

SEE SHEET 3 FOR PLAN SHEET LAYOUT  
AT TIME OF INVESTIGATION

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GEOTECHNICAL ENGINEERING UNIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4753	1	

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ROADWAY  
SUBSURFACE INVESTIGATION

COUNTY WAYNE  
PROJECT DESCRIPTION SR 1556 (WAYNE MEMORIAL DRIVE) FROM SR 1003 (NEW HOPE ROAD) TO I-42 (US 70 BYPASS)  
INVENTORY

CONTENTS

LINE	STATION	PLAN
-L-	6+79.24 TO 58+40.52	4 - 8
-Y1-	10+00 TO 32+14.68	4, 9 - 10
-Y2-	10+00 TO 11+30	5
-Y3-	12+45 TO 13+96.49	5
-Y4-	10+00 TO 11+25	5
-Y5-	13+55 TO 29+00	6, 11 - 12
-RPA-	10+85.32 TO 11+85.37	8
-RPC-	13+08.62 TO 14+89.21	7
-RPD-	12+87.32 TO 14+81.69	7

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	9+50, 10+50 - 22+50	13 - 18
-L-	24+50, 26+50 - 27+00	18 - 19
-L-	28+00 - 28+50	19
-L-	30+50, 32+50, 34+50, 36+50	20
-L-	37+50 - 40+50	21 - 22
-L-	42+50, 44+50	22
-L-	46+50, 48+50, 50+50	23
-L-	52+50, 54+50	24
-Y1-	10+00 - 14+50	25 - 27
-Y1-	15+50 - 17+00	27 - 28
-Y1-	21+00, 22+00 - 32+14.68	28 - 33
-Y2-	10+43 - 11+30	34
-Y3-	13+50	35
-Y4-	10+40.50	36
-Y5-	16+50, 18+50, 20+00, 22+00	37
-Y5-	23+50, 25+50, 26+50 - 28+50	38 - 39

APPENDICES

APPENDIX	TITLE	SHEETS
A	LABORATORY TESTING SUMMARY	40

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DATE JANUARY 2026

Prepared in the Office of:



3150 SPRING FOREST ROAD, SUITE 100  
RALEIGH, NORTH CAROLINA 27616  
NC REGISTERED ENGINEERING FIRM: E-0869  
NC REGISTERED GEOLOGIC FIRM: C-367



DocuSigned by:

Abner Riggs Jr.

1/14/2026

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SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

REFERENCE: U-4753

PROJECT: 39927

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**GEOTECHNICAL ENGINEERING UNIT**  
**SUBSURFACE INVESTIGATION**  
**SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS**

**SOIL DESCRIPTION**

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 208, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, *VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6*

**SOIL LEGEND AND AASHTO CLASSIFICATION**

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS			
	A-1	A-1-b	A-2	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7
GROUP CLASS.	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7	
SYMBOL															
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 35 MX	40 MX 35 MX	41 MN 35 MX	41 MN 35 MX	40 MX 36 MN	41 MN 36 MN	40 MX 36 MN	41 MN 36 MN					
MATERIAL PASSING #40 LL PI	- 6 MX	- NP	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	41 MN 11 MN					
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX							
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND	FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND	SILTY SOILS	CLAYEY SOILS										
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD			FAIR TO POOR			FAIR TO POOR	POOR	UNSATURABLE						

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

**CONSISTENCY OR DENSENESS**

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT <sup>2</sup> )
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

**TEXTURE OR GRAIN SIZE**

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.76	2.00	0.42	0.25	0.075	0.053
Boulder (BLDR.)						
Cobble (COB.)						
Gravel (GR.)						
Coarse Sand (CSE, SD.)						
Fine Sand (F SD.)						
Silt (SL.)						
Clay (CL.)						
GRAIN SIZE	305	75	2.0	0.25	0.05	0.005
MM						
IN.	12	3				

**SOIL MOISTURE - CORRELATION OF TERMS**

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL - LIQUID LIMIT	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
PL - PLASTIC LIMIT	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
OM - OPTIMUM MOISTURE SHRINKAGE LIMIT	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL - SHRINKAGE LIMIT	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

**PLASTICITY**

	PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	0-5	VERY LOW
SLIGHTLY PLASTIC	6-15	SLIGHT
MODERATELY PLASTIC	16-25	MEDIUM
HIGHLY PLASTIC	26 OR MORE	HIGH

**COLOR**

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-BROWN). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

**GRADATION**

**WELL GRADED** - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.  
**UNIFORMLY GRADED** - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.  
**GAP-GRADED** - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.

**ANGULARITY OF GRAINS**

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: **ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.**

**MINERALOGICAL COMPOSITION**

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

**COMPRESSIBILITY**

SLIGHTLY COMPRESSIBLE LL < 31  
 MODERATELY COMPRESSIBLE LL = 31 - 50  
 HIGHLY COMPRESSIBLE LL > 50

**PERCENTAGE OF MATERIAL**

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE 1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE 10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME 20 - 35%
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY 35% AND ABOVE

**GROUND WATER**

WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING  
 STATIC WATER LEVEL AFTER 24 HOURS  
 PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA  
 SPRING OR SEEP

**MISCELLANEOUS SYMBOLS**

	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION		DIP & DIP DIRECTION OF ROCK STRUCTURES
	SOIL SYMBOL		TEST BORING
	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT		AUGER BORING
	INFERRED SOIL BOUNDARY		CORE BORING
	INFERRED ROCK LINE		MONITORING WELL
	ALLUVIAL SOIL BOUNDARY		PIEZOMETER INSTALLATION
	SLOPE INDICATOR INSTALLATION		CONE PENETROMETER TEST
	SOUNDING ROD		TEST BORING WITH CORE
	SPT N-VALUE		

**RECOMMENDATION SYMBOLS**

	UNDERCUT		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL
	SHALLOW UNDERCUT		UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK		

**ABBREVIATIONS**

AR - AUGER REFUSAL	MED. - MEDIUM	VST - VANE SHEAR TEST
BT - BORING TERMINATED	MICA - MICACEOUS	WEA. - WEATHERED
CL - CLAY	MOD. - MODERATELY	U - UNIT WEIGHT
CPT - CONE PENETRATION TEST	NP - NON PLASTIC	U <sub>G</sub> - DRY UNIT WEIGHT
CSE - COARSE	ORG. - ORGANIC	
DPT - DILATOMETER TEST	PMT - PRESSUREMETER TEST	<b>SAMPLE ABBREVIATIONS</b>
DPT - DYNAMIC PENETRATION TEST	SAP. - SAPROLITIC	S - BULK
e - VOID RATIO	SD. - SAND, SANDY	SS - SPLIT SPOON
F - FINE	SL. - SILT, SILTY	ST - SHELBY TUBE
FOSS. - FOSSILIFEROUS	SLI. - SLIGHTLY	RS - ROCK
FRAC. - FRACTURED, FRACTURES	TCR - TRICONE REFUSAL	RT - RECOMPACTED TRIAXIAL
FRAGS. - FRAGMENTS	w - MOISTURE CONTENT	CBR - CALIFORNIA BEARING RATIO
HI. - HIGHLY	V - VERY	

**EQUIPMENT USED ON SUBJECT PROJECT**

DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:
<input type="checkbox"/> CME-45C	<input type="checkbox"/> CLAY BITS	<input type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
<input type="checkbox"/> CME-55	<input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER	
<input type="checkbox"/> CME-550	<input type="checkbox"/> 8" HOLLOW AUGERS	CORE SIZE:
<input type="checkbox"/> VANE SHEAR TEST	<input type="checkbox"/> HARD FACED FINGER BITS	<input type="checkbox"/> -B <input type="checkbox"/> -H
<input type="checkbox"/> PORTABLE HOIST	<input type="checkbox"/> TUNG-CARBIDE INSERTS	<input type="checkbox"/> -N
<input type="checkbox"/>	<input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER	HAND TOOLS:
<input type="checkbox"/>	<input type="checkbox"/> TRICONE *STEEL TEETH	<input type="checkbox"/> POST HOLE DIGGER
<input type="checkbox"/>	<input type="checkbox"/> TRICONE *TUNG-CARB.	<input checked="" type="checkbox"/> HAND AUGER
<input type="checkbox"/>	<input type="checkbox"/> CORE BIT	<input type="checkbox"/> SOUNDING ROD
<input type="checkbox"/>		<input type="checkbox"/> VANE SHEAR TEST

**ROCK DESCRIPTION**

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

	WEATHERED ROCK (WR)		NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
	CRYSTALLINE ROCK (CR)		FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
	NON-CRYSTALLINE ROCK (NCR)		FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
	COASTAL PLAIN SEDIMENTARY ROCK (CP)		COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

**WEATHERING**

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (IV SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i>
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. <i>IF TESTED, WOULD YIELD SPT N VALUES &gt; 100 BPF</i>
VERY SEVERE (IV SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <i>IF TESTED, WOULD YIELD SPT N VALUES &lt; 100 BPF</i>
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

**ROCK HARDNESS**

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROUDED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROUDED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.

**FRACTURE SPACING**

TERM	SPACING	TERM	THICKNESS
VERY WIDE	MORE THAN 10 FEET	VERY THICKLY BEDDED	4 FEET
WIDE	3 TO 10 FEET	THICKLY BEDDED	1.5 - 4 FEET
MODERATELY CLOSE	1 TO 3 FEET	THINLY BEDDED	0.16 - 1.5 FEET
CLOSE	0.16 TO 1 FOOT	VERY THINLY BEDDED	0.03 - 0.16 FEET
VERY CLOSE	LESS THAN 0.16 FEET	THICKLY LAMINATED	0.008 - 0.03 FEET
		THINLY LAMINATED	< 0.008 FEET

**INDURATION**

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

**TERMS AND DEFINITIONS**

<b>ALLUVIUM (ALLUV.)</b> - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
<b>AQUIFER</b> - A WATER BEARING FORMATION OR STRATA.
<b>ARENACEOUS</b> - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
<b>ARGILLACEOUS</b> - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
<b>ARTESIAN</b> - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
<b>CALCAREOUS (CALC.)</b> - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
<b>COLLUVIUM</b> - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
<b>CORE RECOVERY (REC.)</b> - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
<b>DIKE</b> - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
<b>DIP</b> - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
<b>DIP DIRECTION (DIP AZIMUTH)</b> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
<b>FAULT</b> - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
<b>FISSILE</b> - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
<b>FLOAT</b> - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOADED FROM PARENT MATERIAL.
<b>FLOOD PLAIN (FP)</b> - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
<b>FORMATION (FM)</b> - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
<b>JOINT</b> - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
<b>LEDGE</b> - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
<b>LENS</b> - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
<b>MOTTLED (MOT.)</b> - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
<b>PERCHED WATER</b> - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
<b>RESIDUAL (RES.) SOIL</b> - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
<b>ROCK QUALITY DESIGNATION (ROD)</b> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
<b>SAPROLITE (SAP.)</b> - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
<b>SILL</b> - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
<b>SLICKENSIDE</b> - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
<b>STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT)</b> - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
<b>STRATA CORE RECOVERY (SREC.)</b> - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
<b>STRATA ROCK QUALITY DESIGNATION (SROD)</b> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
<b>TOPSOIL (TS.)</b> - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

**BENCH MARK: BORINGS PROJECTED USING PROVIDED TIN FILE**

u4753\_rdy\_tin.tin; DATED 04/18/2019  
 ELEVATION: FEET

**NOTES:**

FIAD - FILLED IMMEDIATELY AFTER DRILLING  
 HAR - HAND AUGER REFUSAL

**TIP PROJECT: U-4753**

**CONTRACT: C205130**

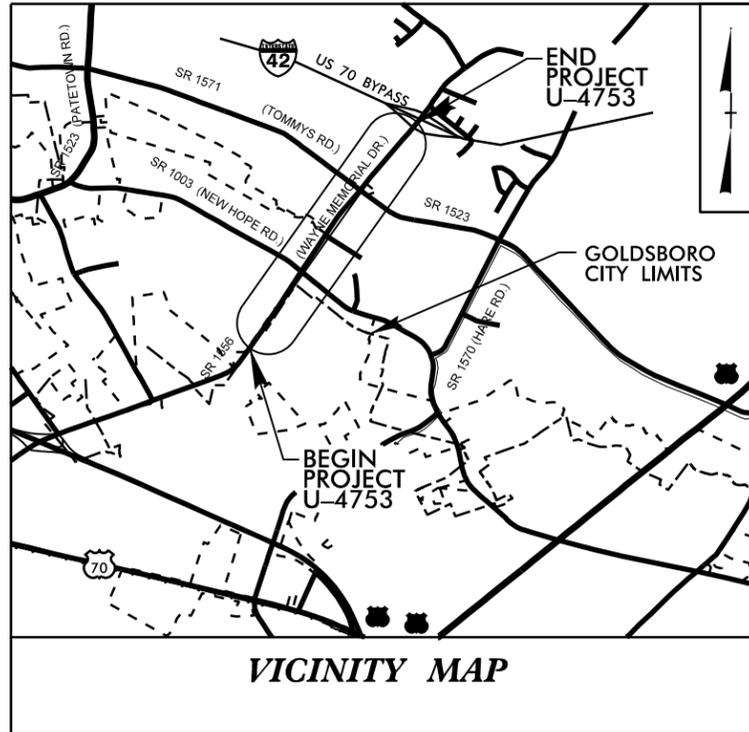
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WAYNE COUNTY**

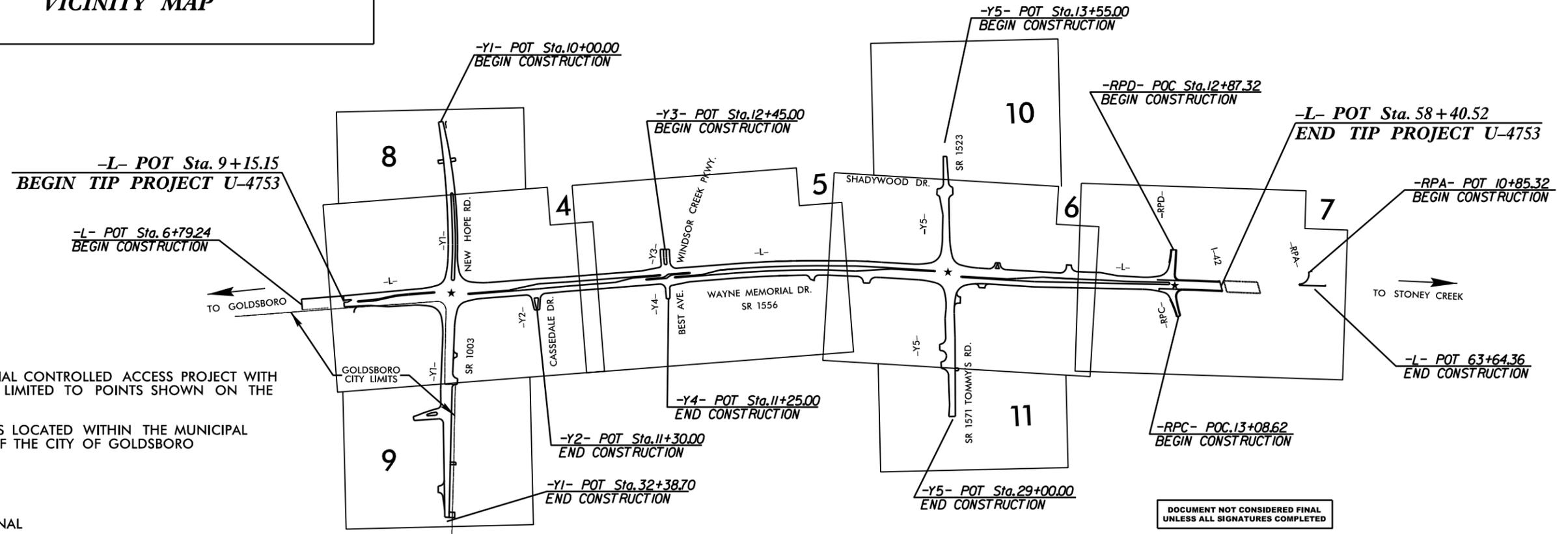
**LOCATION: SR 1556 (WAYNE MEMORIAL DRIVE) FROM SR 1003 (NEW HOPE ROAD) TO I-42 (FORMERLY US-70) IN GOLDSBORO WIDEN TO FOUR LANES.**

**TYPE OF WORK: DRAINAGE, GRADING, PAVING, SIGNALS & SIGNING**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4753	3	40
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39927.1.1	NA	PE	
39927.2.1		ROW	
39927.2.2		UTIL	
39927.3.1		CONST	



VICINITY MAP



THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS.  
THIS PROJECT IS LOCATED WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GOLDSBORO

\* DENOTES SIGNAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

<p><b>GRAPHIC SCALES</b></p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p><b>DESIGN DATA</b></p> <p>ADT 2026 = 20,700 ADT 2046 = 26,600 K = 8 % D = 60 % T = 3 % * V = 50 MPH * TTST =1 DUAL =2 FUNC CLASS = MINOR ARTERIAL</p>	<p><b>PROJECT LENGTH</b></p> <p>LENGTH OF ROADWAY TIP PROJECT U-4753 = 0.933 MI. TOTAL LENGTH OF TIP PROJECT U-4753 = 0.933 MI.</p>	<p>Prepared for the North Carolina Department of Transportation in the office of:</p> <p><b>PARSONS</b> SUNGATE DESIGN GROUP, P.A.</p> <p>2024 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: MAY 21 2019</p> <p>LETTING DATE: JANUARY 20, 2026</p> <p>AYMAN L. ALQUDWAH, PE PROJECT ENGINEER</p> <p>DAVID B. GARRETT PROJECT DESIGN ENGINEER</p> <p>RACHEL EVANS, PE NCDOT CONTACT</p>	<p>HYDRAULICS ENGINEER</p> <p><b>JOSHUA G. DALTON</b> P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p><b>AYMAN L. ALQUDWAH</b> P.E.</p>	
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PROJECT REFERENCE NO.	SHEET NO.
U-4753	3A

Date: January 13, 2026  
 WBS Number: 39927.1.1  
 TIP Number: U-4753  
 County: Wayne  
 Description: SR 1556 (Wayne Memorial Drive) from SR 1003 (New Hope Road) to I-42 (US 70 Bypass)

**Subject: Roadway Geotechnical Report - Inventory**

**Project Description**

The project is in Goldsboro, North Carolina along existing Wayne Memorial Drive (-L-) corridor between New Hope Road (-Y1-) and Ramps -RPD- and -RPC- of Interstate 42 in Wayne County. The total length of the project is approximately 0.933 miles. The project also crosses the alignments of Tuckahoe Drive (-Y1-), Planters Walk (-Y2-), Welcome Drive (-Y3-), Quail Ridge Road (-Y4-), Scarborough Road (-Y5-), Scott Street (-Y6-), Quail Ridge Loop Road (-Y7-), Barnes Street (-Y8-), Paramore Drive (-Y9-), York Road (-Y10-), Wellons Drive (-Y11-) and Red Banks Road (-Y12-). The project consists of widening existing lanes to the outside shoulders and inside medians and adding turn lanes. The project corridor is in a mostly rural setting with cultivated fields, residences and a few retail businesses including a Wal-Mart.

The geotechnical subsurface investigation was performed in May 2019. The site was investigated with a total of forty-two (42) hand auger borings advanced to depths of 2 to 12 feet beneath the ground surface. Hand auger borings L\_3450, L\_3850, Y1\_2300, and Y1\_2900 were terminated at depths of 5.5 to 7.4 feet, on hard clays or gravel. Representative soil samples were collected in the field for visual classification and selected samples were submitted for laboratory analysis by Terracon’s soil testing laboratory. Laboratory testing was performed in accordance with the AASHTO Soil Classification System.

The following alignment was investigated by soil testing and visual reconnaissance:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	6+79 to 58+41
-Y1-	10+00 to 32+15
-Y2-	10+00 to 11+30
-Y3-	12+45 to 13+96
-Y4-	10+00 to 11+25
-Y5-	13+55 to 29+00

**Physiography and Geology**

The site is located in Wayne County, within the Coastal Plain Physiographic and Geologic Province. The Coastal Plain Province is characterized by subdued topographic features. The natural ground elevations along the investigated corridor range from approximately 121 feet to the south to 138 feet to the north with roadway embankments as high as elevation 149 feet near US 70 Bypass. In general, the topography at this site is generally flat with some gentle slopes.

The Inner Coastal Plain Physiographic Province consists of a wedge of unconsolidated sands, silt, marl, and other clays interbedded with occasional limestone strata, which rests atop crystalline basement rocks.

Based on previous mapping (N.C. Geologic Map 1985) and our knowledge of the local geology, the site falls within the Tertiary Age Yorktown Formation. However, based on our site visit and subsurface conditions encountered, the near surface soils appear to be recent Undivided Coastal Plain deposits of sands, silts, and clays, typical of Undivided Coastal Plain soils. This type of deposition has resulted in a relatively consistent subsurface profile along the project alignment. The Undivided Coastal Plain deposits underlie the clays, silts and sands that make up the roadway embankment and artificial fill materials. These near surface soils overlie the Yorktown Formation. The Yorktown Formation soils are described as fossiliferous clay with varying amounts of fine-grained sand and bluish-gray shell material commonly concentrated in lenses mainly in the area north of the Neuse River.

**Soil Properties**

Soils encountered during this investigation are separated into three categories based on their origin; roadway embankment fill, artificial fill, and Undivided Coastal Plain deposited soils.

Roadway embankment soils were encountered at the following approximate locations:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	19+55 to 21+75
-L-	49+75 to 57+00
-Y1-	14+25 to 18+55

The roadway embankment soils encountered appear to be derived from the on-site soils along the -L- alignment. Roadway embankment fill was encountered up to a maximum depth of about 16 feet at the south approach to the US 70 Bypass. The roadway embankment soils predominately consist of loose to dense, moist, silty fine to coarse sand, trace clay, gravel and asphalt debris (A-2-4) and slightly plastic clayey fine to coarse sand (A-2-6). The plasticity indices of the sandy soils tested range from 3 to 4 percent with 17 to 25 percent passing the #200 sieve.

Artificial fill soils were encountered at the following approximate locations:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	25+50 to 27+00
-L-	27+50 to 31+50

Artificial fill soils were encountered along several berms constructed along the left shoulder of the roadway to a depth of about 3.5 feet beneath the ground surface. The artificial fill soils consist of loose, dry, silty fine sand (A-2-4). These soils appeared to be non-plastic and no laboratory testing was performed on these soils.

<b>PROJECT REFERENCE NO.</b>	<b>SHEET NO.</b>
U-4753	3B

Undivided Coastal Plain deposits are present at the surface along the shoulders and beneath the roadway embankment and artificial fill soils. The Undivided Coastal Plain soils can be generalized as alternating layers of sand, silt and clay. The near surface Undivided Coastal Plain sands generally consist of loose to medium dense, dry to wet, silty and clayey fine to coarse sands (A-2-4 and A-2-6) with trace gravel and organics. The tested clayey sands were slightly plastic and exhibited plasticity indices of 12 to 15 percent with 32 to 35 percent passing the #200 sieve. The cohesive soils consist of medium stiff to hard, moist to wet, non-plastic to slightly plastic fine sandy silt (A-4), slightly to highly plastic fine to coarse sandy clay (A-6) and moderately to highly plastic silty clay (A-7-6) with trace gravel. These cohesive soils were encountered at or near the existing ground surface on most of the project. The plasticity indices of the clayey soils range from 6 to 29 percent with 36 to 68 percent passing the #200 sieve and natural moisture contents of 16 to 25 percent based on laboratory testing.

**Groundwater**

Generally, groundwater and surface water runoff along the project flows south and east to the Neuse River which empties into Pamlico Sound. Groundwater was encountered during drilling and sampling along the alignment investigated at depths as shallow as 2 feet to greater than 10 feet beneath the ground surface. At the time of our investigation no water was observed standing in the shoulder ditches. Groundwater where encountered, was typically between 4 and 6 feet beneath the ground surface at elevations ranging from as high as 125.6 feet at the north end of the corridor to as low as about 118.1 feet along the south end of the corridor.

The depth of groundwater, beneath the ground surface, will fluctuate with seasonal precipitation and may occur at higher levels at other times of the year above less permeable clayey soils.

**Areas of Special Geotechnical Interest**

1) Plastic Soils - Moderately to highly plastic soils with plastic indices (PI) of 16 or greater were encountered at the following locations:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	6+79 to 23+00
-L-	26+00 to 27+50
-L-	28+50 to 29+00
-L-	37+75 to 53+00
-Y1-	10+00 to 32+15
-Y2-	10+00 to 11+30
-Y3-	12+45 to 13+96
-Y4-	10+00 to 11+25
-Y5-	13+55 to 24+50

A discussion of these plastic soils is located above in the section titled "Soil Properties".

2) Groundwater- The following intervals were found to exhibit a high-water table, seasonal high groundwater or potential for groundwater related construction problems:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	16+00 to 47+00
-Y1-	10+00 to 32+15
-Y2-	10+00 to 11+30
-Y4-	10+00 to 11+25
-Y5-	13+55 to 29+00

3) Environmental- A petroleum like odor was detected in the sandy clayey soils in boring L\_4450 between the depths of 3 to 8 feet, located 40 feet right of the -L- centerline at the following interval:

<u>Alignment</u>	<u>Stations (±)</u>
-L-	44+50

**BULK SAMPLES**

No bulk samples were obtained.

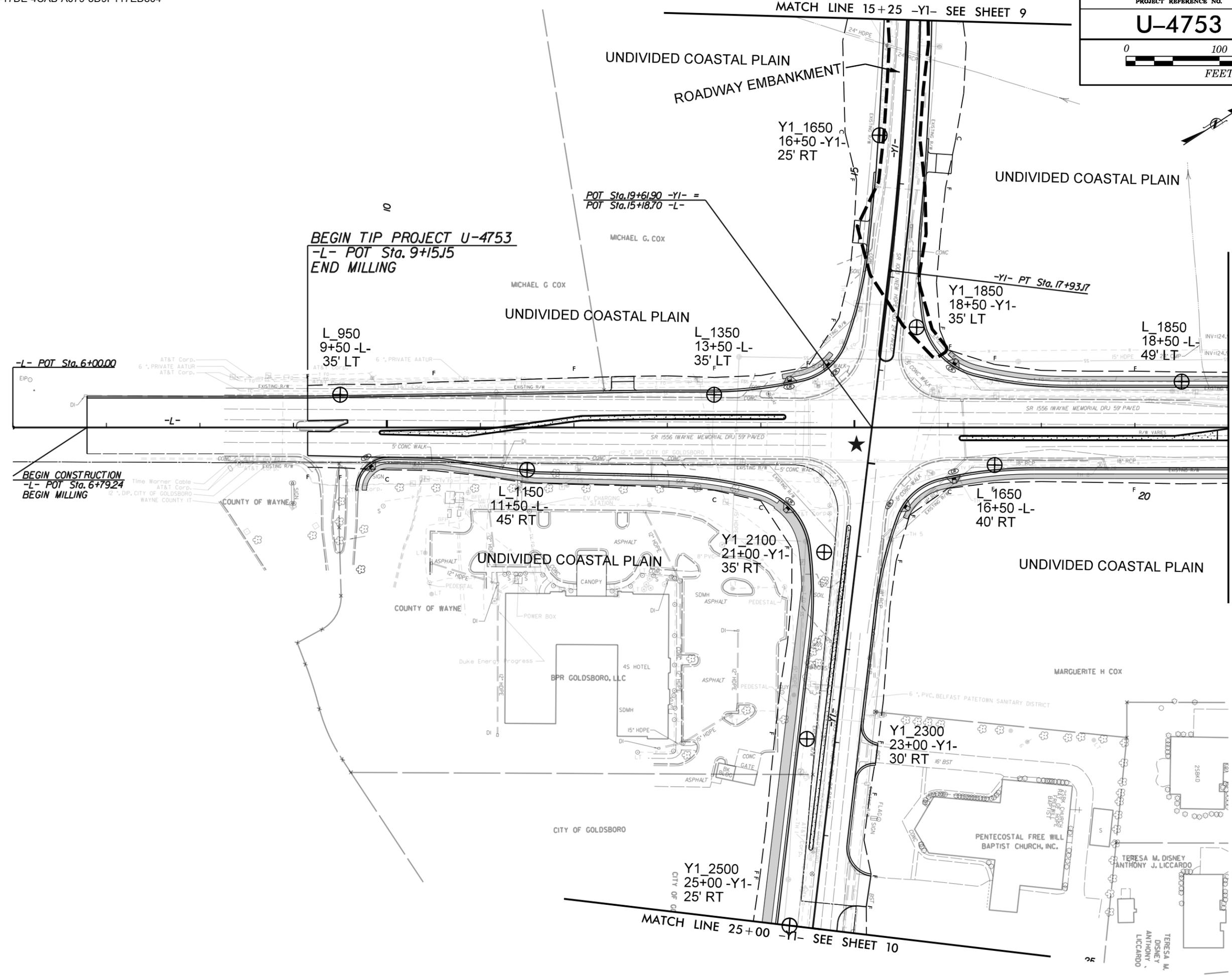
Sincerely,  
Terracon Consultants, Inc.



DocuSigned by:  
*Abner Riggs Jr.* 1/14/2026  
C2F6ACA84D274B1...  
Abner F. Riggs, Jr., PE  
Senior Geotechnical Engineer

Signed by:  
*Matthew Hartman* 1/14/2026  
C292402FCACB445...  
Matthew L. Hartman, PG  
Project Geologist

PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>4</b>
<p>0 100 200 FEET</p>	



**BEGIN TIP PROJECT U-4753**  
 -L- POT Sta. 9+15J5  
 END MILLING

-L- POT Sta. 6+00.00

**BEGIN CONSTRUCTION**  
 -L- POT Sta. 6+79.24  
 BEGIN MILLING

POT Sta. 19+61.90 -Y1- =  
 POT Sta. 15+18.70 -L-

L\_950  
 9+50 -L-  
 35' LT

L\_1350  
 13+50 -L-  
 35' LT

-Y1- PT Sta. 17+93J7  
 Y1\_1850  
 18+50 -Y1-  
 35' LT

L\_1850  
 18+50 -L-  
 49' LT

L\_1150  
 11+50 -L-  
 45' RT

Y1\_2100  
 21+00 -Y1-  
 35' RT

L\_1650  
 16+50 -L-  
 40' RT

Y1\_2300  
 23+00 -Y1-  
 30' RT

Y1\_2500  
 25+00 -Y1-  
 25' RT

MATCH LINE 25+00 -Y1- SEE SHEET 10

MATCH LINE 19+00 -L- SEE SHEET 5



MICHAEL G. COX

UNDIVIDED COASTAL PLAIN

UNDIVIDED COASTAL PLAIN

UNDIVIDED COASTAL PLAIN

UNDIVIDED COASTAL PLAIN

CITY OF GOLDSBORO

COUNTY OF WAYNE

MARGUERITE H COX

PENTECOSTAL FREE WILL  
 BAPTIST CHURCH, INC.

TERESA M. DISNEY  
 ANTHONY J. LICCARDIO

TERESA M.  
 DISNEY  
 ANTHONY  
 J. LICCARDIO

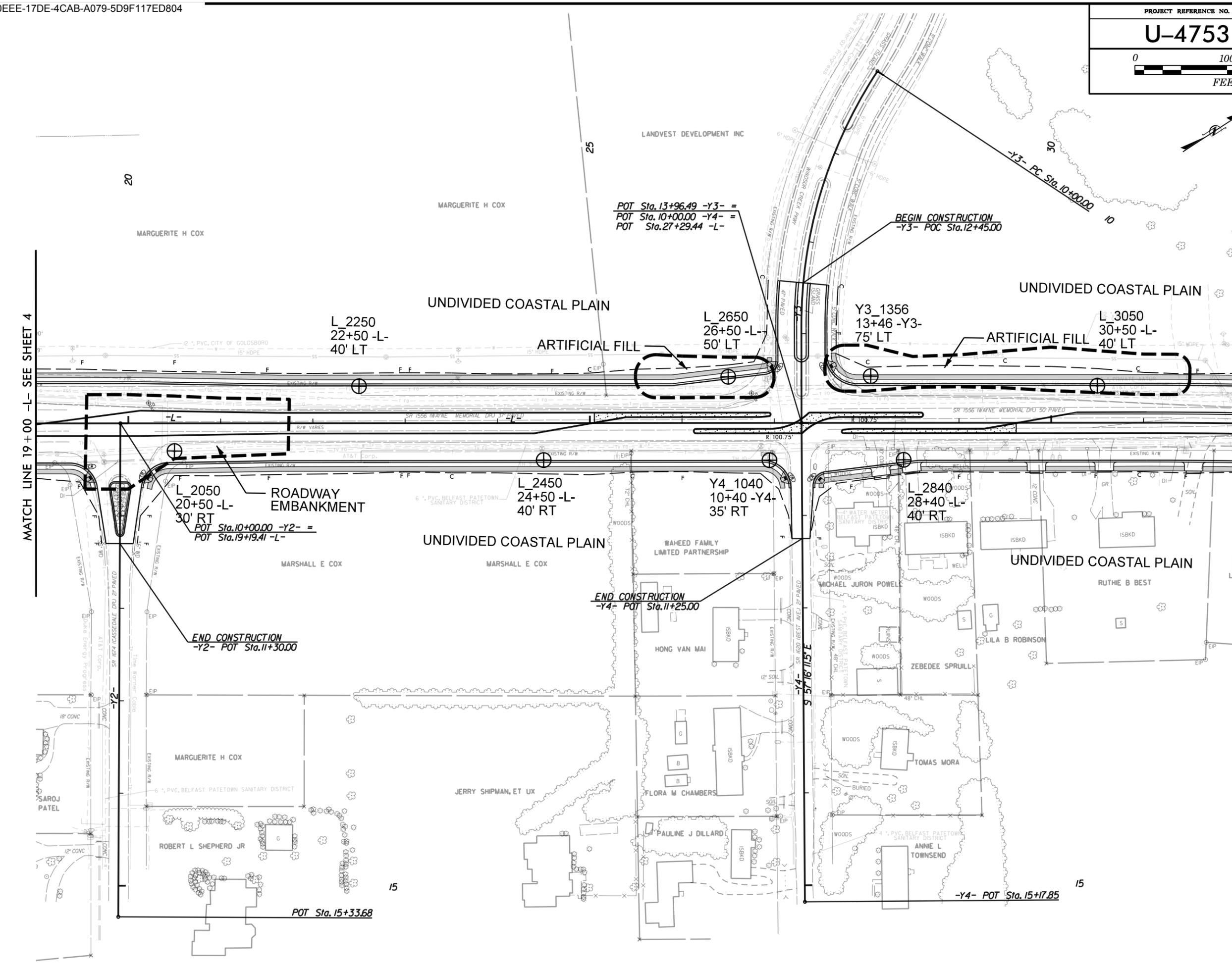
BPR GOLDSBORO, LLC

4S HOTEL

POWER BOX

ASPHALT

PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>5</b>
<p>0 100 200 FEET</p>	



MATCH LINE 19+00 -L- SEE SHEET 4

MATCH LINE 32+00 -L- SEE SHEET 6

20

25

30

10

L\_2250  
22+50 -L-  
40' LT

L\_2650  
26+50 -L-  
50' LT

L\_3050  
30+50 -L-  
40' LT

L\_2050  
20+50 -L-  
30' RT  
POT Sta.10+00.00 -Y2- =  
POT Sta.19+19.41 -L-

L\_2450  
24+50 -L-  
40' RT

Y4\_1040  
10+40 -Y4-  
35' RT

L\_2840  
28+40 -L-  
40' RT

END CONSTRUCTION  
-Y2- POT Sta.11+30.00

END CONSTRUCTION  
-Y4- POT Sta.11+25.00

BEGIN CONSTRUCTION  
-Y3- POC Sta.12+45.00

POT Sta.13+96.49 -Y3- =  
POT Sta.10+00.00 -Y4- =  
POT Sta.27+29.44 -L-

-Y4- POT Sta.15+17.85

POT Sta.15+33.68

15

15

SAROJ PATEL

ROBERT L SHEPHERD JR

MARGUERITE H COX

JERRY SHIPMAN, ET UX

PAULINE J DILLARD

FLORA M CHAMBERS

HONG VAN MAI

WAHEED FAMILY LIMITED PARTNERSHIP

UNDIVIDED COASTAL PLAIN

MARSHALL E COX

MARSHALL E COX

UNDIVIDED COASTAL PLAIN

UNDIVIDED COASTAL PLAIN

UNDIVIDED COASTAL PLAIN

RUTHIE B BEST

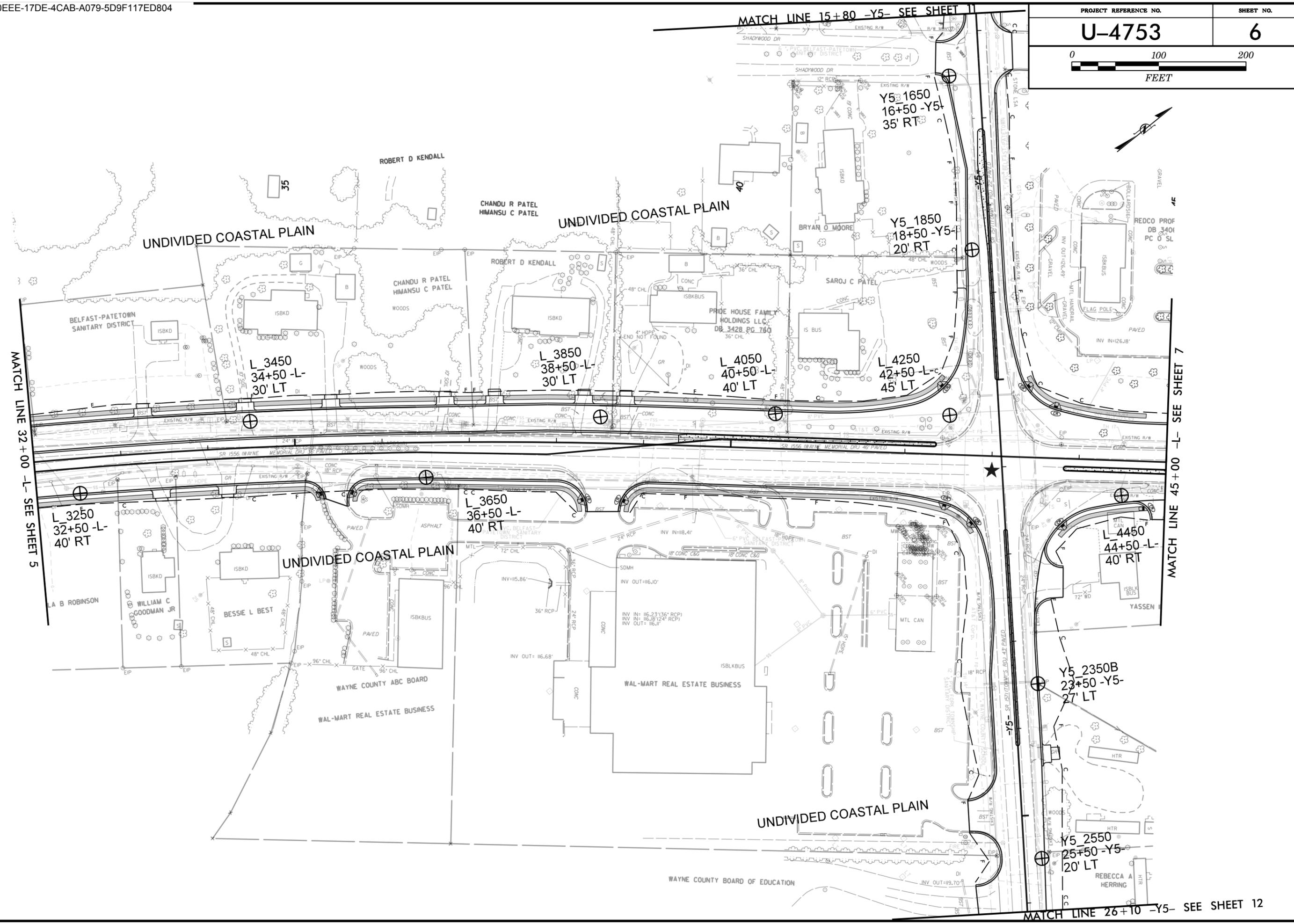
LILA B ROBINSON

MICHAEL JURON POWEL

ZEBEDEE SPRULL

WOODS

PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>6</b>



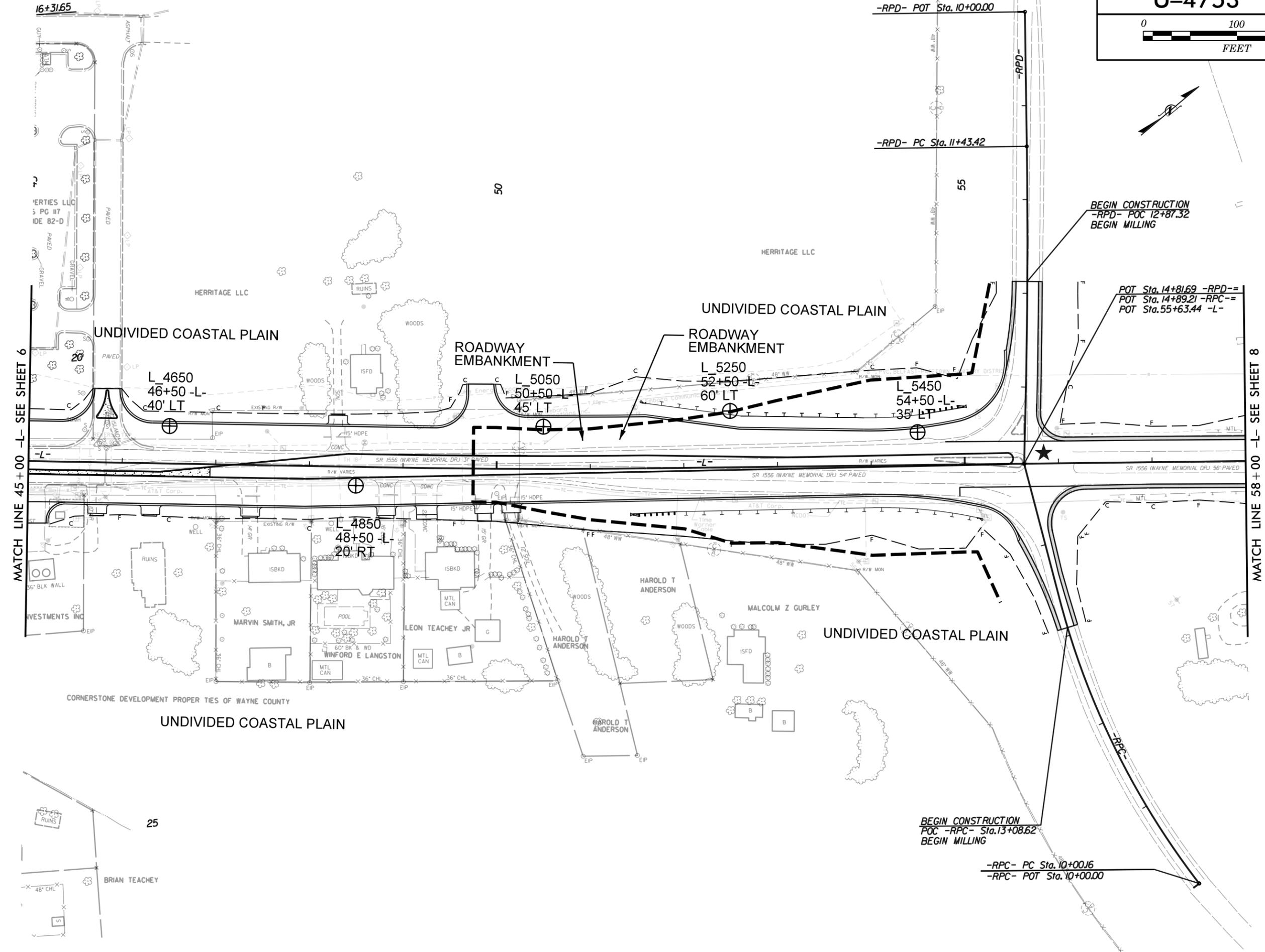
MATCH LINE 32+00 -L- SEE SHEET 5

MATCH LINE 45+00 -L- SEE SHEET 7

MATCH LINE 26+10 -Y5- SEE SHEET 12

MATCH LINE 15+80 -Y5- SEE SHEET

PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>7</b>
<p>0 100 200 FEET</p>	



BEGIN CONSTRUCTION  
-RPD- POC 12+87.32  
BEGIN MILLING

POT Sta. 14+81.69 -RPD-=  
POT Sta. 14+89.21 -RPC-=  
POT Sta. 55+63.44 -L-

BEGIN CONSTRUCTION  
POC -RPC- Sta. 13+08.62  
BEGIN MILLING

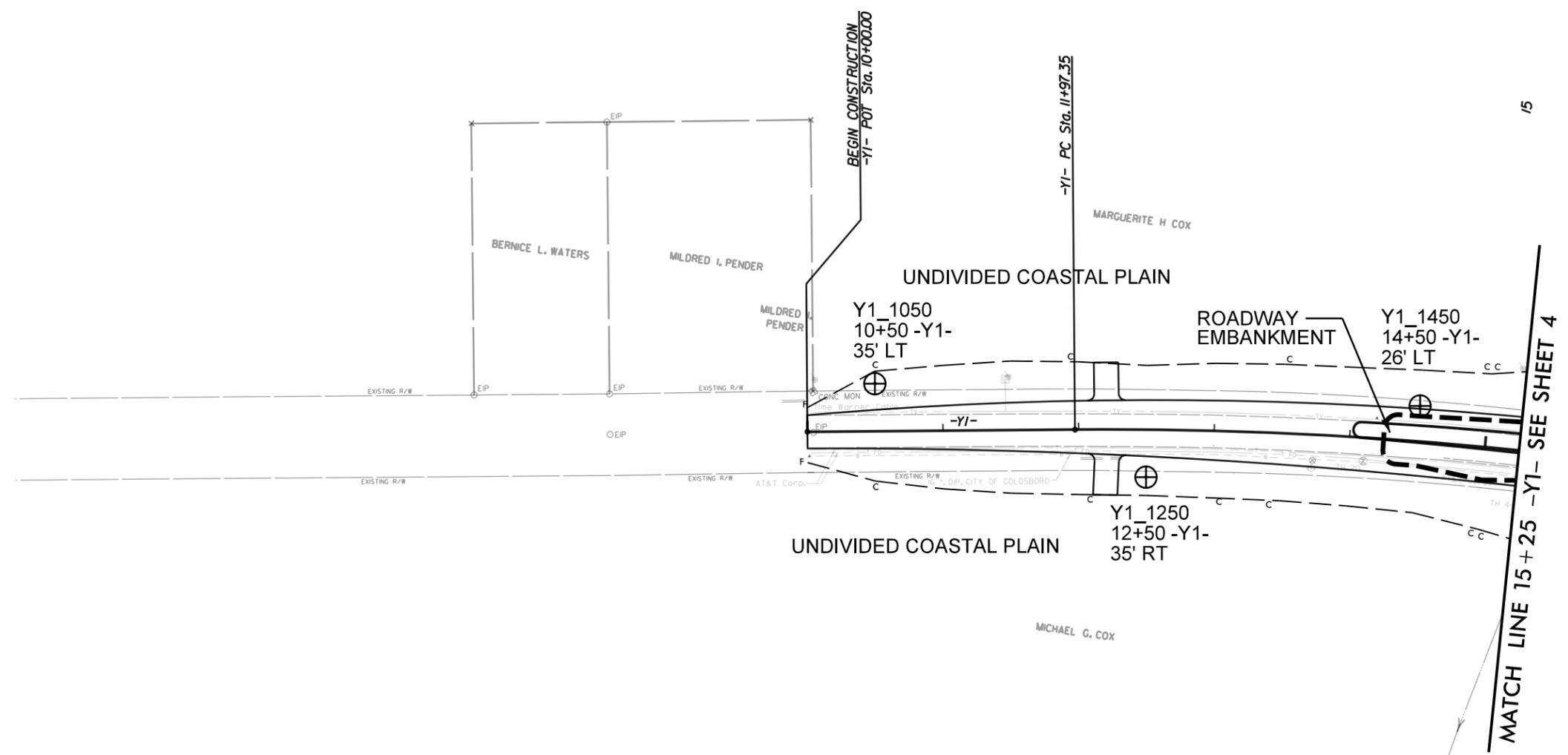
-RPC- PC Sta. 10+00.16  
-RPC- POT Sta. 10+00.00

MATCH LINE 45+00 -L- SEE SHEET 6

MATCH LINE 58+00 -L- SEE SHEET 8

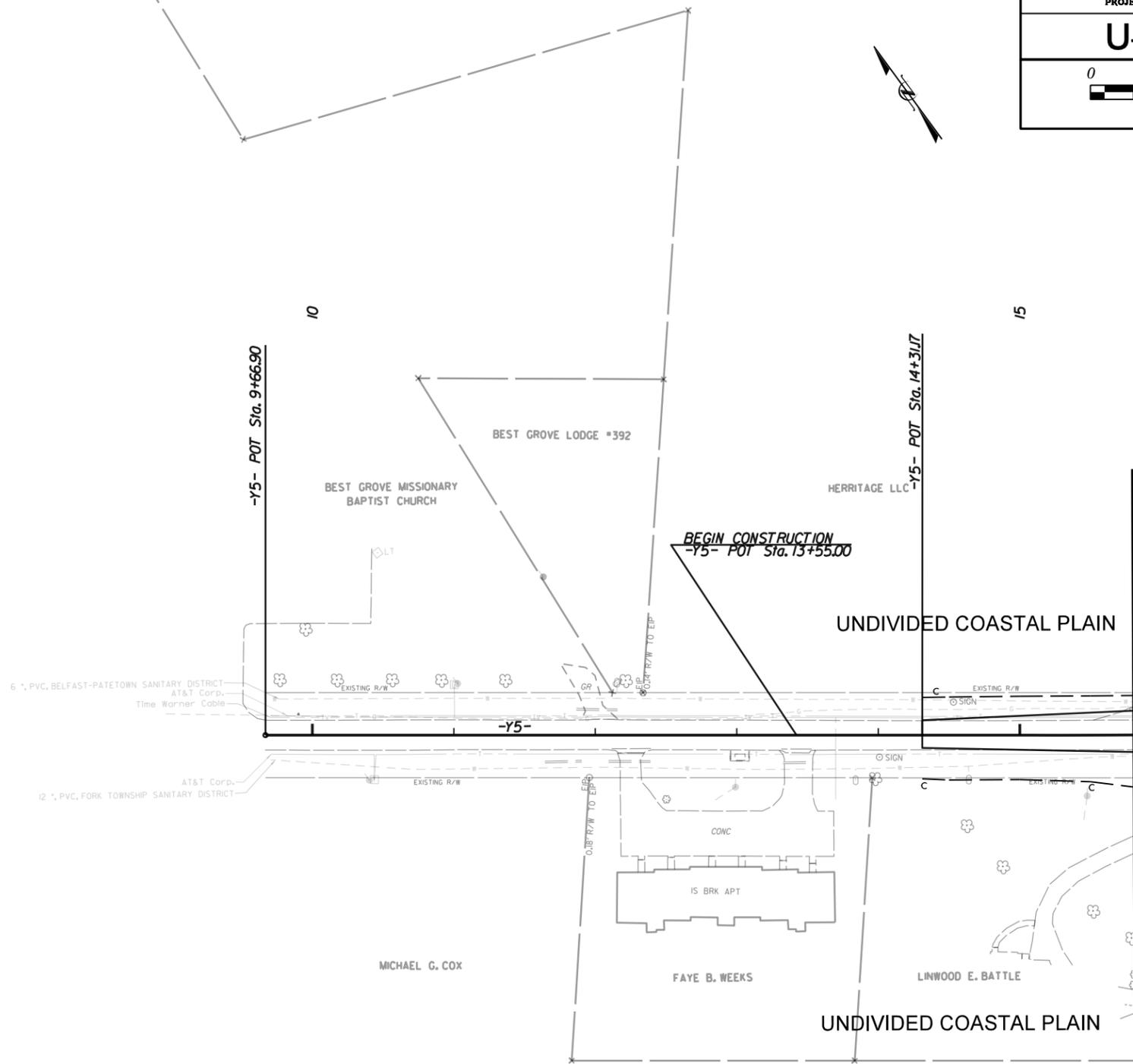


PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>9</b>
<p>0 100 200 FEET</p>	





PROJECT REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>11</b>
<p>0 100 200 FEET</p>	



-Y5- POT Sta. 9+66.90

-Y5- POT Sta. 14+31.17

BEGIN CONSTRUCTION  
-Y5- POT Sta. 13+55.00

-Y5-

MATCH LINE 15 + 80 -Y5- SEE SHEET 6

10

15

BEST GROVE LODGE #392

BEST GROVE MISSIONARY BAPTIST CHURCH

HERRITAGE LLC

UNDIVIDED COASTAL PLAIN

6" PVC, BELFAST-PATETOWN SANITARY DISTRICT  
AT&T Corp.  
Time Warner Cable

AT&T Corp.  
12" PVC, FORK TOWNSHIP SANITARY DISTRICT

CONC

1S BRK APT

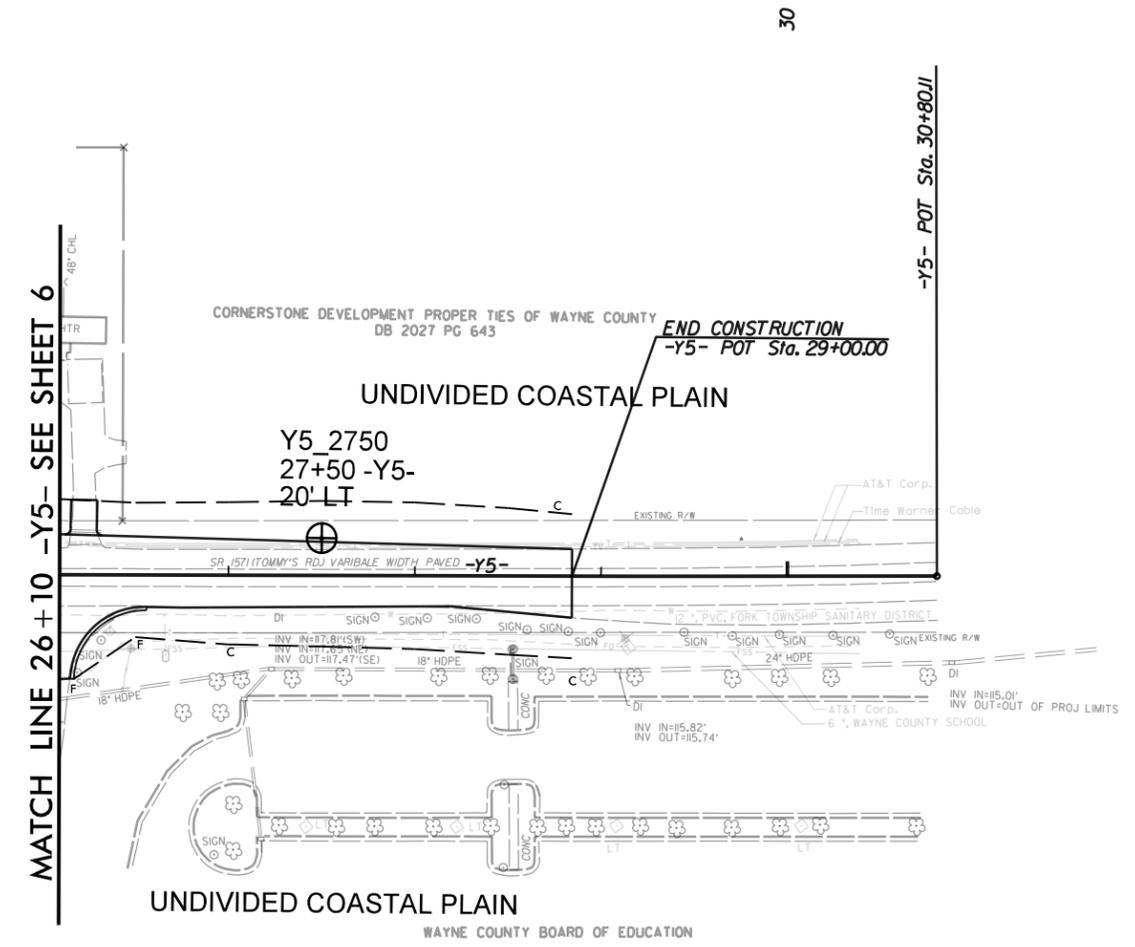
MICHAEL G. COX

FAYE B. WEEKS

LINWOOD E. BATTLE

UNDIVIDED COASTAL PLAIN

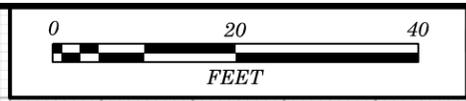
PROJECT REFERENCE NO.	SHEET NO.
U-4753	12
FEET	



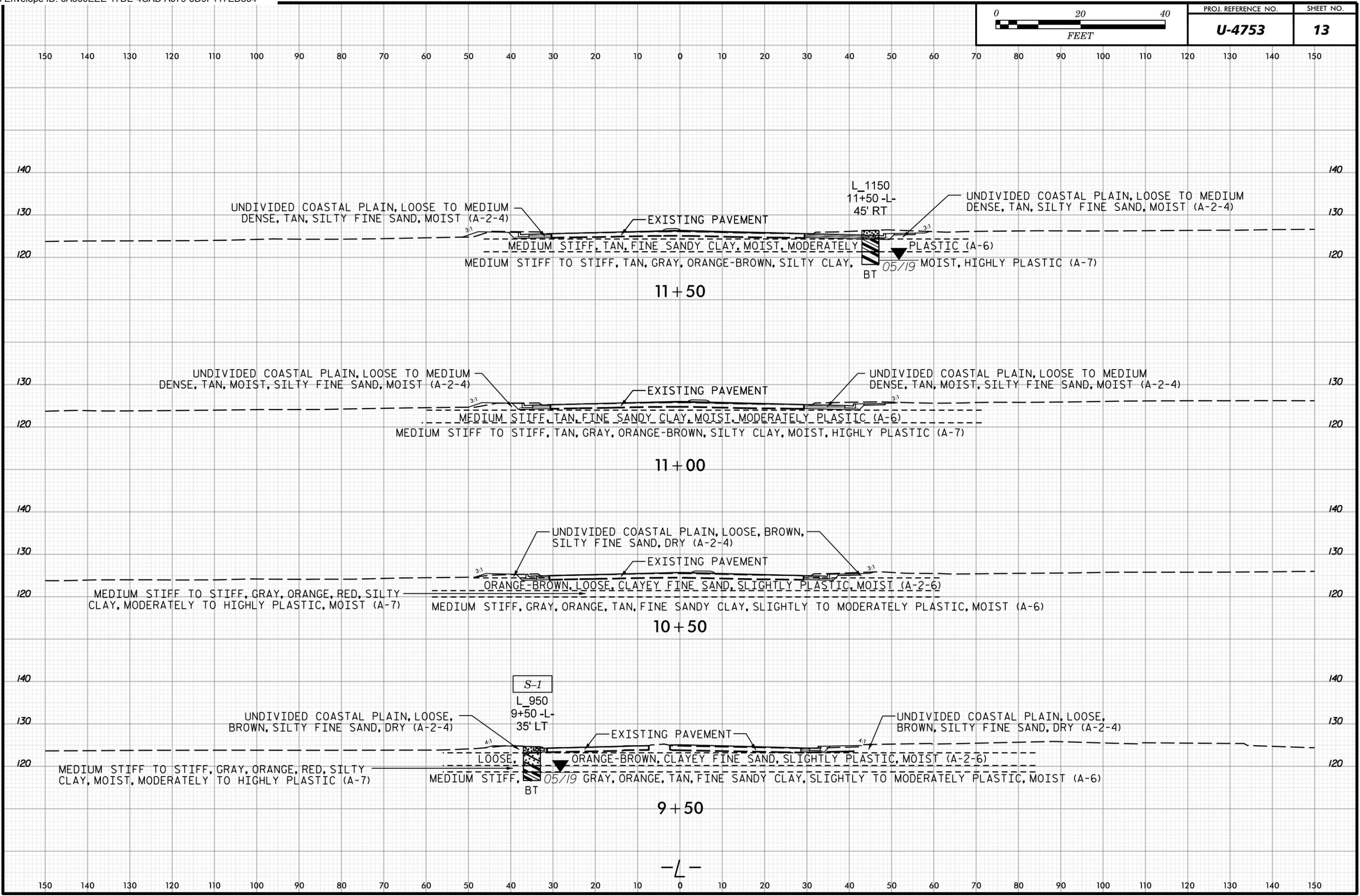
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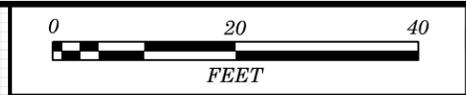
MATCH LINE 26+10 -Y5- SEE SHEET 6

-Y5- POT Sta. 30+80.11

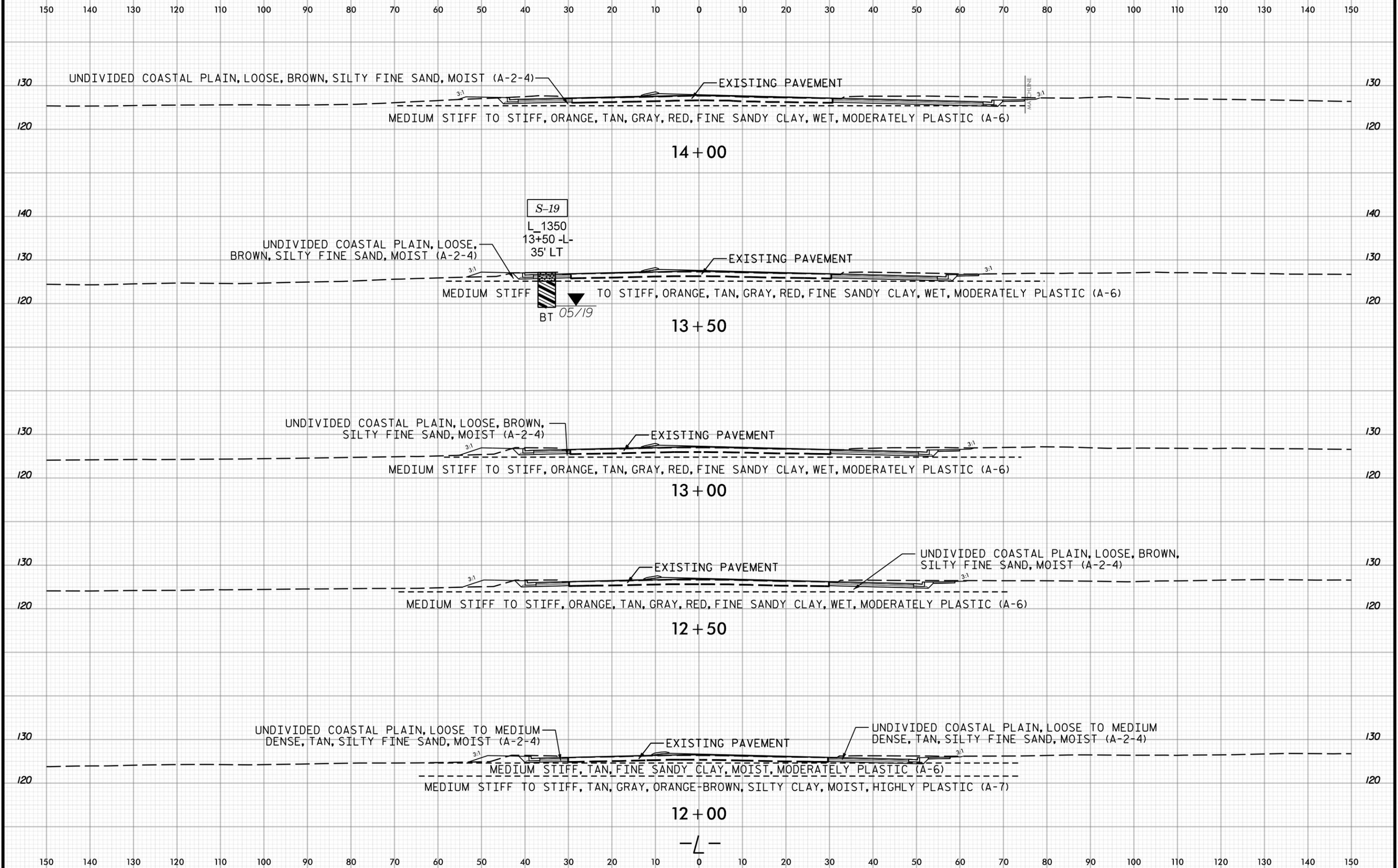


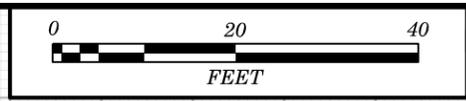
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<b>U-4753</b>	<b>13</b>



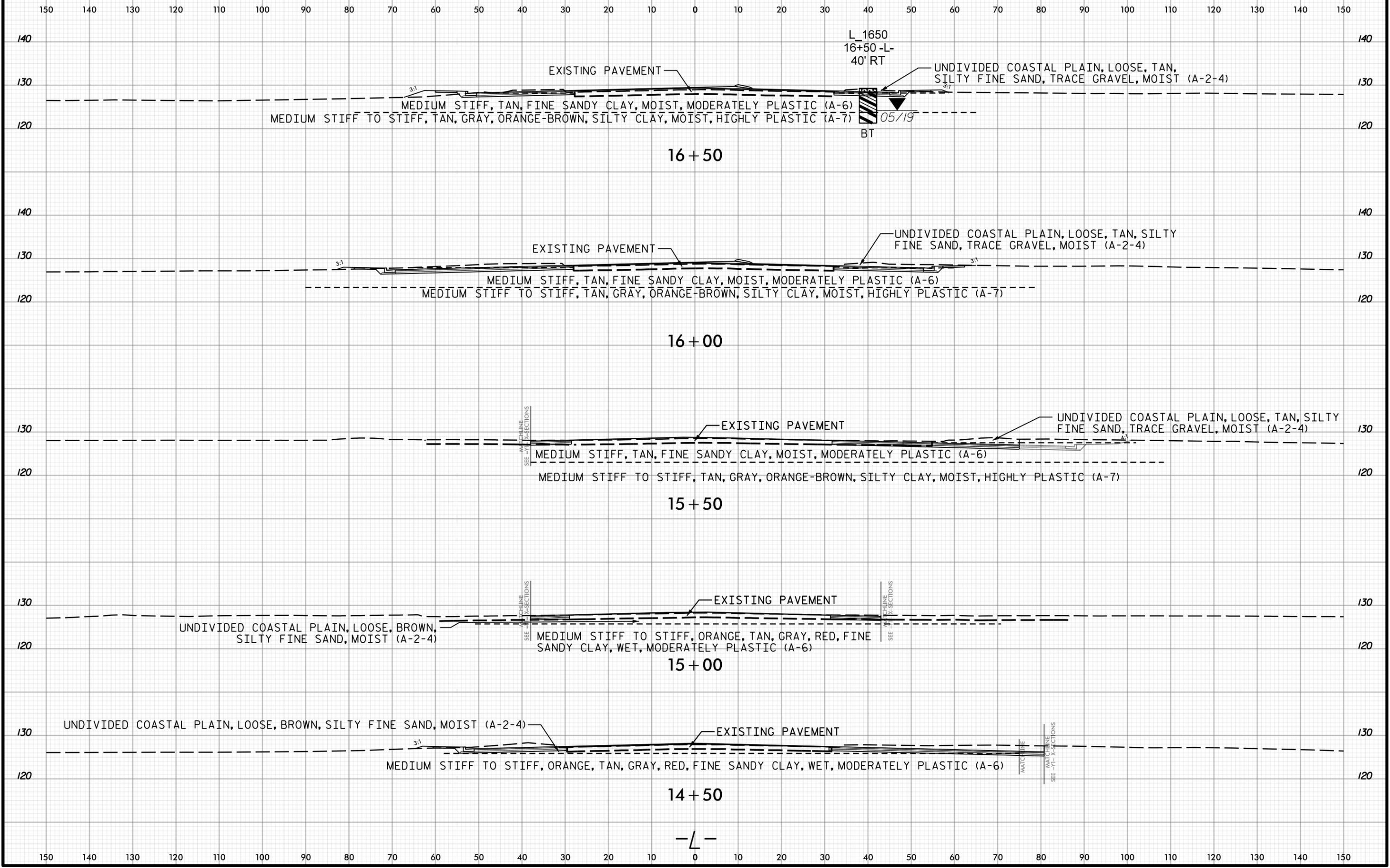


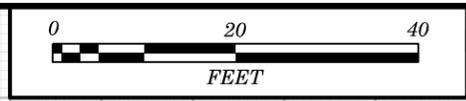
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<b>U-4753</b>	<b>14</b>



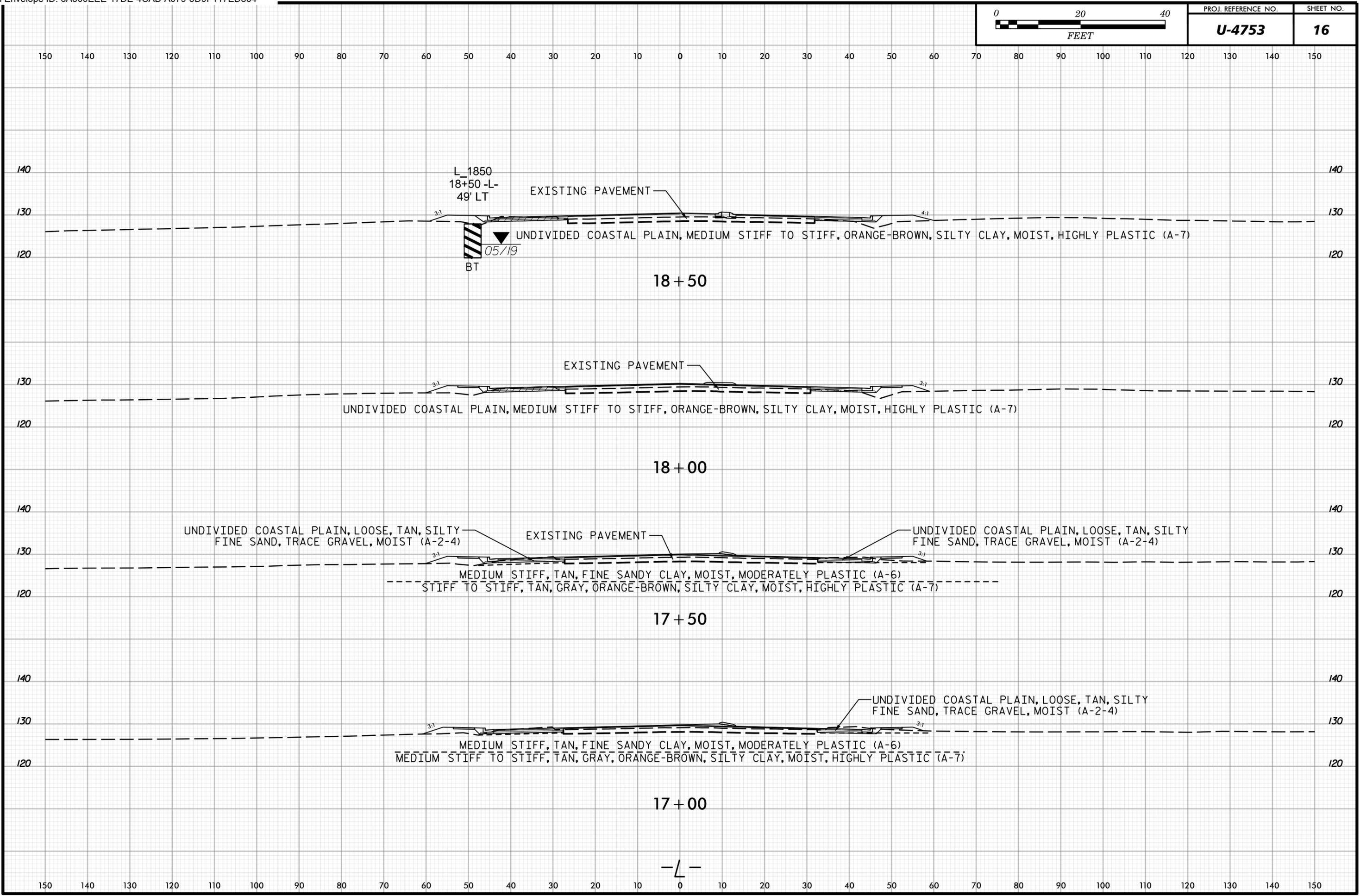


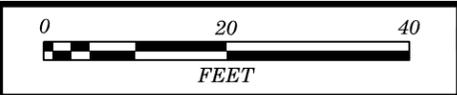
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<b>U-4753</b>	<b>15</b>



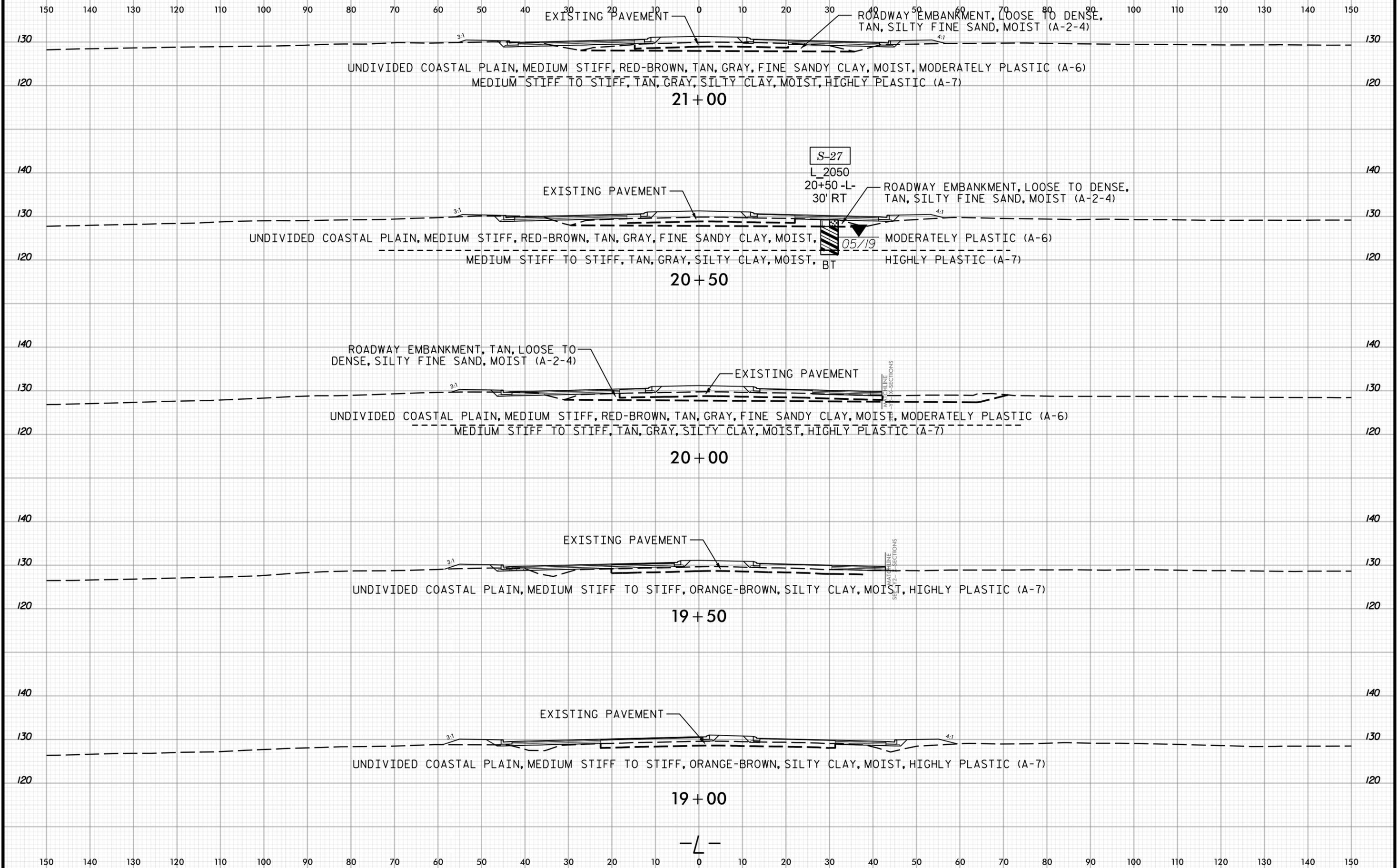


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<b>U-4753</b>	<b>16</b>

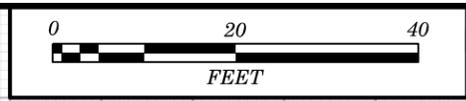




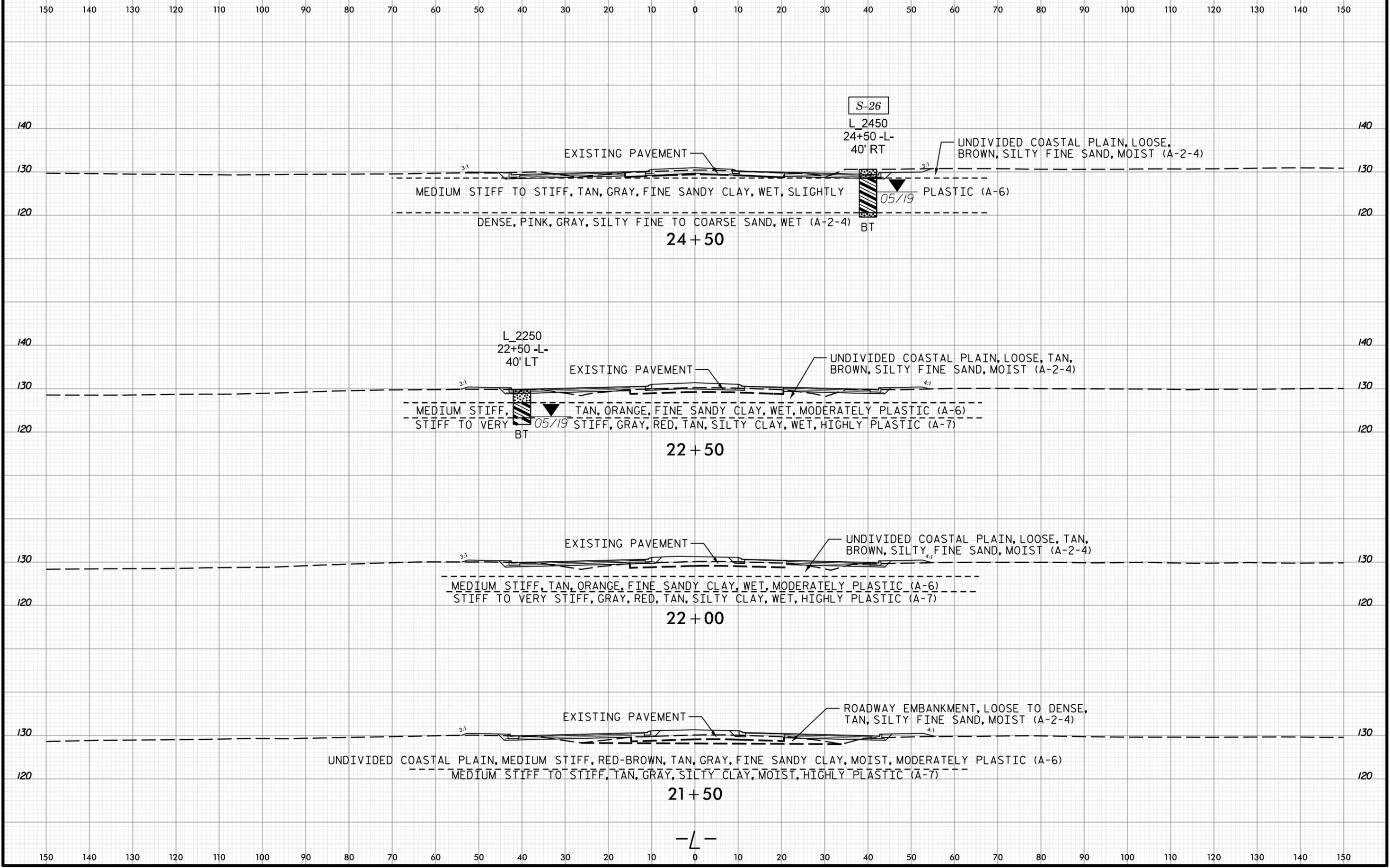
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<b>U-4753</b>	<b>17</b>



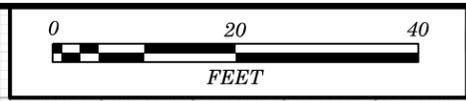
—L—



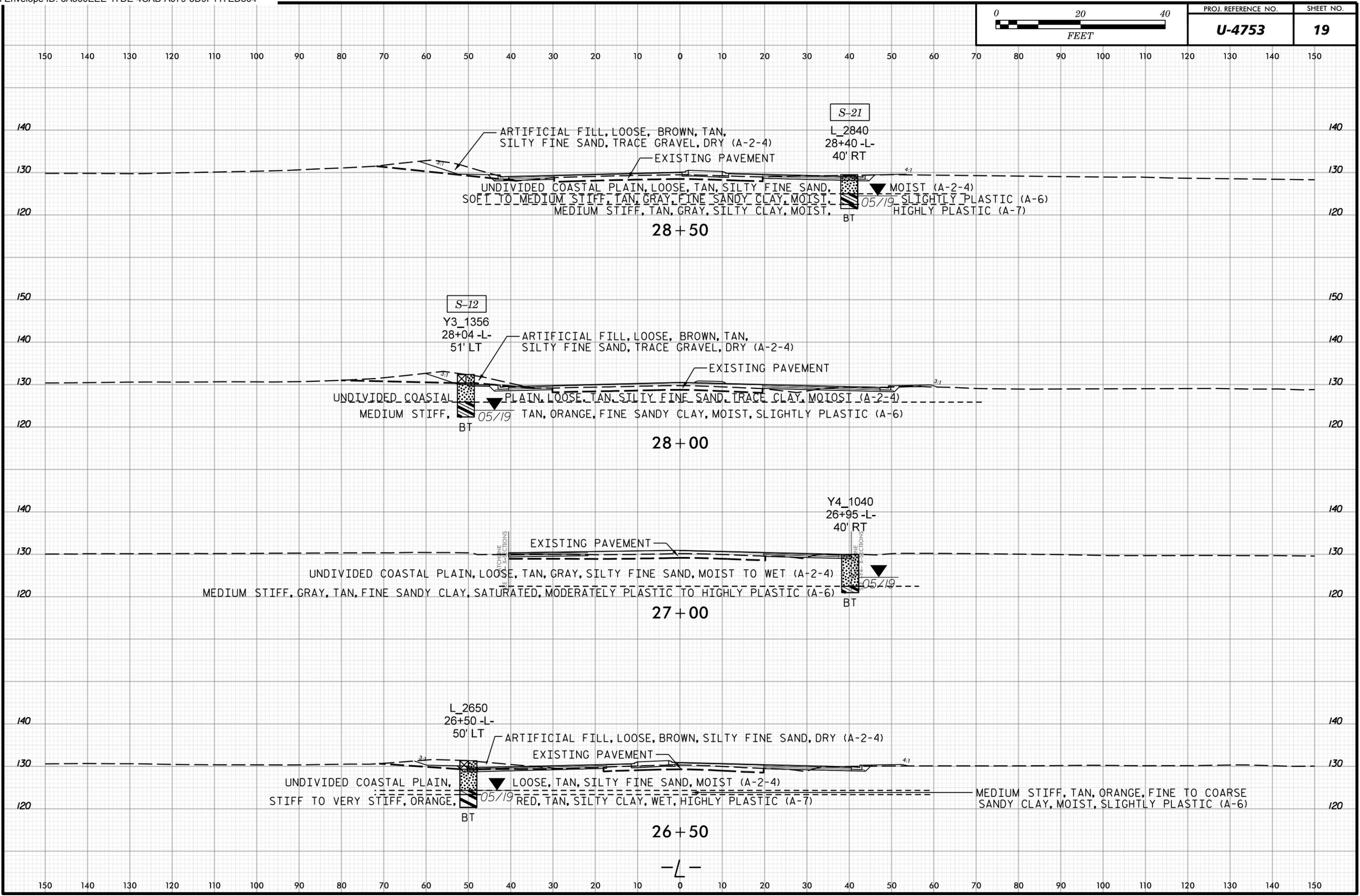
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<b>U-4753</b>	<b>18</b>

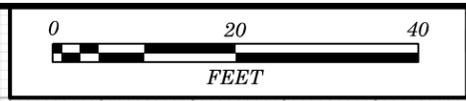


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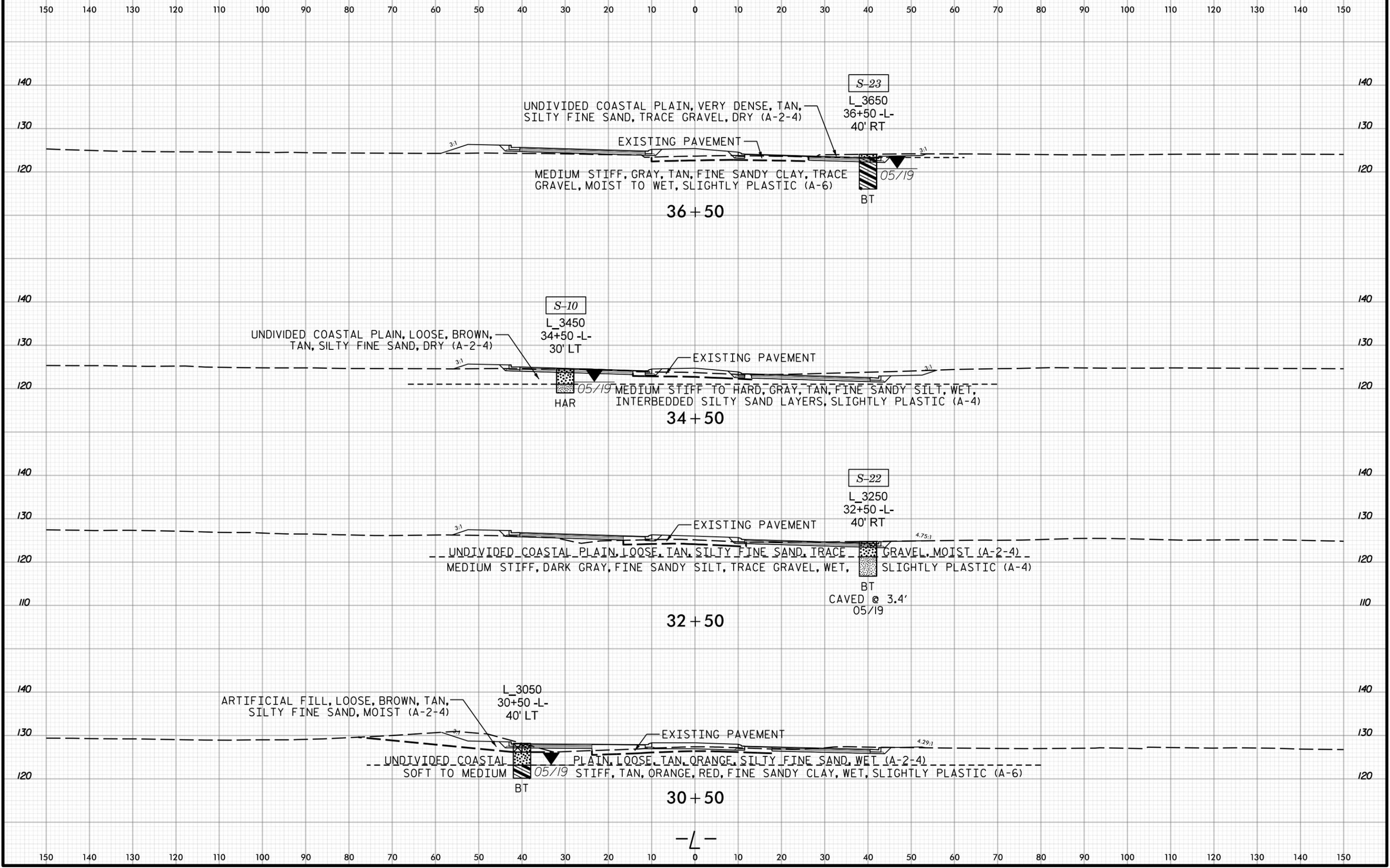


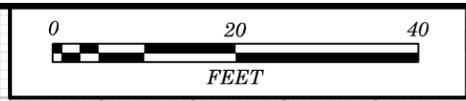
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<b>U-4753</b>	<b>19</b>



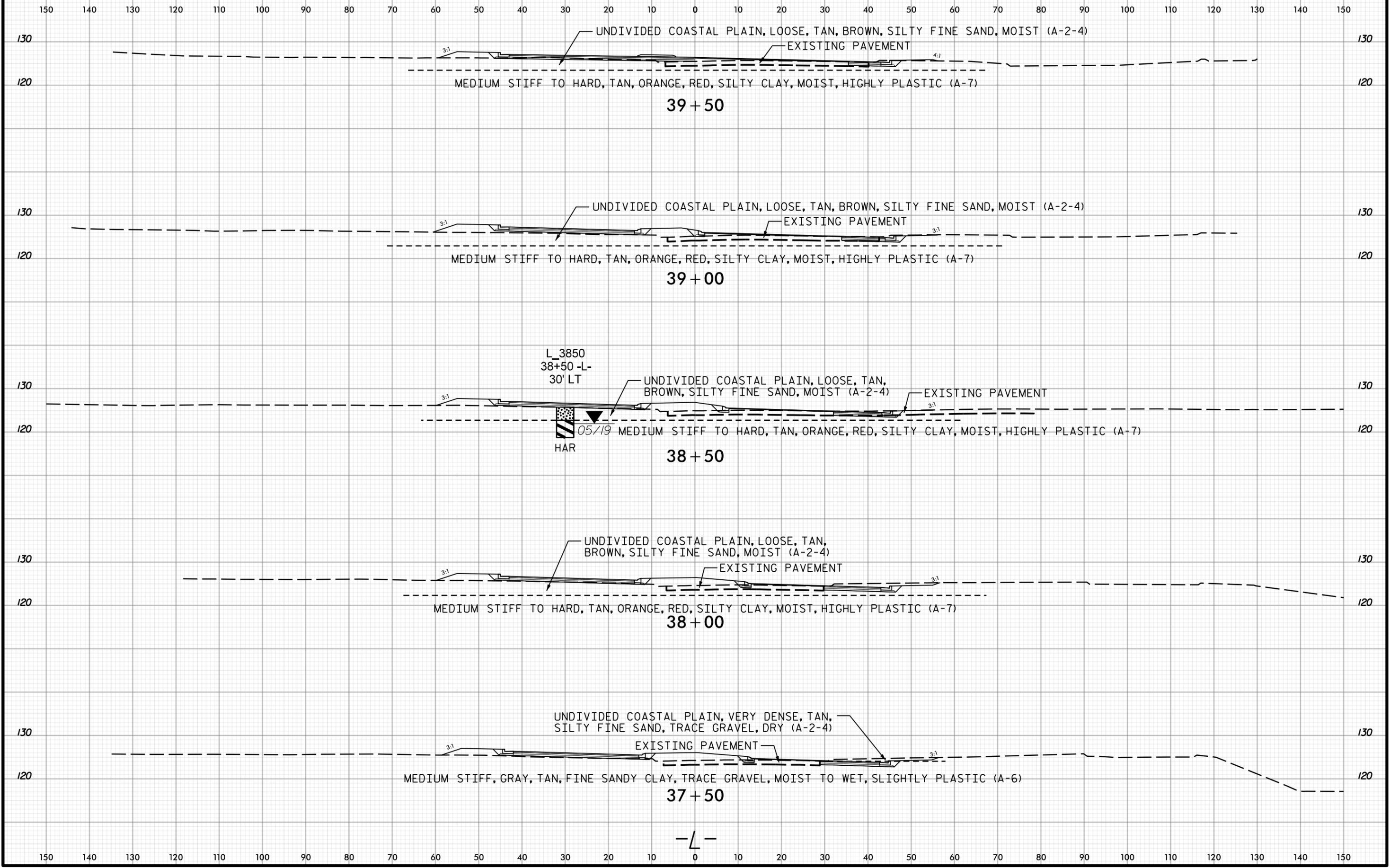


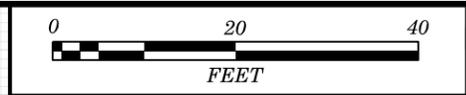
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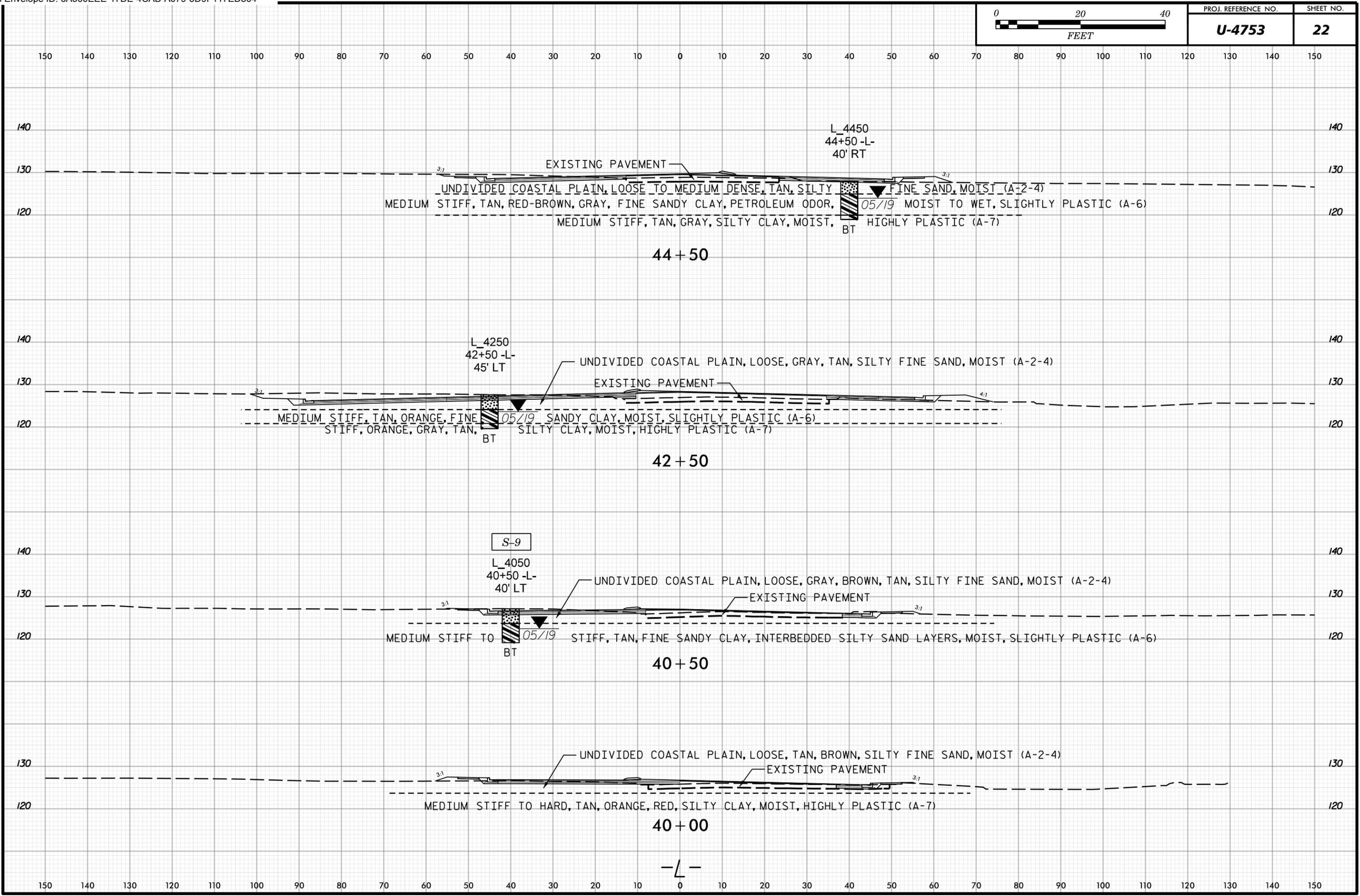


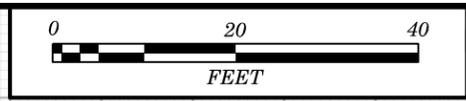
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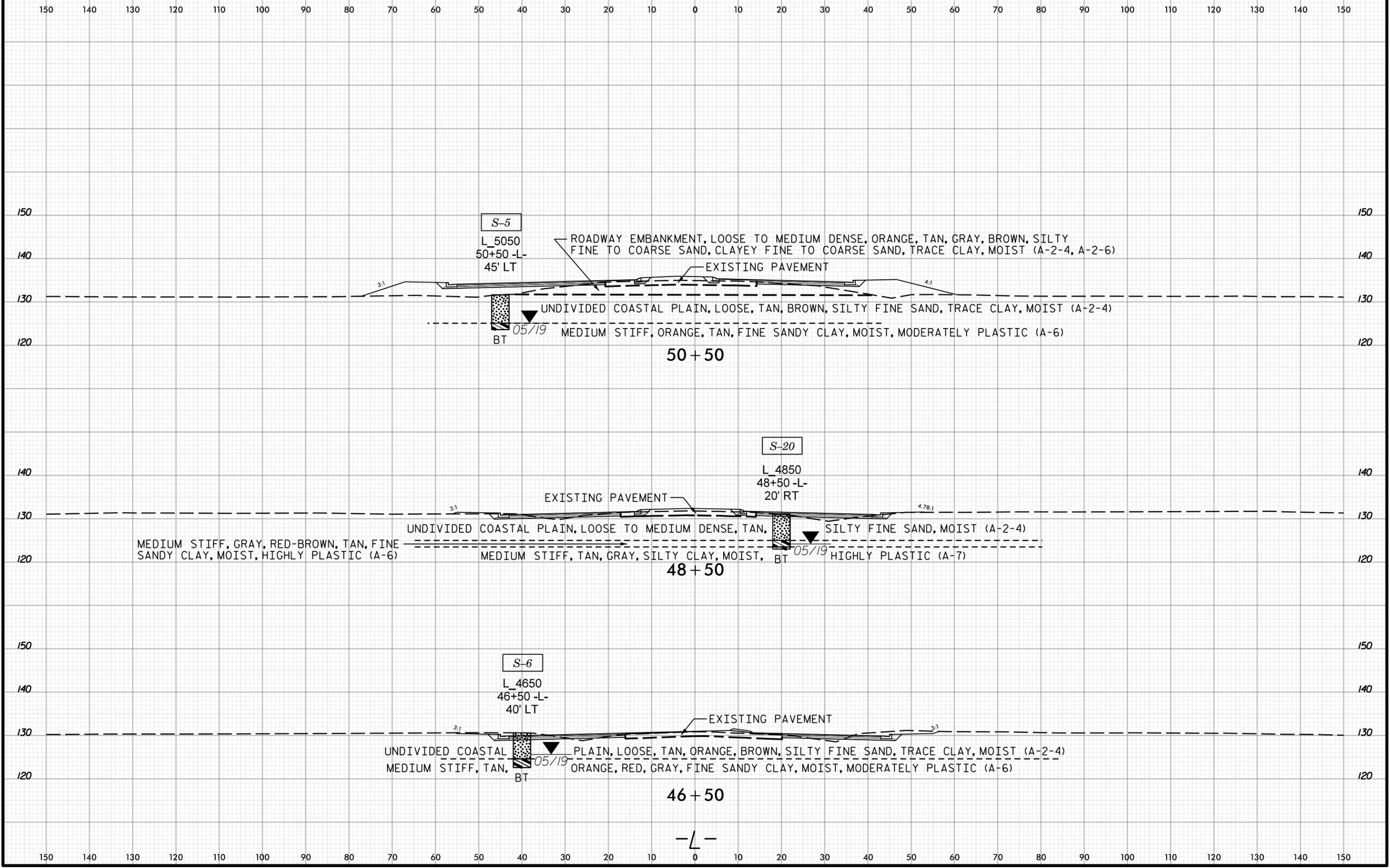


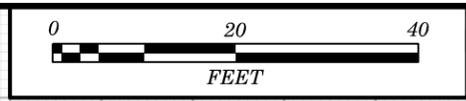
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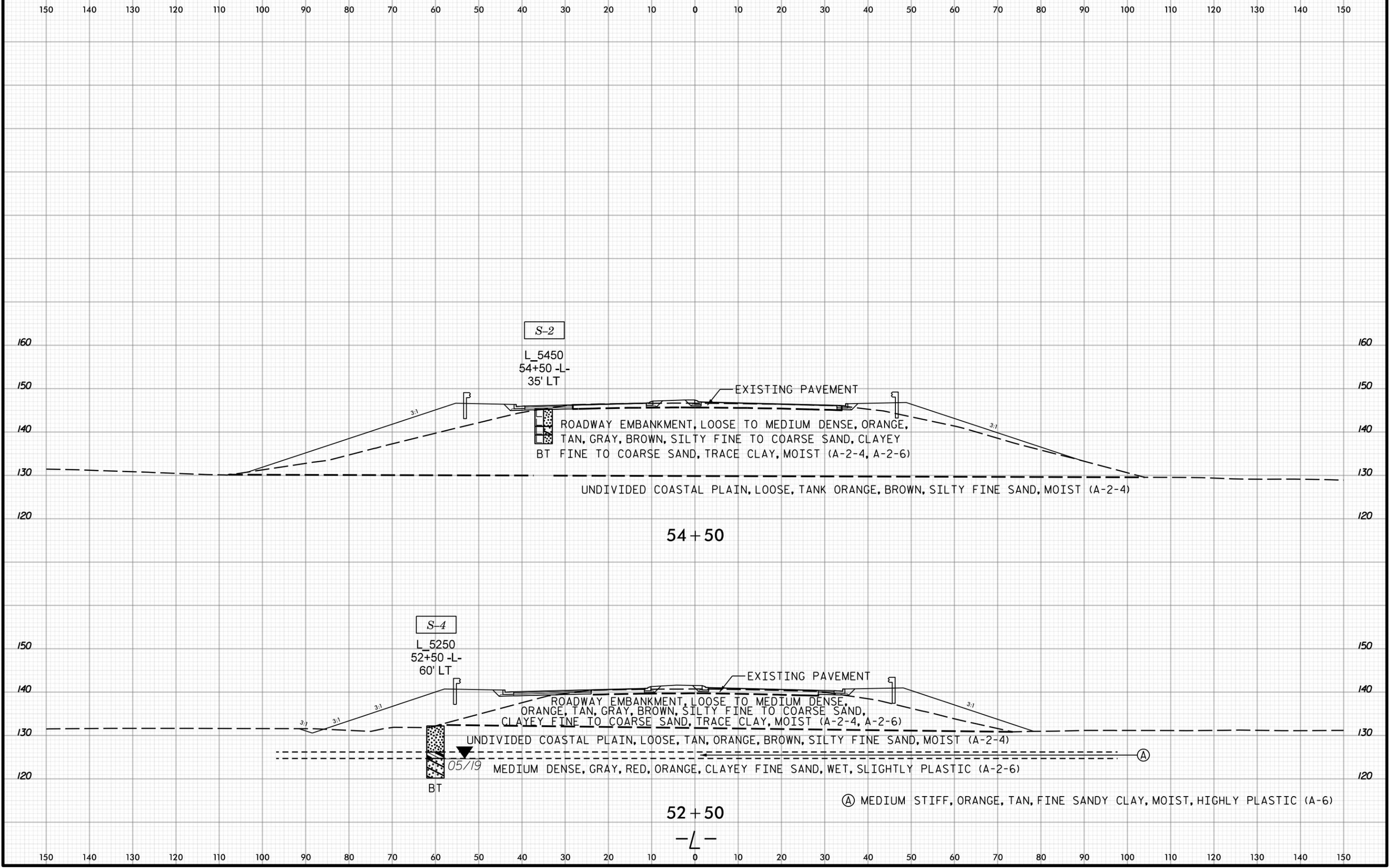


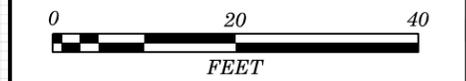
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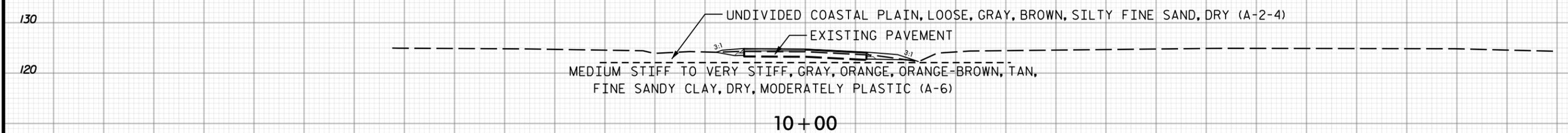
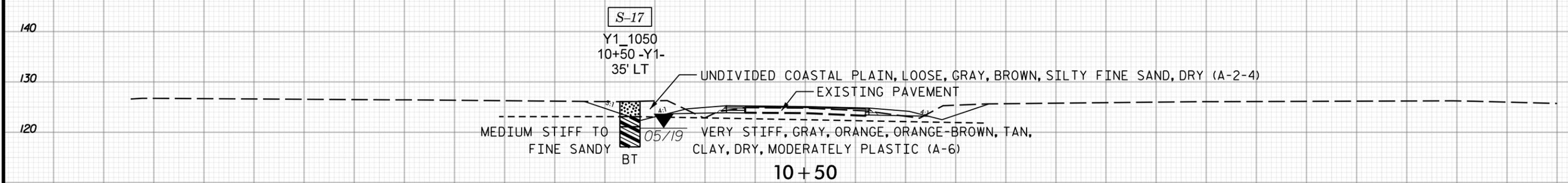
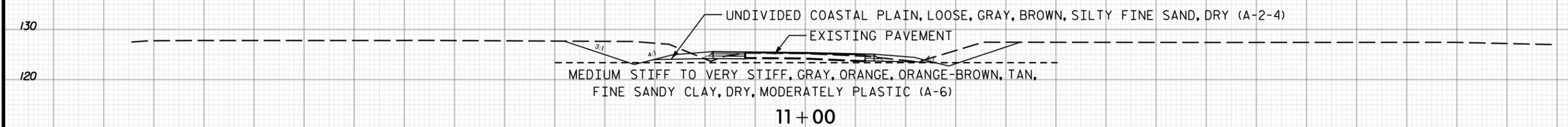
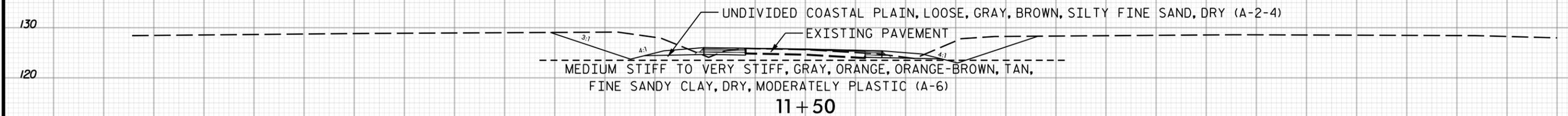
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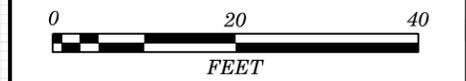
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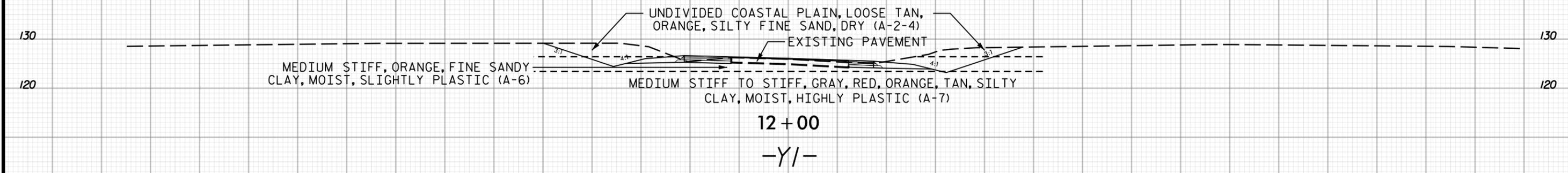
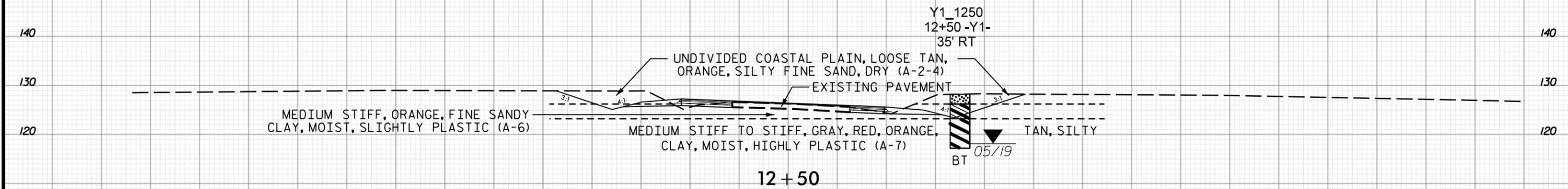
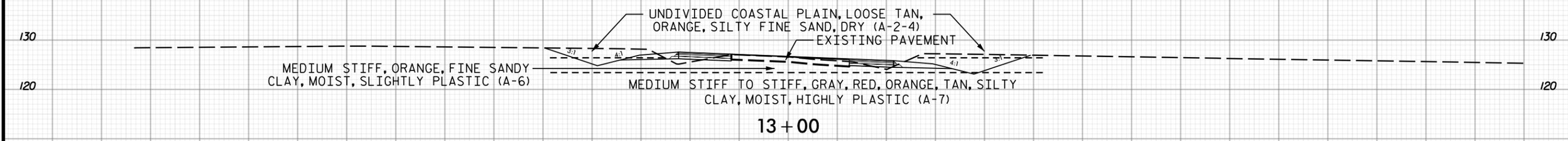
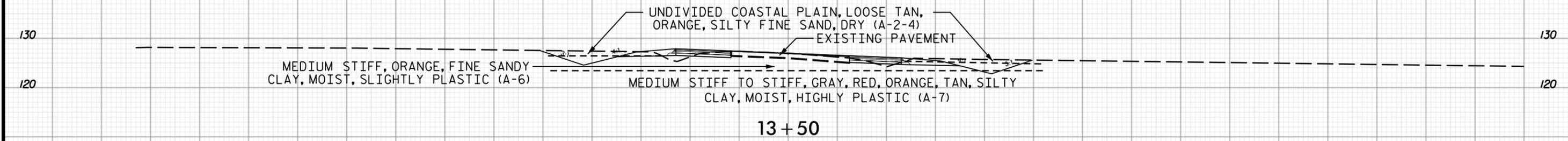


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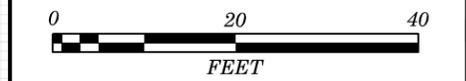
-Y/-



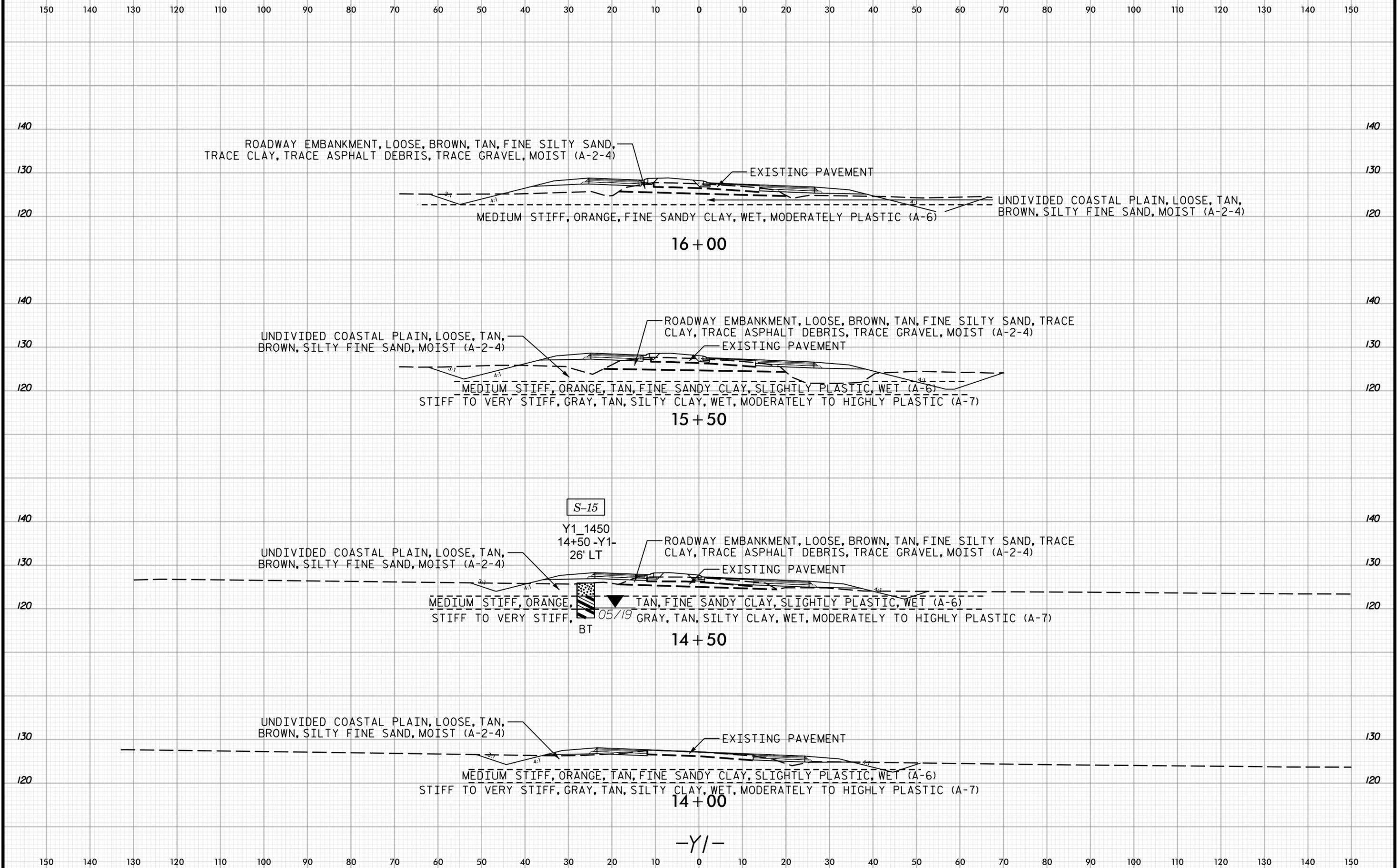
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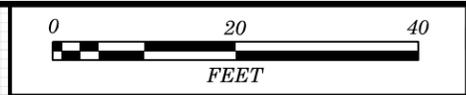


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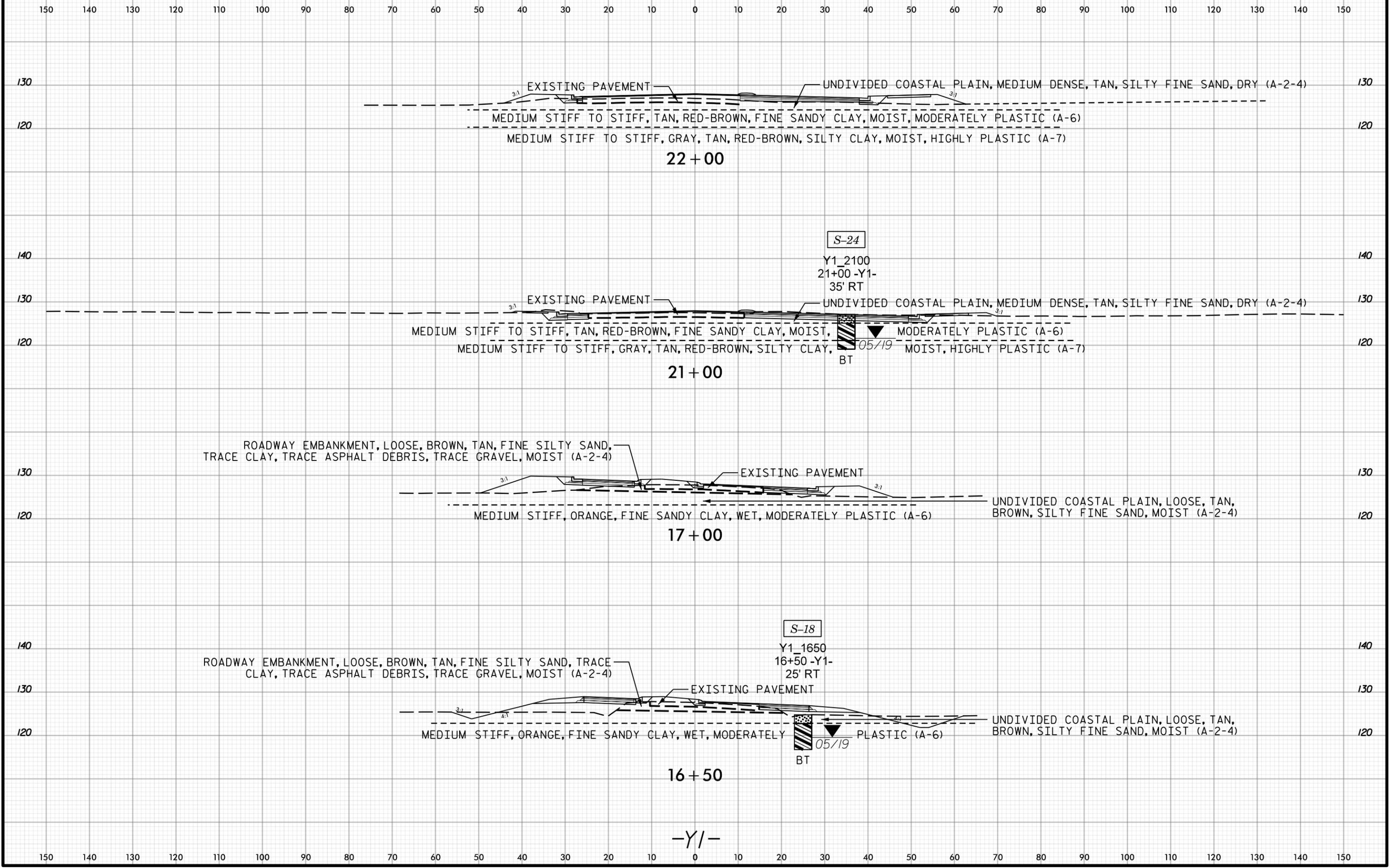


PROJ. REFERENCE NO.	SHEET NO.
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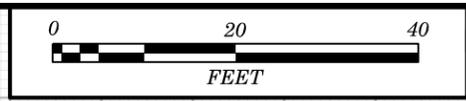




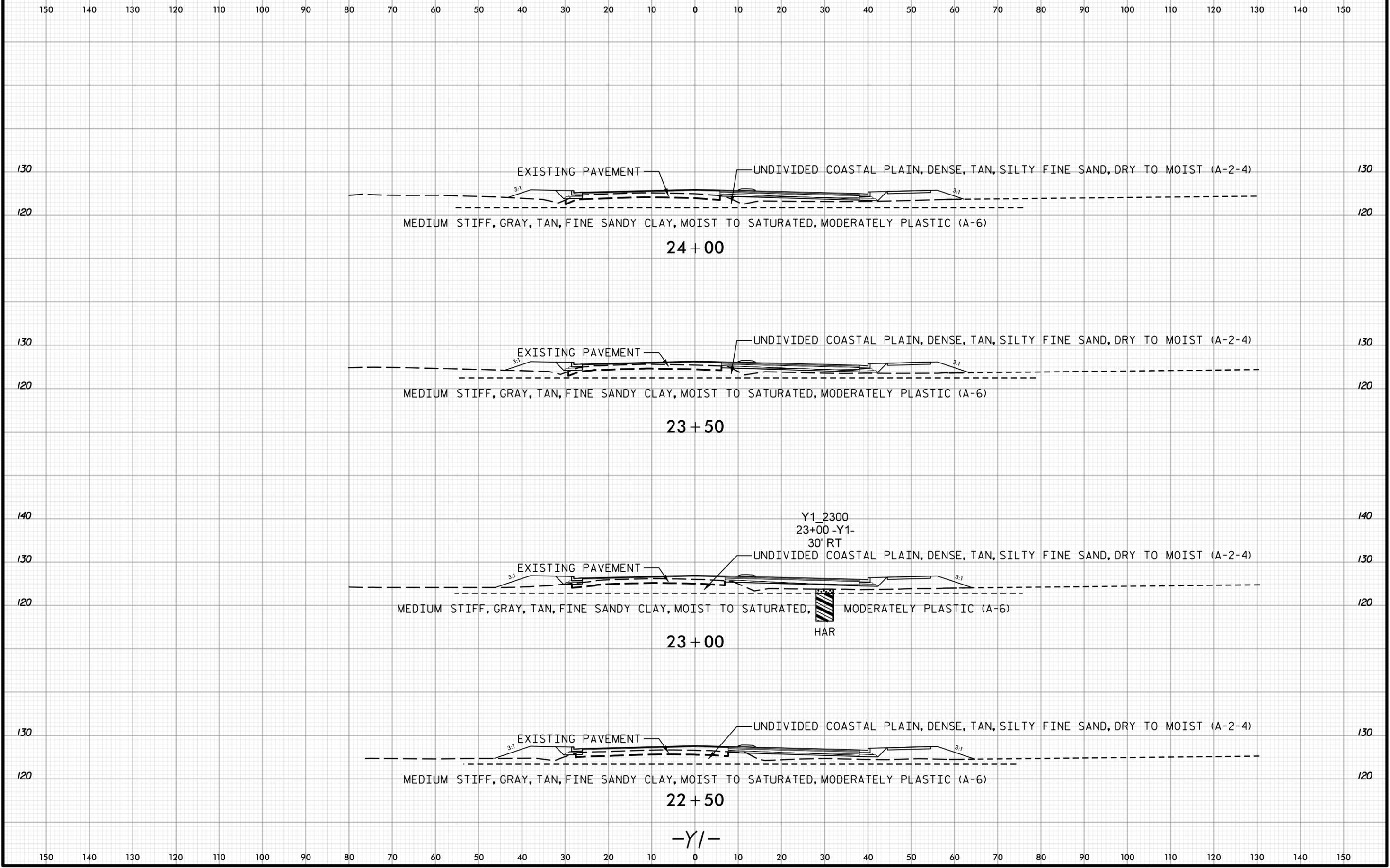
PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>28</b>



-Y/-



PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>29</b>



24 + 00

23 + 50

23 + 00

22 + 50

-Y/-

Y1\_2300  
23+00 -Y1-  
30' RT

HAR

EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4)

MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6)

EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4)

MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6)

EXISTING PAVEMENT

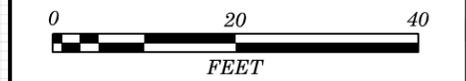
UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4)

MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6)

EXISTING PAVEMENT

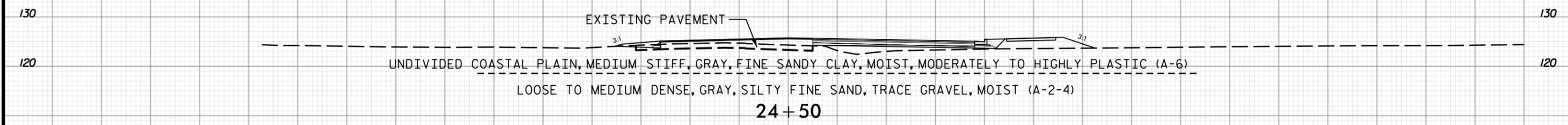
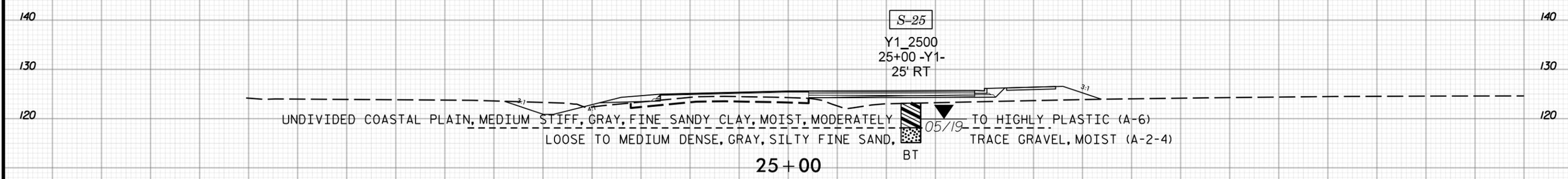
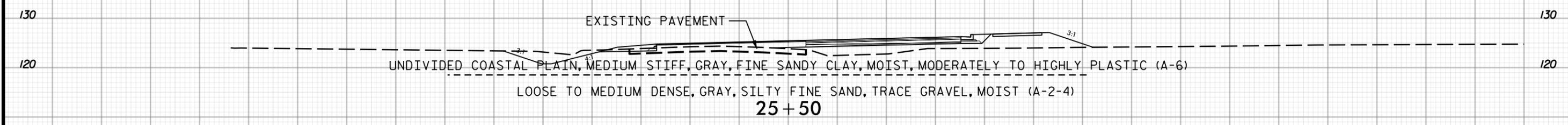
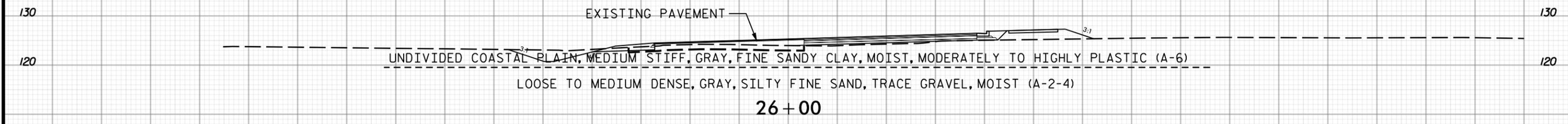
UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4)

MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6)



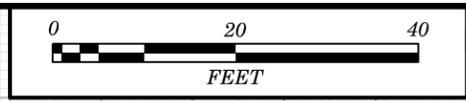
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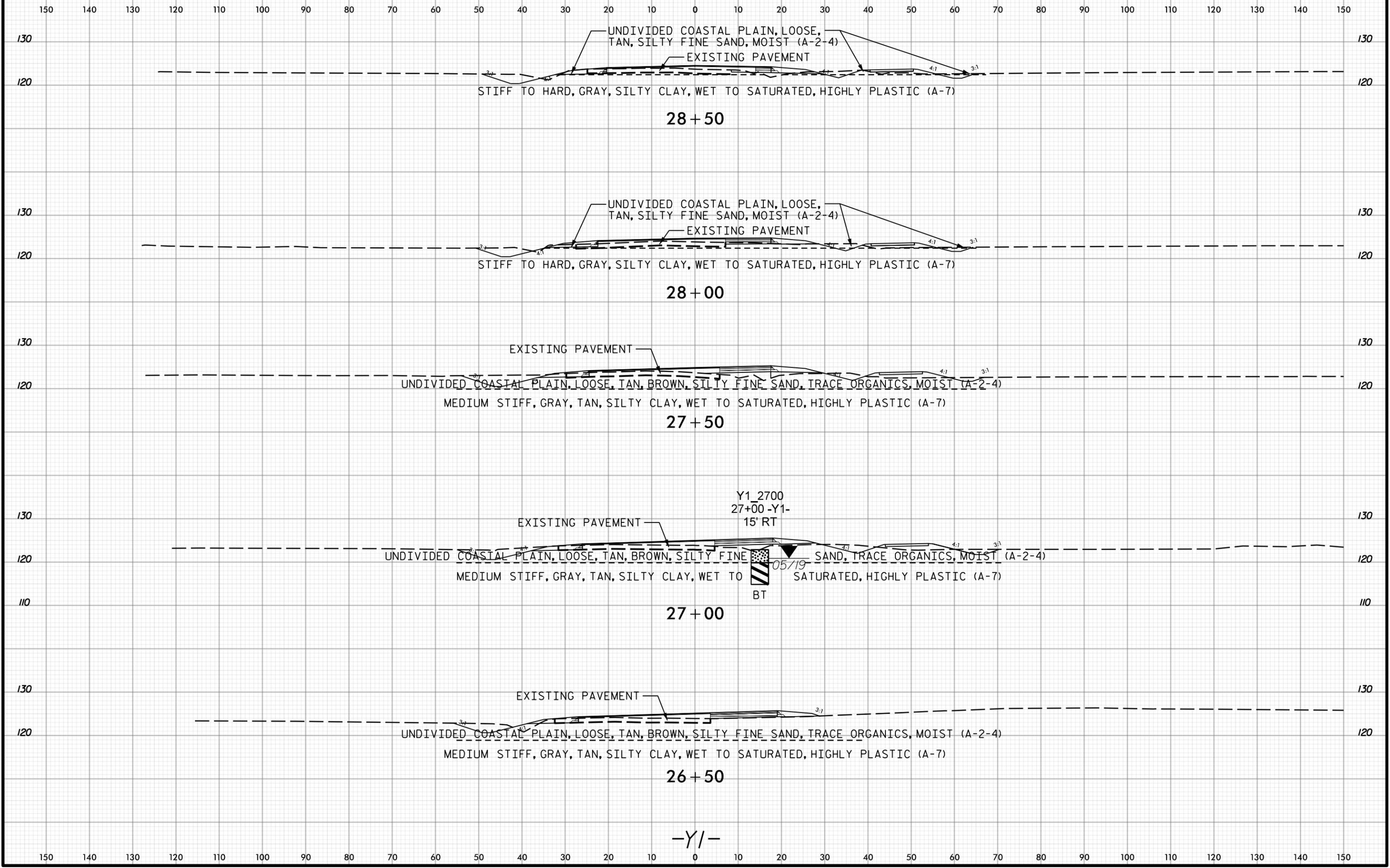


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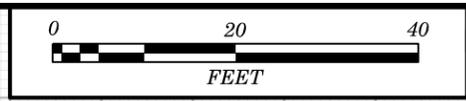
-Y/-



PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>31</b>

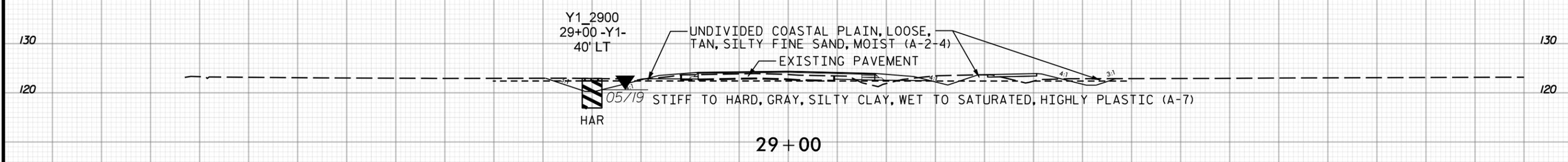
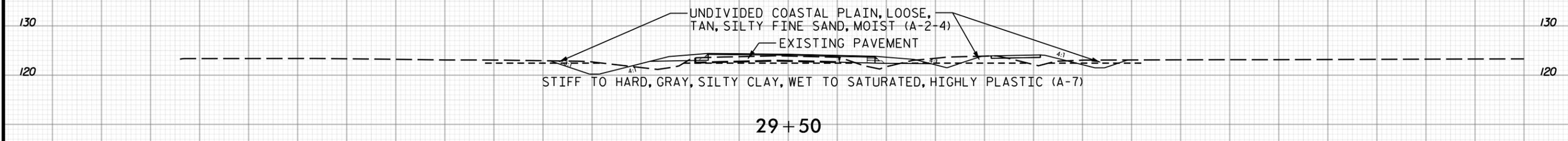
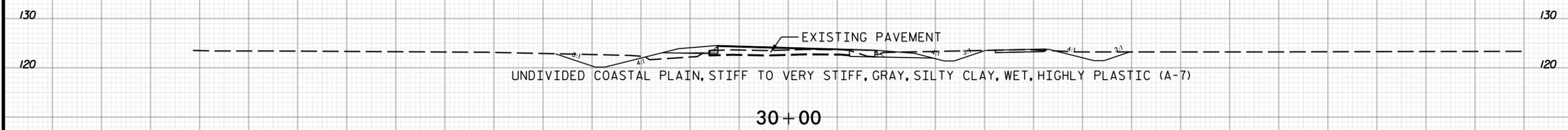
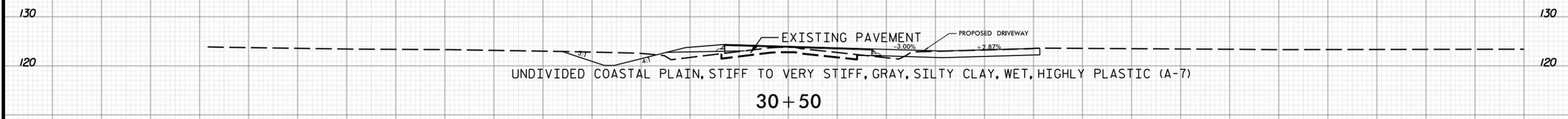


-Y/-



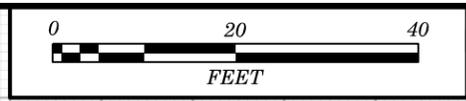
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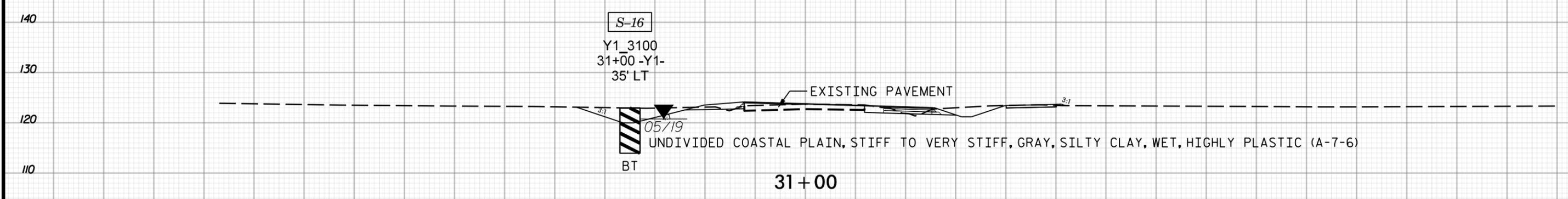
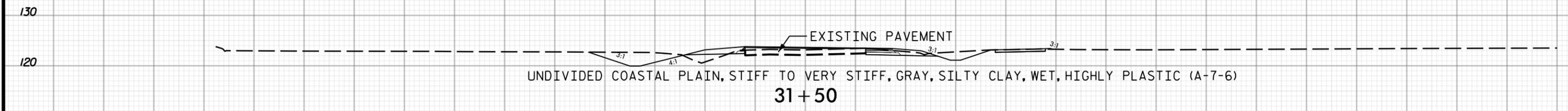
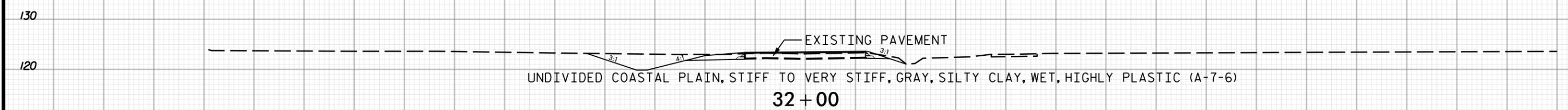
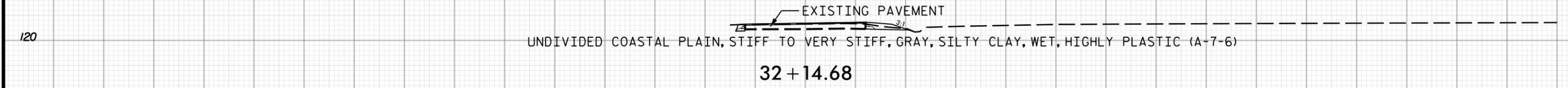
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-Y/-



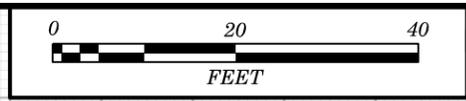
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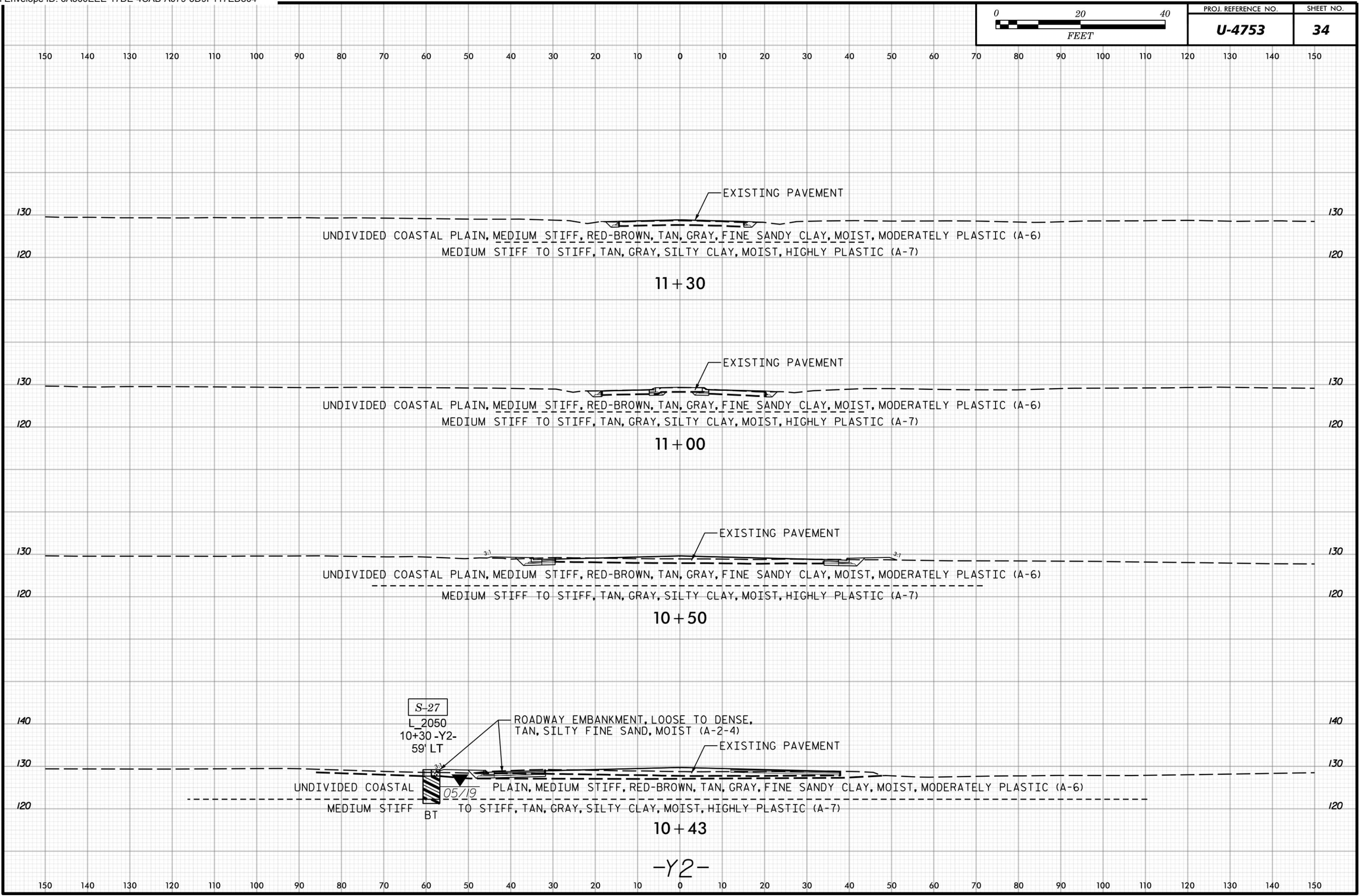


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-Y/-



PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>34</b>



EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, MEDIUM STIFF, RED-BROWN, TAN, GRAY, FINE SANDY CLAY, MOIST, MODERATELY PLASTIC (A-6)

MEDIUM STIFF TO STIFF, TAN, GRAY, SILTY CLAY, MOIST, HIGHLY PLASTIC (A-7)

**11 + 30**

EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, MEDIUM STIFF, RED-BROWN, TAN, GRAY, FINE SANDY CLAY, MOIST, MODERATELY PLASTIC (A-6)

MEDIUM STIFF TO STIFF, TAN, GRAY, SILTY CLAY, MOIST, HIGHLY PLASTIC (A-7)

**11 + 00**

EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, MEDIUM STIFF, RED-BROWN, TAN, GRAY, FINE SANDY CLAY, MOIST, MODERATELY PLASTIC (A-6)

MEDIUM STIFF TO STIFF, TAN, GRAY, SILTY CLAY, MOIST, HIGHLY PLASTIC (A-7)

**10 + 50**

S-27

L-2050

10+30-Y2-59' LT

ROADWAY EMBANKMENT, LOOSE TO DENSE, TAN, SILTY FINE SAND, MOIST (A-2-4)

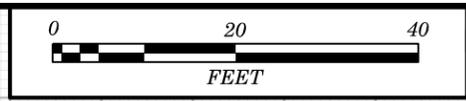
EXISTING PAVEMENT

UNDIVIDED COASTAL PLAIN, MEDIUM STIFF, RED-BROWN, TAN, GRAY, FINE SANDY CLAY, MOIST, MODERATELY PLASTIC (A-6)

MEDIUM STIFF TO STIFF, TAN, GRAY, SILTY CLAY, MOIST, HIGHLY PLASTIC (A-7)

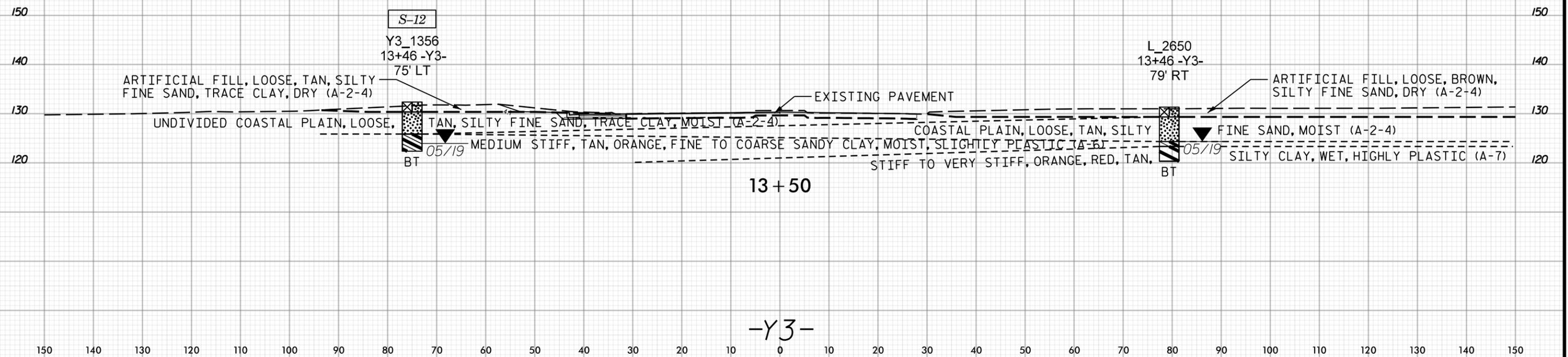
**10 + 43**

-Y2-

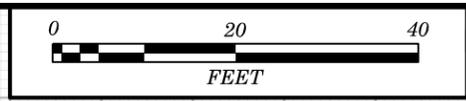


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<b>U-4753</b>	<b>35</b>

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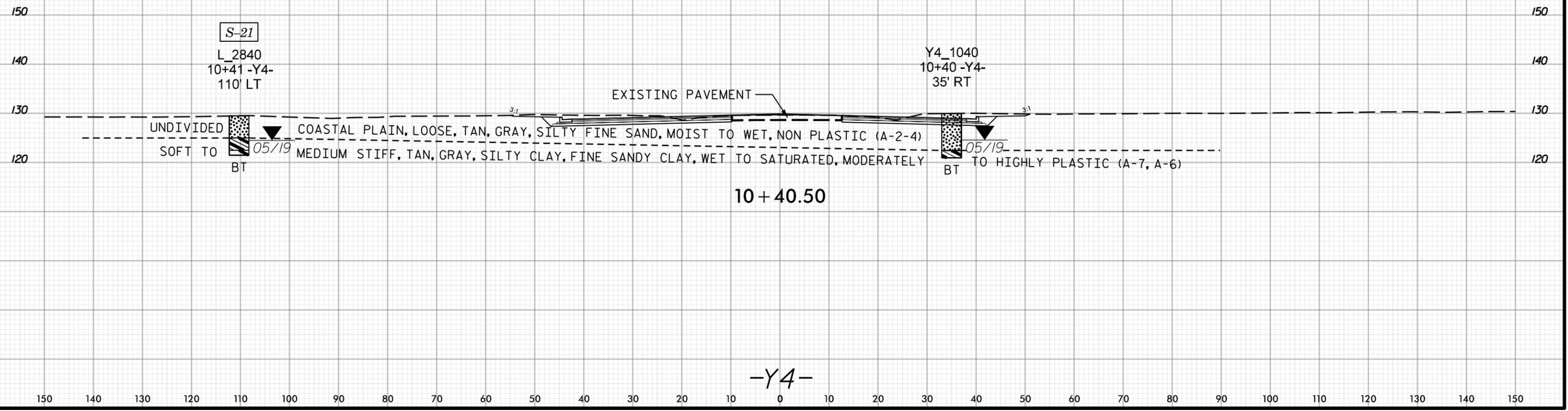


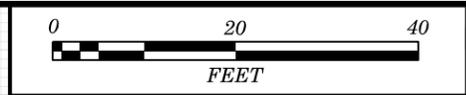
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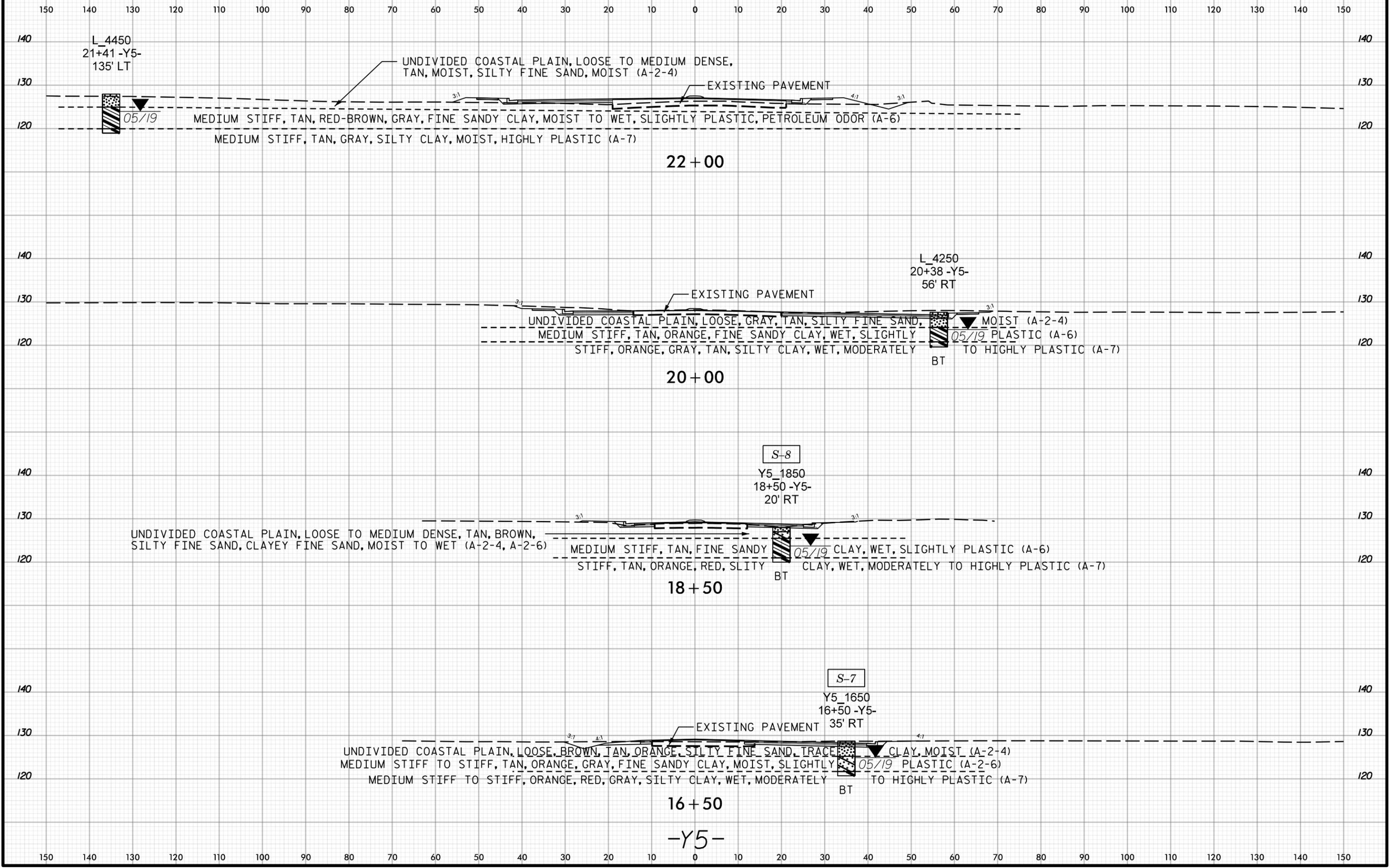
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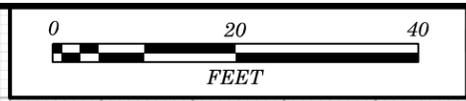
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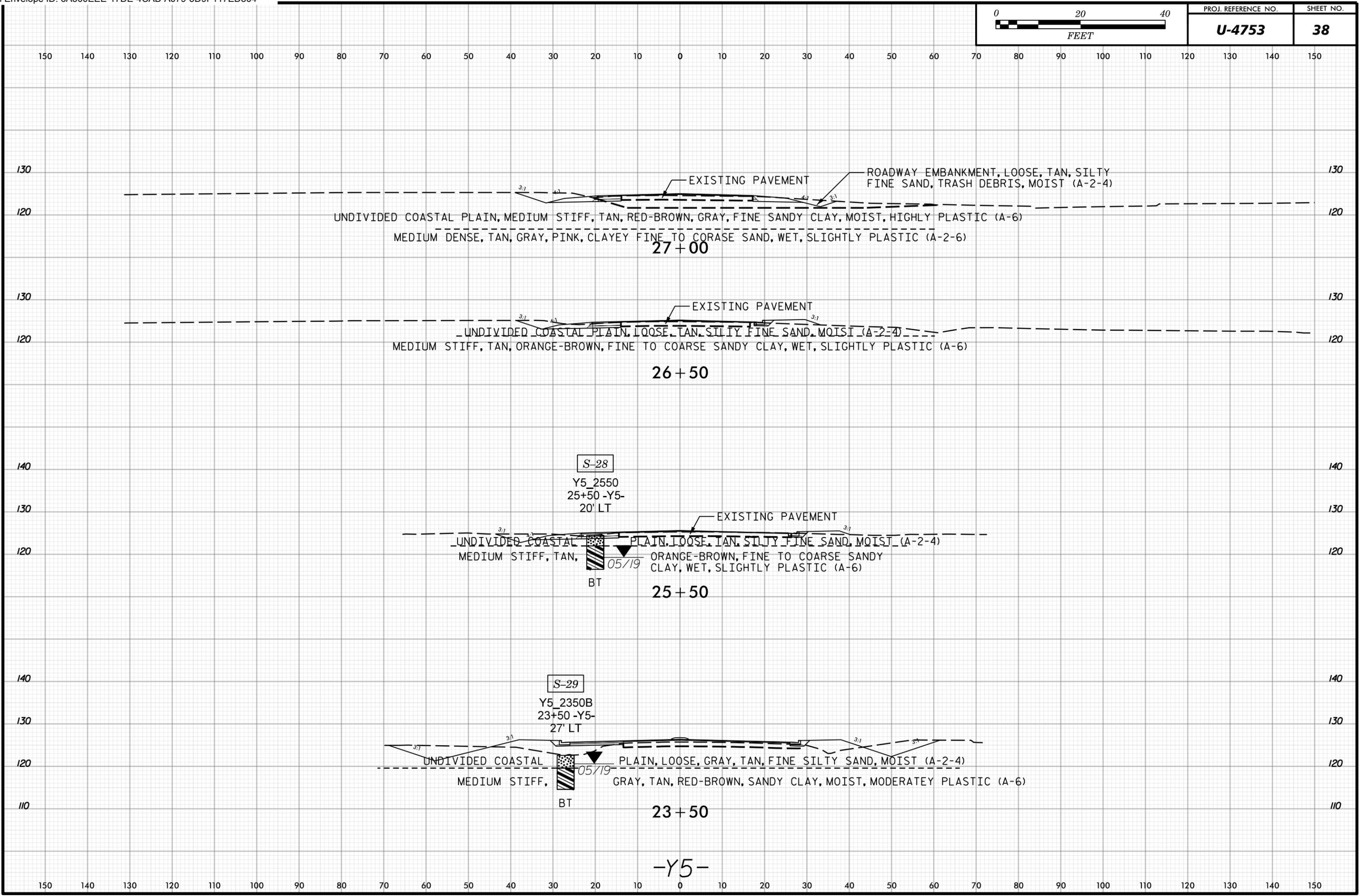


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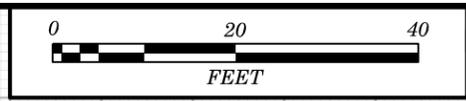




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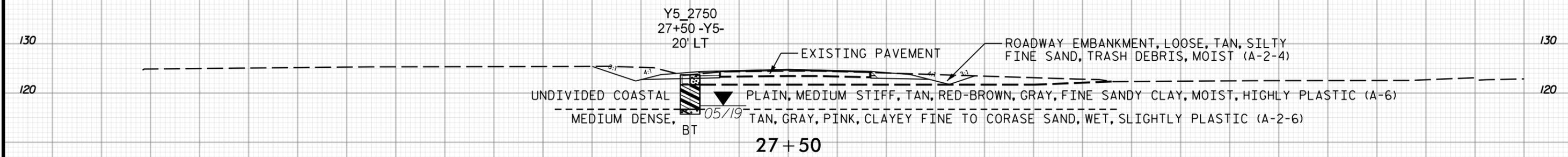
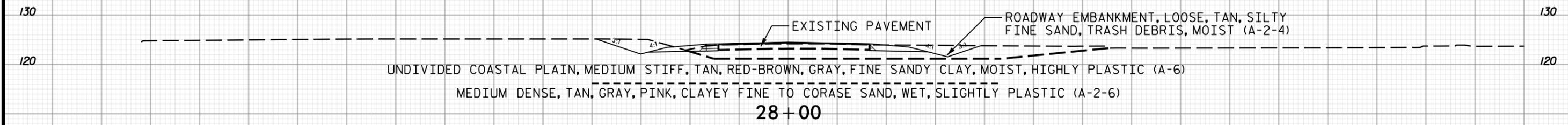
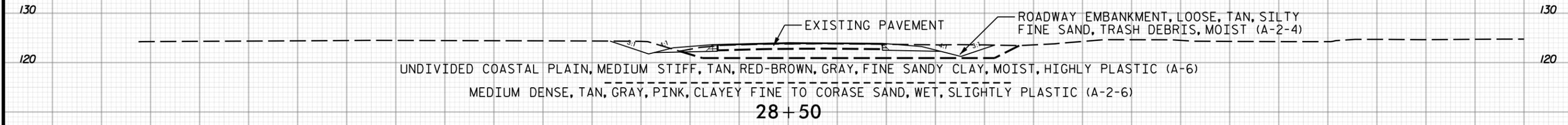


-Y5-



PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>39</b>

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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

-Y5-





3150 Spring Forest Road, Suite 100  
Raleigh, North Carolina 27616  
P (919) 873-2211  
F (919) 873-9555  
North Carolina Registered F-0869  
[Terracon.com](http://Terracon.com)

Date: January 13, 2026

Memorandum to: David Garrett  
Roadway Engineer  
Parsons

From: Abner F. Riggs, Jr. PE  
Senior Geotechnical Engineer  
Terracon Consultants

State Project: 39927.1.1

TIP: U-4753

County: Wayne

Description: Widening of SR 1556 (Wayne Memorial Drive) from SR 1003 (New Hope Road) to I-42 (US 70 Bypass)

**Subject: Geotechnical Report - Design and Construction Recommendations**

Terracon Consultants has completed a subsurface investigation for this project and presents the following recommendations:

## **I. Slope and Embankment Stability**

### **A. Slope Design**

All permanent slopes should be constructed at a ratio of 3:1 (H:V) or flatter.

### **B. Undercut for Embankment Stability**

Undercut for Embankment Stability is necessary where soft foundation soils are encountered which must be removed prior to the placement of embankment. We recommend that 100 cubic yards of Undercut Excavation be included in the contract as a contingency to be used at the discretion of the Engineer.

### **C. Geotextile for Soil Stabilization**

A quantity of 100 square yards of Geotextile for Soil Stabilization is recommended for inclusion in the contract as a contingency to be used at the discretion of the Engineer. Geotextile for Soil Stabilization shall follow NCDOT Standard Specifications, Section 270.



**II. Subgrade Stability**

**A. Subsurface Drainage - Subsurface Drains**

Subsurface Drainage is necessary when groundwater is encountered within 6 feet of proposed subgrade. It is recommended that 13,720 linear feet of 6-inch Perforated Subdrain Pipe be included in project contract in the following areas:

<u>Alignment</u>	<u>Stations (±)</u>	<u>Location</u>
-L-	16+00 to 47+00	LT and RT
-Y1-	10+00 to 32+15	LT and RT
-Y5-	13+55 to 29+00	LT and RT

We recommend an additional quantity of 1,000 linear feet of 6-inch Perforated Subdrain Pipe be included in the project contract as a contingency item to be used at the discretion of the Project Engineer. Construction of subsurface drains shall follow Standard Specifications, Section 815, “Subsurface Drainage” (Roadway Standard Drawing No. 815.02). The Hydraulics Engineer should determine the outfall and should extend the ditches to the outfall if there is insufficient outfall in the recommended areas.

**B. Grade-Point Undercut**

We recommend 100 cubic yards of Undercut Excavation be included in the contract as a contingency item, to be used in areas for grade-point undercut at the discretion of the Engineer.

**C. Undercut for Subgrade Stability**

We recommend a quantity of 500 cubic yards of Undercut Excavation be included in the contract as a contingency item, to be used in areas for undercut at the discretion of the Engineer.

**D. Aggregate Subgrade (Type I)**

For Aggregate Subgrade, see Section 505 of 2024 Standard Specifications.

**Shallow Undercut**

Shallow undercut is recommended for the following areas that contain moderately to highly plastic clays with plastic indices (PI) of 16 or greater within 3 feet of proposed subgrade. These areas are shown by a shaded symbol on the cross sections and should be wasted. Shallow Undercut should be to a depth of 1.0 foot below subgrade. Backfill should extend to a depth of 1.0 foot below subgrade and to 1.0 foot beyond curb and gutter or pavement structure. We estimate a quantity of 2,600 cubic yards of shallow undercut in the following areas:



<u>Alignment</u>	<u>Stations (+)</u>
-L-	10+75 to 21+75
-L-	37+75 to 39+75
-Y1-	10+00 to 13+75
-Y1-	22+25 to 26+25
-Y1-	27+75 to 32+15
-Y2-	10+43 to 11+30
-Y5-	26+75 to 28+25

We recommend an additional quantity of 250 cubic yards of Aggregate Subgrade be included in the contract as a contingency item, to be used at the discretion of the Engineer.

#### Geotextile for Subgrade Stabilization

A quantity of 10,275 square yards of Geotextile for Subgrade Stabilization should be included in the project contract. An additional quantity of 750 square yards of Geotextile for Subgrade Stabilization is recommended for inclusion in the contract as a contingency item, to be used at the discretion of the Engineer.

#### Class IV Subgrade Stabilization

We recommend a quantity of 6,675 tons of Class IV Subgrade Stabilization should be included in the project contract. An additional quantity of 500 tons of Class IV Subgrade Stabilization is recommended for inclusion in the contract as a contingency item, to be used at the discretion of the Engineer.

#### **E. Geotextile for Soil Stabilization**

A quantity of 500 square yards of Geotextile for Soil Stabilization is recommended for inclusion in the contract as a contingency item in section II.C to be used at the discretion of the Engineer. Geotextile for Soil Stabilization shall follow NCDOT Standard Specifications, Section 270.

### **III. Borrow Specifications**

#### **A. Borrow Criteria**

Common borrow for embankment construction to subgrade shall meet Coastal Plain area criteria as described in Section 1018-2(B) of the NCDOT Standard Specifications.

#### **B. Shrinkage Factor**

A shrinkage factor of 25 percent is recommended for calculation of earthwork quantities on this project.



**C. Select Granular Material**

We recommend a quantity of 100 cubic yards of Select Granular Material to be included in the project as a contingency item in section I.B. to be used at the discretion of the Engineer. An additional quantity of 500 cubic yards of Select Granular Material is recommended for inclusion in the contract as a contingency item in Section II.C to be used at the discretion of the Engineer. Follow Standard Specifications, Article 1016-3, Class II and/or III. Select granular material should be placed to a height of 3 feet above the geotextile for soil stabilization

**IV. Miscellaneous**

**A. Reduction of Unclassified Excavation – Clearing and Grubbing**

A loss of 2,350 cubic yards of unclassified excavation is estimated on the project due to Clearing and Grubbing of cut sections.

**B. Reduction of Unclassified Excavation – Unsuitable Waste**

The following areas of excavation contain clayey soils with plastic indices (PI) greater than 20 and should be considered Unsuitable Unclassified Excavation.

<u>Alignment</u>	<u>Stations (±)</u>
-L-	17+75 to 19+75
-Y1-	10+75 to 13+75
-Y1-	27+75 to 32+15
-Y5-	26+75 to 28+25

These soils are shown by the single-hatch pattern (////) on the cross sections and should be wasted. We estimate a quantity of 930 cubic yards of excavated Unsuitable Unclassified Excavation soil.

**C. Reduction of Unclassified Excavation - Acceptable**

Unclassified Excavation Acceptable soils derived primarily from cuts along the alignments are unsuitable for use as borrow within the top 3 feet of embankments or backfill. The following areas of excavation contain clayey soils with plastic indices (PI) of 16 or greater and less than or equal to 20.

<u>Alignment</u>	<u>Stations (±)</u>
-L-	14+25 to 14+75
-L-	15+25 to 17+75
-L-	19+75 to 21+75
-Y1-	15+75 to 16+75
-Y1-	24+25 to 26+25
-Y2-	10+43 to 11+30



These soils are shown by the asterisk pattern (\*\*\*\*) on the cross sections and should only be used as fill where they will be separated from subgrade by 3 feet or more of suitable borrow. We estimate a quantity of 560 cubic yards of excavated moderately plastic Acceptable Unclassified Excavation.

**A. Potentially Hazardous Conditions**

During the investigation, potentially hazardous conditions were noted at 3426 Wayne Memorial Drive. An existing gas station (Tommy's Food Mart) is located at the northeast corner of the intersection of Wayne Memorial Drive and Tommys Road. The canopy and pumps are located between approximately Stations 44+30 and 44+70 -L- 75 feet right.

Sincerely,  
Terracon Consultants, Inc.



Signed by:

1/14/2026

C292402FCACB445...  
Matthew L. Hartman, PG  
Project Geologist  
N.C. Registration No. 2679



DocuSigned by:

1/14/2026

C2F6AC84D274B1...  
Abner F. Riggs, Jr., PE  
Senior Geotechnical Engineer  
N.C. Registration No. 14155

Attachments: Summary of Quantities

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED.**



**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**GEOTECHNICAL ENGINEERING UNIT**

Summary of Quantities

WBS Number: 39927.1.1  
 TIP Number: U-4753  
 Description: Widening of SR 1556 (Wayne Memorial Drive) from SR 1003 (New Hope Road) to I-42 (US 70 Bypass)

County: WAYNE  
 Field Office / PEF: TERRACON

Project Engineer: A.F. RIGGS, JR  
 Project Geologist: M.L. HARTMAN

Pay Item No.	Pay Item/ Quantity Adjustment	Spec Book Section No. or Special Provision (SP) Reference	Report Section	Alignment	Begin Station	End Station	Quantity	Units / %
003600000-E	Undercut Excavation	225 - Roadway Excavation	I. B	Contingency	N/A	N/A	100	CY
003600000-E	Undercut Excavation	225 - Roadway Excavation	II. B	Contingency	N/A	N/A	100	CY
003600000-E	Undercut Excavation	225 - Roadway Excavation	II. C	Contingency	N/A	N/A	500	CY
<b>Total Quantity of Undercut Excavation =</b>							<b>700</b>	<b>CY</b>
019500000-E	Select Granular Material	265 - Select Granular Material	III. C	Contingency	N/A	N/A	600	CY
<b>Total Quantity of Select Granular Material =</b>							<b>600</b>	<b>CY</b>
019600000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	I. C	Contingency	N/A	N/A	100	SY
019600000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	II. E	Contingency	N/A	N/A	500	SY
<b>Total Quantity of Geotextile for Soil Stabilization =</b>							<b>600</b>	<b>SY</b>
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-L-	10+75.00	21+75.00	1,570	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-L-	37+75.00	39+75.00	100	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-Y1-	10+00.00	13+75.00	225	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-Y1-	22+25.00	26+25.00	285	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-Y1-	27+75.00	32+15.00	337	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-Y2-	10+43.00	11+30.00	53	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	-Y5-	26+75.00	28+25.00	30	CY
109950000-E	Shallow Undercut	505 - Aggregate Subgrade	II. D	Contingency	N/A	N/A	250	CY
<b>Total Quantity of Shallow Undercut =</b>							<b>2,850</b>	<b>CY</b>
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-L-	10+75.00	21+75.00	3,600	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-L-	37+75.00	39+75.00	230	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	10+00.00	13+75.00	585	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	22+25.00	26+25.00	1,210	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	27+75.00	32+15.00	820	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y2-	10+43.00	11+30.00	150	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y5-	26+75.00	28+25.00	80	TON
109970000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. D	Contingency	N/A	N/A	500	TON
<b>Total Quantity of Class IV Subgrade Stabilization =</b>							<b>7,175</b>	<b>TON</b>
111200000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-L-	10+75.00	21+75.00	5,550	SY



**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**GEOTECHNICAL ENGINEERING UNIT**

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County: WAYNE  
 Field Office / PEF: TERRACON

Project Engineer: A.F. RIGGS, JR  
 Project Geologist: M.L. HARTMAN

Pay Item No.	Pay Item/ Quantity Adjustment	Spec Book Section No. or Special Provision (SP) Reference	Report Section	Alignment	Begin Station	End Station	Quantity	Units / %
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-L-	37+75.00	39+75.00	350	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	10+00.00	13+75.00	900	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	22+25.00	26+25.00	1,865	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y1-	27+75.00	32+15.00	1,263	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y2-	10+43.00	11+30.00	230	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	-Y5-	26+75.00	28+25.00	117	SY
1112000000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. D	Contingency	N/A	N/A	750	SY
<b>Total Quantity of Geotextile for Subgrade Stabilization =</b>							<b>11,025</b>	<b>SY</b>
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. A	-L-	16+00.00	47+00.00	6,200	LF
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. A	-Y1-	10+00.00	32+15.00	4,430	LF
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. A	-Y5-	13+55.00	26+00.00	3,090	LF
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. A	Contingency	N/A	N/A	1,000	LF
<b>Total Quantity of 6" Perforated Subdrain Pipe =</b>							<b>14,720</b>	<b>LF</b>
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-L-	14+25.00	14+75.00	5	CY
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-L-	15+25.00	17+75.00	260	CY
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-L-	19+75.00	21+75.00	75	CY



**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**GEOTECHNICAL ENGINEERING UNIT**

Summary of Quantities

WBS Number: 39927.1.1  
 TIP Number: U-4753  
 Description: Widening of SR 1556 (Wayne Memorial Drive) from SR 1003 (New Hope Road) to I-42 (US 70 Bypass)

County: WAYNE  
 Field Office / PEF: TERRACON

Project Engineer: A.F. RIGGS, JR  
 Project Geologist: M.L. HARTMAN

Pay Item No.	Pay Item/ Quantity Adjustment	Spec Book Section No. or Special Provision (SP) Reference	Report Section	Alignment	Begin Station	End Station	Quantity	Units / %
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-Y1-	15+75.00	16+75.00	25	CY
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-Y1-	24+25.00	26+25.00	145	CY
N/A	Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill	225 - Roadway Excavation	IV. C	-Y2-	10+43.00	11+30.00	50	CY
<b>Total Quantity of Unclassified Excavation - Acceptable, but not to be used in top 3 ft of embankment or backfill =</b>							<b>560</b>	<b>CY</b>

These Items Only Impact Earthwork Totals								
N/A	Loss Due to Clearing & Grubbing	200 - Clearing and Grubbing	IV. A	N/A	N/A	N/A	2,350	CY
N/A	Shrinkage Factor	235 - Embankments	III. B	N/A	N/A	N/A	25	%
N/A	Unclassified Excavation - Unsuitable Waste	225 - Roadway Excavation	IV. A	N/A	N/A	N/A	930	CY

REFERENCE: U-4753

PROJECT: 39927

SEE SHEET 3 FOR PLAN SHEET LAYOUT  
AT TIME OF INVESTIGATION

**CONTENTS**

**CROSS SECTIONS**

<u>LINE</u>	<u>STATION</u>	<u>SHEETS</u>
-L-	22+00	4 - 9
-L-	37+50 TO 40+00	9 - 11
-Y1-	10+00 TO 14+00	12 - 14
-Y1-	15+50 TO 17+00	14 - 15
-Y1-	22+00 - 26+50	15 - 18
-Y1-	27+50 - 32+14.68	18 - 21
-Y2-	10+43 TO 11+30	22 - 23
-Y5-	26+50 - 28+50	24 - 25

**APPENDICES**

<u>APPENDIX</u>	<u>TITLE</u>	<u>SHEETS</u>
A	LABORATORY TESTING SUMMARY	26

**STATE OF NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**GEOTECHNICAL ENGINEERING UNIT**

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**ROADWAY**

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**SUBSURFACE INVESTIGATION**

COUNTY WAYNE  
PROJECT DESCRIPTION SR 1556 (WAYNE MEMORIAL  
DRIVE) FROM SR 1003 (NEW HOPE ROAD) TO  
I-42 (US 70 BYPASS)

**RECOMMENDATIONS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4753	1	

**CAUTION NOTICE**

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
  - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

BUNCH, C. M.

RUSSEK, S. C.

BIGALOW, H. B.

INVESTIGATED BY RIGGS, Jr., A. F.

DRAWN BY FIELDS, W. D.

CHECKED BY RIGGS, Jr., A. F.

SUBMITTED BY TERRACON CONSULTANTS

DATE JANUARY 2026

Prepared in the Office of:



3150 SPRING FOREST ROAD, SUITE 100  
RALEIGH, NORTH CAROLINA 27616  
NC REGISTERED ENGINEERING FIRM: E-0869  
NC REGISTERED GEOLOGIC FIRM: C-367



DocuSigned by:

*Abner Riggs Jr.*

1/14/2026

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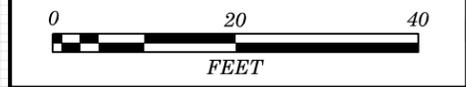
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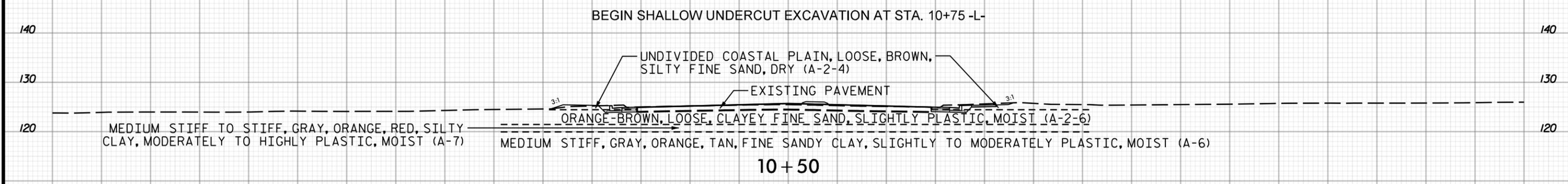
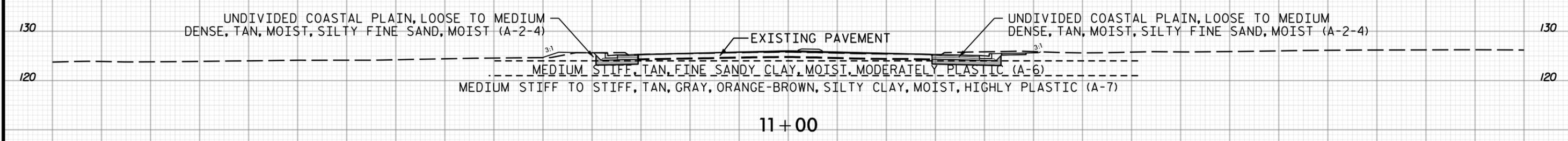
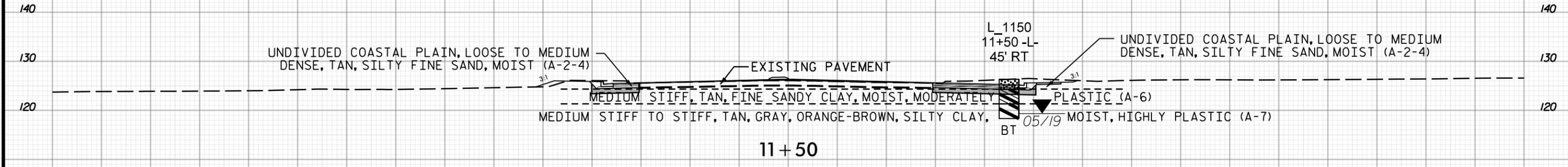
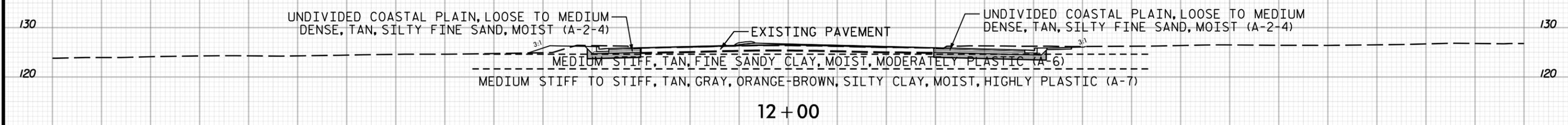
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UNLESS ALL SIGNATURES COMPLETED**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**GEOTECHNICAL ENGINEERING UNIT**  
**SUBSURFACE INVESTIGATION**  
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

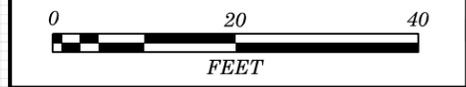
SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																																																											
<p>SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 208, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>										<p><b>WELL GRADED</b> - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. <b>UNIFORMLY GRADED</b> - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. <b>GAP-GRADED</b> - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p>										<p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p>										<p><b>ALLUVIUM (ALLUV.)</b> - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. <b>AQUIFER</b> - A WATER BEARING FORMATION OR STRATA. <b>ARENACEOUS</b> - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. <b>ARGILLACEOUS</b> - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. <b>ARTESIAN</b> - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. <b>CALCAREOUS (CALC.)</b> - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. <b>COLLUVIUM</b> - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. <b>CORE RECOVERY (REC.)</b> - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. <b>DIKE</b> - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. <b>DIP</b> - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. <b>DIP DIRECTION (DIP AZIMUTH)</b> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. <b>FAULT</b> - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. <b>FISSILE</b> - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. <b>FLOAT</b> - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOADED FROM PARENT MATERIAL. <b>FLOOD PLAIN (FP)</b> - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. <b>FORMATION (FM)</b> - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. <b>JOINT</b> - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. <b>LEDGE</b> - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. <b>LENS</b> - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. <b>MOTTLED (MOT.)</b> - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. <b>PERCHED WATER</b> - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. <b>RESIDUAL (RES.) SOIL</b> - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. <b>ROCK QUALITY DESIGNATION (RQD)</b> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. <b>SAPROLITE (SAP.)</b> - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. <b>SILL</b> - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. <b>SLICKENSIDE</b> - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. <b>STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT)</b> - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. <b>STRATA CORE RECOVERY (SREC.)</b> - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. <b>STRATA ROCK QUALITY DESIGNATION (SROD)</b> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. <b>TOPSOIL (TS)</b> - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>																																																											
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										MINERALOGICAL COMPOSITION										COMPRESSION										PERCENTAGE OF MATERIAL										GROUND WATER										MISCELLANEOUS SYMBOLS										RECOMMENDATION SYMBOLS										ABBREVIATIONS									
<p>GENERAL CLASS. GRANULAR MATERIALS (&lt;= 35% PASSING #200) SILT-CLAY MATERIALS (&gt; 35% PASSING #200) ORGANIC MATERIALS</p>										<p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p>										<p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p>										<p>SLIGHTLY COMPRESSIBLE LL &lt; 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL &gt; 50</p>										<p>ORGANIC MATERIAL GRANULAR SOILS SILT - CLAY SOILS OTHER MATERIAL TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10% LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35% HIGHLY ORGANIC &gt; 10% &gt; 20% HIGHLY 35% AND ABOVE</p>										<p>WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA SPRING OR SEEP</p>										<p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY</p>										<p>UNDERCUT SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK</p>										<p>AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - COARSE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI. - HIGHLY MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA. - WEATHERED UNIT WEIGHT DRY UNIT WEIGHT SAMPLE ABBREVIATIONS S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO</p>									
TEXTURE OR GRAIN SIZE										CONSISTENCY OR DENSENESS										ROCK HARDNESS										FRACTURE SPACING										BEDDING										EQUIPMENT USED ON SUBJECT PROJECT										INDURATION																													
<p>U.S. STD. SIEVE SIZE OPENING (MM) 4 10 40 60 200 270 4.76 2.00 0.42 0.25 0.075 0.053</p>										<p>PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT<sup>2</sup>)</p>										<p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p>										<p>TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.16 TO 1 FOOT VERY CLOSE LESS THAN 0.16 FEET</p>										<p>TERM THICKNESS VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THINLY BEDDED 0.16 - 1.5 FEET VERY THINLY BEDDED 0.03 - 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED &lt; 0.008 FEET</p>										<p>DRILL UNITS: <input type="checkbox"/> CME-45C <input type="checkbox"/> CME-55 <input type="checkbox"/> CME-550 <input type="checkbox"/> VANE SHEAR TEST <input type="checkbox"/> PORTABLE HOIST</p>										<p>ADVANCING TOOLS: <input type="checkbox"/> CLAY BITS <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> TUNG-CARBIDE INSERTS <input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER <input type="checkbox"/> TRICONE * STEEL TEETH <input type="checkbox"/> TRICONE * TUNG-CARB. <input type="checkbox"/> CORE BIT</p>										<p>HAND TOOLS: <input type="checkbox"/> POST HOLE DIGGER <input checked="" type="checkbox"/> HAND AUGER <input type="checkbox"/> SOUNDING ROD <input type="checkbox"/> VANE SHEAR TEST</p>										<p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p>									
SOIL MOISTURE - CORRELATION OF TERMS										PLASTICITY										COLOR																																																																					
<p>SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION</p>										<p>NON PLASTIC PLASTICITY INDEX (PI) DRY STRENGTH 0-5 VERY LOW 6-15 SLIGHT 16-25 MEDIUM 26 OR MORE HIGH</p>										<p>DESCRIPTORS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-BROWN). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p>																																																																					
BENCH MARK: BORINGS PROJECTED USING PROVIDED TIN FILE										ELEVATION: FEET										NOTES:																																																																					
<p>u4753_rdy_tin.tin; DATED 04/18/2019</p>										<p>FIAD - FILLED IMMEDIATELY AFTER DRILLING HAR - HAND AUGER REFUSAL</p>										<p>DATE: 8-15-14</p>																																																																					



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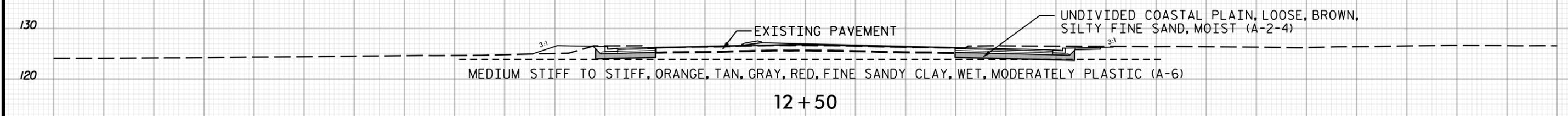
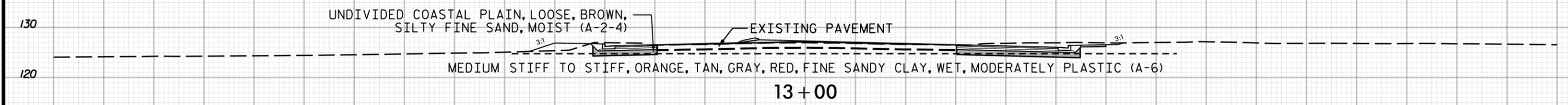
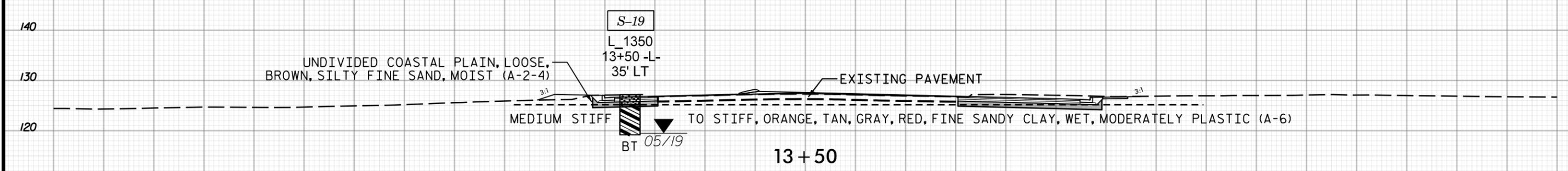
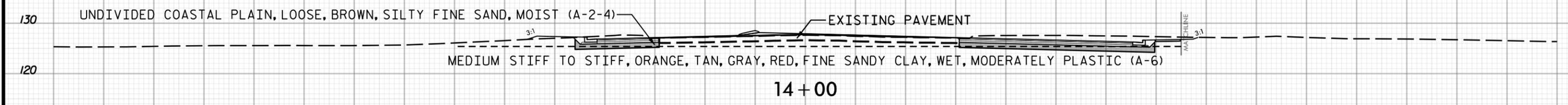


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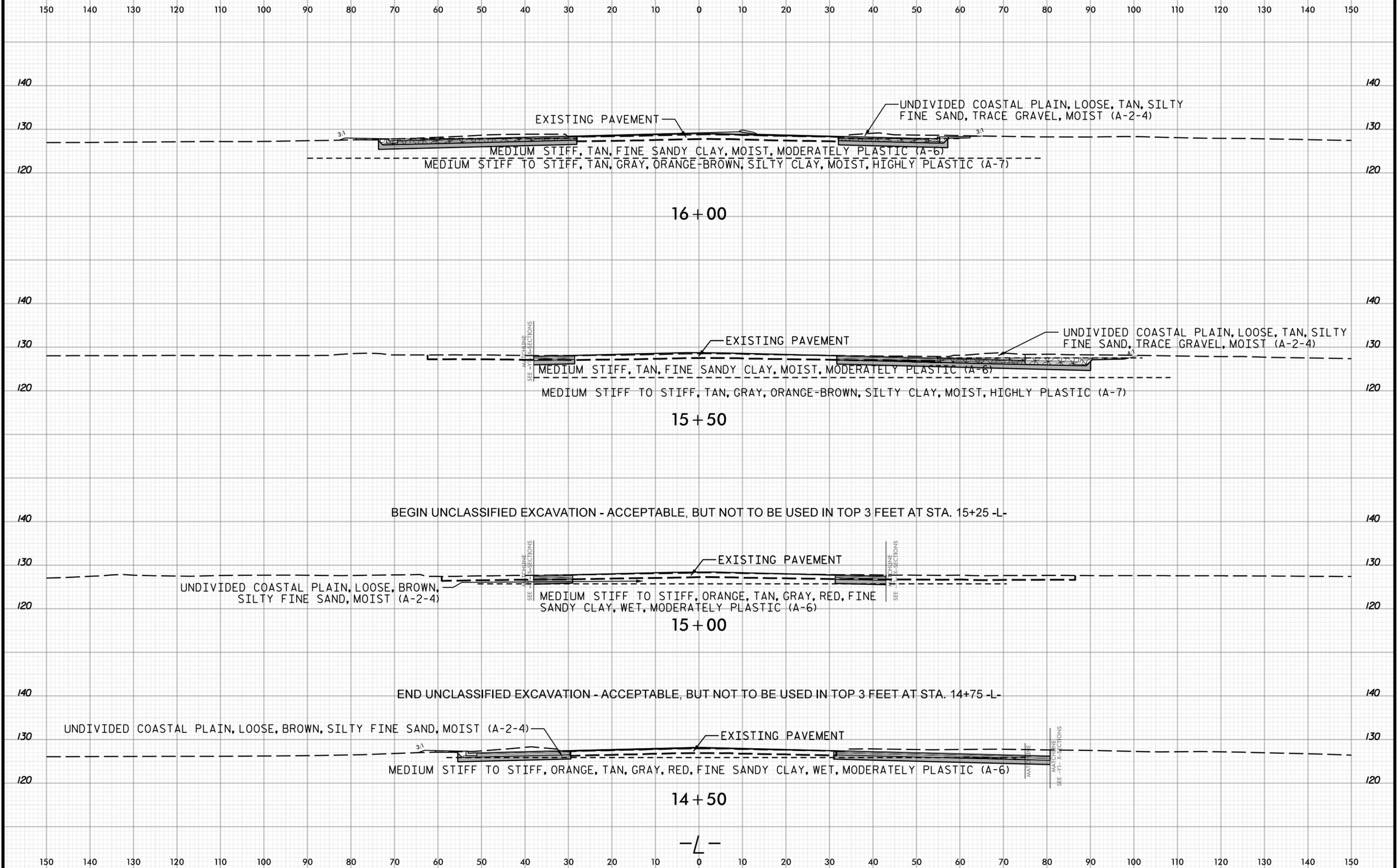
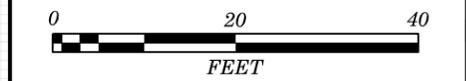
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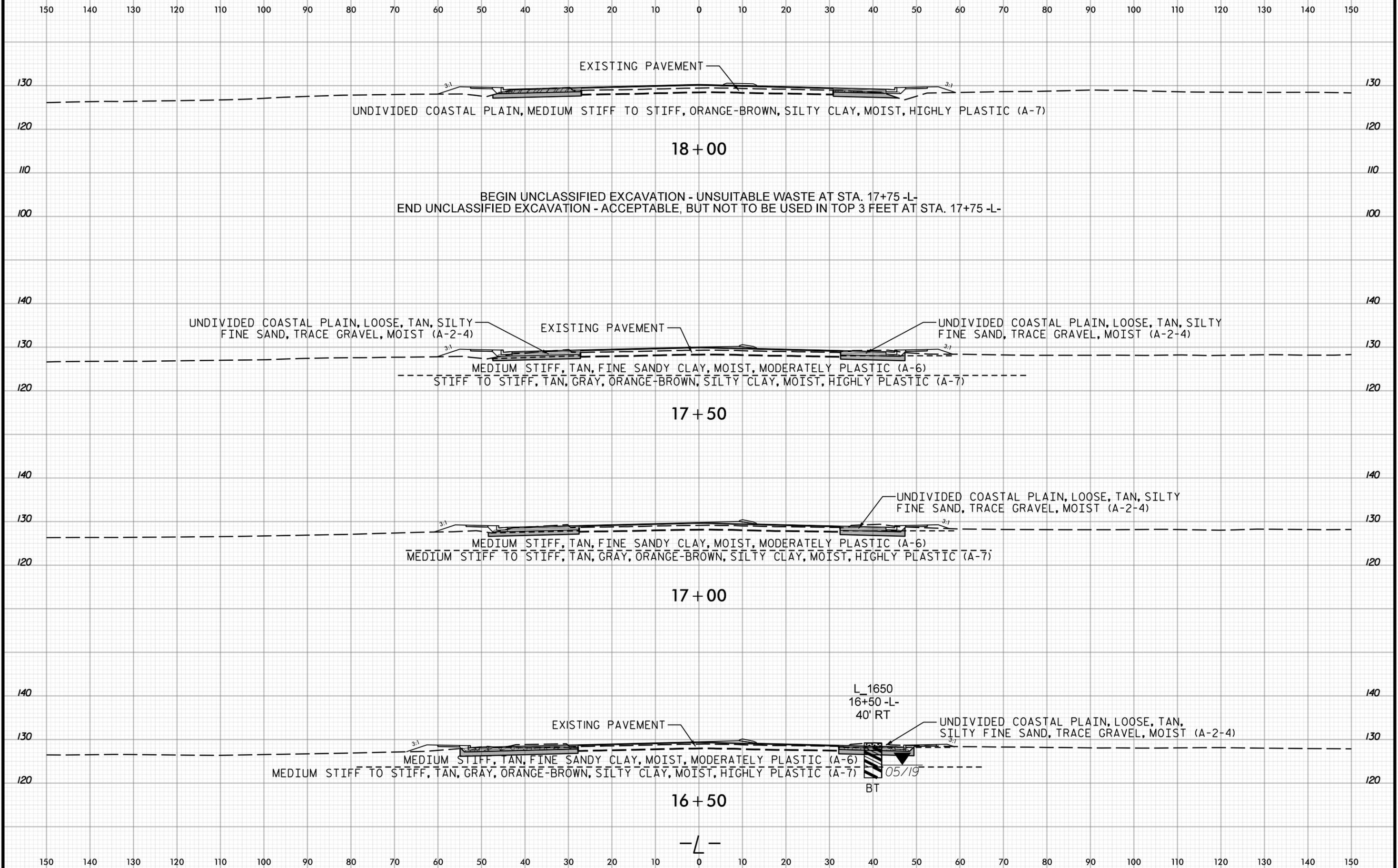
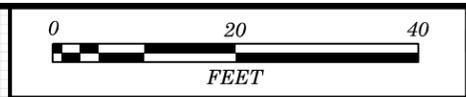
BEGIN UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FEET AT STA. 14+25 -L-

140  
130  
120



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18 + 00

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 17+75 -L-  
 END UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FEET AT STA. 17+75 -L-

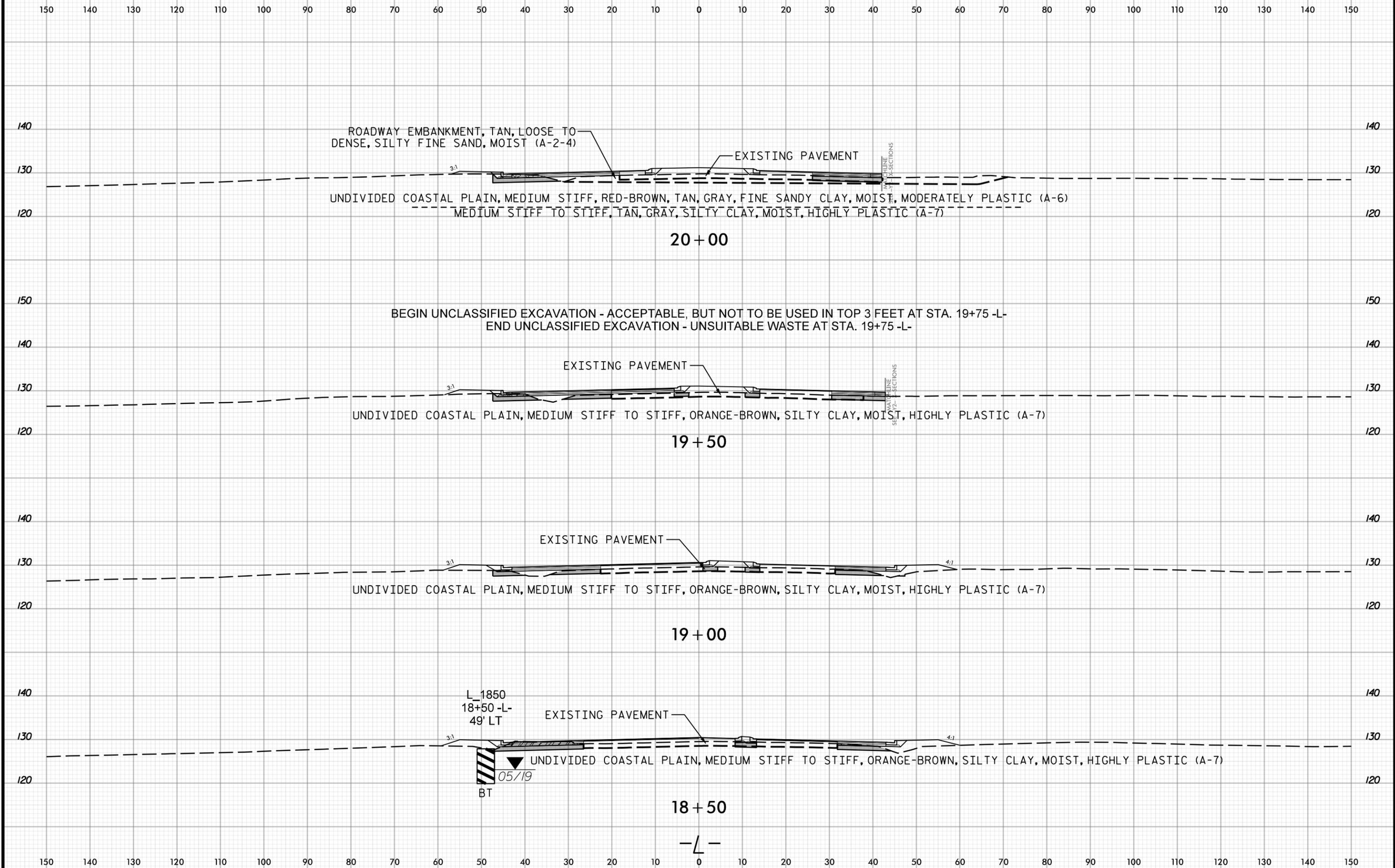
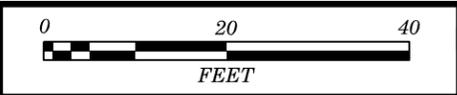
17 + 50

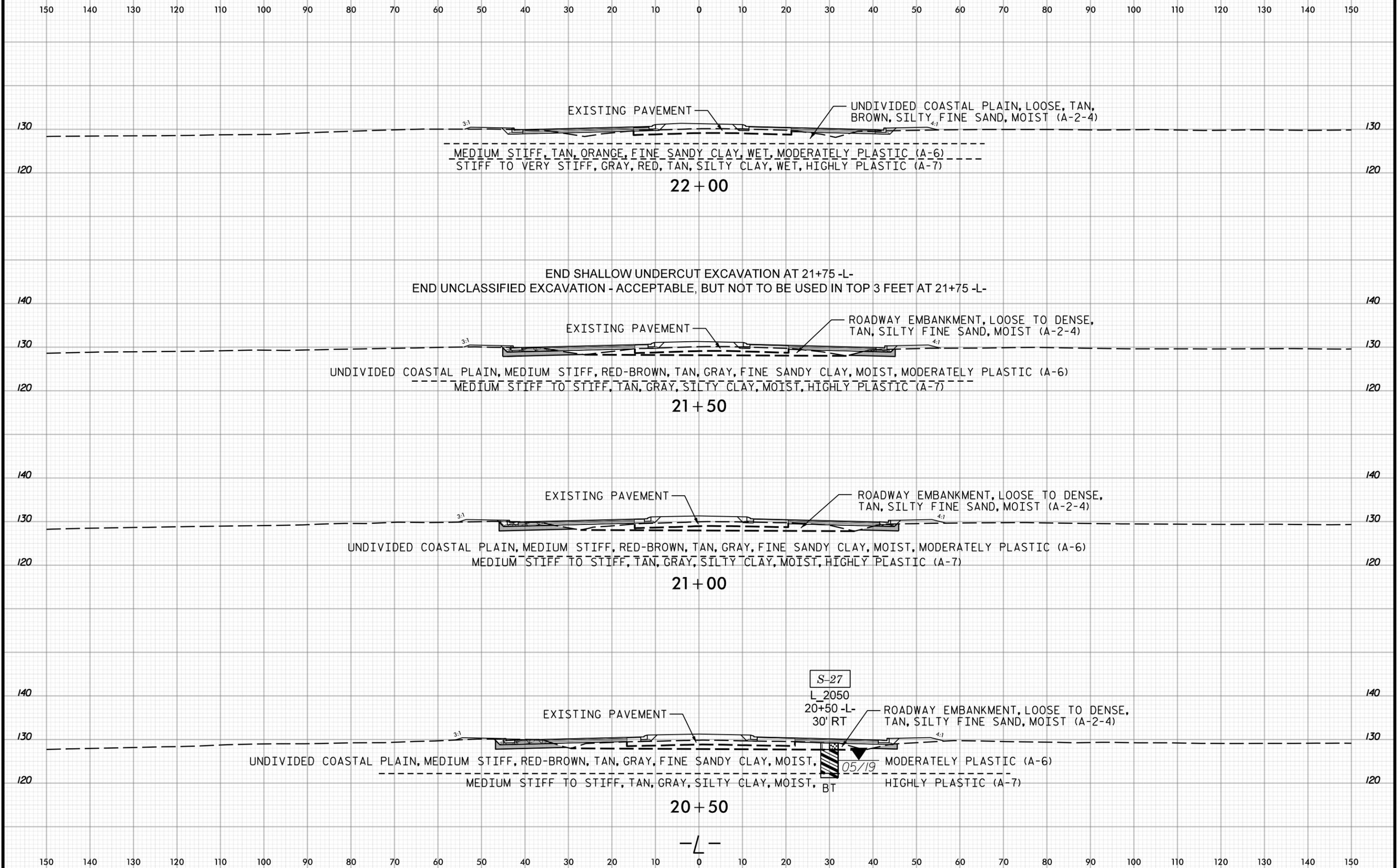
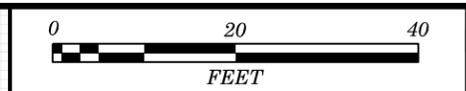
17 + 00

16 + 50

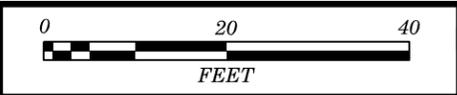
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 16+50-L-  
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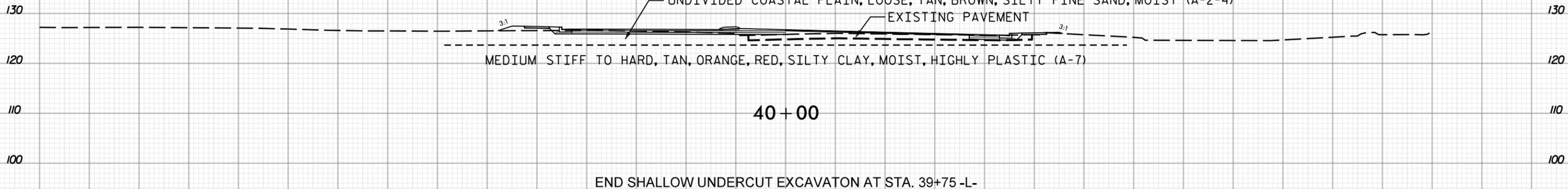




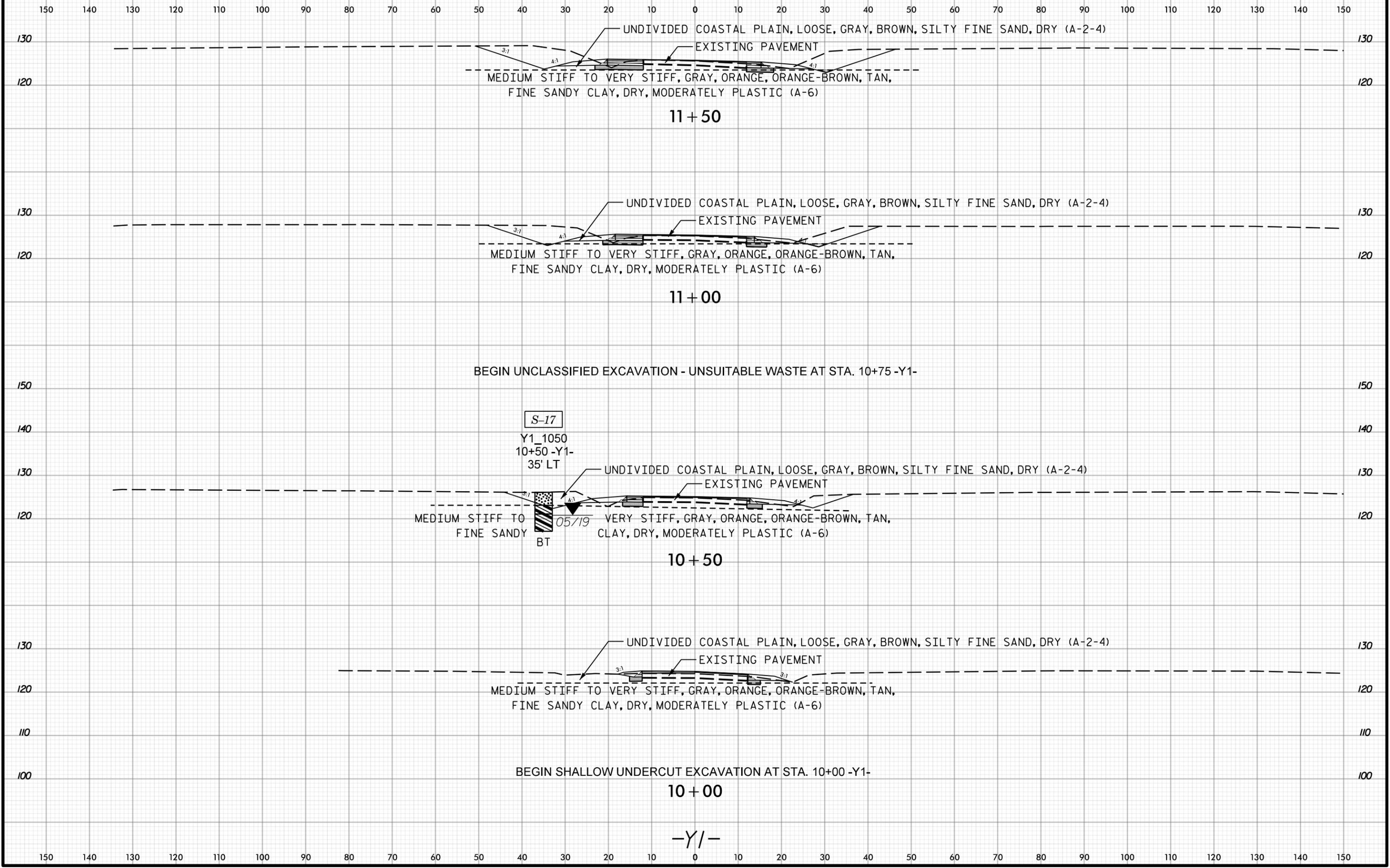
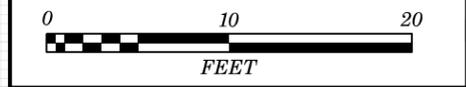


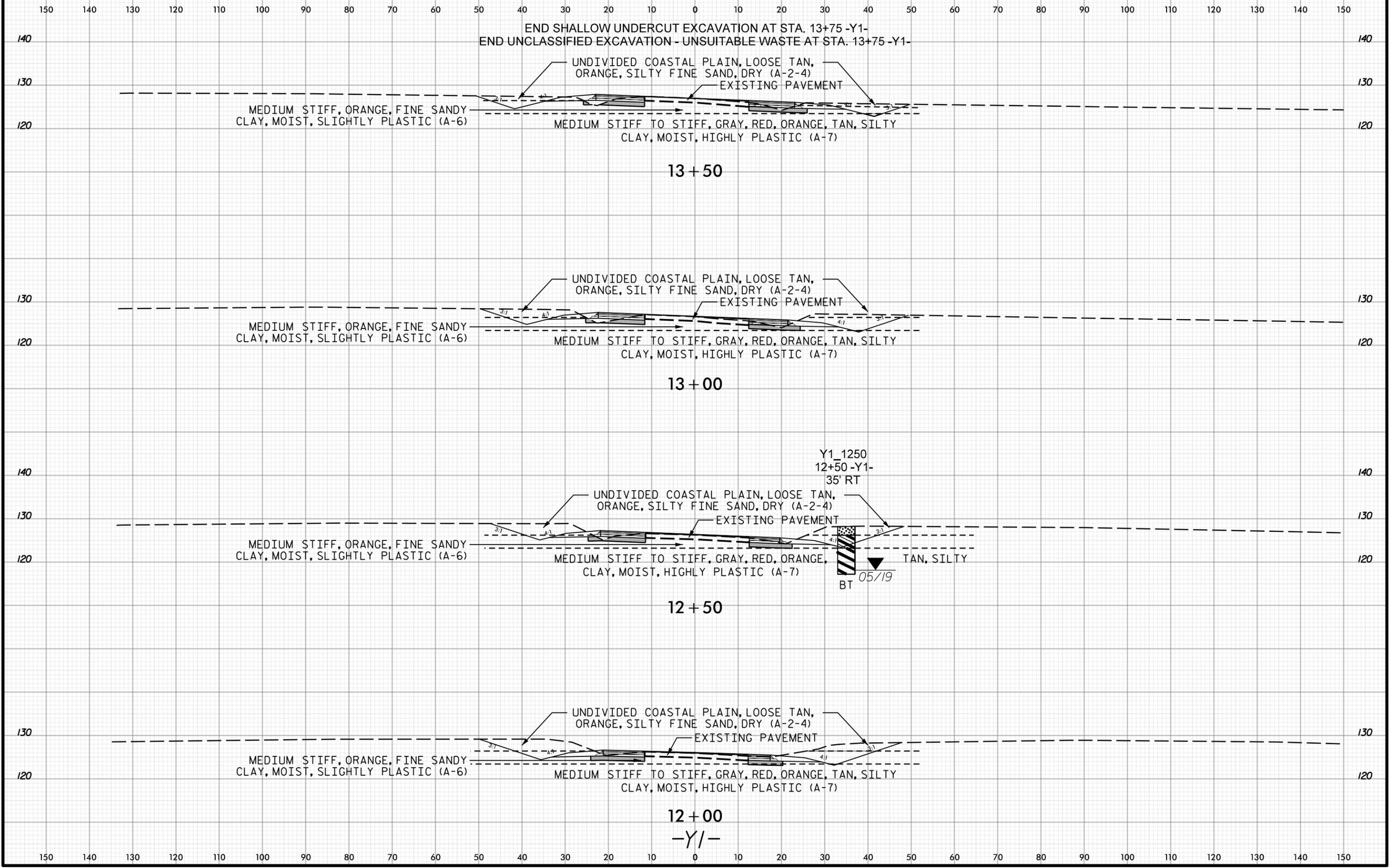
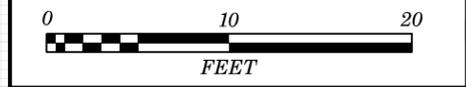
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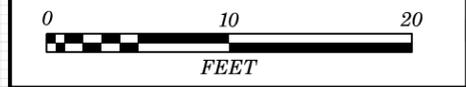
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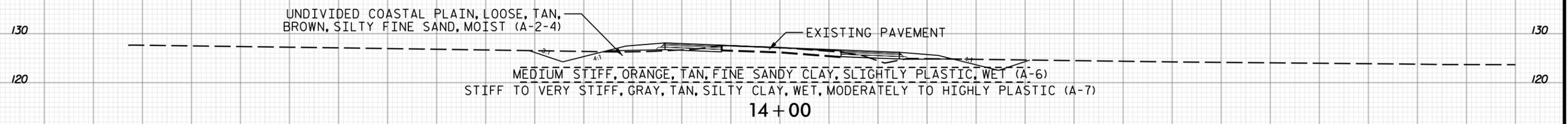
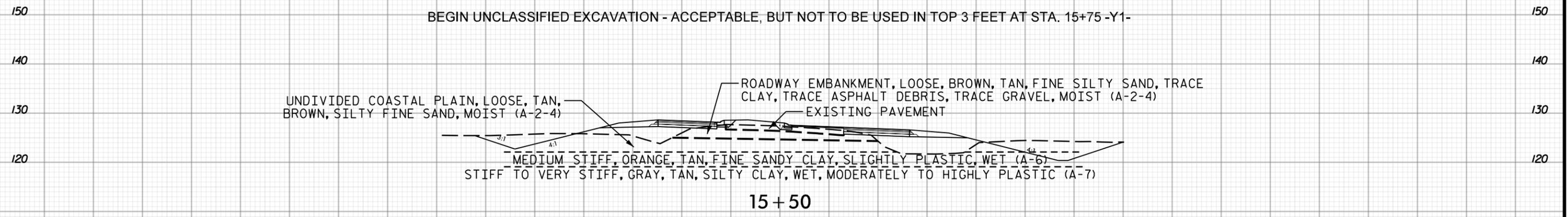
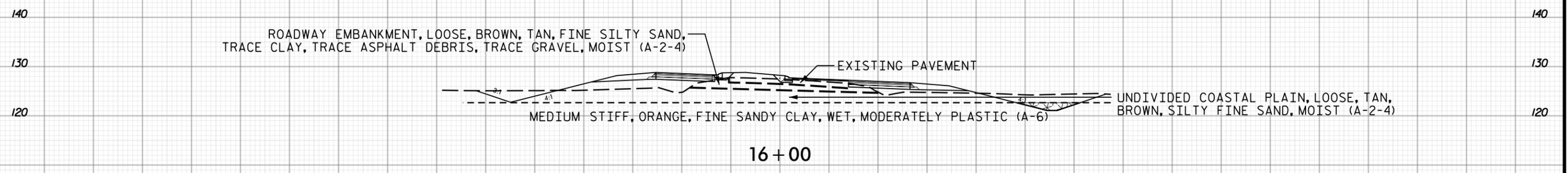
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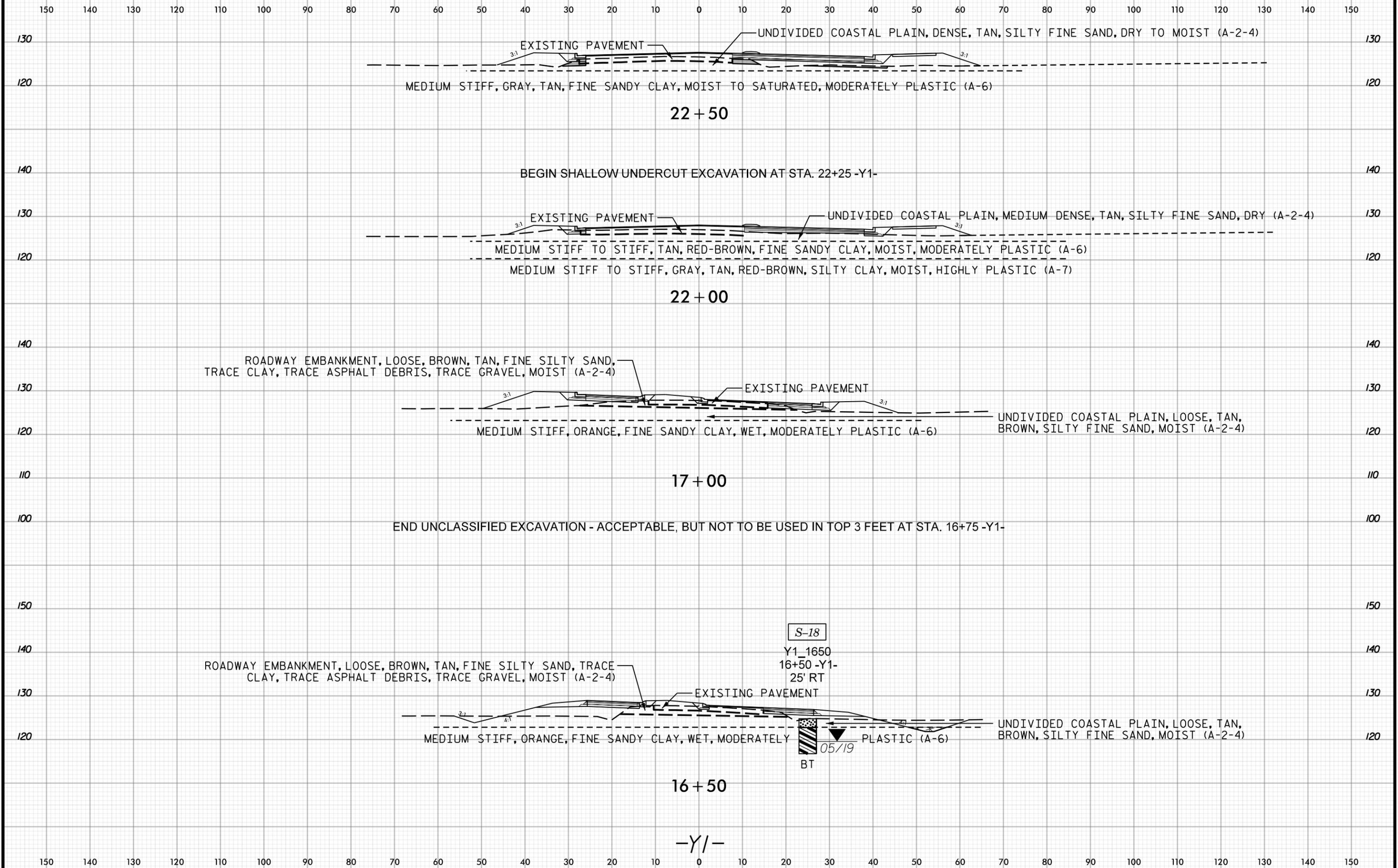
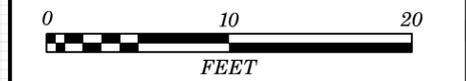


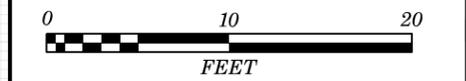
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150 BEGIN UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FEET AT STA. 24+25 -Y1- 150

140 140

130 EXISTING PAVEMENT UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4) 130

120 MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6) 120

24+00

130 EXISTING PAVEMENT UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4) 130

120 MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6) 120

23+50

140 Y1\_2300 140

130 EXISTING PAVEMENT UNDIVIDED COASTAL PLAIN, DENSE, TAN, SILTY FINE SAND, DRY TO MOIST (A-2-4) 130

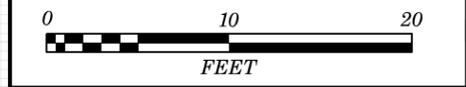
120 MEDIUM STIFF, GRAY, TAN, FINE SANDY CLAY, MOIST TO SATURATED, MODERATELY PLASTIC (A-6) 120

23+00 -Y1-  
30' RT  
HAR

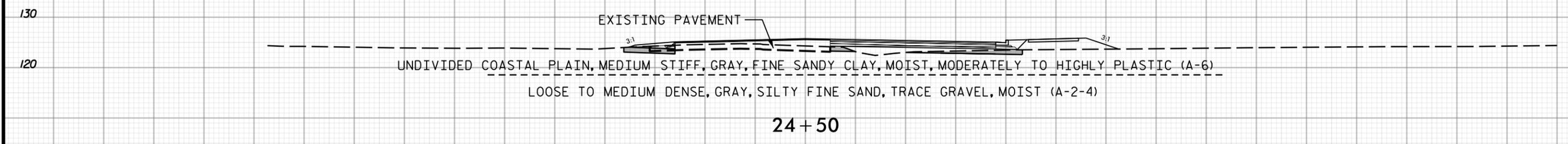
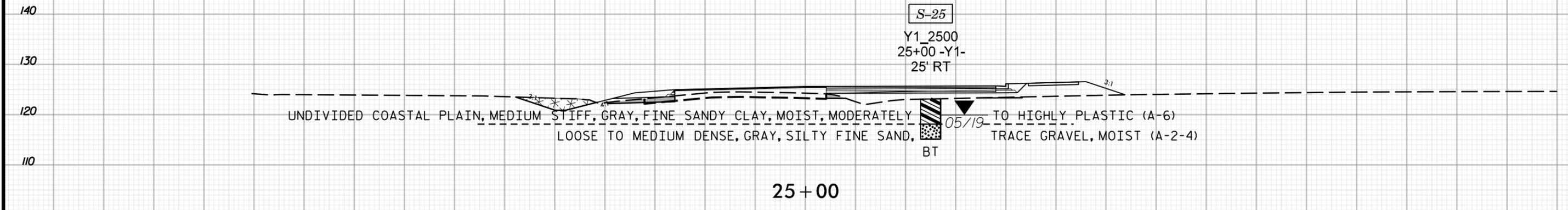
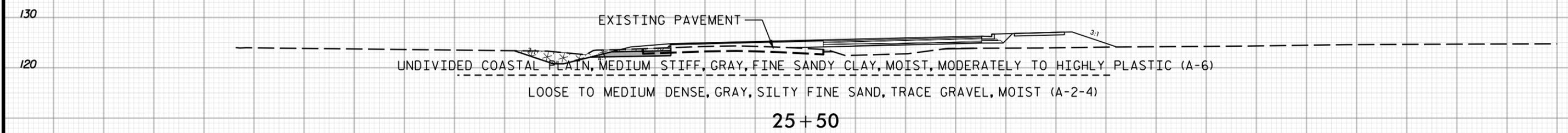
23+00

-Y1-

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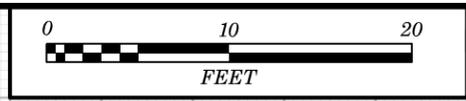


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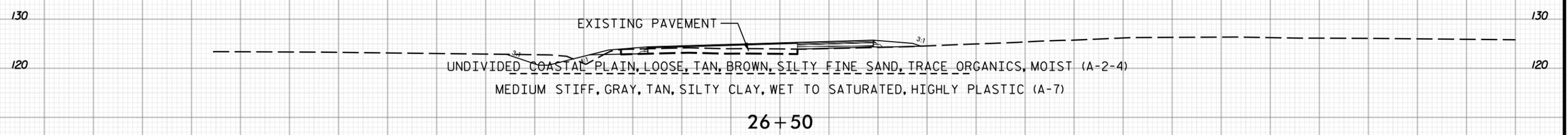
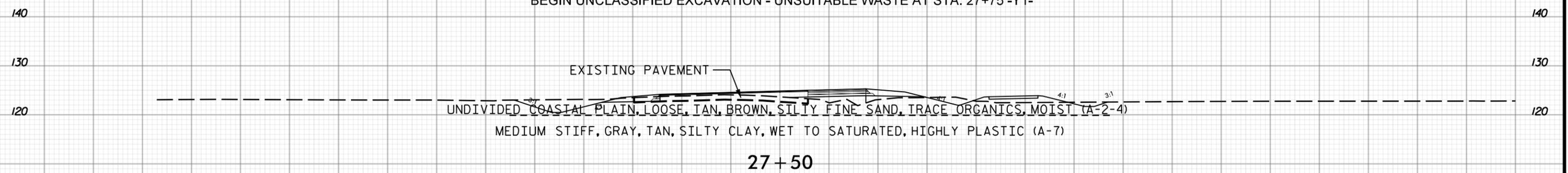
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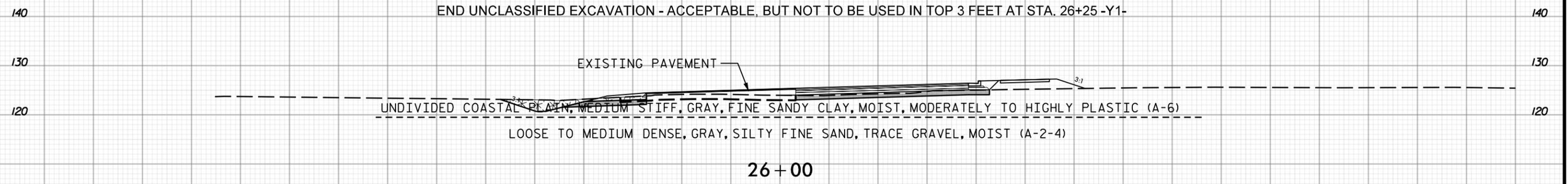


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BEGIN SHALLOW UNDERCUT EXCAVATION AT STA. 27+75 -Y1-  
 BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 27+75 -Y1-

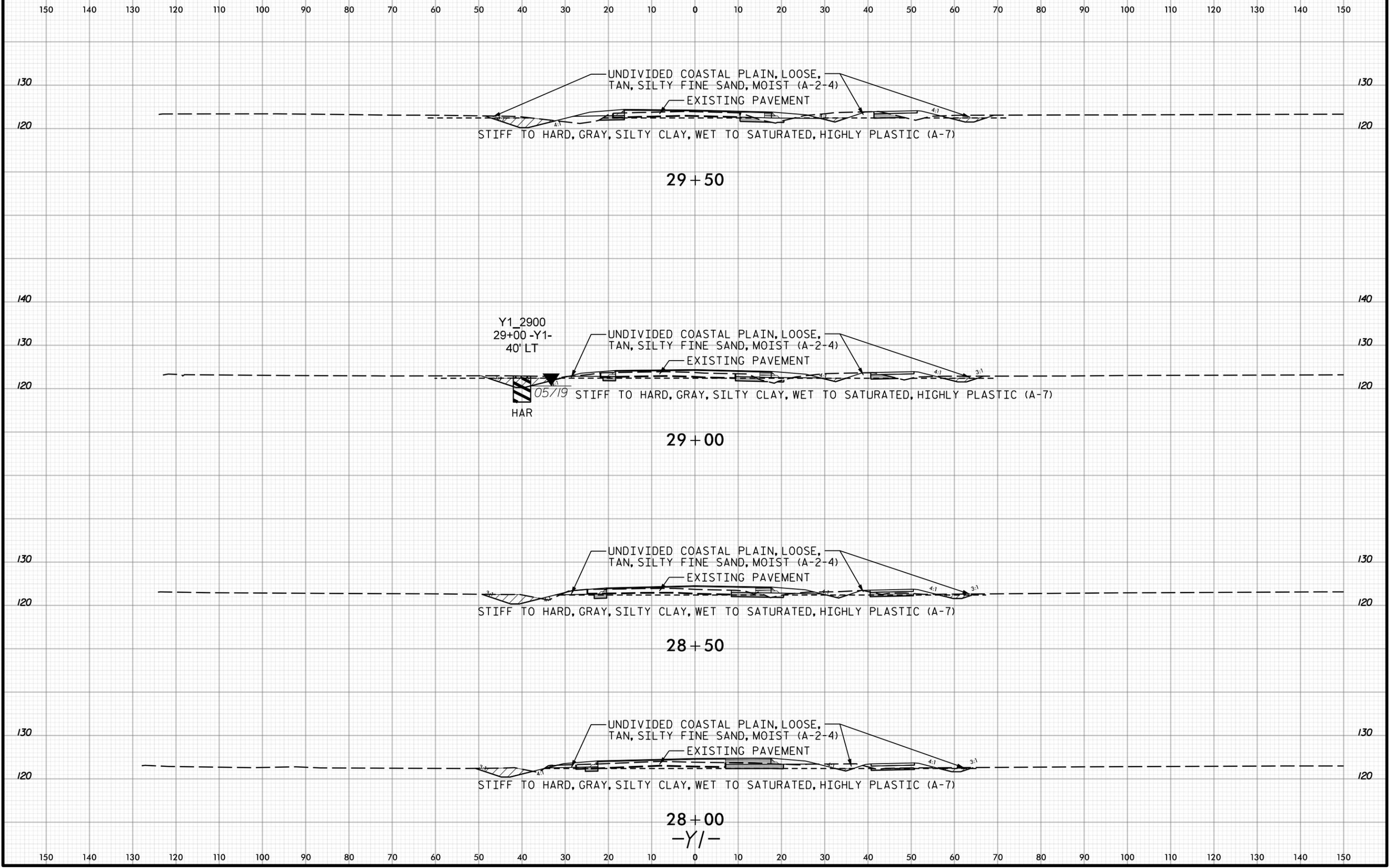
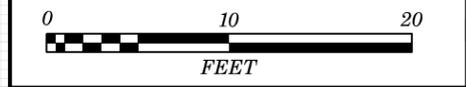


END SHALLOW UNDERCUT EXCAVATION AT STA. 26+25 -Y1-  
 END UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FEET AT STA. 26+25 -Y1-



-Y1-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



29+50

29+00

28+50

28+00

-Y/-

Y1\_2900  
29+00 -Y1-  
40' LT  
05/19  
HAR

UNDIVIDED COASTAL PLAIN, LOOSE,  
TAN, SILTY FINE SAND, MOIST (A-2-4)  
EXISTING PAVEMENT

STIFF TO HARD, GRAY, SILTY CLAY, WET TO SATURATED, HIGHLY PLASTIC (A-7)

UNDIVIDED COASTAL PLAIN, LOOSE,  
TAN, SILTY FINE SAND, MOIST (A-2-4)  
EXISTING PAVEMENT

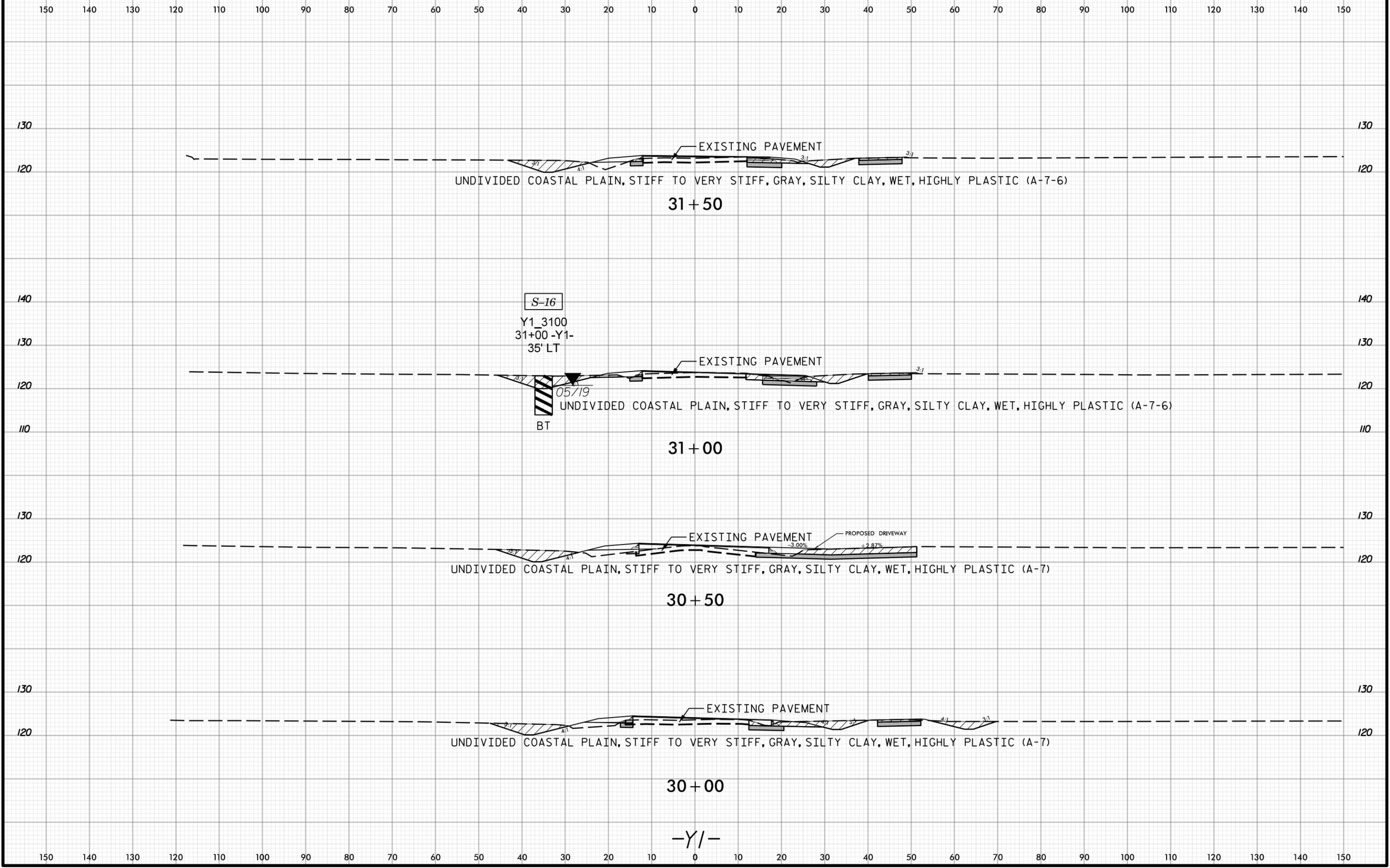
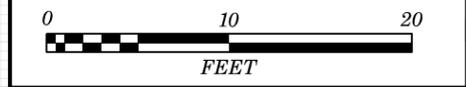
STIFF TO HARD, GRAY, SILTY CLAY, WET TO SATURATED, HIGHLY PLASTIC (A-7)

UNDIVIDED COASTAL PLAIN, LOOSE,  
TAN, SILTY FINE SAND, MOIST (A-2-4)  
EXISTING PAVEMENT

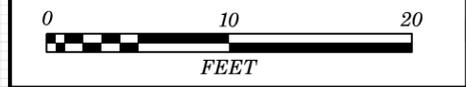
STIFF TO HARD, GRAY, SILTY CLAY, WET TO SATURATED, HIGHLY PLASTIC (A-7)

UNDIVIDED COASTAL PLAIN, LOOSE,  
TAN, SILTY FINE SAND, MOIST (A-2-4)  
EXISTING PAVEMENT

STIFF TO HARD, GRAY, SILTY CLAY, WET TO SATURATED, HIGHLY PLASTIC (A-7)

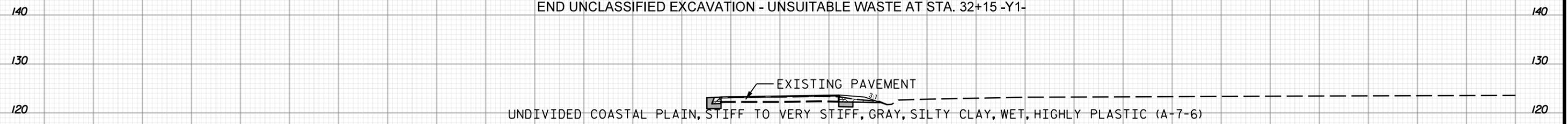


-Y/-

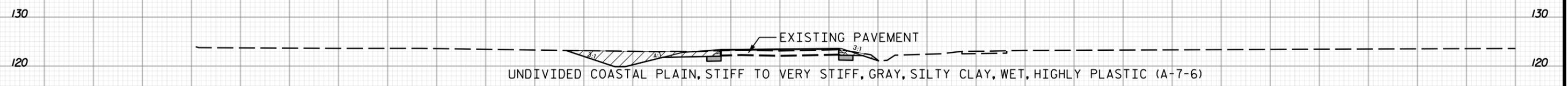


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

END SHALLOW UNDERCUT EXCAVATION AT STA. 32+15 -Y1-  
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 32+15 -Y1-

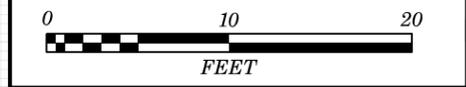


**32 + 14.68**



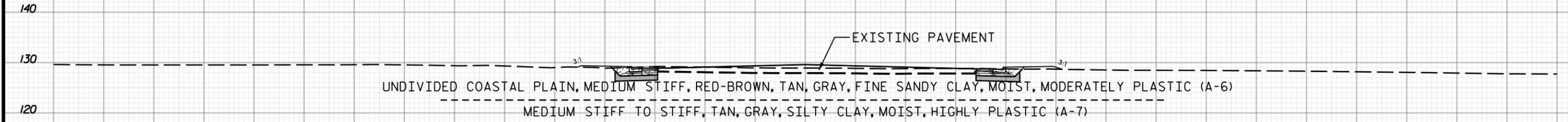
**32 + 00**  
**-Y/-**

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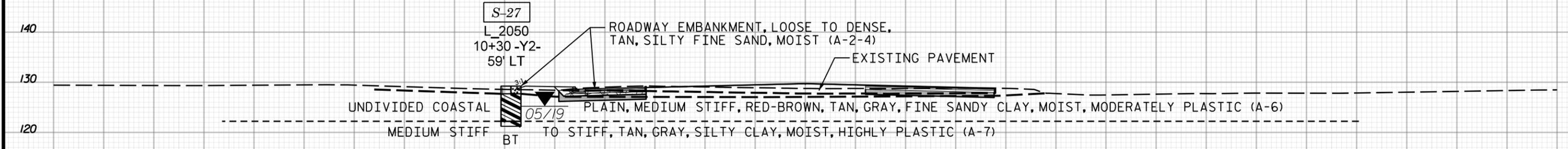


PROJ. REFERENCE NO.	SHEET NO.
<b>U-4753</b>	<b>22</b>

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



10 + 50

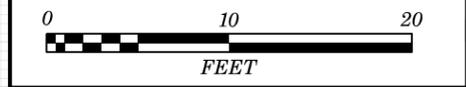


10 + 43

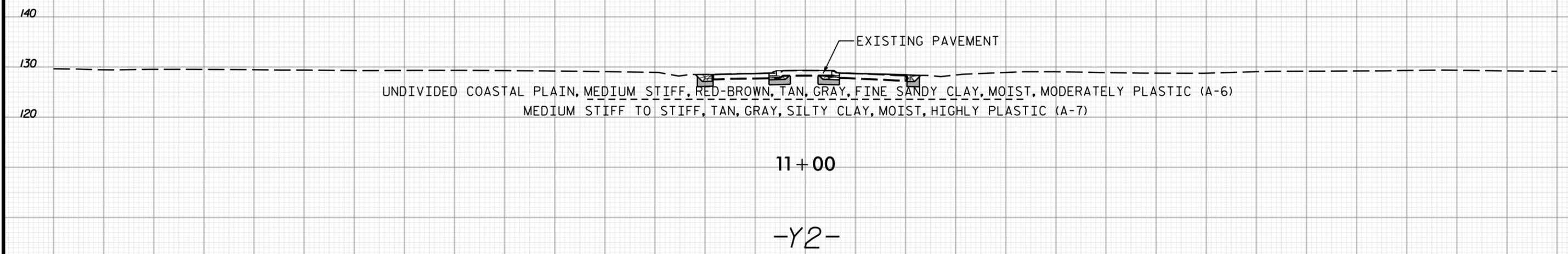
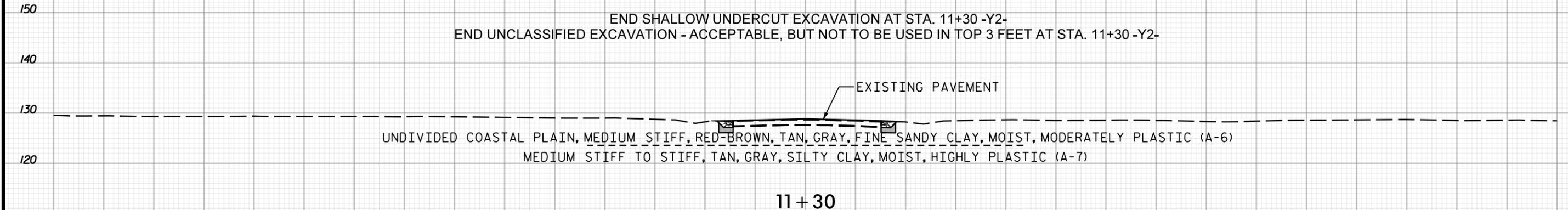
BEGIN SHALLOW UNDERCUT EXCAVATION AT STA. 10+43 -Y2-  
BEGIN UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FEET AT STA. 10+43 -Y2-

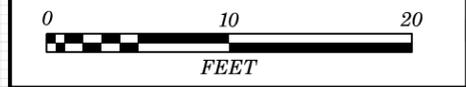
-Y2-

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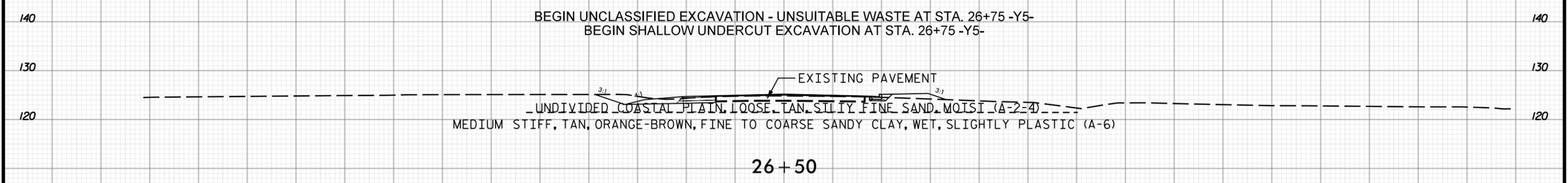
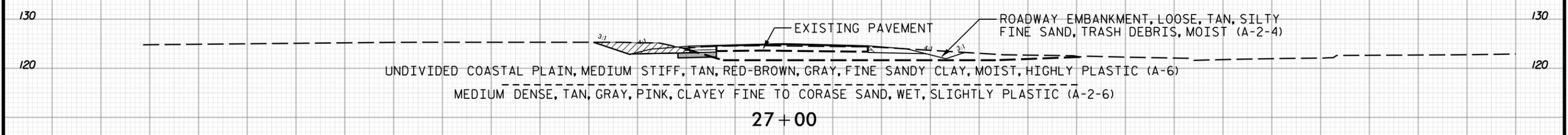
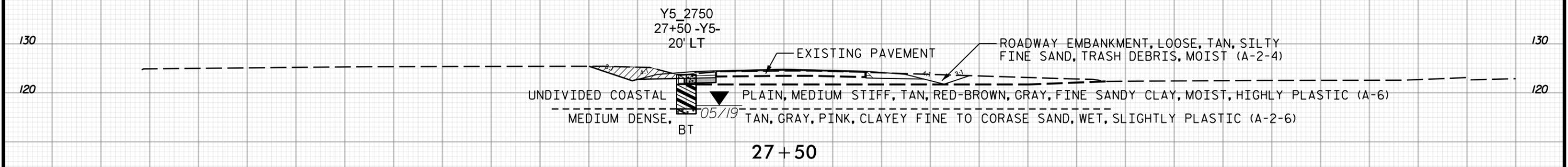


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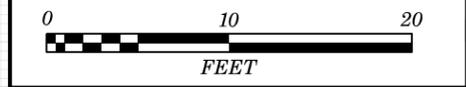


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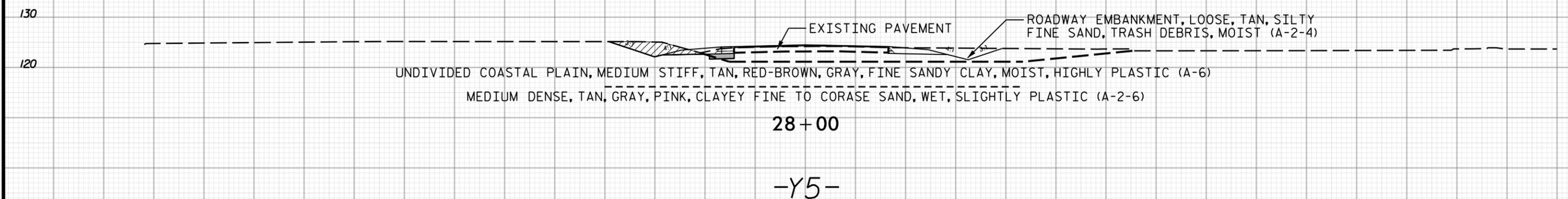
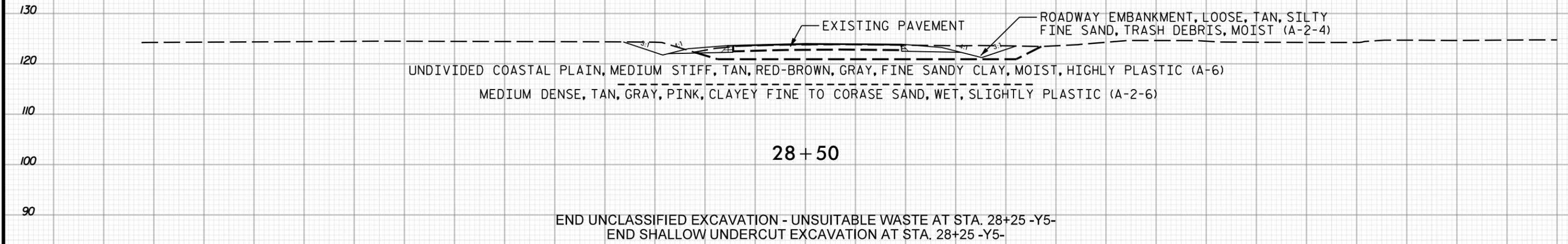


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

-Y5-



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

