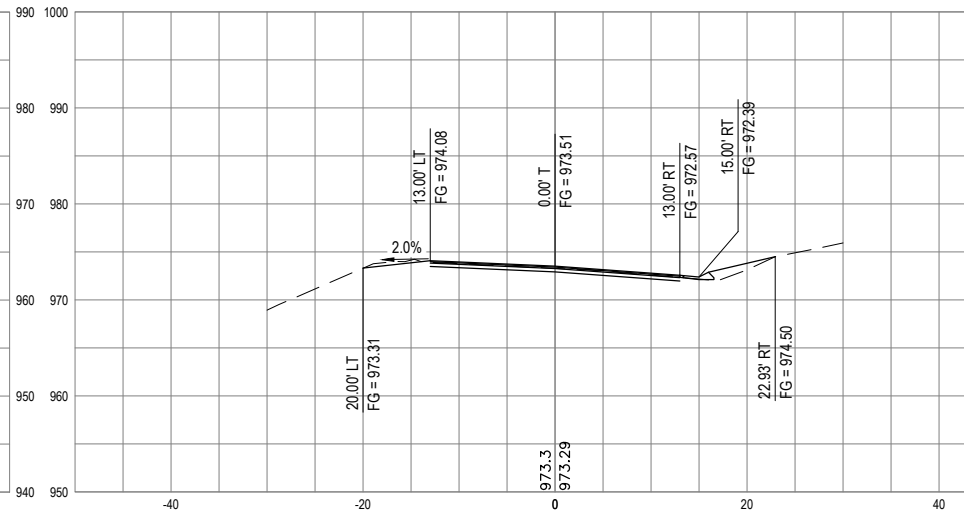
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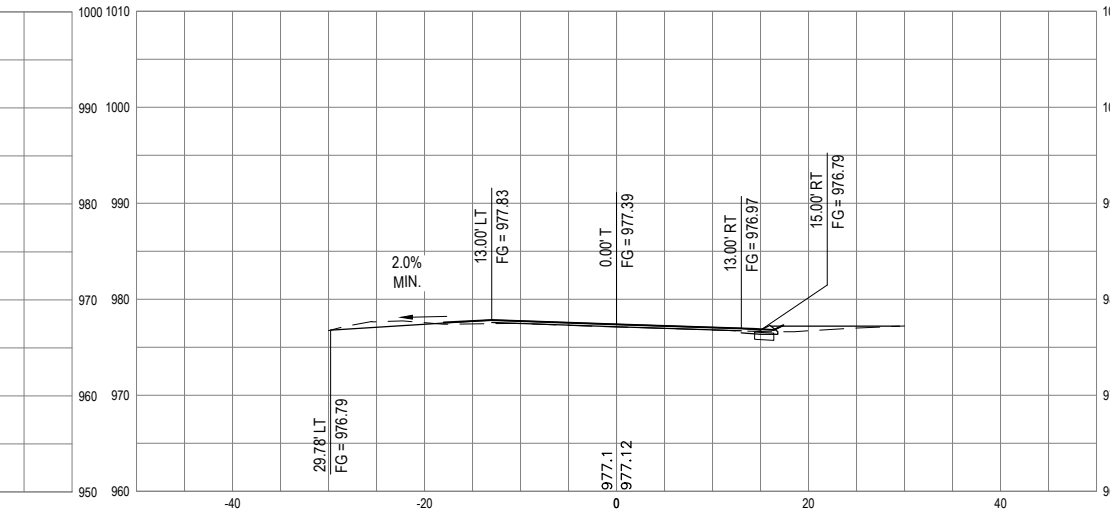
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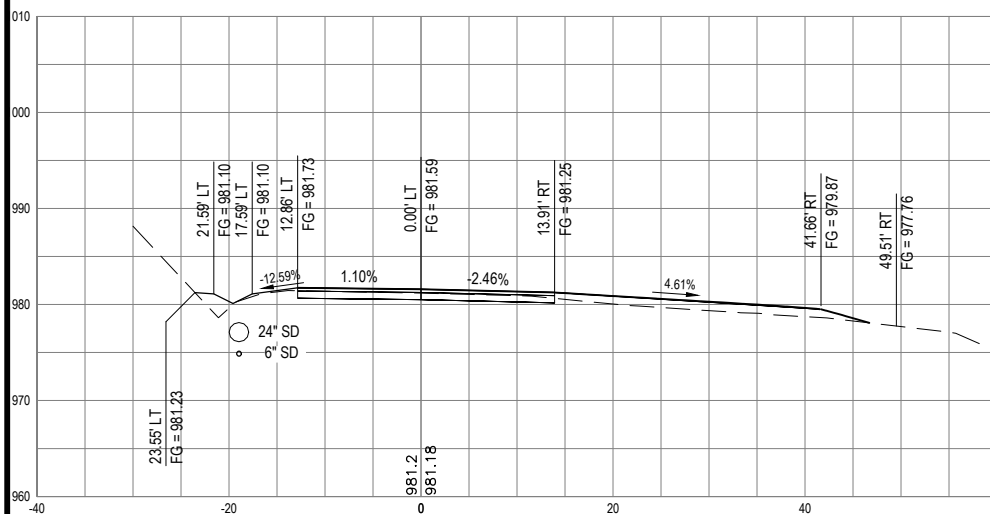
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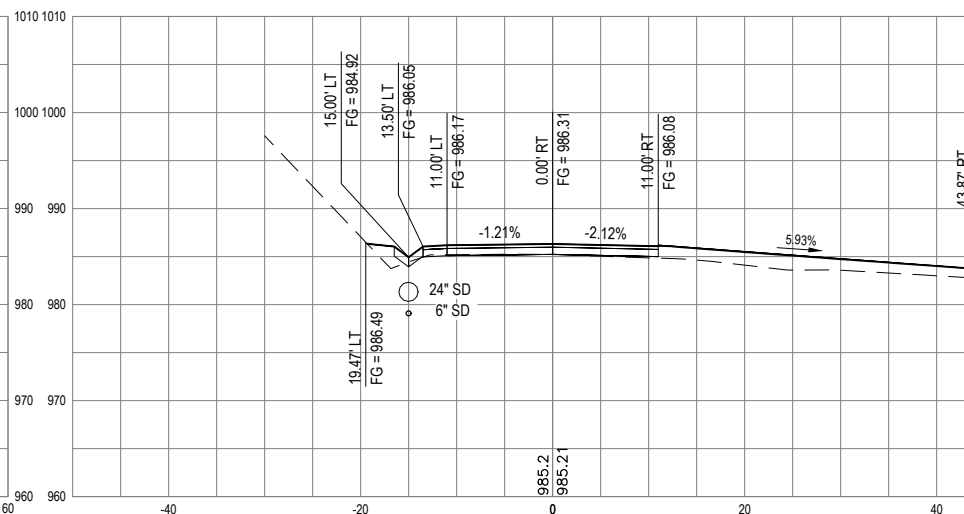
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NOT TO SCALE



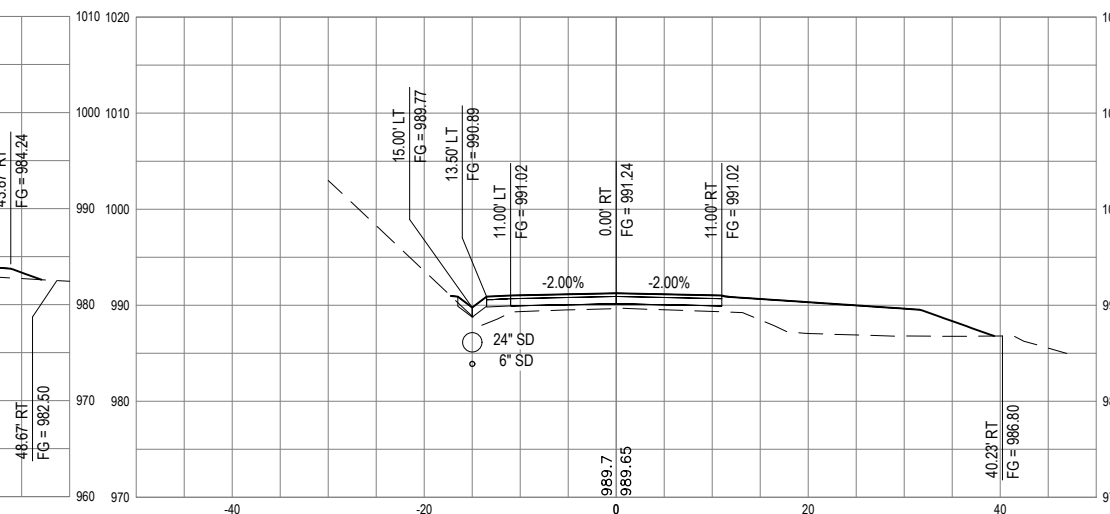
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NOT TO SCALE



SECTION - STA "R" 5+80

NOT TO SCALE



SECTION - STA "R" 6+20

NOT TO SCALE



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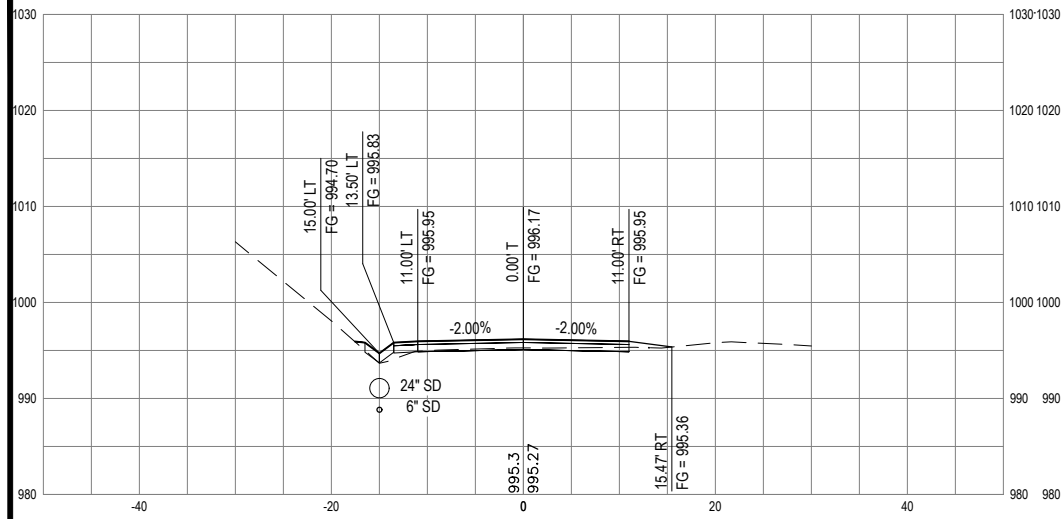
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ROAD NO: F30010	DESIGNED BY: C. HAYES
MILE POST: 2.11	DRAWN BY: C. HAYES
PROJECT NO.: ER-32LO(255)	REVIEWED BY: J. SVEHLA
CONTRACT NO.: 217400	APPROVED BY: J. SVEHLA
PLOT DATE: 2/2/22	

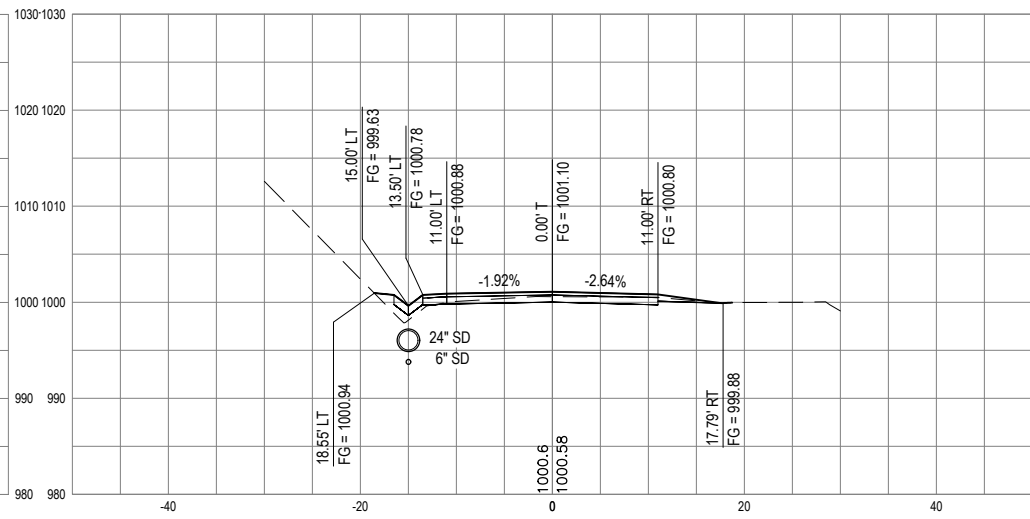
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS
STORM DAMAGE REPAIR MATTOLE ROAD PM 2.11
ROADWAY CROSS SECTIONS

SHEET 11 OF 13



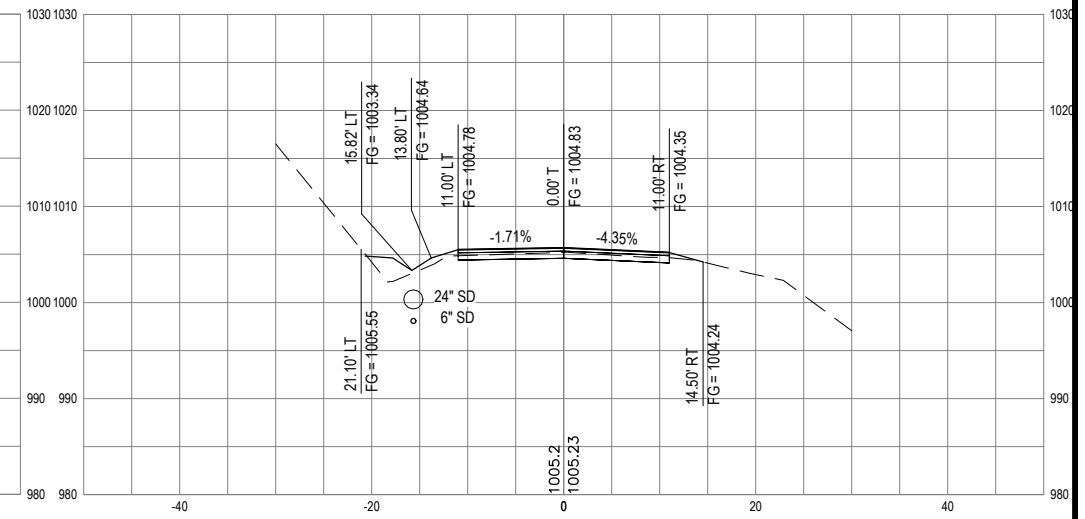
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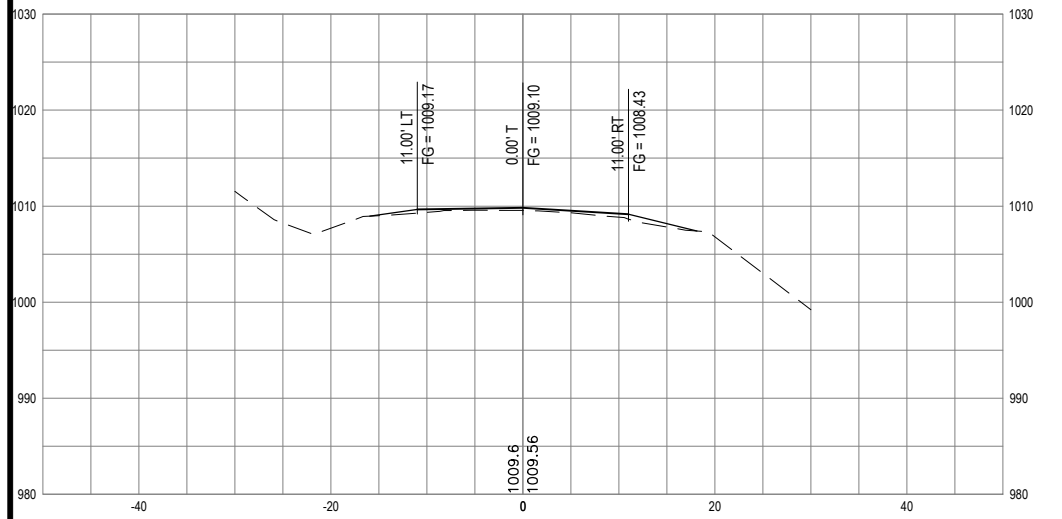
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NOT TO SCALE



SECTION - STA "R" 7+40

NOT TO SCALE



SECTION - STA "R" 7+80

NOT TO SCALE



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ROAD NAME:	MATTOLE ROAD
ROAD NO.:	F30010
MILE POST:	2.11
PROJECT NO.:	ER-32LO(255)
CONTRACT NO.:	217400
PLOT DATE:	2/2/22

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 MATTOLE ROAD PM 2.11
EROSION CONTROL PLAN

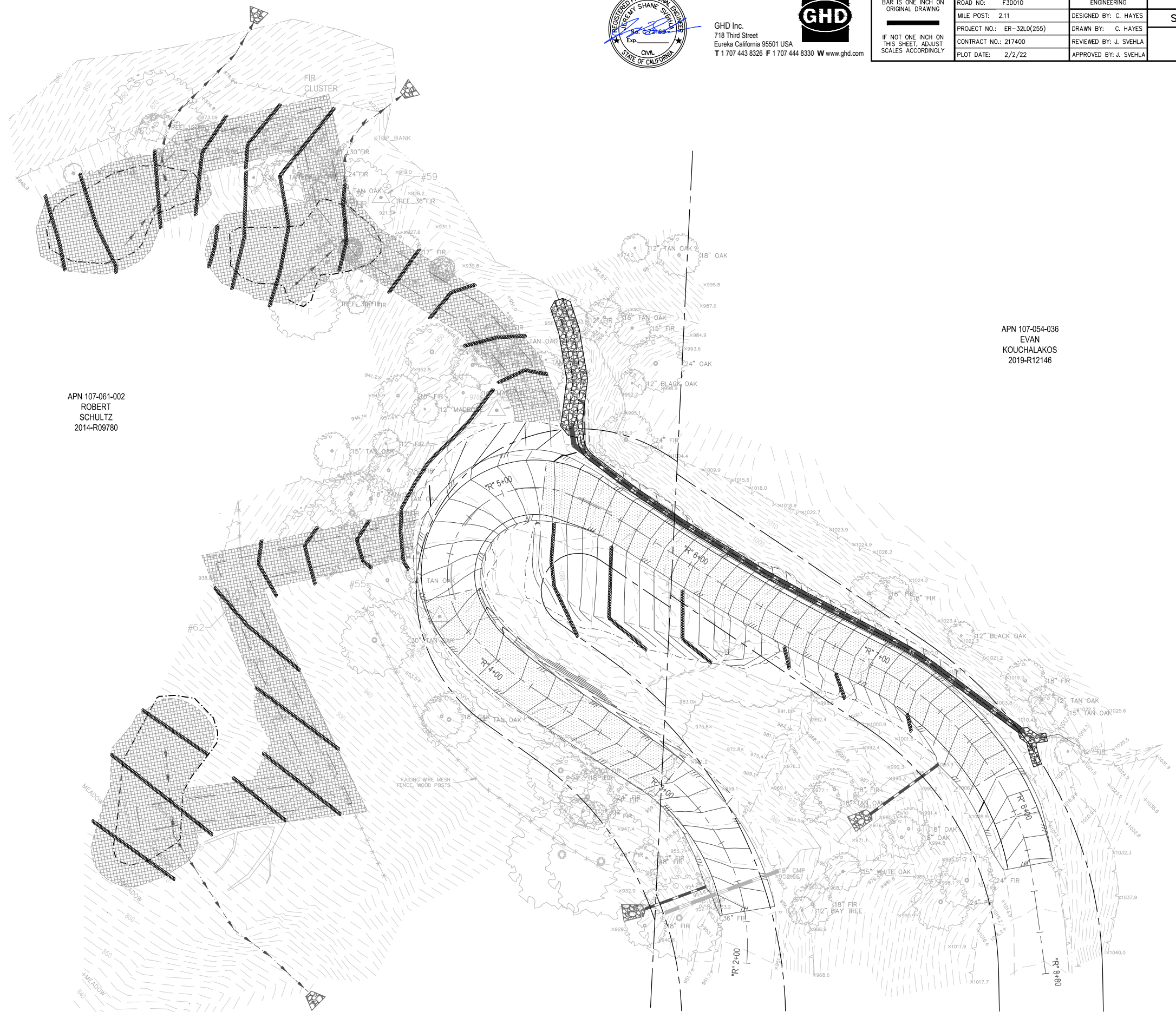
SHEET  
12  
OF  
13

LEGEND

- HAND SOWN SEED UNDER ROLLED EROSION CONTROL PRODUCT
- FIBER ROLLS

APN 107-054-036  
EVAN  
KOUCHALAKOS  
2019-R12146

APN 107-061-002  
ROBERT  
SCHULTZ  
2014-R09780



PLAN VIEW





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CONTRACT NO.:	217400
PLOT DATE:	2/2/22

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 MATTOLE ROAD PM 2.11
SIGNING AND STRIPING PLAN

SHEET  
13  
OF  
13

LEGEND

- 4" CENTERLINE, DETAIL 1
- ⊖ (E) SIGN

APN 107-054-036  
EVAN  
KOUCHALAKOS  
2019-R12146

APN 107-061-002  
ROBERT  
SCHULTZ  
2014-R09780

