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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5518	01	41

REFERENCE: W-5518

PROJECT: 43741

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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LINE	STATION	PLAN	PROFILE
-L-	12+20 TO 36+50	04-05	06-07

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	12+20 TO 12+50	08
-L-	13+00 TO 14+00	09
-L-	14+50	10
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-L-	16+00 TO 16+50	12
-L-	17+00 TO 17+50	13
-L-	18+00	14
-L-	18+50	15
-L-	19+00	16
-L-	19+50	17
-L-	20+00	18
-L-	20+50	19
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-L-	26+50	29
-L-	27+00 TO 27+50	30
-L-	28+00	31
-L-	28+50	32
-L-	29+00	33
-L-	29+50 TO 30+00	34
-L-	30+50	35
-L-	31+00 TO 31+50	36
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-L-	33+00 TO 34+00	38
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-L-	35+50 TO 36+00	40
-L-	36+50	41

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *COLUMBUS*

PROJECT DESCRIPTION *CONSTRUCT OVERPASS OF SR 1574 (OLD US 74) OVER US 74*

INVENTORY

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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE 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:
1. 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.
2. 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.

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INVESTIGATED BY *CATLIN*

DRAWN BY *STEVEN HUDSON, LG*

CHECKED BY *JACOB C. WESSELL, PE*

SUBMITTED BY *STEVEN HUDSON, LG*

DATE *MAY 2015*

SIGNATURE DATE

NORTH CAROLINA LICENSED SEAL 1583 GEOLOGIST STEVEN V. HUDSON

DocuSigned by:
Steven V. Hudson 7/9/2015
62EFD88181E445...

SIGNATURE DATE

PROJECT REFERENCE NO.	SHEET NO.
W-5518	02

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 206, 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		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5, A-7-6			
SYMBOL														
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
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	UNSUITABLE

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 RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
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	4	10	40	60	200	270
OPENING (MM)	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	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE SL — SHRINKAGE LIMIT	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
	- 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-GRAY). 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
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT, DPT, DMT, VST, PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING WITH CORE
- SPT N-VALUE

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE 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
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [X] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] CME-45B
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [X] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [X] TRICONE 2 7/8 " STEEL TEETH
- [ ] TRICONE _____ " TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B _____ [ ] -H _____
- [ ] -N _____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [X] HAND AUGER
- [ ] SOUNDING ROD
- [ ] 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 YEILD 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 (V 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. *IF TESTED, WOULD YIELD SPT REFUSAL*
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. *IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF*
VERY SEVERE (V 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. *IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF*
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 GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED 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 FINGERNAIL.

FRACTURE SPACING

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

BEDDING

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	< 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

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - 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.

ARTESIAN - 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.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - 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.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - 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.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - 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.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - 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.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK: SURVEY CONDUCTED WITH TRIMBLE 5800 GPS AND TRIMBLE TSC2 DATA COLLECTOR.
ELEVATION: _____ FEET

NOTES:

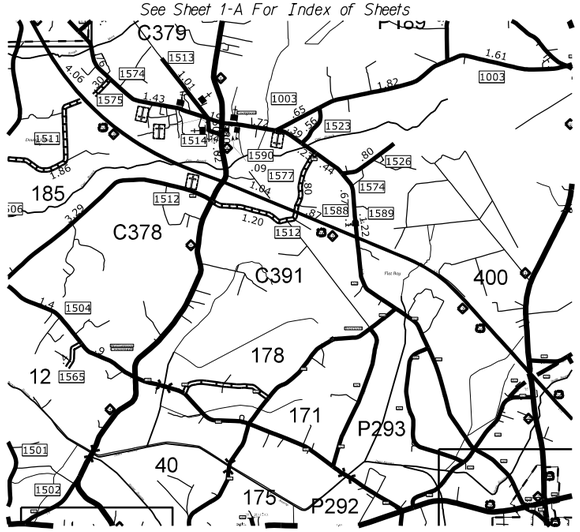
Coordinate System = North Carolina State Plane 1983
Project Datum = North American Datum 1983 (Conus)
Zone = North Carolina 3200
Geoid Model = GEOID03 (Conus)
Vertical Datum = NGVD88
All Units = US Feet

U.C.P. = UNDIVIDED COASTAL PLAIN

DATE: 8-15-14

09/08/99

TIP PROJECT: W-5518



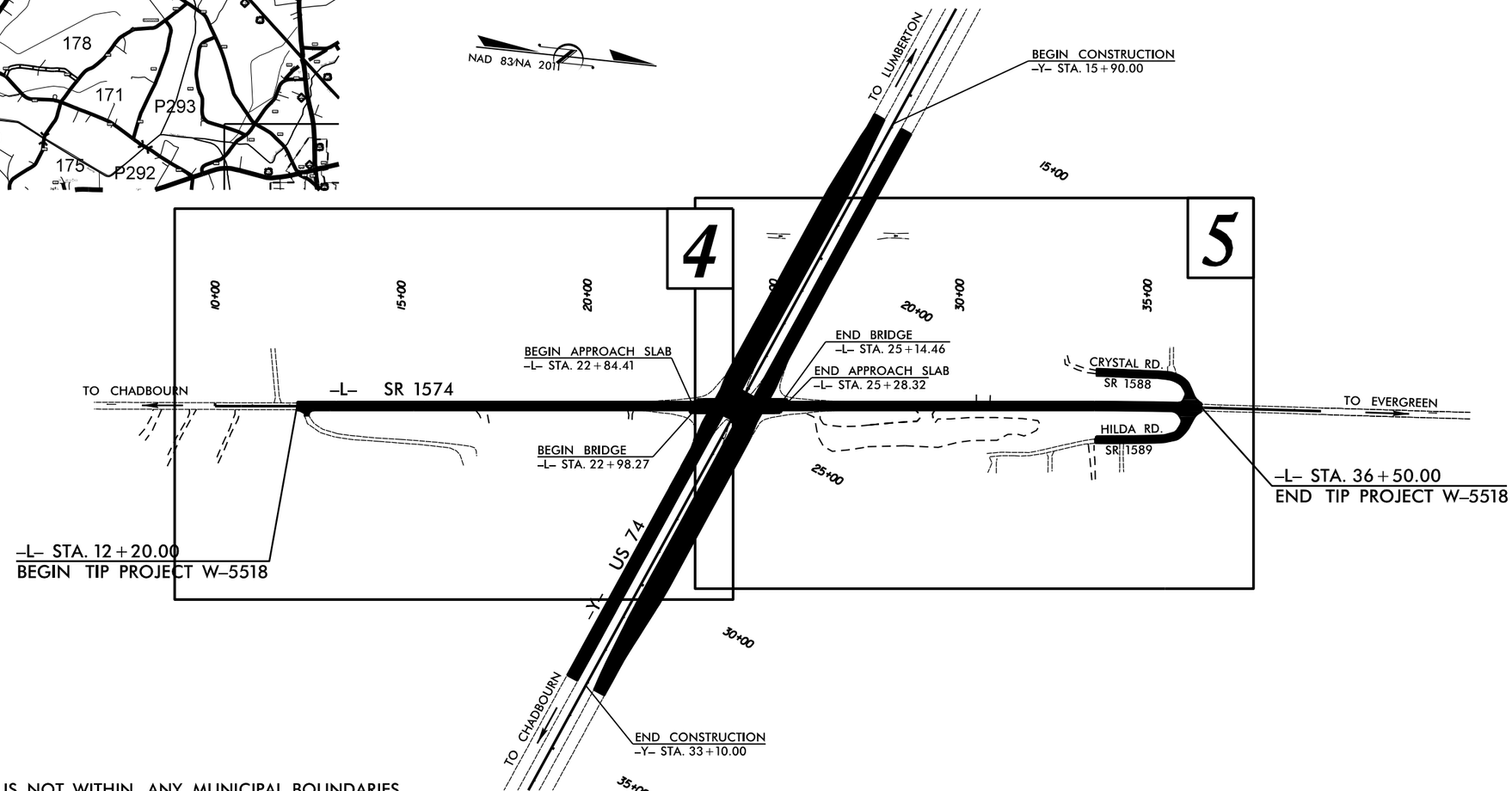
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5518	03	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
43741.1.FS1	HSIP-0074(155)	PE
43741.2.FS1	HSIP-0074(155)	R/W, UTIL.

LOCATION: CONSTRUCT OVERPASS OF SR 1574 (OLD US 74) OVER US 74
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

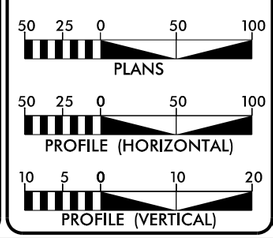


THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 1,100
ADT 2035 = 2,100
K = ___ %
D = ___ %
T = 6 %*
V = 60 MPH
*TTST = 3% DUAL = 3%
FUNC CLASS =
MAJOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5518 = 0.420 MILES
LENGTH STRUCTURE TIP PROJECT W-5518 = 0.040 MILES
TOTAL LENGTH TIP PROJECT W-5518 = 0.460 MILES

Prepared for:
HIGHWAY DIVISION 6
558 Gillespie St.
Fayetteville, NC 28301

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 27, 2015

LETTING DATE:
FEBRUARY 16, 2016

Prepared by:
MULKEY
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JOHNNY BANKS
PROJECT MANAGER

W. CRAIG PARKER, PE
ROADWAY PROJECT DESIGN ENGINEER

SEAN MATUSZEWSKI
NCDOT CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

14-MAY-2015 16:46
S:\wpmkt9\PROJECT\2015\15007 NCDOT_W-5518 Columbus Rdy and Bridge\W5518\W5518_GEO_RDWY\CADD_GEOTECH\Site&Sub\W5518_rdy_tsh.dgn
shudson AT STEVEHUDSON-PC

MAY 2015

STATE PROJECT: 43741.1.FS1, W-5518
F.A PROJECT: HSIP-0074(155)
COUNTY: Columbus

DESCRIPTION: Construct Overpass of SR 1574 (Old US 74) over US 74

SUBJECT: Geotechnical Inventory Report

PROJECT DESCRIPTION

The project consists of constructing an overpass structure with associated embankment and roadway encroachment at the existing intersection of SR 1574 (Old US 74) (-L-) and US 74 (-Y-) located approximately 2.5 miles southeast of the town of Evergreen in Columbus County. The project begins approximately 2,400 feet south of US 74 and extends northward for approximately 3,600 feet.

A geotechnical investigation was conducted by CATLIN Engineers and Scientists (CATLIN) in February and March 2015. Thirty-five borings were advanced utilizing an ATV mounted CME-550 drill machine with an automatic hammer; a track mounted CME-45B drill machine with an automatic hammer; and a hand auger. Standard Penetration Tests were performed at selected locations and additional borings were advanced using hand augers. Representative soil samples were collected for visual classification in the field and selected samples were submitted for laboratory analysis by CATLIN Geotechnical Laboratory located in Wilmington, North Carolina.

The following alignments were investigated. Plan sheets, subsurface profiles, and selected cross sections of the alignment are included in this report.

Line	Station (±)
-L-	12+20 to 36+50

AREAS OF SPECIAL GEOTECHNICAL INTEREST

1) GROUNDWATER: The entire project was found to exhibit a high water table, seasonal high groundwater, or the potential for groundwater related construction problems.

2) COHESIVE SOILS: Moderately to highly plastic (PI>20) clays and silts which have the potential to cause embankment/subgrade and or slope stability problems during construction were encountered along the entire project.

3) ORGANIC SOILS: A thin (0.1 to 0.6 feet thick) lens of sand with little organics (5.4%) was encountered at an elevation of approximately 76 to 80 feet in most borings that were advanced below the contact between the Undifferentiated Coastal Plain and Duplin Formation. This lens was identified at the following sections on the project:

Line	Station (±)
-L-	19+00 to 26+50

4) WATER WELLS: No water wells were identified within the proposed construction limits. Potable water is supplied to residences in the vicinity by a public water supply.

Water supply wells may be present along the project corridor that were not detected.

PHYSIOGRAPHY AND GEOLOGY

The project is located in the flat to gently rolling terrain of the North Carolina Coastal Plain physiographic province. Land surface elevations measured at the boring locations range from approximately 104 feet to 108 feet with an average elevation of 105.6 feet. Land use along the project corridor consists of homes, farmland and woods. Geologically, the project is located within the limits of the Duplin Formation (often undivided with the Yorktown Formation) underlain by the Peedee Formation which are Tertiary and Cretaceous age, respectively. Coastal Plain sediments were deposited in a number of different environments including but not limited to, off-shore marine, near-shore marine, lagoonal, and deltaic. The eustatic rise and fall of sea level has resulted in numerous sedimentary packages of transgressive and regressive sequences deposited throughout the Coastal Plain. The dominant geological structural feature within the surrounding area of the subject site is the Cape Fear arch. Brown Mill Branch and Dunn Swamp are the closest named water bodies and are located approximately 4,000 feet southwest and 4,200 feet southeast of the project, respectively. The project is drained by manmade ditches and is located within the Cape Fear River Basin.

GROUNDWATER

Groundwater data was collected from open boreholes, where possible, during the field investigation conducted during February and March 2015. According to available data, rainfall in Whiteville, North Carolina located approximately 10 miles east southeast of the project, rainfall was reported as follows:

MONTH (2015)	RECORDED RAINFALL (inches)	AVERAGE RAINFALL (inches)
January	2.36	3.82
February	4.62	3.27
March	4.58	3.86

Measured groundwater elevations ranged from elevation 97.7 feet to 106 feet with an average elevation of 103.2 feet. Depth to groundwater measurements ranged from 0.1 feet to 8.5 feet (below existing land surface), with an average depth to water of 2.1 feet.

SOIL PORPERTIES

Soils encountered at the project site include roadway embankment, undivided coastal plain, and coastal plain sediments that include the Duplin and Peedee Formations.

Roadway Embankment soils are present along the existing SR 1574 and US 74 to an approximate average elevation of 103 feet. These soils consist of orange, gray, and brown, dry to saturated, soft to stiff, fine grained sandy silt (A-4) to loose to medium dense, silty and clayey, fine sand (A-2-4, A-2-6).

Undivided coastal plain material is present beneath the roadway embankment to an average approximate elevation of 77 feet and consists of gray, orange, tan, red, and yellow, dry to saturated, very soft to stiff, moderately to highly plastic silty clay (A-7) and sandy to clayey silt (A-4) interbedded with, and overlain by, gray, orange, tan, yellow, and red, saturated, very loose to medium dense, silty to clayey, fine sand (A-2-4, A-2-6) and gray to yellow orange, soft, slightly plastic clayey silt with sand (A-4). Laboratory analysis of six samples collected within the silt and clay material reported natural moisture contents ranging from 19% to 38% with an average moisture content of 27%. Gray to tan, saturated, very loose to loose, silty to clayey, fine grained sand (A-2-4, A-2-6) lie at the base of the undivided coastal plain material. A basal lens (approximately 0.1 feet to 0.6 feet thick) of sand with little organic material (organic content = 3.8%) was identified beneath the very loose to loose sand rather consistently across the project.

Duplin Formation materials consisting of loose to dense, brown, tan, and gray, moist to saturated, fine to coarse grained sand and tan, loose, saturated, clayey sand with silt (A-3, A-2-7) occur beneath the undivided coastal plain material to an approximate average elevation of 69 feet. Approximately four to 16 feet of moist to wet, very soft to medium stiff, moderately to slightly plastic sandy clay to sandy silt (A-7-6, A-4) was encountered beneath the upper sands of the Duplin Formation. Laboratory analysis of the clay material revealed liquid limits ranging from 42 to 46 and a moisture content of 61%. Dark gray, fine sand to silty or clayey, fine sand with some limestone and shell fragments (A-3, A-2-4, A-2-6) extend from below the silt and clay to an approximate average elevation of 44 feet. The sandy material is reported as moist to saturated with a very loose to medium dense consistency.

Highly plastic, very stiff to hard, dark gray, gray, and olive gray, fine grained sandy clay and some slightly plastic clayey silt (A-7-6, A-4) of the Peedee Formation underlie the Duplin Formation to an average elevation of approximately 20 feet. Laboratory analysis of clay samples collected from within the stratum revealed liquid limits of 52 to 64 and plasticity indexes of 28 to 38. Green gray to gray, very dense saturated fine to coarse sand and clayey sand (A-3, A-2-6) was identified in five of the six borings advanced below 20 feet elevation. Deep borings were terminated at elevations ranging from 12.6 feet to 7.8 feet in either saturated, very dense, green gray to gray, fine sand to clayey, fine sand (A-3, A-2-7) or highly plastic (PI=56, LL=88), gray to olive gray, very stiff, moist, calcareous silty clay with mica (A-7-5).

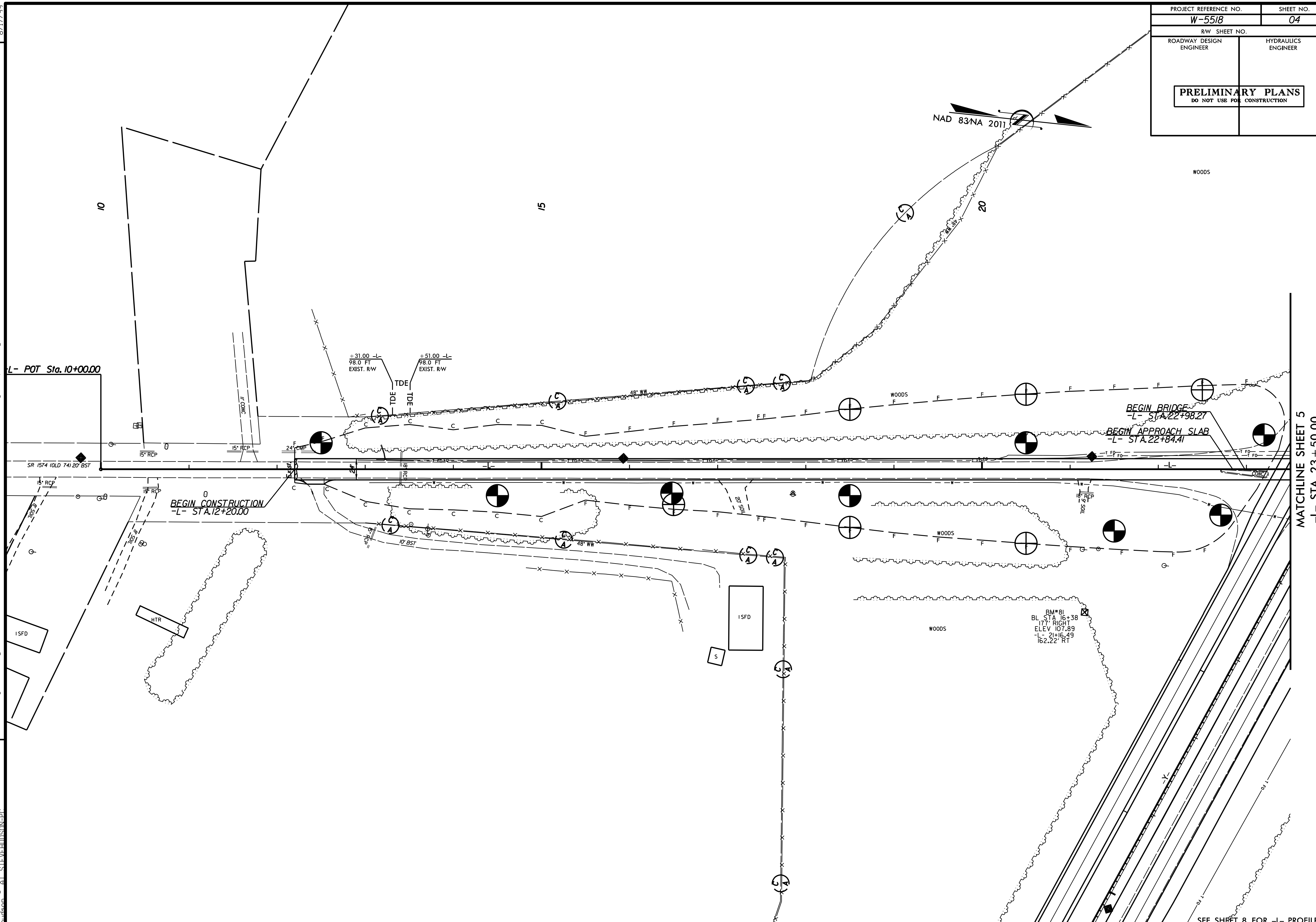
UNDISTURBED SAMPLES

Undisturbed thin wall Shelby tube samples were collected at the following locations and submitted to Geotechnics Geotechnical and Geosynthetic Testing located in Raleigh, North Carolina.

Sample No.	Line / Station / Offset	Depth (ft.)	Test
ST-01	-L- / 26+50 / 26ft LT	9.0 – 11.5	Specific Gravity Consolidation
ST-02	-L- / 22+71 / 53ft RT	1.5 – 4.0	Specific Gravity Consolidation
ST-03	-L- / 22+71 / 53ft RT	8.0 – 10.5	Specific Gravity Tri-axial Consolidation
ST-04	-L- / 16+48 / 28ft RT	9.0 – 11.5	Specific Gravity Consolidation

Prepared by,

Steven V. Hudson, L.G.
Project Geologist


PROJECT REFERENCE NO.
W-5518
SHEET NO.
04
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83/NA 2011
WOODS
10
15
20
-L- POT Sta. 10+00.00
+31.00 -L-
98.0 FT
EXIST. R/W
+51.00 -L-
98.0 FT
EXIST. R/W
TDE
48" WW
15" RCP
24" CMP
SR 1574 (OLD 74) 20' BST
-L-
BEGIN CONSTRUCTION
-L- STA.12+20.00
BEGIN BRIDGE
-L- STA.22+98.27
BEGIN APPROACH SLAB
-L- STA.22+84.41
MATCHLINE SHEET 5
-L- STA. 23+50.00
10' BST
18" RCP
ISFD
HTR
S
BM#81
BL STA 16+38
177' RIGHT
ELEV 107.89
-L- 21+16.49
162.22' RT
-Y-
SEE SHEET 8 FOR -L- PROFILE

REVISIONS

8/17/99

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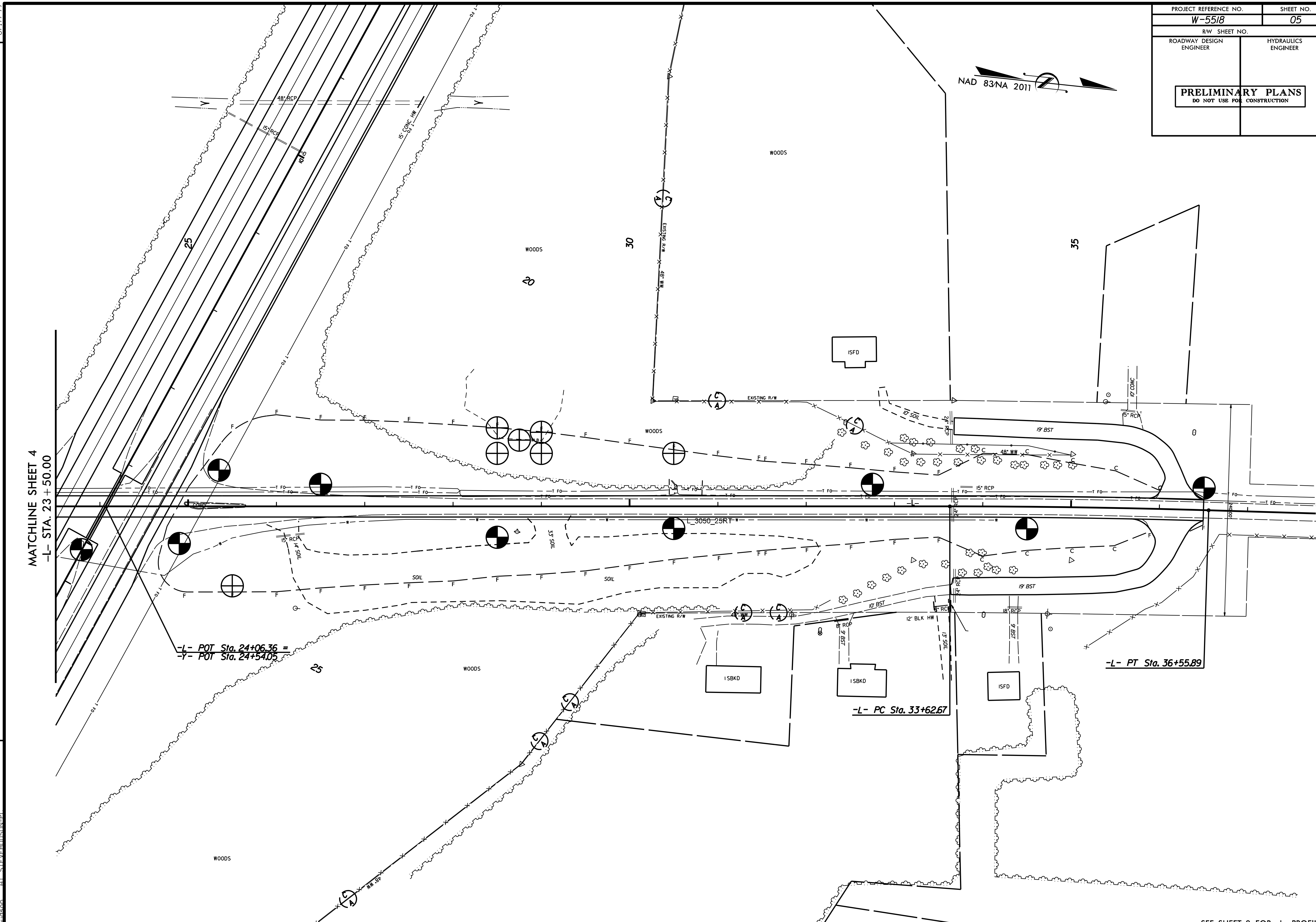
PROJECT REFERENCE NO.	SHEET NO.
W-5518	05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SEE SHEET 8 FOR -L- PROFILE

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
W-5518 (43741.1.FS1)	06

ROADWAY DESIGN ENGINEER

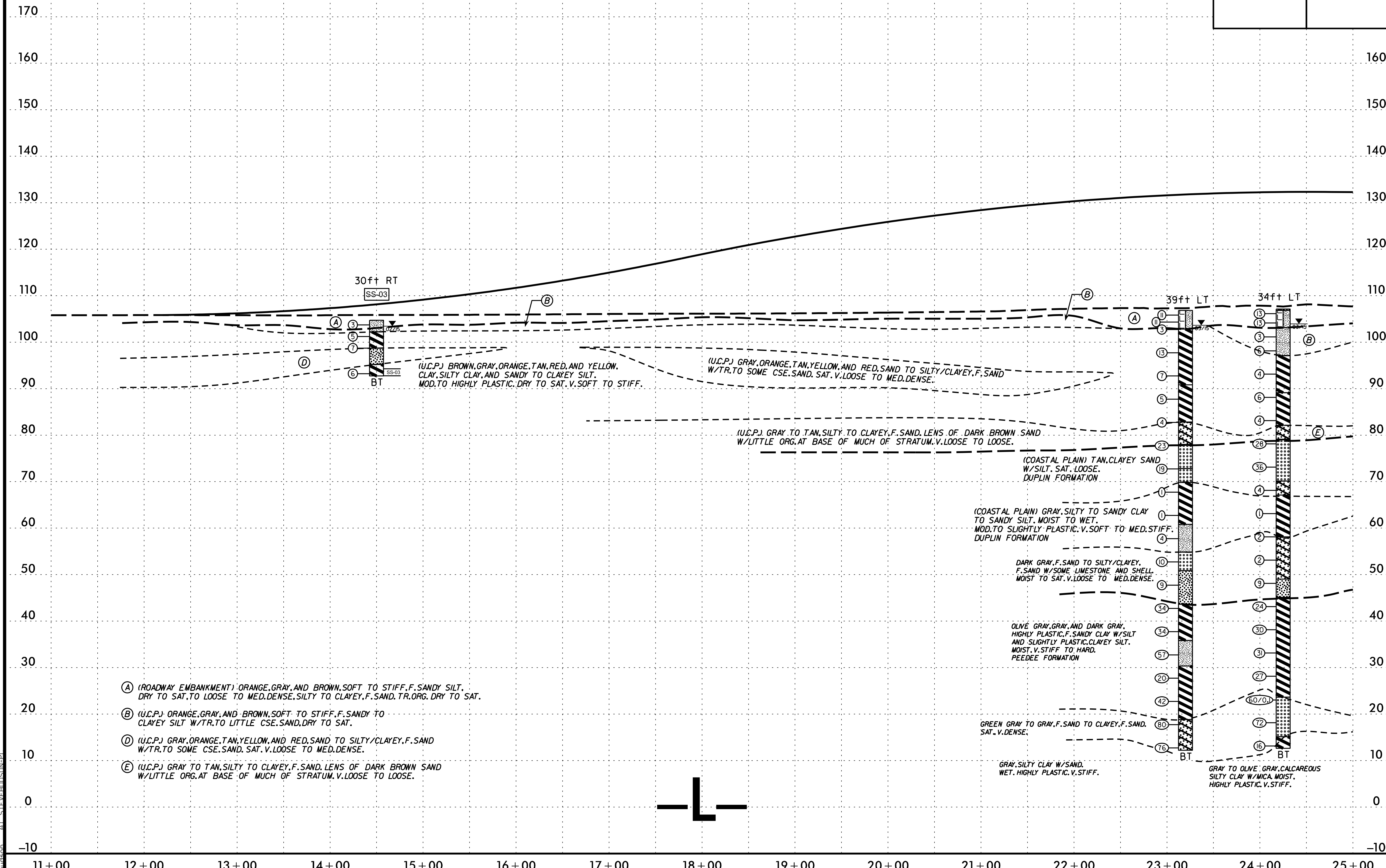
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	PL. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-03	30ft RT	14+50	10.5 - 12.0	A-7-6(13)	46	30	11.1	35.2	14.8	38.9	100	94	57		



5/14/99

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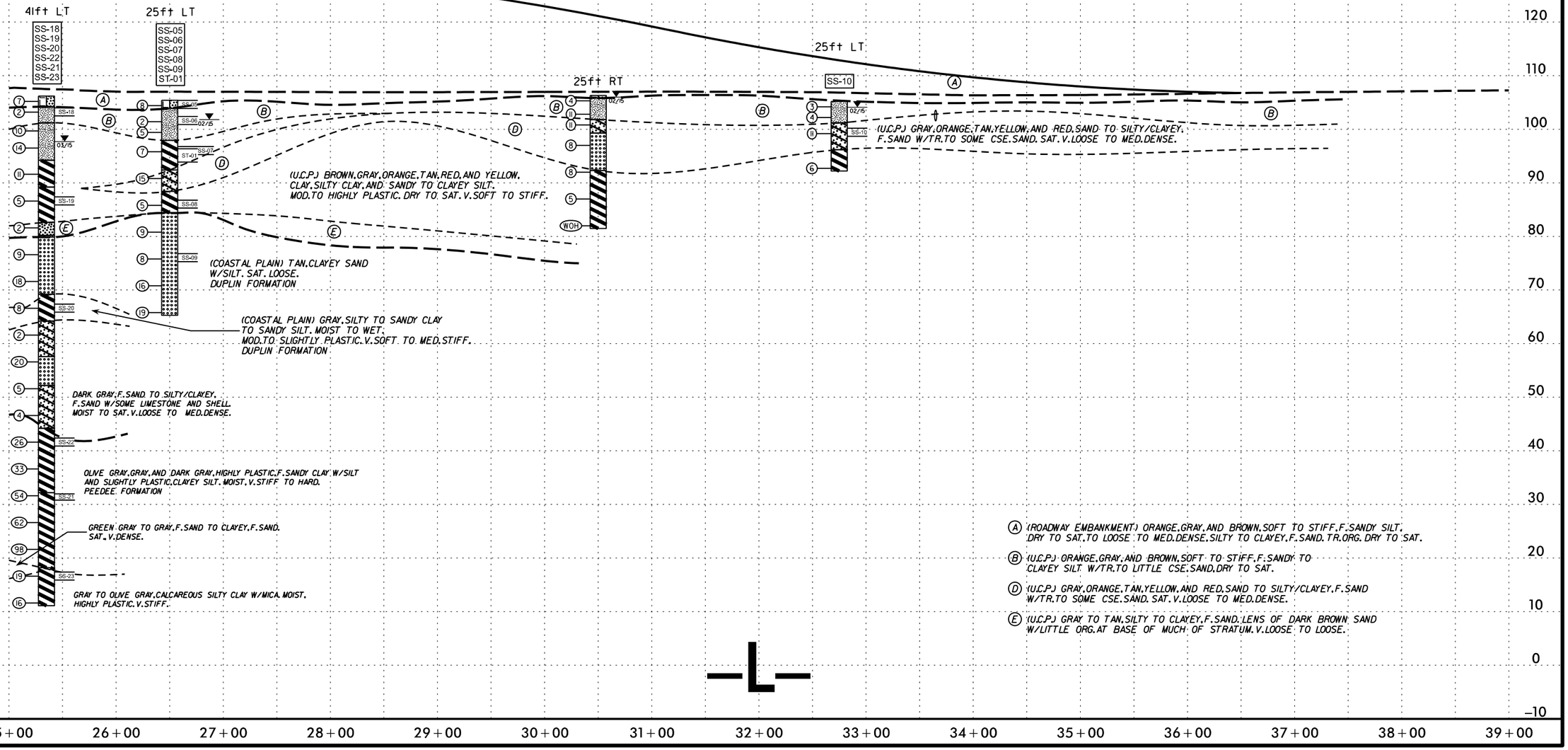
PROJECT REFERENCE NO.	SHEET NO.
W-5518 (4374I,FSI)	07
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

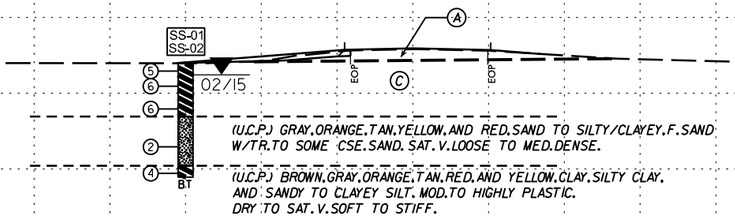
SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	PL. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-18	41ft LT	25+35	2.0 - 3.5	A-4(3)	28	9	3.0	41.9	22.8	32.3	100	99	61	27	
SS-19	41ft LT	25+35	18.6 - 20.1	A-7-6(45)	66	45	1.0	9.8	32.5	56.7	100	100	91	38	
SS-20	41ft LT	25+35	38.6 - 40.1	A-7-6(16)	46	17	10.6	7.5	42.6	39.3	100	92	84	61	
SS-22	41ft LT	25+35	63.6 - 65.1	A-7-6(17)	52	28	7.0	32.7	16.7	43.7	98	95	65		
SS-21	41ft LT	25+35	74.0 - 75.1	A-7-6(30)	64	38	8.5	19.1	15.3	57.2	100	97	75		
SS-23	41ft LT	25+35	88.6 - 90.1	A-7-5(58)	88	56	4.6	8.1	27.6	59.7	100	98	89		
SS-05	25ft LT	26+50	0.0 - 1.5	A-2-4(0)	11	NP	35.7	40.1	14.0	10.2	99	83	28		2.5
SS-06	25ft LT	26+50	3.0 - 4.5	A-4(0)	18	6	7.1	49.7	23.1	20.1	100	97	49	19	
SS-07	25ft LT	26+50	8.6 - 10.1	A-7-6(16)	49	32	11.6	29.2	16.3	42.9	100	95	61		
SS-08	25ft LT	26+50	18.6 - 20.1	A-7-6(41)	67	43	2.5	11.7	27.1	58.7	100	99	87		
SS-09	25ft LT	26+50	28.6 - 30.1	A-3(0)	17	NP	88.4	6.6	0.0	5.0	99	34	6		
SS-10	25ft LT	32+75	5.0 - 6.5	A-2-6(0)	30	12	17.4	57.0	1.5	24.2	100	96	29		



SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-01	30ft LT	12+50	10.0 - 11.5	A-2-4(0)	24	4	26.3	54.6	3.8	15.3	100	86	21		-
SS-02	30ft LT	12+50	13.5 - 15.0	A-7-6(14)	44	24	7.4	33.3	22.3	37.0	100	96	65	21	-



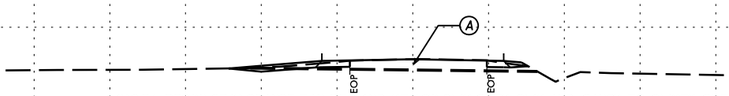
(U.C.P.) GRAY, ORANGE, TAN, YELLOW, AND RED, SAND TO SILTY/CLAYEY, F. SAND W/TR. TO SOME CSE. SAND. SAT. V. LOOSE TO MED. DENSE.

(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY SILT. DRY TO SAT. TO LOOSE TO MED. DENSE, SILTY TO CLAYEY, F. SAND. TR. ORG. DRY TO SAT.

(C) (U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

12 + 50.00



(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

(U.C.P.) GRAY, ORANGE, TAN, YELLOW, AND RED, SAND TO SILTY/CLAYEY, F. SAND W/TR. TO SOME CSE. SAND. SAT. V. LOOSE TO MED. DENSE.

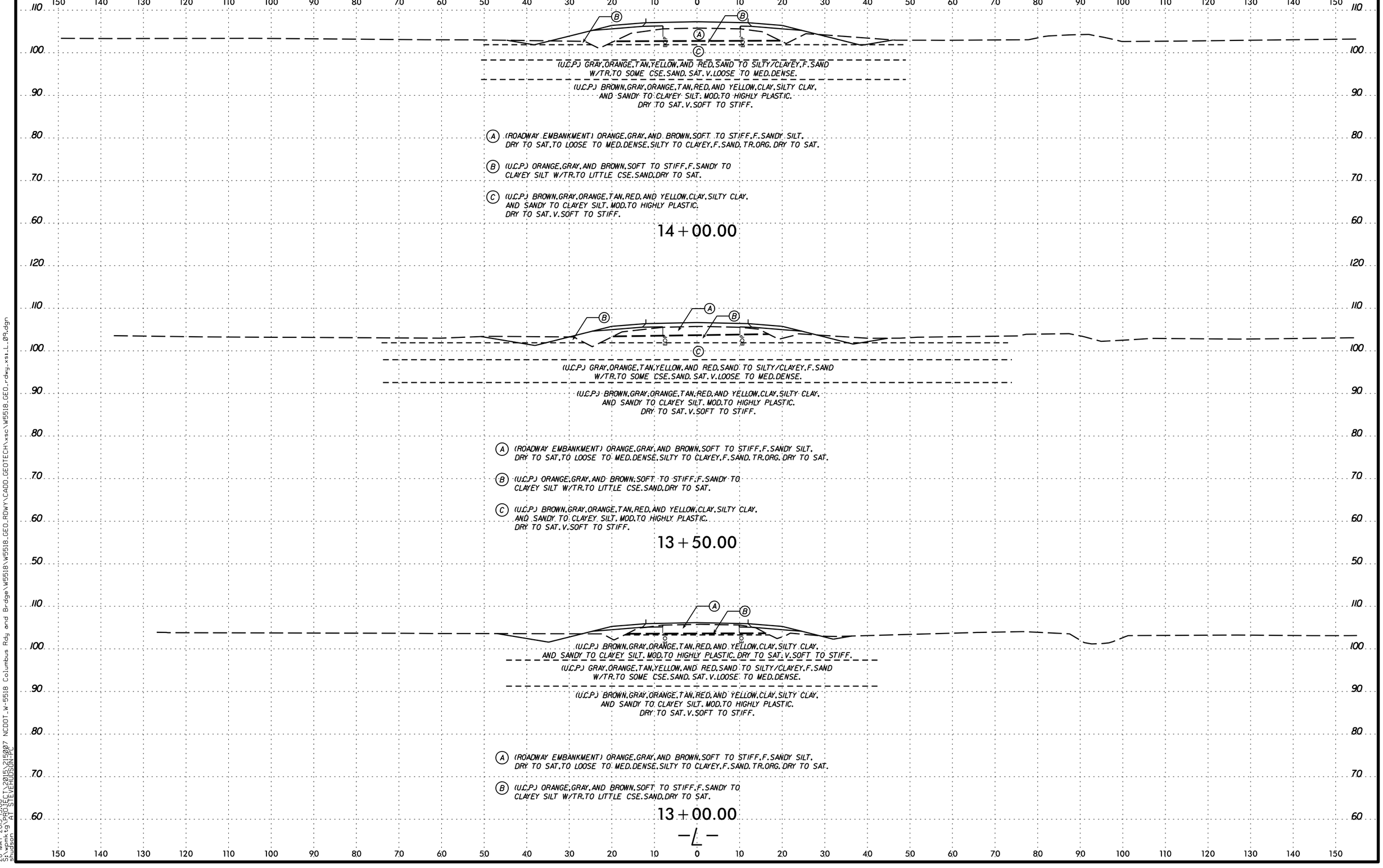
(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY SILT. DRY TO SAT. TO LOOSE TO MED. DENSE, SILTY TO CLAYEY, F. SAND. TR. ORG. DRY TO SAT.

12 + 20.00

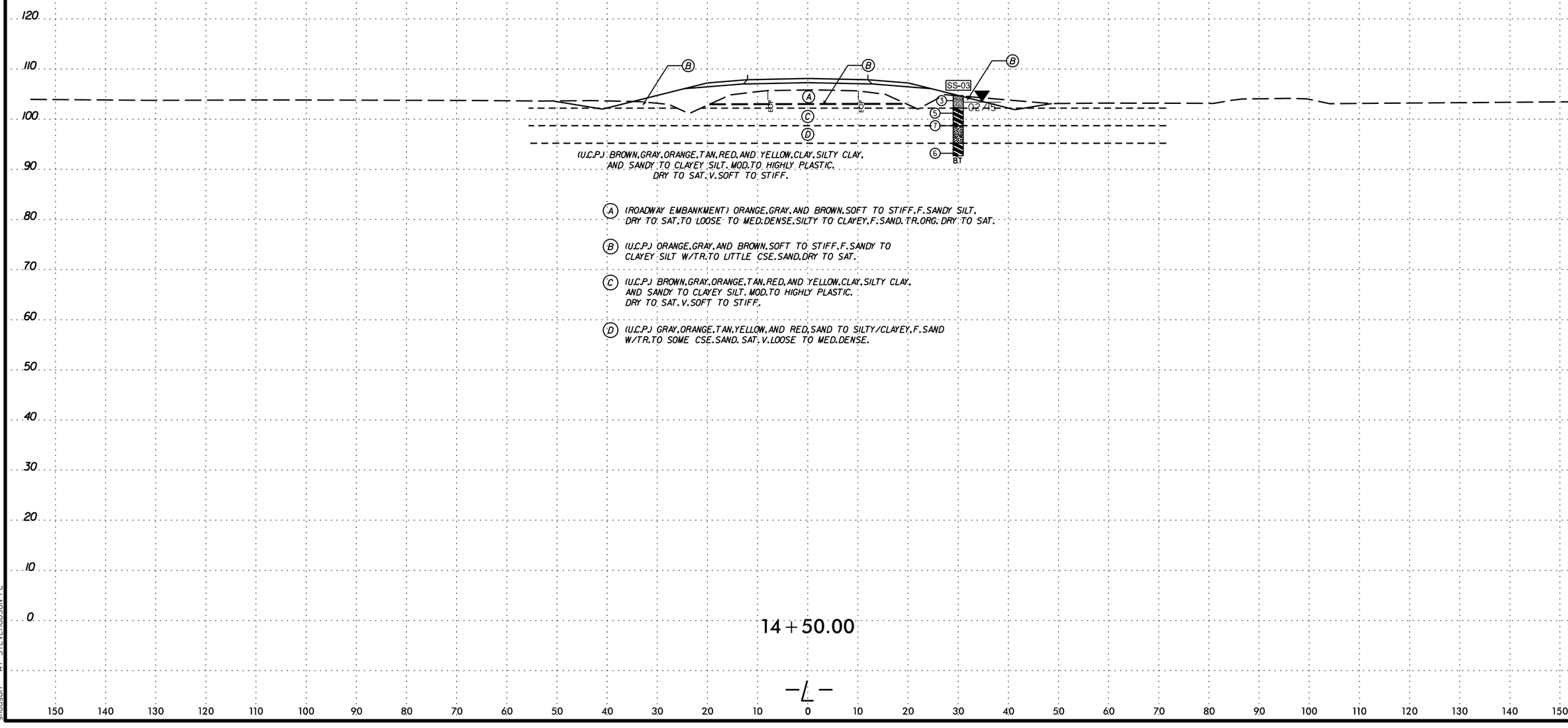
-L-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	09



SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-03	30ft RT	14+50	10.5 - 12.0	A-7-6(13)	46	30	11.1	35.2	14.8	38.9	100	94	57		-



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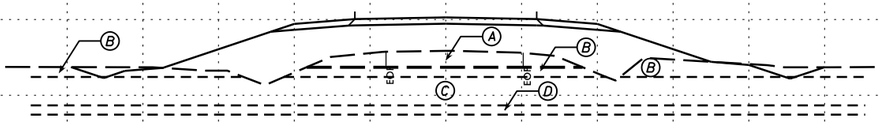
120 110 100 90 80 70 60 50



(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

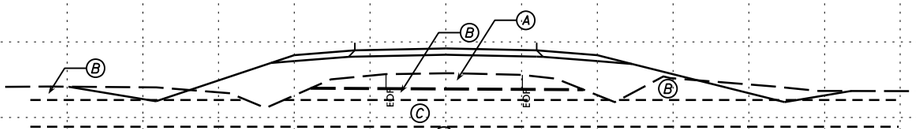
(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT.
DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND.TR.ORG.DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(C) (U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

(D) (U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND
W/TR.TO SOME CSE.SAND. SAT.V.LOOSE TO MED.DENSE.

15+50.00



(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT.
DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND.TR.ORG.DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(C) (U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

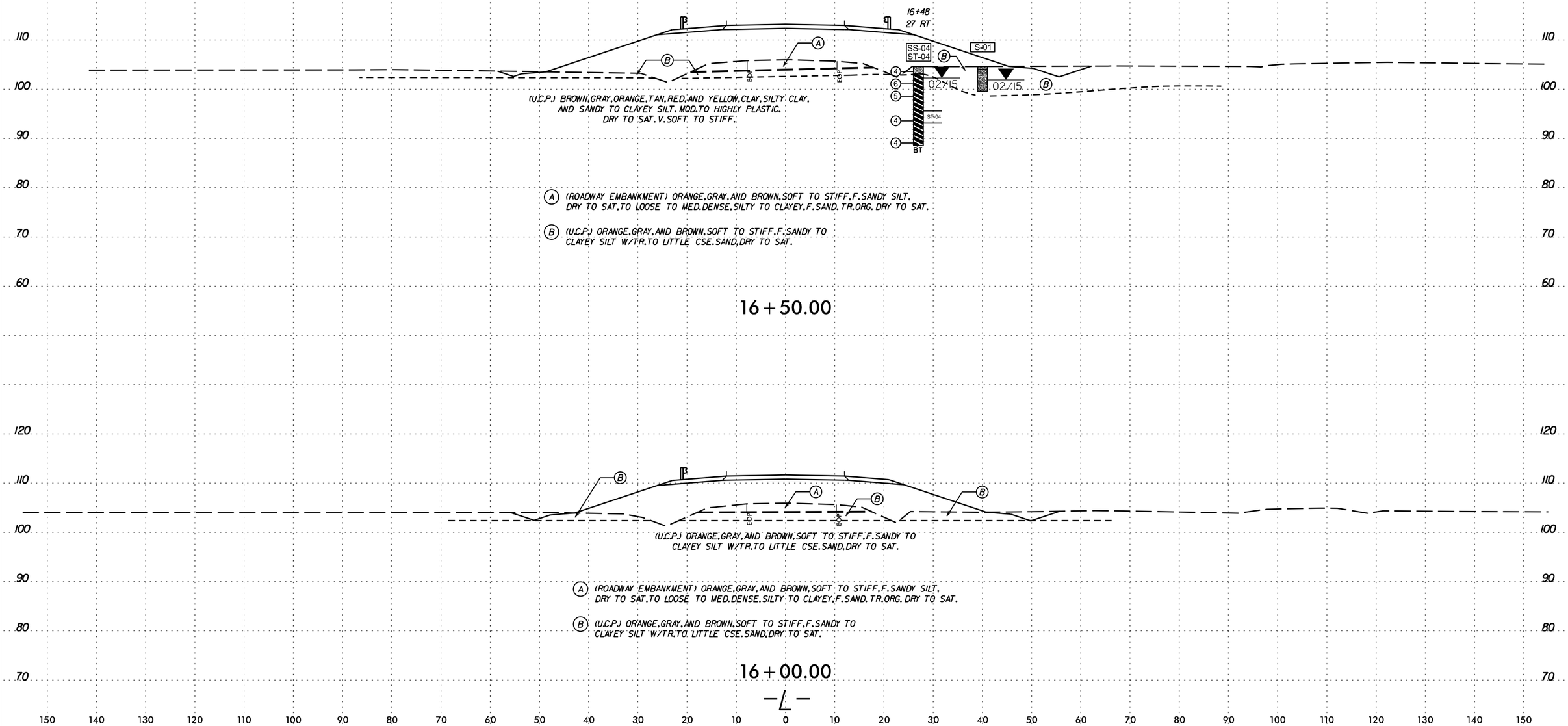
(D) (U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND
W/TR.TO SOME CSE.SAND. SAT.V.LOOSE TO MED.DENSE.

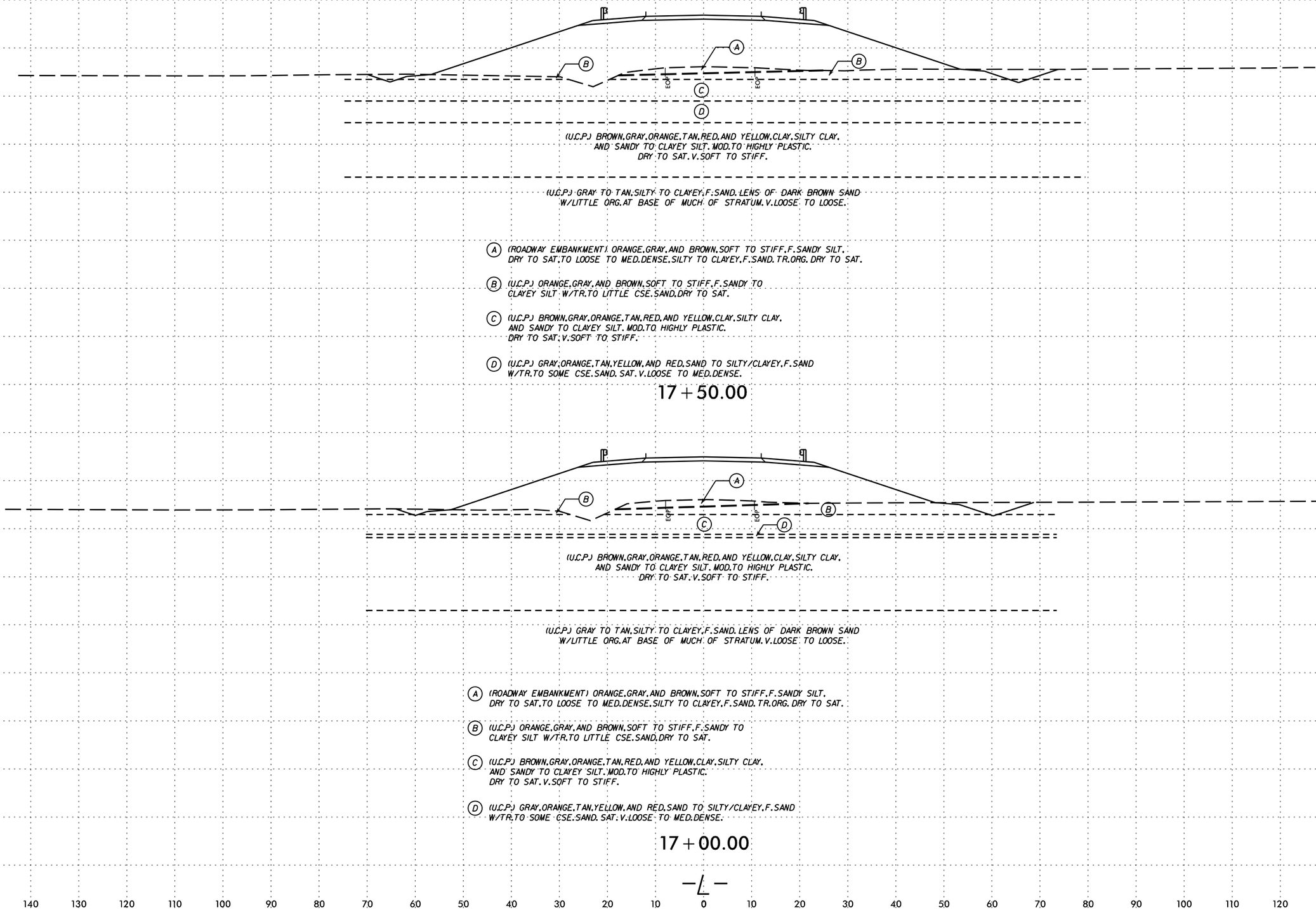
15+00.00

—L—

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-04	27ft RT	16+48	2.5 - 4.0	A-7-6(14)	46	23	4.2	33.3	23.4	39.1	100	99	67	28	-
S-01	40ft RT	16+50	0.6 - 1.1	A-4(3)	26	10	4.8	39.3	29.1	26.7	100	98	61		-





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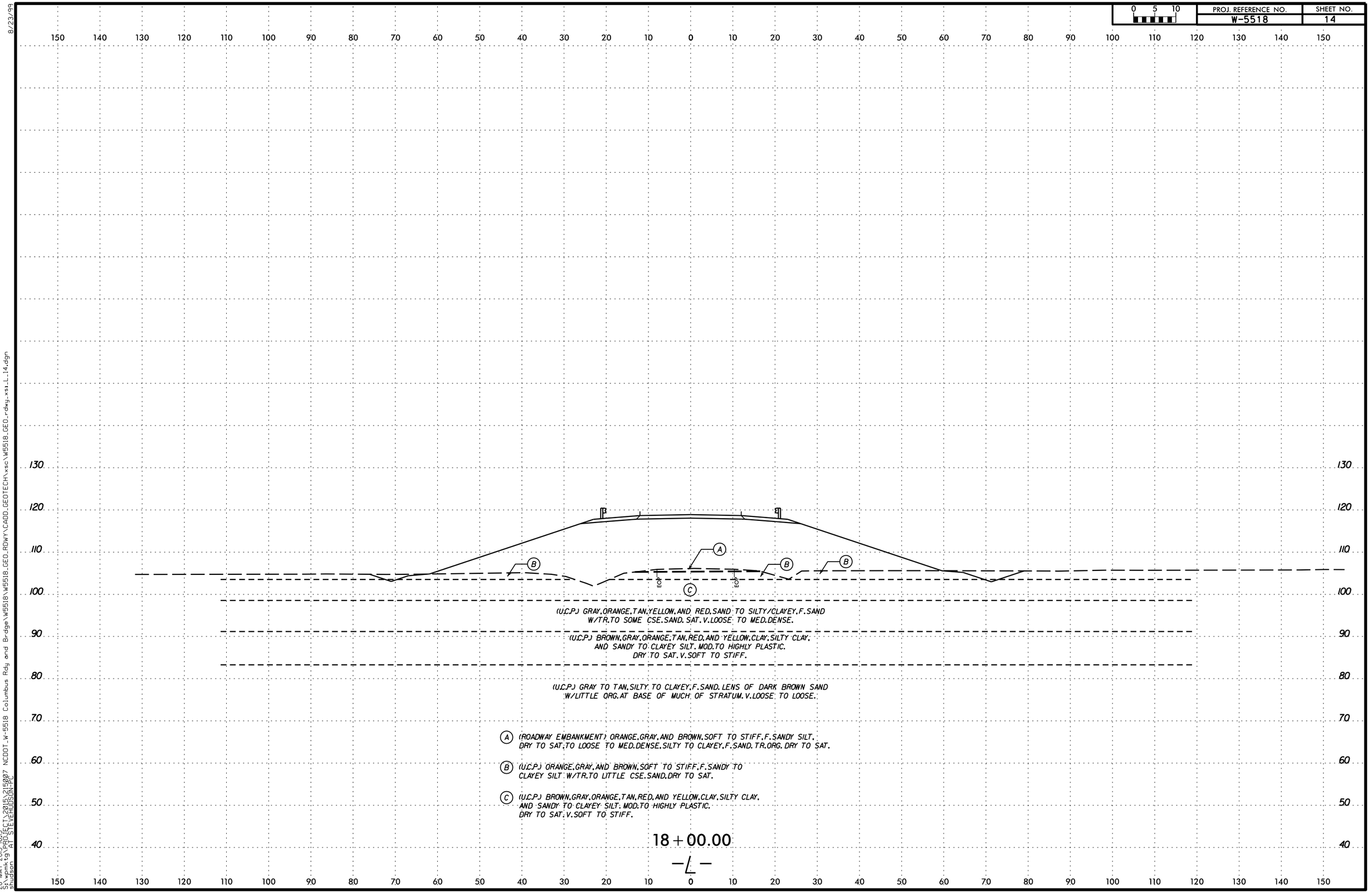
	W-5518	14



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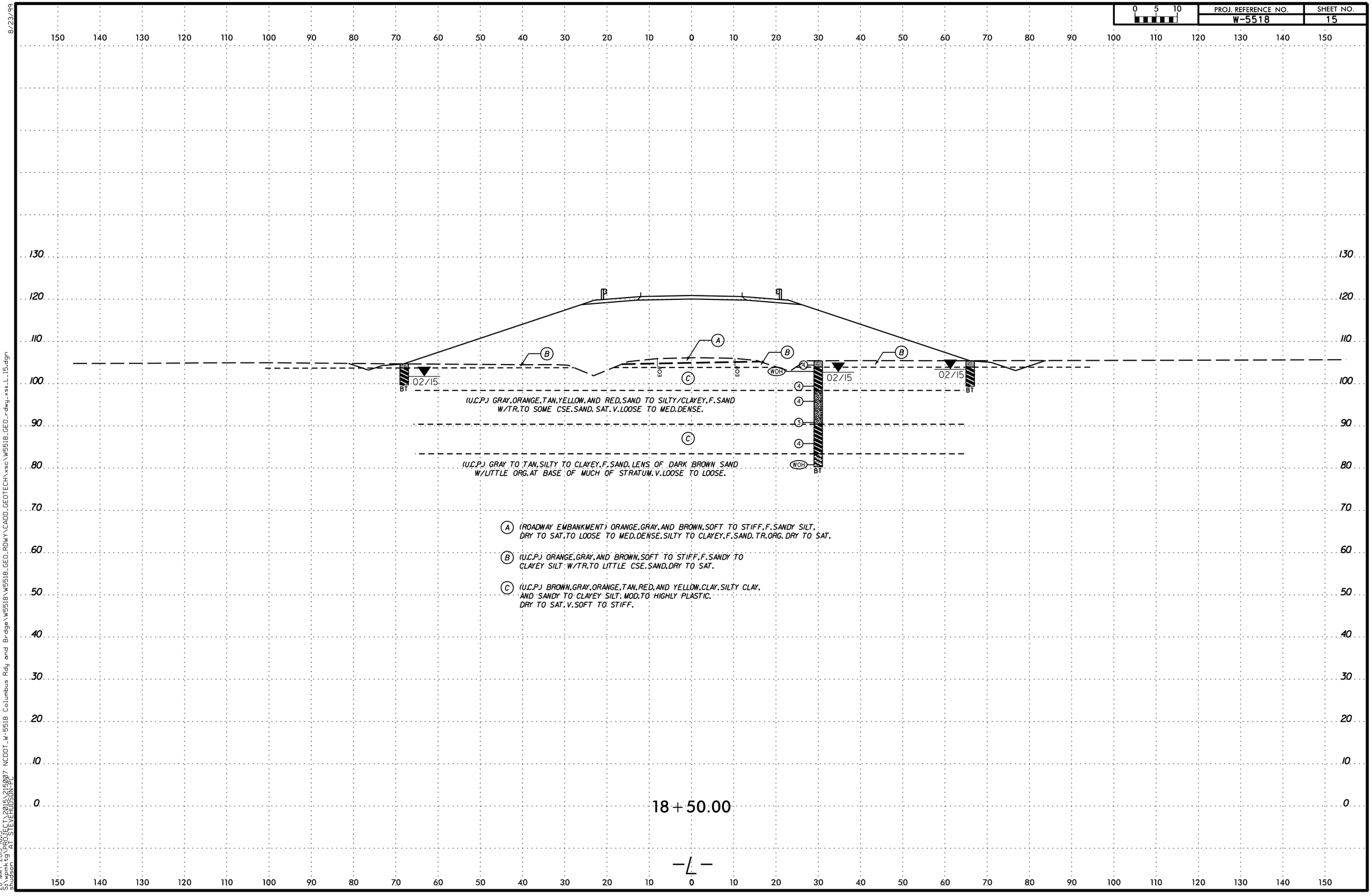
shudson AT STEVEHUDSON-PC



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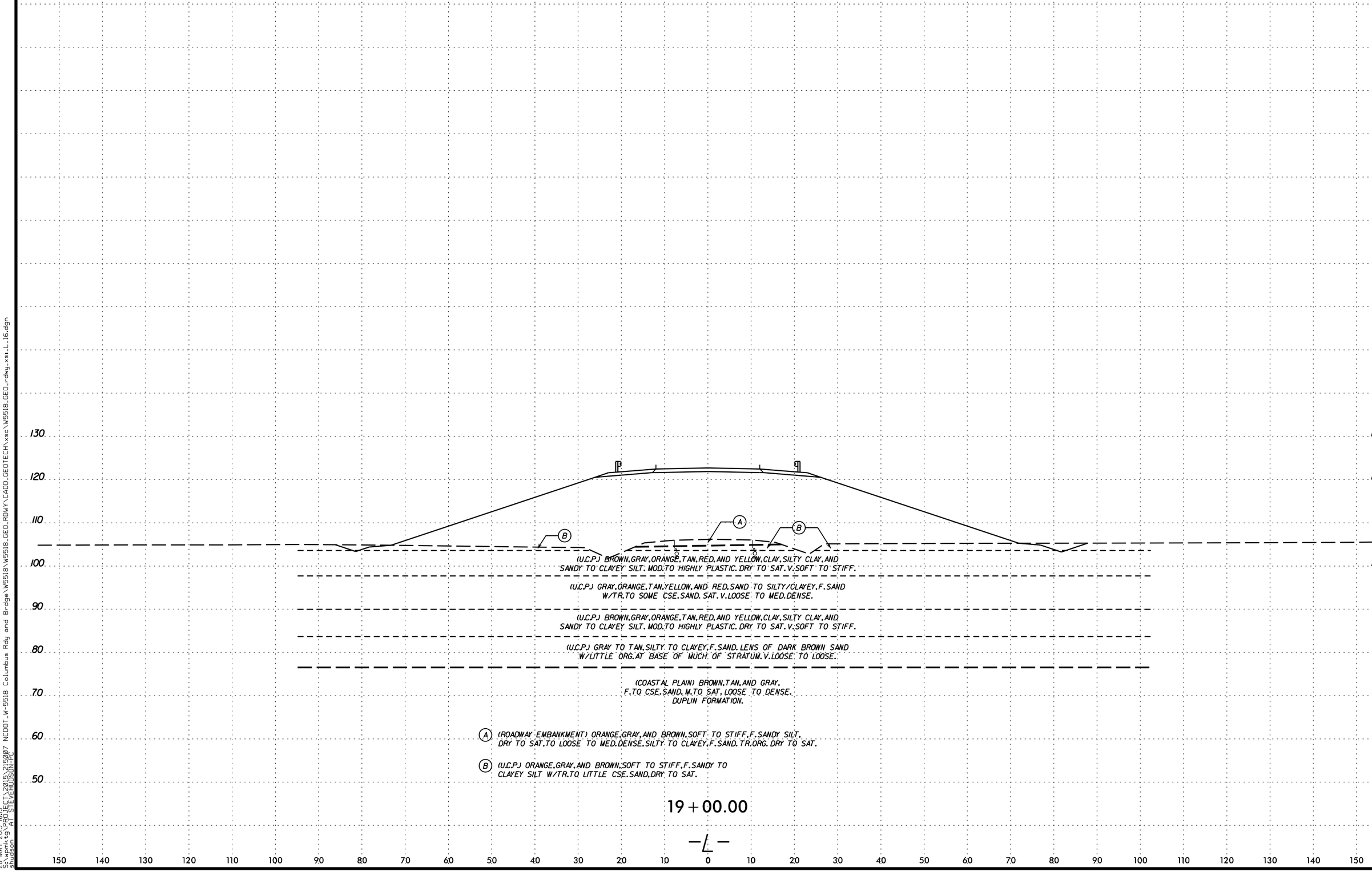

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.

(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND W/TR.TO SOME CSE.SAND. SAT. V.LOOSE TO MED.DENSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.

(U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND. LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM. V.LOOSE TO LOOSE.

(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND. M.TO SAT. LOOSE TO DENSE. DUPLIN FORMATION.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT. DRY TO SAT.TO LOOSE TO MED.DENSE.SILTY TO CLAYEY,F.SAND. TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

19 + 00.00

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shudson AT STEVEHUDSON-PC

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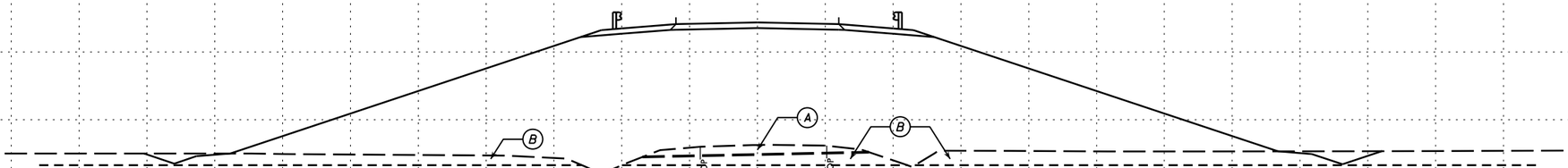

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT.V.SOFT TO STIFF.

(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND
W/TR.TO SOME CSE.SAND. SAT. V.LOOSE TO MED.DENSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT.V.SOFT TO STIFF.

(U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND. LENS OF DARK BROWN SAND
W/LITTLE ORG.AT BASE OF MUCH OF STRATUM.V.LOOSE TO LOOSE.

(COASTAL PLAIN) BROWN,TAN,AND GRAY,
F.TO CSE.SAND. M.TO SAT. LOOSE TO DENSE.
DUPLIN FORMATION.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT,
DRY TO SAT.,TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND.TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

19 + 50.00

$-L-$

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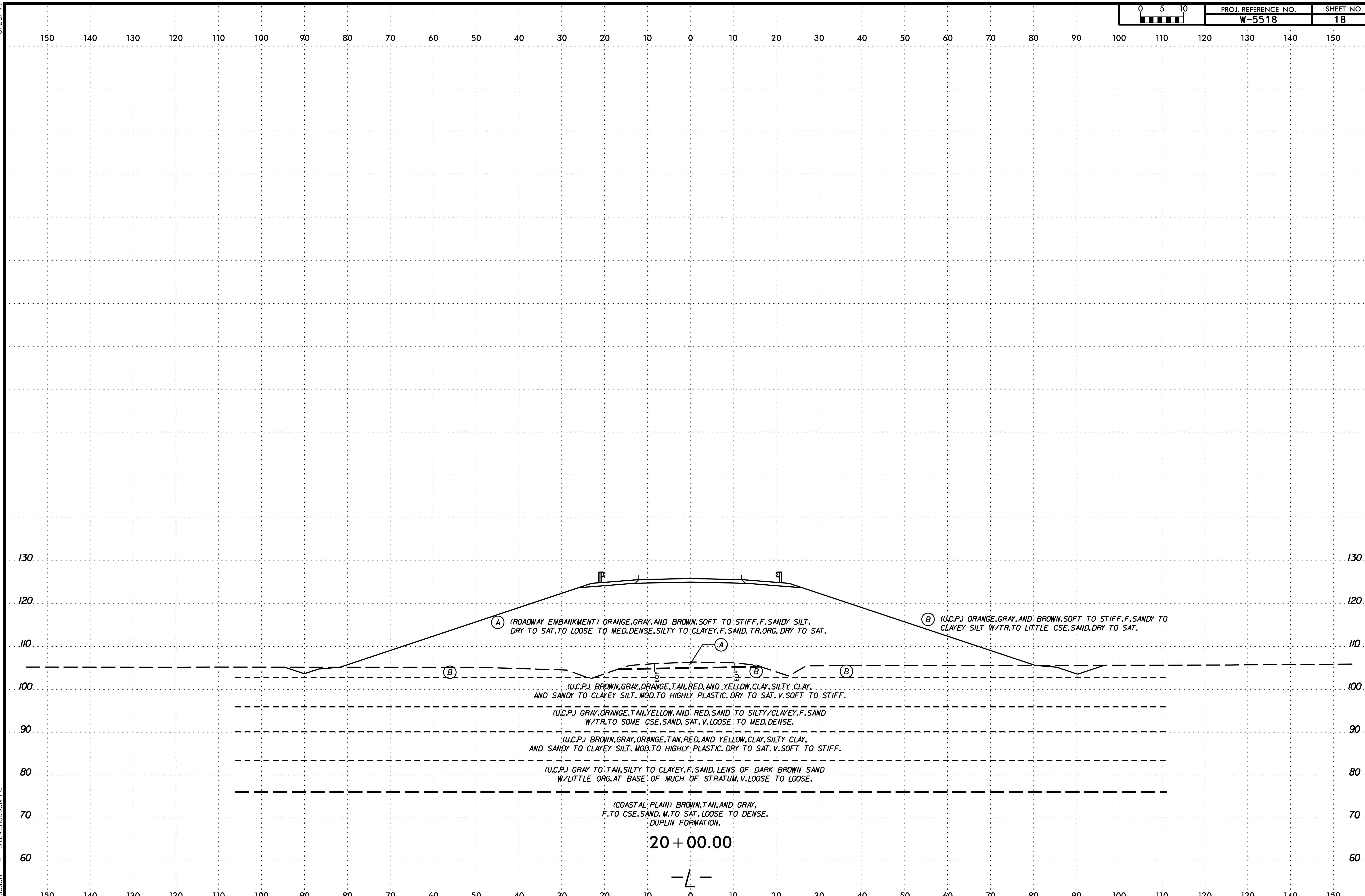
shudson AT STEVEHUDSON-PC

8/23/99



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PROJ. REFERENCE NO.
W-5518
SHEET NO.
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A (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT. DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND,TR.ORG, DRY TO SAT.
B (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.
A
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(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.
(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND W/TR.TO SOME CSE.SAND. SAT. V.LOOSE TO MED.DENSE.
(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.
(U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND. LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM. V.LOOSE TO LOOSE.
(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND. M.TO SAT. LOOSE TO DENSE. DUPLIN FORMATION.
20+00.00
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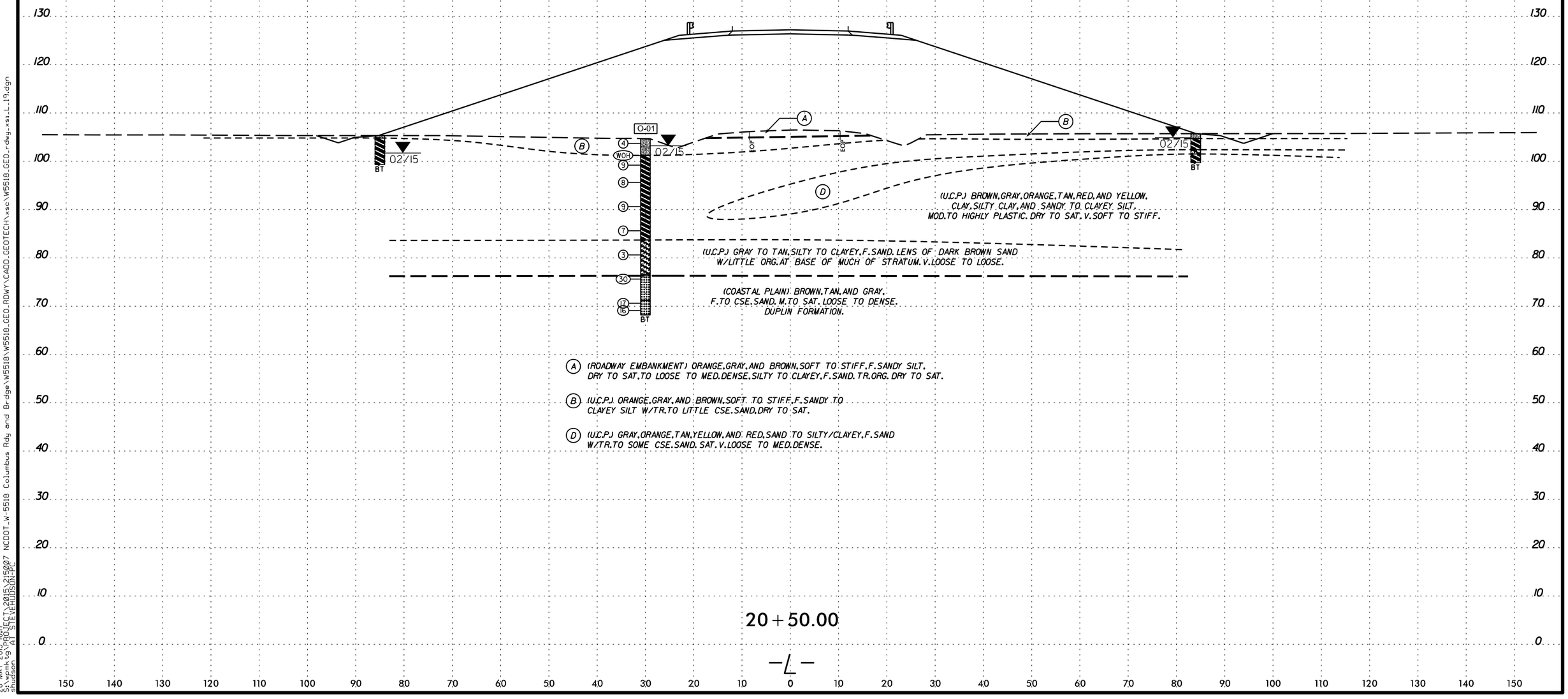
shudson AT STEVEHUDSON-PC

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
O-01	30ft LT	20+50	28.1 - 28.4				-	-							5.4



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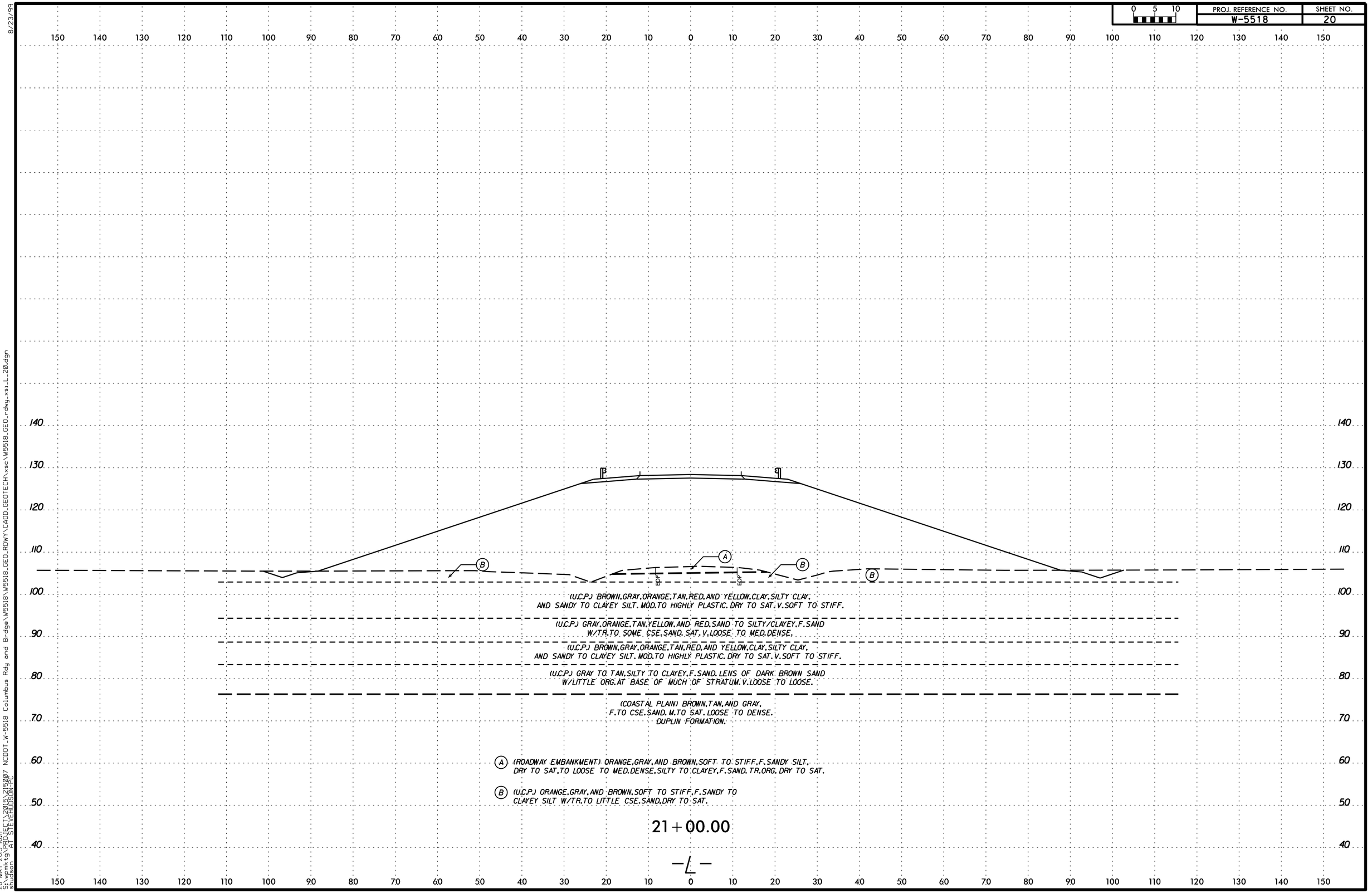

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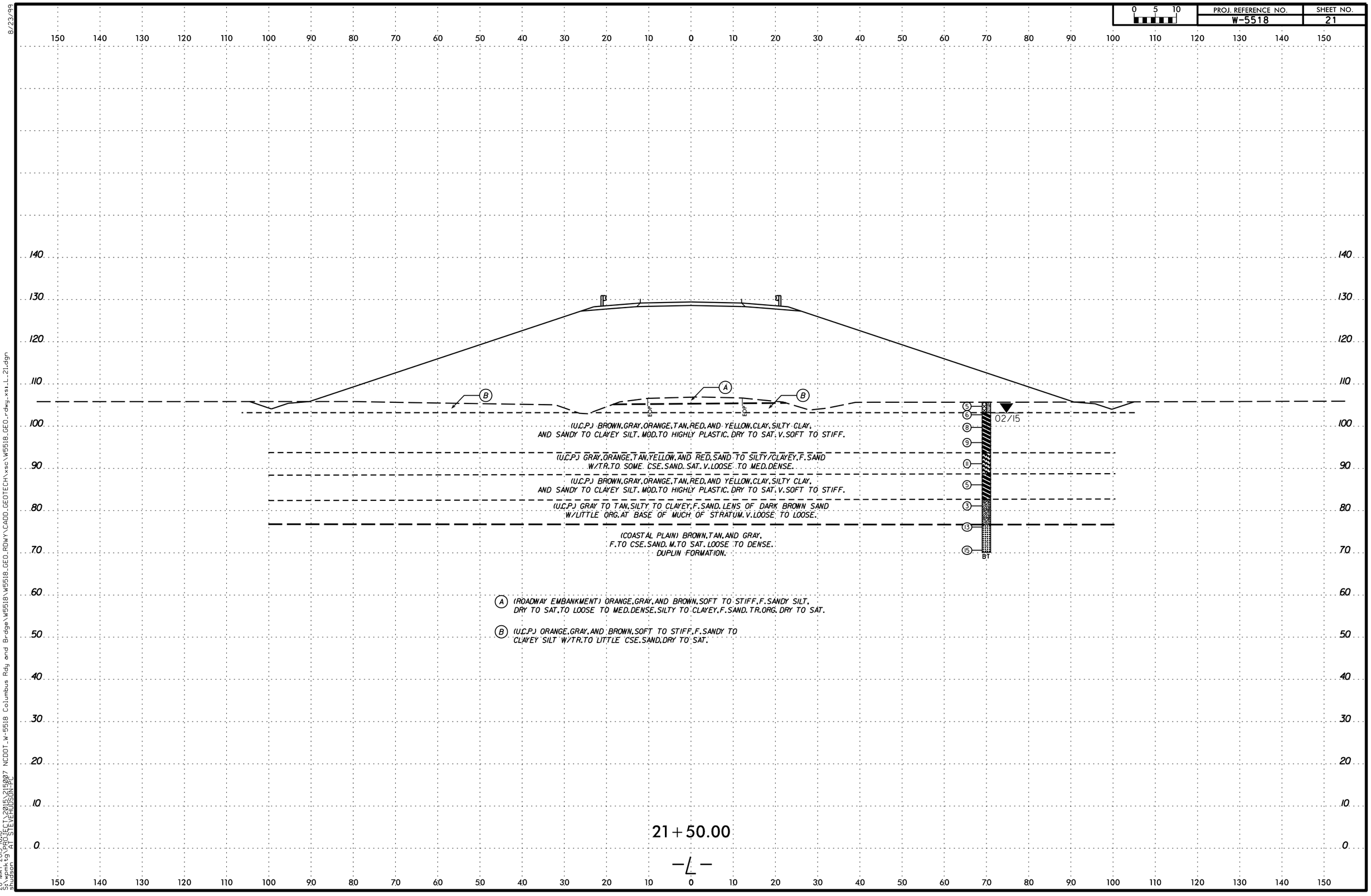
shudson AT STEVEHUDSON-PC



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

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT, DRY TO SAT,TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND. TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(D) (U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND W/TR.TO SOME CSE.SAND. SAT. V.LOOSE TO MED.DENSE.

(E) (U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND. LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM. V.LOOSE TO LOOSE.

TOP TOP

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.

(D)

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT. V.SOFT TO STIFF.

(E)

(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND. M.TO SAT. LOOSE TO DENSE. DUPLIN FORMATION.

GRAY,SILTY TO SANDY CLAY TO SANDY SILT. MOIST TO WET. MOD.TO SLIGHTLY PLASTIC. V.SOFT TO MED.STIFF.

DARK GRAY,F.SAND TO SILTY/CLAYEY,F.SAND W/SOME LIMESTONE AND SHELL. MOIST TO SAT. V.LOOSE TO MED.DENSE.

OLIVE GRAY,GRAY,AND DARK GRAY,HIGHLY PLASTIC,F.SANDY CLAY W/SILT AND SLIGHTLY PLASTIC,CLAYEY SILT. MOIST. V.STIFF TO HARD. PEEDEE FORMATION

GREEN GRAY TO GRAY,F.SAND TO CLAYEY,F.SAND. SAT. V.DENSE.

GRAY,SILTY CLAY W/SAND. WET. HIGHLY PLASTIC. V.STIFF.

22+00.00
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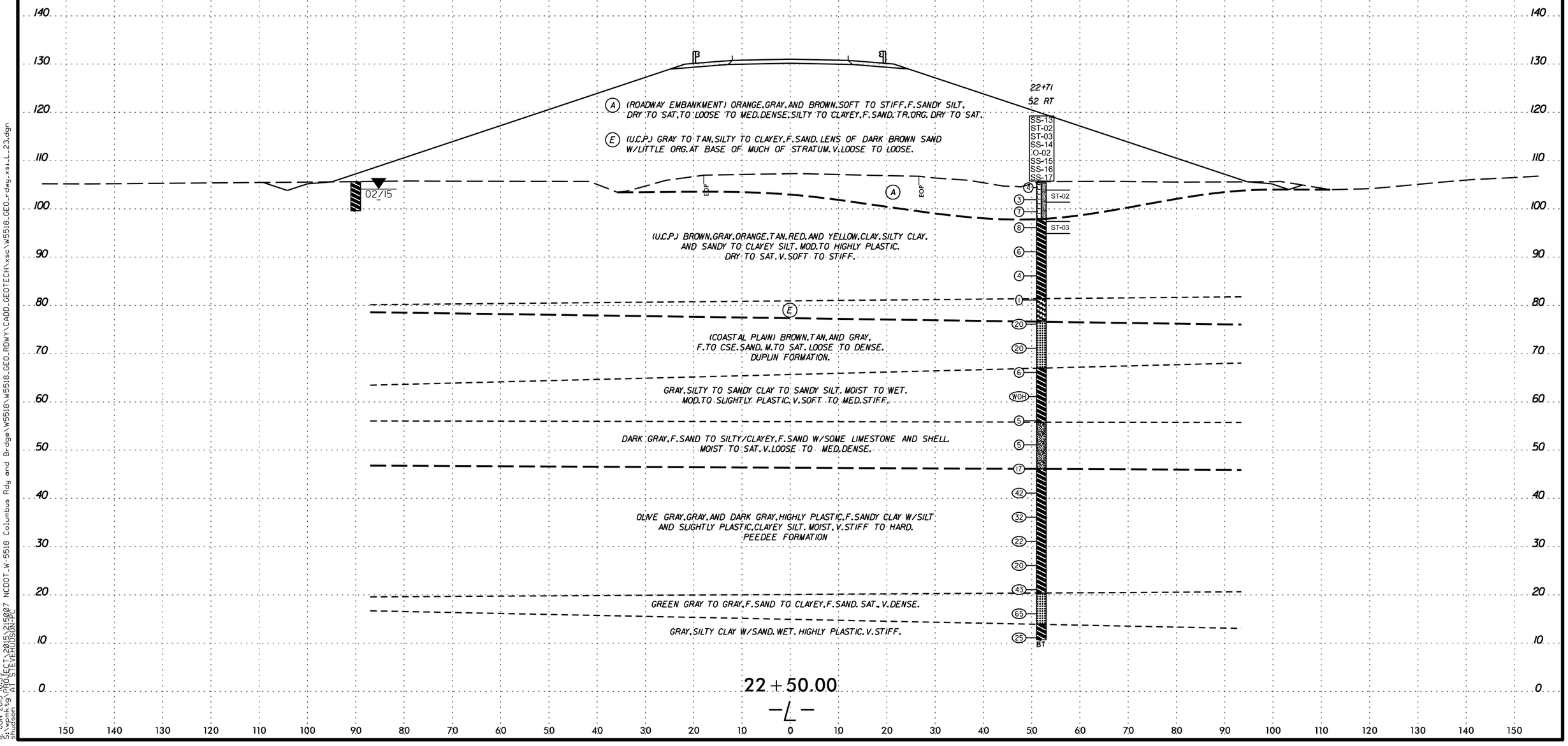
shudson AT STEVEHUDSON-PC

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-13	52ft RT	22+71	0.0 - 1.5	A-4(1)	23	7	2.0	49.1	24.7	24.2	100	99	56	20	-
SS-14	52ft RT	22+71	18.3 - 19.8	A-7-6(49)	69	47	0.7	7.7	48.1	43.5	98	100	93	43	-
O-02	52ft RT	22+71	28.5 - 28.8				-	-							3.6
SS-15	52ft RT	22+71	38.3 - 39.8	A-7-6(18)	42	19	5.3	7.7	64.5	22.6	100	97	89		-
SS-16	52ft RT	22+71	53.3 - 54.8	A-2-4(0)	30	NP	16.0	67.5	6.1	10.5	100	97	18		-
SS-17	52ft RT	22+71	93.3 - 94.8	A-7-5(96)	123	86	3.7	3.0	28.7	64.6	100	97	94		-



PROJ. REFERENCE NO.	SHEET NO.
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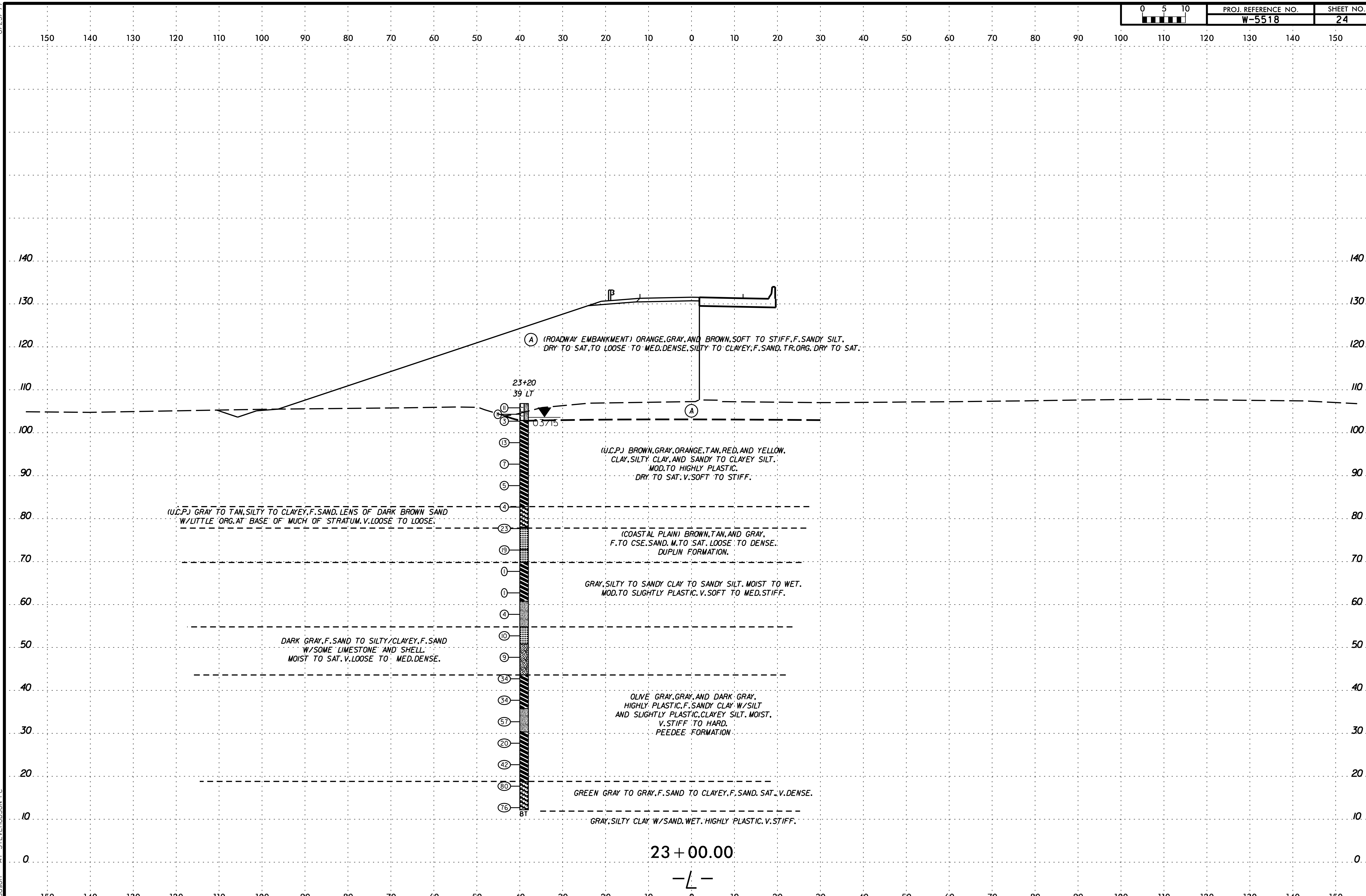

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A (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT, DRY TO SAT,TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND,TR.ORG. DRY TO SAT.
23+20
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BT
(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW, CLAY,SILTY CLAY,AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT.V.SOFT TO STIFF.
(U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND.LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM.V.LOOSE TO LOOSE.
(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND.M.TO SAT.LOOSE TO DENSE. DUPLIN FORMATION.
GRAY,SILTY TO SANDY CLAY TO SANDY SILT.MOIST TO WET. MOD.TO SLIGHTLY PLASTIC.V.SOFT TO MED.STIFF.
DARK GRAY,F.SAND TO SILTY/CLAYEY,F.SAND W/SOME LIMESTONE AND SHELL. MOIST TO SAT.V.LOOSE TO MED.DENSE.
OLIVE GRAY,GRAY,AND DARK GRAY, HIGHLY PLASTIC,F.SANDY CLAY W/SILT AND SLIGHTLY PLASTIC,CLAYEY SILT. MOIST, V.STIFF TO HARD. PEEDEE FORMATION
GREEN GRAY TO GRAY,F.SAND TO CLAYEY,F.SAND. SAT.,V.DENSE.
GRAY,SILTY CLAY W/SAND.WET.HIGHLY PLASTIC.V.STIFF.

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shudson AT STEVEHUDSON-PC

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(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT. DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND. TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(E) (U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND. LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM.V.LOOSE TO LOOSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC. DRY TO SAT.V.SOFT TO STIFF.

(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND. M.TO SAT. LOOSE TO DENSE. DUPLIN FORMATION.

GRAY,SILTY TO SANDY CLAY TO SANDY SILT. MOIST TO WET. MOD.TO SLIGHTLY PLASTIC.V.SOFT TO MED.STIFF.

DARK GRAY,F.SAND TO SILTY/CLAYEY,F.SAND W/SOME LIMESTONE AND SHELL. MOIST TO SAT.V.LOOSE TO MED.DENSE.

OLIVE GRAY,GRAY,AND DARK GRAY, HIGHLY PLASTIC,F.SANDY CLAY W/SILT AND SLIGHTLY PLASTIC,CLAYEY SILT. MOIST. V.STIFF TO HARD. PEEDEE FORMATION

GREEN GRAY TO GRAY,F.SAND TO CLAYEY,F.SAND. SAT., V.DENSE.

GRAY TO OLIVE GRAY,CALCAREOUS SILTY CLAY W/MICA. MOIST,HIGHLY PLASTIC. V.STIFF.

23+50.00

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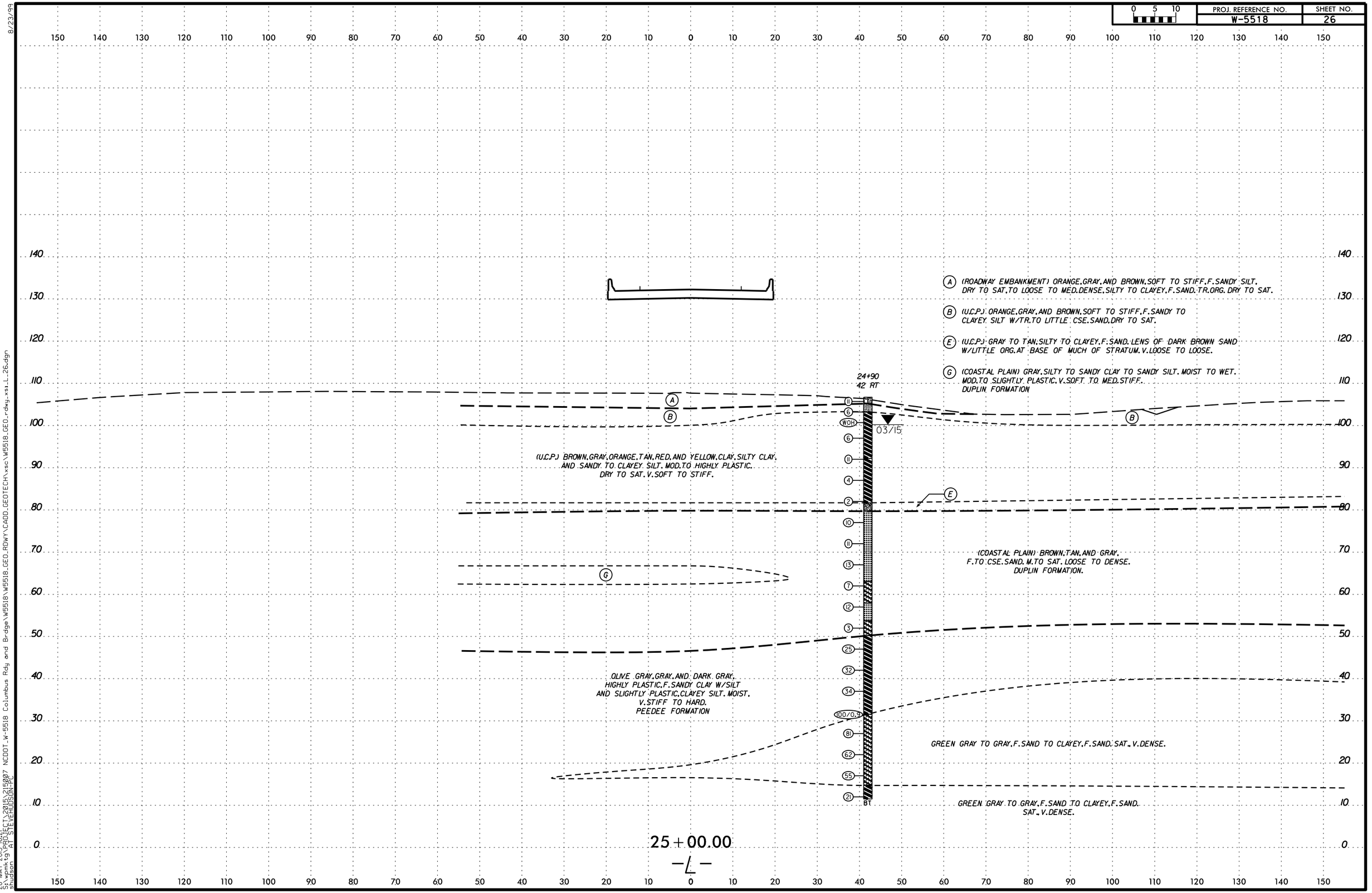
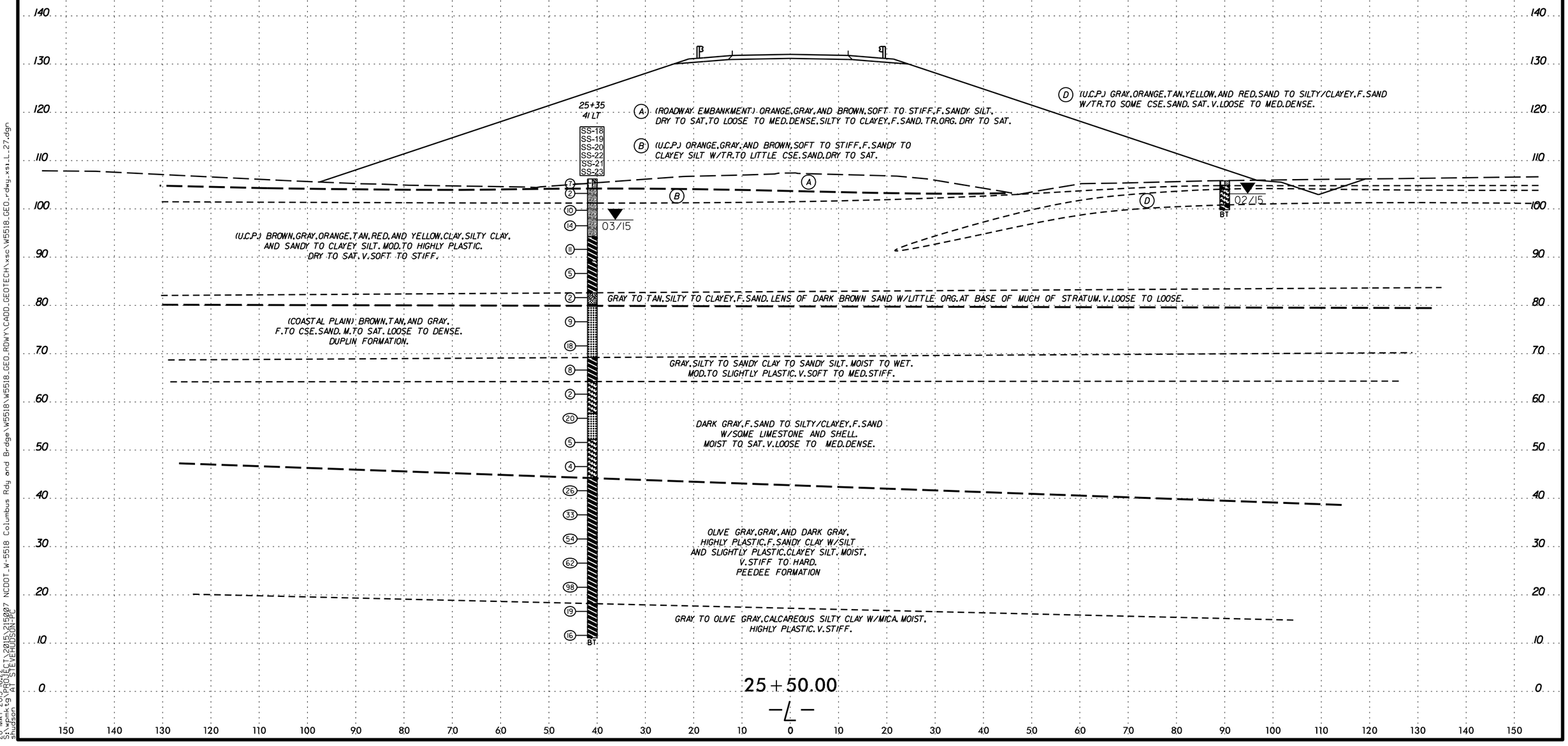
shudson AT STEVENSON-PC



SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-18	41ft LT	25+35	2.0 - 3.5	A-4(3)	28	9	3.0	41.9	22.8	32.3	100	99	61	27	-
SS-19	41ft LT	25+35	18.6 - 20.1	A-7-6(45)	66	45	1.0	9.8	32.5	56.7	100	100	91	38	-
SS-20	41ft LT	25+35	38.6 - 40.1	A-7-6(16)	46	17	10.6	7.5	42.6	39.3	100	92	84	61	-
SS-22	41ft LT	25+35	63.6 - 65.1	A-7-6(17)	52	28	7.0	32.7	16.7	43.7	98	95	65		-
SS-21	41ft LT	25+35	74.0 - 75.1	A-7-6(30)	64	38	8.5	19.1	15.3	57.2	100	97	75		-
SS-23	41ft LT	25+35	88.6 - 90.1	A-7-5(58)	88	56	4.6	8.1	27.6	59.7	100	98	89		-



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

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

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT, DRY TO SAT.TO LOOSE TO MED.DENSE.SILTY TO CLAYEY,F.SAND.TR.ORG.DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(D) (U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND W/TR.TO SOME CSE.SAND,SAT.V.LOOSE TO MED.DENSE.

(E) (U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND.LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM.V.LOOSE TO LOOSE.

EOP A B EOP

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY, AND SANDY TO CLAYEY SILT.MOD.TO HIGHLY PLASTIC. DRY TO SAT.V.SOFT TO STIFF.

(COASTAL PLAIN) BROWN,TAN,AND GRAY, F.TO CSE.SAND,M.TO SAT.LOOSE TO DENSE. DUPLIN FORMATION.

DARK GRAY,F.SAND TO SILTY/CLAYEY,F.SAND W/SOME LIMESTONE AND SHELL. MOIST TO SAT.V.LOOSE TO MED.DENSE.

OLIVE GRAY,GRAY,AND DARK GRAY, HIGHLY PLASTIC,F.SANDY CLAY W/SILT AND SLIGHTLY PLASTIC,CLAYEY SILT.MOIST, V.STIFF TO HARD. PEEDEE FORMATION

GRAY TO OLIVE GRAY,CALCAREOUS SILTY CLAY W/MICA,MOIST. HIGHLY PLASTIC.V.STIFF.

26+00.00

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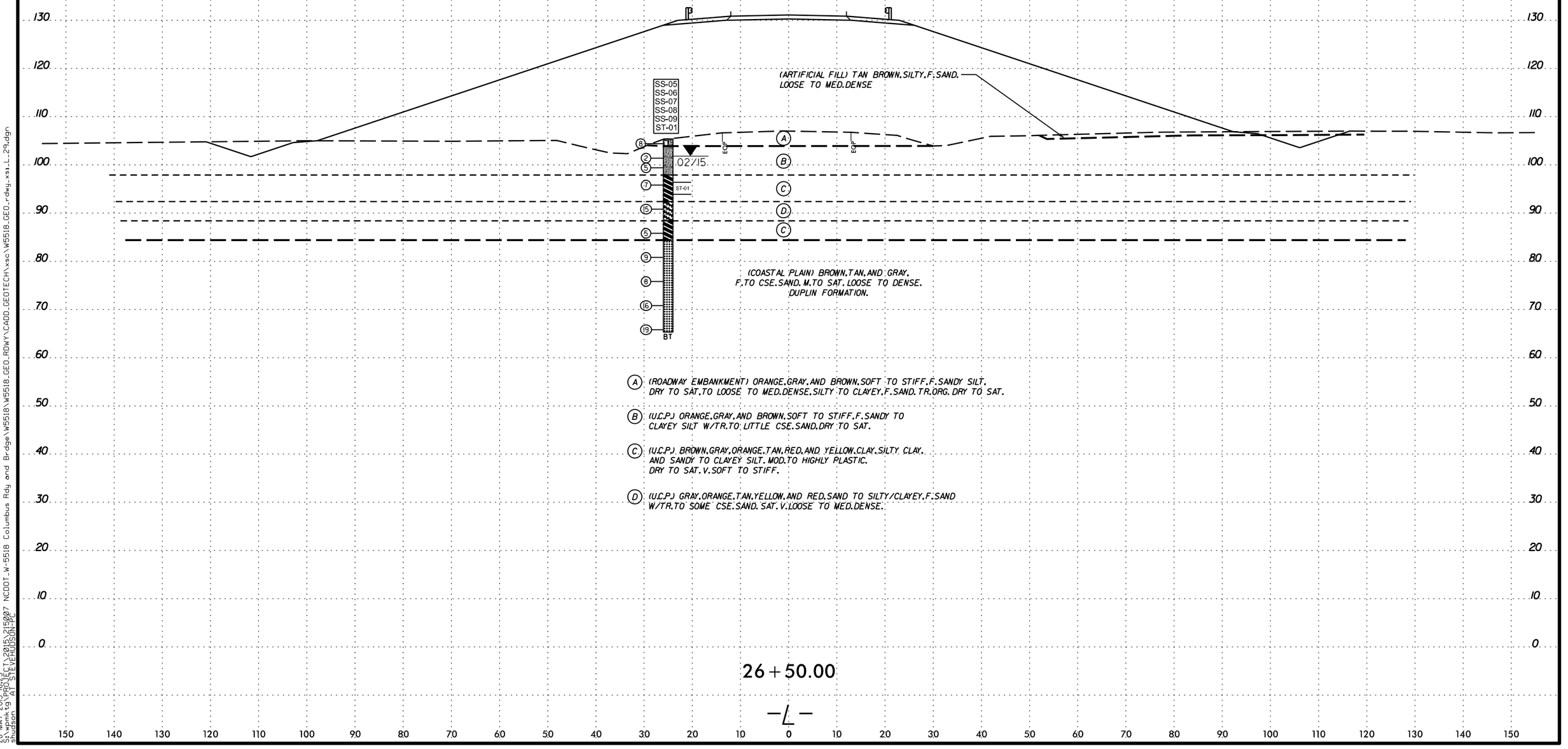
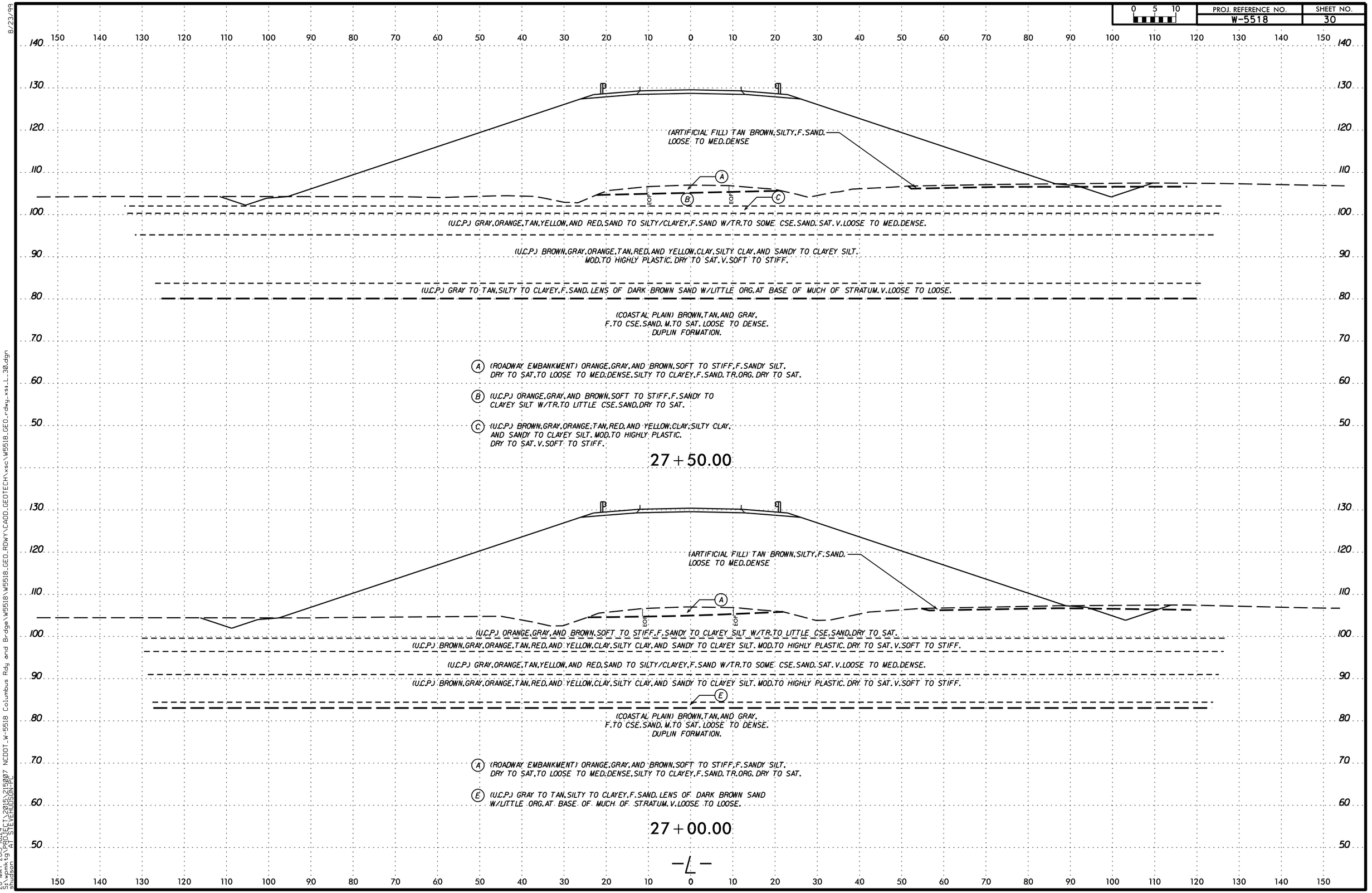
shudson AT STEVEHUDSON-PC

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-05	25ft LT	26+50	0.0 - 1.5	A-2-4(0)	11	NP	35.7	40.1	14.0	10.2	99	83	28		2.5
SS-06	25ft LT	26+50	3.0 - 4.5	A-4(0)	18	6	7.1	49.7	23.1	20.1	100	97	49	19	-
SS-07	25ft LT	26+50	8.6 - 10.1	A-7-6(16)	49	32	11.6	29.2	16.3	42.9	100	95	61		-
SS-08	25ft LT	26+50	18.6 - 20.1	A-7-6(41)	67	43	2.5	11.7	27.1	58.7	100	99	87		-
SS-09	25ft LT	26+50	28.6 - 30.1	A-3(0)	17	NP	88.4	6.6	0.0	5.0	99	34	6		-





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shudson AT STEVEHUDSON-PC

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	31

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

140 130 120 110 100 90 80 70 60 50 40

(ARTIFICIAL FILL) TAN BROWN,SILTY,F.SAND.
LOOSE TO MED.DENSE

B C A B

(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND W/TR.TO SOME CSE.SAND.SAT.V.LOOSE TO MED.DENSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,AND SANDY TO CLAYEY SILT.
MOD.TO HIGHLY PLASTIC.DRY TO SAT.V.SOFT TO STIFF.

(U.C.P.) GRAY TO TAN,SILTY TO CLAYEY,F.SAND.LENS OF DARK BROWN SAND W/LITTLE ORG.AT BASE OF MUCH OF STRATUM.V.LOOSE TO LOOSE.

(COASTAL PLAIN) BROWN,TAN,AND GRAY,
F.TO CSE.SAND.M.TO SAT.LOOSE TO DENSE.
DUPLIN FORMATION.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT,
DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND.TR.ORG.DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

(C) (U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT.MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

28+00.00

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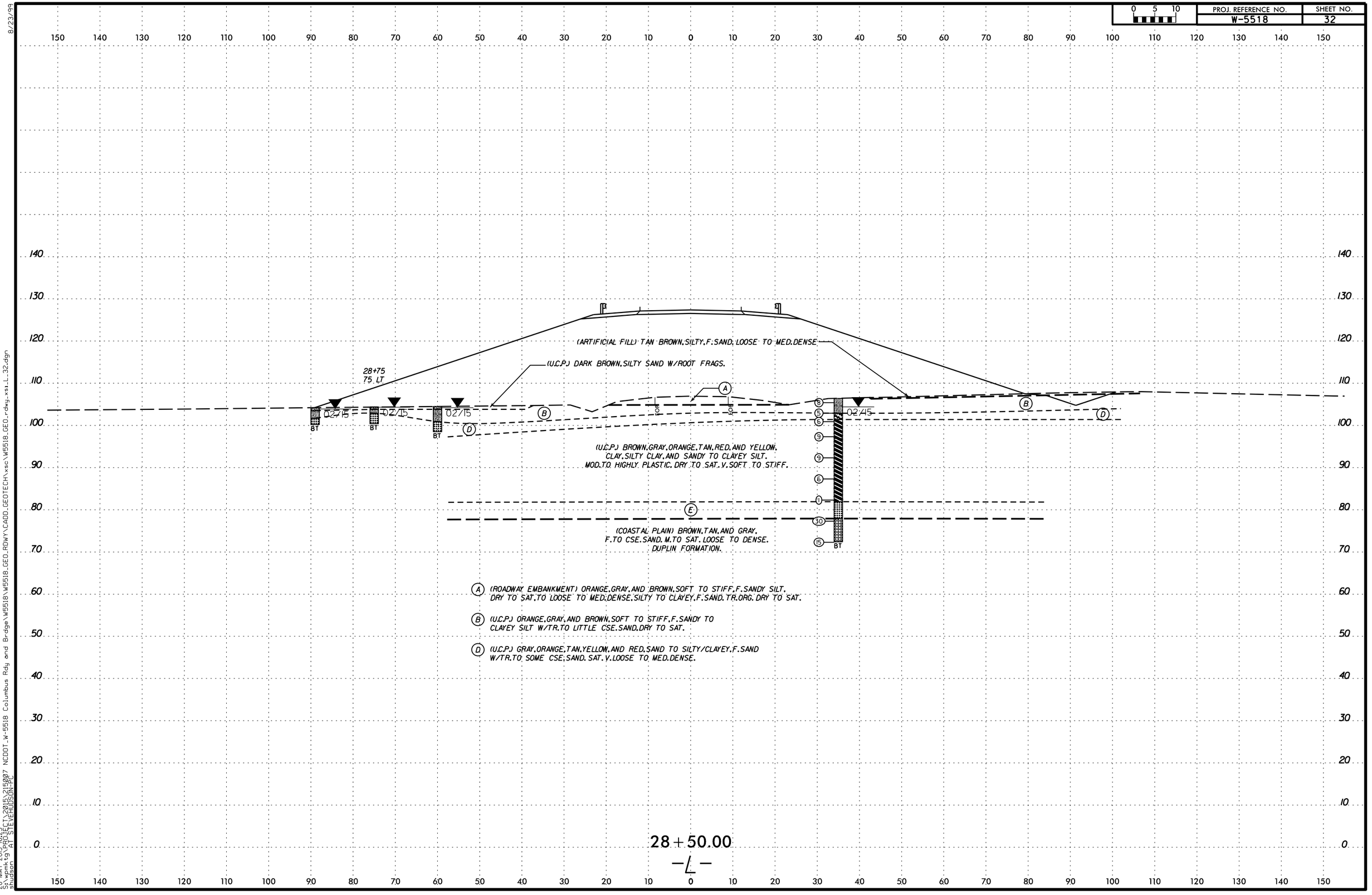
shudson AT STEVEHUDSON-PC



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	W-5518	33

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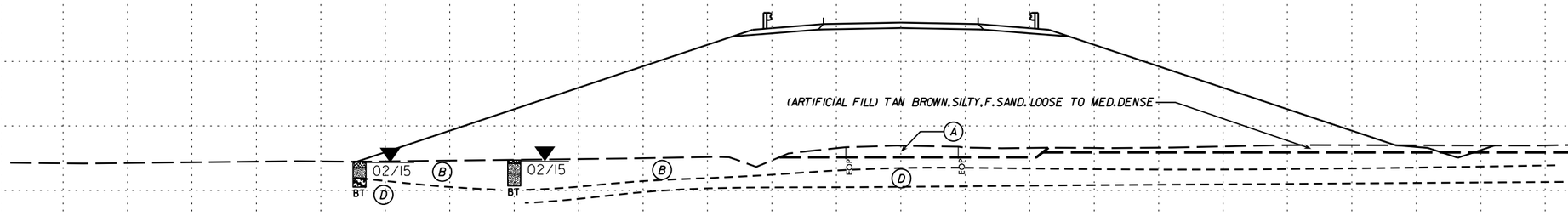
130 120 110 100 90 80 70 60 50 40 30 20 10 0



(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW,
CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT.
MOD. TO HIGHLY PLASTIC, DRY TO SAT. V. SOFT TO STIFF.

(U.C.P.) GRAY TO TAN, SILTY TO CLAYEY, F. SAND. LENS OF DARK BROWN SAND W/LITTLE ORG. AT BASE OF MUCH OF STRATUM. V. LOOSE TO LOOSE.

(COASTAL PLAIN) BROWN, TAN, AND GRAY,
F. TO CSE. SAND. M. TO SAT. LOOSE TO DENSE.
DUPLIN FORMATION.

(A) (ROADWAY EMBANKMENT) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY SILT,
DRY TO SAT. TO LOOSE TO MED. DENSE, SILTY TO CLAYEY, F. SAND. TR. ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY TO
CLAYEY SILT W/TR. TO LITTLE CSE. SAND, DRY TO SAT.

(D) (U.C.P.) GRAY, ORANGE, TAN, YELLOW, AND RED, SAND TO SILTY/CLAYEY, F. SAND
W/TR. TO SOME CSE. SAND. SAT. V. LOOSE TO MED. DENSE.

29+00.00
—L—

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shudson AT STEVEHUDSON-PC

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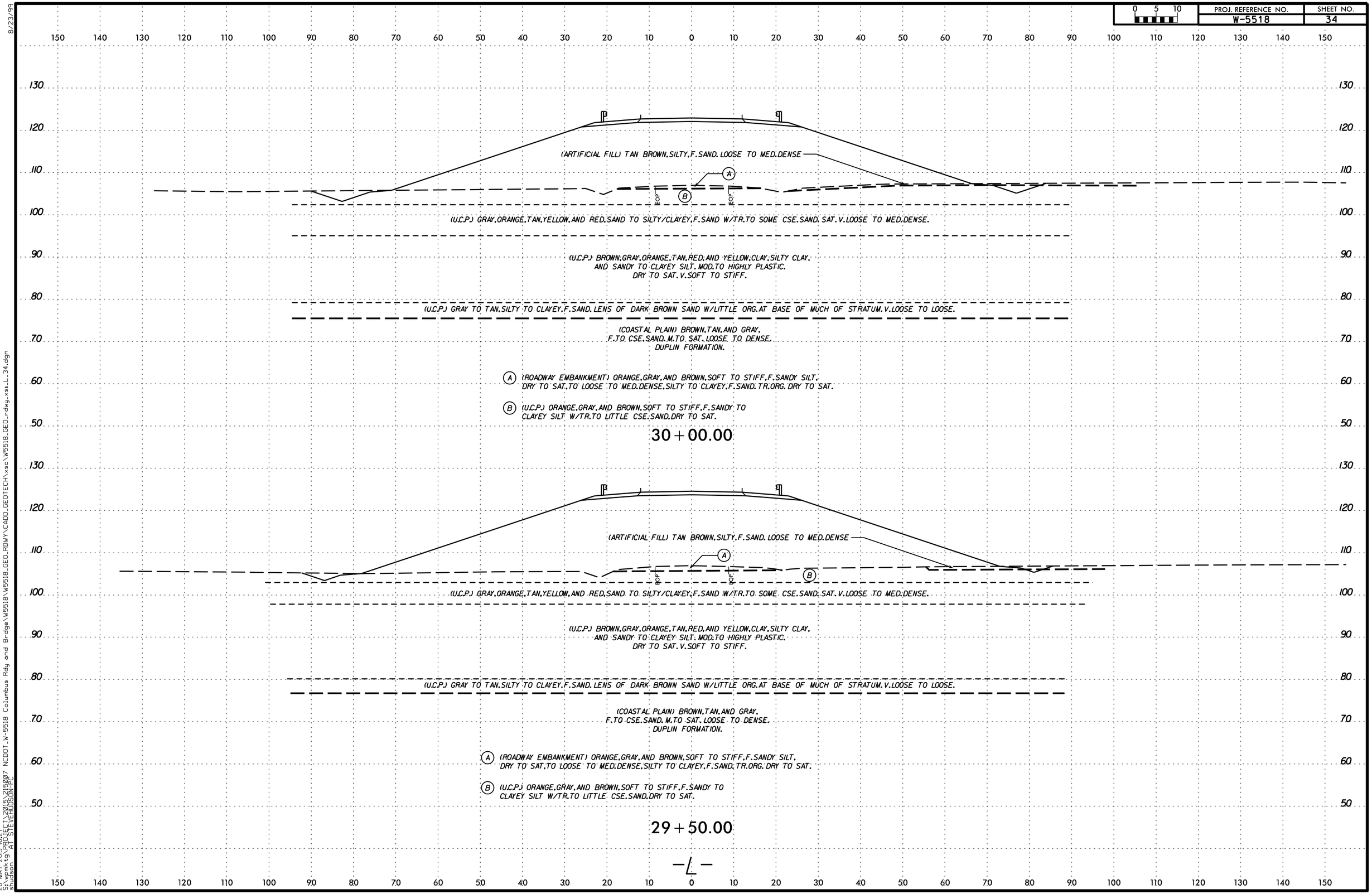
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	34



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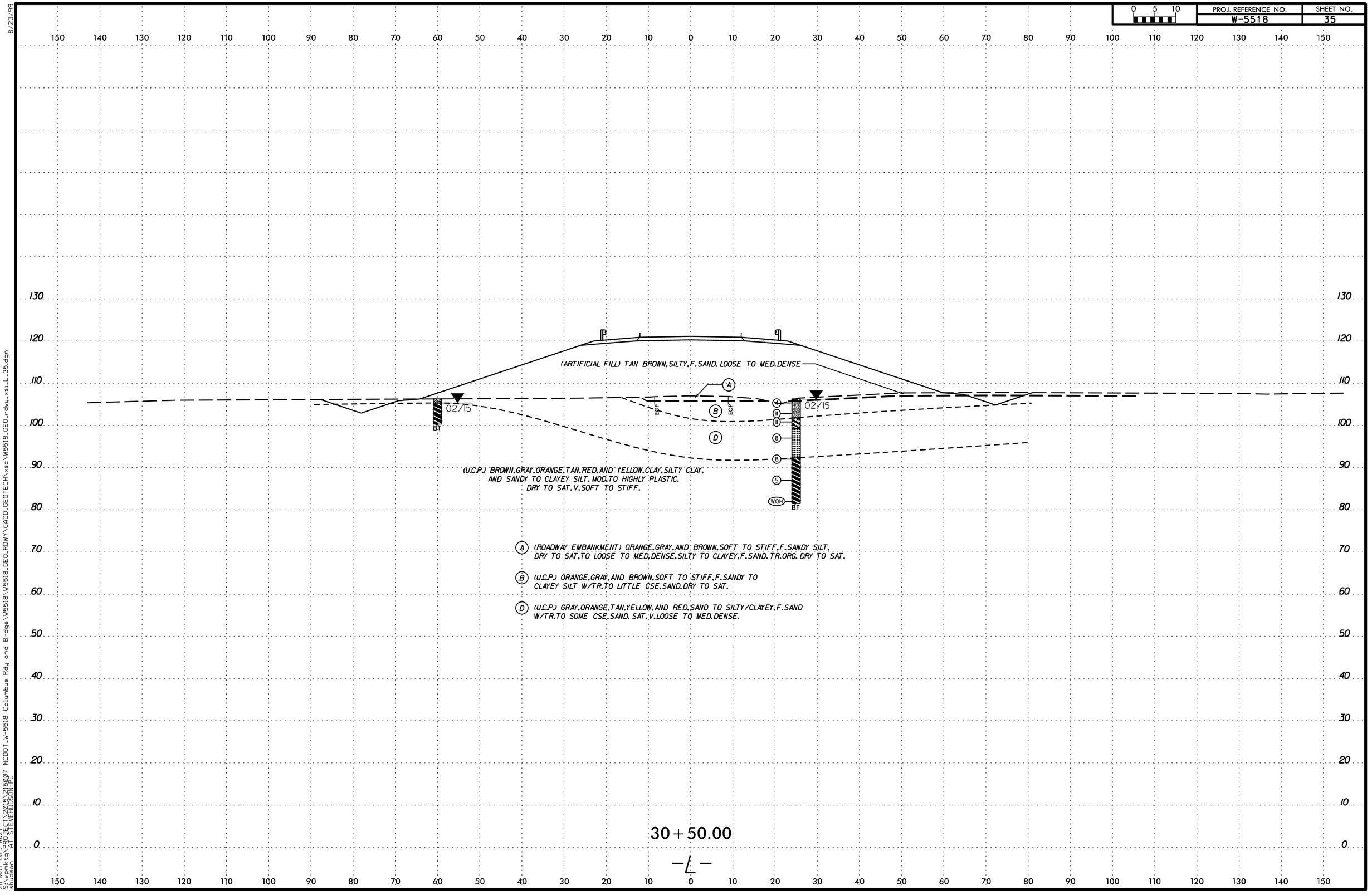
shudson AT STEVEHUDSON-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	35



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	36

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130
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60

(ARTIFICIAL FILL) TAN BROWN,SILTY,F.SAND.
LOOSE TO MED.DENSE

A

B

EOP

EOP

(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND
W/TR.TO SOME CSE.SAND. SAT.V.LOOSE TO MED.DENSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT.
DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND. TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

31+50.00

(ARTIFICIAL FILL) TAN BROWN,SILTY,F.SAND. LOOSE TO MED.DENSE

A

B

EOP

EOP

(U.C.P.) GRAY,ORANGE,TAN,YELLOW,AND RED,SAND TO SILTY/CLAYEY,F.SAND
W/TR.TO SOME CSE.SAND. SAT.V.LOOSE TO MED.DENSE.

(U.C.P.) BROWN,GRAY,ORANGE,TAN,RED,AND YELLOW,CLAY,SILTY CLAY,
AND SANDY TO CLAYEY SILT. MOD.TO HIGHLY PLASTIC.
DRY TO SAT.V.SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY SILT.
DRY TO SAT.TO LOOSE TO MED.DENSE,SILTY TO CLAYEY,F.SAND. TR.ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE,GRAY,AND BROWN,SOFT TO STIFF,F.SANDY TO
CLAYEY SILT W/TR.TO LITTLE CSE.SAND,DRY TO SAT.

31+00.00

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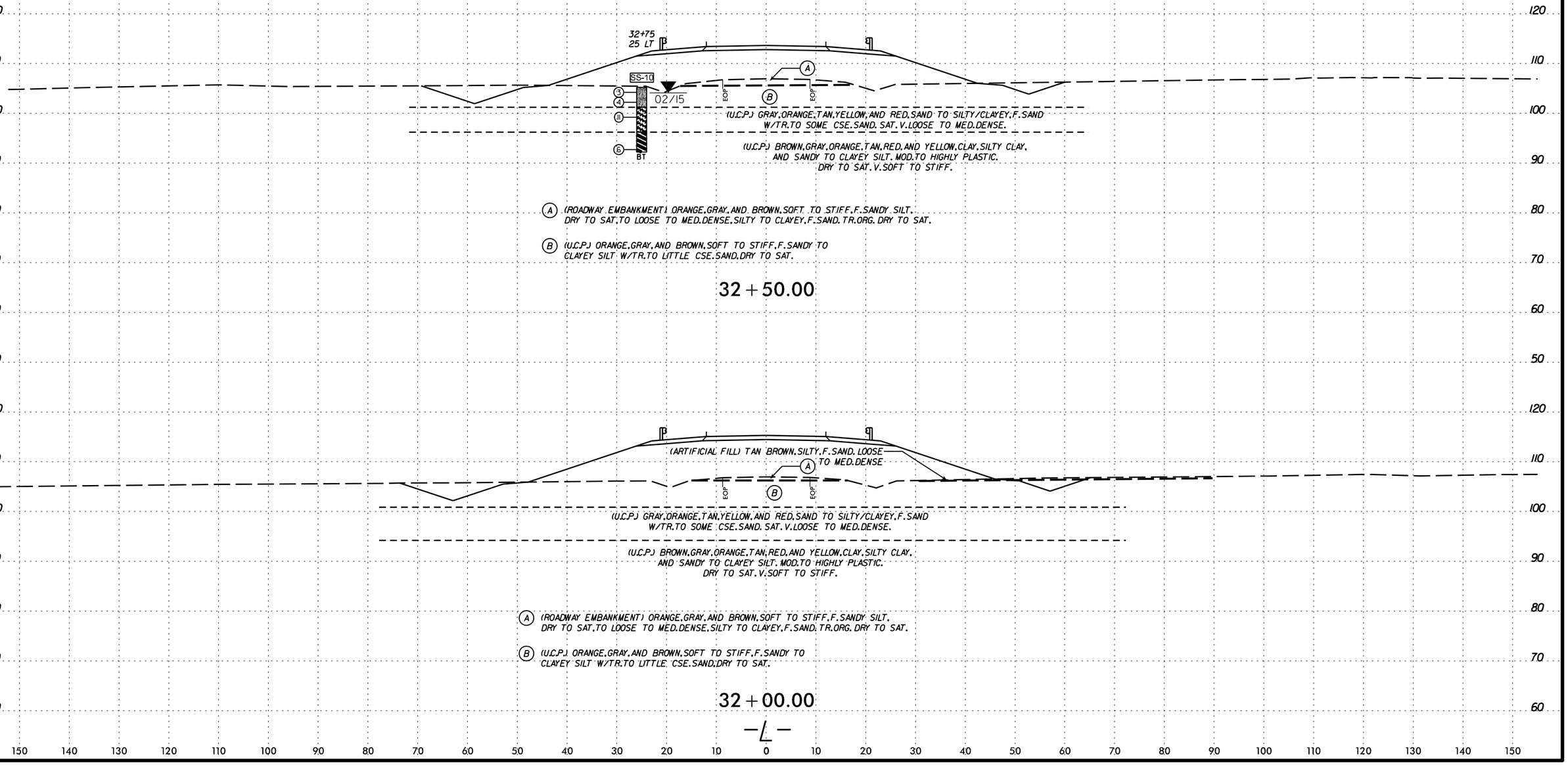
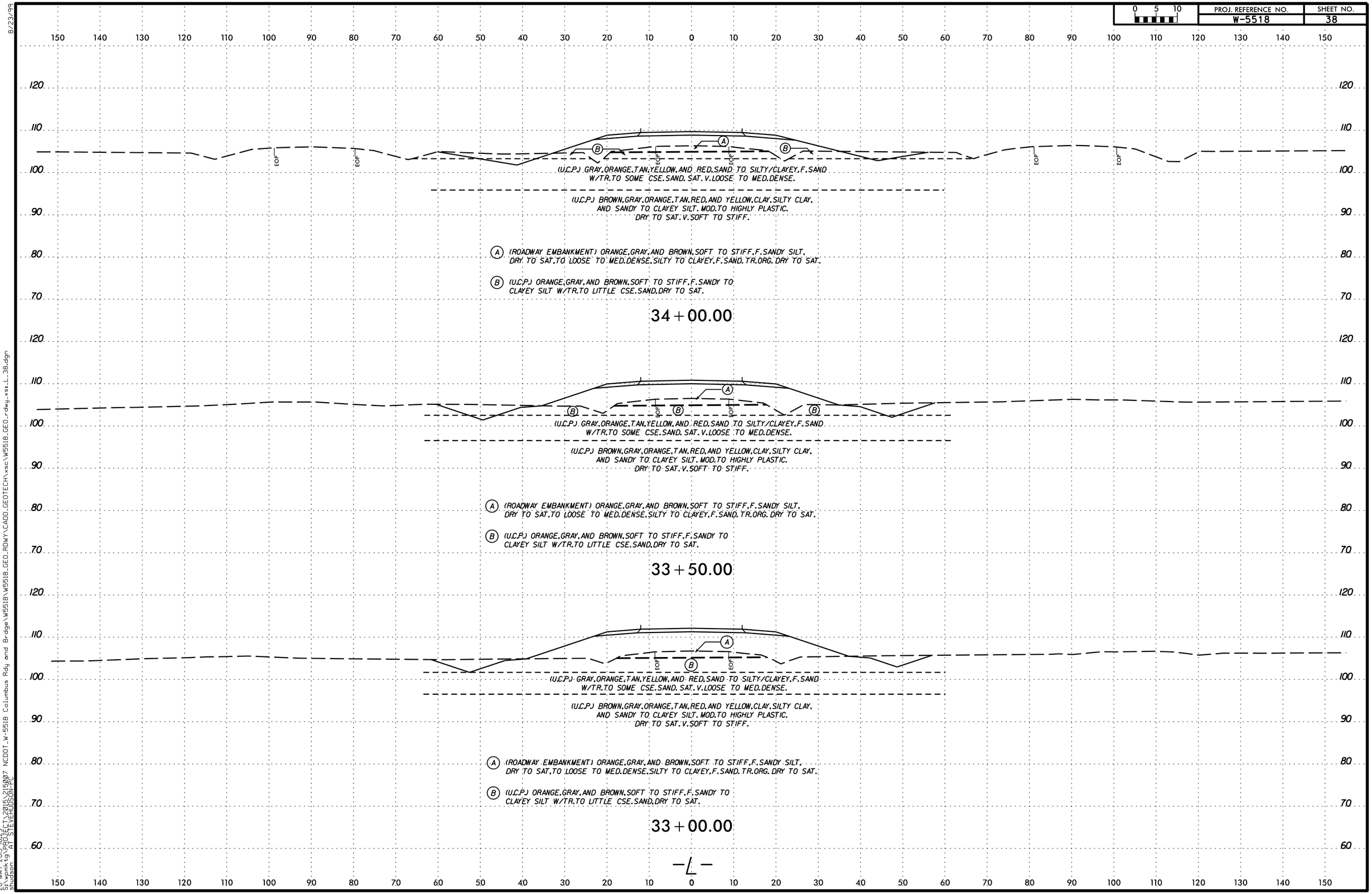
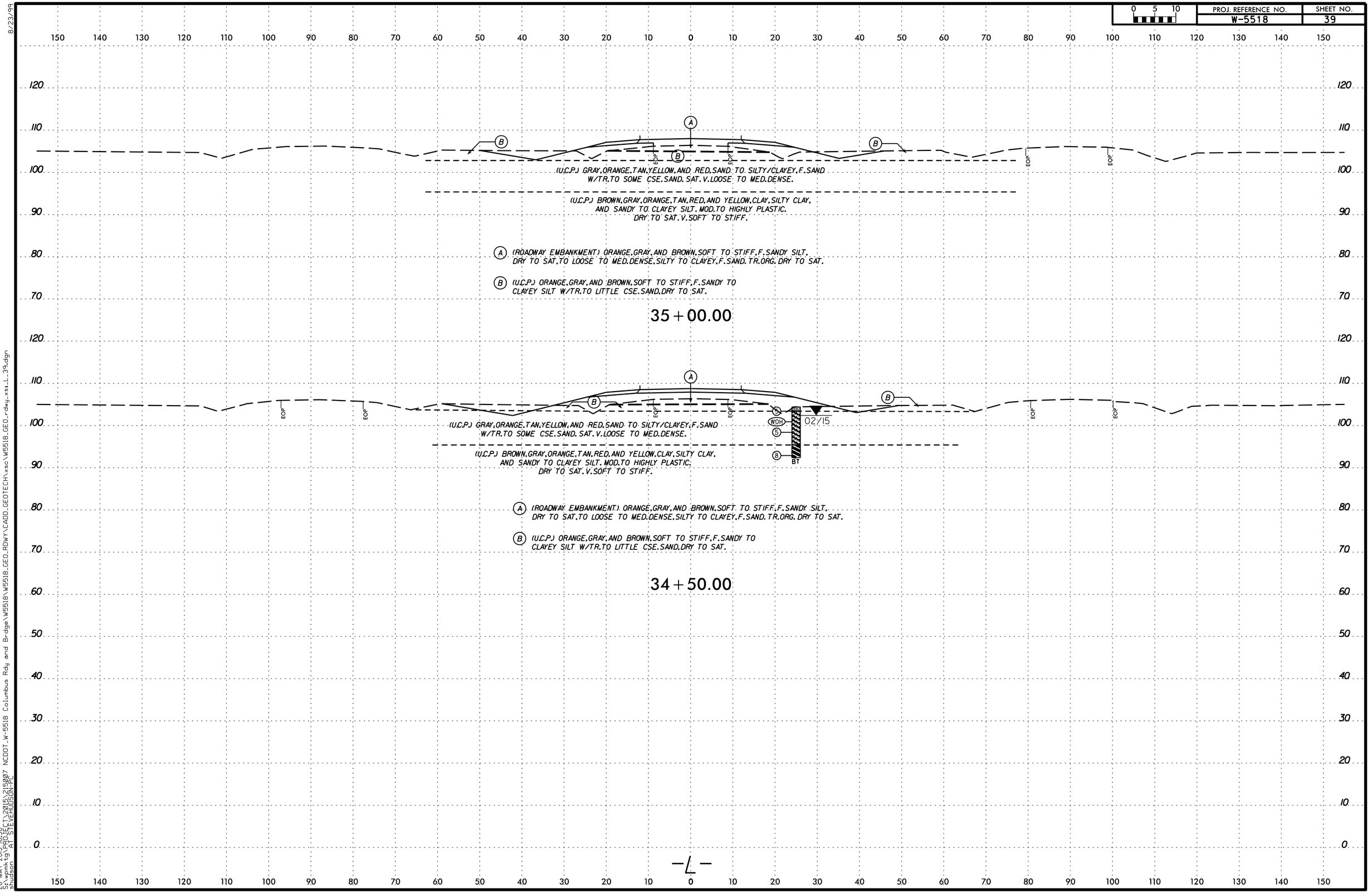
shudson AT STEVEHUDSON-PC

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-10	25ft LT	32+75	5.0 - 6.5	A-2-6(0)	30	12	17.4	57.0	1.5	24.2	100	96	29		-







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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5518	40

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120
110
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90
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70

EOP EOP

(A) (B)

(U.C.P.) GRAY, ORANGE, TAN, YELLOW, AND RED, SAND TO SILTY/CLAYEY, F. SAND W/TR. TO SOME CSE. SAND. SAT. V. LOOSE TO MED. DENSE.

(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY SILT. DRY TO SAT. TO LOOSE TO MED. DENSE, SILTY TO CLAYEY, F. SAND. TR. ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY TO CLAYEY SILT W/TR. TO LITTLE CSE. SAND, DRY TO SAT.

36 + 00.00

120
110
100
90
80
70

EOP EOP EOP EOP

(A) (B)

(U.C.P.) GRAY, ORANGE, TAN, YELLOW, AND RED, SAND TO SILTY/CLAYEY, F. SAND W/TR. TO SOME CSE. SAND. SAT. V. LOOSE TO MED. DENSE.

(U.C.P.) BROWN, GRAY, ORANGE, TAN, RED, AND YELLOW, CLAY, SILTY CLAY, AND SANDY TO CLAYEY SILT. MOD. TO HIGHLY PLASTIC. DRY TO SAT. V. SOFT TO STIFF.

(A) (ROADWAY EMBANKMENT) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY SILT. DRY TO SAT. TO LOOSE TO MED. DENSE, SILTY TO CLAYEY, F. SAND. TR. ORG. DRY TO SAT.

(B) (U.C.P.) ORANGE, GRAY, AND BROWN, SOFT TO STIFF, F. SANDY TO CLAYEY SILT W/TR. TO LITTLE CSE. SAND, DRY TO SAT.

35 + 50.00

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AT STEVEHUDSON-PC

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-11	25ft LT	36+50	2.0 - 3.5	A-4(1)	21	8	16.3	39.9	13.6	30.3	100	93	48		-
SS-12	25ft LT	36+50	10.5 - 12.0	A-7-5(26)	66	23	1.6	15.0	20.9	62.5	100	99	86	29	-