



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 8, 2022

MEMORANDUM TO: Clark Morrison PhD, P.E.
State Pavement Design Engineer

Tatia L. White, P.E., PLS
State Roadway Design Engineer

FROM: J. L. Pilipchuk, P.E., L.G.
State Geotechnical Engineer

DocuSigned by:
John Pilipchuk
52C44B94B8BE444...

STATE PROJECT: 50178.1.1 (U-5765)

COUNTY: Mecklenburg

DESCRIPTION: NC 73 – SR 5544 (West Catawba Ave.) to SR 2316
(Northcross Drive)

SUBJECT: Pavement and Subgrade Investigation Report

The Geotechnical Engineering Unit has completed the evaluation of the pavement and subgrade investigation for this project and presents the following.

The proposed work consists of widening the existing multi-lane roadway, adding curb and gutter and improving left turn lanes.

The subgrade beneath the existing roadway consists of residual and roadway embankment soils. Predominant soil types encountered were clayey silt (A-5) and silty clay (A-7-5, A-7-6). Other soils encountered less frequently were sandy silt (A-4) and sandy clay (A-6).

Anticipated borrow will likely consist of clayey silt, and silty clay.

The length of this project is 1.056 miles.

The existing pavement is in fair condition. The following asphalt surface conditions were reported during this investigation. Moderate to high severity transverse, longitudinal, and block cracking occurred frequently throughout the project. Isolated areas of moderate to

high fatigue cracking, pot-holes and rutting were present but occurrences were less frequent. Rutting depths was recorded as 0.25 inches.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

A. Highly Plastic Clays:

Locations of clays with a PI of 26 or greater

LINE	STATION AND OFFSET	PI
-L2-	432+65 LT ISL	31
-L2-	474+01 LTL (RT)	34
-Y49-	13+20 LT LN	38
-Y49-	22+90 RTL (LT)	26

B. Soils with a High Moisture Content:

Locations of soils that were classified as wet to saturated

LINE	STATION AND OFFSET	DEPTH (ft)
-L2-	455+71 LT PS	W
-L2-	455+71 MID LANE	W-M
-L2-	465+38 RT ISL	M-W
-L2-	472+93 LTL (LT)	W
-L2-	475+77 LT OSL	W
-Y49-	13+20 LTL (T)	W
-Y49-	22+90 RTL (RT)	W
-Y50-	11+44 RTL (LT)	W

(M) = Moist, (W) = Wet, (Sat). = Saturated

C. Trapped Water within the Pavement:

Trapped water within the pavement was not observed during this investigation.

D. Groundwater

Ground water was not observed during this investigation.

JLP/JBB

ATTACHMENT 1:	Pavement and Subgrade Inventory	34
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DocuSigned by:

Jeffrey Brian Barfield 04/08/2022

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REFERENCE: U-5765

PROJECT: 50178

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY MECKLENBURG

PROJECT DESCRIPTION NC 73 (SAM FURR ROAD)
FROM SR 5544 (WEST CATAWBA AVENUE) TO SR
2316 (NORTHCROSS AVENUE) WIDENING

PAVEMENT AND SUBGRADE INVESTIGATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5765	1	33

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:
- 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.

FIELD PERSONNEL

M. BREWER

C. ODOM

D. DEMBY

INVESTIGATED BY CG2

DRAWN BY M. BREWER, P.E.

CHECKED BY R. KRAL, P.E.

SUBMITTED BY CG2

DATE APRIL 2022

Prepared in the Office of:



CAROLINAS
GEOTECHNICAL
GROUP

2400 CROWNPOINT EXECUTIVE DRIVE
SUITE 800
CHARLOTTE, NC 28227
(980) 339-8684



DocuSigned by:

04/08/2022

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SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL
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

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-4, A-5	
SYMBOL											
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 35 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN
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 11 MN	41 MN 11 MN
GROUP INDEX	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

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (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 OPENING (MM)	4	10	40	60	200	270
	4.75	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.)

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL LI PL PLASTIC RANGE (PI)	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
OM SL OPTIMUM MOISTURE 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-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.
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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
MODERATELY COMPRESSIBLE
HIGHLY COMPRESSIBLE

LL < 31
LL = 31 - 50
LL > 50

PERCENTAGE OF MATERIAL

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

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

RECOMMENDATION SYMBOLS

UNDERCUT
 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
HL - 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
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
☐ CME-550X
☐ YANE SHEAR TEST
☐ PORTABLE MOIST
☒ MOBILE B-29

ADVANCING TOOLS:

☐ CLAY BITS
☐ 6" CONTINUOUS FLIGHT AUGER
☒ 4" SOLID STEM AUGERS
☐ HARD FACED FINGER BITS
☐ TUNG-CARBIDE INSERTS
☐ CASING ☐ W/ ADVANCER
☐ TRICONE _____ ' STEEL TEETH
☐ TRICONE _____ ' TUNG-CARB.
☒ CORE BIT (4-INCH DIAMETER)
☐ _____

HAMMER TYPE:

☐ AUTOMATIC ☐ MANUAL

CORE SIZE:
☐ -B _____ ☐ -H _____
☐ -N _____

HAND TOOLS:
☐ POST HOLE DIGGER
☐ HAND AUGER
☐ SOUNDING ROD
☐ VANE SHEAR TEST
☒ DUAL MASS DCP

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 DIV

Tip No. U-5765| WBS No. 50178.1.1| Mecklenburg County

ABBREVIATIONS

RT LN = Right Lane
LT LN = Left Lane
OSL = Outside Lane
ISL = Inside Lane
OSML = Outside Mid-Lane
ISML = Inside Mid-Lane
PS = Paved Shoulder
LTL = Left Turn Lane
RTL = Right Turn Lane
MID = Middle Lane
CTL = Center Turn Lane
ISWP = Inside Wheel Path
OSWP = Outside Wheel Path
PS = Paved Shoulder
FW = From White Line
FY = From Yellow Line
RT = Right
LT = Left
(I) = Inside
(O) = Outside
BOC = Back of Curb
C&G = Curb and Gutter
EOP = Edge of Pavement

CR = Crown
S = Super
C = Cut
F = Fill
DCP = Dynamic Cone Penetrometer
M = Moist
W = Wet
N/A = Not Observed
NSR = No Sample Recovered
S- = Soil Grab Sample
Ref- = Soil Reference Sample
SS- = Split Spoon Sample
RE = Roadway Embankment
F. = Fine
Cse. = Coarse
ABC = Aggregate Base Course
STBC = Soil Type Base Course
CSS = Cement Stabilized Soil
SG = Subgrade
Sa. = Sand/Sandy
Si. = Silt/Silty
Cl. = Clay/Clayey

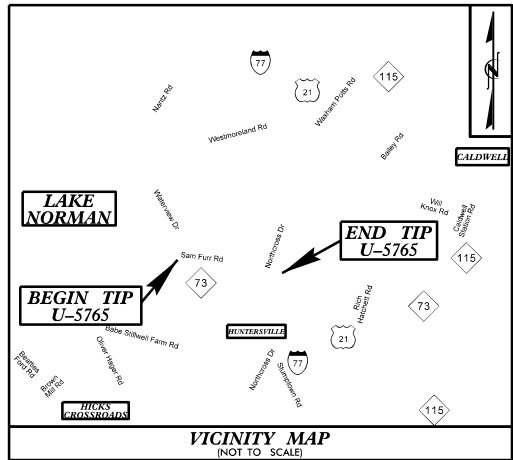
09/08/24

PENTABLE: \$PENTBL\$
TIME: \$TIME\$

PLOT DRIVER: \$PLTDV\$
USER: \$USER\$
FILE: \$PWAVAU\TPATHDESC\$

CONTRACT: TIP PROJECT: U-5765

See Sheet 1-A For Index of Sheets



DESIGN RECOMMENDATION PLAN SET

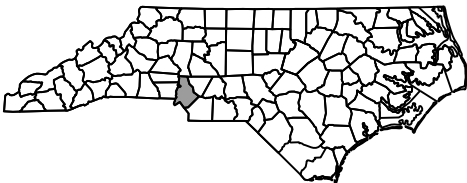
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

LOCATION: NC 73 - SR 5544 (WEST CATAWBA AVENUE) TO
SR 2316 (NORTHCROSS DRIVE)

TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING, RETAINING WALLS,
SIGNALS, AND SIGNING

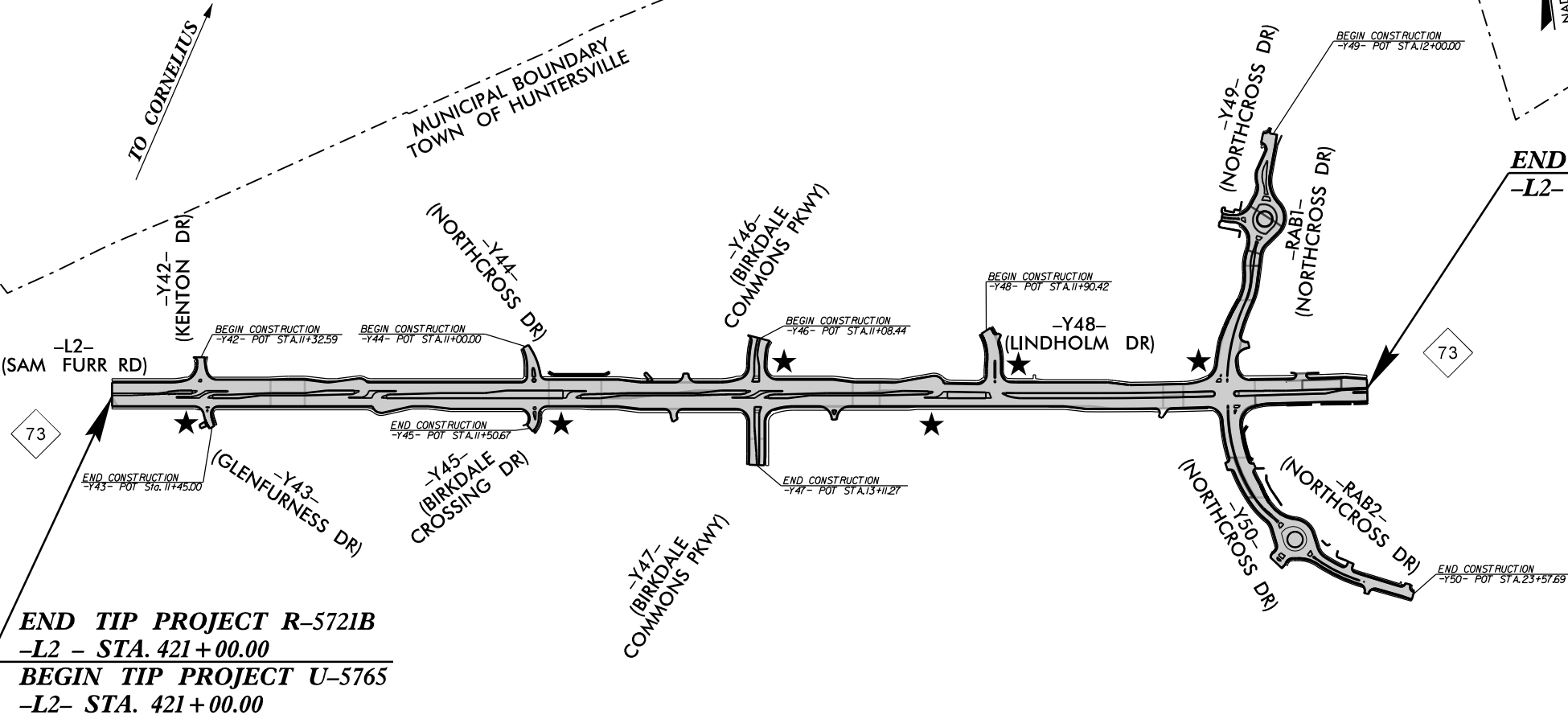
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5765	3	33
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
U-5765	-	50178.1.1 - PE	



MUNICIPAL BOUNDARY
TOWN OF HUNTERSVILLE

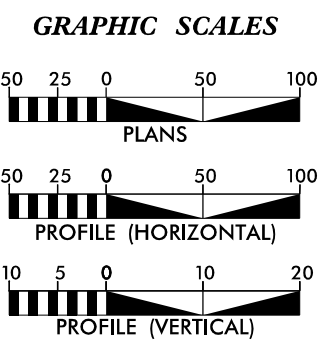
TO CONCORD

END TIP PROJECT U-5765
-L2- STA. 476 + 77.18



END TIP PROJECT R-5721B
-L2 - STA. 421 + 00.00
BEGIN TIP PROJECT U-5765
-L2- STA. 421 + 00.00

NOTES:
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HUNTERSVILLE.
CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

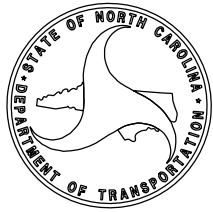


DESIGN DATA	
ADT 2016 =	56,660
ADT 2040 =	72,730
K =	8 %
D =	55 %
T =	4 % *
V =	50 MPH
*TTST =	1% DUAL = 3%
FUNC CLASS =	REGIONAL TIER

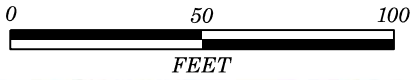
PROJECT LENGTH	
LENGTH ROADWAY -L2- (NC 73) =	1.056 MILES
TOTAL LENGTH TIP PROJECT U-5756 =	1.056 MILES
NCDOT CONTACT:	J. WILSON STROUD PROJECT MANAGER

Prepared in the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610	
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JULY 15, 2022	PAUL ROBBINS, PE PROJECT ENGINEER
LETTING DATE: MAY 19, 2026	JEFFREY MUHLBAUER, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.



PROPOSED SIGNAL
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



NC GRID
NAD 83 NA 2011

C-1 -L2- STA. 426+14	
RTL (LT) 5.5 FT LT FW	
PAVEMENT SECTION	
ASPHALT	5.75 in
ABC	6.25 in

-L2- POT Sta. 425+04.00 =
-Y42- POT Sta. 13+10.06

BULK-4

C-1 RTL LT

425

S 3°02'43.7"E

-L2- POT Sta. 425+16.62 =
-Y43- POT Sta. 10+00.00

-Y43- PC Sta. 10+74.46

-Y43- PT Sta. 12+71.84

NC GRID
NAD 83 NA 2011

C-2 -L2- STA. 432+65		C-3 -L2- STA. 432+65	
LT PS 1.7 FT RT FW		LT OSL 2.3 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	9.50 in	ASPHALT	9.75 in
CSS	7.50 in	CSS	9.25 in
C-5 -L2- STA. 432+65		C-6 -L2- STA. 432+66	
LT ISL 5.7 FT RT FY		RT ISL 5.6 FT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	11.25 in	ASPHALT	10.50 in
CSS	8.75 in	CSS	9.50 in

C-7 -L2- STA. 432+66		C-8 -L2- STA. 432+66	
RT OSL 2.3 FT LT FW		RT PS 1.6 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	8.75 in	ASPHALT	8.75 in
CSS	7.75 in	CSS	8.25 in

THERE IS NO TEST LABELED C-4



-L2- Sta. 440+17.73 =
-Y44- POT Sta. 13+32.89 =
-Y45- POT Sta. 10+00.00 =

-Y44- PT
Sta. 12+30.62

C-11 -L2- STA. 441+36		C-12 -L2- STA. 441+36	
RTL PS (LT) 1.9 FT RT FW		RTL (LT) (I) 1.2 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	9.50 in	ASPHALT	10.00 in
CSS	POSS.	CSS	9.00 in

C-11 RTL PS (LT)
C-12 RTL (LT) (I)

C-9 -L2- STA. 438+22		C-10 -L2- STA. 438+22	
LTL (RT) 5.8 FT RT FY		RTL (RT) 7.0 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	11.50 in	ASPHALT	13.50 in
CSS	YES	ABC	6.50 in
UTILITY PRESENT			

-Y45- PC Sta. 10+97.16

-Y45- PT Sta. 11+50.67

NC GRID
NAD 83 NA 2011

-Y46- PT Sta. 12+34.13

C-16 -L2- STA. 451+41	
RTL (LT) 6.8 FT LT FW	
PAVEMENT SECTION	
ASPHALT	11.50 in

C-13 -L2- STA. 445+78	
RTL (RT) 6.0 FT RT FW	
PAVEMENT SECTION	
ASPHALT	12.75 in

C-14 -L2- STA. 448+43		C-15 -L2- STA. 449+04	
LTL (RT) 6.0 FT RT FY		RTL (RT) 5.0 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	10.25 in	ASPHALT	8.25 in
CSS	9.75 in	CSS	7.75 in



NC GRID
NAD 83 NA 2011

C-17 -L2- STA. 455+71		C-18 -L2- STA. 455+71	
LT PS 2.0 FT RT FW		LT OSL 2.0 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	6.25 in	ASPHALT	7.75 in

C-19 -L2- STA. 455+71	
MID LANE 16.5 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.25 in

-Y48- PC Sta. 11+90.42

-Y48- PT Sta. 13+33.69

BULK-5

C-17 LT PS
C-18 LT OSL
C-19 MID LANE
C-20 LT ISL
C-21 LTL (LT)

460

C-20 -L2- STA. 455+71		C-21 -L2- STA. 455+71	
LT ISL 16.8 FT RT FY		LTL (LT) 5.0 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	10.00 in	ASPHALT	9.00 in
CSS	8.00 in	CSS	8.00 in

+24.72 =
+72.67 =
00.00 =

-L2- Sta. 461+04.93 =
-Y48- POT Sta. 14+96.32

NC GRID
NAD 83 NA 2011

C-22 -L2- STA. 462+01	
RTL (LT) 8.3 FT RT FW	
PAVEMENT SECTION	
ASPHALT	9.25 in
UTILITY PRESENT	

C-22 RTL LT

-L2- PC Sta. 465+81.09

465

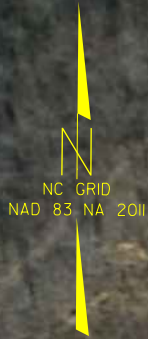
-L2-

C-23 RT ISL

C-24 RT OSL

C-25 RT PS

C-23 -L2- STA. 465+38		C-24 -L2- STA. 465+38	
RT ISL 6.0 FT RT FY		RT OSL 2.7 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	10.50 in	ASPHALT	8.00 in
CSS	6.50 in	CSS	8.00 in
C-25 -L2- STA. 465+38			
RT PS 1.7 FT RT FW			
PAVEMENT SECTION			
ASPHALT	8.00 in		
CSS	8.00 in		



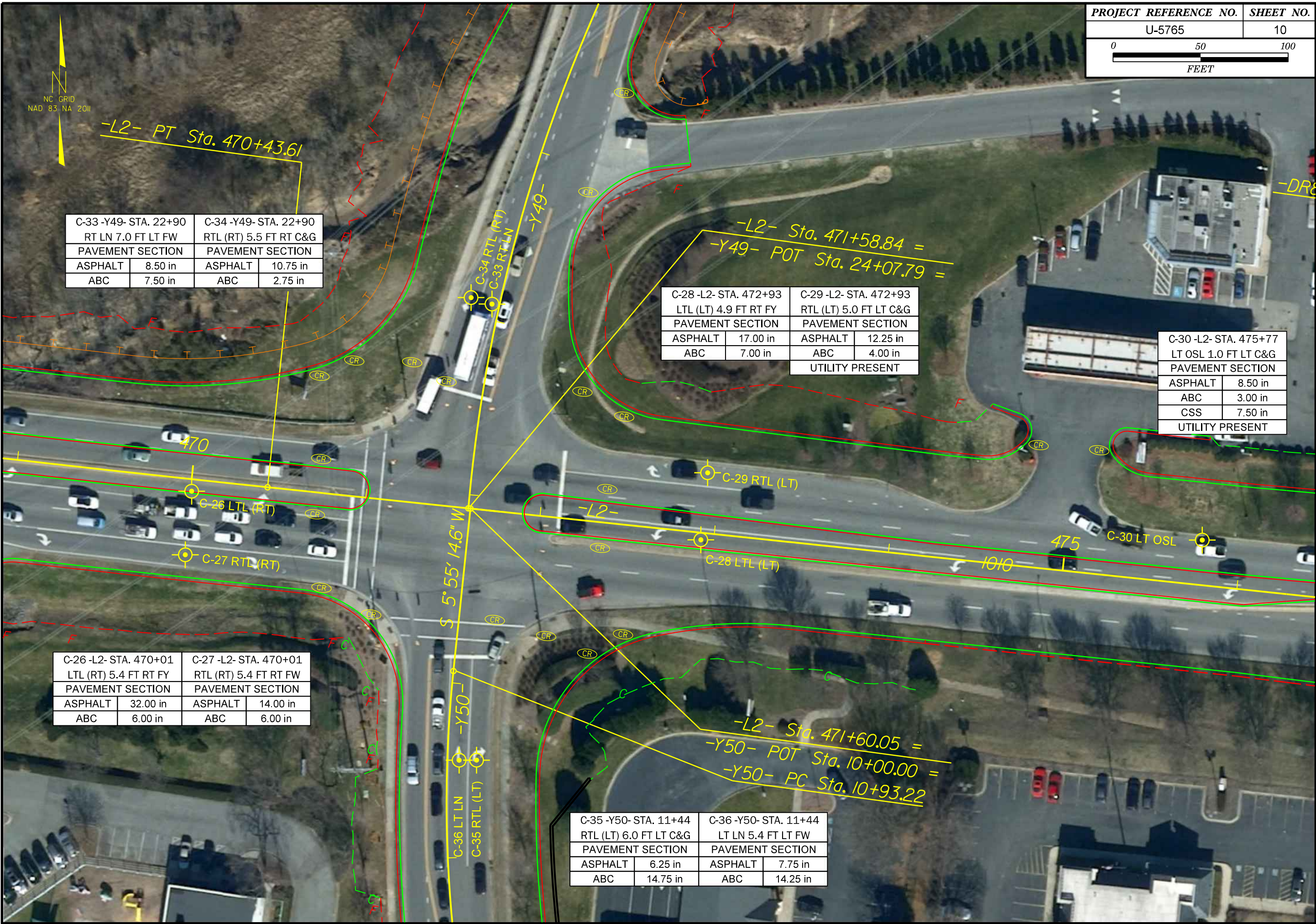
C-33 -Y49- STA. 22+90		C-34 -Y49- STA. 22+90	
RT LN 7.0 FT LT FW		RTL (RT) 5.5 FT RT C&G	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	8.50 in	ASPHALT	10.75 in
ABC	7.50 in	ABC	2.75 in

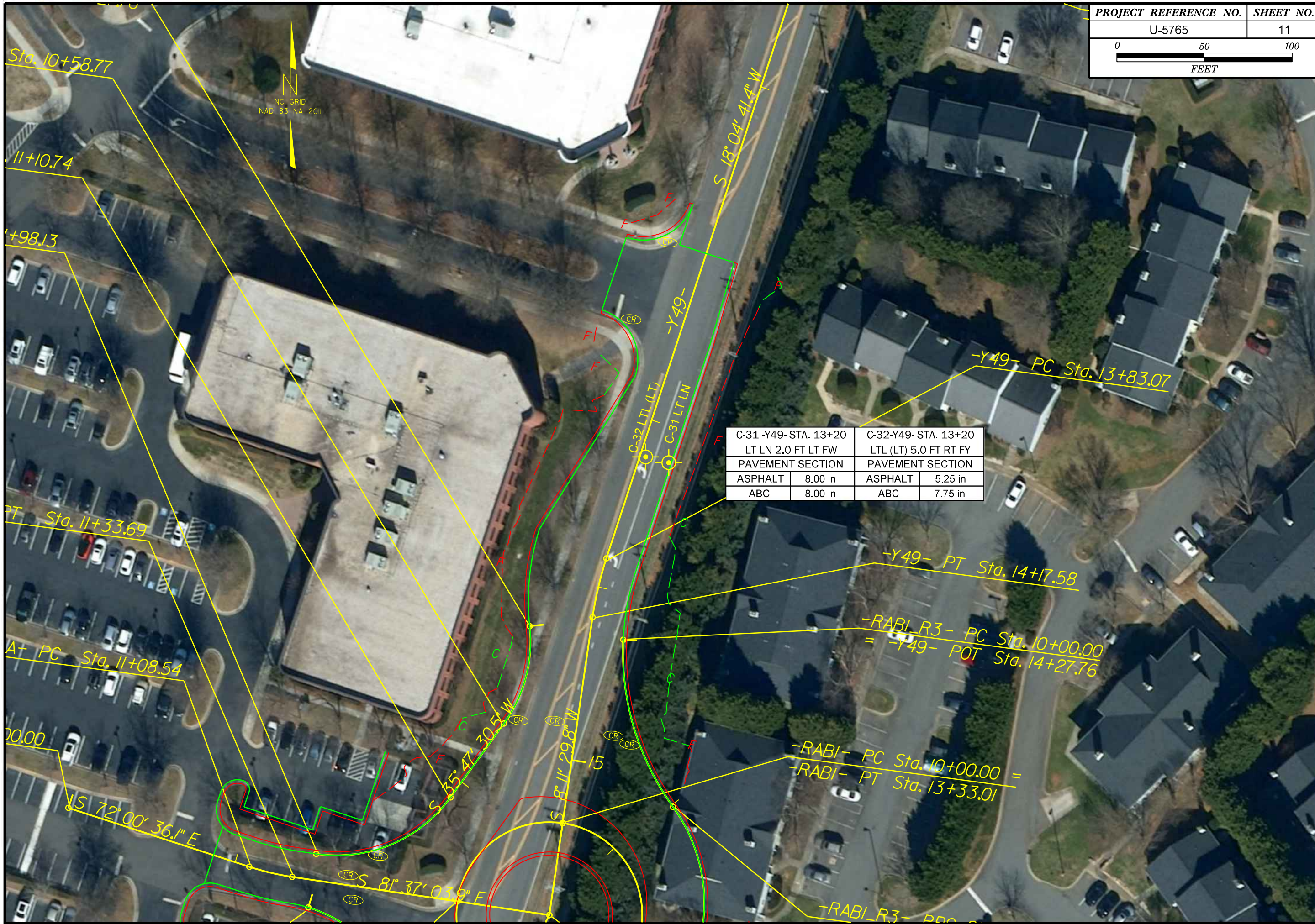
C-28 -L2- STA. 472+93		C-29 -L2- STA. 472+93	
LTL (LT) 4.9 FT RT FY		RTL (LT) 5.0 FT LT C&G	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	17.00 in	ASPHALT	12.25 in
ABC	7.00 in	ABC	4.00 in
UTILITY PRESENT			

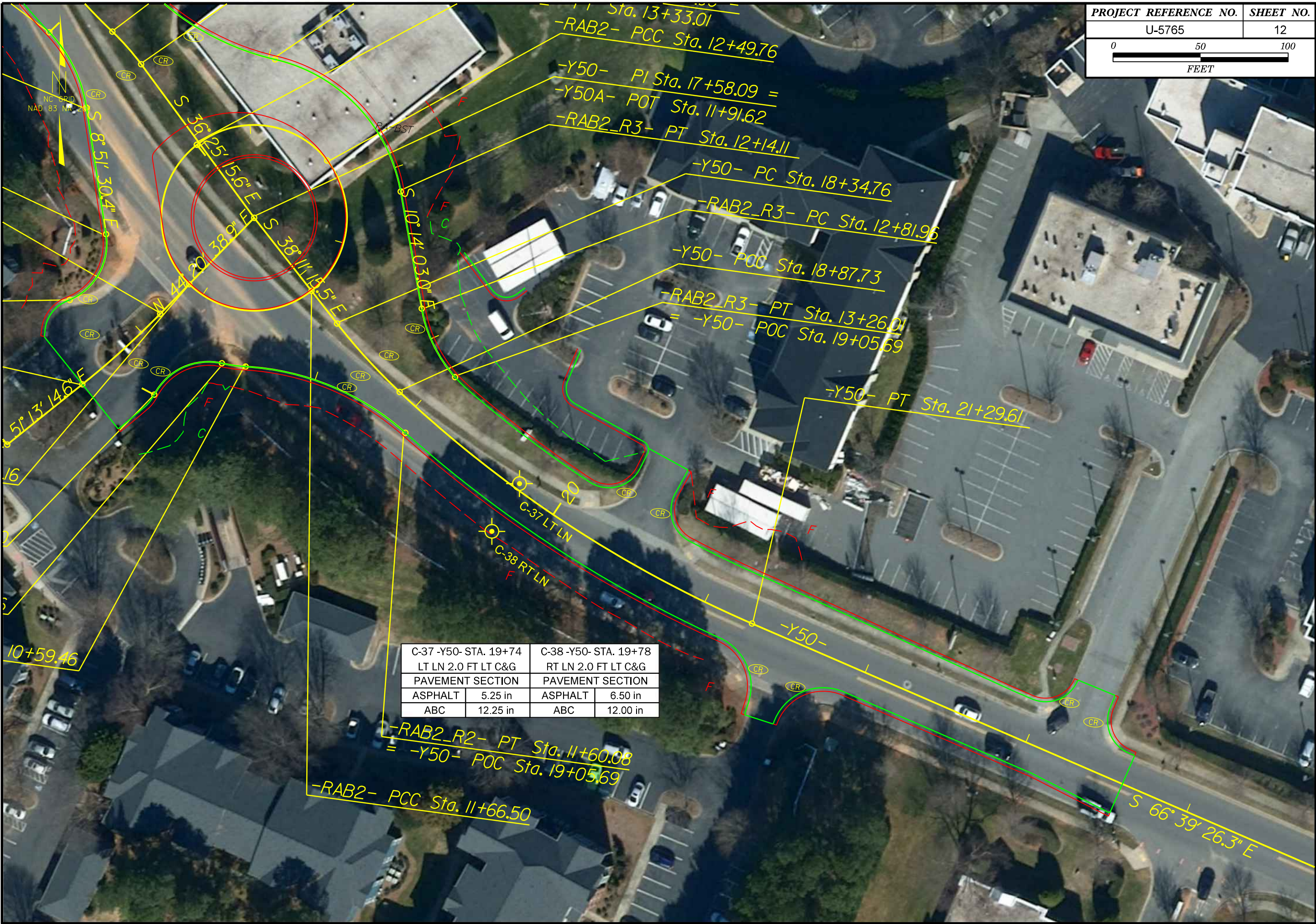
C-30 -L2- STA. 475+77	
LT OSL 1.0 FT LT C&G	
PAVEMENT SECTION	
ASPHALT	8.50 in
ABC	3.00 in
CSS	7.50 in
UTILITY PRESENT	

C-26 -L2- STA. 470+01		C-27 -L2- STA. 470+01	
LTL (RT) 5.4 FT RT FY		RTL (RT) 5.4 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	32.00 in	ASPHALT	14.00 in
ABC	6.00 in	ABC	6.00 in

C-35 -Y50- STA. 11+44		C-36 -Y50- STA. 11+44	
RTL (LT) 6.0 FT LT C&G		LT LN 5.4 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	6.25 in	ASPHALT	7.75 in
ABC	14.75 in	ABC	14.25 in







PAVEMENT INVESTIGATION DATA SHEET

Project:	50178.1.1
TIP:	U-5765

Route:	NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING
County:	Mecklenburg

Date Performed:	02/20 to 02/22/2022 (2 Nights)
Field Personnel:	M. Brewer, C. Odom, D. Demby

		Width (ft)		(ft)	(in)	Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	ABC	Cement Stabilized Subgrade	Concrete	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
C-1 -L2- Sta. 426+14 RTL (LT)	Cut 4.0	12.0	8.0 PS	5.5 LT FW	Cr	12.00	5.75	6.25 ABC			Asphalt ABC SG	1.0-5.0: RES - Red, Fine to Coarse Sandy Silty CLAY, little mica Slightly Plastic	S-1	A-7-5(11)	M	5	Moderate severity longitudinal, transverse, and block cracking	622,009	1,437,119	
Bulk-4 -L2- Sta. 429+01 LT Cut Slope	Cut 5.0											1.0-3.0: RES - Red-Orange, Fine to Coarse Sandy Silty CLAY, trace mica Moderately Plastic	Bulk-4	A-7-5(11)	M	3	Bulk Sample #4 Collected at existing grade in cut slope	622,033	1,437,412	
C-2 -L2- Sta. 432+65 LT PS	Fill 2.5	12.0	3.5 PS	1.7 RT FW	Cr	17.00	9.50		7.50		Asphalt CSS SG	1.4-2.5: RE - Red, F. to Cse. Sa. Si. CLAY, trace organics, Moderately Plastic 2.5-5.0: RES - Red, Fine Sandy Clayey SILT, trace mica	S-2	A-7-5(20) A-5	M M	5	Moderate to High Severity Longitudinal (OS/ISWP), Transverse, and Block Cracking	621,919	1,437,764	
C-3 -L2- Sta. 432+65 LT OSL	Fill 3.0	12.0	3.5 PS	2.3 LT FW	Cr	19.00	9.75		9.25		Asphalt CSS SG	1.6-3.0: RE - Red, F. to Cse. Sa. Si. CLAY, trace organics, Moderately Plastic 3.0-5.0: RES - Red, Fine Sandy Clayey SILT, trace mica	S-3	A-7-5(19) A-5	M M	5	Moderate to High Severity Longitudinal (OS/ISWP), Transverse, and Block Cracking	621,915	1,437,763	
C-5 -L2- Sta. 432+65 LT ISL	Fill 3.0	11.5	0.5 PS Concrete Curb & Gutter	5.7 RT FY	Cr	20.00	11.25		8.75		Asphalt CSS SG	1.7-3.0: RE - Brown-Red, F. to Cse. Sa. Si. CLAY, trace org., Highly Plastic 3.0-5.0: RES - Red, Fine Sandy Clayey SILT, trace mica	S-5	A-7-5(20) A-5	M M	5	Moderate Severity Transverse Cracking, Low Severity Longitudinal Cracking	621,899	1,437,761	
C-6 -L2- Sta. 432+66 RT ISL	Fill 3.0	11.5	0.5 PS Concrete Curb & Gutter	5.6 RT FY	Cr	20.00	10.50		9.50		Asphalt CSS SG	1.7-3.0: RE - Brown-Red, F. to Cse. Sandy Clayey SILT, trace mica 3.0-5.0: RES - Red, Silty CLAY, trace mica	S-6	A-5(2) A-7	M M	5	Moderate to High Severity Transverse and Longitudinal Cracking (IS/OSWP) Block Cracking, Shoving at Crown, 0.25-inch Rutting	621,871	1,437,759	
C-7 -L2- Sta. 432+66 RT OSL	Fill 5.0	11.5 OSL	4.0 PS	2.3 LT FW	Cr	16.50	8.75		7.75		Asphalt CSS SG	1.4-3.5: RE - Red, Fine to Coarse Sandy Silty CLAY, trace mica Moderately Plastic Auger Refusal in concrete	Ref-10	A-7-5	M	3.5 AR	Moderate to High Severity Transverse and Longitudinal Cracking (IS/OSWP) Block Cracking, Shoving at Crown, 0.25-inch Rutting	621,856	1,437,757	
C-8 -L2- Sta. 432+66 RT PS	Fill 5.0	11.5 OSL	4.0 PS	1.6 RT FW	Cr	17.00	8.75		8.25		Asphalt CSS SG	1.4-5.0: RE - Red, Fine to Coarse Sandy Silty CLAY, trace mica Moderately Plastic	Ref-10	A-7-5	M	5	Low to Moderate Severity Longitudinal and Transverse Cracking (PS)	621,852	1,437,756	
C-9 -L2- Sta. 438+22 LTL (RT)	Fill 5.0	11.0	1.0 PS Concrete Island	5.8 RT FY	Cr	11.50	11.50		Yes		Asphalt CSS	1.0: RE - Red, Fine to Coarse Sandy Silty CLAY, trace mica Utility nearby, did not auger. Hand sampled CSS/subgrade material		A-7	M	N/A	No Observed Distress	621,809	1,438,311	
C-10 -L2- Sta. 438+22 RTL (RT)	Fill 5.0	12.0	3.5 PS Concrete Curb & Gutter	7.0 LT FW	Cr	20.00	13.50	6.50 ABC			Asphalt ABC SG	1.7-5.0: RE - Red, Fine to Coarse Sandy Silty CLAY, trace mica Moderately Plastic	S-10	A-7-5(14)	M	5	No Observed Distress (PS). Moderate to High Severity (IS/OSWP), Ravelling (OSL) Delamination of Surface	621,771	1,438,306	
C-11 -L2- Sta. 441+36 RTL PS (LT)	Fill 15.0	11.5	4.5 PS Concrete Exp. Gutter	1.9 RT FW	Cr	9.50	9.50				Asphalt Poss. CSS (8") SG	0.8-5.0: RE - Orange, Fine to Coarse Sandy Clayey SILT, trace mica	S-11	A-5(3)	M	5	Low Severity Transverse Cracking	621,818	1,438,629	
C-12 -L2- Sta. 441+36 RTL (LT) (I)	Fill 15.0	11.5	4.5 PS Concrete Exp. Gutter	1.2 RT FW	Cr	19.00	10.00		9.00		Asphalt CSS SG	1.6-5.0: RE - Orange-Red, Silty CLAY, trace mica	Ref-10	A-7-5	M	5	Moderate Severity Longitudinal (IS/OSWP), Block, and Transverse Cracking	621,803	1,438,627	
C-13 -L2- Sta. 445+78 RTL (RT)	Fill 3.5	12.0	N/A	6.0 RT FW	Cr	12.75	12.75				Asphalt SG	1.1-3.0: RE - Red, Fine to Coarse Sandy Silty CLAY, Moderately Plastic	S-13	A-7-5(20)	M	3 AR	Moderate Severity Longitudinal (IS/OSWP), Block, and Transverse Cracking Polished	621,675	1,439,056	
C-14 -L2- Sta. 448+43 LTL (RT)	Fill 4.0	11.2	0.5 PS Concrete Island	6.0 RT FY	Cr	20.00	10.25		9.75		Asphalt CSS SG	1.7-4.0: RE - Orange-Red, F. to Cse. Sa. Si. CLAY, trace org., Slightly Plastic 4.0-5.0: RES - Red-Brown, Fine Sandy Silty CLAY, trace mica	S-14	A-7-5(4) A-7	M M	5	Moderate Severity Longitudinal, Block, and Transverse Cracking (IS/OSWP)	621,674	1,439,323	
C-15 -L2- Sta. 449+04 RTL (RT)	Fill 3.0	12.0	2.5 PS	5.0 RT FW	Cr	16.00	8.25		7.75		Asphalt CSS SG	1.3-3.0: RE - Red, Fine to Coarse Sandy Silty CLAY, Moderately Plastic 3.0-5.0: RES - Red-Brown, Fine Sandy Silty CLAY, trace mica	S-15	A-7-5(20) A-7	M M	5	Moderate to High Severity Longitudinal (IS/OSWP), Block, and Transverse Cracking Polished	621,631	1,439,384	

Notes:

Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by:
Reviewed by:

DMB
REK

PAVEMENT INVESTIGATION DATA SHEET

Project:	50178.1.1
TIP:	U-5765

Route:	NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING
County:	Mecklenburg

Date Performed:	02/20 to 02/22/2022 (2 Nights)
Field Personnel:	M. Brewer, C. Odom, D. Demby

		Width (ft)		(ft)	(in)	Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	ABC	Cement Stabilized Subgrade	Concrete	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
C-16 -L2- Sta. 451+41 RTL (LT)	At Grade	10.5/3.5 Bike	1.0 PS	6.8 LT FW	Cr	11.50	11.50				Asphalt SG	1.0-5.0: RES - Brown-Tan, Fine to Coarse Sandy CLAY, trace mica Moderately Plastic	S-16	A-6(2)	M	5	Moderate Severity Longitudinal (IS/OSWP), Block, and Transverse Cracking, High Severity Fatigue Cracking (OSL OSWP)	621,686	1,439,625	
C-17 -L2- Sta. 455+71 LT PS	At Grade	11.5	5.0 PS	2.0 RT FW	Cr	6.25	6.25				Asphalt SG	0.5-5.0: RES - Orange-Brown, Fine Sandy Clayey SILT, trace mica	Ref-17	A-5	W	5	Low to Moderate Severity Transverse Cracking, Edge Cracking	621,624	1,440,051	
C-18 -L2- Sta. 455+71 LT OSL	At Grade	11.5	5.0 PS	2.0 LT FW	Cr	7.75	7.75				Asphalt SG	0.6-5.0: RES - Brown-Red, Fine to Coarse Sandy Clayey SILT, trace mica	S-18	A-5(0)	M	5	High Severity Fatigue Cracking (OSWP), Moderate Severity Longitudinal and Transverse Cracking	621,620	1,440,050	
C-19 -L2- Sta. 455+71 MID LANE	At Grade	11.0	-	16.5 LT FW	Cr	10.25	10.25				Asphalt SG	0.9-1.8: RE - Brown-Black-Gray, Silty CLAY, trace organics 1.8-5.0: RES - Brown, Fine Sandy Clayey SILT, trace mica	Ref-18	A-7 A-5	W M	5	Moderate Severity Fatigue and Longitudinal Cracking (IS/OSWP), Low Severity Transverse Cracking	621,606	1,440,049	
C-20 -L2- Sta. 455+71 LT ISL	Fill 3.2	12.0	-	16.8 RT FY	Cr	18.00	10.00		8.00		Asphalt CSS SG	1.5-3.2: RE- Brown, F. to Cse. Sandy Silty CLAY, trace to little organics Slightly Plastic 3.2-5.0: RES - Brown-Red, F. to Cse. Sandy Clayey SILT, trace mica	S-20 Ref-18	A-7-5(5) A-5	W M	5	Moderate Severity Fatigue and Longitudinal Cracking (IS/OSWP), Low Severity Transverse Cracking	621,593	1,440,047	
C-21 -L2- Sta. 455+71 LTL (LT)	Fill 4.0	11.0	0.5 PS Concrete Island	5.0 RT FY	Cr	17.00	9.00		8.00		Asphalt CSS SG	1.4-4.0: RE - Brown-Tan, Fine Sandy SILT, trace organics 4.0-5.0: RES - Brown-Gray, Fine to Coarse Sandy Clayey SILT, trace mica	Ref-18	A-4 A-5	M M	5	Moderate Severity Fatigue and Longitudinal Cracking (IS/OSWP), Low Severity Transverse Cracking	621,582	1,440,045	
Bulk-5 -L2- Sta. 457+88 Cut Slope / Future U-turn Bulb	Cut 5.0											1.0-3.0: RES - Red-Orange, Fine to Coarse Sandy Silty CLAY, trace mica Moderately Plastic	Bulk-5	A-7-6(8)	M	3	Bulk Sample #5 Collected at existing grade near U-turn Bulb - Cut	621,657	1,440,274	
C-22 -L2- Sta. 462+01 RTL (LT)	At Grade	16.5	-	8.3 RT FW	Cr	9.25	9.25				Asphalt SG	No Auger or Kessler DCP due to close proximity of incorrectly marked gas line	-	-	-	-	Apparent Patch from Gas Line Installation in Middle of Lane, 12-inch Potholes and Shoving at Edge of Lane, Moderate Severity Fatigue Cracking within Bike Lane	621,549	1,440,677	
C-23 -L2- Sta. 465+38 RT ISL	Fill 2.5	11.5	0.5 PS Concrete Island	6.0 RT FY	Cr	17.00	10.50		6.50		Asphalt CSS SG	1.4-2.5: RE - Gray, Si. Fine SAND, little gravel, strong creosote odor 2.5-5.0: RES - Tan-Brown, Silty CLAY, trace mica	Ref-27	A-2-4 A-7-5	M W	5	Moderate Severity Longitudinal Cracking (OSWP), Low Severity Transverse Cracking	621,442	1,441,002	
C-24 -L2- Sta. 465+38 RT OSL	Fill 7.0	12.0	3.5 PS	2.7 LT FW	Cr	16.00	8.00		8.00		Asphalt CSS SG	1.3-5.0: RE - Gray, Silty F. to Cse. Sandy CLAY, trace organics Slightly Plastic	S-24	A-6(2)	M	5	Low to Moderate Severity Longitudinal (IS/OSWP), Transverse and Block Cracking, Polished, 0.25-inch rutting (ISWP)	621,423	1,441,000	
C-25 -L2- Sta. 465+38 RT PS	Fill 7.0	12.0	3.5 PS	1.7 RT FW	Cr	16.00	8.00		8.00		Asphalt CSS SG	1.3-5.0: RE - Gray-Brown-Orange, Silty F. to Cse. Sandy CLAY Slightly Plastic	S-25	A-6(4)	M	5	Low to Moderate Severity Transverse Cracking, Ravelling	621,419	1,440,999	
C-26 -L2- Sta. 470+01 LTL (RT)	At Grade	12.0	0.5 PS Concrete Island	5.4 RT FY	Cr	38.00	32.00	6.00 ABC			Asphalt ABC SG	3.2-5.0: RES - Tan, Silty CLAY, Highly Plastic	S-26	A-7-5(11)	M	5	Low to Moderate Longitudinal Cracking (IS/OSWP), Moderate Transverse Cracking Surface Delamination (ISWP), 0.25-inch rutting (IS/OSWP)	621,396	1,441,463	
C-27 -L2- Sta. 470+01 RTL (RT)	At Grade	12.0	2.0 PS	5.4 RT FW	Cr	20.00	14.00	6.00 Gravel Drain			Asphalt Gravel SG	1.7-5.0: RES - Red, Fine to Coarse Sandy Silty CLAY, trace mica Slightly Plastic	S-27	A-7-5(10)	M	5	No Observed Distress (RTL), Moderate Severity (IS/OSWP OSL), Transverse Cracking 0.50-inch rutting (OSWP)	621,360	1,441,460	
C-28 -L2- Sta. 472+93 LTL (LT)	Fill 4.0	11.5	0.5 PS Concrete Island	4.9 RT FY	Cr	24.00	17.00	7.00 ABC			Asphalt ABC SG	2.0-4.0: RE - Brown-Red, F. to Cse. Sandy Silty CLAY, trace organics 4.0-5.0: RES - Red, Fine to Coarse Sandy Silty CLAY, trace mica	Ref-25 Ref-27	A-7-5 A-7-5	M M	5	Low to Moderate Severity Transverse Cracking	621,369	1,441,754	
C-29 -L2- Sta. 472+93 RTL (LT)	Fill 5.0	11.8	Concrete Curb & Gutter	5.0 LT C&G	Cr	16.25	12.25	4.00 ABC			Asphalt ABC SG	1.4-3.0: RE - Brown-Red, F. to Cse. Sandy Silty CLAY, trace organics Slighty Plastic Utility in Close Proximity to Test Location	S-29	A-7-5(8)	W	3	Low to Moderate Severity Transverse Cracking	621,407	1,441,758	

Notes:
Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by:
Reviewed by:

DMB
REK

PAVEMENT INVESTIGATION DATA SHEET

Project:	50178.1.1
TIP:	U-5765

Route:	NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING
County:	Mecklenburg

Date Performed:	02/20 to 02/22/2022 (2 Nights)
Field Personnel:	M. Brewer, C. Odom, D. Demby

		Width (ft)		(ft)	(in)	Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	ABC	Cement Stabilized Subgrade	Concrete	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
C-30 -L2- Sta. 475+77 LT OSL	At Grade	12.0	Concrete Curb & Gutter	1.0 LT C&G	Cr	19.00	8.50	3.00 ABC	7.50		Asphalt CSS/ABC SG	1.6-3.0: RE - Brown, Fine to Coarse Sandy Silty CLAY, Moderately Plastic Utility in Close Proximity to Test Location	S-30	A-7-5(6)	W	3	Moderate to High Severity Longitudinal (IS/OSWP), Moderate Severity Block and Transverse Cracking	621,369	1,442,040	
C-31 -Y49- Sta. 13+20 LT LN	Cut 4.0	10.0	0.5 PS	2.0 LT FW	Cr	16.00	8.00	8.00 ABC			Asphalt ABC SG	1.3-5.0: RES - Orange-Red, F. to Cse. Sandy Silty CLAY, Highly Plastic	S-31	A-7-5(13)	M	5	No Observed Distress, Flowing Water Observed in Shallow Road Side Ditch, Dry Weather Conditions	622,410	1,441,962	
C-32 -Y49- Sta. 13+20 LTL (LT)	Cut 4.0	10.5	-	5.0 RT FY	Cr	13.00	5.25	7.75 ABC			Asphalt ABC SG	1.1-5.0:RES - Orange-Red, F. to Cse. Sandy Silty CLAY, Highly Plastic		A-7-5	W	5	No Observed Distress	622,414	1,441,949	
C-33 -Y49- Sta. 22+90 RT LN	Fill 8.0	10.0	-	7.0 LT FW	Cr	16.00	8.50	7.50 ABC			Asphalt ABC SG	1.3-5.0: RE - Red, Silty CLAY, trace mica, trace organics Highly Plastic	Ref-34	A-7-5	M	5	Low Severity Longitudinal Cracking (ISWP)	621,504	1,441,634	
C-34 -Y49- Sta. 22+90 RTL (RT)	Fill 8.0	10.0	Concrete Curb & Gutter	5.5 RT C&G	Cr	13.50	10.75	2.75 ABC			Asphalt ABC Fabric/SG	1.1-5.0: RE - Red, Fine to Coarse Sandy Silty CLAY, trace mica Highly Plastic Very Soft Subgrade	S-34	A-7-5(17)	W	5	Low Severity Longitudinal Cracking (MID)	621,506	1,441,623	
C-35 -Y50- Sta. 11+44 RTL (LT)	Cut 7.0	12.0	Concrete Curb & Gutter	6.0 LT C&G	Cr	21.00	6.25	14.75 ABC			Asphalt ABC SG	1.8-5.0: RES - Tan, Fine to Coarse Sandy SILT, trace mica	S-35	A-4(0)	W	5	Low Severity Transverse and Longitudinal Cracking (IS/OSWP), Moderate Severity Fatigue Cracking (ISWP)	621,243	1,441,626	
C-36 -Y50- Sta. 11+44 LT LN	Cut 5.0	12.0	-	5.4 LT FW	Cr	22.00	7.75	14.25 ABC			Asphalt ABC SG	1.8-5.0: RES - Tan, Fine to Coarse Sandy SILT, trace mica	Ref-35	A-4	M	5	Low to Moderate Severity Transverse Cracking, Low Severity Longitudinal Cracking (MID)	621,243	1,441,616	
C-37 -Y50- Sta. 19+74 LT LN	Fill 4.0	17.5	Concrete Curb & Gutter	2.0 LT C&G	S	17.50	5.25	12.25 ABC			Asphalt ABC SG	1.5-4.0: RE - Red-Brown, F. to Cse. Sandy Clayey SILT, trace mica Auger Refusal on Concrete		A-5	M	4 AR	Low to Moderate Severity Transverse and Block Cracking, Low Severity Longitudinal Cracking (ISWP)	620,541	1,441,990	
C-38 -Y50- Sta. 19+78 RT LN	Cut 5.0	17.8	Concrete Curb & Gutter	2.0 LT C&G	S	18.50	6.50	12.00 ABC			Asphalt ABC SG	1.5-5.0: RES - Red, Fine to Coarse Sandy Clayey SILT, trace mica	S-38	A-5(1)	M	5	Low Severity Transverse Cracking	620,514	1,441,975	

Notes:
Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by: DMB
Reviewed by: REK

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET							WBS NO.		PROJECT TIP I.D.				ROUTE			
							50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
							COUNTY		FIELD PROFESSIONAL				FIELD CREW			
							Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location							Date Run		Test Location						Date Run	
C-1 -L2- Sta. 426+14 RTL LT 5.5 FT LT FW							2/20 to 2/22/2022		C-2 -L2- Sta. 432+65 LT PS 1.7 RT FW						2/20 to 2/22/2022	
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			ABC			4.0 ft Cut		DCP	Cumulative cm per blow			CSS		2.5 ft Fill	
1.20	92.40								1.40	56.50	97.00					
2.00	93.50								2.00	57.70	97.50					
2.50	94.60								2.40	58.50	98.00					
2.80	96.40								3.00	59.00	98.40					
3.20	97.60								3.50	59.80	99.50					
3.50	99.00								3.60	61.00	100.00					
4.80	100.50								4.00	61.50	100.50					
5.30	101.50								4.40	62.20	101.00					
5.70	103.00								4.70	63.00	101.50					
6.10	104.50								5.00	63.50	102.00					
6.60	105.80								5.50	64.20	102.50					
7.00	107.10								6.00	64.60	103.00					
7.50	108.50								6.50	65.30	103.50					
8.00	110.00								7.10	66.00	104.00					
8.20	111.50								7.80	67.50	104.50					
8.50	113.00								8.50	68.00	105.00					
8.80	114.00								9.30	69.00	105.50					
9.30	115.50								10.00	69.80	105.80					
10.40	117.00								10.50	70.10	106.50					
11.00	118.50								11.20	70.90	107.00					
12.00	120.00								11.60	71.40	107.50					
14.00	121.50								12.00	71.90	108.00					
16.50	123.00								12.80	72.00	108.50					
19.00	124.50								13.40	72.50	108.80					
22.20	126.00								13.90	72.90	109.30					
25.00	128.00								14.40	73.10	109.80					
27.50	129.50								15.20	73.80	110.20					
29.50	131.00								16.50	74.40	110.50					
32.00									17.50	75.00	111.50					
34.30									19.10	76.00	112.00					
36.50									21.00	76.70	112.50					
38.80									22.70	77.50	113.00					
41.00									23.80	78.00	113.30					
43.00									25.00	78.50	113.60					
45.00									26.60	79.40	114.10					
46.70									28.70	80.00	114.60					
48.50									30.50	80.50	115.00					
50.40									32.20	81.20	115.50					
52.00									33.60	81.70	116.00					
53.80									34.80	82.50	116.50					
55.00									36.40	83.00	117.00					
56.50									37.70	83.50	117.50					
58.40									38.80	84.80	118.00					
60.00									39.50	85.50	118.50					
61.40									40.50	86.20	119.00					
62.60									41.00	86.60	119.50					
64.10									41.50	87.20	120.00					
65.60									42.10	87.80	120.50					
67.70									43.00	88.20	121.00					
69.00									44.00	88.60	121.50					
70.30									44.50	89.20	121.90					
71.90									45.50	89.70	122.50					
73.50									46.50	90.30	122.80					
74.50									47.30	90.60	123.40					
76.30									48.20	91.00	124.00					
77.50									49.00	91.60						
79.00									49.60	92.20						
80.50									50.50	92.60						
82.00									51.10	93.00						
83.50									52.00	93.50						
84.90									52.60	94.20						
87.00									53.50	95.00						
87.90									54.30	95.30						
89.50									55.20	96.00						
90.80									56.00	96.40						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location								Date Run		Test Location						Date Run	
C-3 -L2- Sta. 432+65 LT OSL 2.3 FT LT FW								2/20 to 2/22/2022		C-5 -L2- Sta. 432+65 LT ISL 5.7 RT FY						2/20 to 2/22/2022	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill			
DCP	Cumulative cm per blow			CSS		30. ft Fill		DCP	Cumulative cm per blow			CSS		3.5 ft Fill			
1.50	63.50	108.80						1.40	34.50	66.30							
2.50	64.40	109.00						2.50	36.30	67.20							
3.20	65.30	109.30						3.10	37.50	68.00							
3.50	66.00	110.00						3.50	38.00	68.90							
4.00	67.00	110.60						4.00	38.50	69.60							
4.40	67.40	111.60						4.30	38.90	70.50							
5.20	68.20	112.00						4.60	39.30	71.40							
5.50	68.80	112.20						4.90	39.70	72.00							
6.00	69.40	112.60						5.20	40.40	73.00							
6.70	70.20	113.00						5.40	41.00	73.80							
6.90	71.00	114.00						5.61	41.40	74.70							
7.20	72.10	114.50						5.82	42.00	75.50							
7.80	72.50	115.20						6.03	42.50	76.50							
8.20	73.50	116.00						6.24	43.00	77.50							
8.50	74.60	116.50						6.46	43.60	78.50							
9.20	75.00	117.10						6.67	44.60	79.50							
9.60	76.00	117.60						6.88	45.60	80.50							
10.20	77.00	118.00						7.09	47.70	81.50							
10.80	77.50	118.50						7.30	48.90	82.40							
11.60	78.40	119.00						7.54	49.80	83.50							
12.60	79.00	119.50						7.78	50.60	84.50							
13.50	79.80	120.10						8.02	50.80	85.20							
14.80	80.80	120.90						8.25	51.00	86.00							
16.00	81.60	121.30						8.49	51.20	86.60							
17.50	82.60	121.80						8.73	51.40	87.50							
18.50	83.50	122.30						8.97	51.60	88.00							
19.50	84.40	122.60						9.21	51.80	88.60							
21.00	85.00	123.20						9.45	52.00	89.40							
22.00	86.00	123.60						9.68	52.20	90.00							
22.40	86.50	124.00						9.92	52.40	90.90							
23.00	87.50							10.16	52.60	91.50							
24.50	88.00							10.40	52.80	92.10							
26.00	88.80							10.64	53.00	92.60							
28.10	89.50							10.88	53.20	93.00							
30.80	90.50							11.12	53.40	93.90							
32.30	91.00							11.35	53.60	94.50							
34.20	91.50							11.59	53.80	95.00							
35.50	92.00							11.83	54.00	95.90							
37.00	92.50							12.07	54.20	96.30							
38.40	93.00							12.31	54.40	96.90							
39.60	93.60							12.55	54.60	97.40							
41.10	94.20							12.78	54.80	97.80							
42.20	94.80							13.02	55.00	98.00							
42.70	95.50							13.26	55.20	98.80							
43.50	96.00							13.50	55.40	99.30							
45.60	96.70							14.00	55.60	100.00							
46.50	97.50							14.50	55.80	100.50							
47.50	98.00							14.70	56.00	101.00							
48.40	98.50							15.30	56.20	101.50							
49.60	99.30							15.90	56.40	103.50							
50.50	99.80							16.50	56.60	104.20							
51.50	100.40							17.20	56.80	104.90							
52.30	101.00							18.20	57.20	105.50							
53.40	101.50							19.00	57.50	106.20							
54.50	102.50							20.10	58.00	106.90							
55.40	103.00							20.80	58.50	107.50							
55.60	103.60							21.60	59.00	108.00							
56.40	104.00							22.40	59.50	108.70							
57.00	104.60							23.40	60.00	109.50							
58.00	105.00							24.50	61.00	110.10							
59.10	105.60							26.20	61.70	110.90							
60.00	106.90							28.00	62.60	111.50							
60.80	107.30							29.50	63.60	112.50							
61.50	108.00							31.00	64.60	113.00							
62.50	108.60							32.80	65.80	113.80							

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DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location						Date Run		Test Location						Date Run	
C-12 -L2- Sta. 441+36 RTL (LT) (I) 1.2 FT RT FW						2/20 to 2/22/2022		C-13 -L2- Sta. 445+78 RTL (RT) 6.0 FT RT FW						2/20 to 2/22/2022	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			CSS		15.0 ft Fill		DCP	Cumulative cm per blow			SG		3.5 ft Fill	
0.80	75.50							1.50							
2.00	76.20							5.50							
3.00	76.60							10.30							
4.00	77.20							14.50							
4.80	78.20							17.60							
5.60	79.00							20.50							
6.50	80.30							23.00							
7.40	81.60							25.00							
8.70	83.00							26.50							
9.60	84.60							28.00							
10.40	86.50							29.50							
10.80	89.00							31.00							
11.40	90.50							32.50							
12.00	91.80							33.50							
12.70	93.00							34.50							
13.90	94.00							35.90							
15.30	95.60							36.60							
16.70	96.90							37.60							
19.00	98.40							38.70							
22.40	99.60							39.70							
26.50	100.50							40.60							
34.20	101.50							41.50							
39.60	102.10							42.50							
43.50	102.80							43.00							
45.00	103.30							43.90							
47.40	103.80							44.50							
49.10	104.10							45.00							
50.50	104.50							46.00							
52.50	105.40							46.50							
53.80	105.70							46.90							
54.80	106.00							47.50							
55.50	106.50							48.00							
56.40	107.00							48.30							
56.76	107.60							49.00							
57.12	108.30							49.40							
57.48	108.80							50.00							
57.84	109.40							50.60							
58.20	110.00							50.80							
58.56	110.50							51.30							
58.92	111.20							DCP							
59.28	111.60							Refusal							
59.64	112.00							50/0*							
60.00	113.00														
60.80	113.50														
61.00	114.00														
61.60	114.80														
62.00	115.50														
62.50	115.90														
63.00	116.60														
63.50	117.50														
64.00	118.00														
64.80	119.00														
65.50	120.00														
66.50	120.50														
67.30	122.00														
68.00	123.50														
68.70	124.50														
69.10															
69.50															
70.00															
71.00															
71.90															
72.80															
74.00															
74.80															

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location						Date Run		Test Location						Date Run	
C-20 -L2- Sta. 455+71 LTL ISL 16.8 FT RT FW						2/20 to 2/22/2022		C-21 -L2- Sta. 455+71 LTL (LT) 5.0 RT FY						2/20 to 2/22/2022	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			CSS		3.2 ft Fill		DCP	Cumulative cm per blow			CSS		4.0 ft Fill	
1.00								1.00	88.40						
2.20								2.00	89.50						
3.00								3.00	90.80						
4.00								3.50	92.00						
5.00								4.50	93.00						
6.40								5.00	94.00						
7.50								6.00	95.00						
9.00								7.50	96.00						
10.50								9.00	97.00						
12.00								11.00	98.20						
13.50								13.50	99.20						
15.50								16.00	100.20						
18.00								18.00	101.30						
21.00								20.40	102.50						
23.20								23.00	103.40						
25.50								25.00	104.50						
27.60								27.00	105.50						
30.70								29.00	106.50						
34.90								30.90	107.50						
38.50								32.60	108.50						
42.30								34.20	109.00						
48.50								35.60	109.70						
56.00								36.60	110.50						
62.90								37.20	111.00						
69.00								38.10	111.50						
75.30								38.50	112.00						
79.50								39.00	112.50						
83.50								39.80	113.00						
87.00								40.70	113.70						
91.30								41.40	114.20						
95.20								42.20	114.50						
98.00								43.50	115.10						
100.50								44.70	115.60						
102.40								46.00	116.20						
104.00								48.00	116.70						
105.80								49.50	117.30						
107.50								51.30	117.90						
109.10								53.00	118.50						
110.50								54.80	119.00						
112.00								56.00	119.50						
113.50								57.40	120.00						
115.10								58.60	120.50						
117.00								59.60	121.40						
119.00								60.90	122.00						
122.00								62.00	122.70						
124.20								63.10	123.20						
125.90								64.60	123.60						
127.50								66.00	124.40						
								67.00	125.00						
								68.50	125.60						
								70.00	126.20						
								71.00	127.00						
								72.20	127.70						
								73.60	128.20						
								74.90	129.00						
								76.00							
								77.20							
								78.20							
								79.50							
								80.90							
								82.20							
								83.50							
								84.70							
								86.00							
								87.00							

[illegible]

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location						Date Run		Test Location						Date Run	
C-29 -L2- Sta. 472+93 RTL (LT) 5.0 FT LT C&G						2/20 to 2/22/2022		C-30 -L2- Sta. 475+77 TL OSL 1.0 FTT LT C&G						2/20 to 2/22/2022	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			SG		5.0 ft Fill		DCP	Cumulative cm per blow			ABC/CSS		At Grade	
4.70								1.70	82.40						
8.00								3.10	82.70						
11.20								4.30	83.40						
14.50								5.50	83.90						
20.00								6.70	84.30						
26.00								7.80	84.70						
33.00								9.30	85.20						
39.70								11.00	85.60						
46.50								12.60	86.20						
52.70								15.00	86.60						
57.20								17.50	87.30						
60.60								20.50	87.70						
63.00								23.10	87.80						
65.40								25.30	87.90						
66.40								28.30	88.10						
68.80								30.10	Utility Ref						
70.90								33.30							
73.70								36.40							
78.80								39.40							
83.00								41.60							
86.70								43.70							
89.60								45.80							
92.10								47.70							
94.50								49.00							
96.60								50.60							
98.50								52.00							
100.30								53.50							
102.20								54.80							
104.00								55.60							
105.50								56.30							
107.00								57.50							
108.20								58.50							
109.70								59.40							
111.00								60.40							
112.60								61.60							
113.70								62.60							
114.30								64.00							
								65.00							
								66.00							
								66.30							
								67.20							
								68.20							
								69.00							
								70.00							
								71.00							
								71.80							
								72.60							
								73.50							
								74.00							
								74.60							
								75.30							
								75.80							
								76.30							
								77.00							
								77.60							
								78.00							
								78.30							
								78.90							
								79.40							
								79.80							
								80.30							
								80.60							
								81.20							
								81.60							
								82.00							

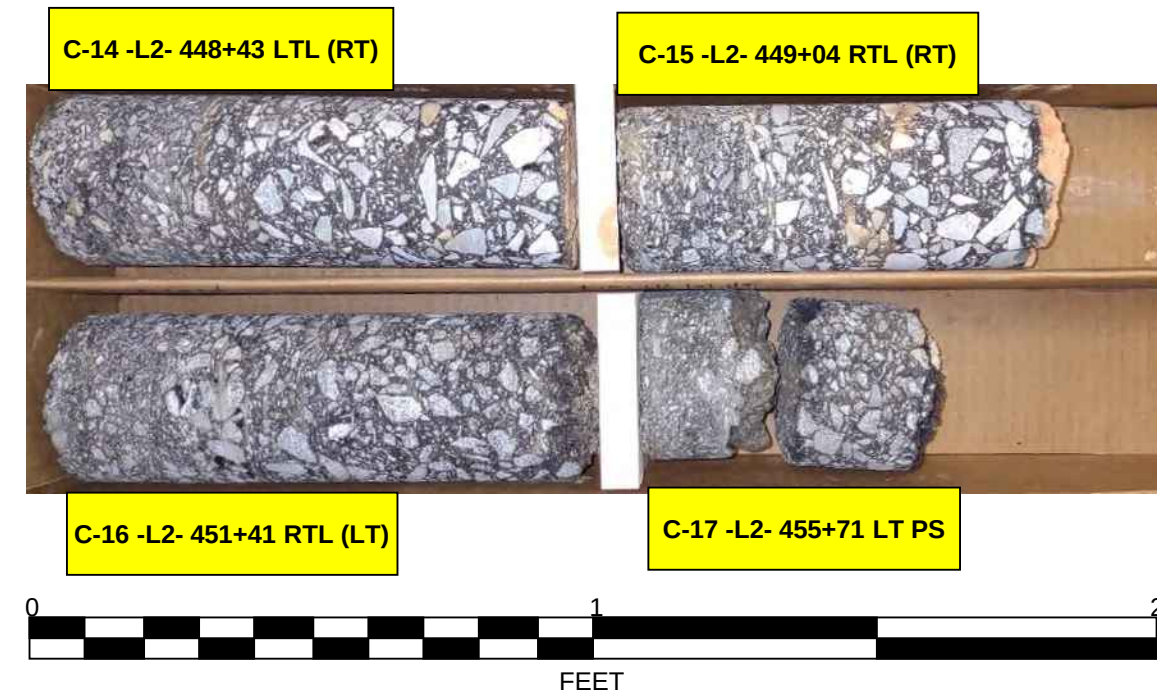
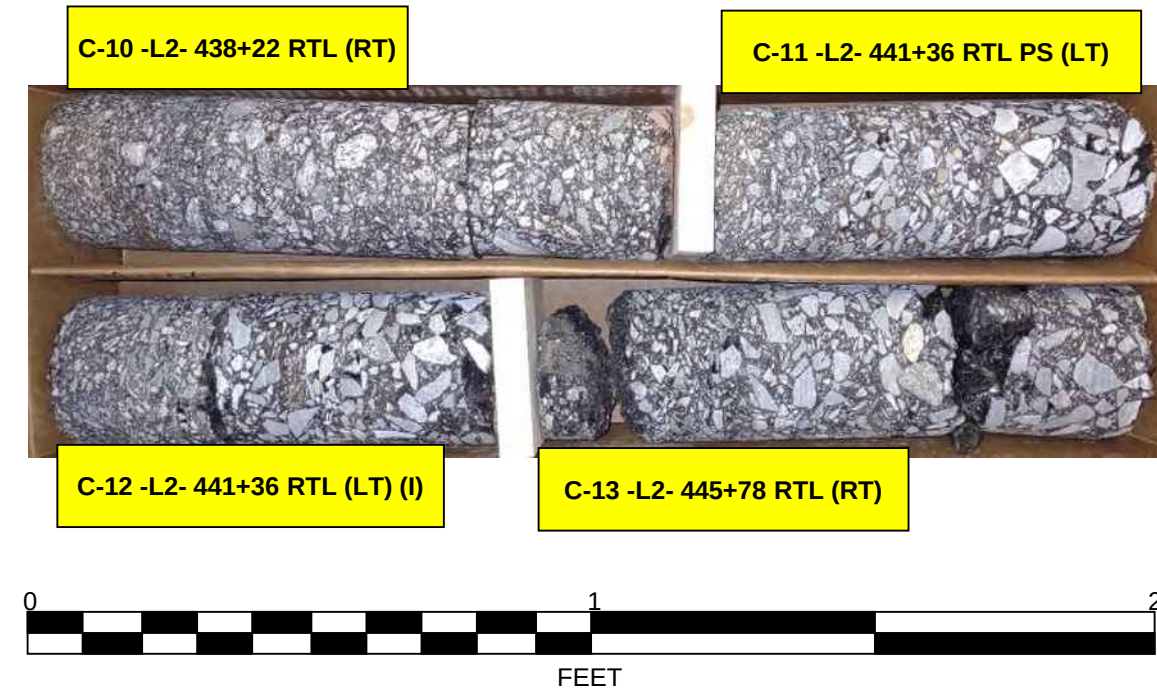
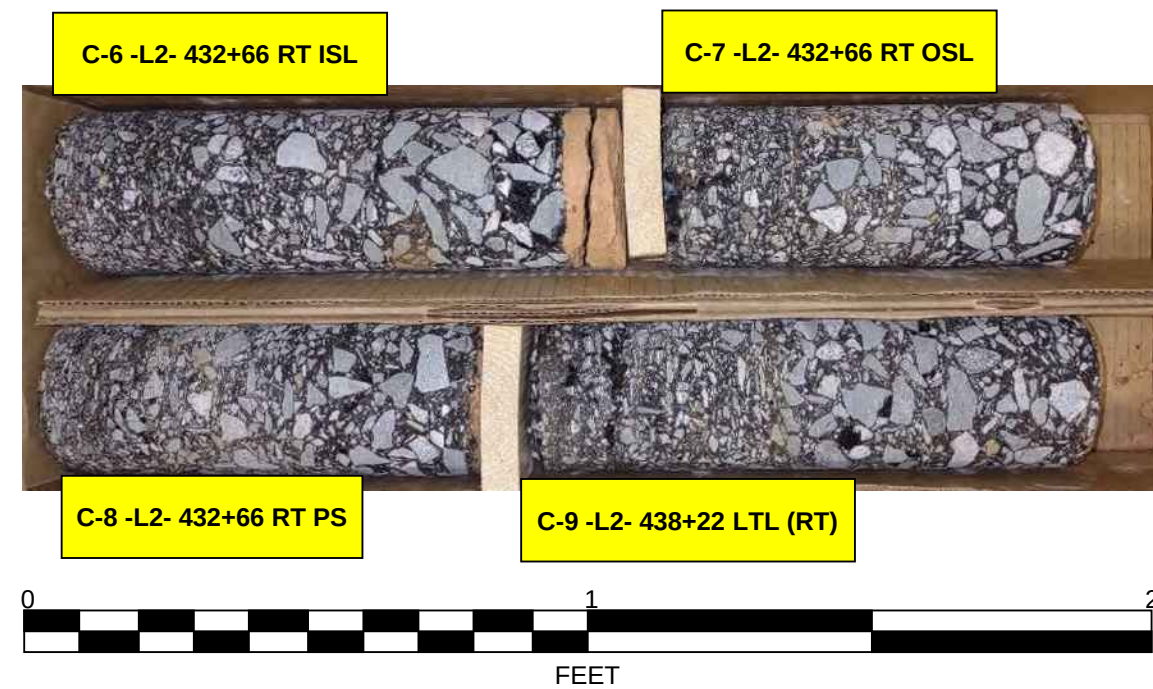
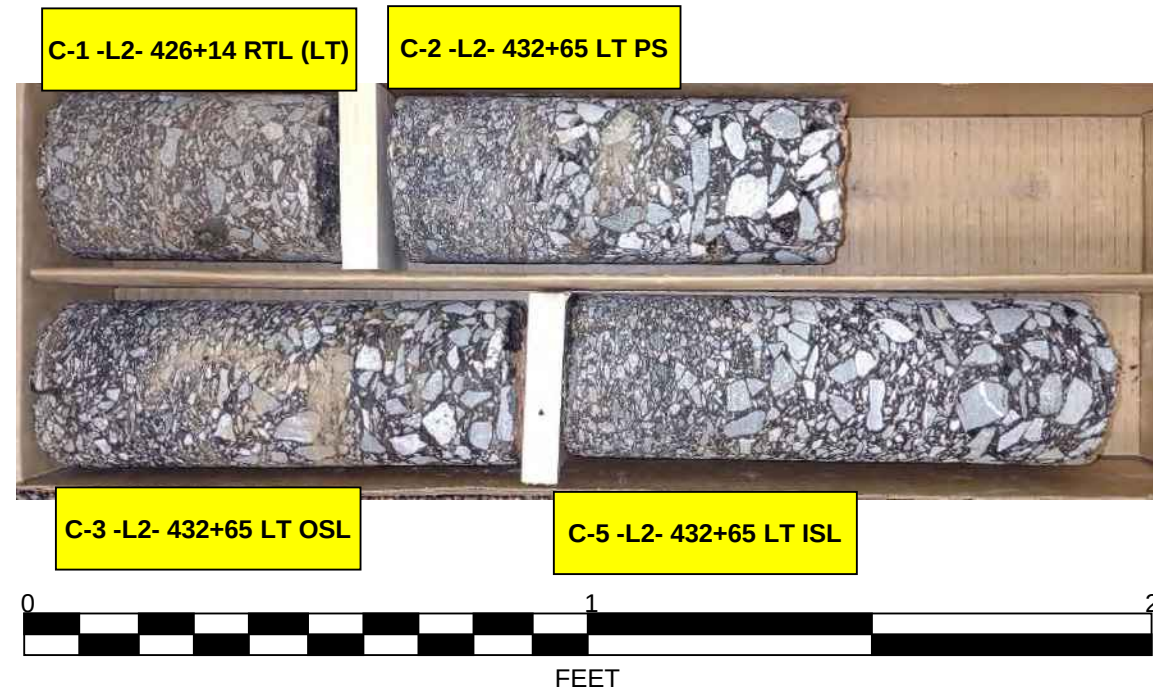
DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET							WBS NO.	PROJECT TIP I.D.				ROUTE					
							50178.1.1	U-5765				NC 73 from SR 5544 to SR 2316 Widening					
							COUNTY	FIELD PROFESSIONAL				FIELD CREW					
							Mecklenburg	M. Brewer, P.E.				C. Odom, D. Demby					
Test Location							Date Run		Test Location						Date Run		
C-33 -Y49- Sta. 22+90 RT LN 7.0 FT LT FW							2/20 to 2/22/2022		C-34 -Y49- Sta. 22+90 RTL RT 5.5 FT RT C&G						2/20 to 2/22/2022		
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum			Cut/Fill	
DCP	Cumulative cm per blow			ABC			8.0 ft Fill		DCP	Cumulative cm per blow			ABC			8.0 ft Fill	
0.60	95.80								9.50								
1.30	96.70								20.50								
2.00	97.60								38.00								
2.70	98.50								52.20								
3.40	99.50								66.30								
4.10	100.50								77.50								
4.80	101.50								80.00								
5.50	102.00								84.00								
6.20	103.00								87.30								
6.90	104.00								90.50								
7.60	104.90								93.70								
8.30	105.70								96.50								
9.00	106.60								99.00								
9.70	107.50								101.50								
10.40	108.20								103.50								
11.10	109.00								105.80								
11.80	109.50								108.00								
12.50	110.20								110.20								
14.90	111.20								112.00								
18.60	112.00								114.00								
24.50	113.00								115.50								
28.20	113.40								117.00								
31.50	113.80																
34.70	114.60																
38.00	115.20																
40.50	116.00																
42.50	116.50																
44.50	117.20																
46.50	117.80																
48.30	118.50																
50.50	119.20																
52.80	119.70																
55.20	120.50																
57.50	121.00																
59.40	121.50																
61.00	122.20																
62.50	122.60																
64.30	123.30																
66.00	123.60																
67.50	124.50																
69.00	125.00																
70.00	125.50																
71.30																	
72.50																	
73.50																	
74.80																	
76.00																	
77.00																	
78.00																	
79.00																	
80.00																	
81.20																	
82.60																	
84.00																	
85.00																	
86.00																	
87.50																	
88.50																	
89.80																	
90.70																	
92.00																	
92.50																	
93.30																	
94.40																	
95.00																	

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location								Date Run		Test Location				Date Run			
C-35 -Y50- Sta. 11+44 RTL LT 6.0 FT LT C&G								2/20 to 2/22/2022		C-36 -Y50- Sta. 11+44 LT LN 5.4 FT LT FW				2/20 to 2/22/2022			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill			
DCP	Cumulative cm per blow			ABC		7.0 ft Cut		DCP	Cumulative cm per blow			ABC		5.0 ft Cut			
0.80	28.70	118.00						0.50	14.52	78.20							
1.40	29.50	119.30						1.00	14.73	79.50							
1.70	30.50	120.60						1.21	14.94	80.40							
2.40	32.40	122.10						1.42	15.15	81.20							
2.60	33.70	123.20						1.63	15.37	82.00							
3.00	34.50	124.50						1.85	15.58	83.00							
3.90	35.20	125.70						2.06	15.79	84.00							
4.14	36.70	127.00						2.27	16.00	85.00							
4.39	37.20	128.20						2.48	18.50	86.00							
4.63	38.50	129.70						2.69	19.20	87.00							
4.88	40.00	130.80						2.90	20.00	88.00							
5.12	41.00	132.00						3.11	20.70	89.00							
5.36	42.60	133.00						3.32	21.40	89.60							
5.61	44.00							3.54	22.00	90.50							
5.85	45.50							3.75	22.40	91.50							
6.10	47.20							3.96	23.00	92.50							
6.34	48.50							4.17	23.60	93.30							
6.58	50.10							4.38	24.40	94.10							
6.83	51.50							4.59	25.00	94.80							
7.07	53.00							4.80	25.50	95.90							
7.31	54.40							5.01	26.10	96.40							
7.56	55.60							5.23	26.70	97.00							
7.80	57.30							5.44	27.10	98.00							
8.05	59.00							5.65	27.50	99.00							
8.29	60.40							5.86	27.80	99.90							
8.53	61.70							6.07	28.40	100.50							
8.78	63.40							6.28	28.90	101.20							
9.02	65.00							6.49	29.30	102.00							
9.27	66.80							6.70	29.90	102.90							
9.51	67.90							6.92	30.60	104.00							
9.75	69.00							7.13	31.90	104.90							
10.00	70.70							7.34	33.00	105.70							
10.24	72.20							7.55	34.80	106.60							
10.49	74.40							7.76	36.20	107.80							
10.73	75.50							7.97	37.70	108.60							
10.97	77.20							8.18	39.30	109.20							
11.22	79.00							8.39	41.00	110.20							
11.46	80.30							8.61	43.00	110.80							
11.70	82.00							8.82	45.00	111.80							
11.95	83.50							9.03	47.00	112.50							
12.19	84.60							9.24	48.80	113.50							
12.44	86.50							9.45	50.50	114.30							
12.68	87.60							9.66	52.00	115.00							
12.92	89.00							9.87	53.60	115.80							
13.17	90.80							10.08	55.00	116.50							
13.41	91.80							10.30	56.20	117.20							
13.66	93.20							10.51	58.00	118.20							
13.90	94.40							10.72	58.30	119.00							
14.50	95.70							10.93	59.60	119.90							
15.00	97.10							11.14	60.90	120.60							
15.40	98.20							11.35	61.90	121.60							
16.10	99.30							11.56	63.00	122.50							
16.80	101.00							11.77	64.30	123.50							
17.50	102.00							11.99	65.40	124.20							
18.10	103.60							12.20	66.20	125.20							
18.90	104.80							12.41	67.50	125.60							
19.50	106.10							12.62	68.50								
20.20	107.20							12.83	69.50								
21.30	109.00							13.04	70.50								
22.40	110.00							13.25	71.50								
23.90	111.50							13.46	72.90								
25.10	112.50							13.68	74.00								
26.40	114.00							13.89	75.70								
26.90	115.50							14.10	76.60								
27.80	116.70							14.31	77.40								

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								50178.1.1		U-5765				NC 73 from SR 5544 to SR 2316 Widening			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Mecklenburg		M. Brewer, P.E.				C. Odom, D. Demby			
Test Location								Date Run		Test Location						Date Run	
C-37 -Y50- Sta. 19+74 LT LN 2.0 FT LT C&G								2/20 to 2/22/2022		C-38 -Y50- Sta. 19+78 RT LN 2.0 FT LT C&G						2/20 to 2/22/2022	
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum			Cut/Fill	
DCP	Cumulative cm per blow			ABC			4.0 ft Fill		DCP	Cumulative cm per blow			ABC			5.0 ft Cut	
0.50	22.80	86.81							1.00	26.70							
0.90	23.50	86.85							1.80	27.30							
1.10	24.40	86.89							2.00	28.70							
1.44	25.40	86.93							2.29	28.80							
1.78	28.00	86.98							2.58	29.10							
2.13	31.00	87.02							2.87	29.50							
2.47	33.20	87.06							3.16	30.20							
2.81	35.80	87.10							3.46	30.90							
3.15	38.00	87.14							3.75	31.70							
3.49	40.00	87.18							4.04	32.70							
3.83	43.00	87.22							4.33	33.70							
4.18	45.70	87.26							4.62	36.00							
4.52	49.00	87.30							4.91	37.00							
4.86	51.50	87.34							5.20	39.50							
5.20	54.00	87.39							5.49	42.90							
5.54	56.60	87.43							5.78	44.50							
5.89	59.20	87.47							6.08	47.00							
6.23	61.50	87.51							6.37	49.70							
6.57	61.60	87.55							6.66	52.70							
6.91	66.00	87.59							6.95	55.50							
7.25	68.40	87.63							7.24	58.00							
7.59	70.50	87.67							7.53	60.00							
7.94	72.50	87.71							7.82	63.00							
8.28	74.90	87.75							8.11	65.50							
8.62	77.50	87.80							8.40	68.00							
8.96	80.00	87.84							8.70	70.50							
9.30	82.50	87.88							8.99	73.50							
9.65	83.50	87.92							9.28	75.50							
9.99	84.20	87.96							9.57	77.50							
10.33	84.30	88.00							9.86	80.20							
10.67	84.50								10.15	82.50							
11.01	84.80								10.44	85.00							
11.35	85.30								10.73	87.00							
11.70	85.50								11.02	89.50							
12.04	85.54								11.32	92.20							
12.38	85.58								11.61	94.20							
12.72	85.62								11.90	96.50							
13.06	85.66								12.19	98.60							
13.41	85.70								12.48	101.00							
13.75	85.75								12.77	103.50							
14.09	85.79								13.06	105.70							
14.43	85.83								13.35	107.60							
14.77	85.87								13.64	110.00							
15.11	85.91								13.94	111.50							
15.46	85.95								14.23	113.60							
15.80	85.99								14.52	115.70							
16.14	86.03								14.81	117.90							
16.48	86.07								15.10	120.00							
16.82	86.11								15.60	122.20							
17.17	86.16								16.40	124.40							
17.51	86.20								17.20	126.80							
17.85	86.24								17.40	129.00							
18.19	86.28								17.60	131.00							
18.53	86.32								18.30	133.60							
18.87	86.36								18.60	136.00							
19.22	86.40								19.90								
19.56	86.44								20.60								
19.90	86.48								21.40								
20.10	86.52								22.00								
20.20	86.57								23.20								
20.50	86.61								24.00								
21.40	86.65								24.90								
21.70	86.69								25.40								
22.30	86.73								25.70								
22.50	86.77								26.30								

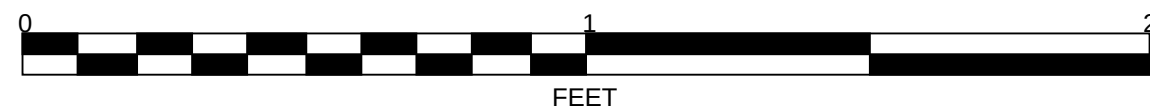
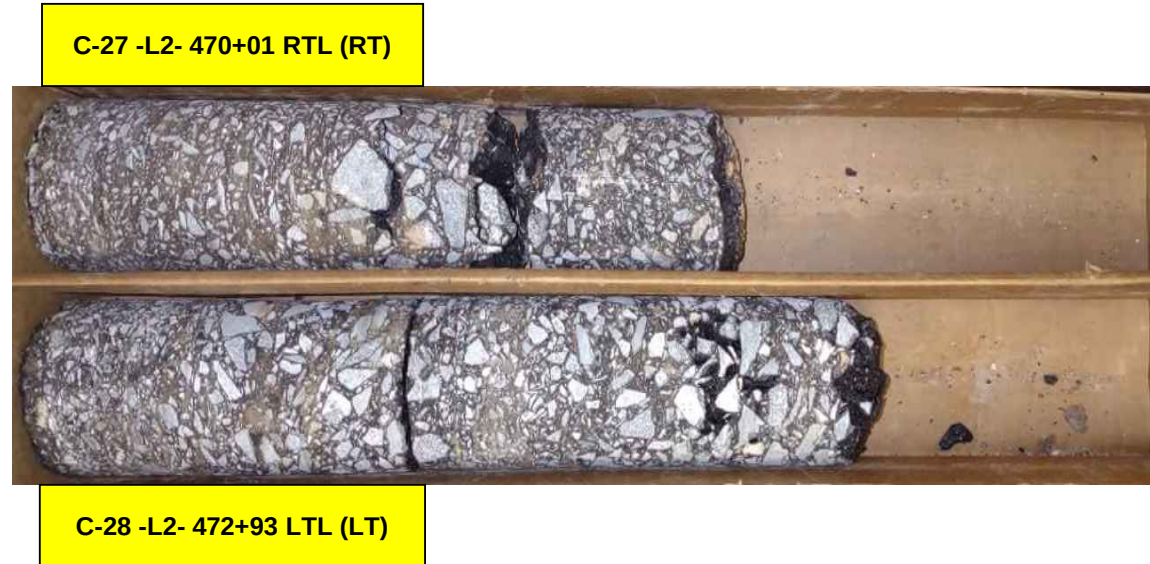
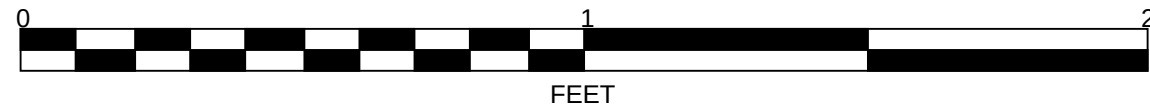
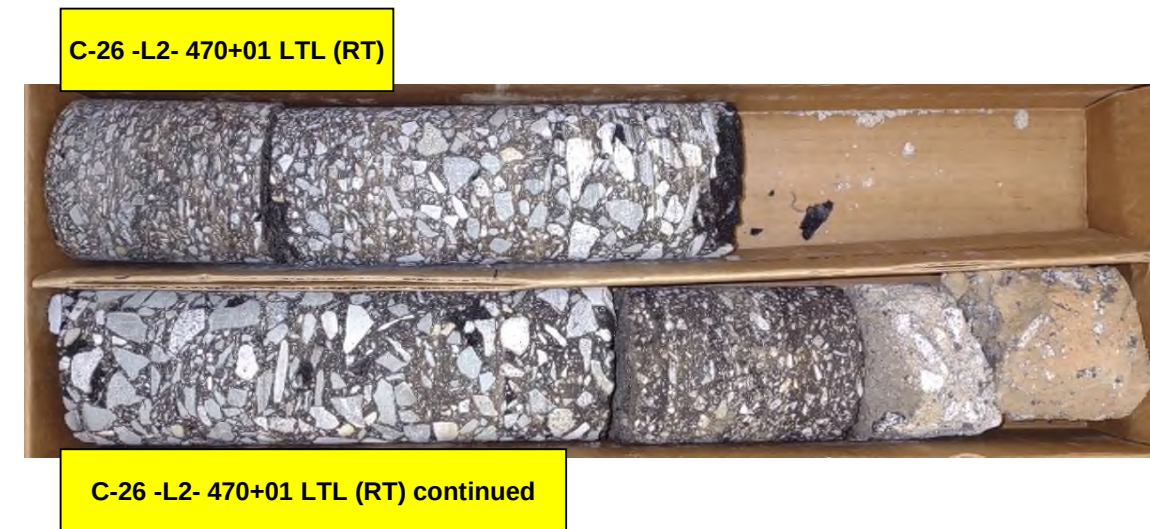
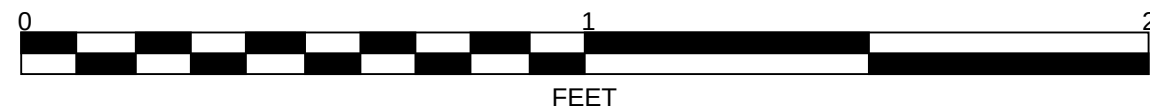
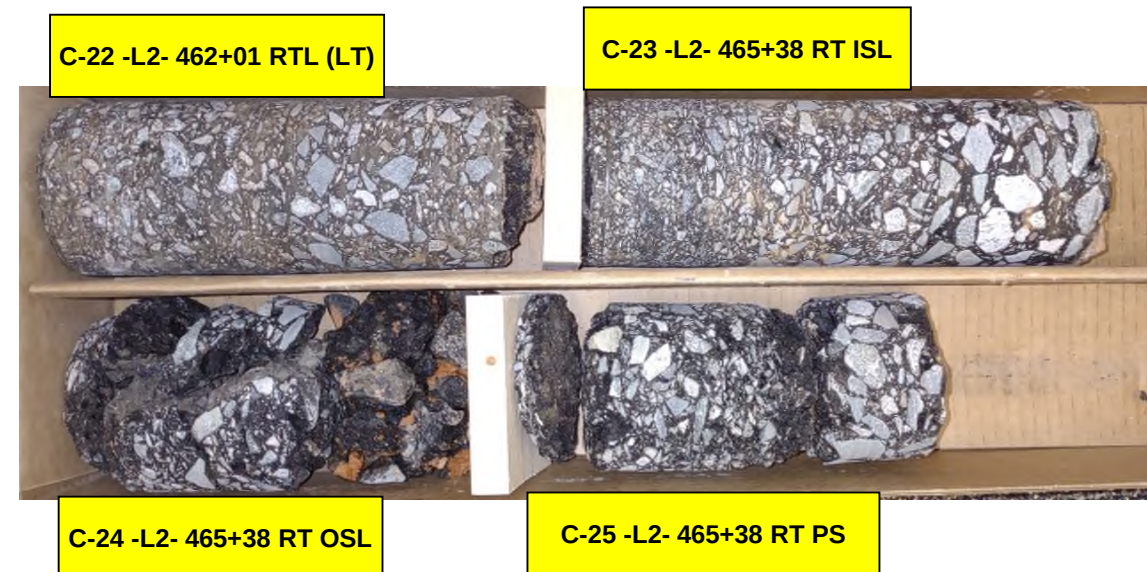
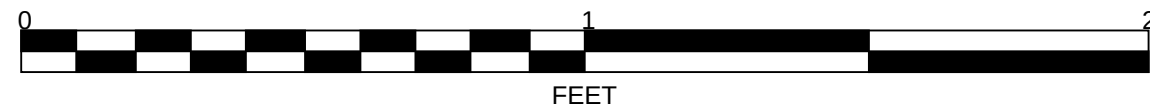
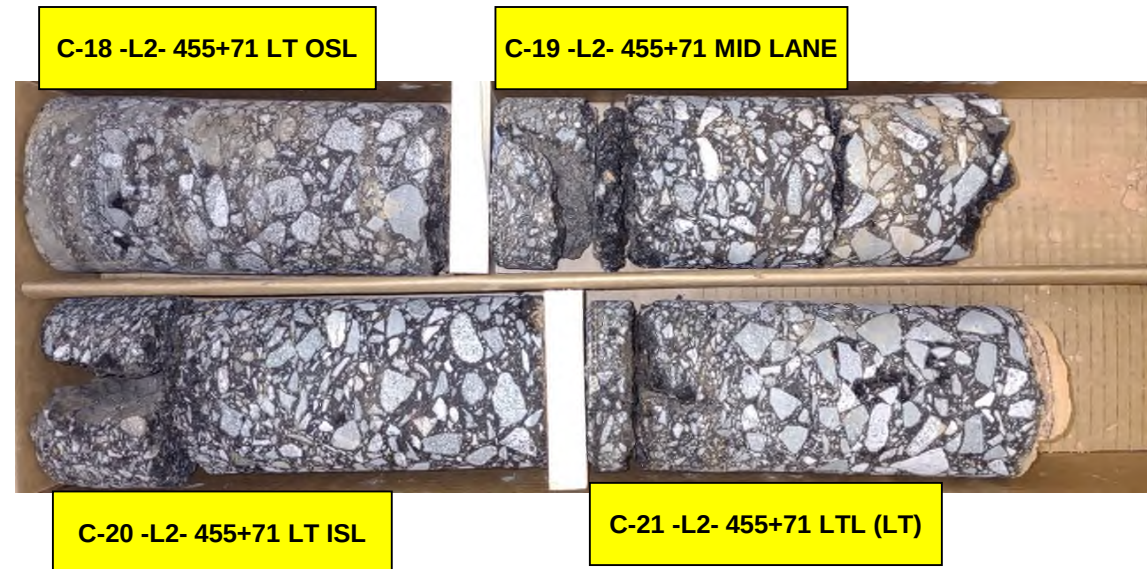
U-5765: NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING

Pavement Core Photographs



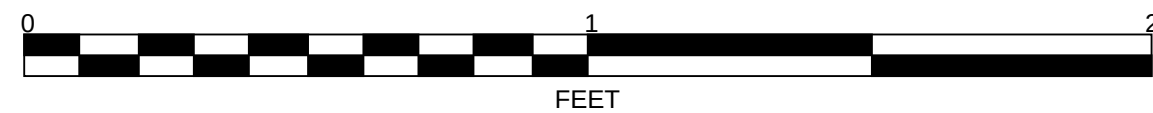
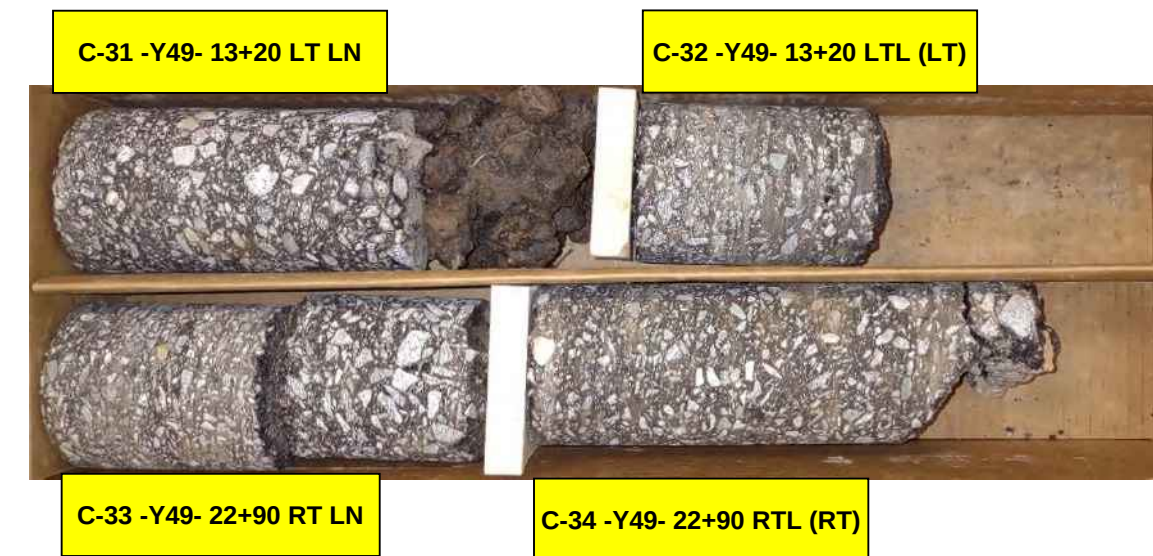
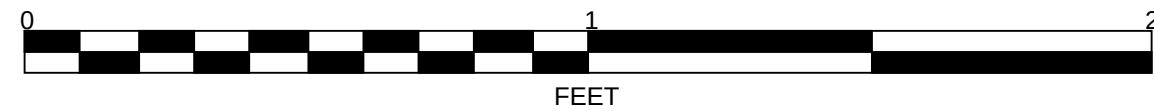
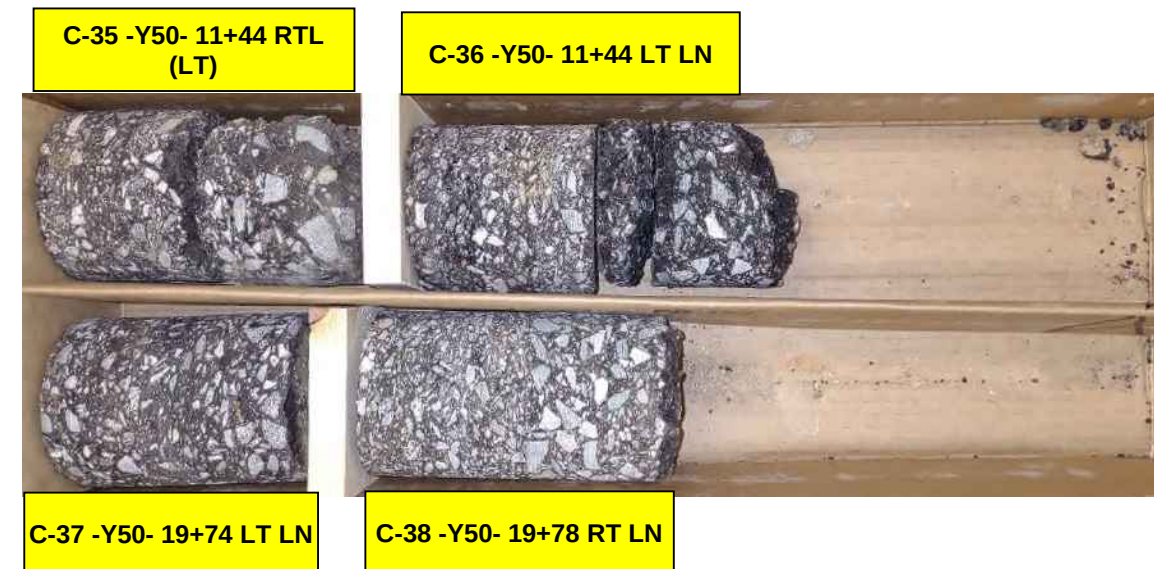
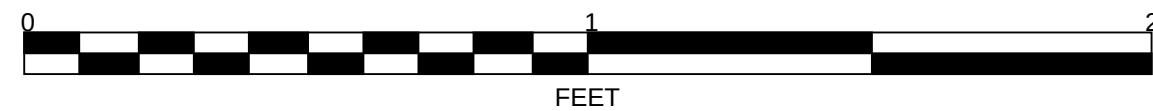
U-5765: NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING

Pavement Core Photographs



U-5765: NC 73 (SAM FURR ROAD) FROM SR 5544 (WEST CATAWBA AVENUE) TO SR 2316 (NORTHCROSS AVENUE) WIDENING

Pavement Core Photographs



F&ME CONSULTANTS, INC.
3112 DEVINE STREET, COLUMBIA SC 29205
(CERT No.: 130-0212)

Project

NC 73 (Sam Furr Road) from SR 5544
(West Catawba Ave) to SR 2316
(Northcross Ave) Widening

T.I.P. No.

U-5765

County

Mecklenburg

F&ME Job No.

C8806 - Task 00008

Date Received

2/23/2022

Date Reported

3/9/2022

Tested By

J. Hiers

CERT No.:

130-04-0212

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL (ft.)	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-1	RTL (LT)	-L2- 426+14	1.0 - 5.0	A-7-5(11)	62	15	29.4%	11.2%	31.3%	28.1%	99.9%	78.5%	61.7%	25.9%	ND
S-2	LT PS	-L2- 432+65	1.4 - 2.5	A-7-5(17)	57	20	11.9%	11.1%	18.6%	58.4%	93.0%	86.6%	73.2%	28.0%	ND
S-3	LT OSL	-L2- 432+65	1.6 - 3.0	A-7-5(19)	61	21	10.8%	10.4%	18.4%	60.4%	95.3%	89.5%	76.6%	27.7%	ND
S-5	LT ISL	-L2- 432+65	1.7 - 3.0	A-7-5(20)	69	31	18.4%	12.8%	20.5%	48.3%	95.5%	84.7%	67.6%	26.3%	ND
S-6	RT ISL	-L2- 432+66	1.7 - 3.0	A-5(2)	53	NP	29.5%	12.2%	22.1%	36.2%	98.2%	77.8%	59.9%	24.4%	ND
S-10	RTL (RT)	-L2- 438+22	1.7 - 5.0	A-7-5(14)	54	20	16.2%	14.0%	23.5%	46.3%	92.5%	82.3%	67.2%	17.4%	ND
S-11	RTL PS (LT)	-L2- 441+36	0.8 - 5.0	A-5(3)	47	NP	13.9%	13.1%	44.8%	28.2%	93.2%	84.7%	70.7%	33.5%	ND
S-13	RTL (RT)	-L2- 445+78	1.1 - 3.0	A-7-5(20)	57	22	8.6%	12.7%	28.3%	50.4%	99.5%	94.2%	80.9%	32.1%	ND
S-14	LTL (RT)	-L2- 448+43	1.7 - 4.0	A-7-5(4)	43	13	30.6%	18.1%	23.2%	28.2%	88.0%	71.0%	47.8%	25.2%	ND
S-15	RTL (RT)	-L2- 449+04	1.3 - 3.0	A-7-5(20)	62	21	7.2%	15.5%	37.1%	40.2%	98.9%	96.0%	79.5%	25.3%	ND
S-16	RTL (LT)	-L2- 451+41	1.0 - 5.0	A-6(2)	33	16	44.1%	17.0%	16.8%	22.1%	97.4%	65.7%	40.5%	29.0%	ND
S-18	LT OSL	-L2- 455+71	0.6 - 5.0	A-5(0)	50	NP	35.2%	20.1%	32.6%	12.1%	97.2%	70.0%	48.7%	29.0%	ND
S-20	LT ISL	-L2- 455+71	1.5 - 3.2	A-7-5(5)	44	11	24.2%	13.2%	20.4%	42.2%	85.4%	70.8%	55.6%	23.0%	ND
S-24	RT OSL	-L2- 465+38	1.3 - 5.0	A-6(2)	32	11	24.2%	24.8%	32.9%	18.1%	76.4%	63.9%	44.1%	33.9%	ND
S-25	RT PS	-L2- 465+38	1.3 - 5.0	A-6(4)	36	12	23.5%	19.4%	37.1%	20.1%	87.7%	73.6%	55.2%	31.7%	ND
S-26	LTL (RT)	-L2- 470+01	3.2 - 5.0	A-7-5(11)	67	34	31.8%	15.2%	16.8%	36.2%	82.6%	63.8%	46.0%	28.4%	ND
S-27	RTL (RT)	-L2- 470+01	1.7 - 5.0	A-7-5(10)	55	12	13.9%	13.8%	25.9%	46.4%	90.8%	82.9%	68.2%	23.8%	ND
S-29	RTL (LT)	-L2- 472+93	1.3 - 3.0	A-7-5(8)	47	14	21.3%	16.8%	21.6%	40.3%	91.0%	78.3%	59.5%	26.2%	ND
S-30	LT OSL	-L2- 475+77	1.6 - 3.0	A-7-5(6)	49	17	25.2%	17.4%	23.2%	34.3%	84.2%	69.7%	51.0%	23.5%	ND
S-31	LT LN	-Y49- 13+20	1.3 - 5.0	A-7-6(13)	67	38	38.3%	16.7%	13.0%	32.0%	99.6%	75.1%	47.0%	19.5%	ND
S-34	RTL (RT)	-Y49- 22+90	1.1 - 5.0	A-7-5(17)	66	26	23.5%	16.2%	21.9%	38.4%	99.2%	83.8%	62.7%	28.0%	ND
S-35	RTL (LT)	-Y50- 11+44	1.8 - 5.0	A-4(0)	30	NP	26.1%	36.8%	26.9%	10.1%	95.3%	81.8%	41.5%	14.9%	ND
S-38	RT LN	-Y50- 19+78	1.5 - 5.0	A-5(1)	55	NP	34.8%	17.4%	31.8%	16.0%	99.3%	74.2%	52.0%	20.4%	ND

Prepared in the Office of:
F&ME CONSULTANTS, INC.
COLUMBIA, SOUTH CAROLINA
NCDOT LAB CERT. NO. 130-0212

F&ME CONSULTANTS, INC.
3112 DEVINE STREET, COLUMBIA SC 29205
(CERT No.: 130-0212)

Project

NC 73 from SR 5544 to SR 2316

T.I.P. No.

U-5765

County

Mecklenburg

F&ME Job No.

C8806 - Task 00007

Date Received

2/8/2022

Date Reported

2/21/2022

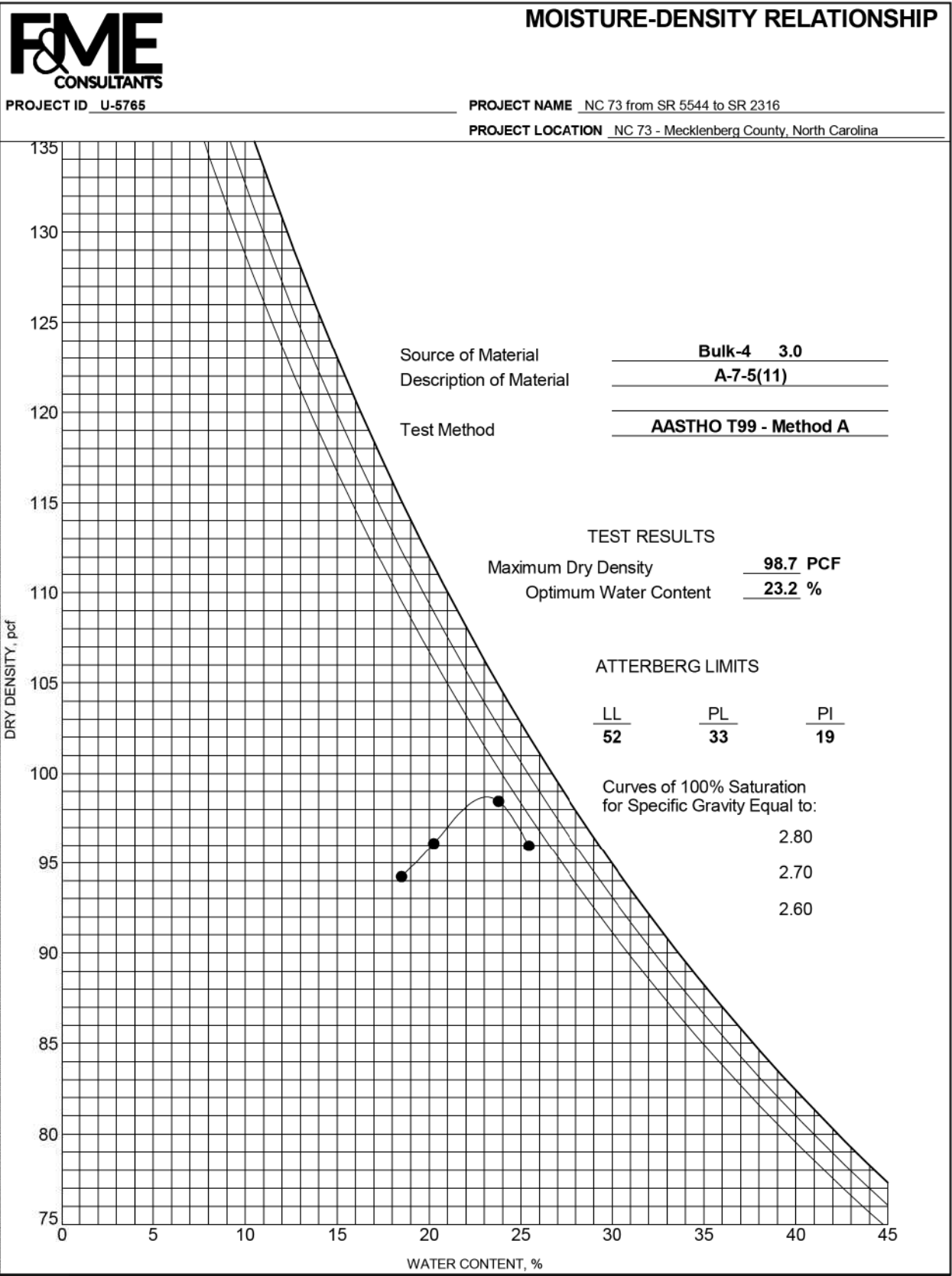
Tested By

J. Hiers

CERT No.:

130-04-0212

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL (ft.)	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
Bulk-4	96' LT	-L2- 429+01	1.0 - 3.0	A-7-5(11)	52	19	27.6%	12.2%	17.2%	43.0%	97.6%	78.2%	60.8%	23.7%	ND
Bulk-5	100' LT	-L2- 457+88	1.0 - 3.0	A-7-6(8)	44	20	29.8%	16.3%	19.9%	34.0%	97.7%	77.8%	55.1%	19.2%	ND



REV 08/2021

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

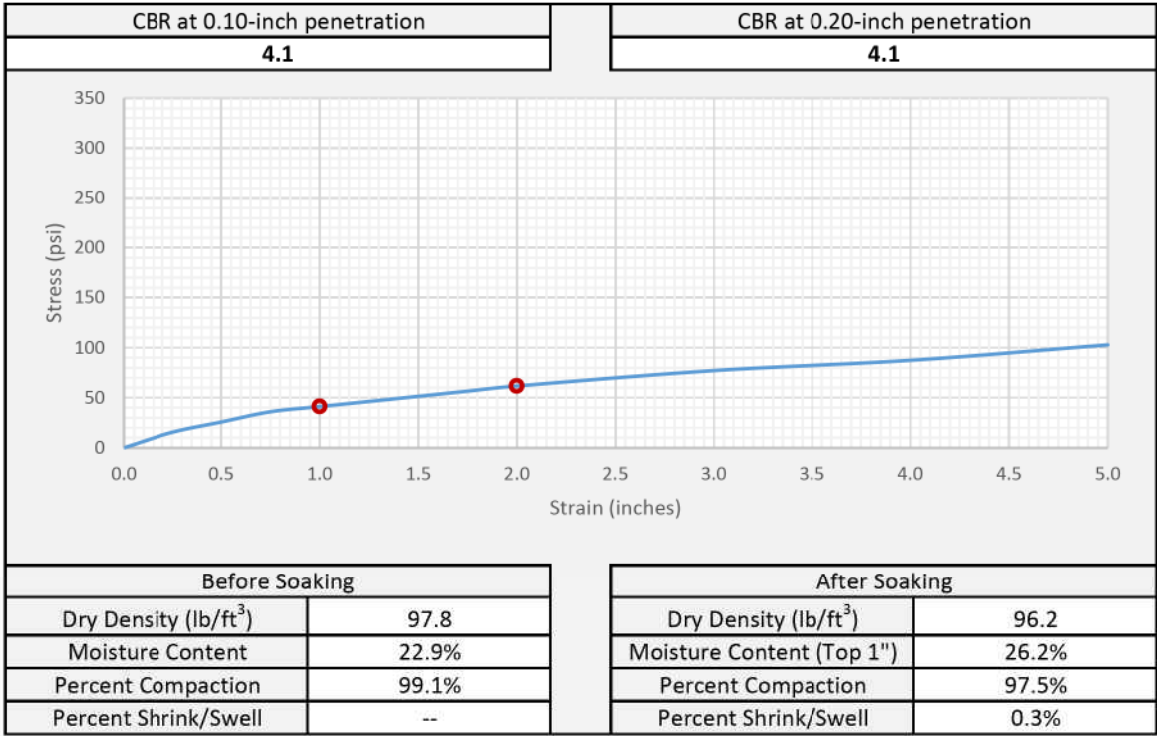
SAMPLE INFORMATION

Project Name	NC 73 from SR 5544 to SR 2316 Widening			Project No.	U-5765
Sample Location	Bulk-4 (Specimen 1)			FME Lab ID	22-0430
Soil Description	A-7-5(11)			Depth/Elev.	1.0 - 3.0 ft.
Date Sampled	--	Sampled By:	CG2	Date Received	2/8/22
Date Test Began	2/14/22	Date Completed	2/18/22	Tested By	JWW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft ³)	98.7	Optimum Moisture Content (%)	23.2
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS



ADDITIONAL COMMENTS

Desired Percent Compaction = 100%
LL=52, PL=33, PI=19, %Passing #200 Sieve=60.8%



F&ME Consultants, Inc.
3112 Devine Street, Columbia, SC 29205

Jerry P. Davis

Reviewed By

2/21/22
Date

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REV 08/2021

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

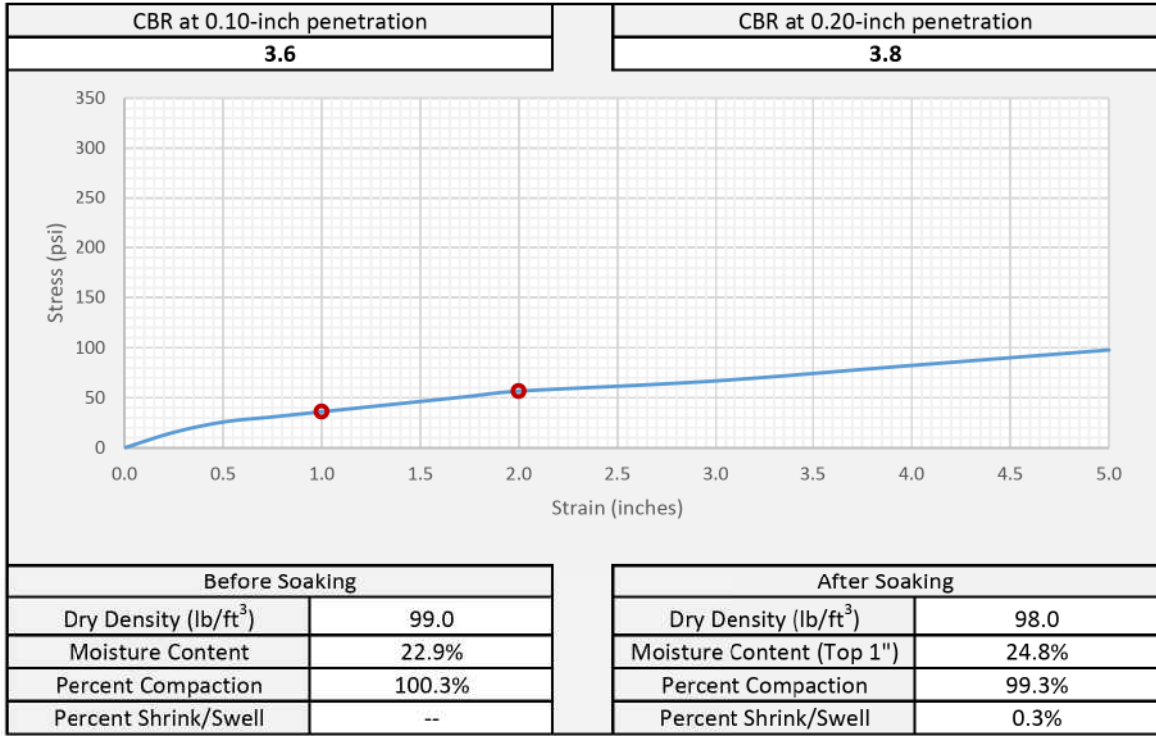
SAMPLE INFORMATION

Project Name	NC 73 from SR 5544 to SR 2316 Widening			Project No.	U-5765
Sample Location	Bulk-4 (Specimen 2)			FME Lab ID	22-0430
Soil Description	A-7-5(11)			Depth/Elev.	1.0 - 3.0 ft.
Date Sampled	--	Sampled By:	CG2	Date Received	2/8/22
Date Test Began	2/14/22	Date Completed	2/18/22	Tested By	JWW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft ³)	98.7	Optimum Moisture Content (%)	23.2
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS



ADDITIONAL COMMENTS

Desired Percent Compaction = 100%
LL=52, PL=33, PI=19, %Passing #200 Sieve=60.8%



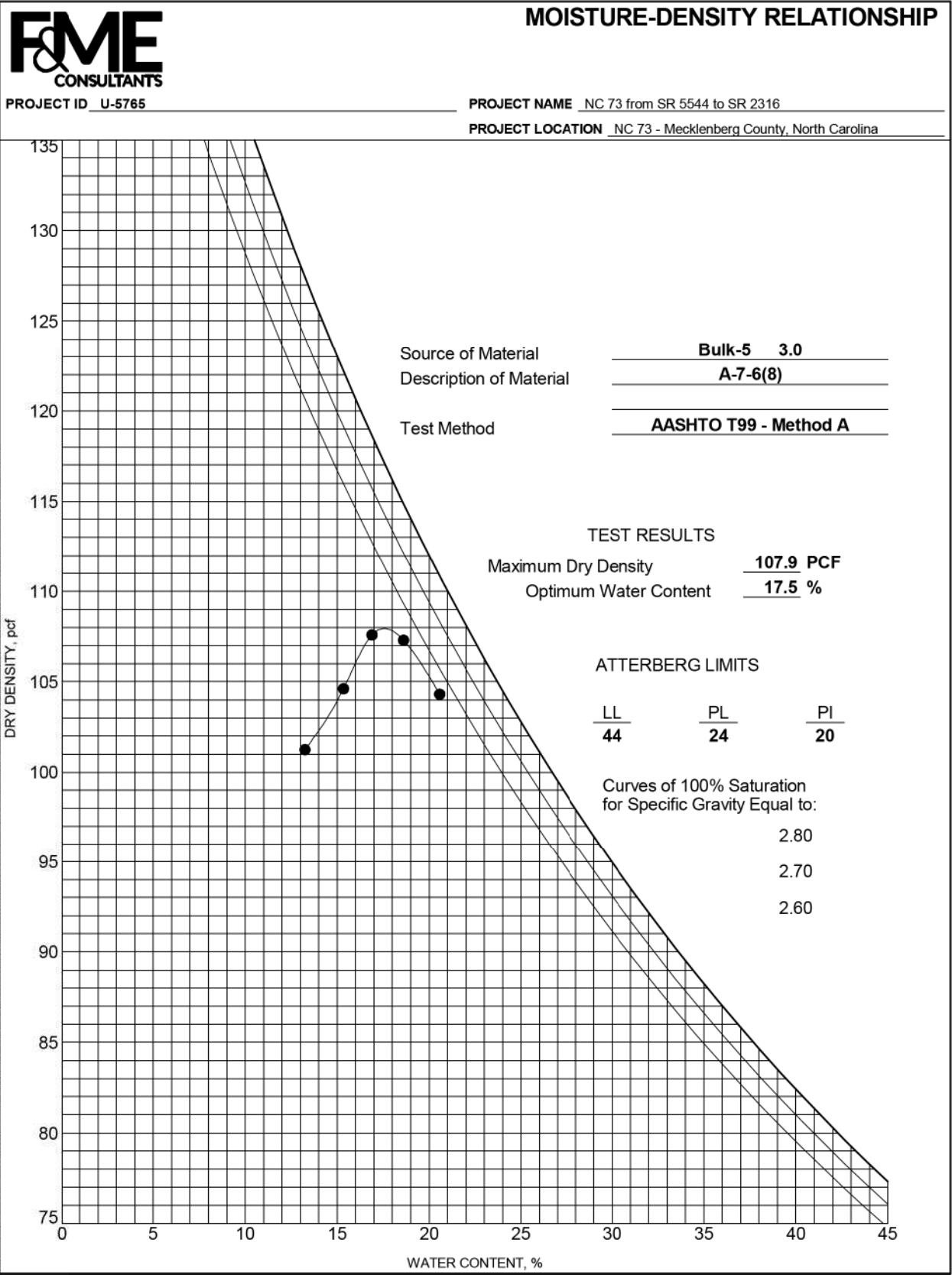
F&ME Consultants, Inc.
3112 Devine Street, Columbia, SC 29205

Jerry P. Davis

Reviewed By

2/21/22
Date

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REV 08/2021

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

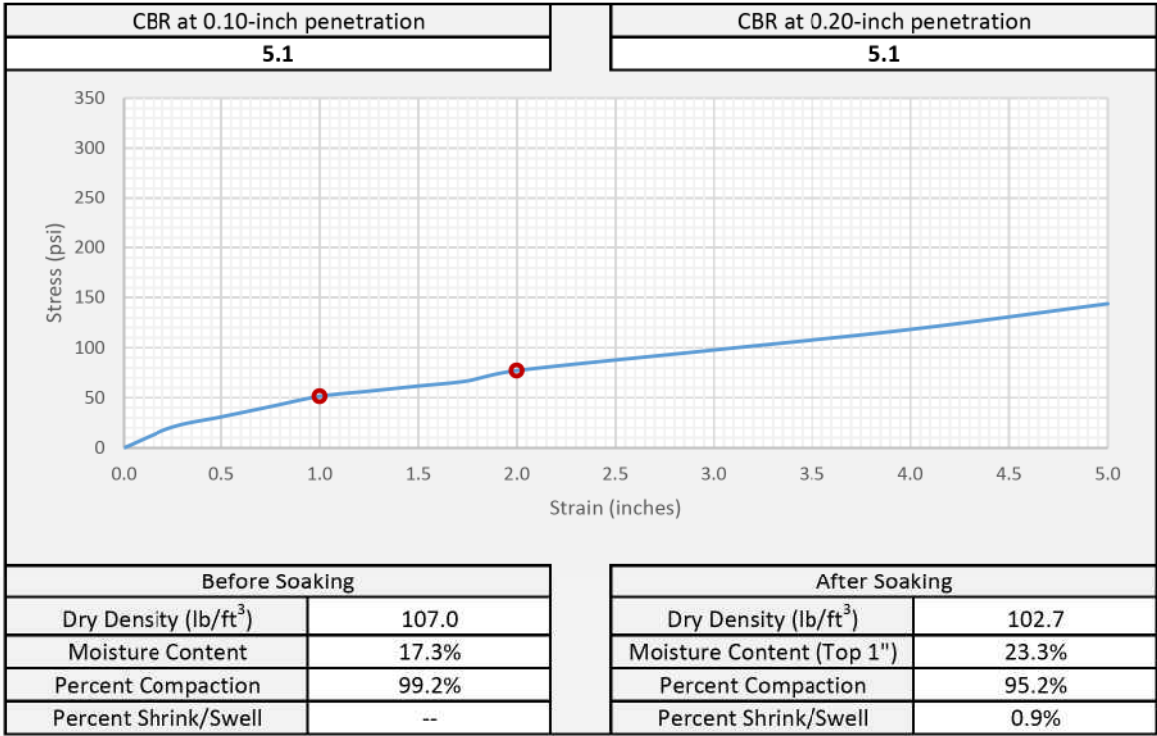
SAMPLE INFORMATION

Project Name	NC 73 from SR 5544 to SR 2316 Widening			Project No.	U-5765
Sample Location	Bulk-5 (Specimen 2)			FME Lab ID	22-0431
Soil Description	A-7-6(8)			Depth/Elev.	1.0 - 3.0 ft.
Date Sampled	--	Sampled By:	CG2	Date Received	2/8/22
Date Test Began	2/14/22	Date Completed	2/18/22	Tested By	JWW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft ³)	107.9	Optimum Moisture Content (%)	17.5
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS



ADDITIONAL COMMENTS

Desired Percent Compaction = 100%
LL=44, PL=24, PI=20, %Passing #200 Sieve=55.1%



F&ME Consultants, Inc.
3112 Devine Street, Columbia, SC 29205

Jerry P. Davis

Reviewed By

2/21/22
Date

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REV 08/2021

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

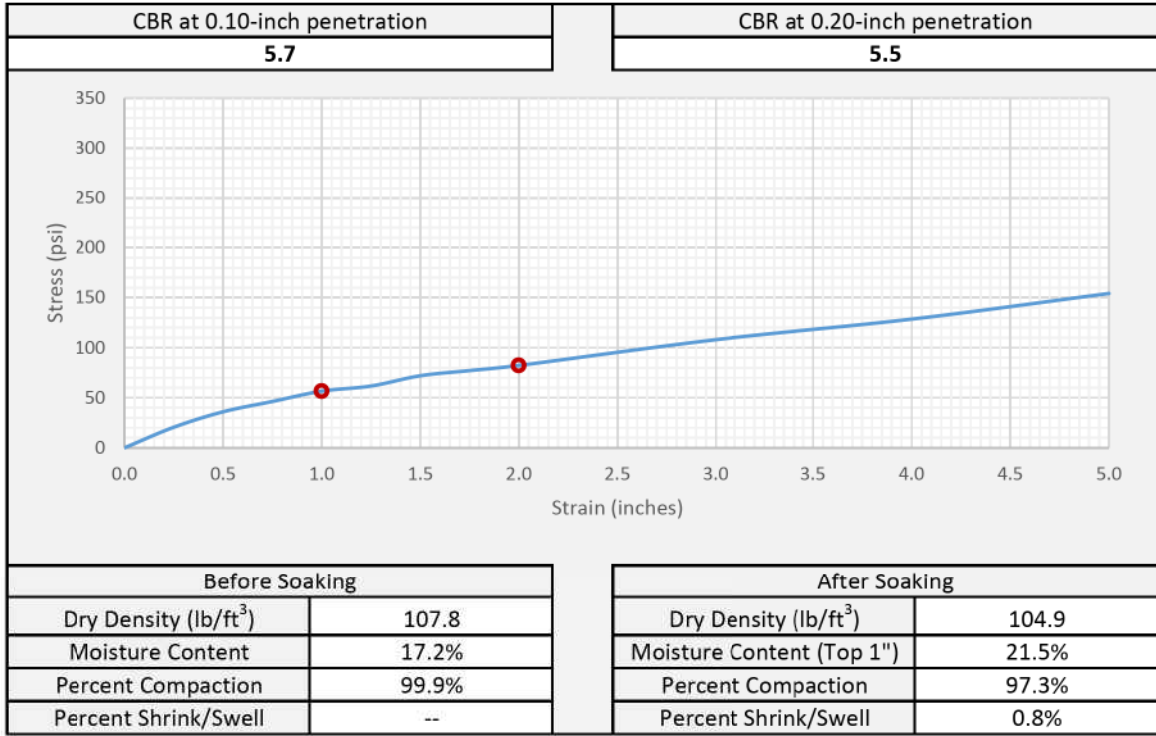
SAMPLE INFORMATION

Project Name	NC 73 from SR 5544 to SR 2316 Widening			Project No.	U-5765
Sample Location	Bulk-5 (Specimen 1)			FME Lab ID	22-0431
Soil Description	A-7-6(8)			Depth/Elev.	1.0 - 3.0 ft.
Date Sampled	--	Sampled By:	CG2	Date Received	2/8/22
Date Test Began	2/14/22	Date Completed	2/18/22	Tested By	JWW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft ³)	107.9	Optimum Moisture Content (%)	17.5
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS



ADDITIONAL COMMENTS

Desired Percent Compaction = 100%
LL=44, PL=24, PI=20, %Passing #200 Sieve=55.1%



F&ME Consultants, Inc.
3112 Devine Street, Columbia, SC 29205

Jerry P. Davis

Reviewed By

2/21/22
Date

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**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **1**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

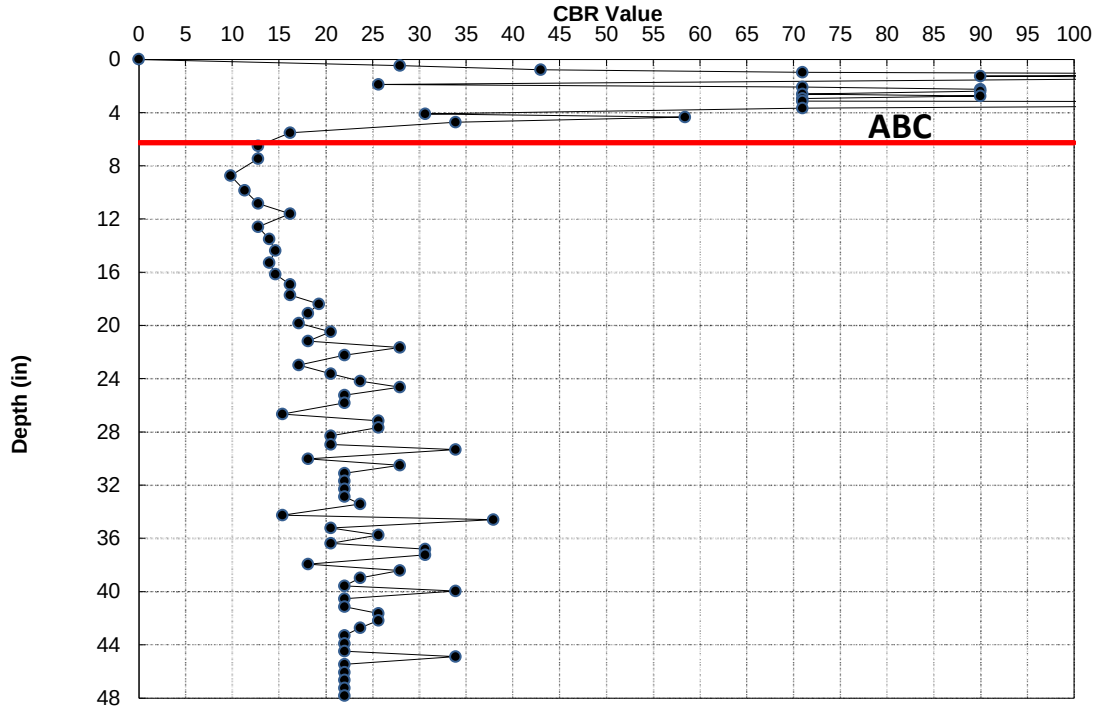
FILE	U5765 DCP Graphs 1
------	--------------------

C-1 -L2- Sta. 426+14 RTL LT 5.5 FT LT FW

Datum = ABC
RAW
CUT
02/20/22

Interval 0.0 to 6.5	
# of Values	23
Avg CBR	74.4
Wghtd Avg.	48.3
Max CBR	100+
Min CBR	12.8

Interval 6.5 to 51.6	
# of Values	70
Avg CBR	21.5
Wghtd Avg.	20.1
Max CBR	37.9
Min CBR	9.8

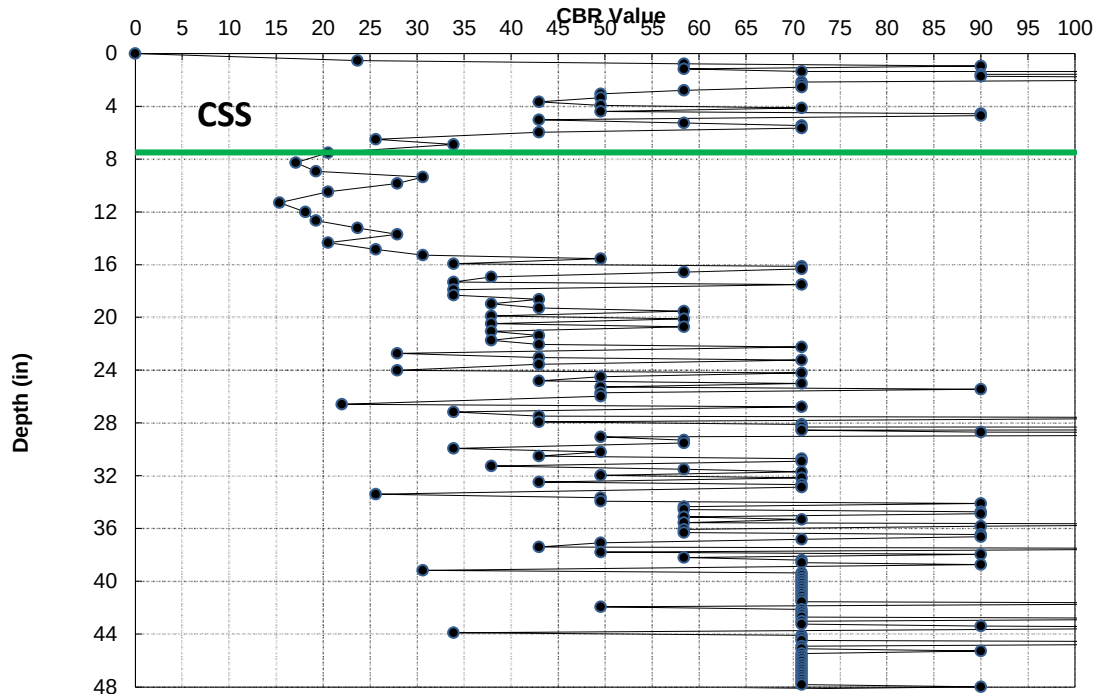


C-2 -L2- Sta. 421+65 LT PS 1.7 RT FW

Datum = CSS
RAW
FILL
02/20/22

Interval 0.0 to 7.5	
# of Values	30
Avg CBR	75.0
Wghtd Avg.	54.8
Max CBR	100+
Min CBR	20.5

Interval 7.5 to 48.8	
# of Values	155
Avg CBR	64.4
Wghtd Avg.	51.4
Max CBR	100+
Min CBR	15.4



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

Page **2**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

C-3 -L2- Sta. 432+65 LT OSL 2.3 FT LT FW

3

Datum = CSS

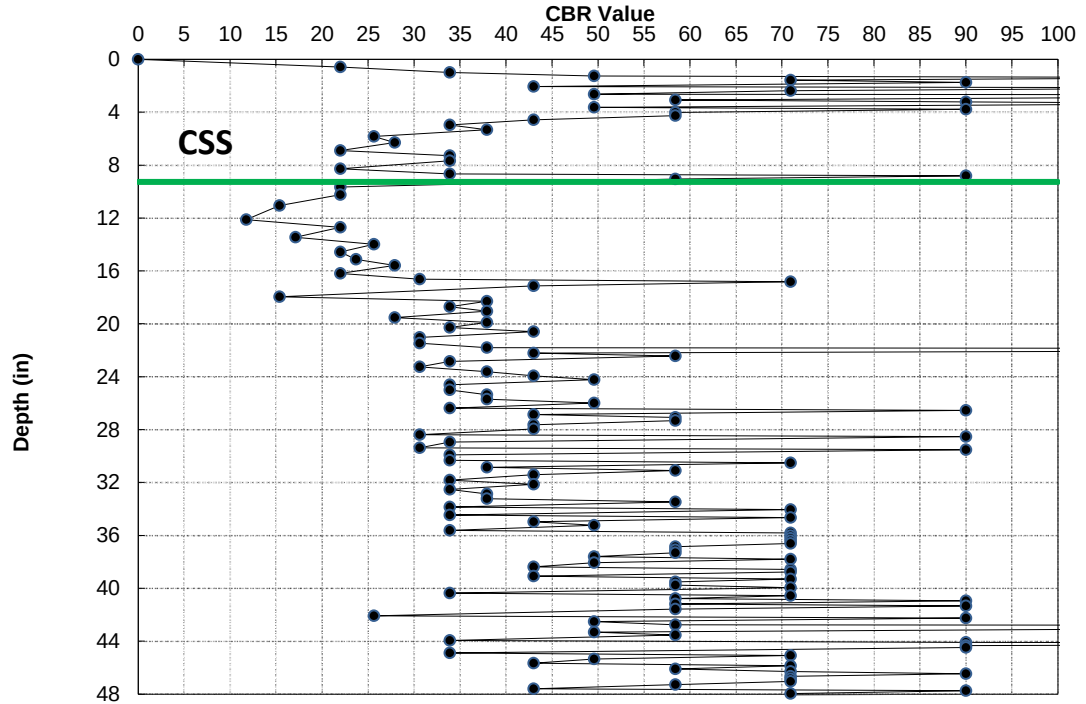
RAW

FILL

02/20/22

Interval	
0.0	to 9.1
# of Values	31
Avg CBR	63.7
Wghtd Avg.	46.6
Max CBR	100+
Min CBR	22.0

Interval	
9.1	to 48.8
# of Values	129
Avg CBR	56.5
Wghtd Avg.	44.0
Max CBR	100+
Min CBR	11.8



C-5 -L2- Sta. 432+65 LT ISL 5.7 RT FY

4

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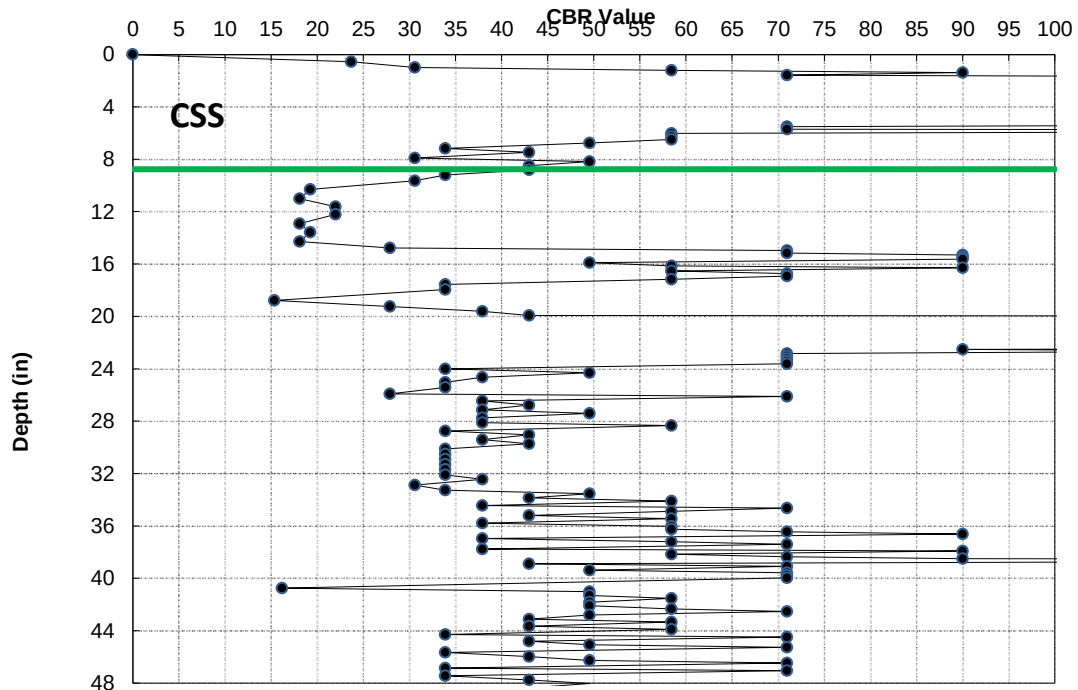
RAW

FILL

02/20/22

Interval	
0.0	to 8.8
# of Values	58
Avg CBR	100+
Wghtd Avg.	93.4
Max CBR	100+
Min CBR	23.7

Interval	
8.8	to 48.3
# of Values	149
Avg CBR	80.3
Wghtd Avg.	51.6
Max CBR	100+
Min CBR	15.4



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **3**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

C-6 -L2- Sta. 432+66 RTL ISL 5.6 FT RT FY

5

Datum = CSS

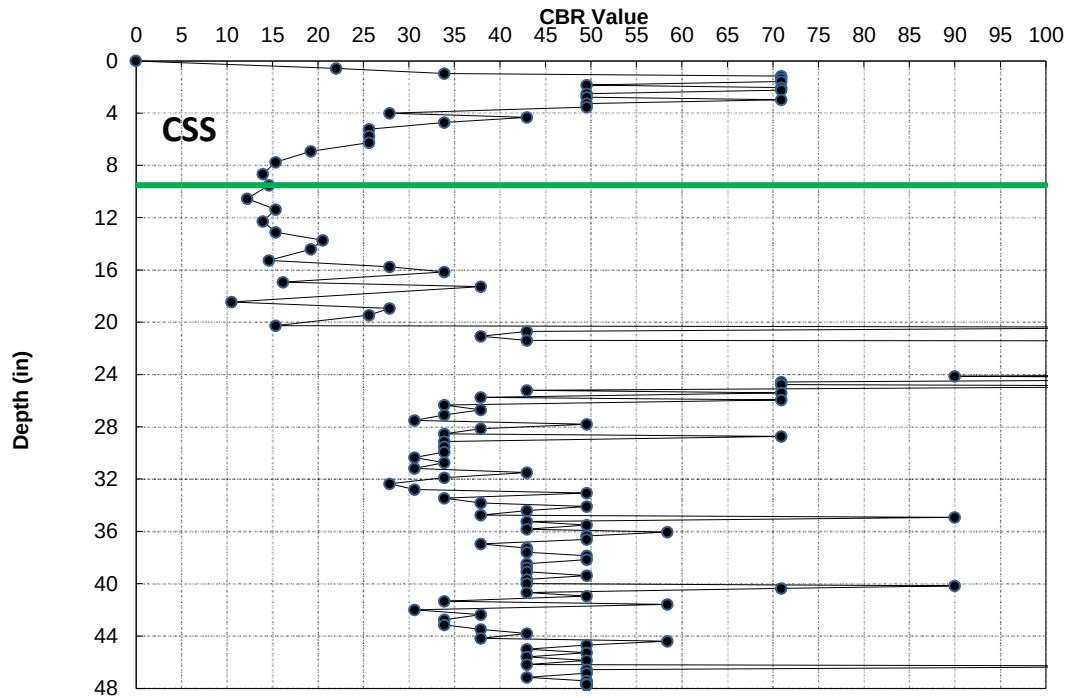
RAW

FILL

02/20/22

Interval 0.0 to 9.5	
# of Values	23
Avg CBR	42.4
Wghtd Avg.	32.1
Max CBR	70.9
Min CBR	13.9

Interval 9.5 to 47.7	
# of Values	135
Avg CBR	96.3
Wghtd Avg.	48.2
Max CBR	100+
Min CBR	10.5



C-7 -L2- Sta. 432+66 RLT OSL 2.3 FT LT FW

6

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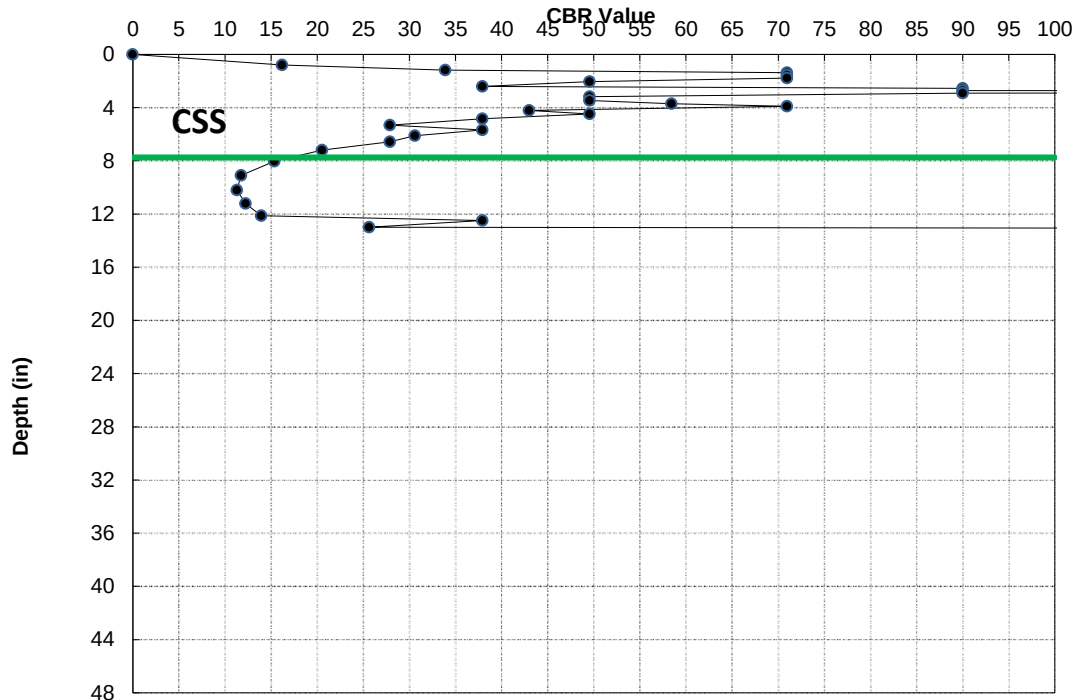
RAW

FILL

02/20/22

Interval 0.0 to 8.0	
# of Values	24
Avg CBR	63.9
Wghtd Avg.	40.3
Max CBR	100+
Min CBR	15.4

Interval 8.0 to 17.3	
# of Values	95
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	11.3



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **4**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

C-8 -L2- Sta. 432+66 RT PS 1.6 FT RT FW

7

Datum = CSS

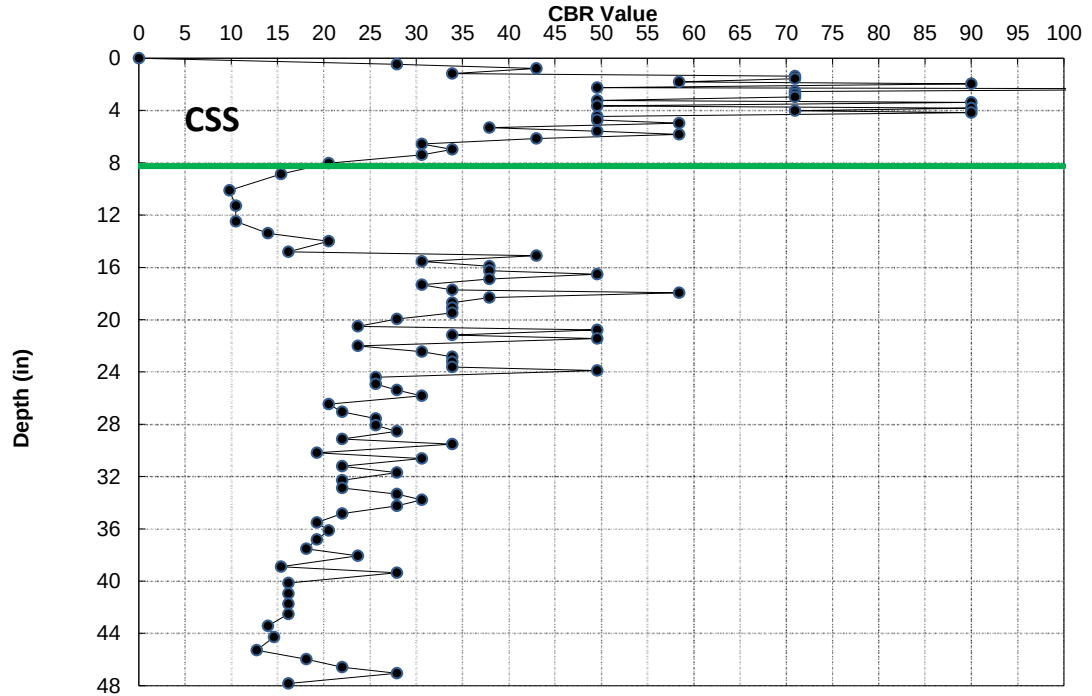
RAW

FILL

02/20/22

Interval 0.0 to 8.0	
# of Values	29
Avg CBR	58.0
Wghtd Avg.	49.3
Max CBR	100+
Min CBR	20.5

Interval 8.0 to 50.8	
# of Values	74
Avg CBR	26.1
Wghtd Avg.	22.5
Max CBR	58.4
Min CBR	9.8



C-9 -L2- Sta. 438+22 LTL (RT) 5.8 RT FY

8

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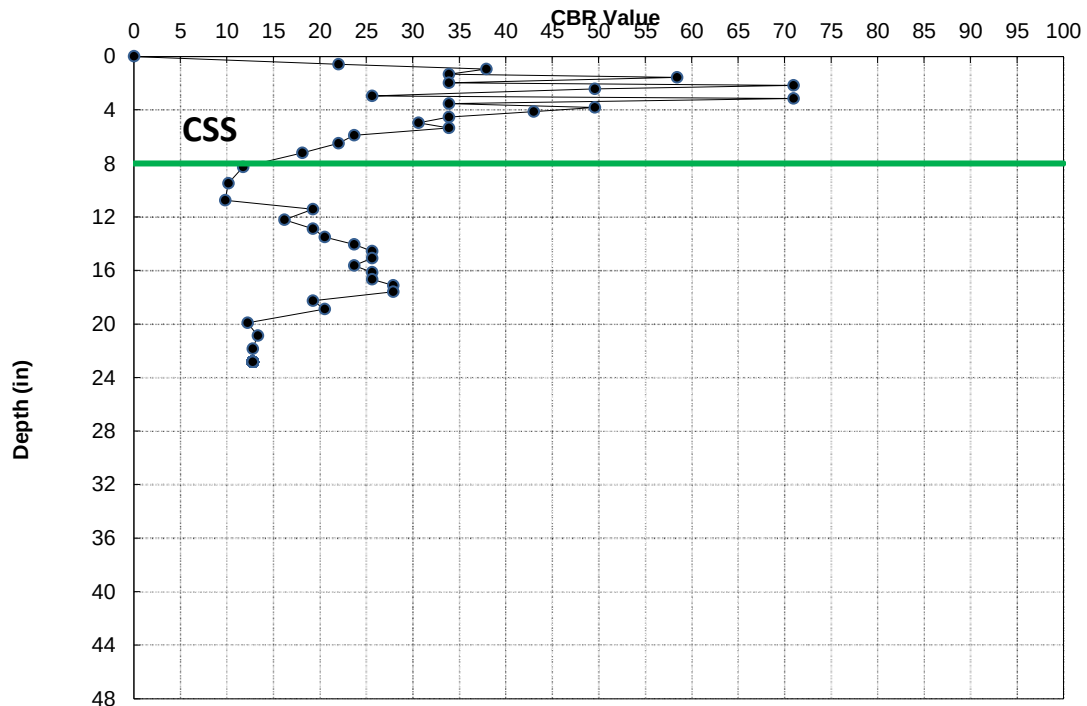
RAW

FILL

02/20/22

Interval 0.0 to 8.3	
# of Values	19
Avg CBR	58.0
Wghtd Avg.	49.3
Max CBR	100+
Min CBR	20.5

Interval 8.3 to 22.8	
# of Values	20
Avg CBR	19.6
Wghtd Avg.	17.6
Max CBR	27.9
Min CBR	9.8



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **5**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

C-10 -L2- Sta. 432+22 RTL (RT) 7.0 FT LT FW

9

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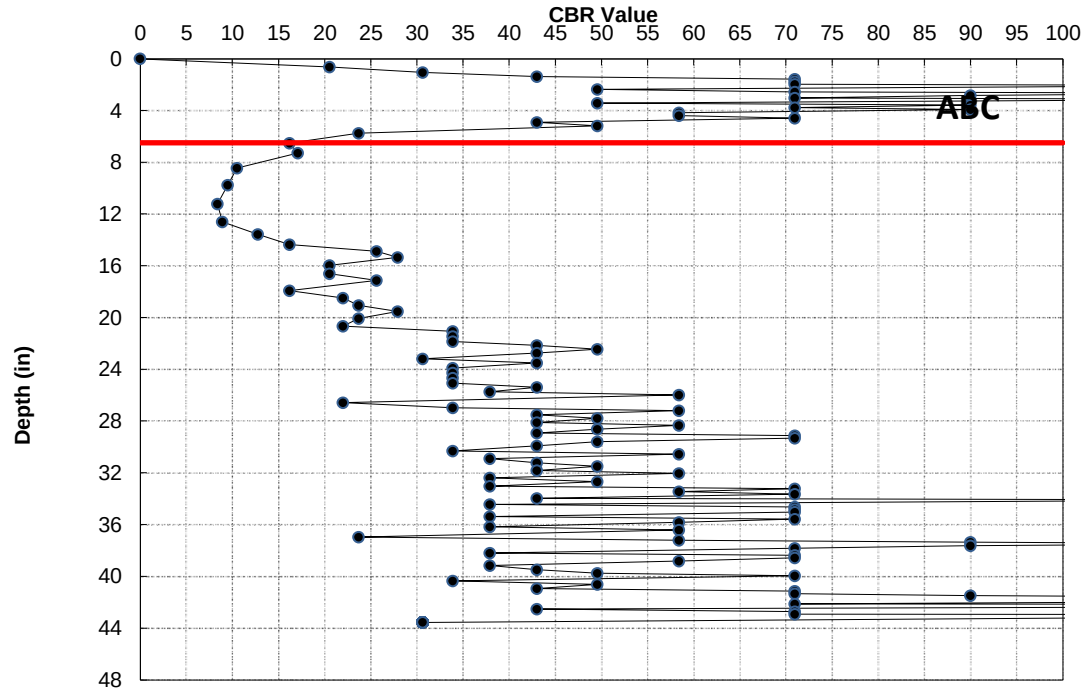
RAW

FILL

02/20/22

Interval 0.0 to 6.5	
# of Values	24
Avg CBR	65.7
Wghtd Avg.	50.2
Max CBR	100+
Min CBR	16.2

Interval 6.5 to 43.5	
# of Values	102
Avg CBR	53.8
Wghtd Avg.	37.0
Max CBR	100+
Min CBR	8.4



C-11 -L2- Sta. 441+36 RTL PS (LT) 1.9 FT RT FW

10

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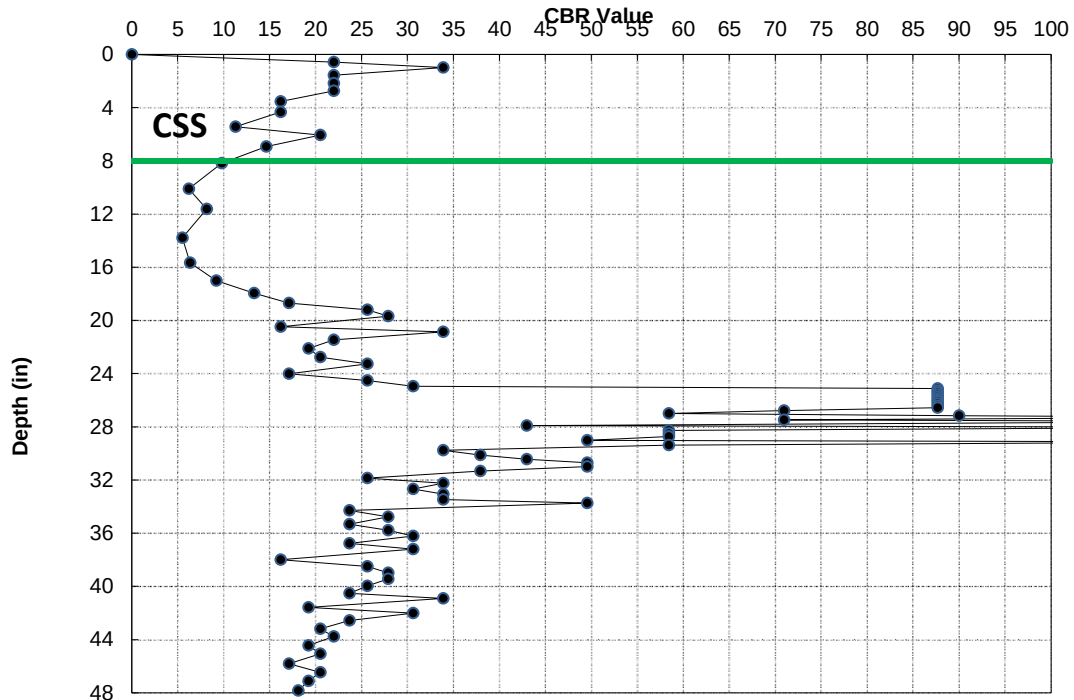
RAW

FILL

2/20/2022

Interval 0.0 to 8.2	
# of Values	11
Avg CBR	19.1
Wghtd Avg.	17.2
Max CBR	33.9
Min CBR	9.8

Interval 8.2 to 49.6	
# of Values	82
Avg CBR	41.9
Wghtd Avg.	26.0
Max CBR	100+
Min CBR	5.5



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **6**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

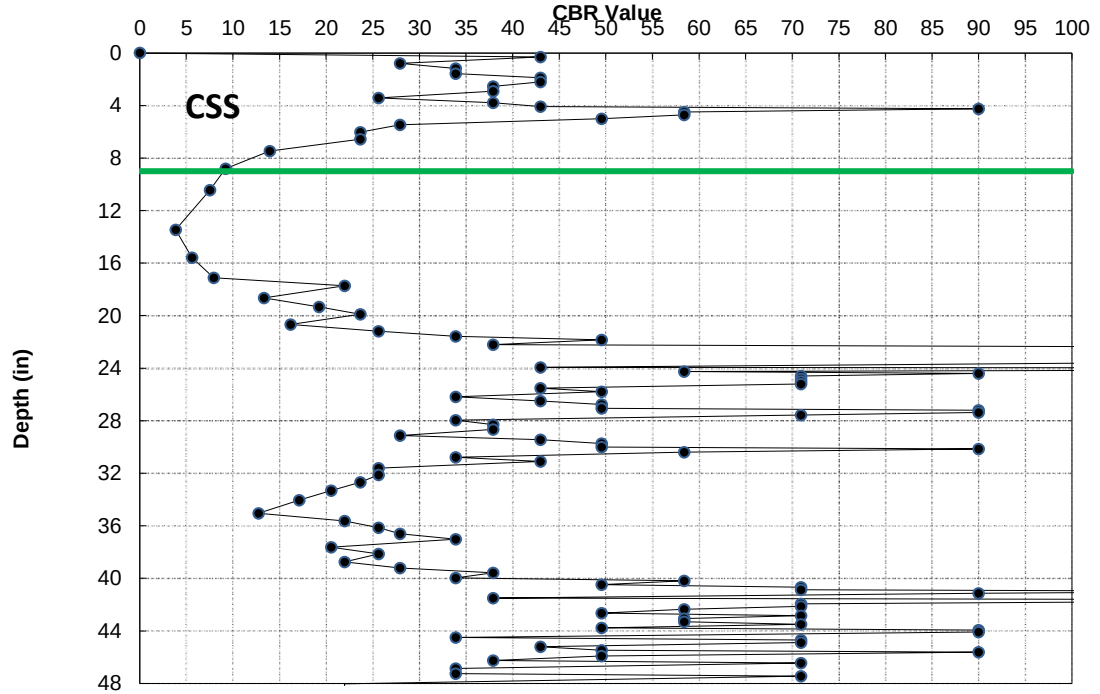
C-12 -L2- Sta. 441+36 RTL (LT) (I) 1.2 FT RT FW

11

Datum = CSS
RAW
FILL
02/20/22

Interval 0.0 to 8.8	
# of Values	20
Avg CBR	38.1
Wghtd Avg.	30.0
Max CBR	90.0
Min CBR	9.2

Interval 8.8 to 49.0	
# of Values	102
Avg CBR	54.7
Wghtd Avg.	33.8
Max CBR	100+
Min CBR	3.8



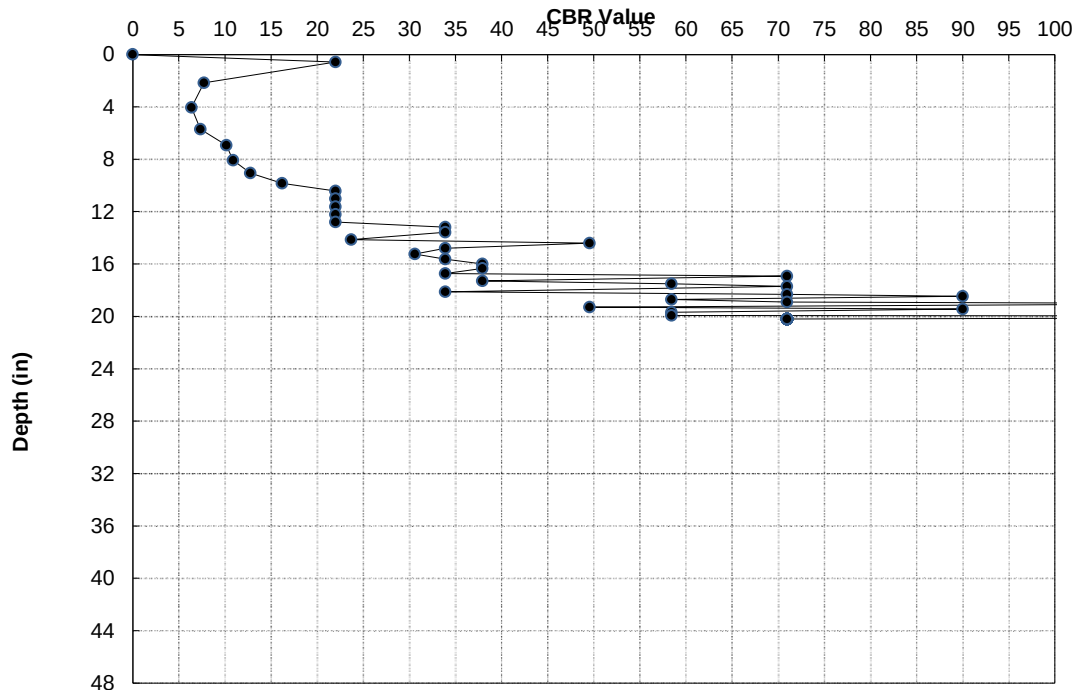
C-13 -L2- Sta. 445+78 RTL (RT) 6.0 FT RT FW

12

Datum = SG
RAW
FILL
02/20/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 20.2	
# of Values	39
Avg CBR	44.9
Wghtd Avg.	25.3
Max CBR	100+
Min CBR	6.4



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **7**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
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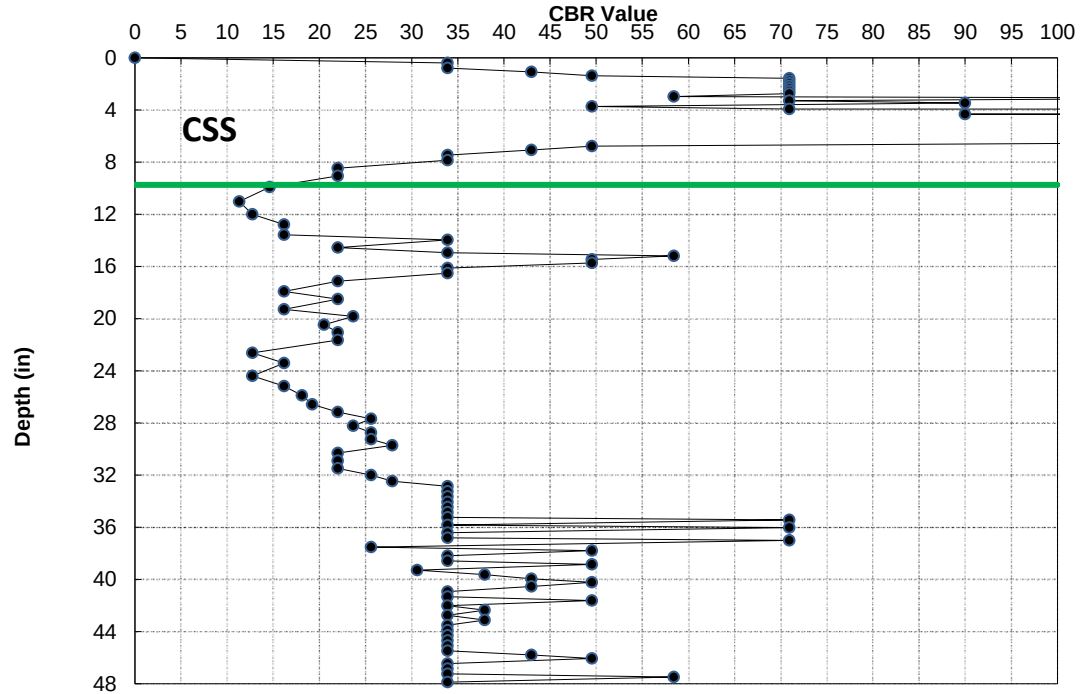
C-14 -L2- Sta. 448+43 LTL (RT) 6.0 RT FY

13

Datum = CSS
RAW
FILL
02/20/22

Interval 0.0 to 9.9	
# of Values	49
Avg CBR	100+
Wghtd Avg.	68.8
Max CBR	100+
Min CBR	14.6

Interval 9.9 to 50.2	
# of Values	86
Avg CBR	32.7
Wghtd Avg.	28.2
Max CBR	70.9
Min CBR	11.3



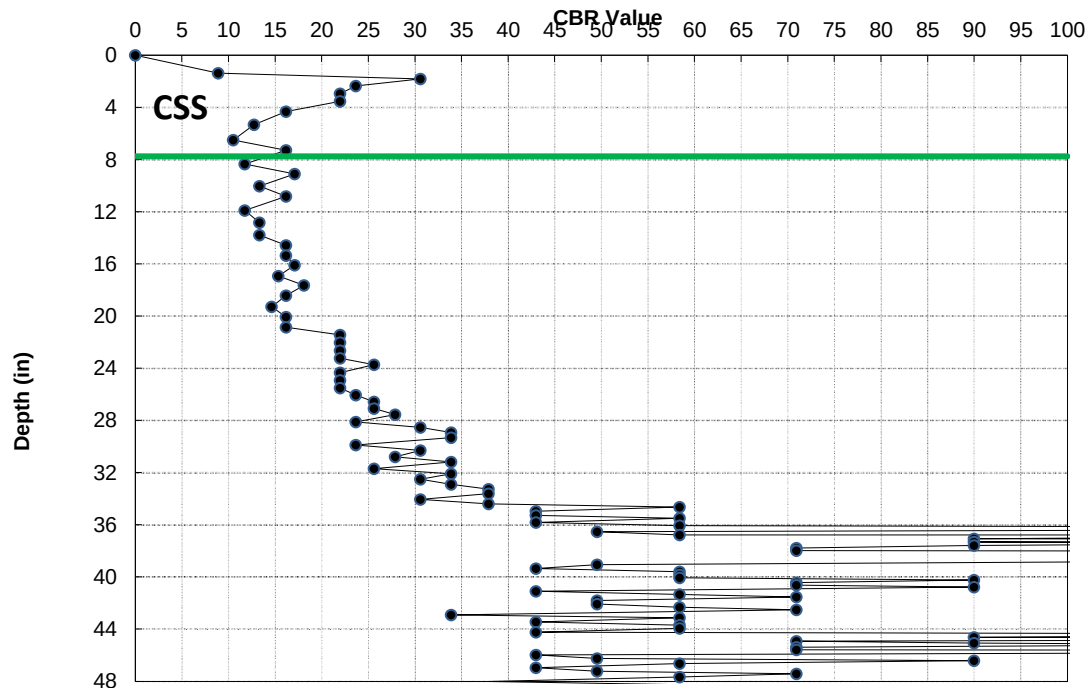
C-15 -L2- Sta. 449+04 RTL (RT) 5.0 FT RT FW

14

Datum = CSS
RAW
FILL
02/20/22

Interval 0.0 to 7.3	
# of Values	9
Avg CBR	18.1
Wghtd Avg.	15.7
Max CBR	30.6
Min CBR	8.9

Interval 7.3 to 50.6	
# of Values	120
Avg CBR	60.8
Wghtd Avg.	37.2
Max CBR	100+
Min CBR	11.8



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **8**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
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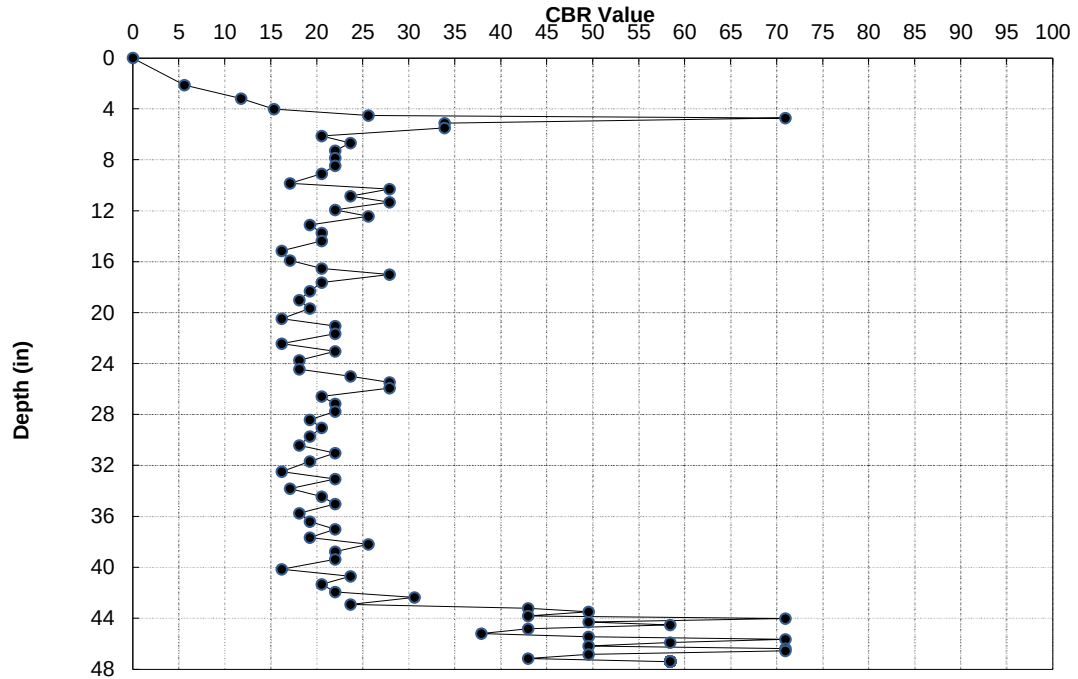
C-16 -L2- Sta. 451+41 RTL LT 6.8 FT LT FW

15

Datum = SG
RAW
AT GRADE
02/20/22

Interval	
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# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval	
0.0	to 47.4
# of Values	84
Avg CBR	28.4
Wghtd Avg.	22.7
Max CBR	70.9
Min CBR	5.6



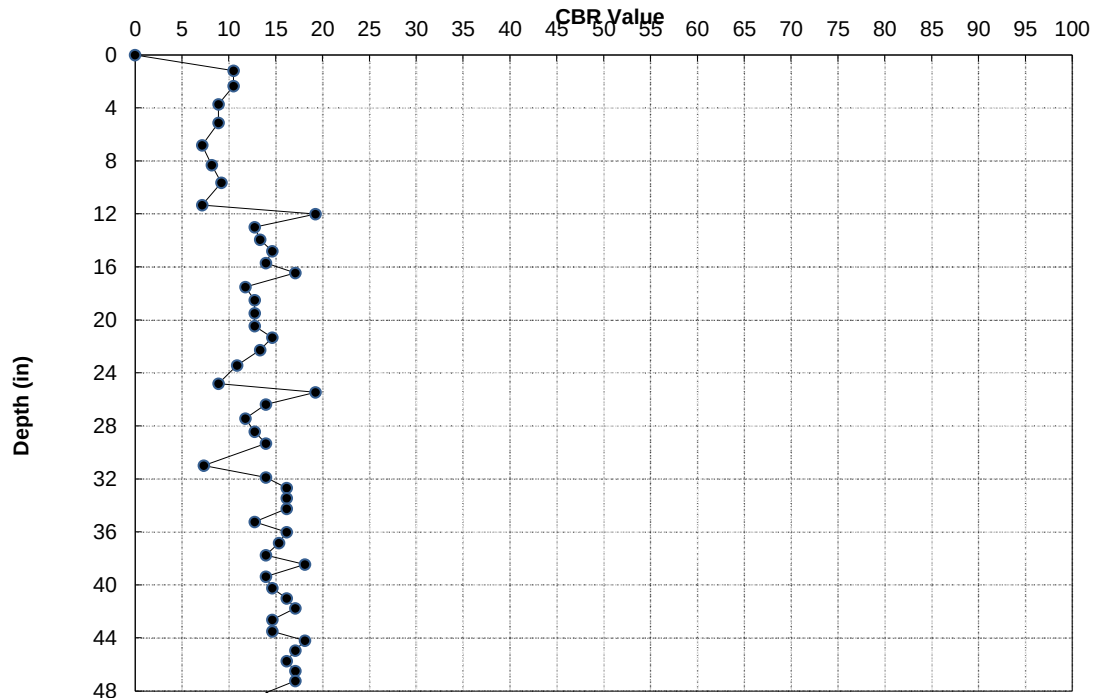
C-17 -L2- Sta. 455+71 LT PS 2.0 RT FW

16

Datum = SG
RAW
AT GRADE
02/20/22

Interval	
0.0	to 0.0
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval	
0.0	to 50.5
# of Values	52
Avg CBR	13.8
Wghtd Avg.	12.9
Max CBR	19.2
Min CBR	7.2



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

Page **9**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

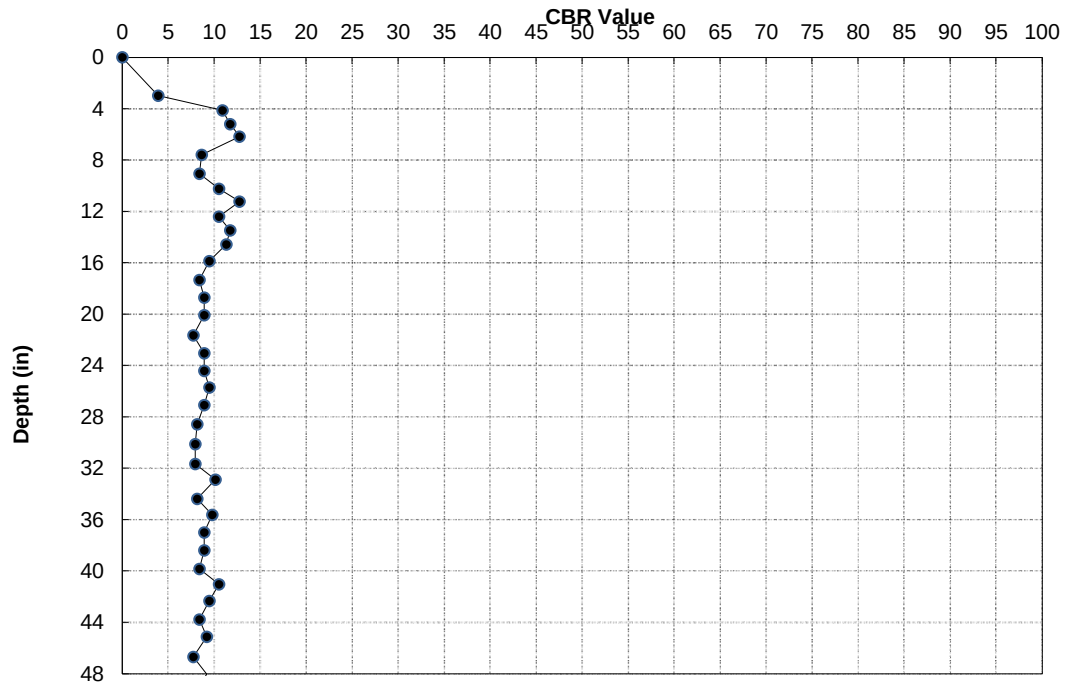
C-18 -L2- Sta. 455+71 LT OSL 2.0 FT LT FW

17

Datum = SG
RAW
AT GRADE
02/20/22

Interval	
0.0	to 0.0
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval	
0.0	to 49.6
# of Values	36
Avg CBR	9.3
Wghtd Avg.	8.9
Max CBR	12.8
Min CBR	3.9



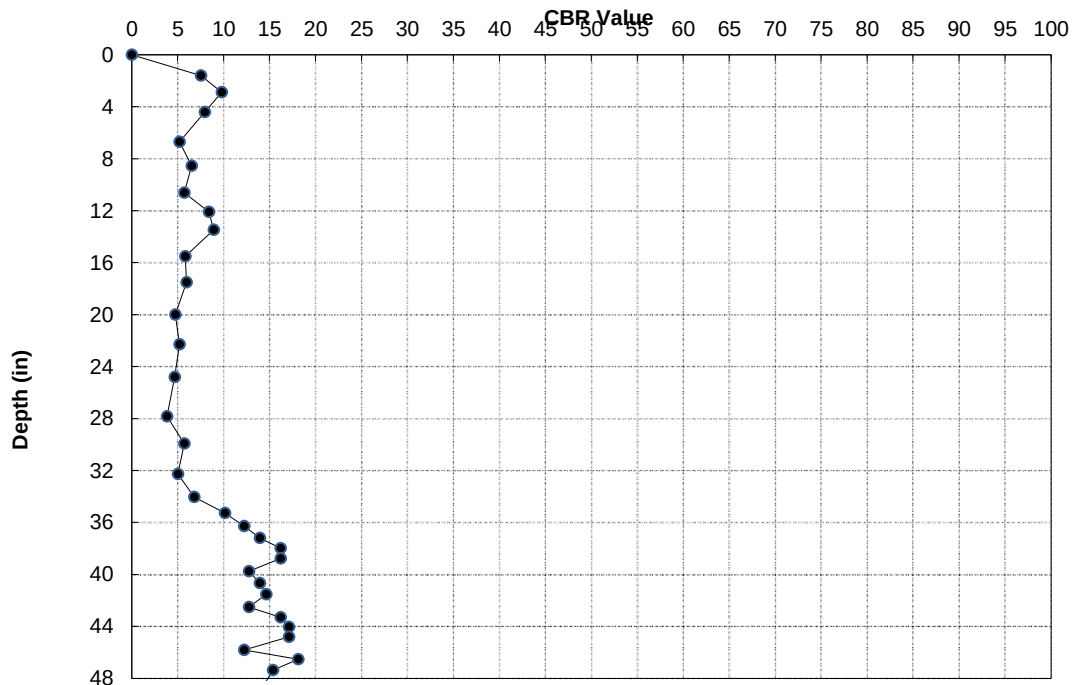
C-19-L2- Sta. 455+71 MID LANE 16.5 FT LT FW

18

Datum = SG
RAW
AT GRADE
02/20/22

Interval	
0.0	to 0.0
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval	
0.0	to 48.2
# of Values	33
Avg CBR	10.3
Wghtd Avg.	8.4
Max CBR	18.1
Min CBR	3.8



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

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PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 1
------	--------------------

C-20 -L2- Sta. 455+71 LTL ISL 16.8 FT RT FY

19

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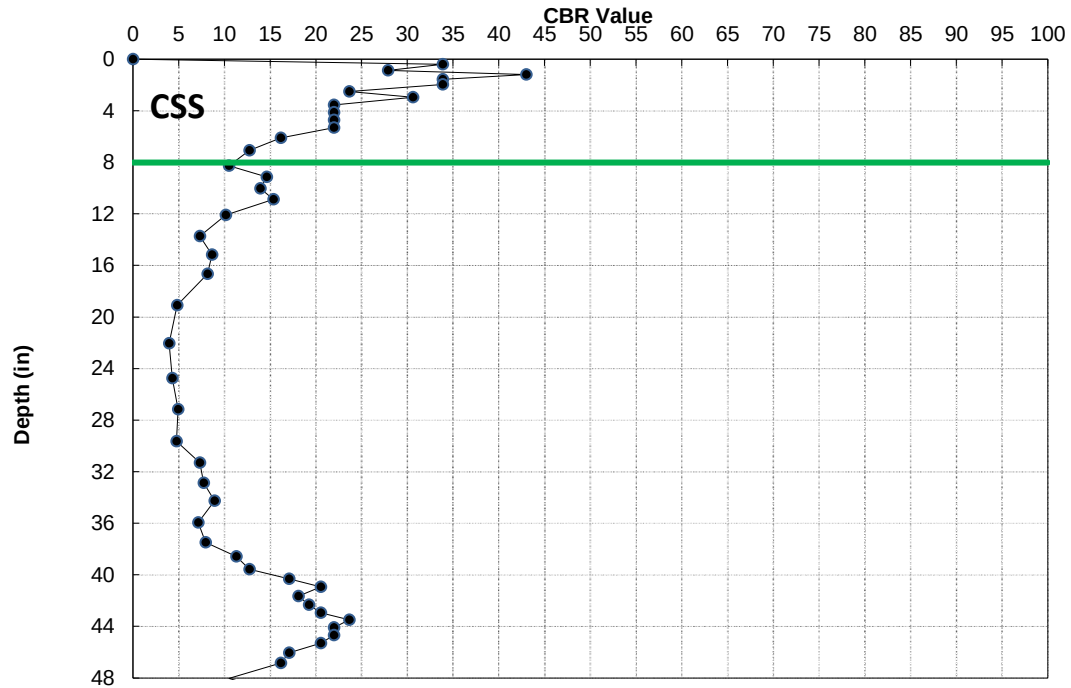
RAW

FILL

02/20/22

Interval	
0.0	to 8.3
# of Values	14
Avg CBR	25.3
Wghtd Avg.	22.0
Max CBR	43.0
Min CBR	10.5

Interval	
8.3	to 50.2
# of Values	34
Avg CBR	13.1
Wghtd Avg.	10.0
Max CBR	23.7
Min CBR	4.0



C-21 -L2- Sta. 455+71 LTL (LT) 5.0 RT FY

20

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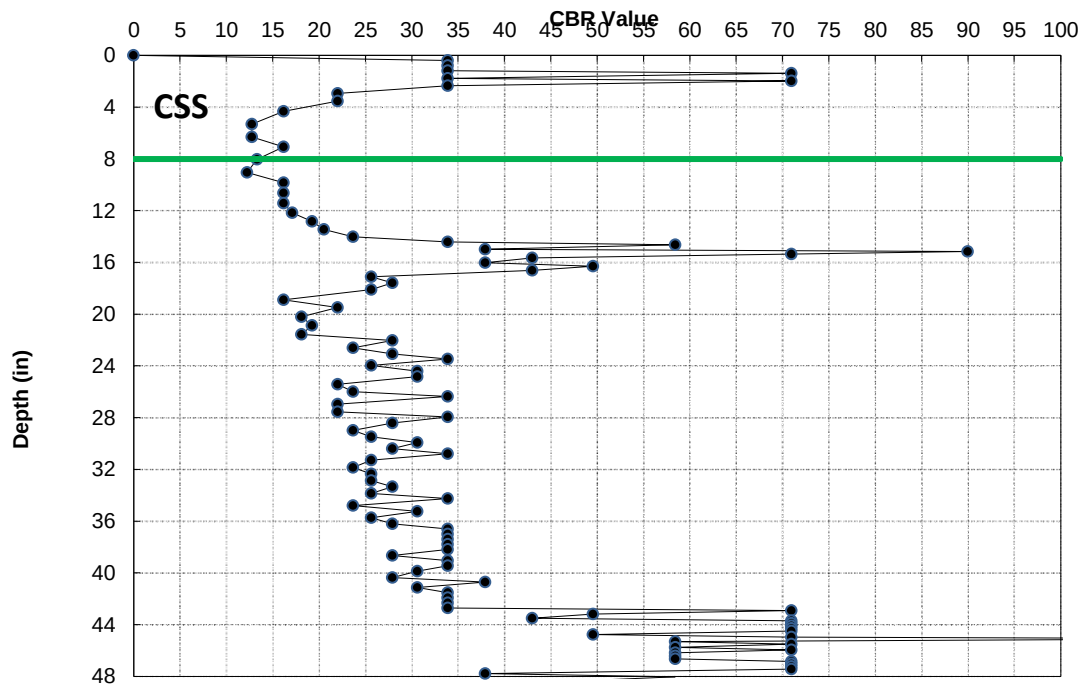
RAW

FILL

02/20/22

Interval	
0.0	to 8.0
# of Values	14
Avg CBR	30.5
Wghtd Avg.	#DIV/0!
Max CBR	70.9
Min CBR	12.8

Interval	
8.0	to 50.8
# of Values	106
Avg CBR	40.9
Wghtd Avg.	33.0
Max CBR	100+
Min CBR	12.2



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **1**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
------	--------------------

C-23 -L2- Sta. 465 +38 RT ISL 6.0 RT FY

1

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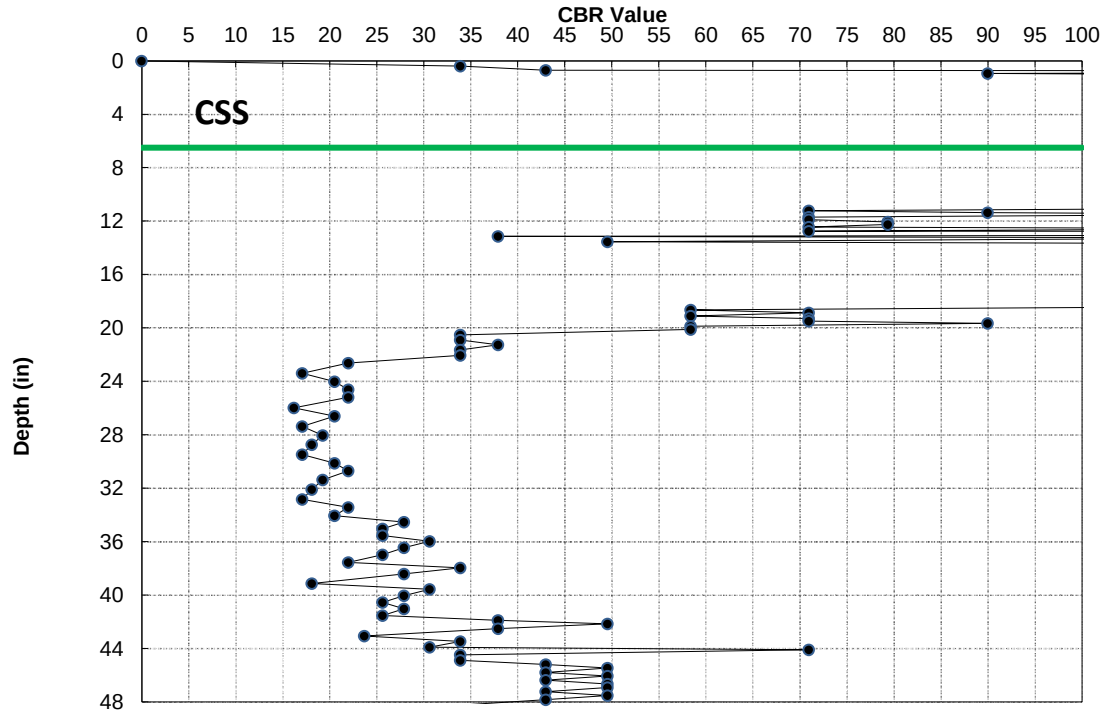
RAW

FILL

02/20/22

Interval 0.0 to 6.5	
# of Values	89
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	33.9

Interval 6.5 to 49.6	
# of Values	182
Avg CBR	100+
Wghtd Avg.	58.3
Max CBR	100+
Min CBR	16.2



C-24 -L2- Sta. 465+38 RT OSL 2.7 FT LT FW

2

Datum = CSS

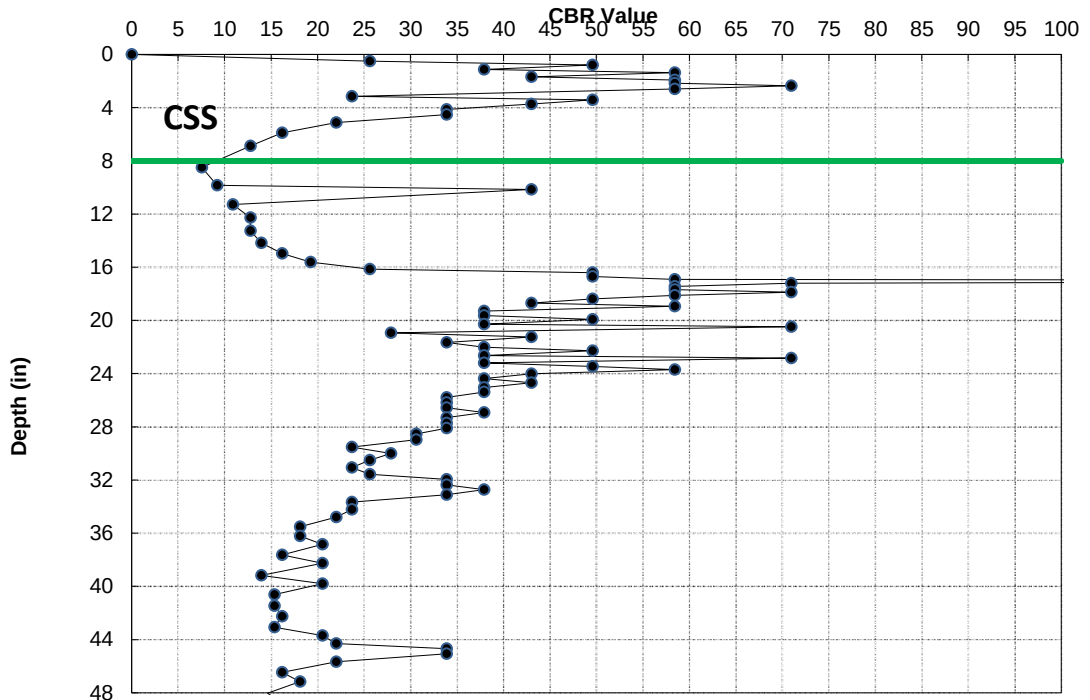
RAW

FILL

02/20/22

Interval 0.0 to 8.5	
# of Values	18
Avg CBR	39.1
Wghtd Avg.	27.9
Max CBR	70.9
Min CBR	7.5

Interval 8.5 to 49.7	
# of Values	83
Avg CBR	34.9
Wghtd Avg.	26.5
Max CBR	100+
Min CBR	9.2



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **2**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

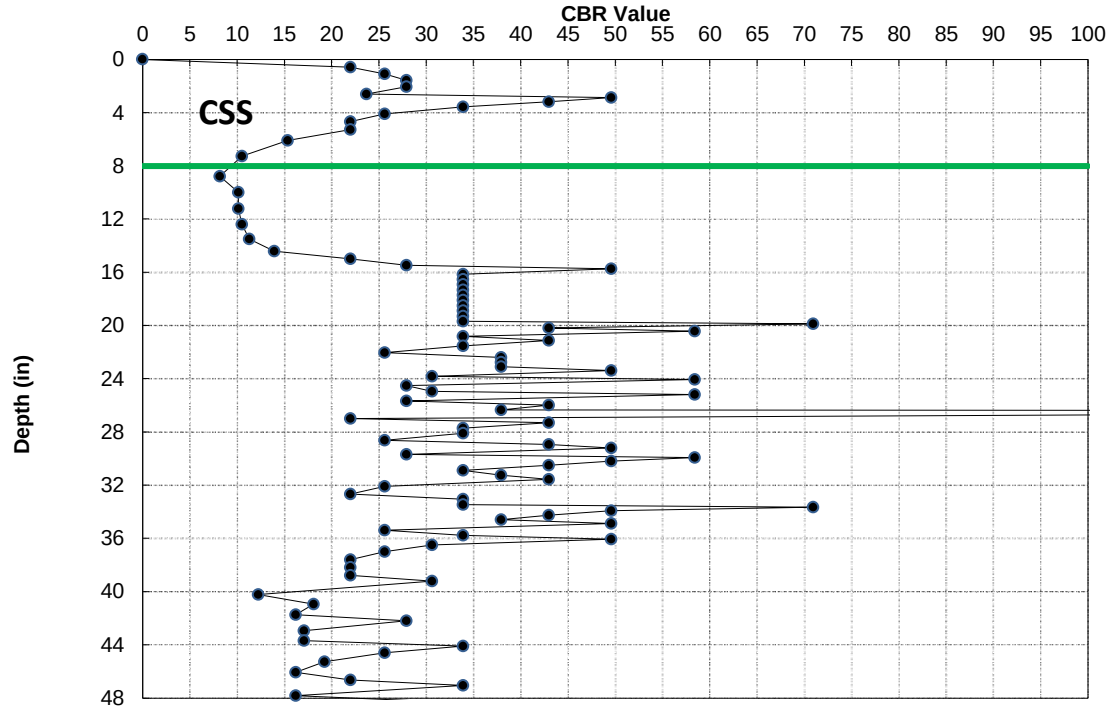
FILE	U5765 DCP Graphs 2
------	--------------------

C-25 -L2- Sta. 465+38 RT PS 1.7 RT FW

Datum = CSS
RAW
FILL
02/20/22

Interval 0.0 to 7.3	
# of Values	13
Avg CBR	26.8
Wghtd Avg.	23.3
Max CBR	49.6
Min CBR	10.5

Interval 7.3 to 49.4	
# of Values	87
Avg CBR	34.5
Wghtd Avg.	27.2
Max CBR	100+
Min CBR	8.2

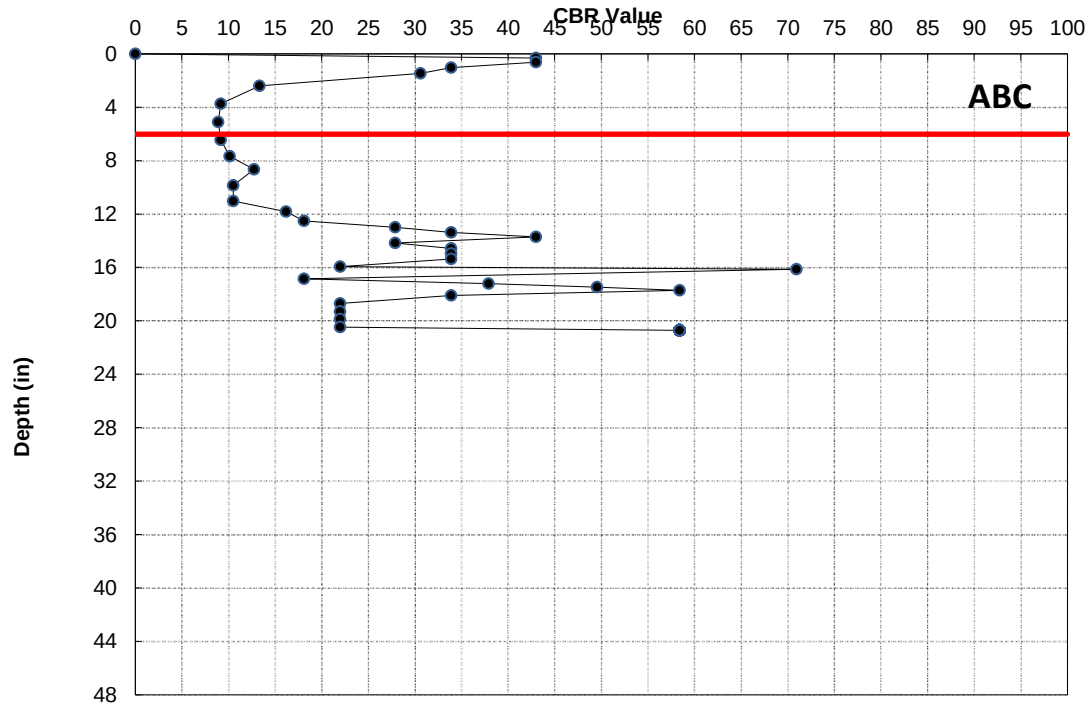


C-26 -L2- Sta. 470+01 LTL (RT) 5.4 FT RT FY

Datum = ABC
RAW
AT GRADE
02/20/22

Interval 0.0 to 6.5	
# of Values	8
Avg CBR	23.9
Wghtd Avg.	15.8
Max CBR	43.0
Min CBR	8.9

Interval 6.5 to 20.7	
# of Values	25
Avg CBR	30.0
Wghtd Avg.	22.8
Max CBR	70.9
Min CBR	10.1



**CONE PENETROMETER RESULTS
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PROJECT NO.	50178.1.1
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ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

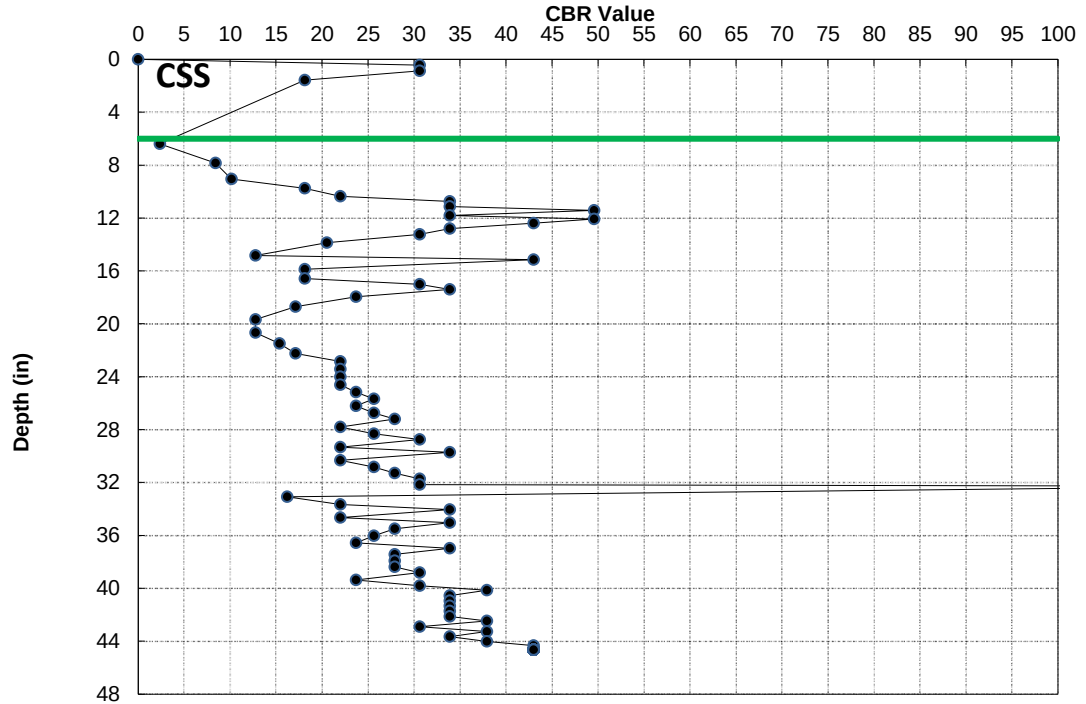
FILE	U5765 DCP Graphs 2
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C-27 -L2- Sta. 470+01 RTL (RT) 5.4 FT RT FW

Datum = GRAVEL DRAIN
RAW
AT GRADE
02/20/22

Interval 0.0 to 6.4	
# of Values	4
Avg CBR	20.4
Wghtd Avg.	7.6
Max CBR	30.6
Min CBR	2.4

Interval 6.4 to 44.6	
# of Values	73
Avg CBR	29.2
Wghtd Avg.	25.0
Max CBR	100+
Min CBR	8.4

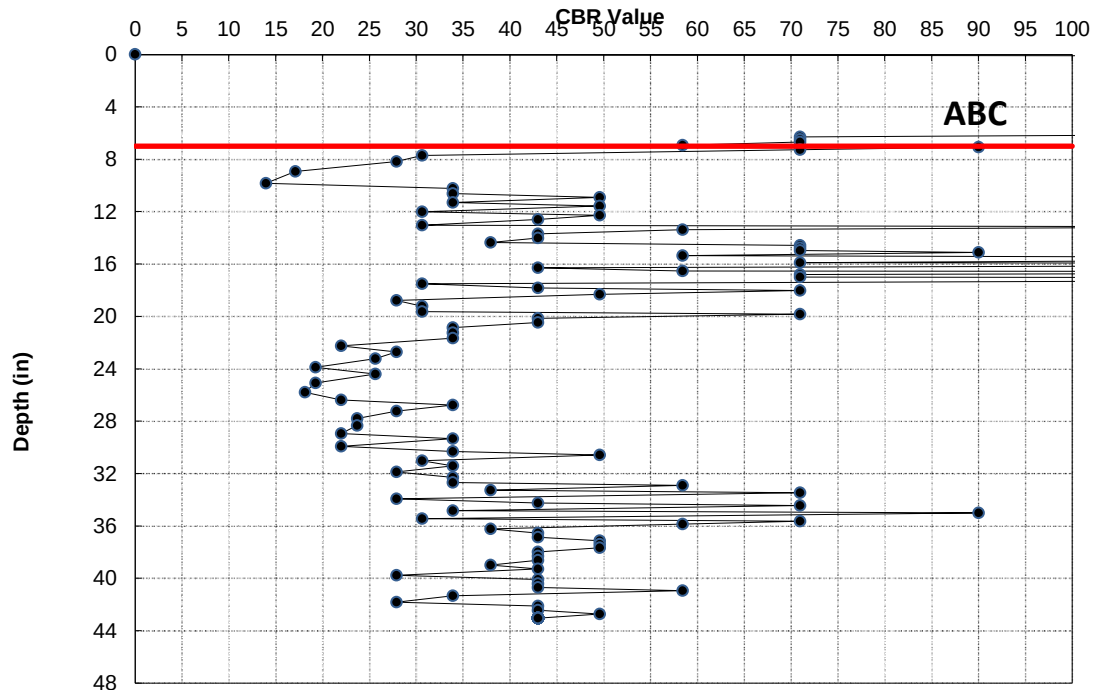


C-28 -L2- Sta. 472+93 LTL (LT) 4.9 FT RT FY

Datum = ABC
RAW
FILL
02/20/22

Interval 0.0 to 7.1	
# of Values	62
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	58.4

Interval 7.1 to 43.0	
# of Values	103
Avg CBR	49.6
Wghtd Avg.	38.5
Max CBR	100+
Min CBR	13.9



**CONE PENETROMETER RESULTS
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PROJECT NO.	50178.1.1
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COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
------	--------------------

C-29 -L2- Sta. 472+93 RTL (LT) 5.0 FT LT C&G

Datum = ABC

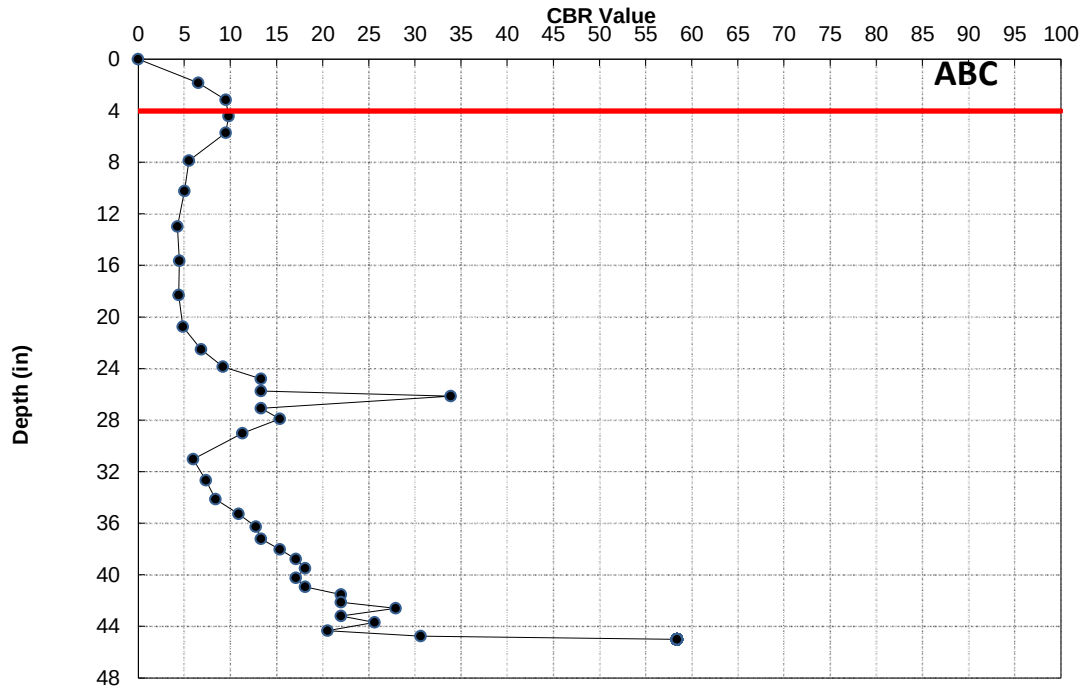
RAW

FILL

02/20/22

Interval	
0.0	to 4.4
# of Values	3
Avg CBR	8.6
Wghtd Avg.	8.3
Max CBR	9.8
Min CBR	6.5

Interval	
4.4	to 45.0
# of Values	34
Avg CBR	15.5
Wghtd Avg.	10.4
Max CBR	58.4
Min CBR	4.3



C-30 -L2- Sta. 475+77 LT OSL 1.0 FT LT C&G

Datum = ABC/CSS

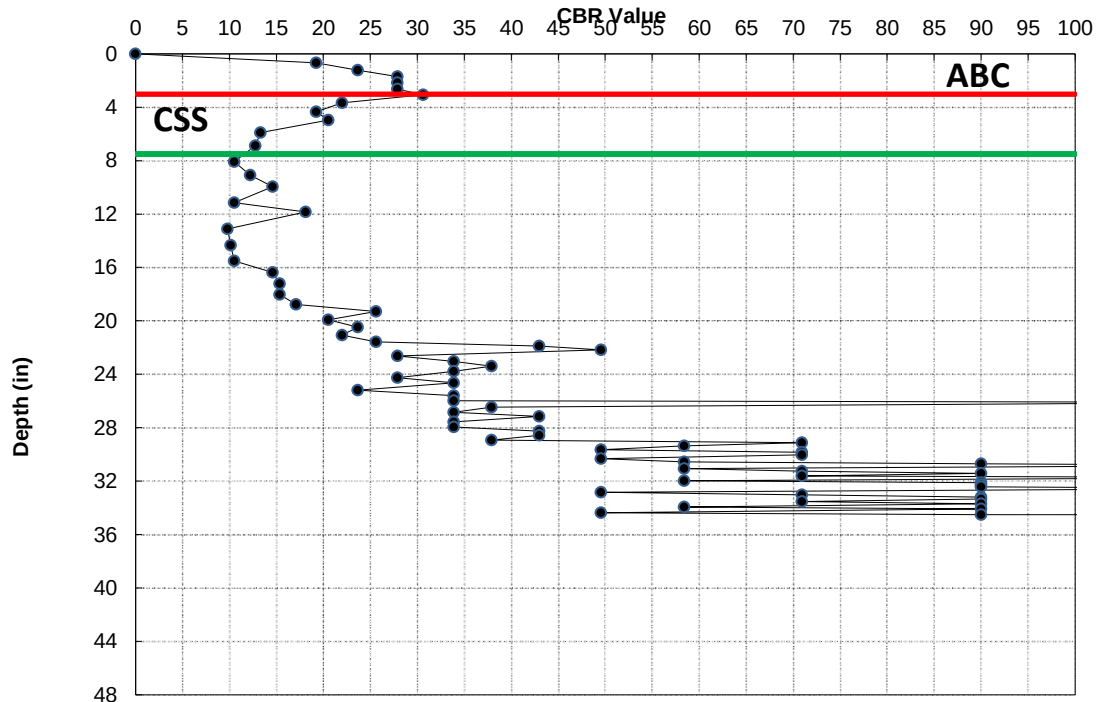
RAW

AT GRADE

02/20/22

Interval	
0.0	to 8.1
# of Values	12
Avg CBR	8.6
Wghtd Avg.	8.3
Max CBR	9.8
Min CBR	6.5

Interval	
8.1	to 34.7
# of Values	68
Avg CBR	63.3
Wghtd Avg.	34.1
Max CBR	100+
Min CBR	9.8



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

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COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
------	--------------------

C-31 -Y49- Sta. 13+20 LT LN 2.0 FT LT FW

9

Datum = ABC

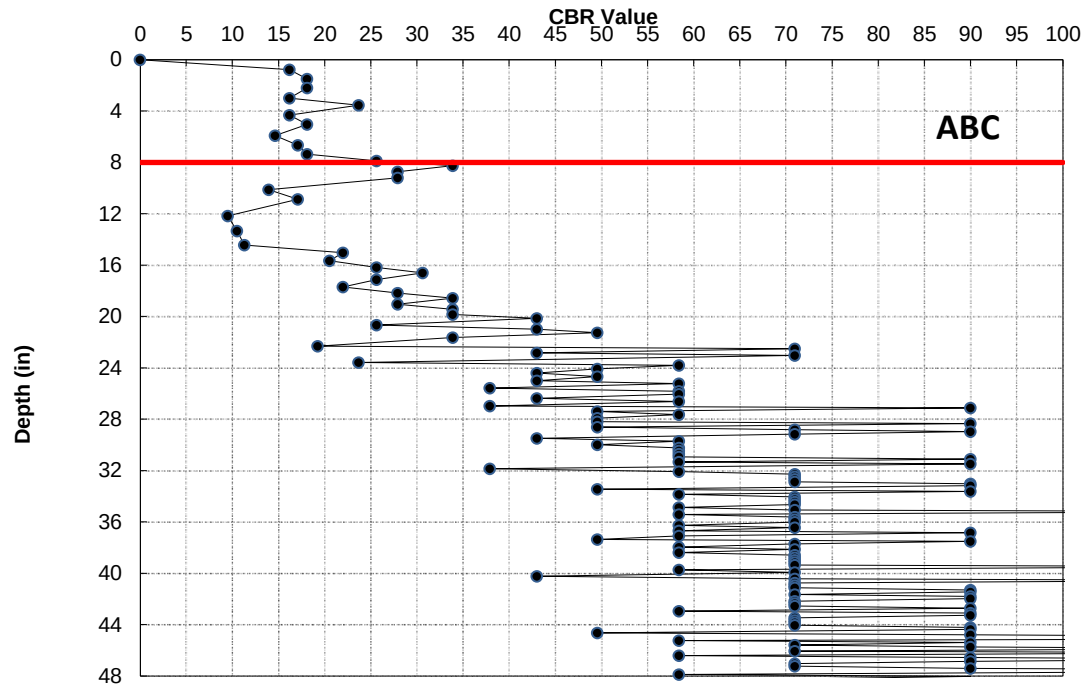
RAW

CUT

02/20/22

Interval	
0.0	to 8.3
# of Values	12
Avg CBR	19.7
Wghtd Avg.	18.7
Max CBR	33.9
Min CBR	14.6

Interval	
8.3	to 48.4
# of Values	149
Avg CBR	65.3
Wghtd Avg.	50.8
Max CBR	100+
Min CBR	9.5



C-32-Y49- Sta. 13+20 LTL (LT) 5.0 FT RT FY

10

Datum = ABC

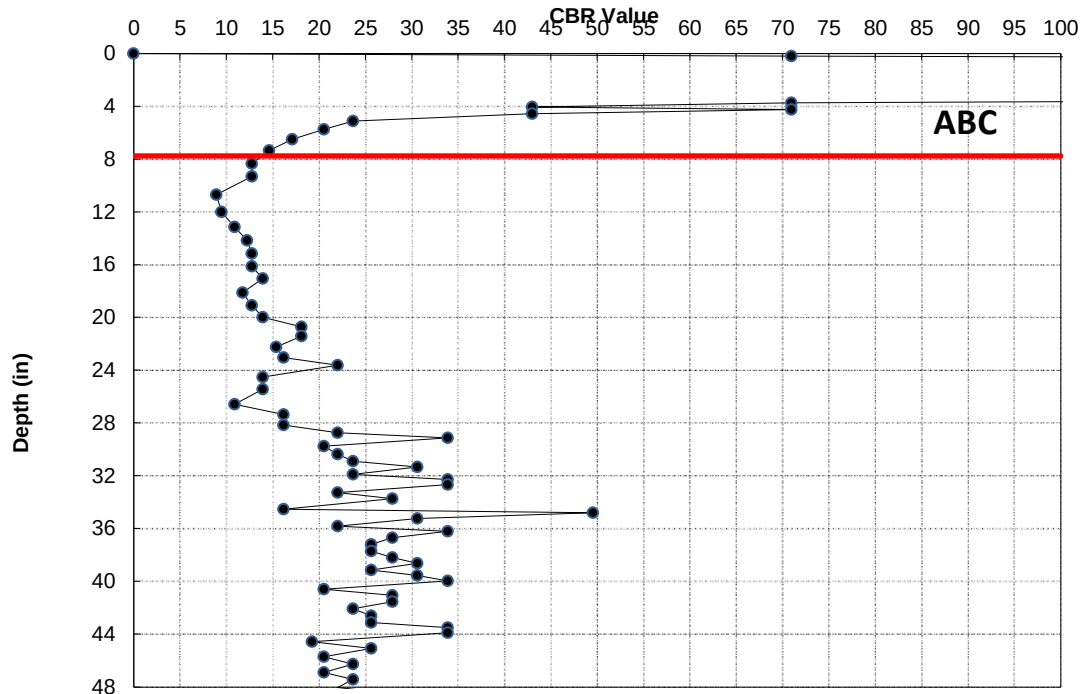
RAW

CUT

2/20/2022

Interval	
0.0	to 7.4
# of Values	39
Avg CBR	100+
Wghtd Avg.	74.2
Max CBR	100+
Min CBR	14.6

Interval	
7.4	to 51.8
# of Values	68
Avg CBR	22.5
Wghtd Avg.	19.8
Max CBR	49.6
Min CBR	8.9



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

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PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
------	--------------------

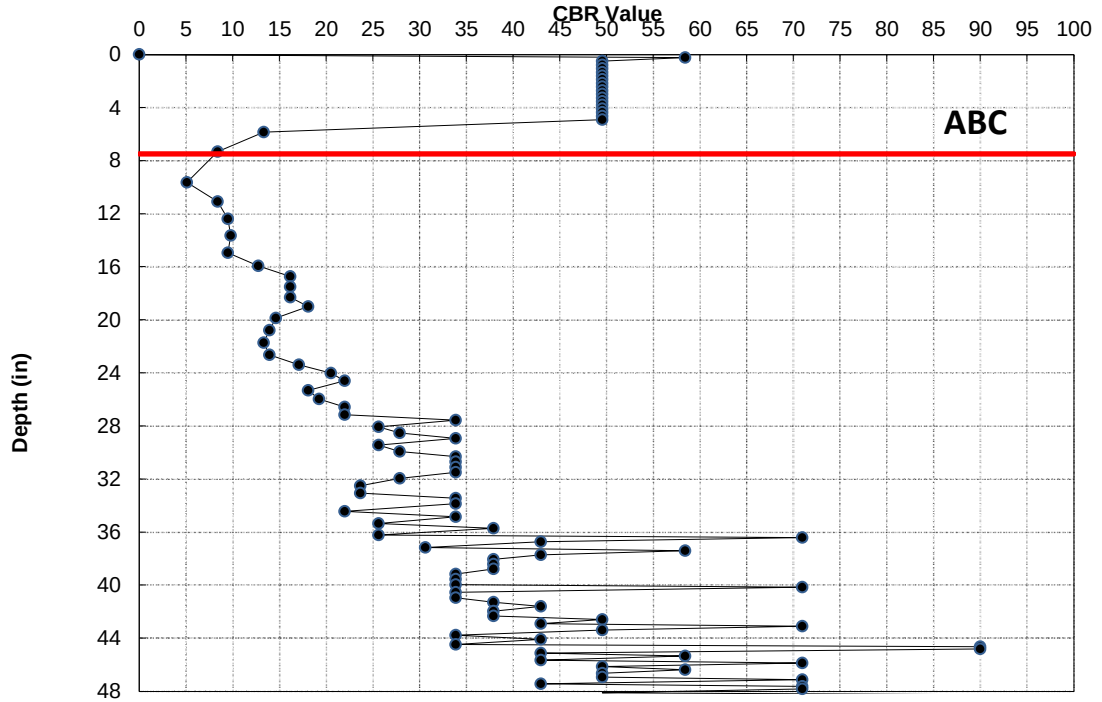
C-33 -Y49- Sta. 22+90 RT LN 7.0 FT LT FW

11

Datum = ABC
 RAW
 FILL
 02/20/22

Interval 0.0 to 7.3	
# of Values	20
Avg CBR	46.1
Wghtd Avg.	36.6
Max CBR	58.4
Min CBR	8.4

Interval 7.3 to 49.4	
# of Values	87
Avg CBR	38.5
Wghtd Avg.	27.2
Max CBR	100+
Min CBR	5.1



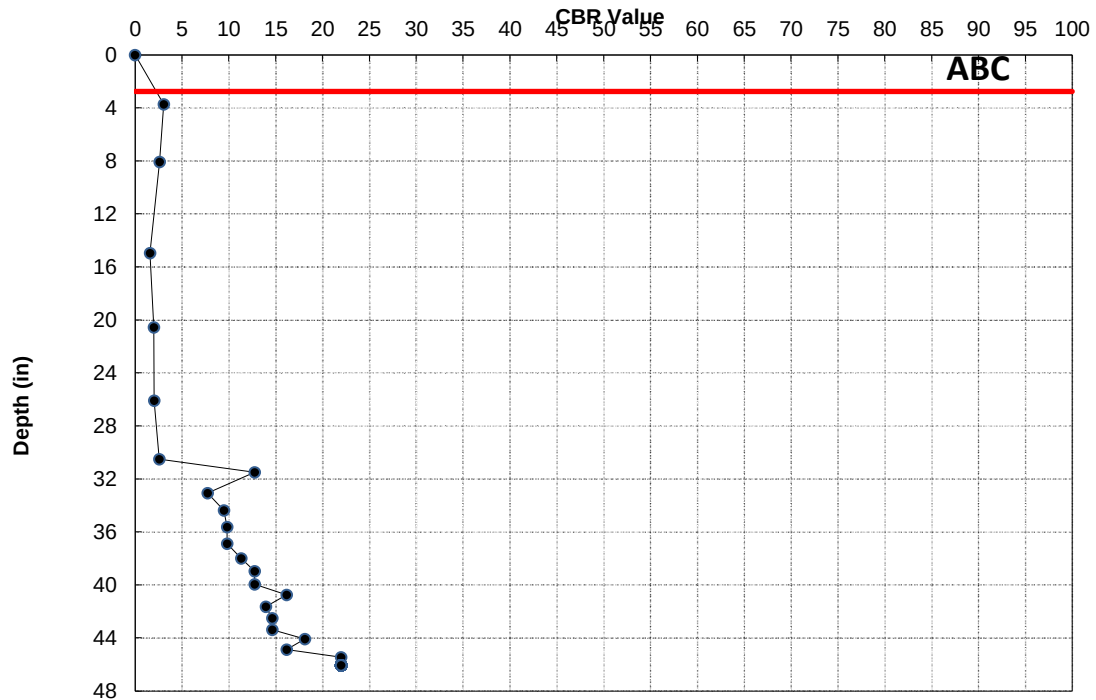
C-34 -Y49- Sta. 22+90 RTL (RT) 5.5 FT RT C&G

12

Datum = ABC
 RAW
 FILL
 02/20/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 46.1	
# of Values	22
Avg CBR	10.8
Wghtd Avg.	5.7
Max CBR	22.0
Min CBR	1.6



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

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PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
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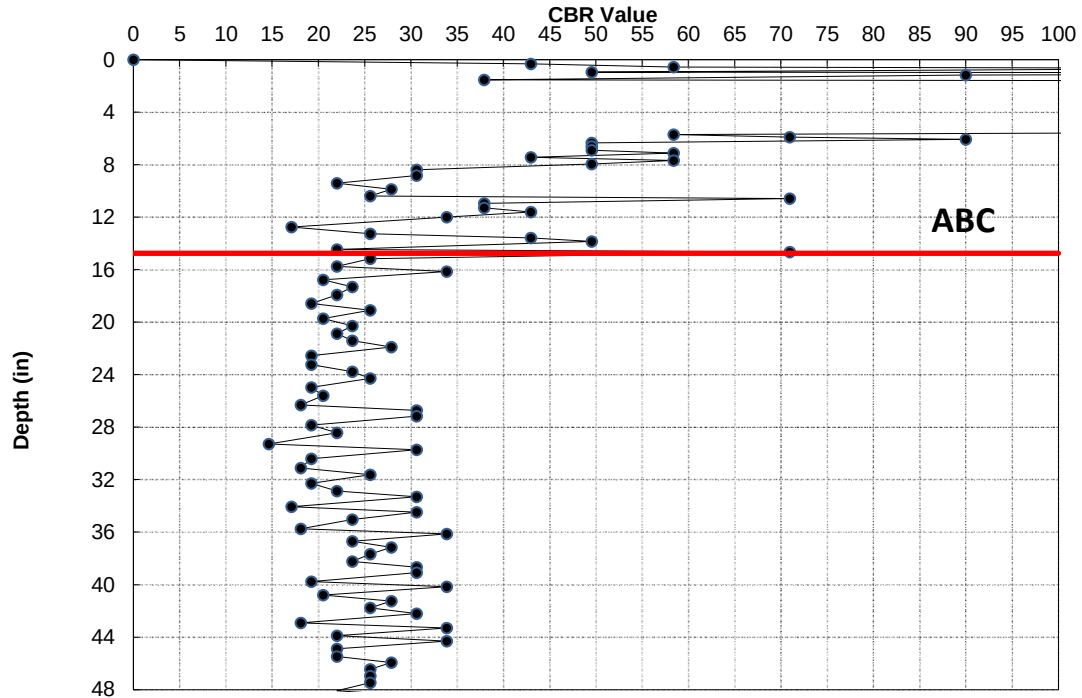
C-35 -Y50- Sta. 11+44 RTL (LT) 6.0 FT LT C&G

13

Datum = ABC
RAW
CUT
02/20/22

Interval 0.0 to 14.6	
# of Values	74
Avg CBR	100+
Wghtd Avg.	70.5
Max CBR	100+
Min CBR	17.1

Interval 14.6 to 52.4	
# of Values	69
Avg CBR	24.8
Wghtd Avg.	23.9
Max CBR	33.9
Min CBR	14.6



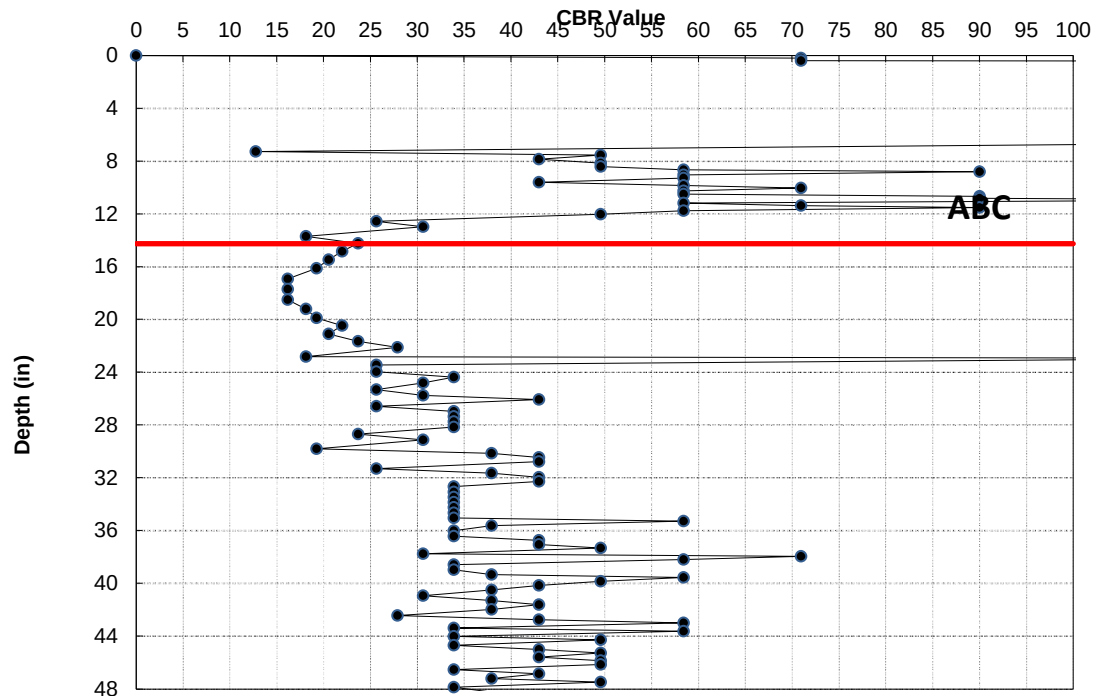
C-36 -Y50- Sta. 11+44 LT LN 5.4 FT LT FW

14

Datum = ABC
RAW
CUT
02/20/22

Interval 0.0 to 14.3	
# of Values	99
Avg CBR	100+
Wghtd Avg.	99.0
Max CBR	100+
Min CBR	12.8

Interval 14.3 to 49.4	
# of Values	87
Avg CBR	37.5
Wghtd Avg.	32.9
Max CBR	100+
Min CBR	16.2



**CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT**

Page **8**

PROJECT NO.	50178.1.1
PROJECT ID	U-5765
ROUTE	NC 73
COUNTY	Mecklenburg

GEOLOGIST	LMH
GEOTECHS	CG2

FILE	U5765 DCP Graphs 2
------	--------------------

C-37 -Y50- Sta. 19+74 LT LN 2.0 FT LT C&G

15

Datum = ABC

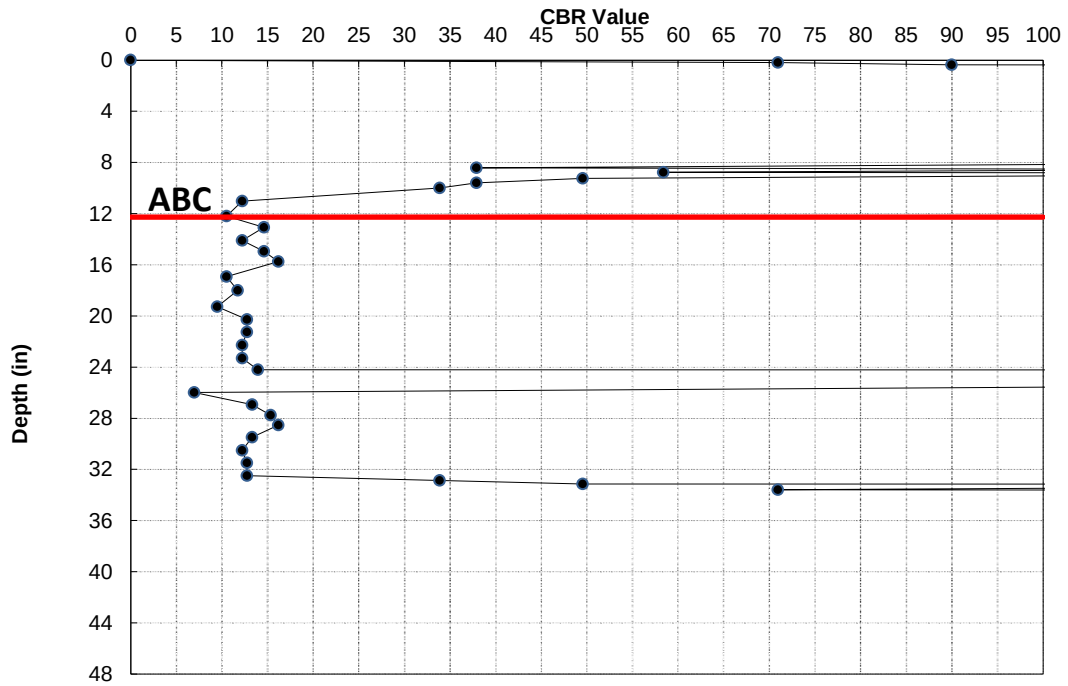
RAW

CUT

02/20/22

Interval 0.0 to 12.2	
# of Values	71
Avg CBR	100+
Wghtd Avg.	82.0
Max CBR	100+
Min CBR	10.5

Interval 12.2 to 34.6	
# of Values	89
Avg CBR	100+
Wghtd Avg.	54.5
Max CBR	100+
Min CBR	7.0



C-38 -Y50- Sta. 19+78 RT LN 2.0 FT LT C&G

16

Datum = ABC

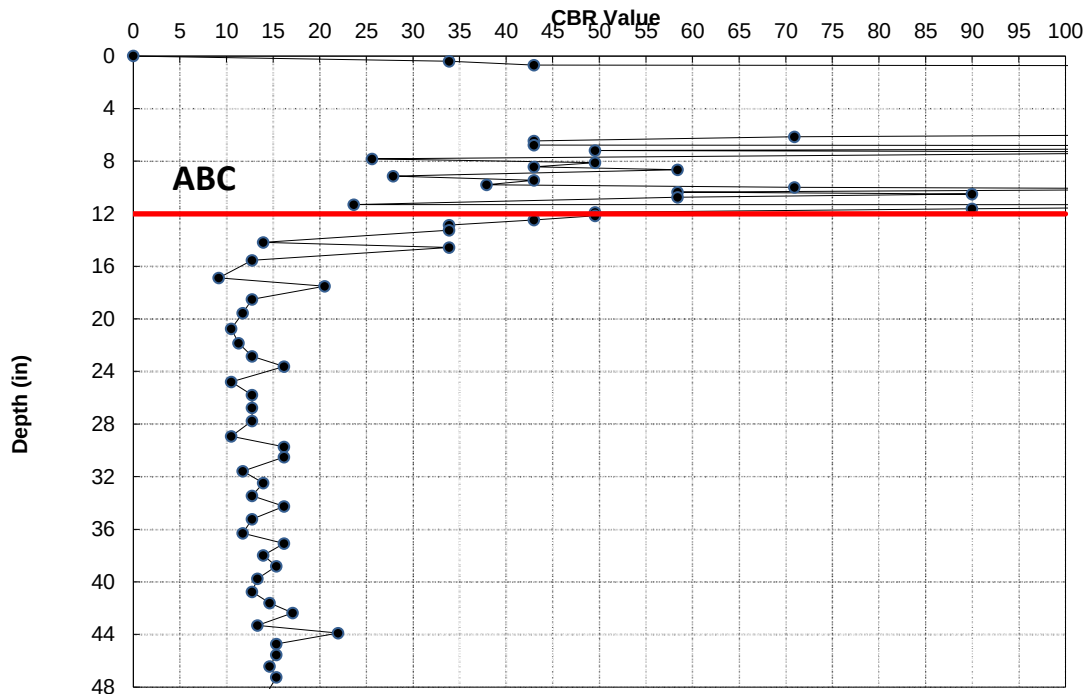
RAW

CUT

02/20/22

Interval 0.0 to 11.9	
# of Values	72
Avg CBR	100+
Wghtd Avg.	85.6
Max CBR	100+
Min CBR	23.7

Interval 11.9 to 53.5	
# of Values	48
Avg CBR	16.6
Wghtd Avg.	14.6
Max CBR	49.6
Min CBR	9.2



PAVEMENT CORE EVALUATION
50178.1.1 (U-5765) Mecklenburg County

LINE	STATION	CSS (in)	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L2-	426+14 RTL (LT)	-	6.25	2.25	S	2	
	5.75" Asphalt			3.50	B	1	low severity oxidation
-L2-	432+65 LT PS	7.50	-	3.00	S	2	flat and elongated aggregate, low severity oxidation
	9.5" Asphalt			6.50	B	1	low severity stripping and oxidation
-L2-	432+65 LT OSL	9.25	-	3.50	S	3	top down crack 2"
	9.75" Asphalt			6.25	B	1	low severity stripping
-L2-	432+65 LT ISL	8.75	-	3.25	S	3	
	11.25" Asphalt			8.00	B	1-2	lifts indistinguishable
-L2-	432+66 RT ISL	9.50	-	3.00	S	2	
	10.5" Asphalt			7.50	B	1	low severity stripping
-L2-	432+66 RT OSL	7.75	-	2.50	S	2	1.5" top down crack
	8.75" Asphalt			6.25	B	1	
-L2-	432+66 RT PS	8.25	-	2.00	S	2	low to moderate oxidation and stripping
	8.75" Asphalt			6.75	B	1	
-L2-	438+22 LTL (RT)	Y	-	5.00	S	5	lift 4 & 5 flat & elongated aggregate, lift 1-3 moderate severity oxidation & stripping
	11.5" Asphalt			6.50	B	1-2	lifts indistinguishable, moderate stripping around center of lift
-L2-	438+22 RTL (RT)	-	6.50	2.50	S	2-3	lifts indistinguishable
	13.5" Asphalt			1.25	I	1	lots of tiny aggregate
				9.75	B	2	2nd lift delaminated, lots of tiny aggregate
-L2 -	441+36 RTL PS (LT)	-	-	2.75	S	2-3	lifts indistinguishable
	9.5" Asphalt			3.00	I	1	low severity stripping
				3.75	B	1	low severity stripping
-L2-	441+36 RTL (LT) (I)	9.00	-	3.50	S	3	lift 3 low to moderate stripping and delamination from base
	10" Asphalt			6.50	B	2	stripping between lifts
-L2-	445+78 RTL (RT)	-	-	4.00	S	3	lift 1 delaminated, stripping and moderate oxidation
	12.75" Asphalt			8.75	B	2	lift 2 delaminated, low severity stripping
-L2-	448+43 LTL (RT)	9.75	-	4.00	S	3	lift 1 oxidized
	10.25" Asphalt			6.25	B	2	
-L2-	449+04 RTL (RT)	7.75	-	3.00	S	3	low severity oxidation
	8.25" Asphalt			5.25	B	1	lifts indistinguishable, possibly two lifts
-L2-	451+41 RTL (LT)	-	-	2.75	S	3	
	11.5" Asphalt			7.75	B	1	moderate stripping and oxidation at upper 1" of lift
-L2-	455+71 LT PS	-	-	6+	S/I	2+	lifts delaminated, turning to rubble, moderate oxidation and stripping
	6.25" Asphalt						
-L2-	455+71 LT PS	-	-	1.50	S	1	
	7.75" Asphalt			6.25	B	1	some low severity oxidation and stripping at top of lift
-L2-	455+71 MID LANE	8.00	-	2+	S	2+	top down crack through lift 1 (1.75"), lifts delaminated, high oxidation and stripping
	10.25" Asphalt			7.00	B	2	lift 1 delaminated

PAVEMENT CORE EVALUATION
50178.1.1 (U-5765) Mecklenburg County

LINE	STATION	CSS (in)	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L2-	455+71 LT ISL	8.00	-	3+	S	3	top down crack (2.5") lift 2 delaminated from lift 3, high oxidation and stripping
	10" Asphalt			6.75	B	1	
-L2-	455+71 LTL (LT)	8.00	-	2.50	S	2-3	lift 1 delaminated, top down crack (2.5") low to moderate oxidation and stripping
	9" Asphalt			6.50	B	1	low to moderate oxidation and stripping
-L2-	462+01 RTL (LT)	-	-	2.00	S	2	
	9.25" Asphalt			7.25	B	1	
-L2-	465+38 RT ISL	6.50	-	3.25	S	3	
	10.5" Asphalt			7.25	B	1	
-L2-	465+38 RT OSL	8.00	-	-	-	-	full-depth crack, rubble, high oxidation and stripping, delaminated
	8" Asphalt						
-L2-	465+38 RT PS 8" Asphalt	8.00	-	1+	S	1	delaminated, very high oxidation and low severity stripping
				2+	B	1	very high oxidation and low severity stripping
				2+	S	1-2	delaminated, very high oxidation and low severity stripping
				3+	B	1	low to moderate severity stripping and oxidation
-L2-	470+01 LTL (RT) 32" Asphalt 38?	-	6.00	6.50	S	6-7	first 4-5 lifts indistinguishable, lift 4 or 5 delaminate
				20.00	B	1	lift 1 and 2 delaminated, low severity stripping
				5.00	S	4	lifts indistinguishable, delaminated, low severity stripping and moderate oxidation
				6.00	?	2	lift 1 delaminated, 6" of cement aggregate and soils
-L2-	470+01 RTL (LT) 14" Asphalt	-	6.00	5.75	S	5	
				8.25	B	2	lift 1 beginning to delaminate from surface, lift 2 delaminated, lots of small aggregate
-L2-	472+93 LTL (RT) 17" Asphalt	-	7.00	3.25	S	3	
				4.00	B	1	delaminated from lower lift
				3.25	S	3	
				6.50	B	1	low to moderate stripping
-L2-	472+93 RTL (LT) 15.5" Asphalt	-	4.00	2.00	S	2	top down crack through lift, beginning to delaminate, low oxidation
				13.50	B	4	lift 3 delamination, low severity stripping
-L2-	475+77 LT OSL 8.5" Asphalt	7.50	3.00	2.00	S	2	low to moderate oxidation and stripping
				6.50	B	2	low to moderate oxidation and stripping, lift 2 delaminated
-Y49-	13+20 LT LN 8" Asphalt	-	8.00	2.00	S	1	low severity oxidation
				5+	B	1	rubble at base
-Y49-	13+20 LTL (LT) 5.25" Asphalt	-	7.75	5.25	S/I	3+	lift 1 low oxidation, low severity bleeding
-Y49-	22+90 RT LN 8.5" Asphalt	-	7.50	6.25	S/I	6-7	some lifts indistinguishable, last 2 lifts delaminated with moderate oxidation
				2.25	B	1	low severity oxidation and stripping
-Y49-	22+90 RTL (RT) 10.75" Asphalt	-	2.75	9+	S/I	7+	lifts somewhat indistinguishable, low oxidation, some broken aggregate and delamination at base
-Y50-	11+44 RTL (LT) 6.25" Asphalt	-	14.75	3.50	S/I	4	low severity oxidation
				2.75	B	1	low severity oxidation

PAVEMENT CORE EVALUATION
50178.1.1 (U-5765) Mecklenburg County

LINE	STATION	CSS (in)	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-Y50-	11+44 LT LN	-	14.25	3.25	S	3	low severity oxidation
	7.75" Asphalt			4.50	B	1	low severity oxidation
-Y50-	19+74 LT LN	-	12.25	2.50	S	3	lift 3 delaminated
	5.25" Asphalt			2.75	B	1	very high oxidation
-Y50-	19+78 RT LN	-	12.00	3.75	S	5	lift 5 delaminated from lift 4 and from base
	6.5" Asphalt			2.75	B	1	moderate oxidation

REFERENCE: U-5765

PROJECT: 50178

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

CONTENTS

<u>LINE</u>	<u>STATION</u>	<u>PLAN</u>	<u>PROFILE</u>
-L2-	421+00-476+77	4-8	-
-Y42-	11+33-13+10	4	-
-Y43-	10+00-11+45	4	-
-Y44-	11+00-13+33	5	-
-Y45-	10+00-11+51	5	-
-Y46-	11+08-13+73	6	-
-Y47-	10+00-13+11	6	-
-Y48-	11+90-14+96	7	-
-Y49-	12+00-24+07	8, 9	-
-Y49A-	10+00-12+90	9	-
-Y50-	12+00-23+00	8, 10	-
-RAB1-	10+00-12+92	9	11
-RAB2-	10+00-12+92	10	12

CROSS SECTIONS

<u>LINE</u>	<u>STATION</u>	<u>SHEETS</u>
-L2-	421+00-476+50	13-46
-Y42-	11+33-12+00	47-48
-Y43-	10+75-11+45	49-50
-Y44-	11+25	51
-Y45-	11+00	52
-Y46-	12+00	53
-Y47-	11+00	54
-Y48-	13+00-14+50	55-56
-Y49-	13+00-23+00	57-65
-Y49A-	11+50	66
-Y50-	11+50-20+00	67-69
-RAB1-	10+00-12+80	70-76
-RAB2-	11+40	77

APPENDICES

<u>APPENDIX</u>	<u>TITLE</u>	<u>SHEETS</u>
A	BORE LOGS	78-79
B	LABORATORY TEST RESULTS	80-81

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY MECKLENBURG
PROJECT DESCRIPTION NC 73 (SAM FURR ROAD)
FROM SR 5544 (WEST CATAWBA AVENUE) TO
SR 2316 (NORTHCROSS DRIVE) WIDENING

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5765	1	83

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.

PERSONNEL

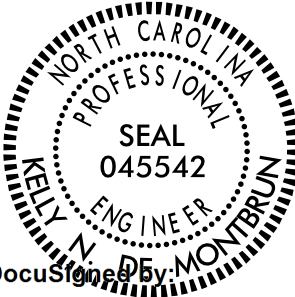
J. GARRICK, GIT
G. LEWIS
HPC

INVESTIGATED BY ECS SOUTHEAST, LLP
DRAWN BY K. DE MONTBRUN, P.E.
CHECKED BY M. WALKO, P.E.
SUBMITTED BY ECS SOUTHEAST, LLP
DATE MAY 2022



Prepared in the Office of:

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DocuSign By: Kelly N. de Montbrun
05/18/2022

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SIGNATURE DATE

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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									
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, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>										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.										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:										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.									
SOIL LEGEND AND AASHTO CLASSIFICATION										MINERALOGICAL COMPOSITION										WEATHERING																			
GENERAL CLASS.										MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										FRESH																			
GROUP CLASS.										COMPRESSIBILITY										VERY SLIGHT (V SL.)																			
SYMBOL										PERCENTAGE OF MATERIAL										SLIGHT (SL.)																			
Z PASSING #10 #40 #200										GROUND WATER										MODERATE (MOD.)																			
MATERIAL PASSING #40 LL PI										MISCELLANEOUS SYMBOLS										SEVERE (MOD. SEV.)																			
GROUP INDEX										RECOMMENDATION SYMBOLS										SEVERE (SEV.)																			
USUAL TYPES OF MAJOR MATERIALS										ABBREVIATIONS										VERY SEVERE (V SEV.)																			
GEN. RATING AS SUBGRADE										EQUIPMENT USED ON SUBJECT PROJECT										COMPLETE																			
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30																				ROCK HARDNESS																			
CONSISTENCY OR DENSENESS																				VERY HARD																			
PRIMARY SOIL TYPE																				HARD																			
COMPACTNESS OR CONSISTENCY																				MODERATELY HARD																			
RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)																				MEDIUM HARD																			
RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)																				SOFT																			
GENERAL																				VERY SOFT																			
GENERAL																				MEDIUM STIFF																			
GENERAL																				VERY STIFF																			
GENERAL																				HARD																			
TEXTURE OR GRAIN SIZE																				TEXTURE OR GRAIN SIZE																			
U.S. STD. SIEVE SIZE OPENING (MM)																				TEXTURE OR GRAIN SIZE																			
BOULDER (BLDR.)																				TEXTURE OR GRAIN SIZE																			
COBBLE (COB.)																				TEXTURE OR GRAIN SIZE																			
GRAVEL (GR.)																				TEXTURE OR GRAIN SIZE																			
COARSE SAND (CSE, SD.)																				TEXTURE OR GRAIN SIZE																			
FINE SAND (F SD.)																				TEXTURE OR GRAIN SIZE																			
SILT (SL.)																				TEXTURE OR GRAIN SIZE																			
CLAY (CL.)																				TEXTURE OR GRAIN SIZE																			
GRAIN SIZE																				TEXTURE OR GRAIN SIZE																			
SOIL MOISTURE - CORRELATION OF TERMS																				TEXTURE OR GRAIN SIZE																			
SOIL MOISTURE SCALE (ATTERBERG LIMITS)																				TEXTURE OR GRAIN SIZE																			
FIELD MOISTURE DESCRIPTION																				TEXTURE OR GRAIN SIZE																			
GUIDE FOR FIELD MOISTURE DESCRIPTION																				TEXTURE OR GRAIN SIZE																			
LL - LIQUID LIMIT																				TEXTURE OR GRAIN SIZE																			
PL - PLASTIC LIMIT																				TEXTURE OR GRAIN SIZE																			
OM - OPTIMUM MOISTURE SHRINKAGE LIMIT																				TEXTURE OR GRAIN SIZE																			
PLASTICITY																				TEXTURE OR GRAIN SIZE																			
NON PLASTIC																				TEXTURE OR GRAIN SIZE																			
SLIGHTLY PLASTIC																				TEXTURE OR GRAIN SIZE																			
MODERATELY PLASTIC																				TEXTURE OR GRAIN SIZE																			
HIGHLY PLASTIC																				TEXTURE OR GRAIN SIZE																			
COLOR																				TEXTURE OR GRAIN SIZE																			
DESCRIPTORS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.																				TEXTURE OR GRAIN SIZE																			

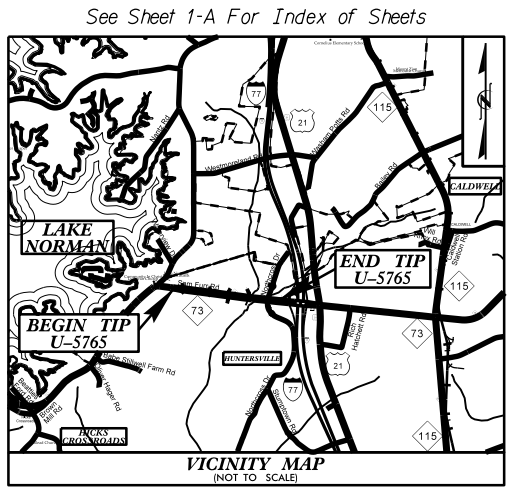
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PENTABLE: \$PENTBL\$
TIME: \$TIME\$

DATE: \$DATE\$

PLOT DRIVER: \$PLTDV\$
USER: \$USER\$
FILE: \$FWARVAULTPAT+DESC\$

CONTRACT: TIP PROJECT: U-5765

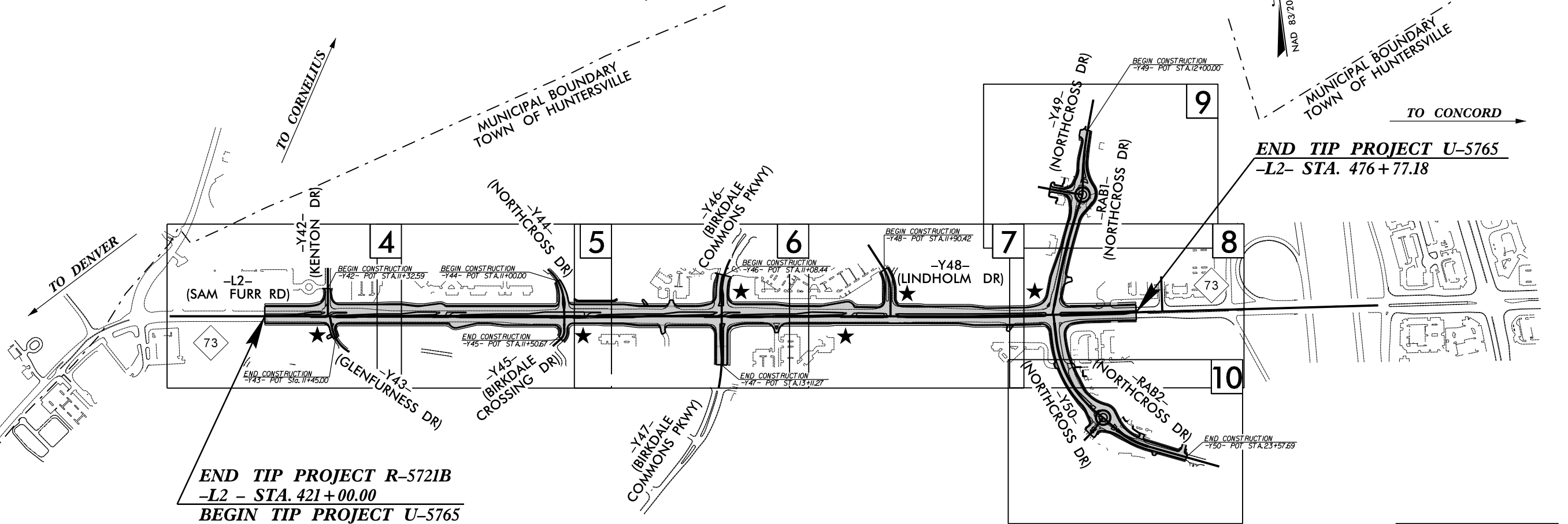


25% PLANS

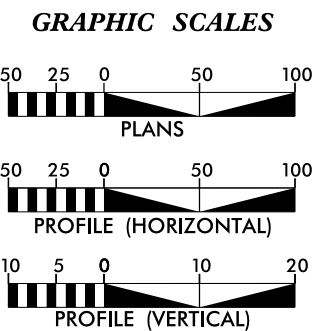
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY

LOCATION: NC 73 - SR 5544 (WEST CATAWBA AVENUE) TO
SR 2316 (NORTHCROSS DRIVE)

TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING, RETAINING WALLS,
SIGNALS, AND SIGNING



NOTES:
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HUNTERSVILLE.
CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

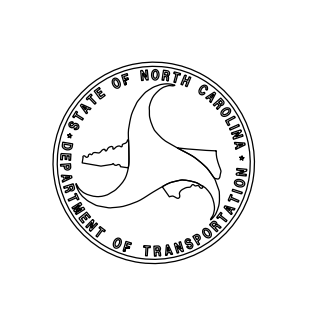


DESIGN DATA	
ADT 2016 =	56,660
ADT 2040 =	72,730
K =	8 %
D =	55 %
T =	4 % *
V =	50 MPH
*TTST =	1% DUAL = 3%
FUNC CLASS =	REGIONAL TIER

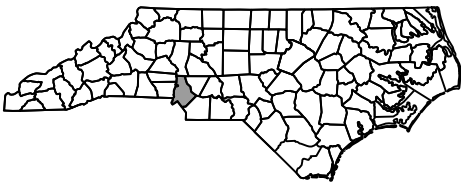
PROJECT LENGTH	
LENGTH ROADWAY -L2- (NC 73) =	1.056 MILES
TOTAL LENGTH TIP PROJECT U-5756 =	1.056 MILES
NCDOT CONTACT:	J. WILSON STROUD PROJECT MANAGER

Prepared In the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610	
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JULY 15, 2022	PAUL ROBBINS, PE PROJECT ENGINEER
LETTING DATE: MAY 19, 2026	JEFFREY MUHLBAUER, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5765	3	83
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
U-5765	-	50178.1.1 - PE	



MUNICIPAL BOUNDARY
TOWN OF HUNTERSVILLE

TO CONCORD

END TIP PROJECT U-5765
-L2- STA. 476 + 77.18

PROPOSED SIGNAL
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



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May 6, 2022

WBS NO: 50178.1.1
TIP NO: U-5765
F.A. NUMBER: N/A
COUNTY: Mecklenburg
DESCRIPTION: NC 73 (Sam Furr Road) From SR 5544 (West Catawba Avenue) to SR 2316 (Northcross Drive) Widening

SUBJECT: Geotechnical Report – Inventory

Project Description

The project consists of widening NC 73 (Sam Furr Road) beginning at the intersection of SR 5544 (West Catawba Avenue) continuing east to SR 2316 (Northcross Drive). The overall project is approximately 1.056 miles in length, measured along the -L2- alignment from Station 421+00 to 476+77. Widening appears to be symmetric along the centerline of NC 73, with the addition of a travel lane in each direction. Several U-turn bulb-outs are planned to be constructed along the -L2- alignment. Minor improvements will also be made to numerous -Y- alignments within the project corridor. Two (2) new roundabouts (RAB1 and RAB2) will be constructed on the -Y49- and -Y50- alignments, respectively. An approximately 275-foot long retaining wall is proposed on the left side of the -L2- alignment in the proximity of Station 440+80 to Station 443+57. Provided cross sections indicate the retaining wall will be located in a fill section and will have a maximum height less than 20 feet.

The site is a developed corridor consisting of a mixture of residential and commercial properties. Preliminary grading plans indicate mass grading will consist of cut and fill depths on the order of 12 feet or less throughout the widened areas.

A geotechnical field investigation was performed by ECS between January and February 2022. During this time period, a total of thirty-five (35) standard penetration test (SPT) borings were advanced using two (2) different drill rigs, consisting of a CME-550 and a Diedrich D-70, each equipped with an automatic hammer. Twenty-seven (27) Hand Auger (HA) borings were completed in addition to the SPT borings. Representative soil samples were collected for visual classification in the field and for analysis by ECS’s testing laboratory.

The following alignments were investigated. Subsurface plans, profiles and cross sections of these alignments are included in this report.

Line	Station (±)
-L2- (NC 73/Sam Furr Road)	421+00 to 476+77
-Y42- (Kenton Drive)	11+33 to 13+10
-Y43- (Glenfurness Drive)	10+00 to 11+45
-Y44- (Northcross Drive)	11+00 to 13+33
-Y45- (Birkdale Crossing Drive)	10+00 to 11+51
-Y46- (Birkdale Commons Pkwy)	11+08 to 13+73
-Y47- (Birkdale Commons Pkwy)	10+00 to 13+11
-Y48- (Lindholm Drive)	11+90 to 14+96
-Y49- (Northcross Drive)	12+00 to 24+07
-Y49A-	10+00 to 12+90
-Y50- (Northcross Drive)	12+00 to 23+00
-RAB1- (Northcross Drive)	10+00 to 12+92
-RAB2- (Northcross Drive)	10+00 to 12+92

In addition to the roadway alignments listed above, one (1) retaining wall located along the -L2- alignment from Station 440+79.25 to 443+57.08 was included in this exploration.

Physiography and Geology

The project site is located in the Piedmont Physiographic Province. In accordance with the Geologic Map of North Carolina, 1985, the predominant rock types in this area are mapped as quartz diorite. The virgin soils are the residual product of in-place chemical weathering of rock that was similar to the rock presently underlying the site.

Soil Properties

Soils within the area of this project have been divided into four categories: artificial fill, roadway embankment, alluvial, and residual soils.

Artificial Fill: Materials identified as Artificial Fill (A.F.) were encountered in several locations along the project corridor. The artificial fill generally consists of very soft to stiff, moderately plastic, silty clay (A-7-5/6) and soft to stiff sandy/clayey silt (A-4, A-5) with trace amounts of mica and gravel and extend to depths ranging from approximately 2.0 to 8.5 feet below existing grades. Laboratory testing of the Artificial Fill soils indicated PI’s ranging from 19 to 24 for the clayey (A-7-5/6) soils.

Roadway Embankment: Roadway Embankment (R.E.) soils extend to depths up to approximately 18.0 feet below existing grades and generally consist of soft to stiff, slightly to highly plastic, silty clay (A-7-5/6) and very soft to very stiff sandy/clayey silt (A-4, A-5). Trace amounts of mica, gravel, and organics were encountered throughout the roadway embankment. Laboratory testing of the Roadway Embankment soils indicated PI's ranging from 12 to 32 for the clayey soils (A-7-5/6) and a PI of 10 for the silty (A-5) soils.

Alluvial Soils: Alluvial soils were encountered along several creeks and drainage features within the project corridor and extend to depths ranging from approximately 4.0 to 18.0 feet below existing grades. The alluvial soils generally consist of very soft to medium stiff, moderately plastic, silty/sandy clay (A-7-6, A-6) and very loose to loose, fine to coarse silty/clayey sand (A-2-4, A-2-6). Laboratory testing of the Alluvial soils indicated PI's ranging from 16 to 24 for the clayey (A-7-6, A-6) soils.

Residual Soils: Residual soils were encountered throughout the project corridor are derived from the weathering of the underlying parent bedrock. A majority of the residual soils encountered generally consist of soft to very stiff, slightly to highly plastic, silty/sandy clay (A-7-5/6, A-6), soft to hard sandy/clayey silt (A-4, A-5), and loose to very dense, fine to coarse silty sand (A-2-4). Trace amounts of mica were encountered throughout the residual soils. Laboratory testing of the Residual soils indicated PI's ranging from 12 to 39 for the clayey soils (A-7-5/6, A-6) and PI's ranging from 3 to 7 for the silty (A-4, A-5) soils.

Rock Properties

Weathered Rock: Weathered rock was encountered in two (2) borings along the project corridor: L2_RW-2 and L2_RW-3. The top of the weathered rock was encountered at depths ranging from approximately 28.5 to 38.5 feet below the existing ground surface; corresponding to elevations ranging from approximately 690.9 feet to 693.6 feet. The weathered rock encountered consists of Quartz Diorite.

Crystalline Rock: Crystalline Rock was encountered in two (2) borings along the project corridor: L2_B-23 and L2_RW-4. The top of the crystalline was encountered at depths ranging from approximately 23.5 to 36.0 feet below the existing ground surface, corresponding to elevations ranging from approximately 693.8 feet to 694.9 feet. The crystalline rock consists of Quartz Diorite.

Groundwater Properties

At the time of drilling, groundwater was encountered in ten (10) borings at depths ranging from approximately 1.3 to 20.5 feet below the existing ground surface, corresponding to elevations ranging from approximately 689.2 feet to 714.5 feet. After a stabilization period of at least 24 hours, groundwater was encountered in six (6) borings at depths ranging from approximately 1.9 to 8.2 feet below the existing ground surface, corresponding to elevations ranging from approximately 691.4 feet to 742.5 feet. The recovered soil samples were generally described as moist above the groundwater level and moist to wet below the groundwater level.

Areas of Special Geotechnical Interest

1) Artificial Fill: The following areas encountered artificial fill that may impact construction. Artificial Fill Soils were encountered at the following locations:

<u>Line</u>	<u>Station (±)</u>	<u>Offsets</u>
-L2-	421+00 to 476+77	LT to RT
-Y42-	11+43 to 12+50	LT
-Y43-	10+74 to 11+45	RT
-Y49-	13+25 to 18+25	LT
-RAB1-	11+50 to 12+85	LT

2) Soft/Very Loose Soils: The following areas contain relatively soft or very loose soils that have the potential for subgrade instability, embankment stability or long-term settlement problems during construction:

<u>Line</u>	<u>Station (±)</u>	<u>Offsets</u>
-L2-	469+25 to 470+75	LT to RT
-Y49-	20+25 to 23+66	LT to RT

3) High Plasticity Soils: The following areas contain high plasticity soils with plasticity indices (PI's) in excess of 25. High plasticity soils have the potential to cause subgrade instability during construction, embankment stability or long-term settlement problems.

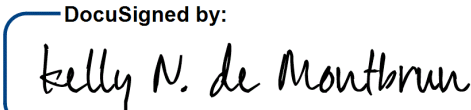
<u>Line</u>	<u>Station (±)</u>	<u>Offsets</u>
-L2-	442+25 to 442+75	LT to RT
-Y48-	12+00 to 14+00	LT to RT
-Y49-	14+75 to 15+25	LT to RT
-Y49-	20+25 to 24+00	LT to RT
-RAB1-	10+00 to 10+50	LT to RT
-RAB1-	12+85 to 12+92	LT to RT

4) High Groundwater: Groundwater was encountered within six feet of the proposed subgrade at the following locations. This has the potential to cause subgrade instability and/or constructability issues.

<u>Line</u>	<u>Station (±)</u>	<u>Offsets</u>
-L2-	437+00 to 439+00	LT to RT
-L2-	441+25 to 442+50	LT

Respectively Submitted,

DocuSigned by:



7DD8975E220480

Kelly N. de Montbrun, P.E.

Senior Project Engineer

DocuSigned by:

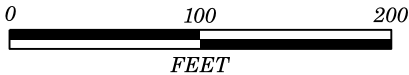


78232AC7E80F4D7

Michael J. Walke, P.E.

Principal Engineer

SITE PLAN



-RABI-			
PI Sta 10+40.66	PI Sta 11+06.44	PI Sta 11+89.25	PI Sta 12+65.85
$\Delta = 82^{\circ} 20' 03.0''$ (LT)	$\Delta = 80^{\circ} 52' 07.0''$ (LT)	$\Delta = 101^{\circ} 23' 27.6''$ (LT)	$\Delta = 95^{\circ} 24' 22.4''$ (LT)
$D = 123^{\circ} 13' 00.2''$	$D = 123^{\circ} 13' 00.2''$	$D = 123^{\circ} 13' 00.2''$	$D = 123^{\circ} 13' 00.2''$
$L = 66.82'$	$L = 65.63'$	$L = 82.29'$	$L = 77.43'$
$T = 40.66'$	$T = 39.62'$	$T = 56.80'$	$T = 51.11'$
$R = 46.50'$	$R = 46.50'$	$R = 46.50'$	$R = 46.50'$
SE = N C	SE = N C	SE = N C	

-Y49-	
PI Sta 13+49.73	PI Sta 19+63.67
$\Delta = 9^{\circ} 18' 39.8''$ (LT)	$\Delta = 7^{\circ} 13' 24.0''$ (LT)
$D = 3^{\circ} 10' 59.2''$	$D = 1^{\circ} 30' 28.0''$
$L = 292.52'$	$L = 479.07'$
$T = 146.58'$	$T = 239.85'$
$R = 1,800.00'$	$R = 3,800.00'$
SE = 0.03	SE = 0.02
R'off = 80'	R'off = 64'

-Y49- POT Sta. 10+00.00 (U-5765) =
-L- POT Sta. 25+36.02 (U-5108)

-Y49- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y49- POT STA. 12+00.00

-RESIDUAL-

-Y49- PC Sta. 12+03.15

-RESIDUAL-

-RESIDUAL-

-RABI- PC Sta. 10+00.00=
-RABI- PT Sta. 12+92.17

RABI.B-24

-Y49- Sta. 16+13.84 =
-Y49A- POT Sta. 12+90.11 =

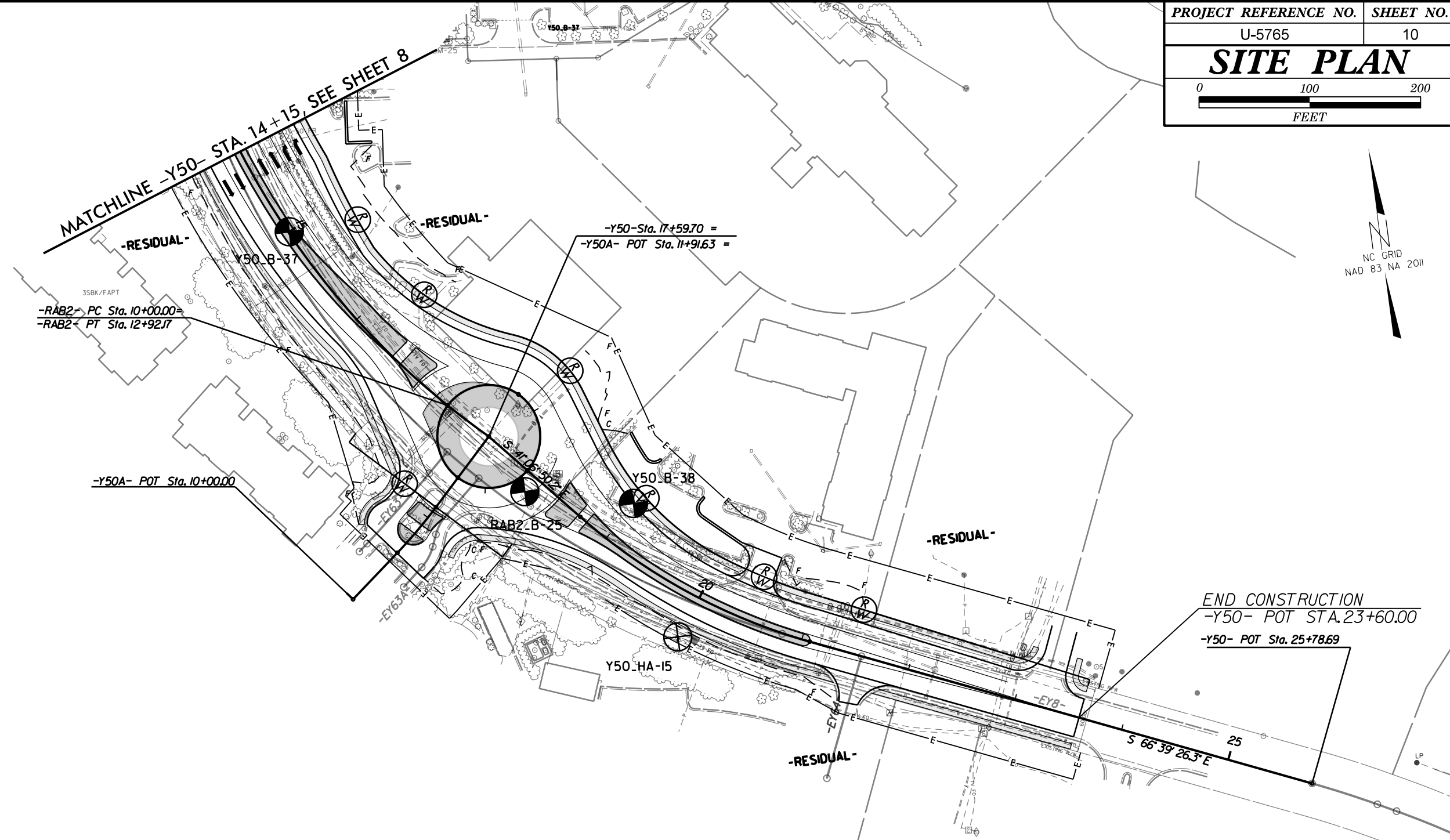
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-RESIDUAL-

-RESIDUAL-

MATCHLINE -Y49- STA. 19+00,
SEE SHEET 8

FOR -RABI- PROFILE, SEE SHEET 11



-Y50A- PI Sta 10+85.00 $\Delta = 6^{\circ}52'35.7"$ (LT) D = 12' 43' 56.6" L = 54.0' T = 27.04' R = 450.00' SE = SEE PLANS		-Y50- PI Sta 19+90.59 $\Delta = 25^{\circ}32'36.1"$ (LT) D = 10' 44' 58.8" L = 237.62' T = 120.82' R = 533.00' SE = 0.04 R'off = 112'	
-RAB2- PI Sta 10+46.73 $\Delta = 90^{\circ}16'45.9"$ (LT) D = 123' 13' 00.2" L = 73.27' T = 46.73' R = 46.50' SE = N C	PI Sta 11+16.22 $\Delta = 85^{\circ}27'29.0"$ (LT) D = 123' 13' 00.2" L = 69.36' T = 42.95' R = 46.50' SE = N C	PI Sta 11+94.37 $\Delta = 96^{\circ}06'46.9"$ (LT) D = 123' 13' 00.2" L = 78.00' T = 51.75' R = 46.50' SE = N C	PI Sta 12+65.65 $\Delta = 88^{\circ}08'58.2"$ (LT) D = 123' 13' 00.2" L = 71.54' T = 45.02' R = 46.50' SE = N C

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-RAB1- PROFILE FROM ROADWAY DESIGN FILES PROVIDED
BY NCDOT ON 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN
THROUGH THE BORING, WITH BOTH PROJECTED ON THE PROFILE.

-RAB1-

Prepared in the Office of:



ECS SOUTHEAST, LLP
1812 CENTER PARK DRIVE, SUITE 100
CHARLOTTE, NC 28217
(704) 555-5555 (PHONE)
(704) 555-0023 (FAX)
N.C. REGISTERED
ENGINEERING
FIRM # E-5076

02040

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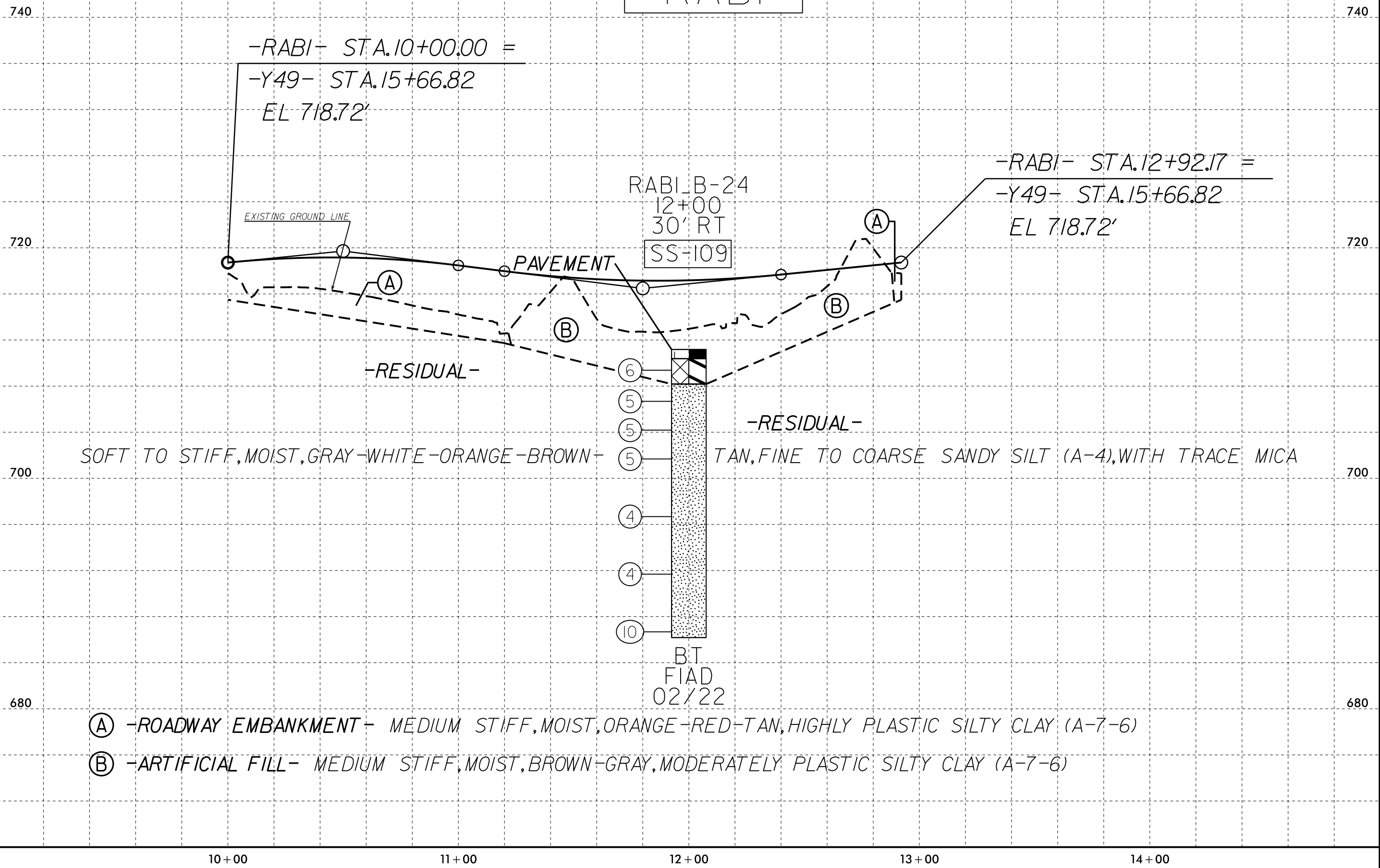
PROJECT REFERENCE NO.

U-5765

SHEET NO.

11

PROFILE BORINGS PROJECTED ON -RAB1-
EXISTING GROUNDLINE AT CENTERLINE



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\$\$\$\$\$FERNANDEZ\$\$\$\$\$

-RAB2- PROFILE FROM ROADWAY DESIGN FILES PROVIDED
BY NCDOT ON 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN
THROUGH THE BORING, WITH BOTH PROJECTED ON THE PROFILE.

Prepared in the Office of:



ECS SOUTHEAST, LLP
1812 CENTER PARK DRIVE, SUITE D
CHARLOTTE, NC 28217
(704) 535-5151 (PHONE)
(704) 537-0023 (FAX)
N.C. REGISTERED
ENGINEERING
FIRM # E-5076

02040

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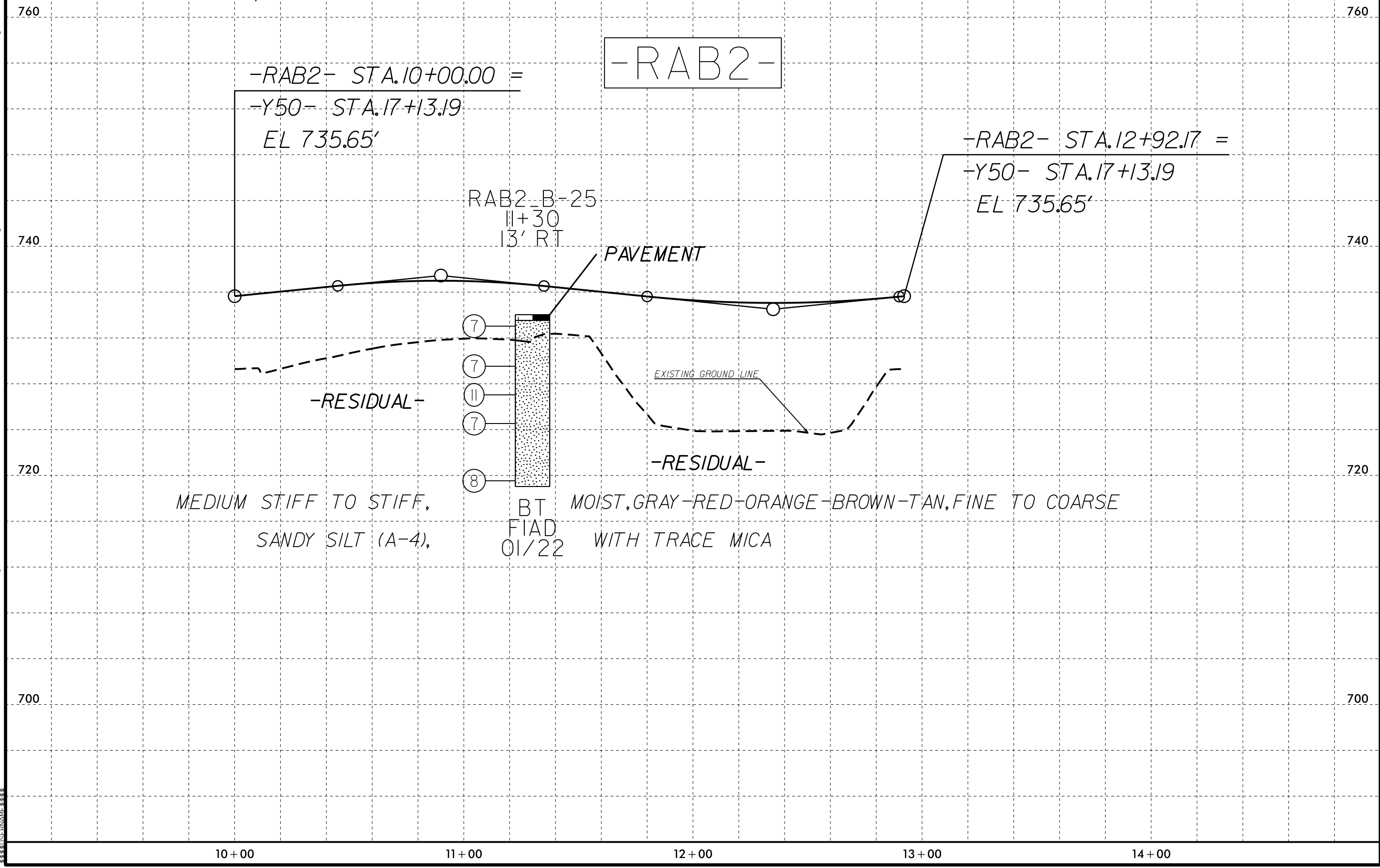
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U-5765

SHEET NO.

12

PROFILE BORINGS PROJECTED ON -RAB2-
EXISTING GROUNDLINE AT CENTERLINE

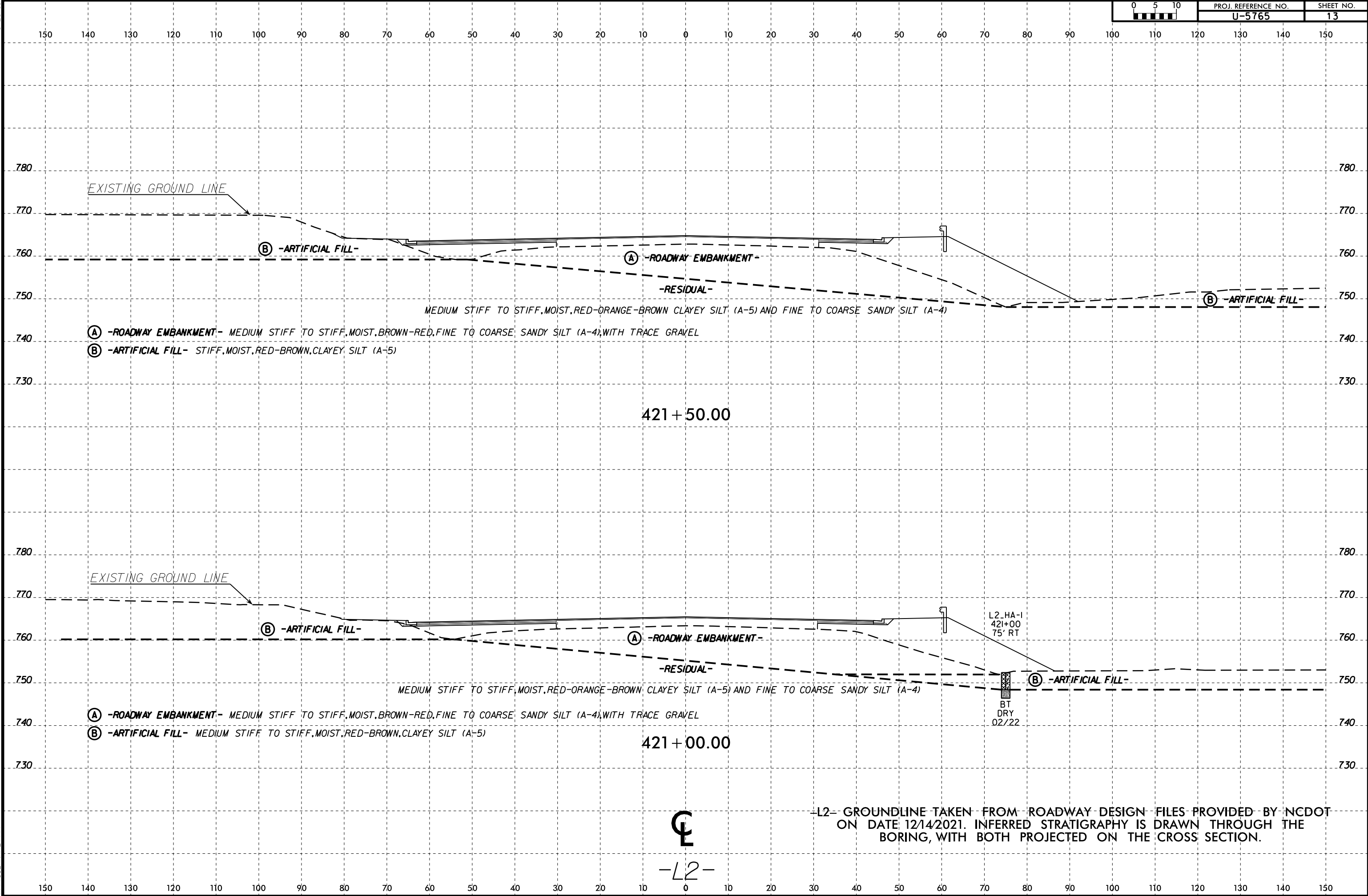


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PROJ. REFERENCE NO.	SHEET NO.
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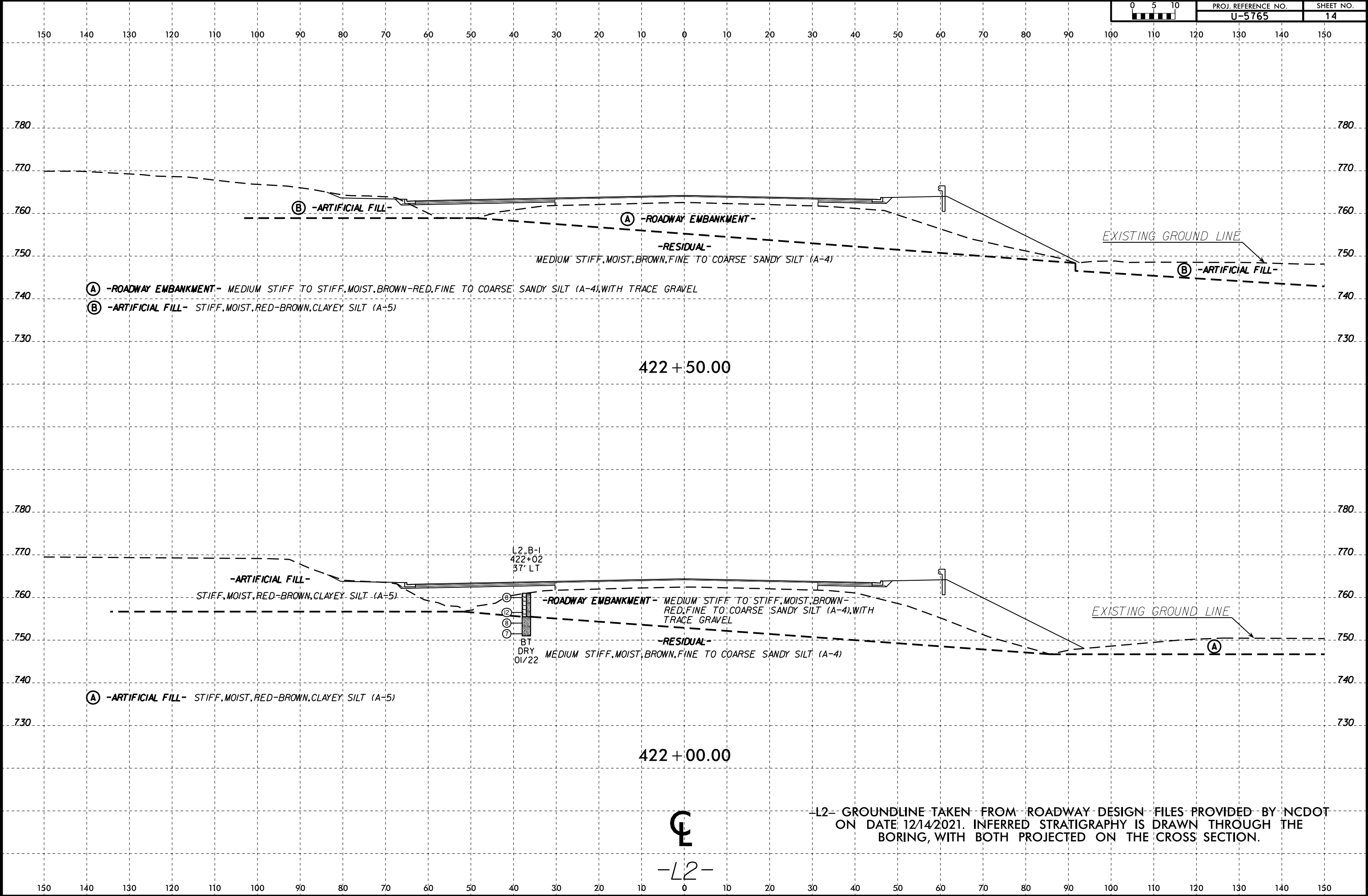


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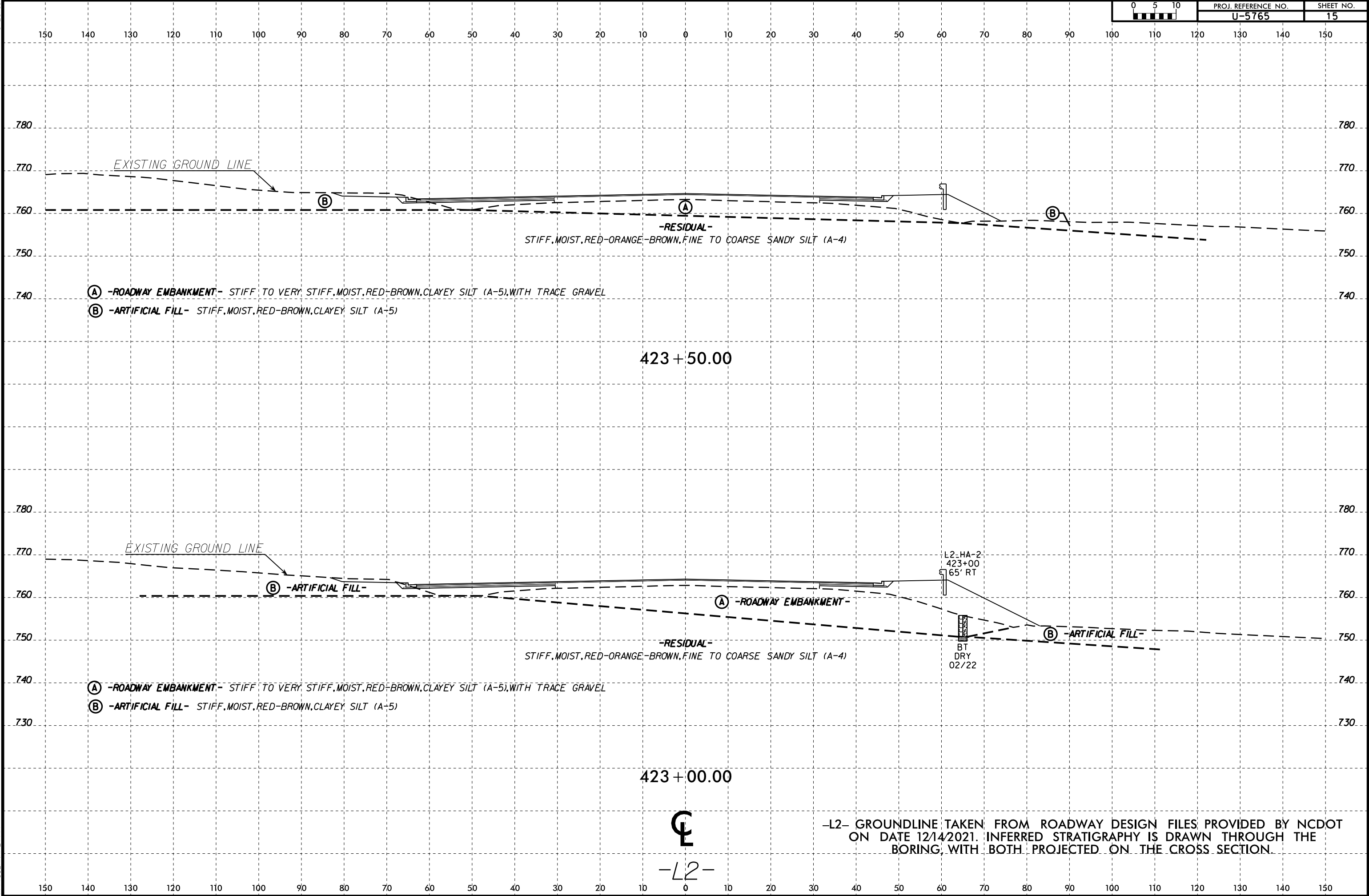
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ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE
BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16

05-MAY-2022 14:32
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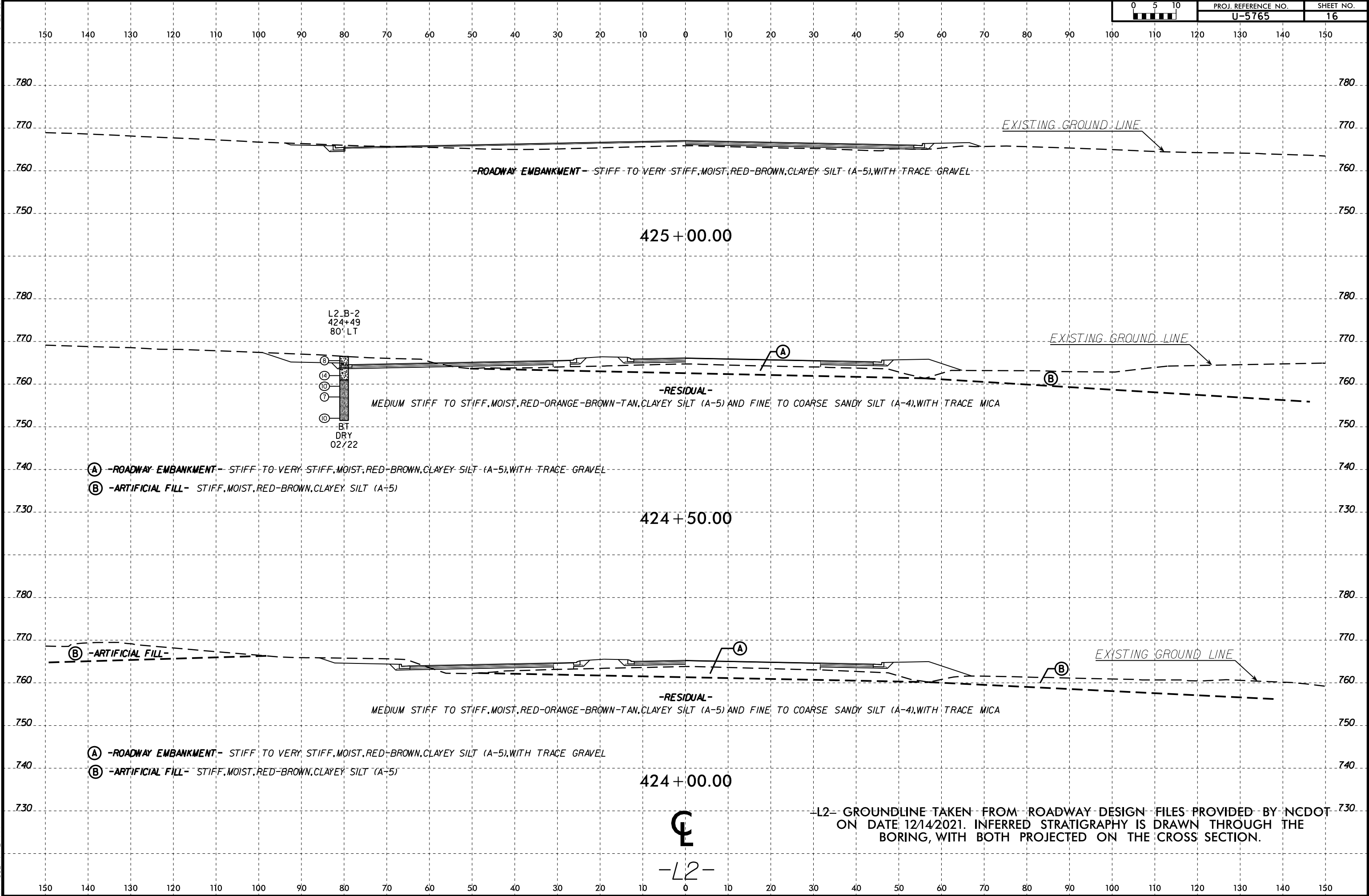


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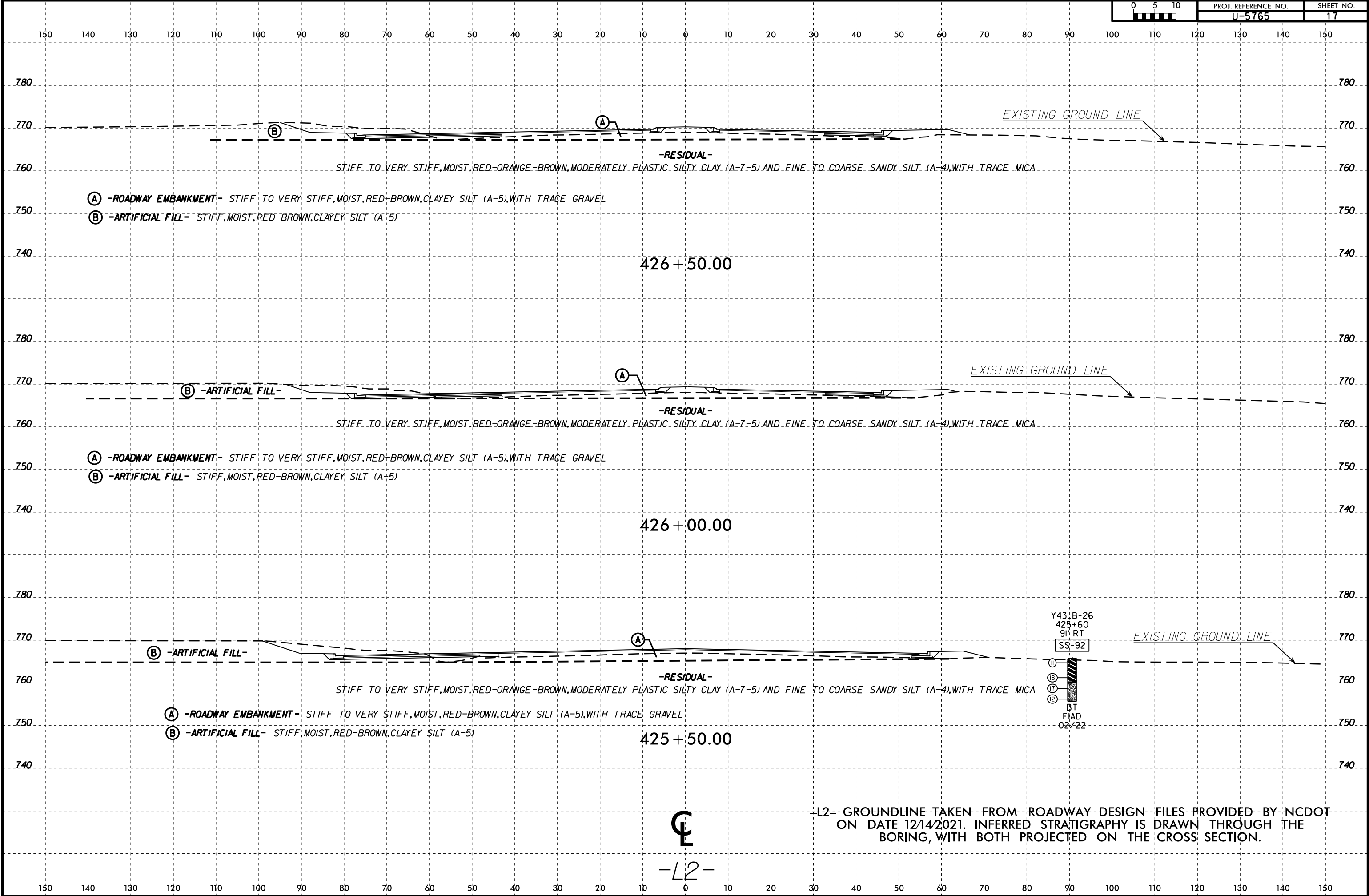


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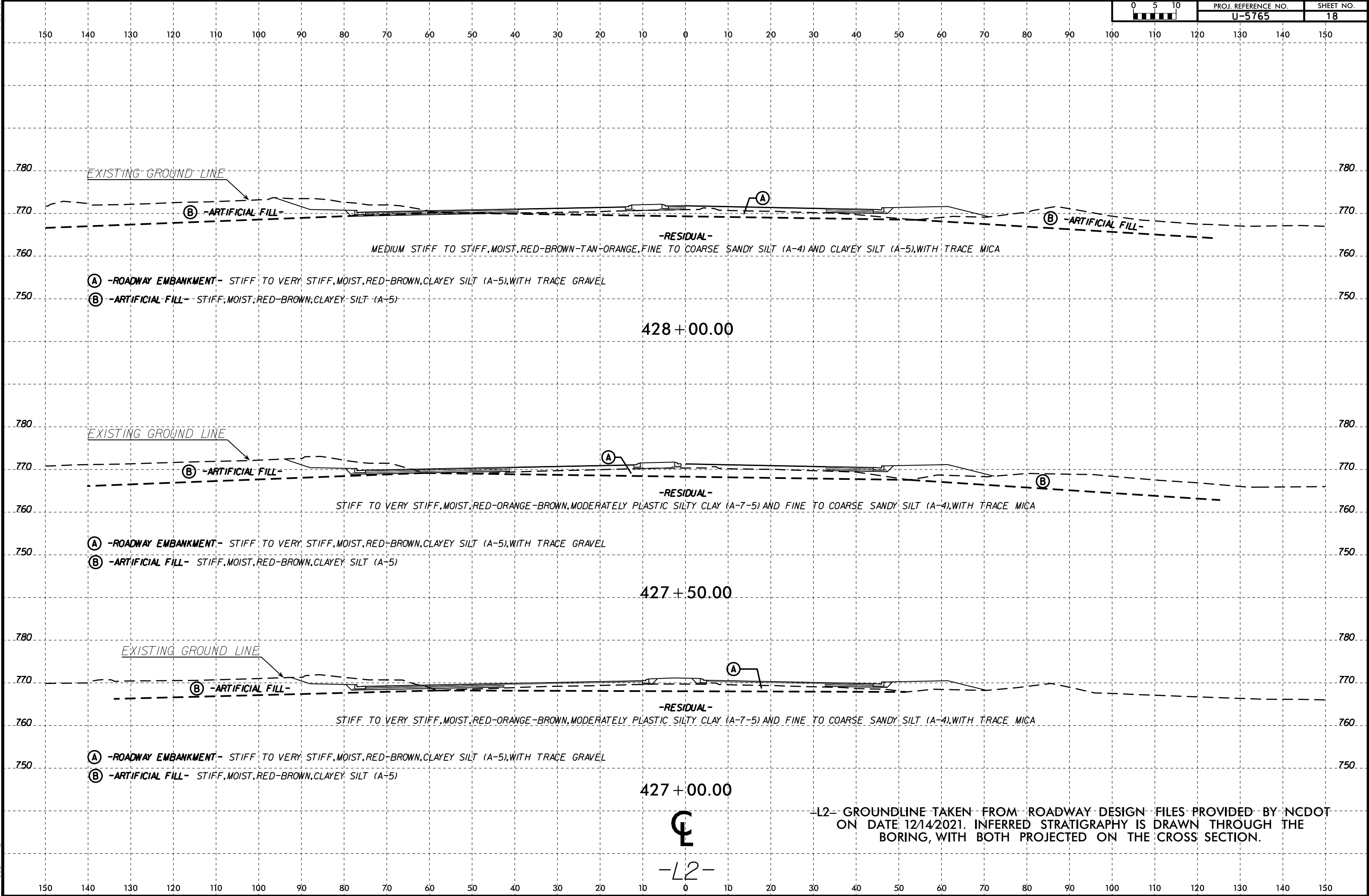


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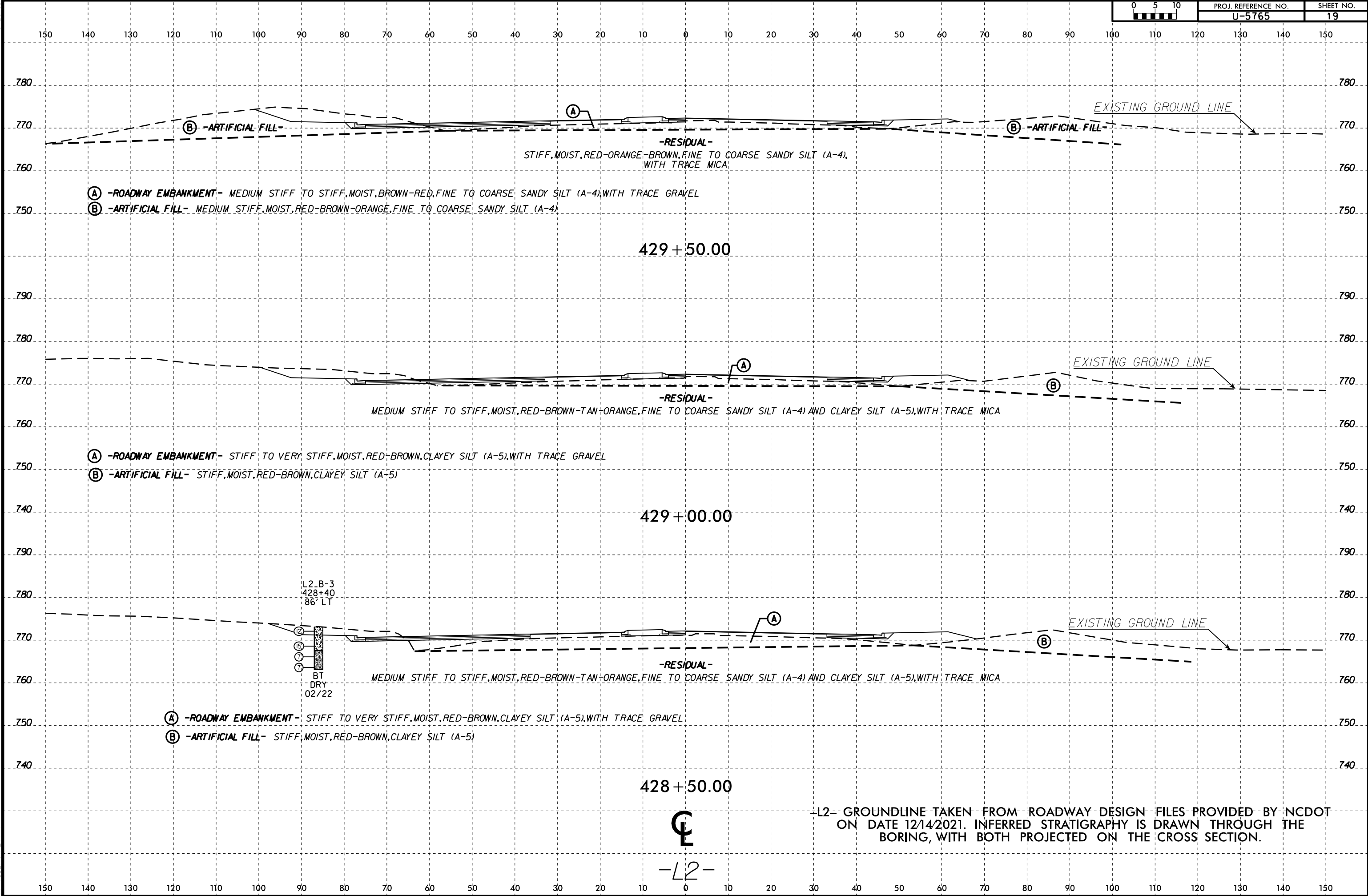


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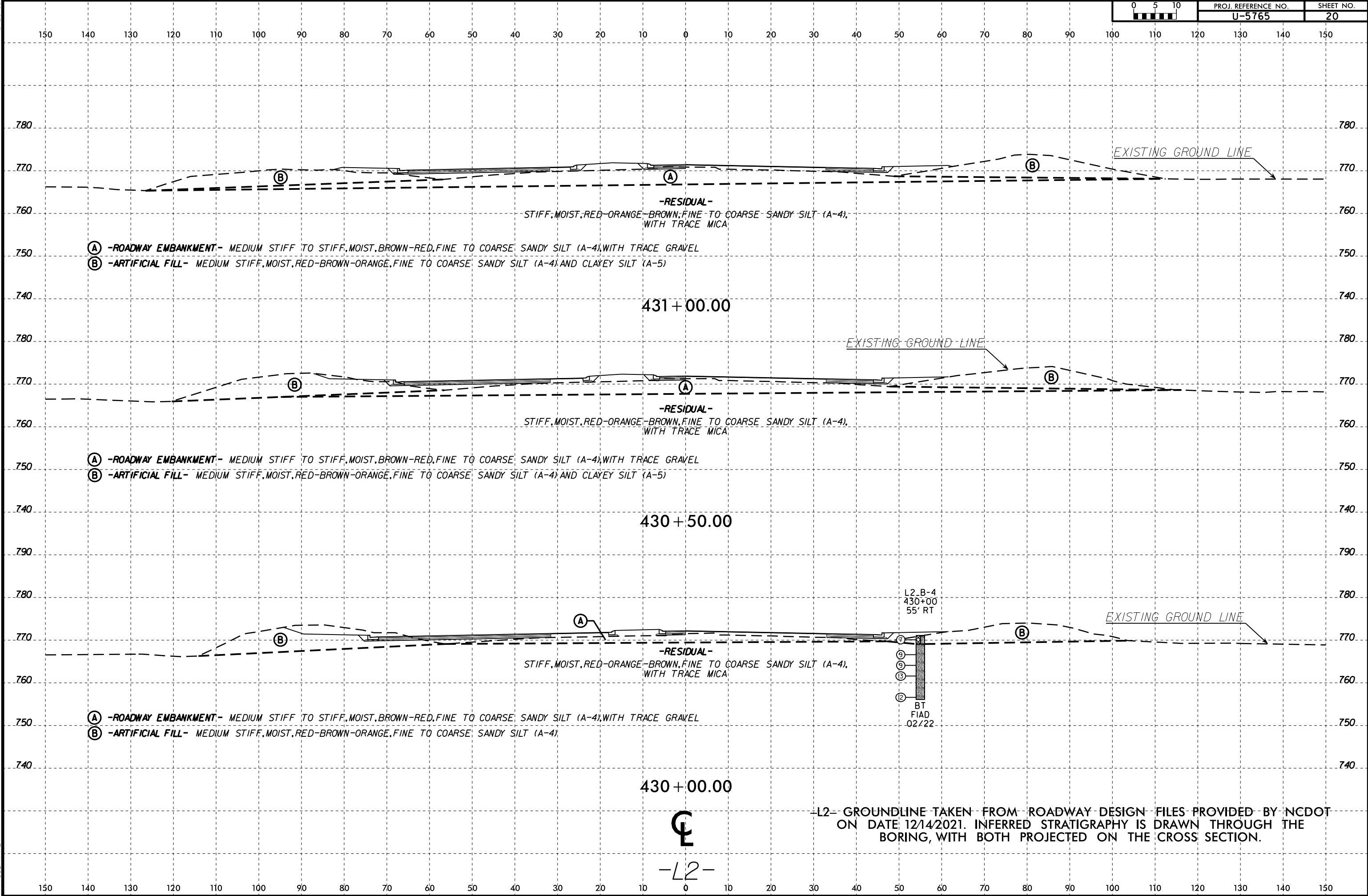


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SUBAREA



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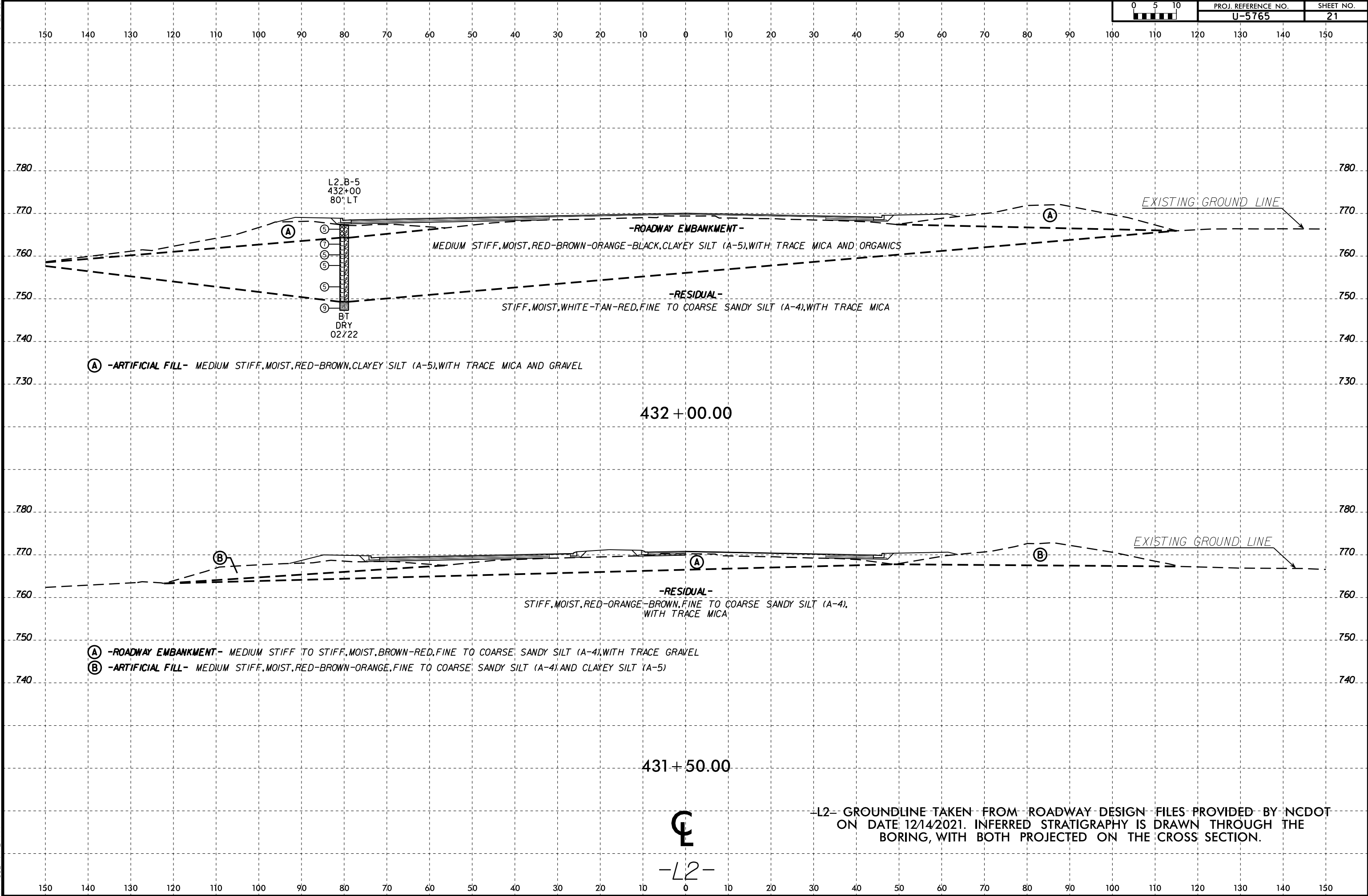


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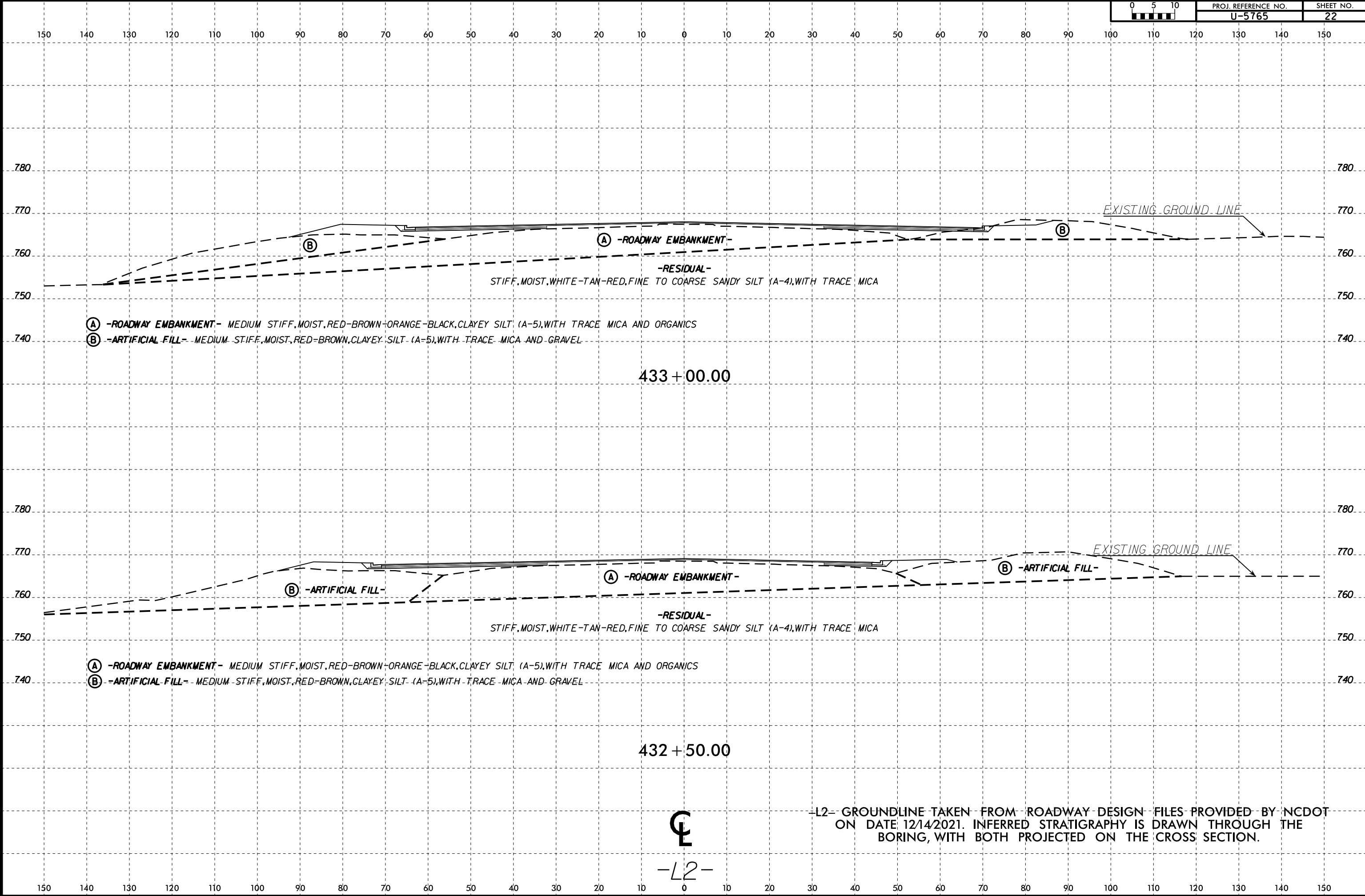


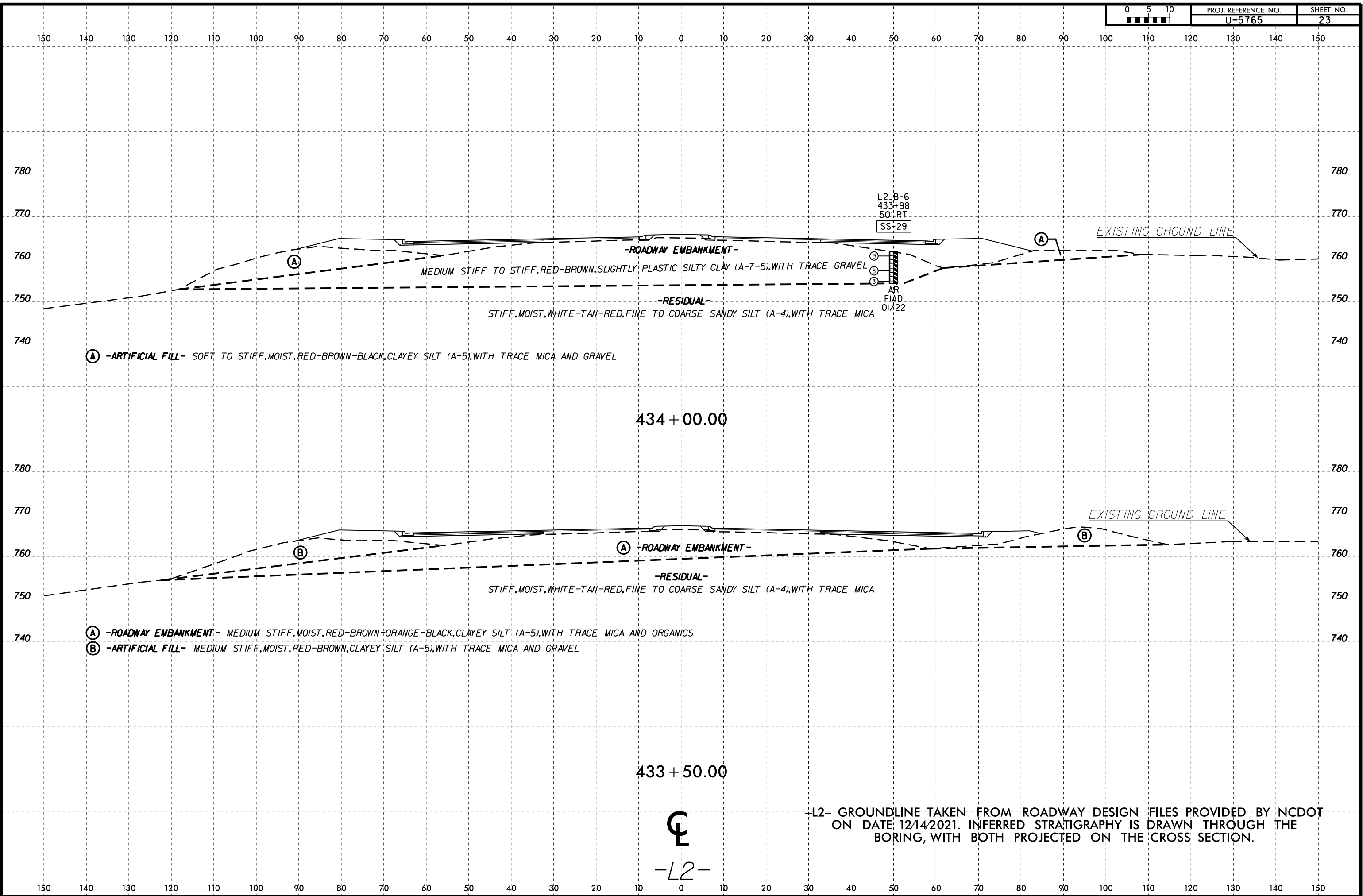
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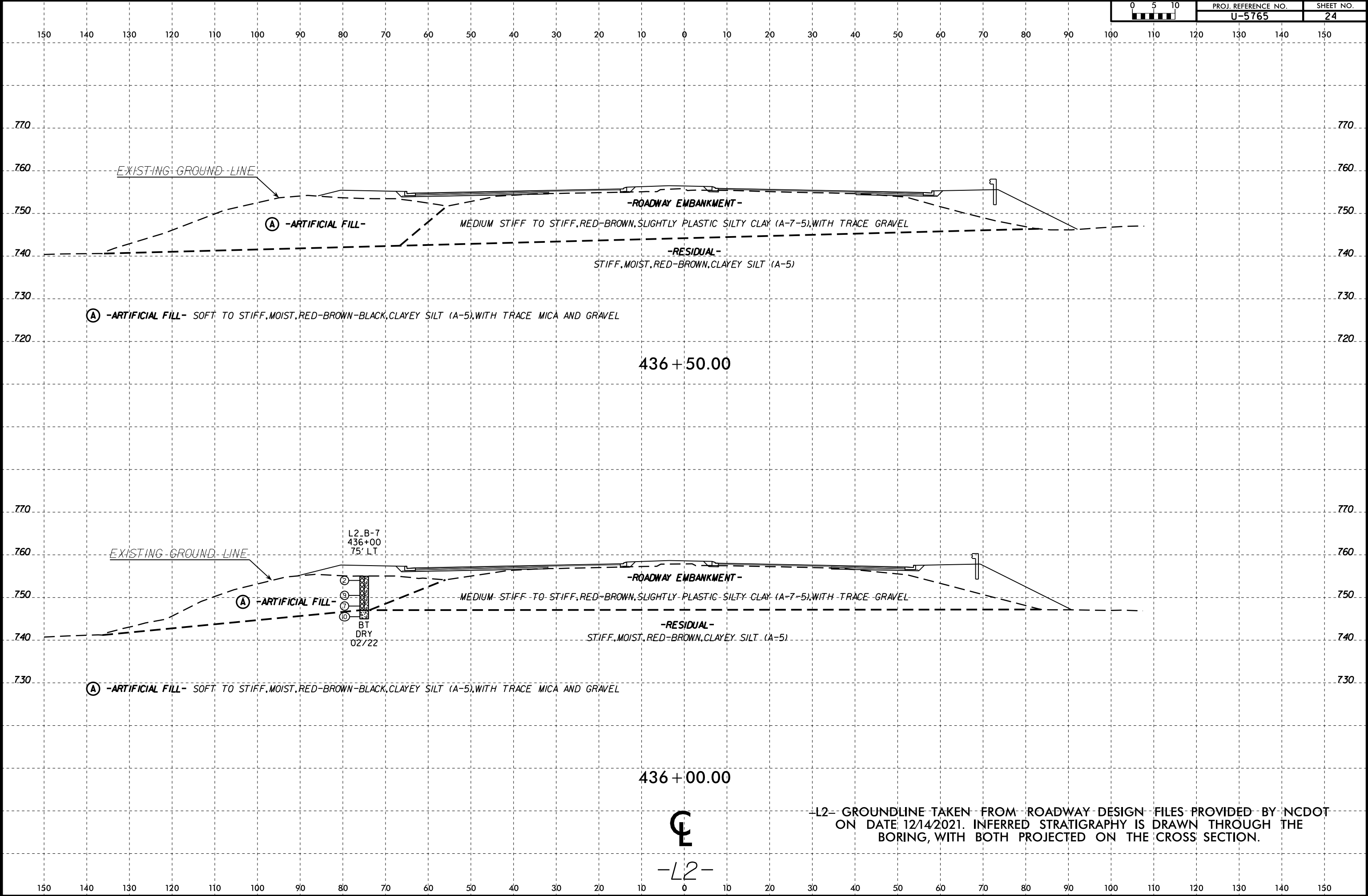


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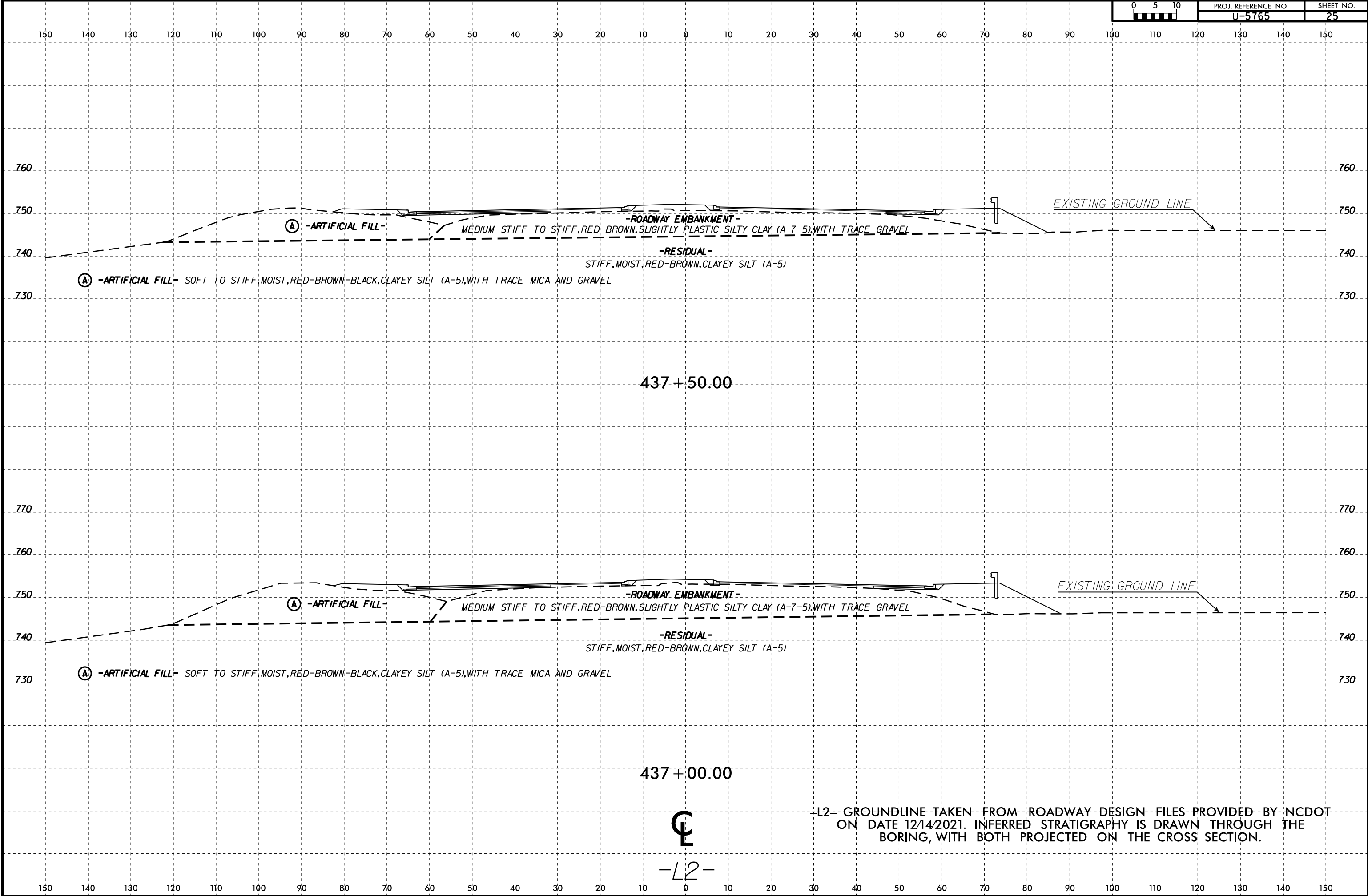


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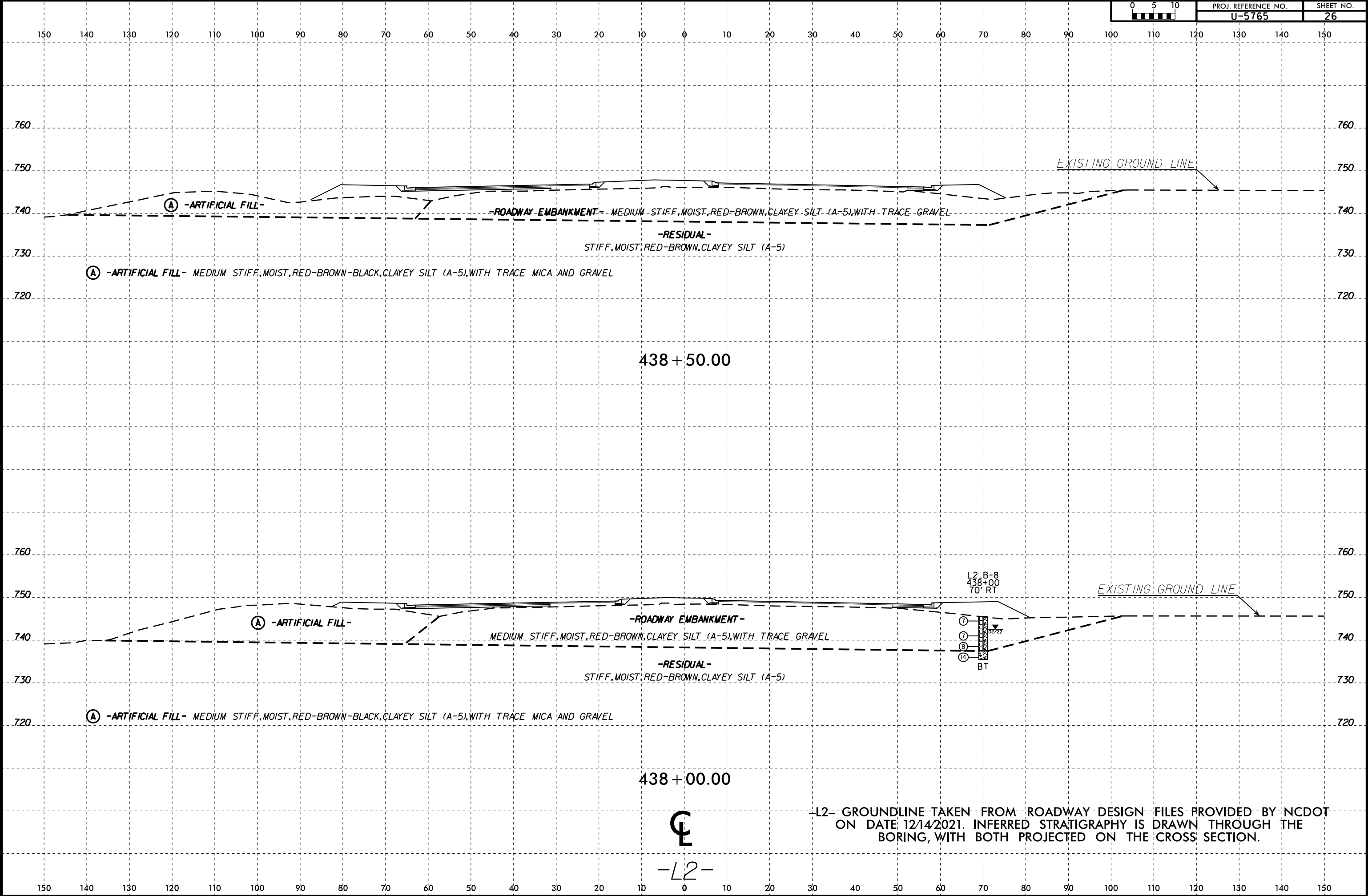
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6/23/16

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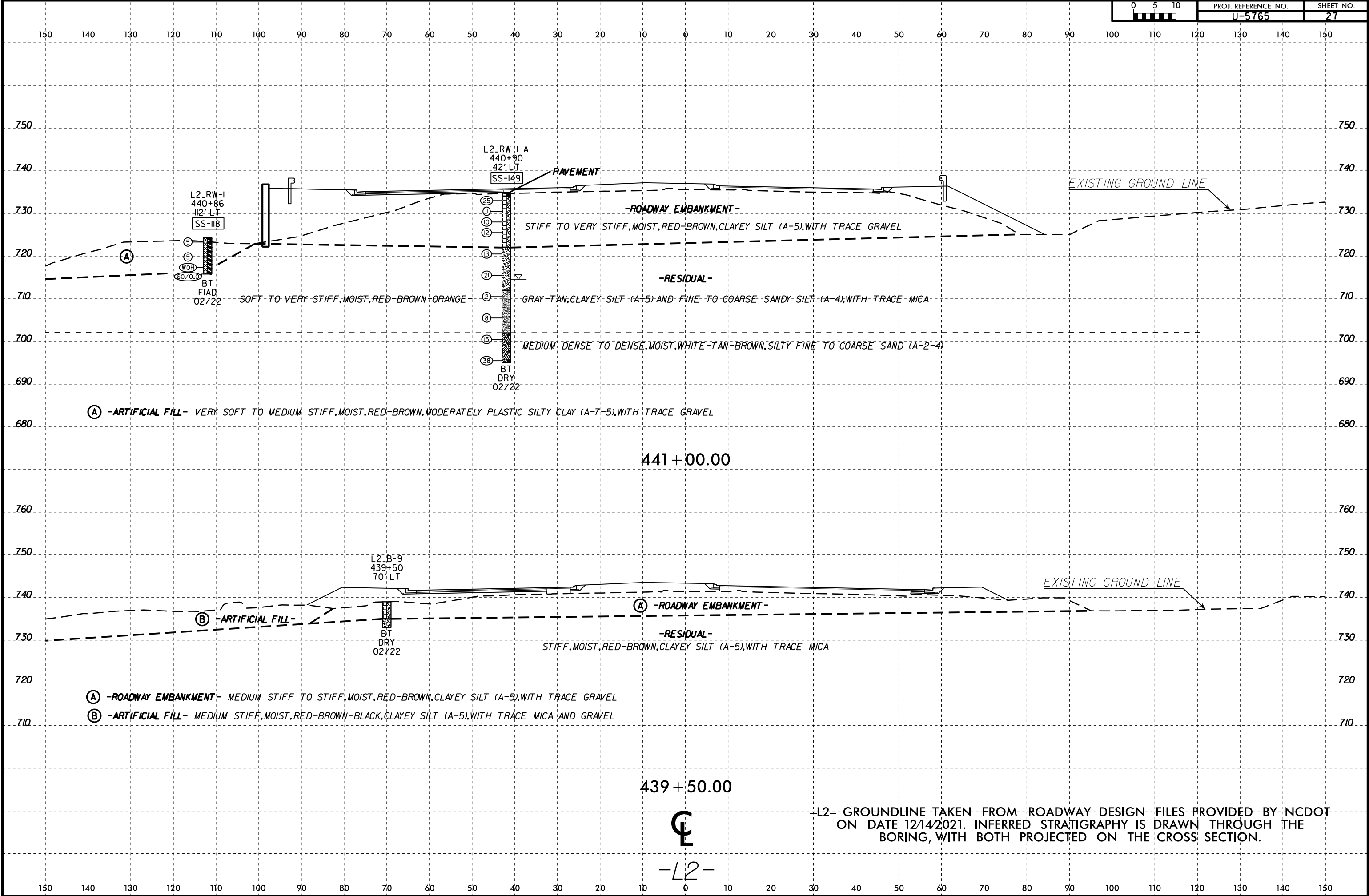


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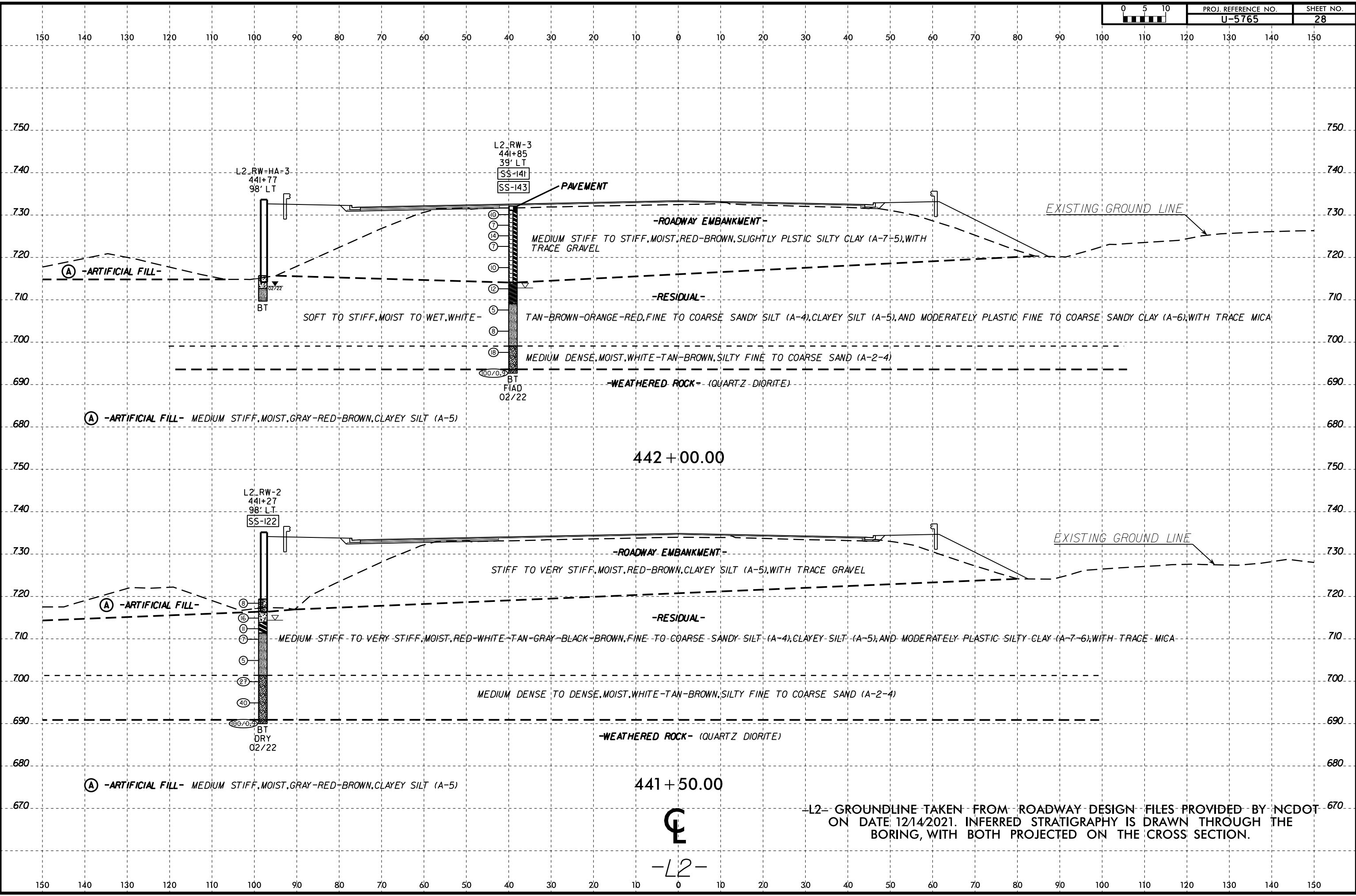
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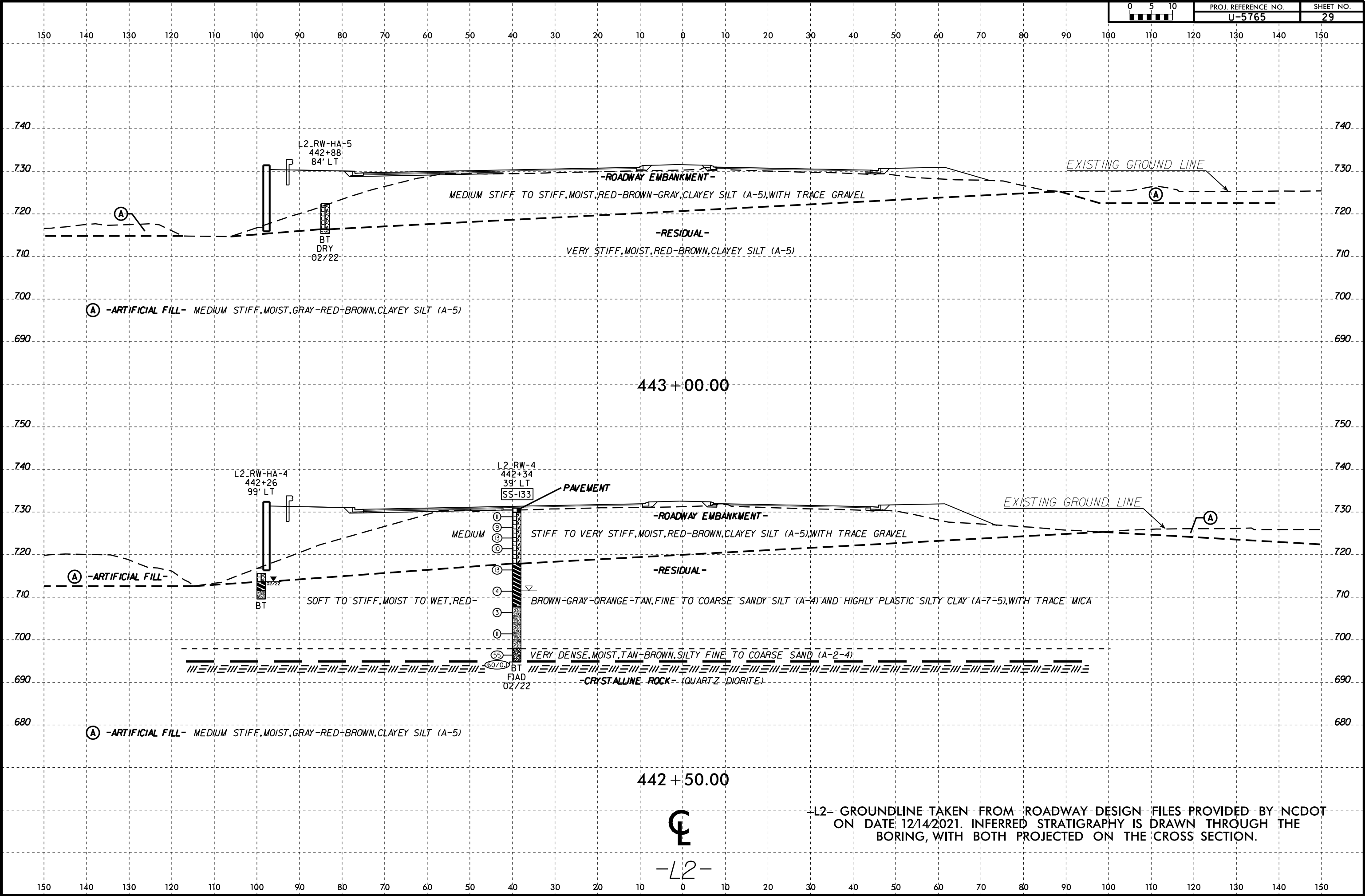
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SUBMITTAL



6/23/16

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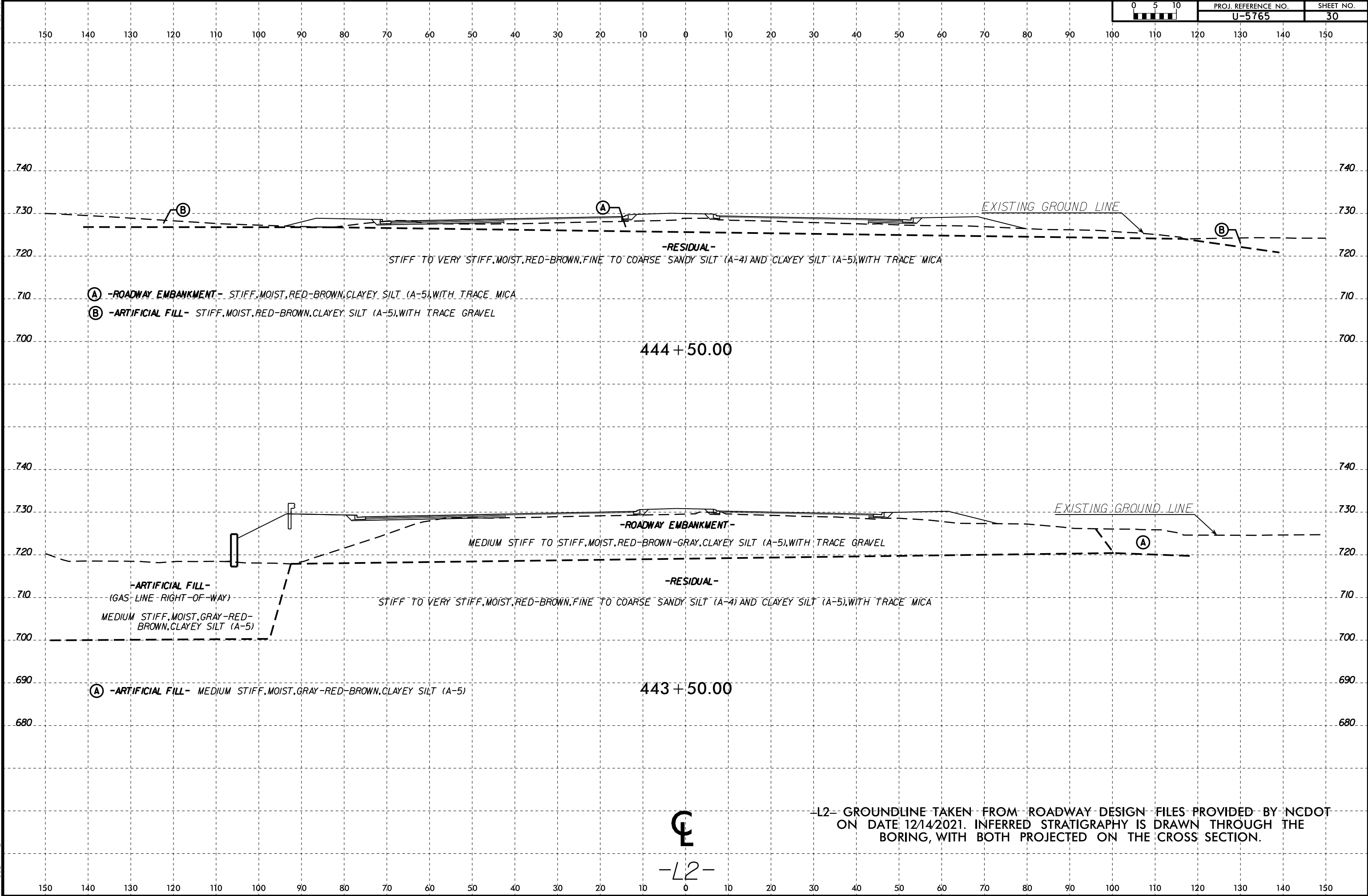


6/23/16

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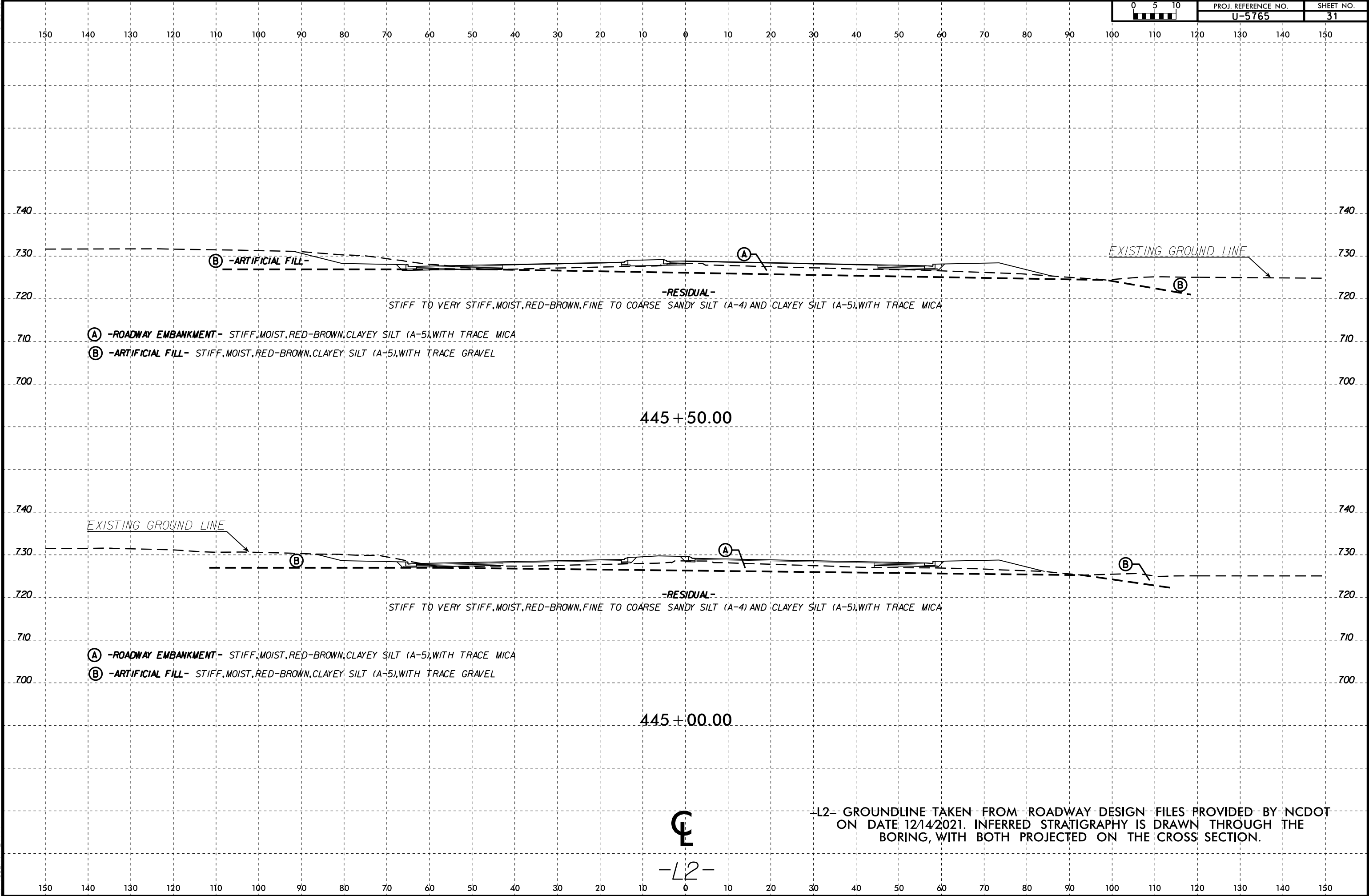
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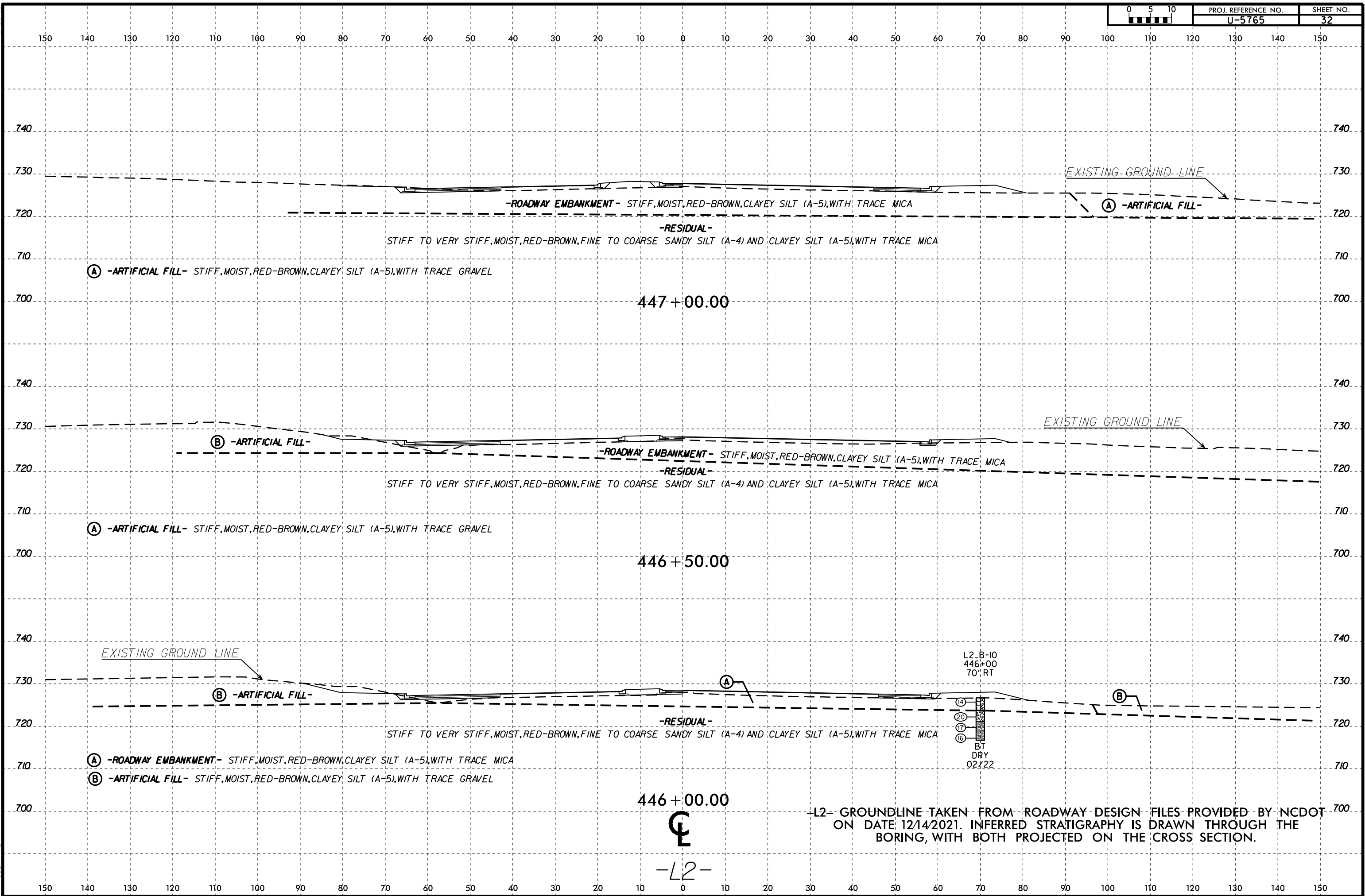
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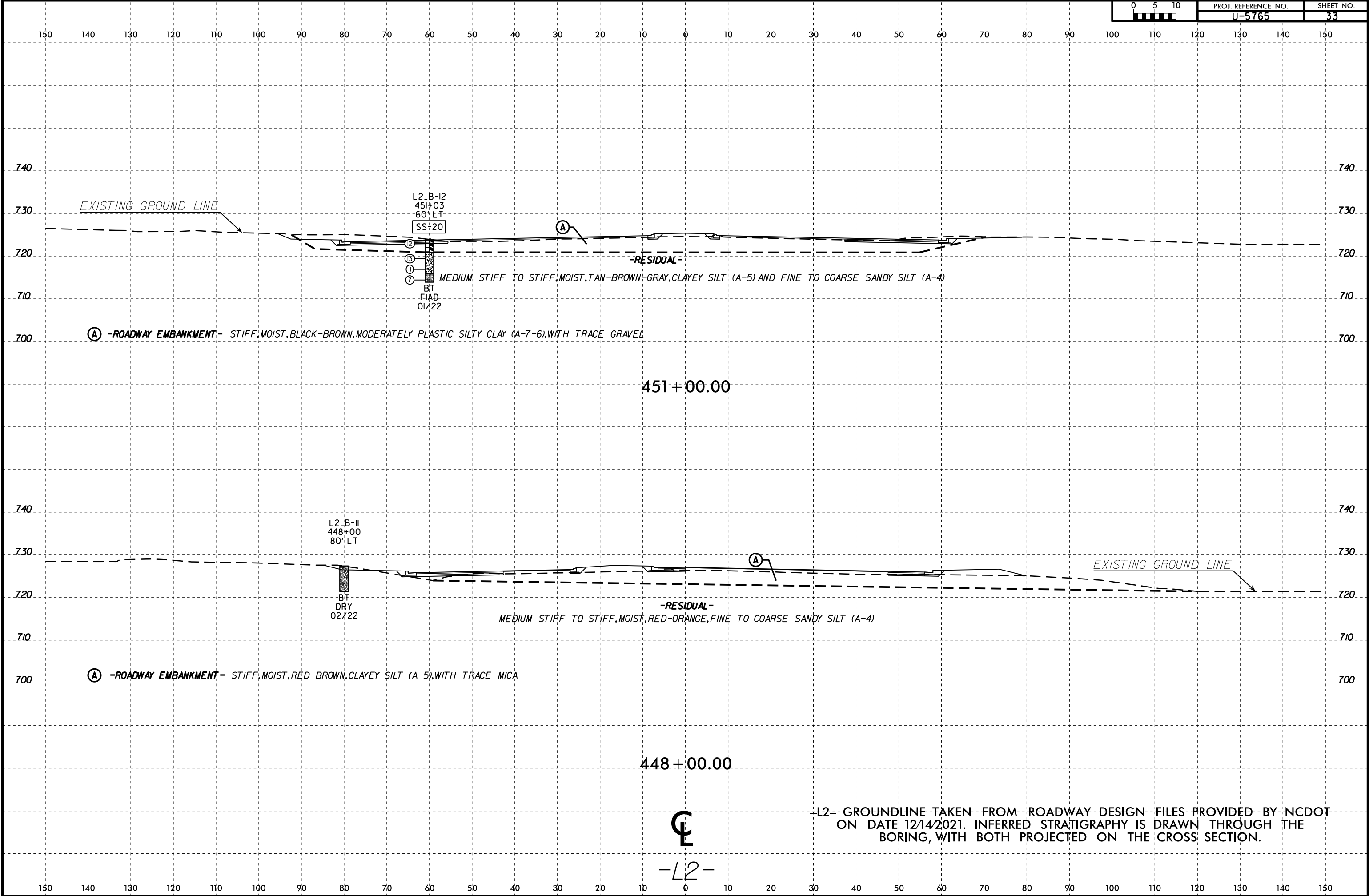


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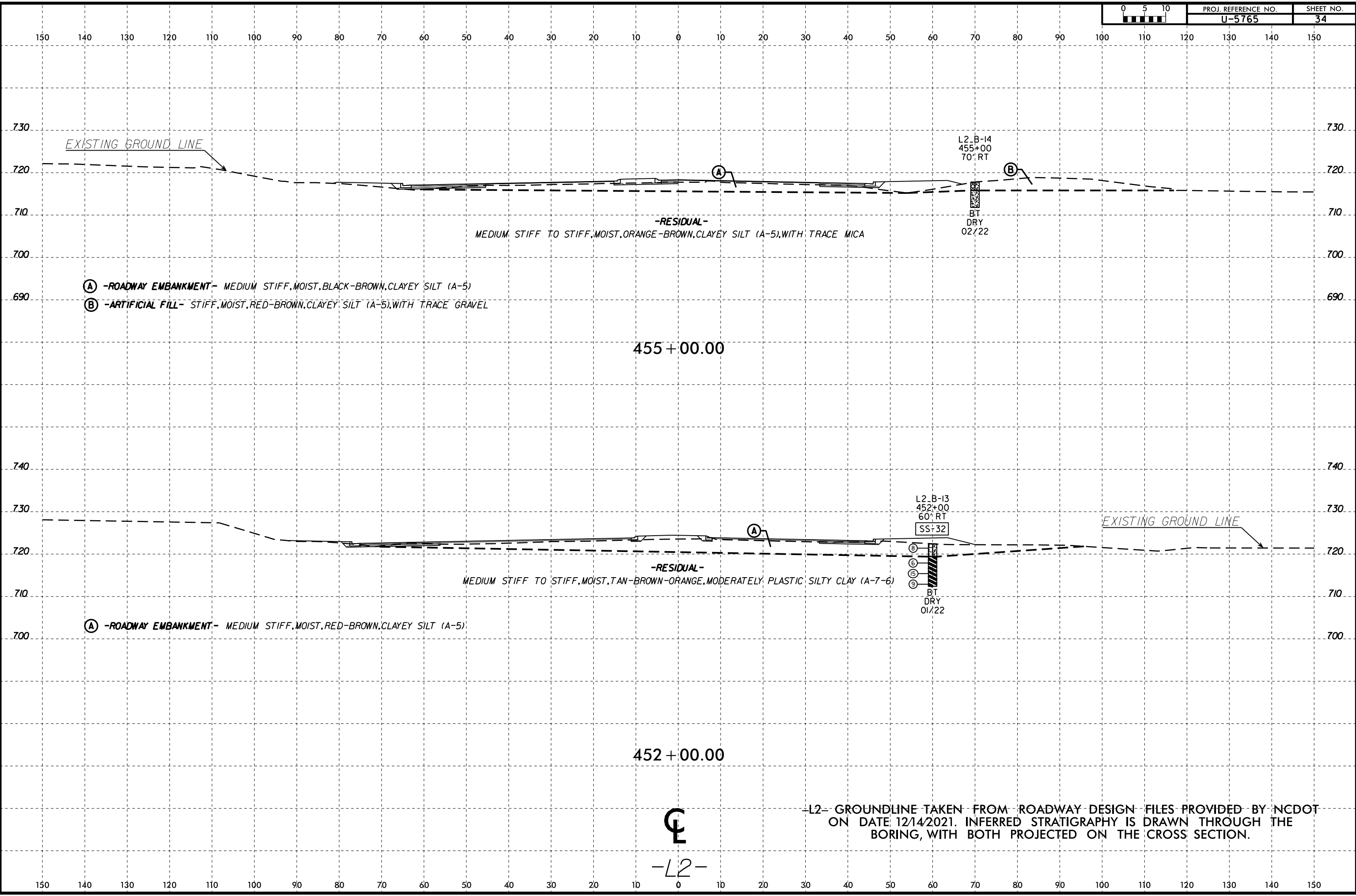
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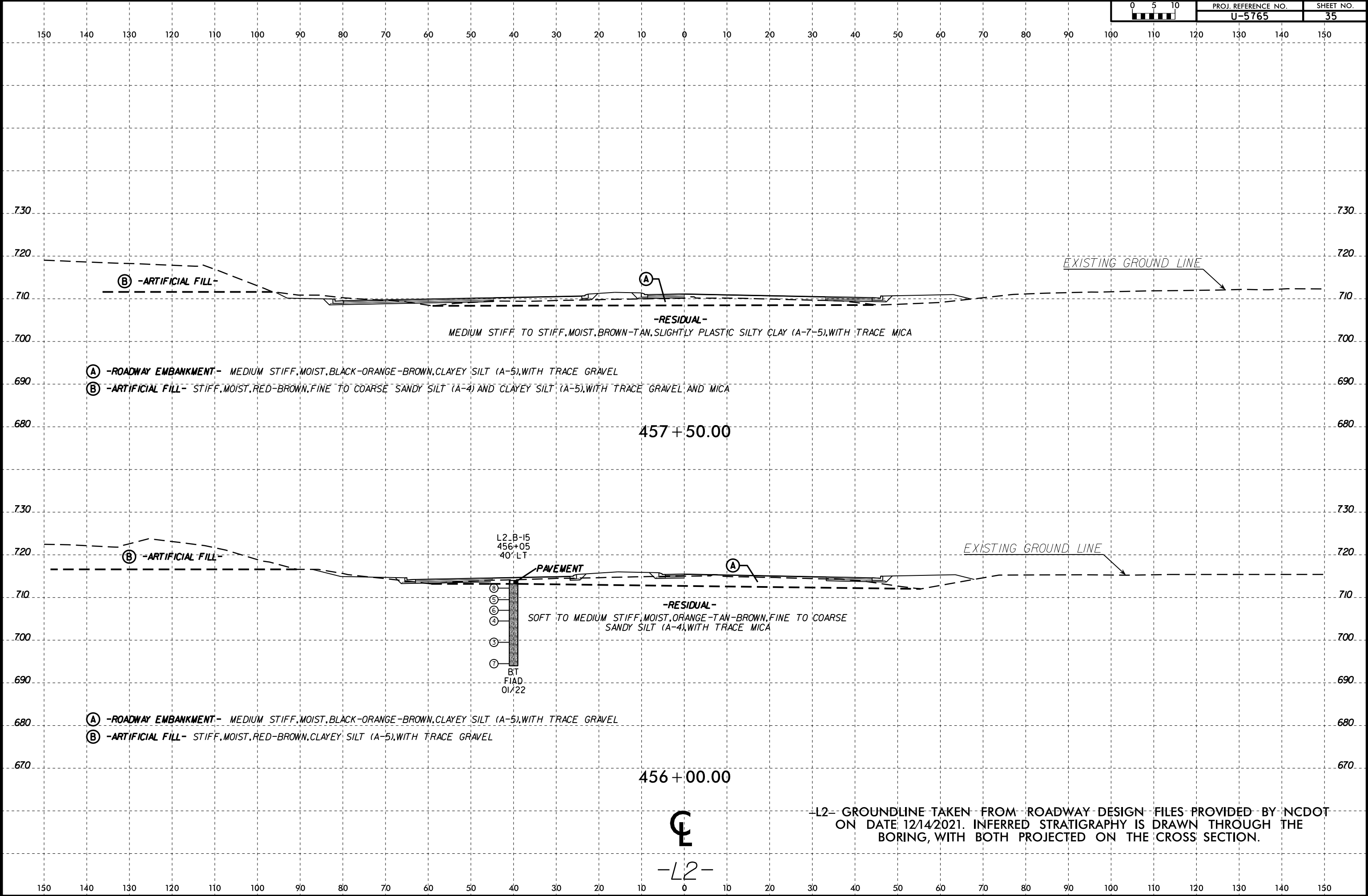


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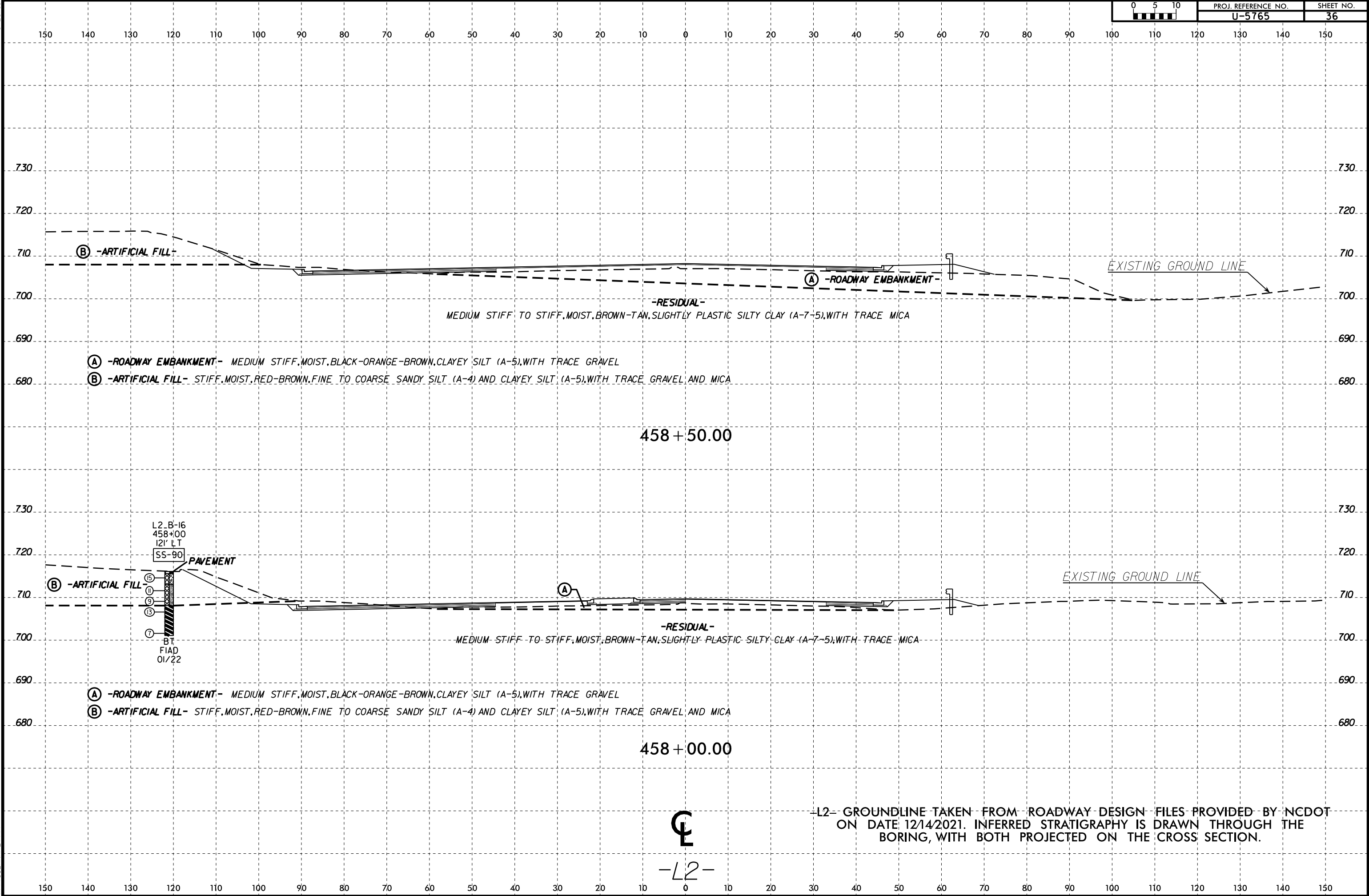


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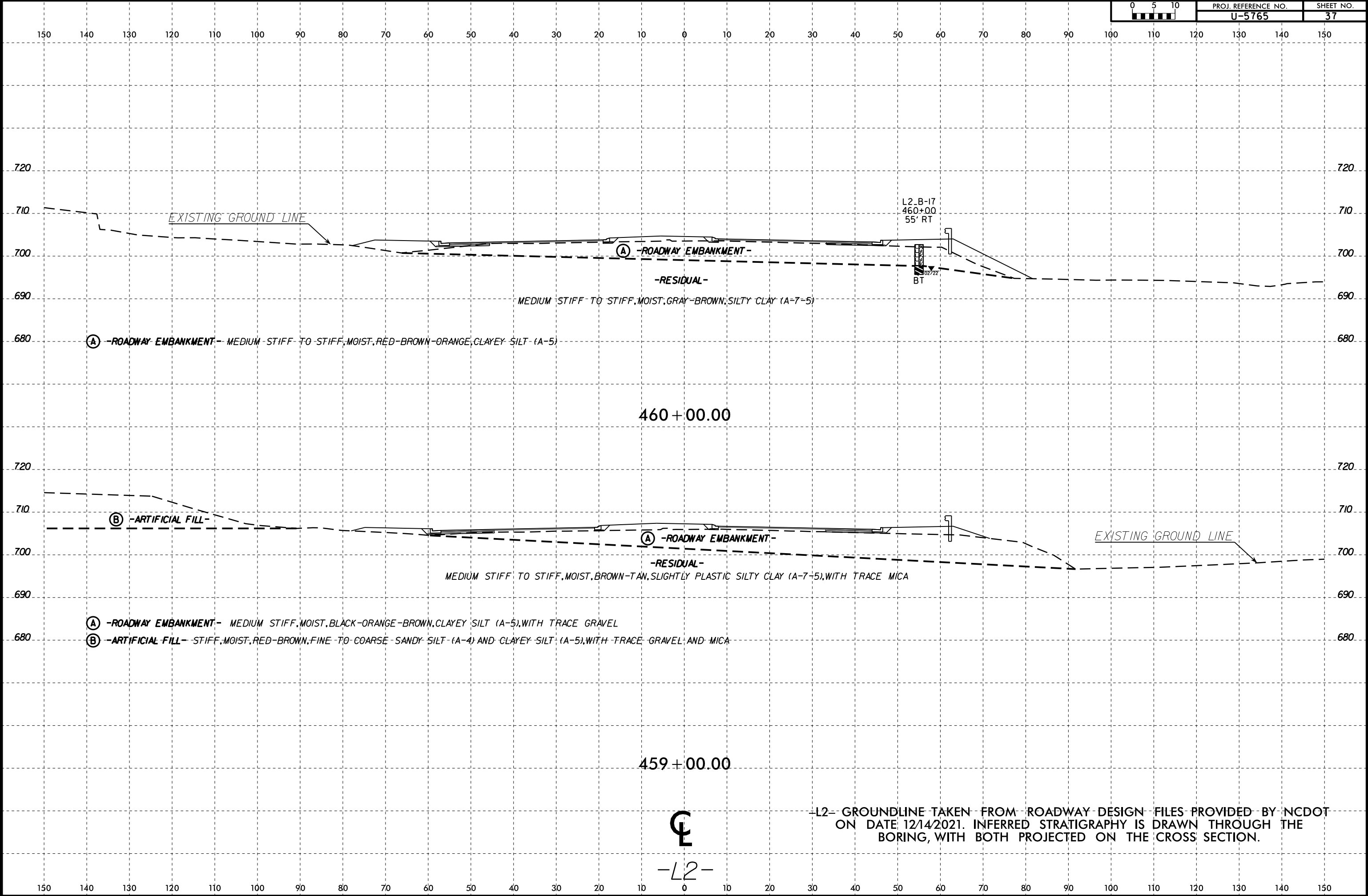


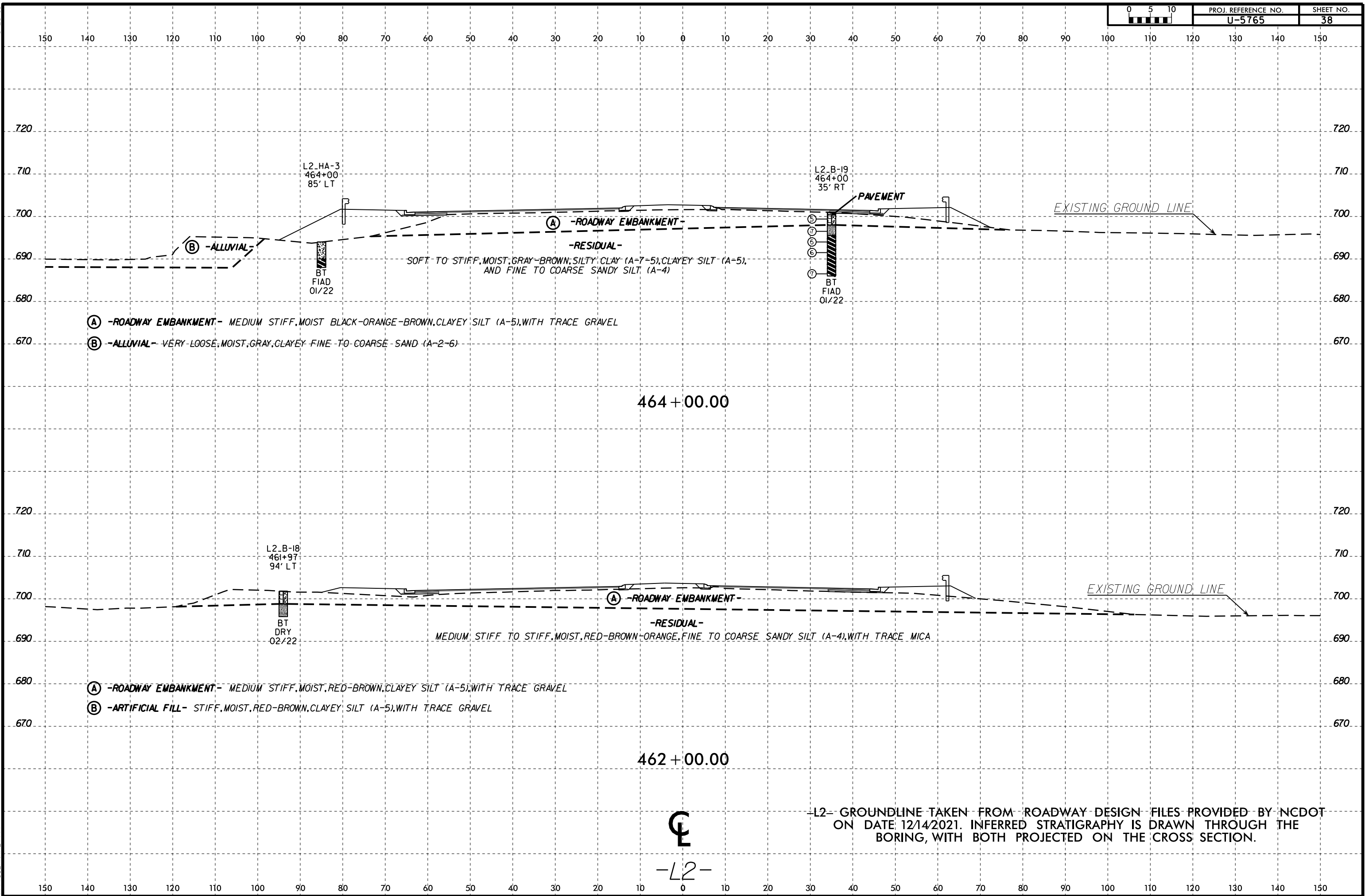
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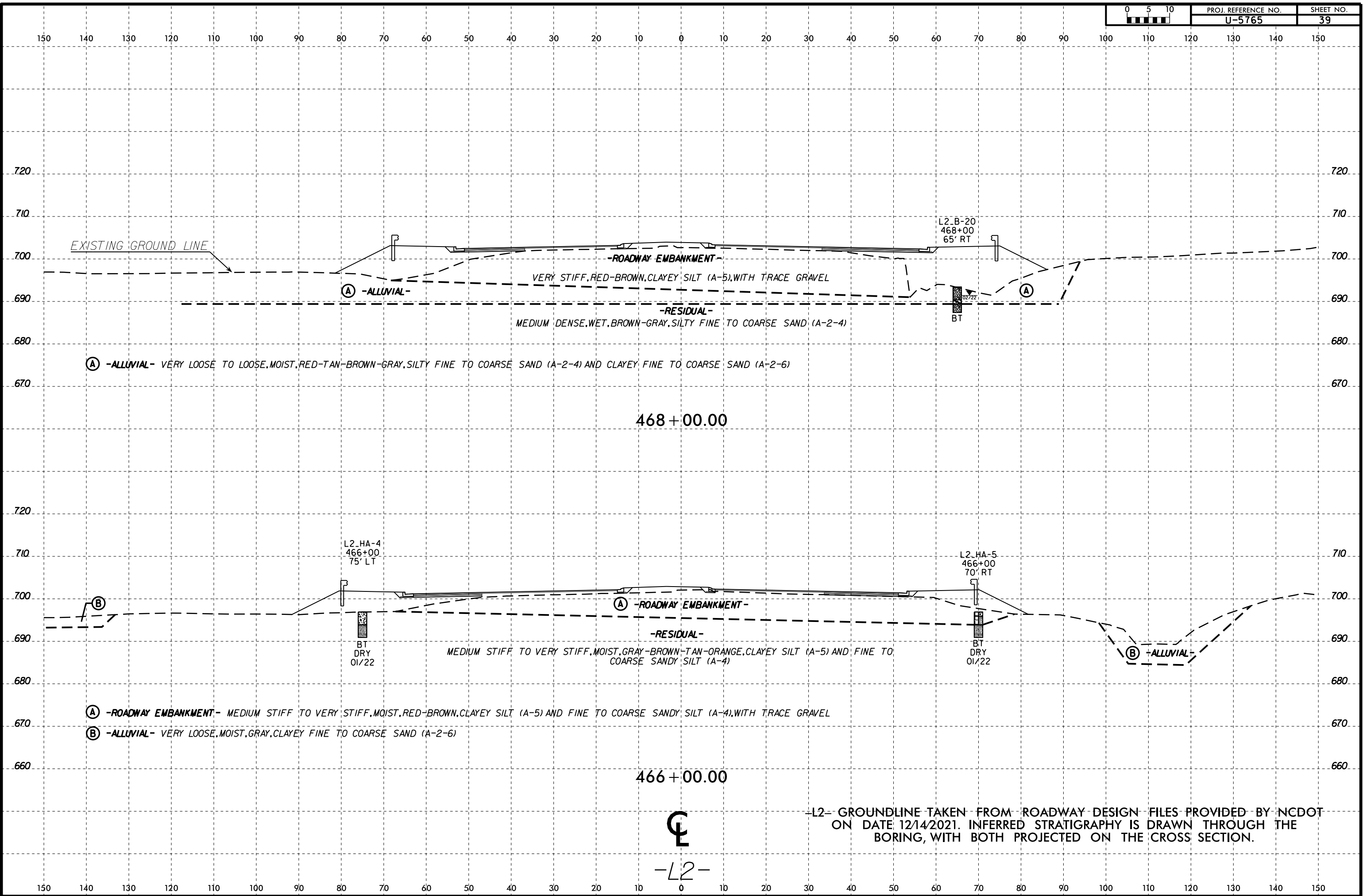
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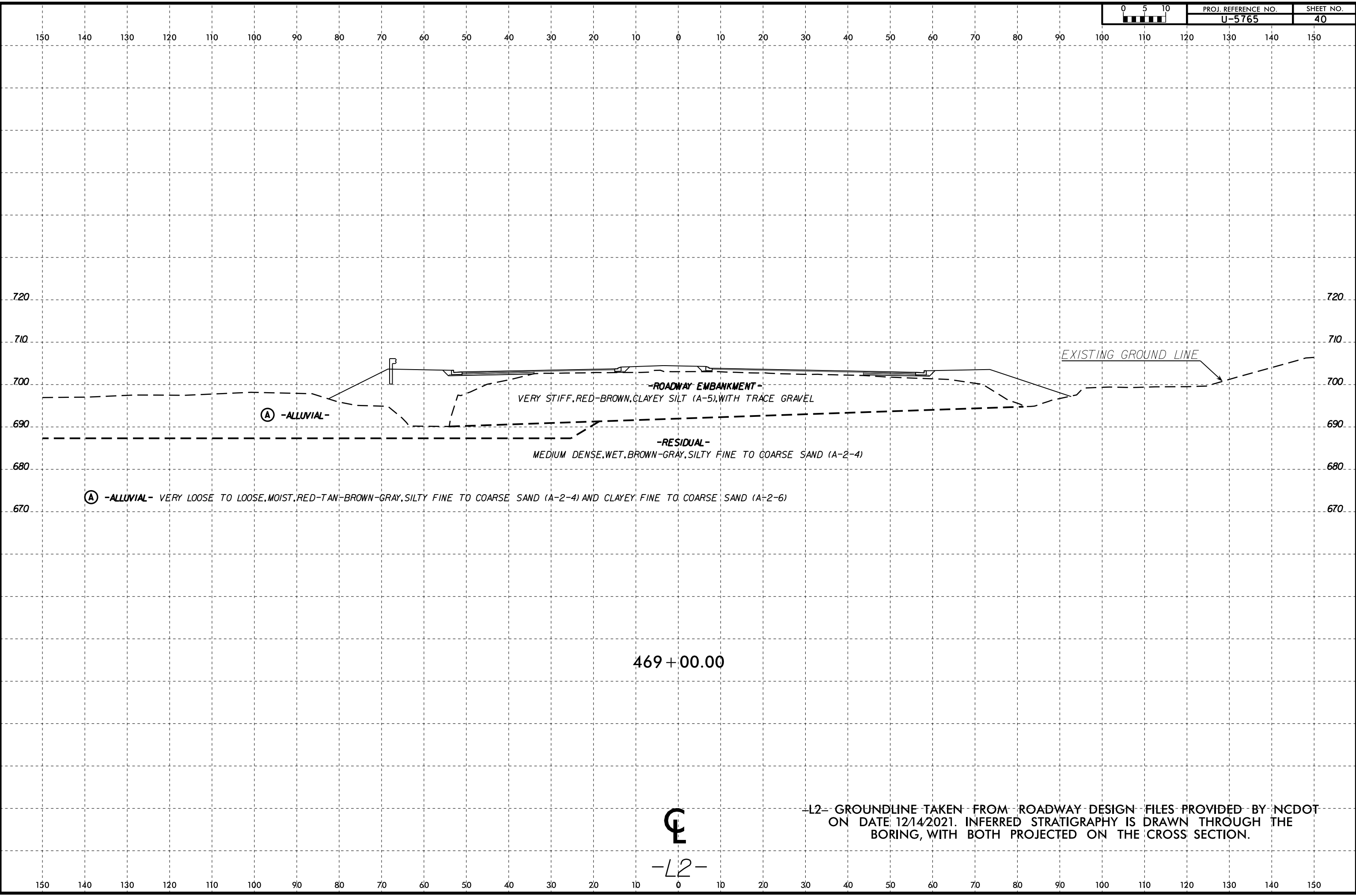
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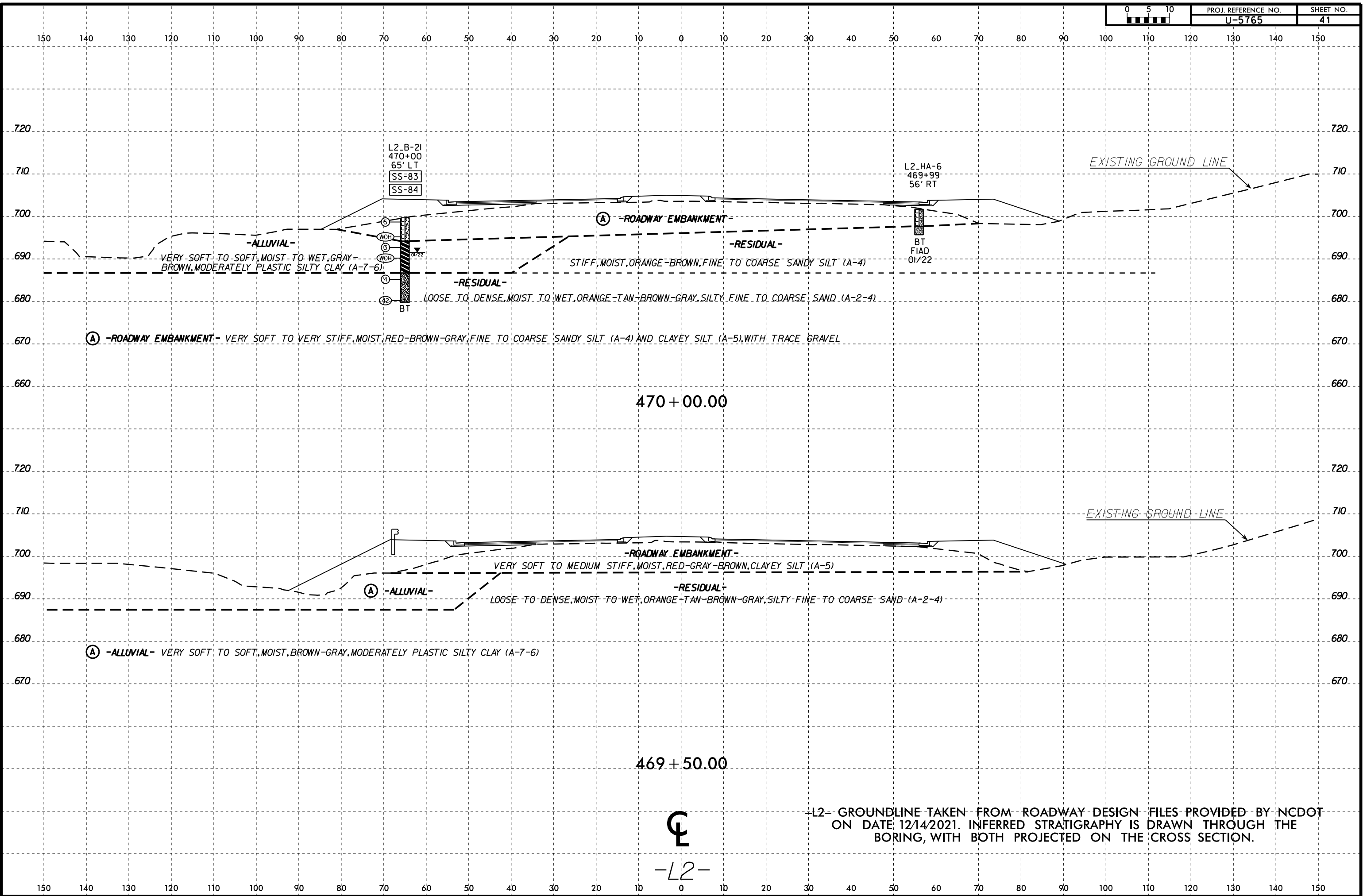






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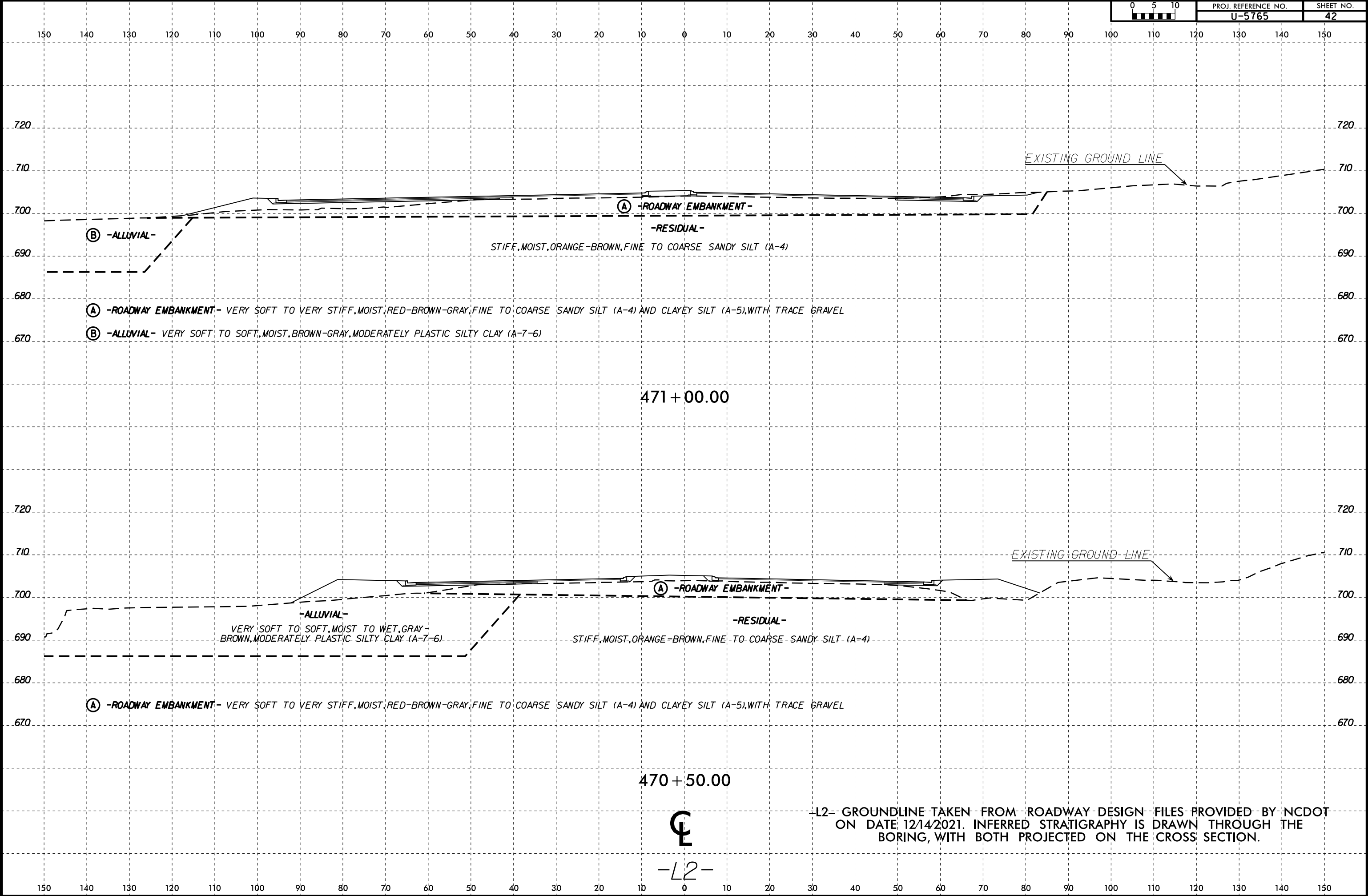


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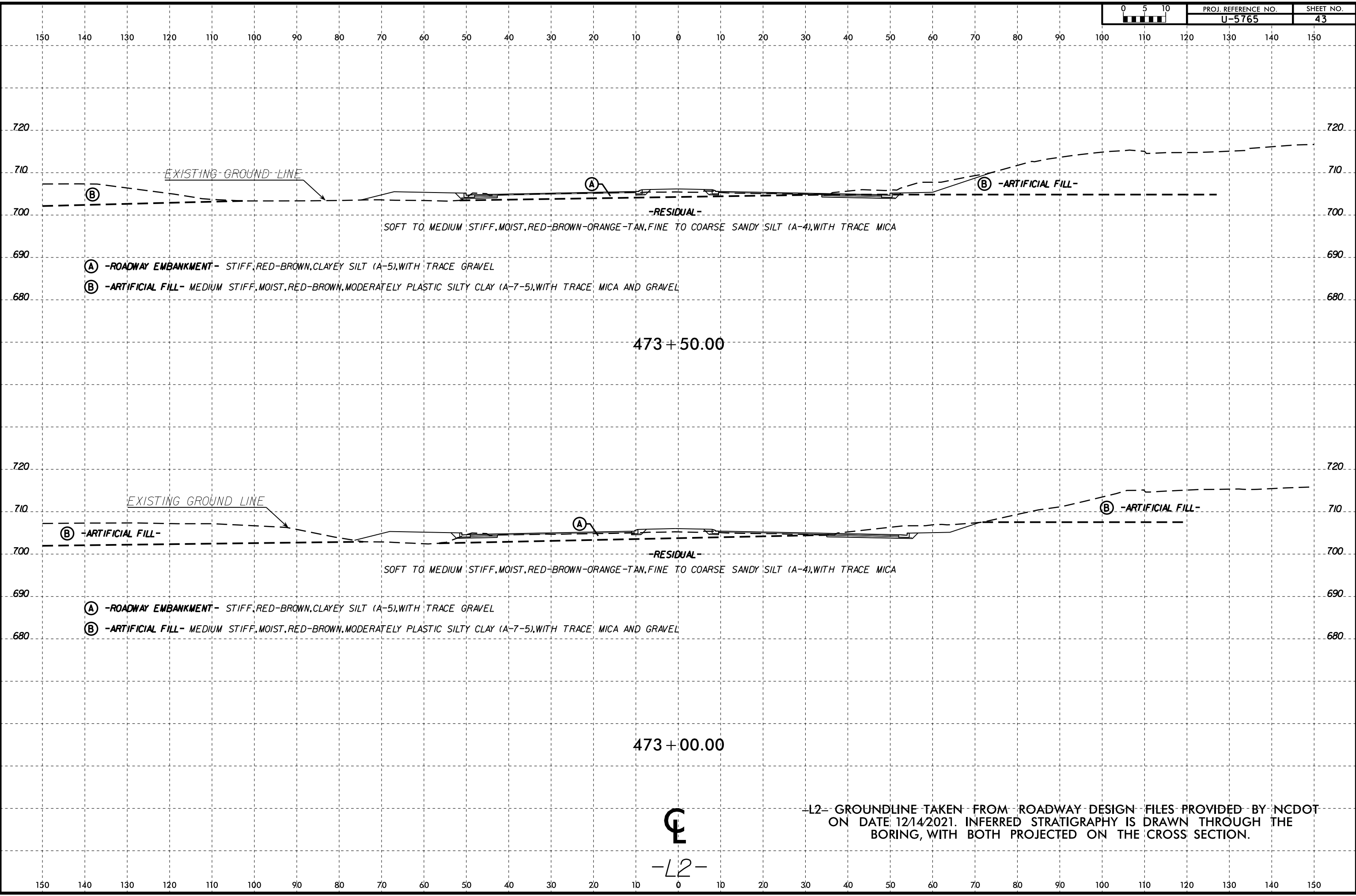
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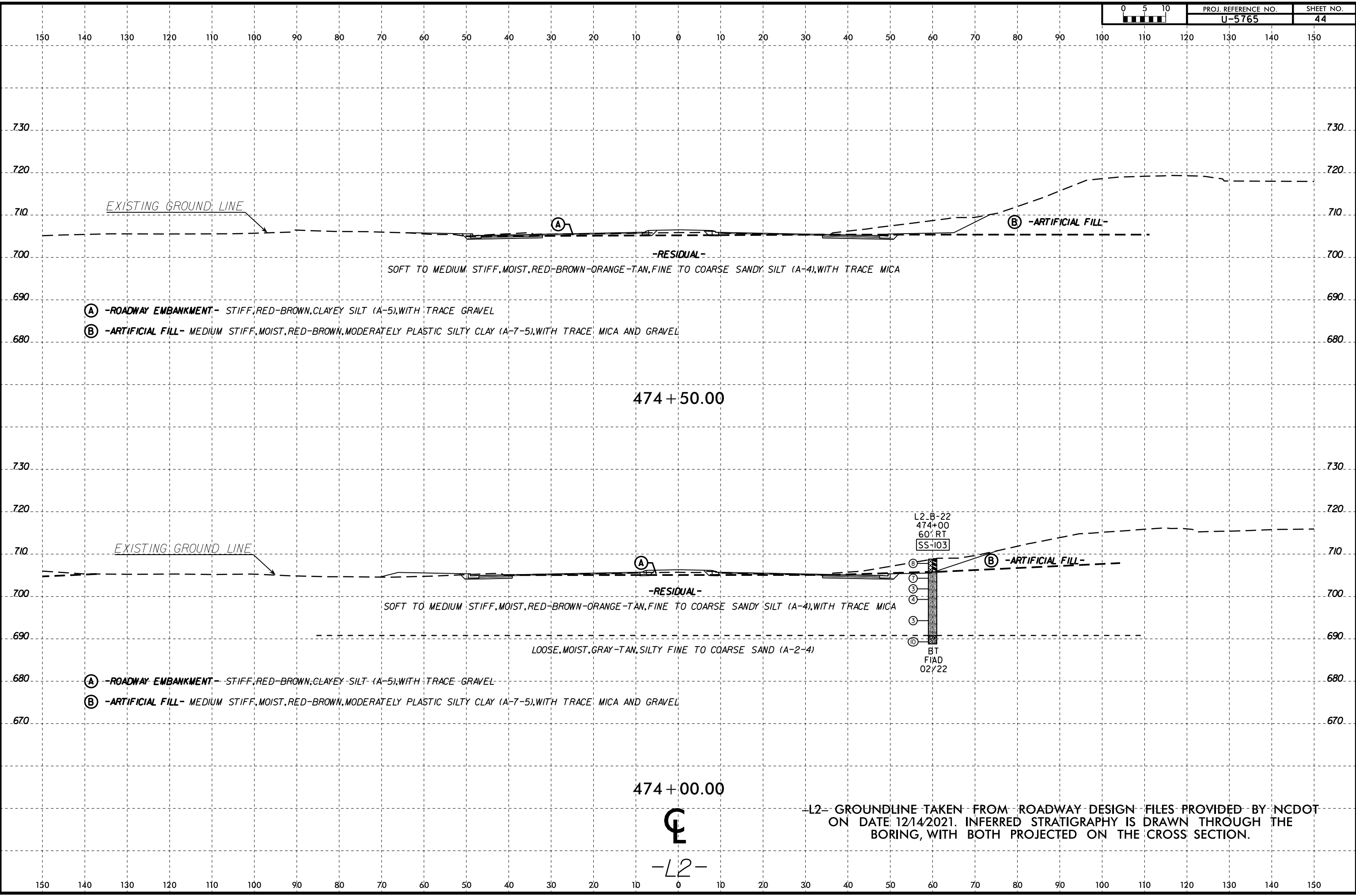


6/23/16
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6/23/16
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SUBMIT

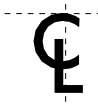
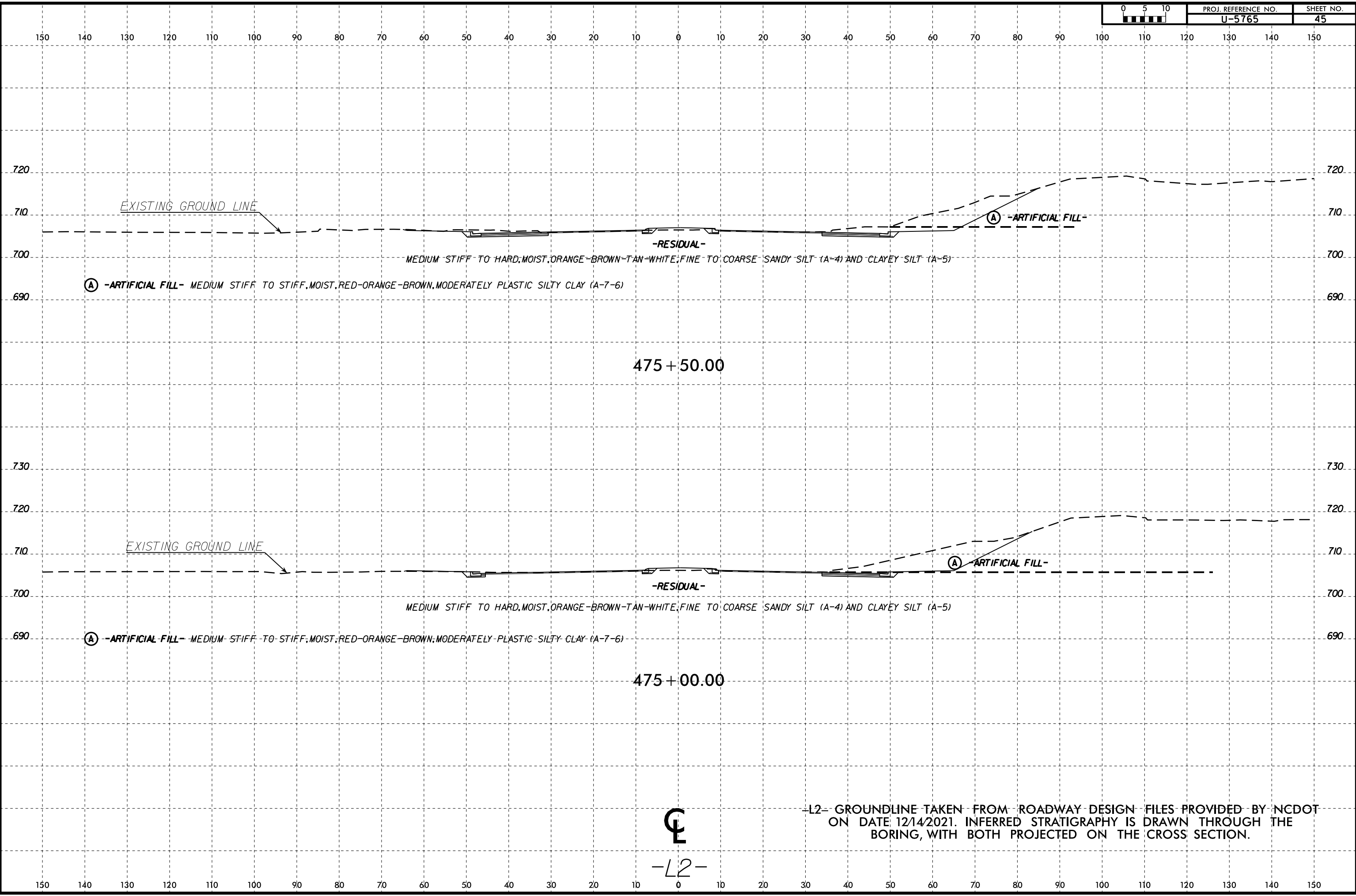
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PROJ. REFERENCE NO.		
U-5765		
SHEET NO.		
44		



-L2- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY NCDOT
ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE
BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16
C:\Users\jnk\Documents\Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\XSC\U5765_GEO_XS1.L2.dgn
05-MAY-2022 14:33
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SUBSENAME

0	5	10	PROJ. REFERENCE NO.	SHEET NO.
			U-5765	45



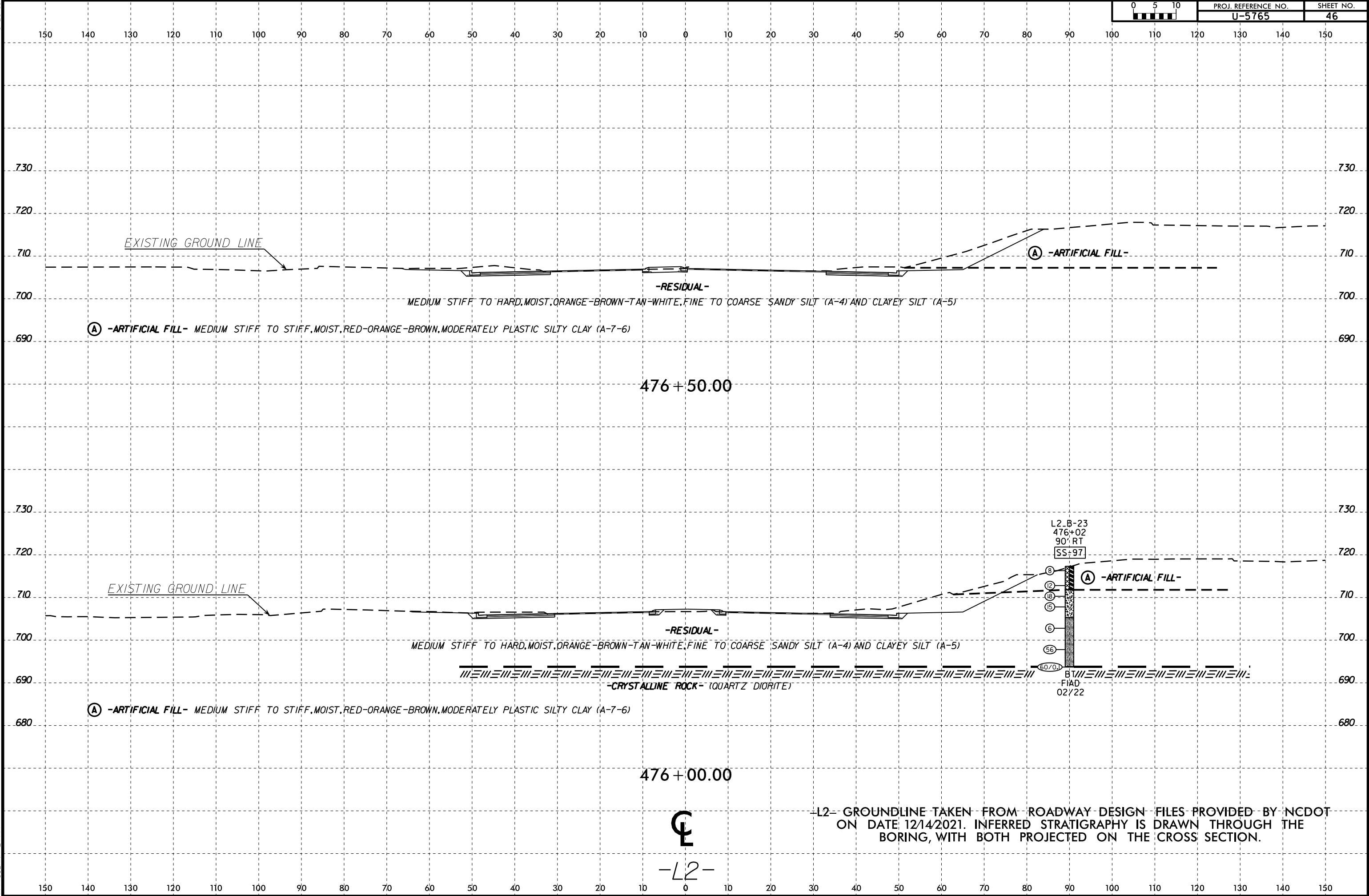
-L2-

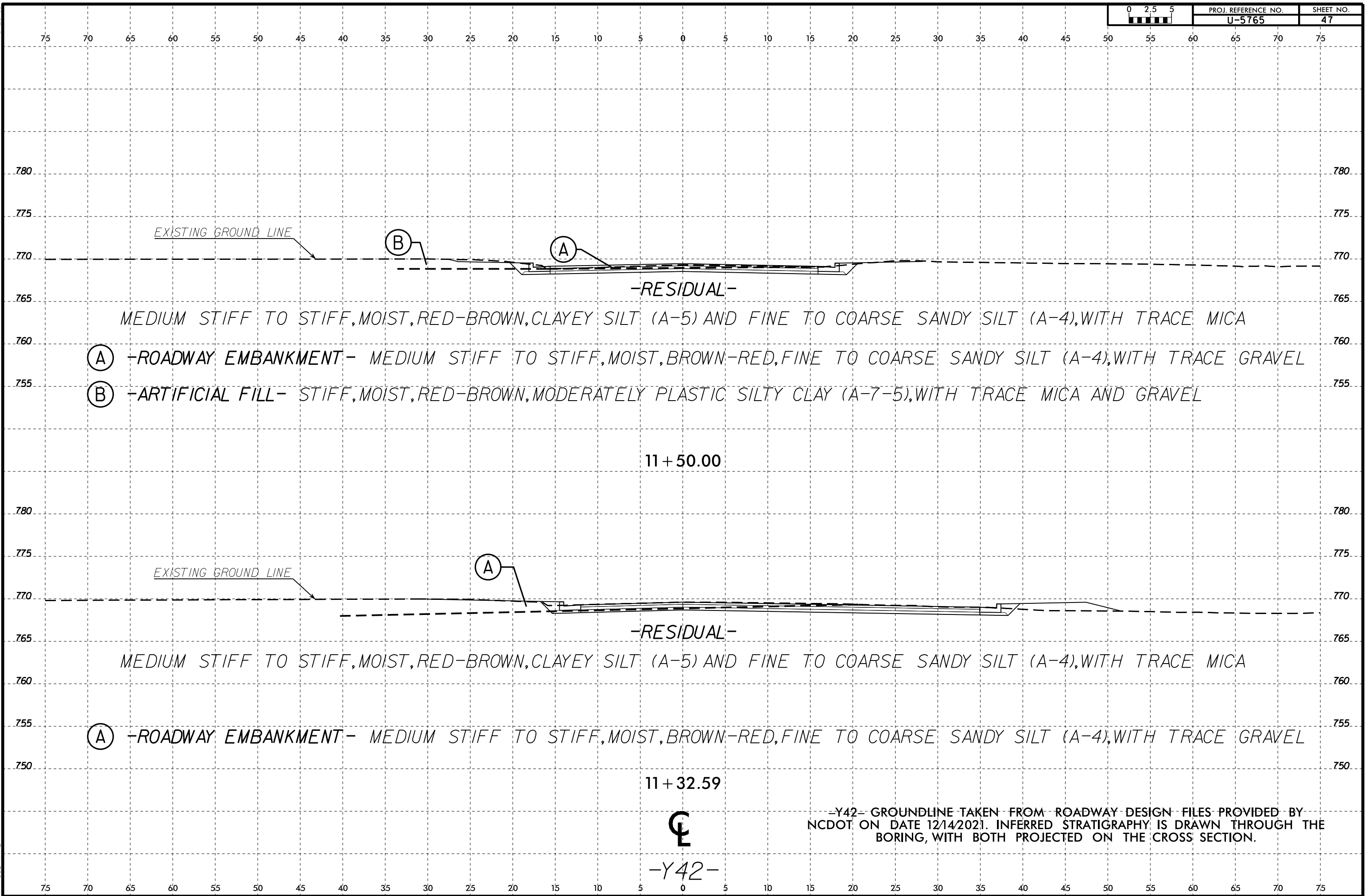
6/23/16

05-MAY-2022 14:33
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SUBMITTAL

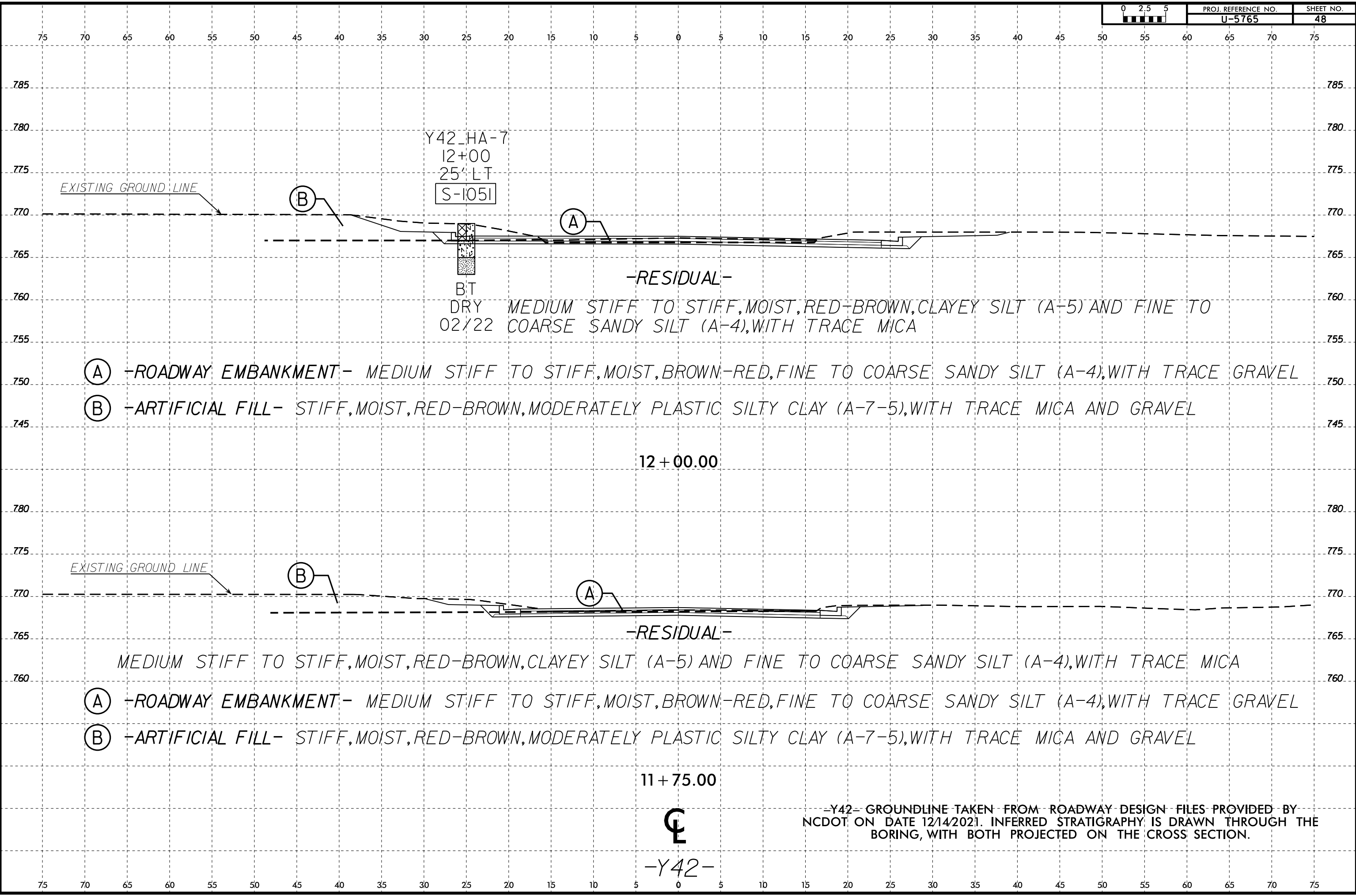


PROJ. REFERENCE NO.	SHEET NO.
U-5765	46

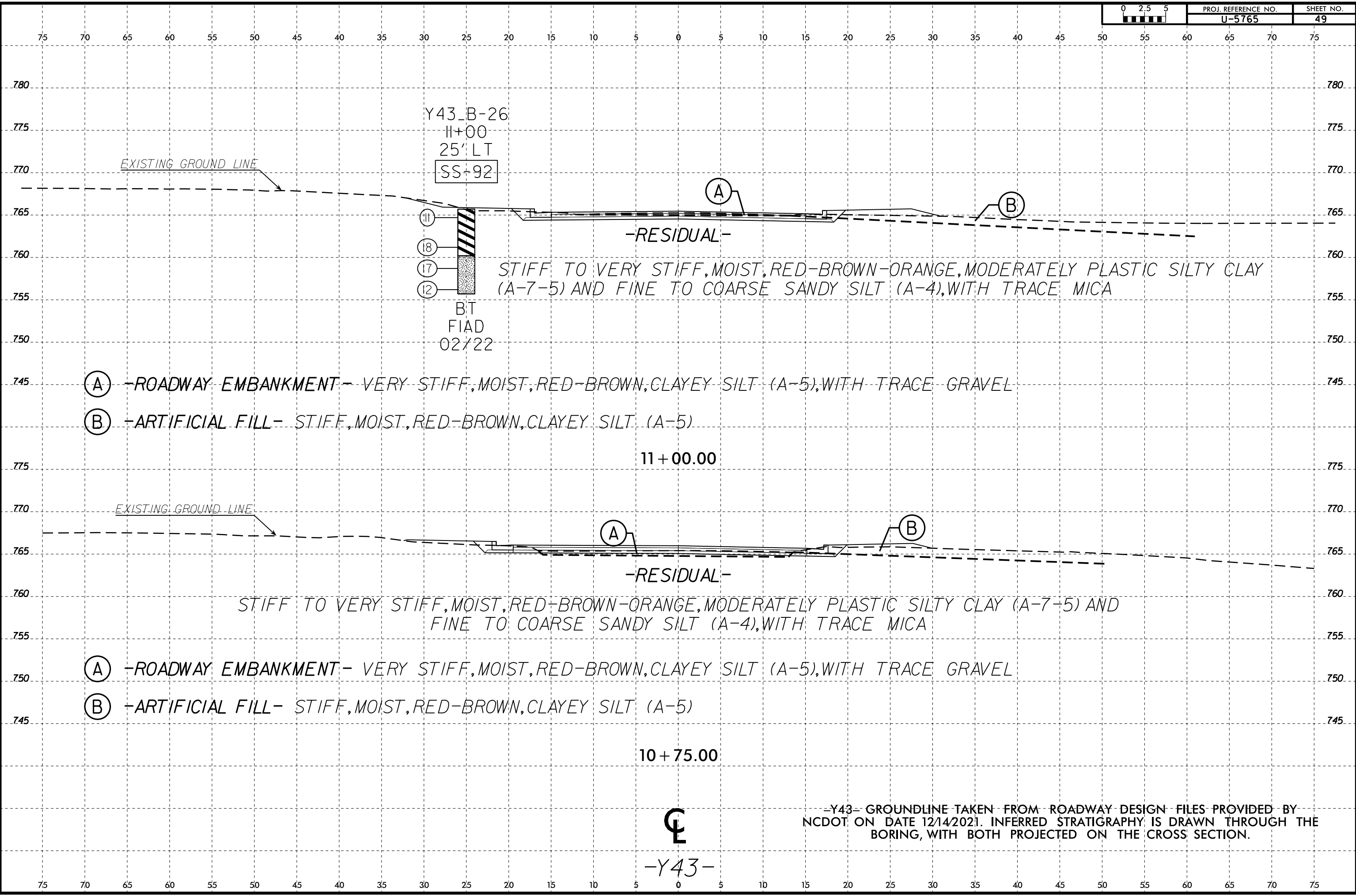




6/23/16
C:\Users\jnk\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\XSC\U5765_GEO_XSL\Y42.dgn
05-MAY-2022 14:33
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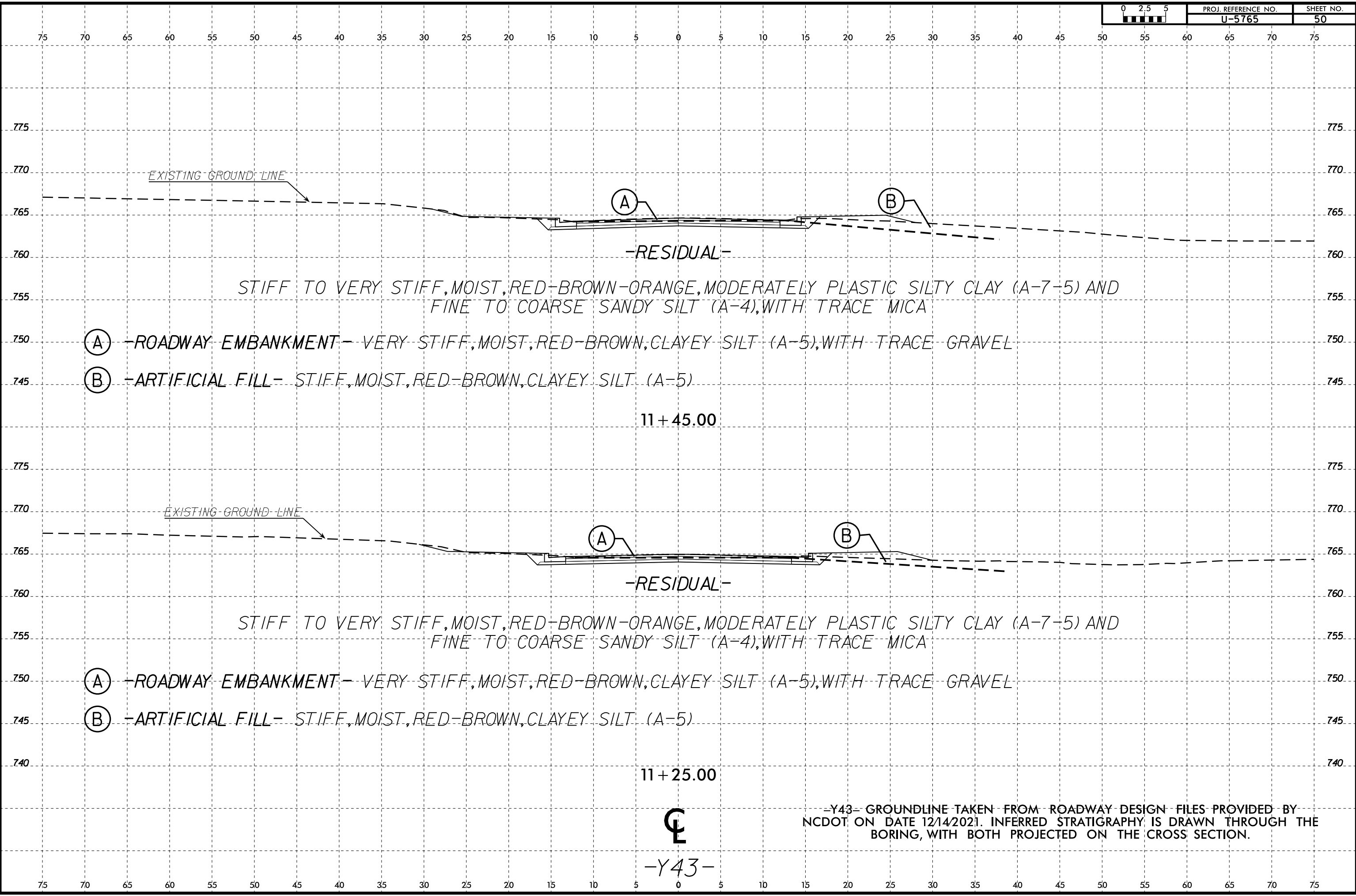


6/23/16
05-MAY-2022 14:33
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SUBNAME



6/23/16
05-MAY-2022 14:33
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SUBAREA

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5765	50

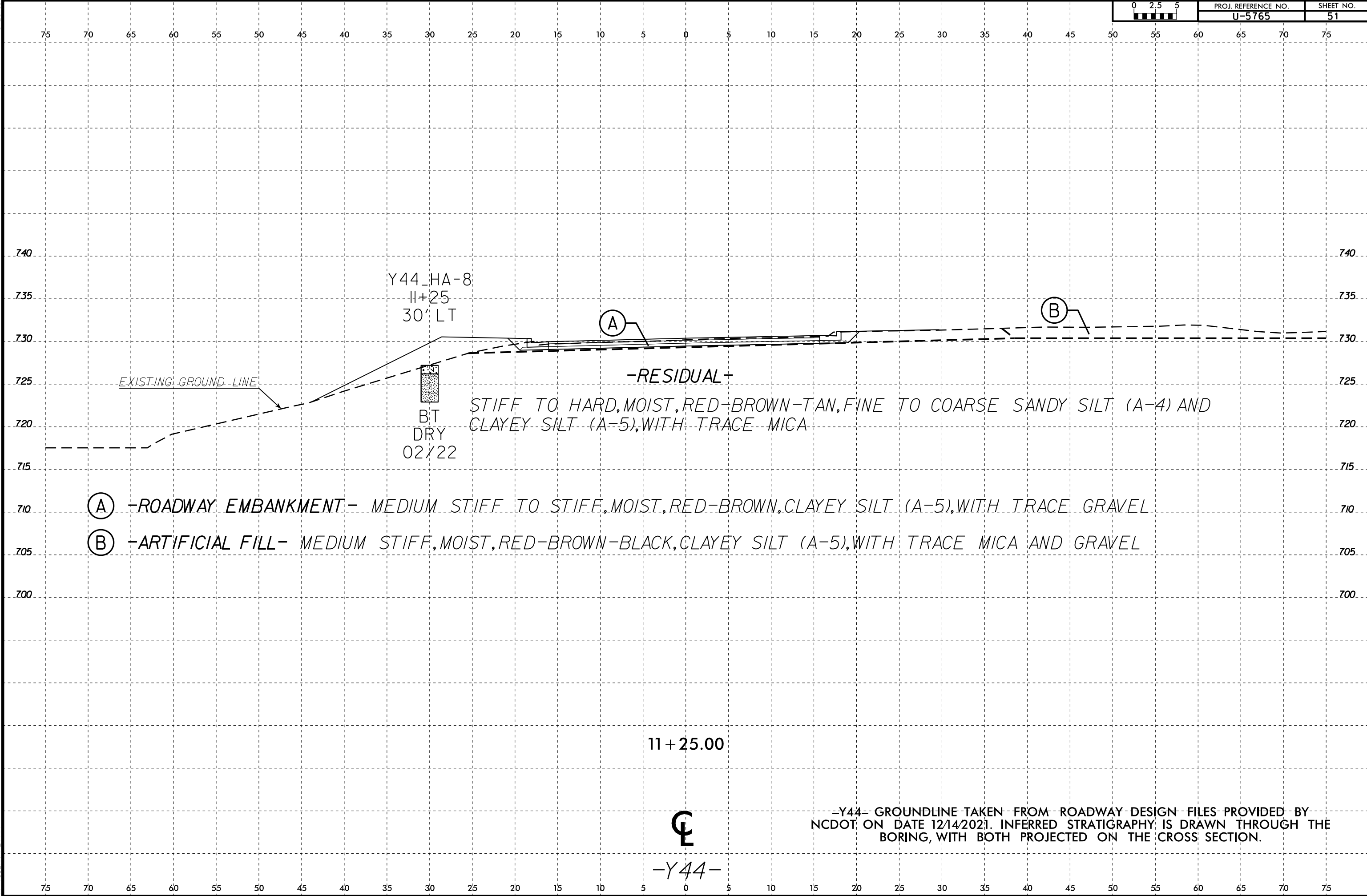


6/23/16

05-MAY-2022 14:33
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SUBSENAME



PROJ. REFERENCE NO.	SHEET NO.
U-5765	51



- (A) -ROADWAY EMBANKMENT- MEDIUM STIFF TO STIFF, MOIST, RED-BROWN, CLAYEY SILT (A-5), WITH TRACE GRAVEL
- (B) -ARTIFICIAL FILL- MEDIUM STIFF, MOIST, RED-BROWN-BLACK, CLAYEY SILT (A-5), WITH TRACE MICA AND GRAVEL

11 + 25.00



-Y44-

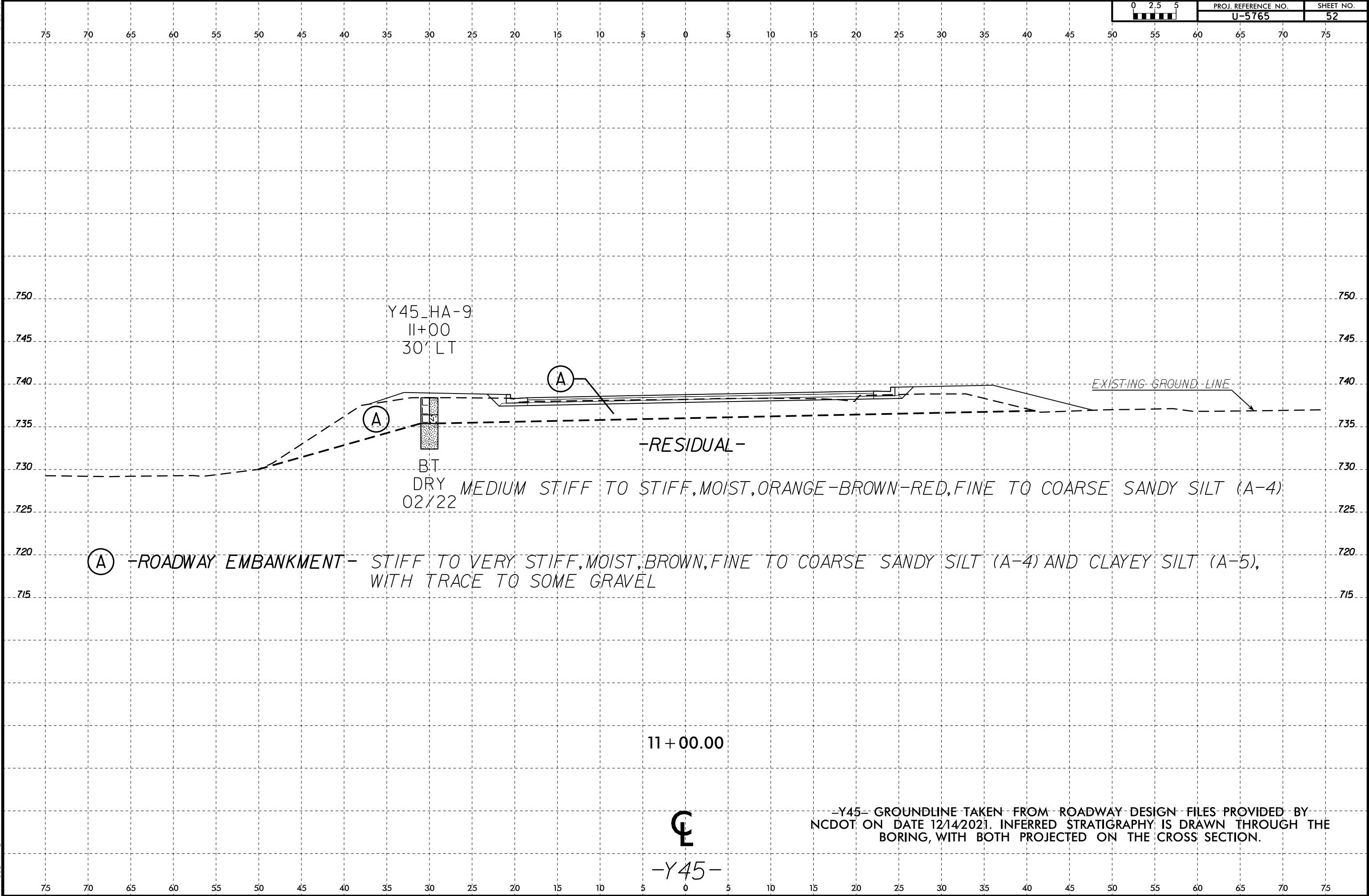
-Y44- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY NCDOT ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16

05-MAY-2022 14:33
C:\Users\jkn\Documents\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\XSC\U5765_GEO_XSL\Y45.dgn
\$\$\$USERNAME\$\$\$



PROJ. REFERENCE NO.	SHEET NO.
U-5765	52

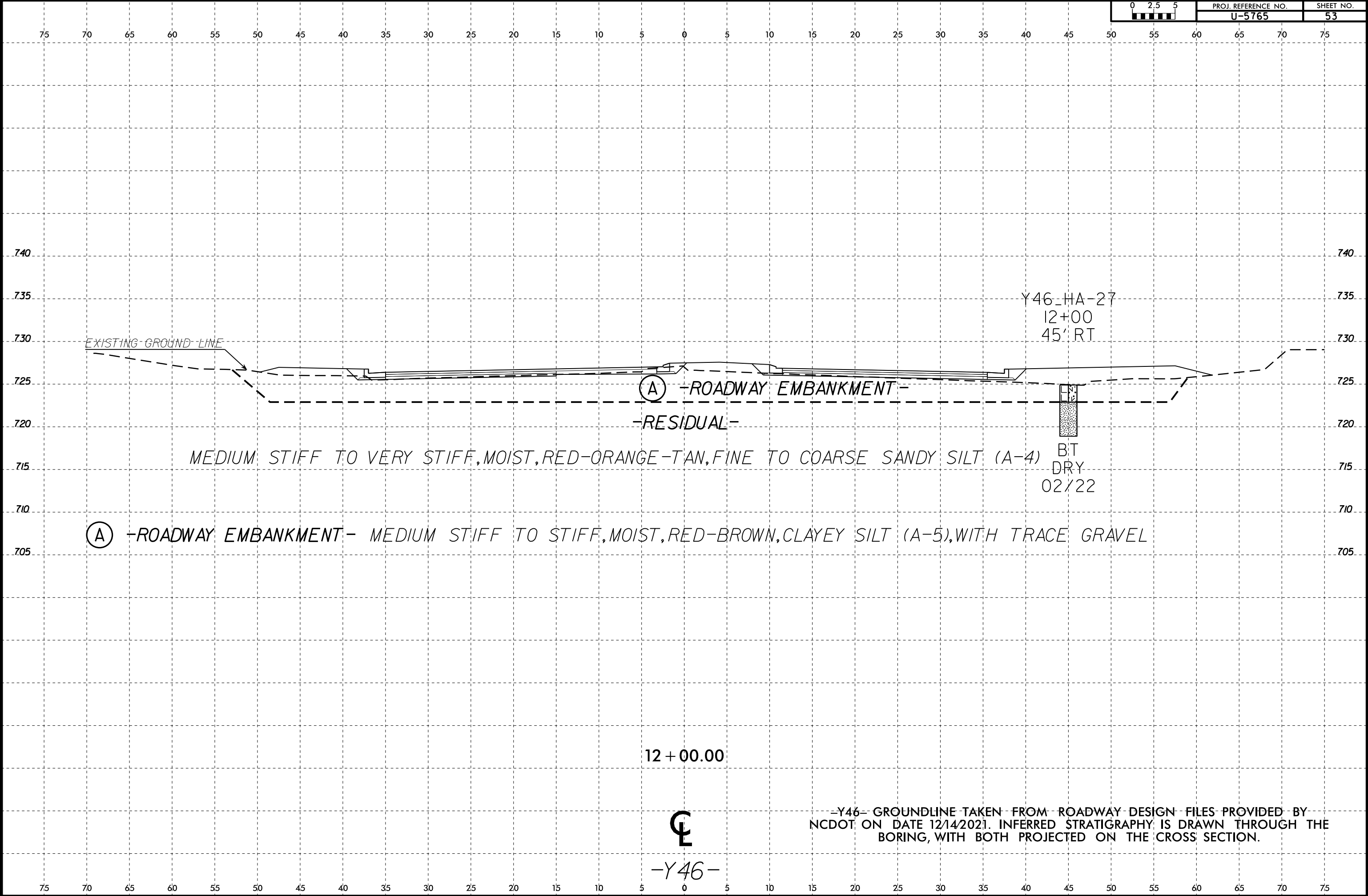


6/23/16

05-MAY-2022 14:33
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\$\$\$SUBNAME\$\$\$



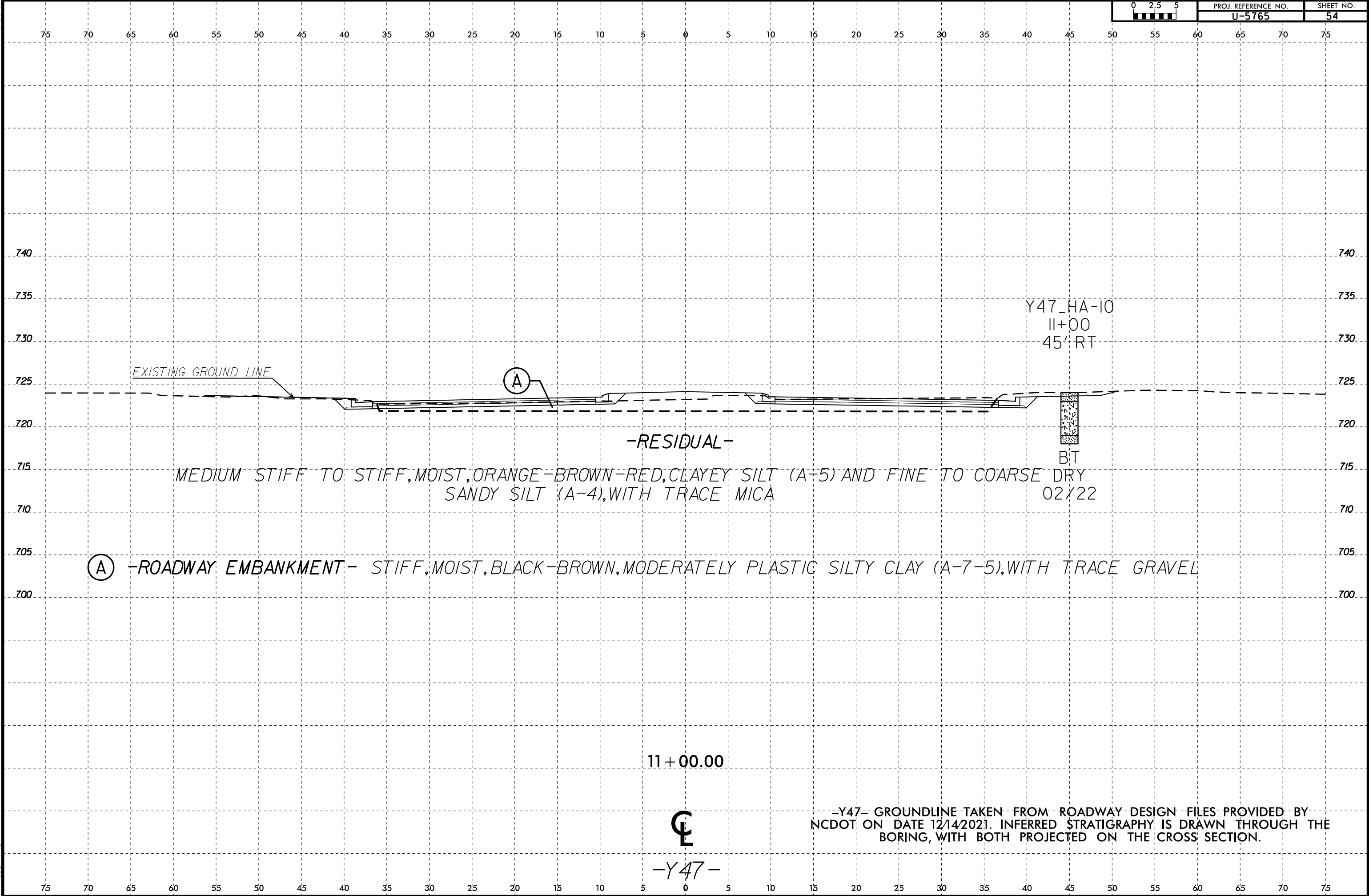
PROJ. REFERENCE NO.	SHEET NO.
U-5765	53



6/23/16

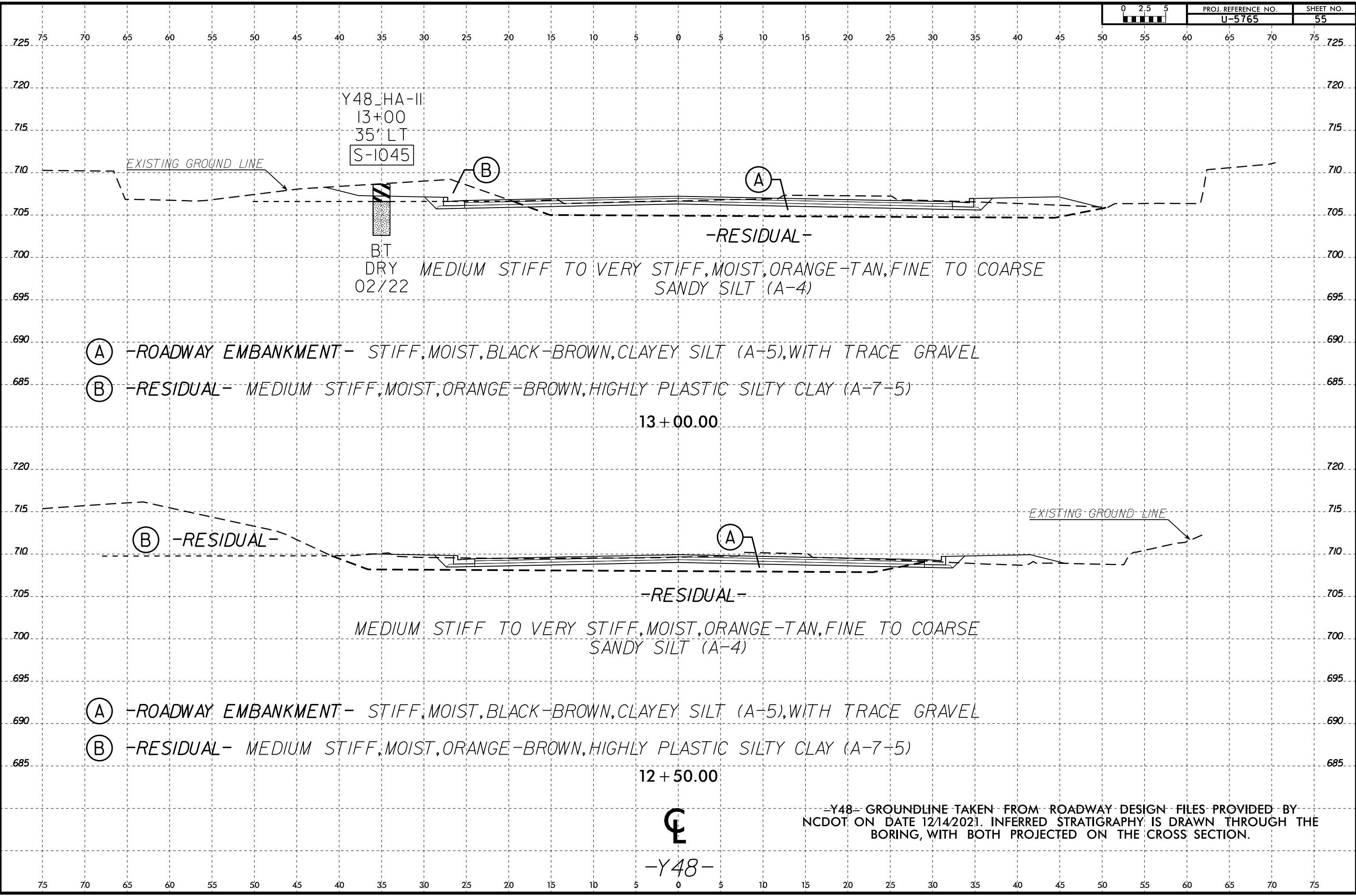
05-MAY-2022 14:33
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SUBNAME

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5765	54



6/23/16
C:\Users\jnk\Documents\run\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900-14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\XSC\U5765_GEO_XSL\Y48.dgn
05-MAY-2022 14:33
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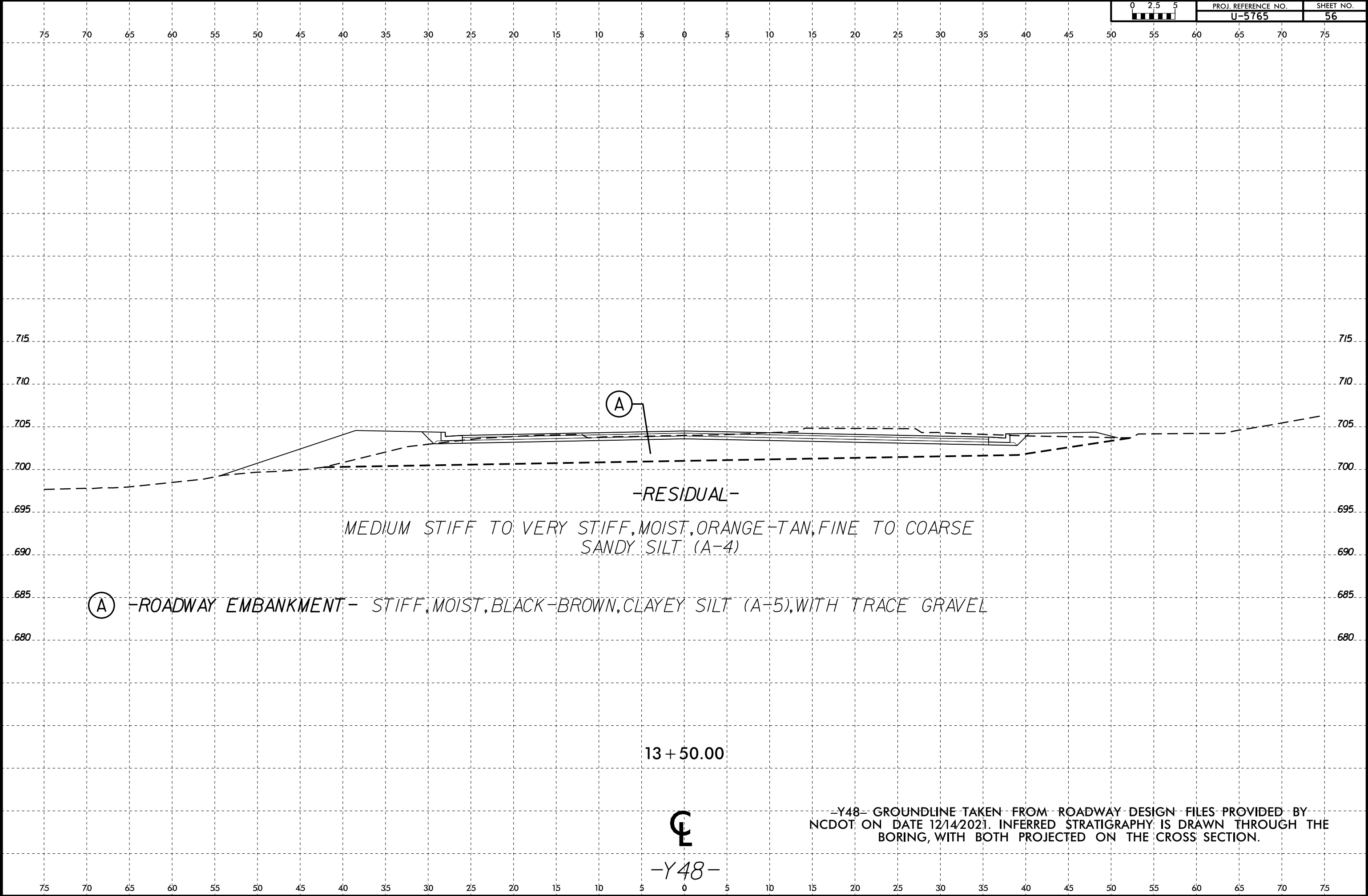
PROJ. REFERENCE NO.	SHEET NO.
U-5765	55



6/23/16

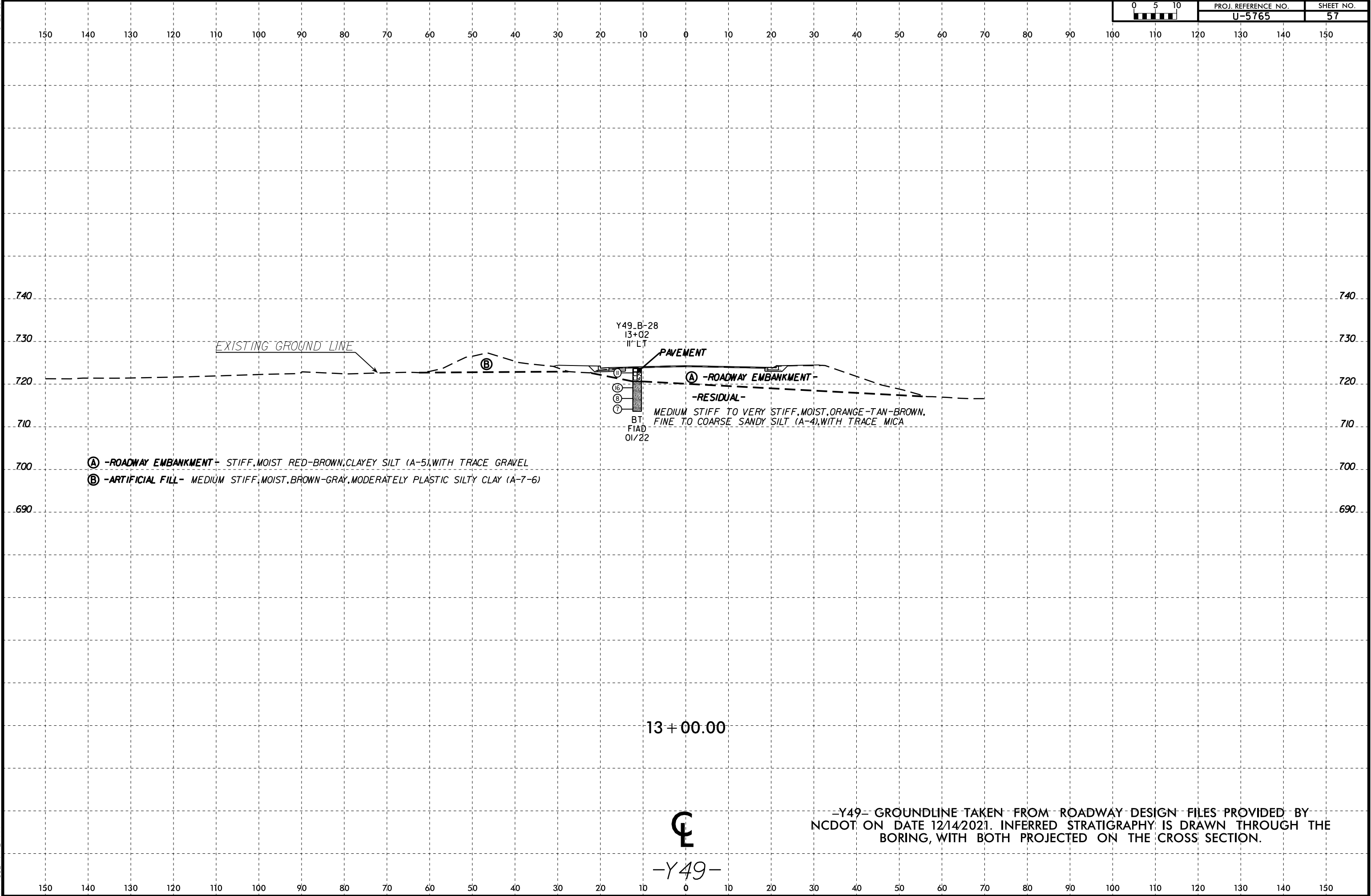
05-MAY-2022 14:33
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\$\$\$SUBNAME\$\$\$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5765	56

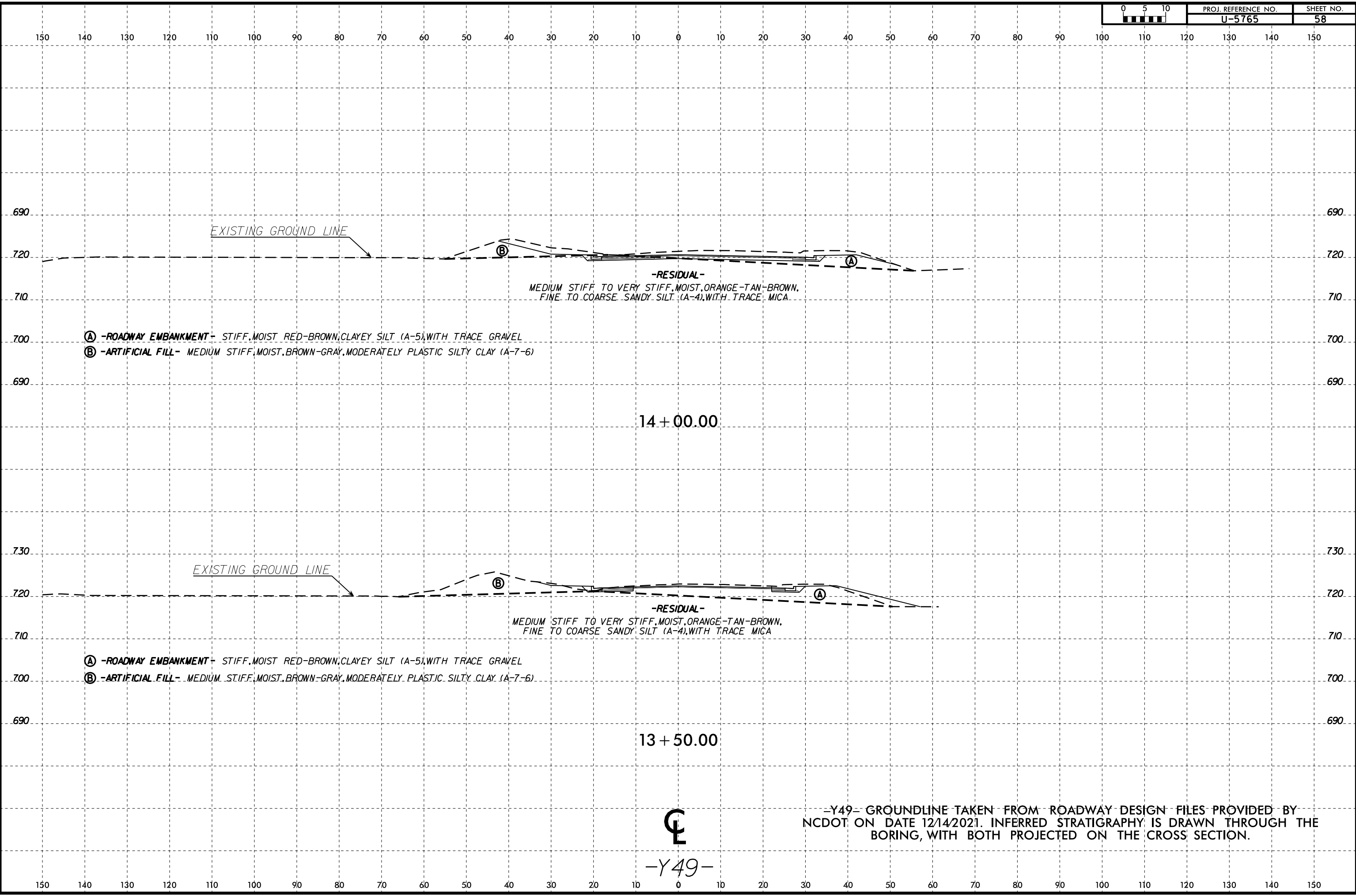


6/23/16

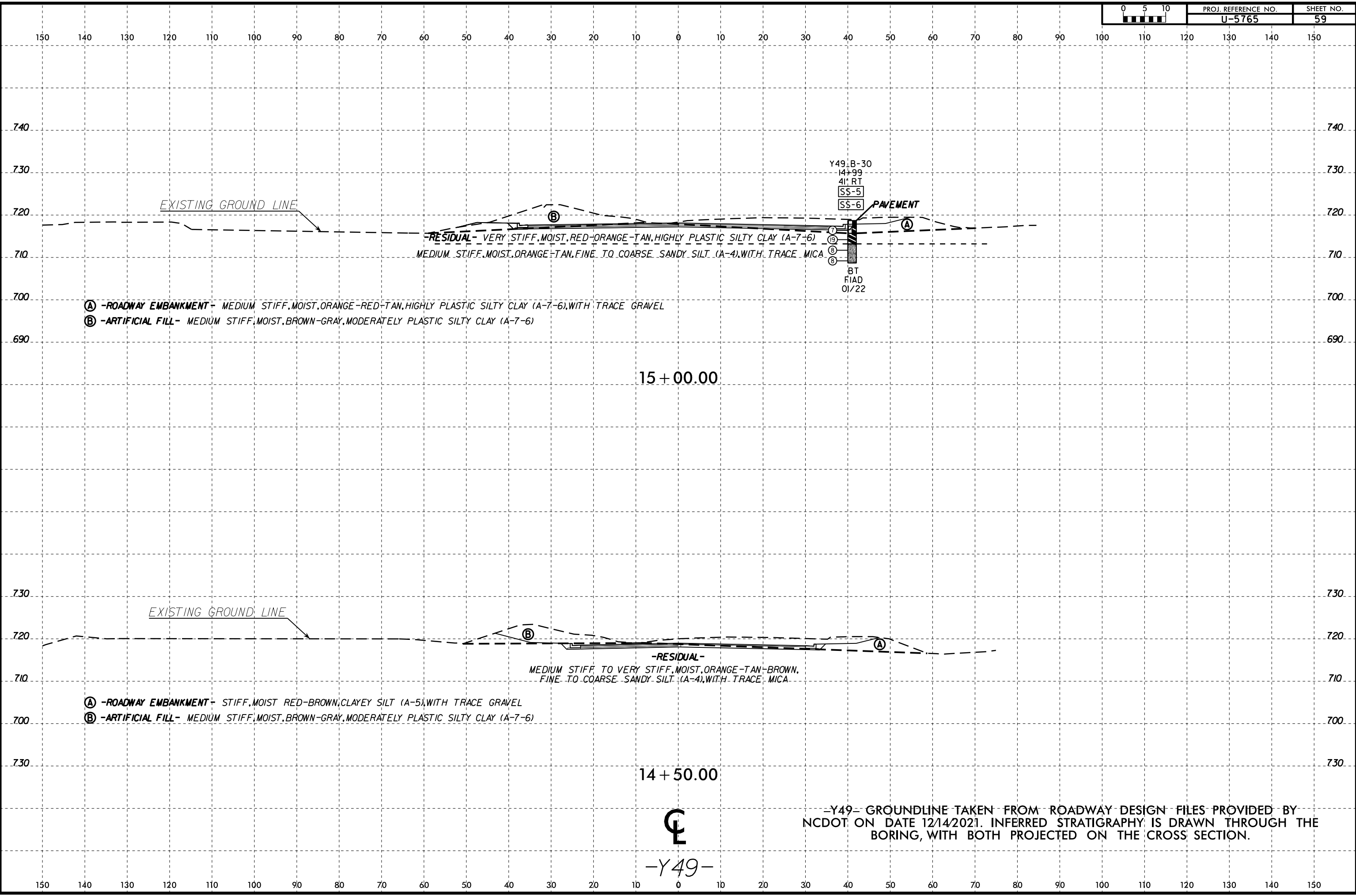
05-MAY-2022 14:33
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SUBMITTAL



6/23/16
05-MAY-2022 14:33
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SUBSENAME



6/23/16
C:\Users\jnk\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\XSC\U5765_GEO_XSL\Y49.dgn
05-MAY-2022 14:33
jnk
SUBMIT

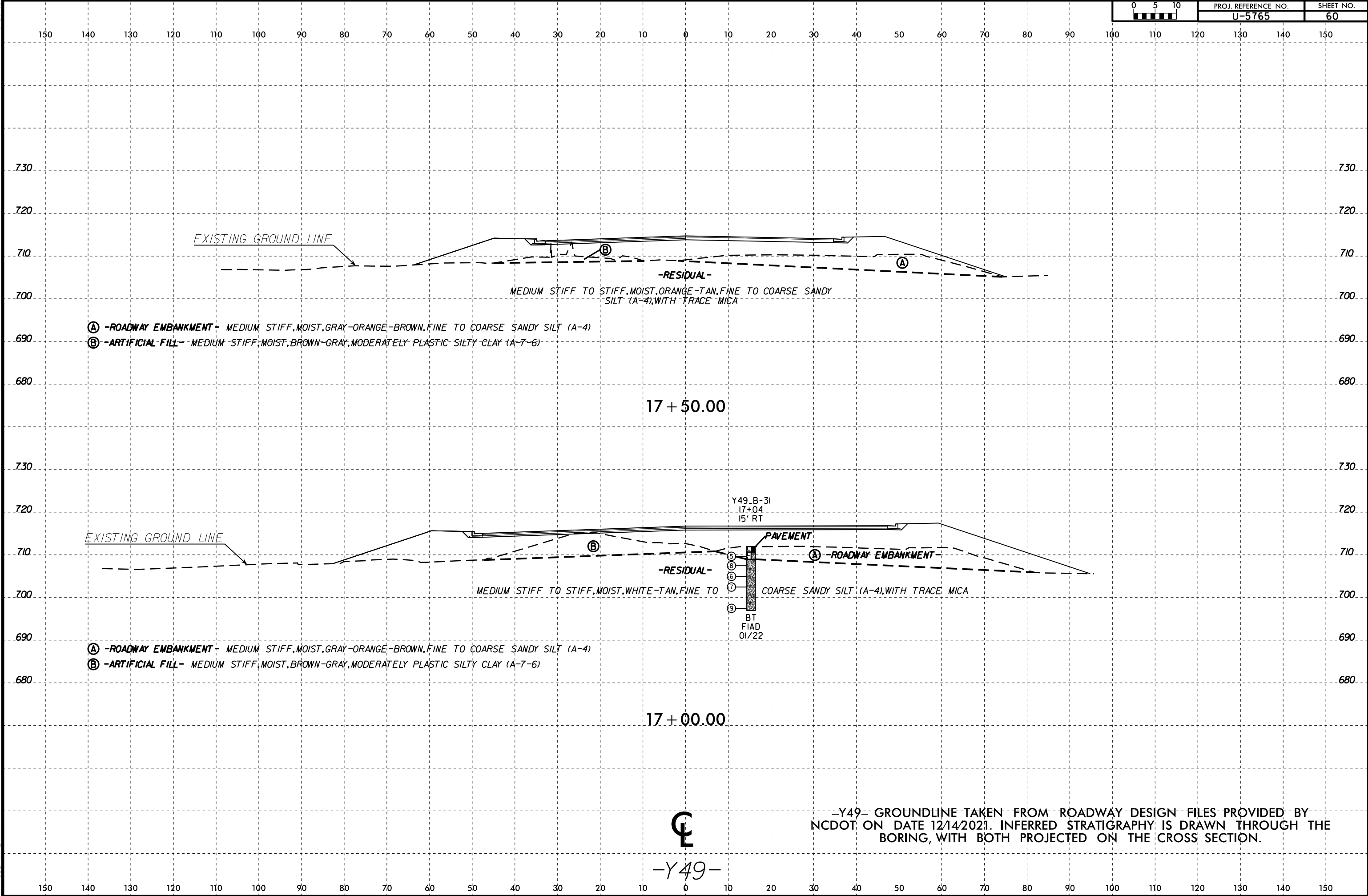


6/23/16

05-MAY-2022 14:33
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SUBMIT



PROJ. REFERENCE NO.	SHEET NO.
U-5765	60



CL

-Y49-

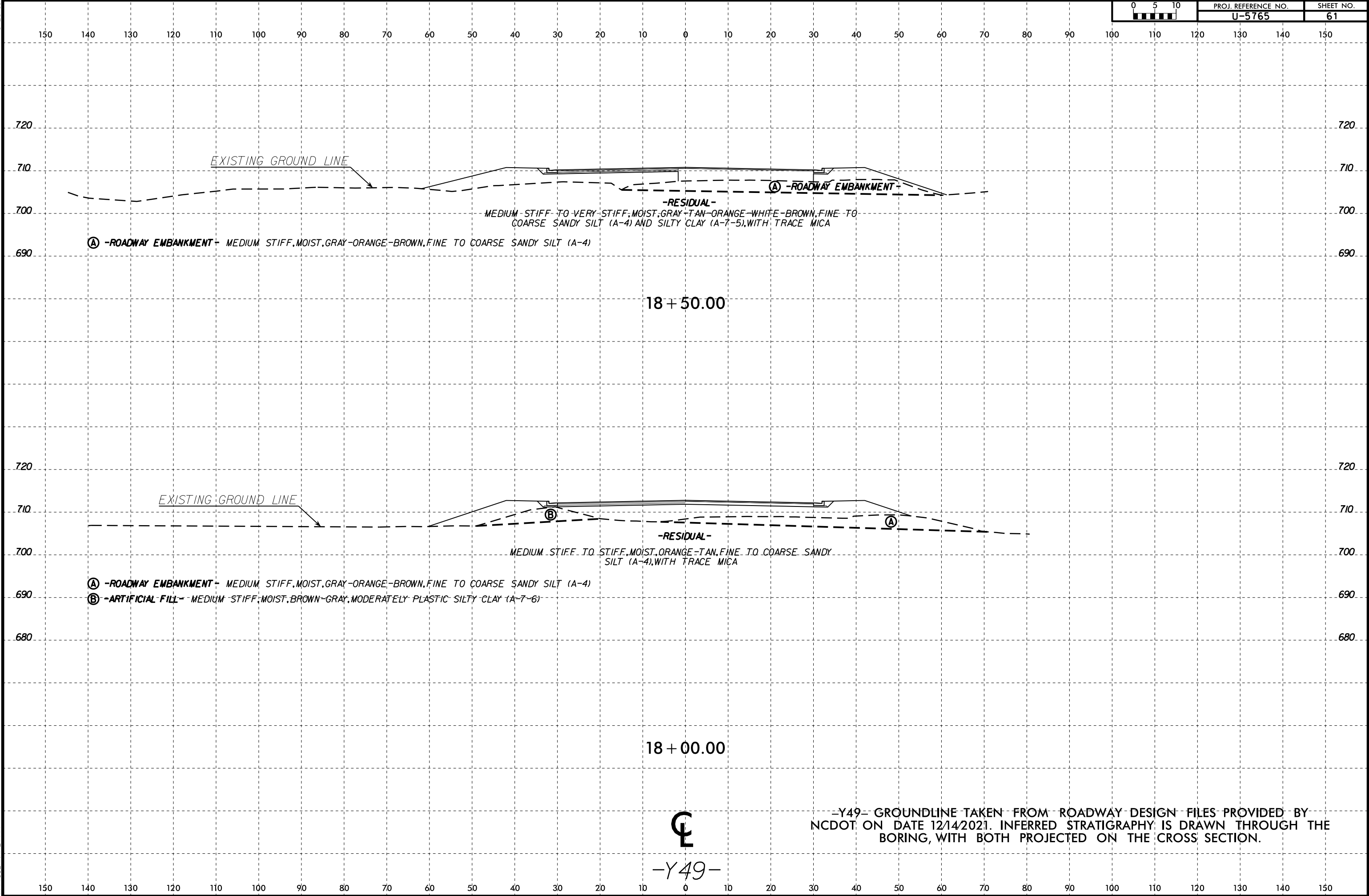
-Y49- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY NCDOT ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16

05-MAY-2022 14:34
C:\Users\jnk\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEOTECH\XSC\U5765_GEO_XSL_Y49.dgn
SUBMIT



PROJ. REFERENCE NO.	SHEET NO.
U-5765	61

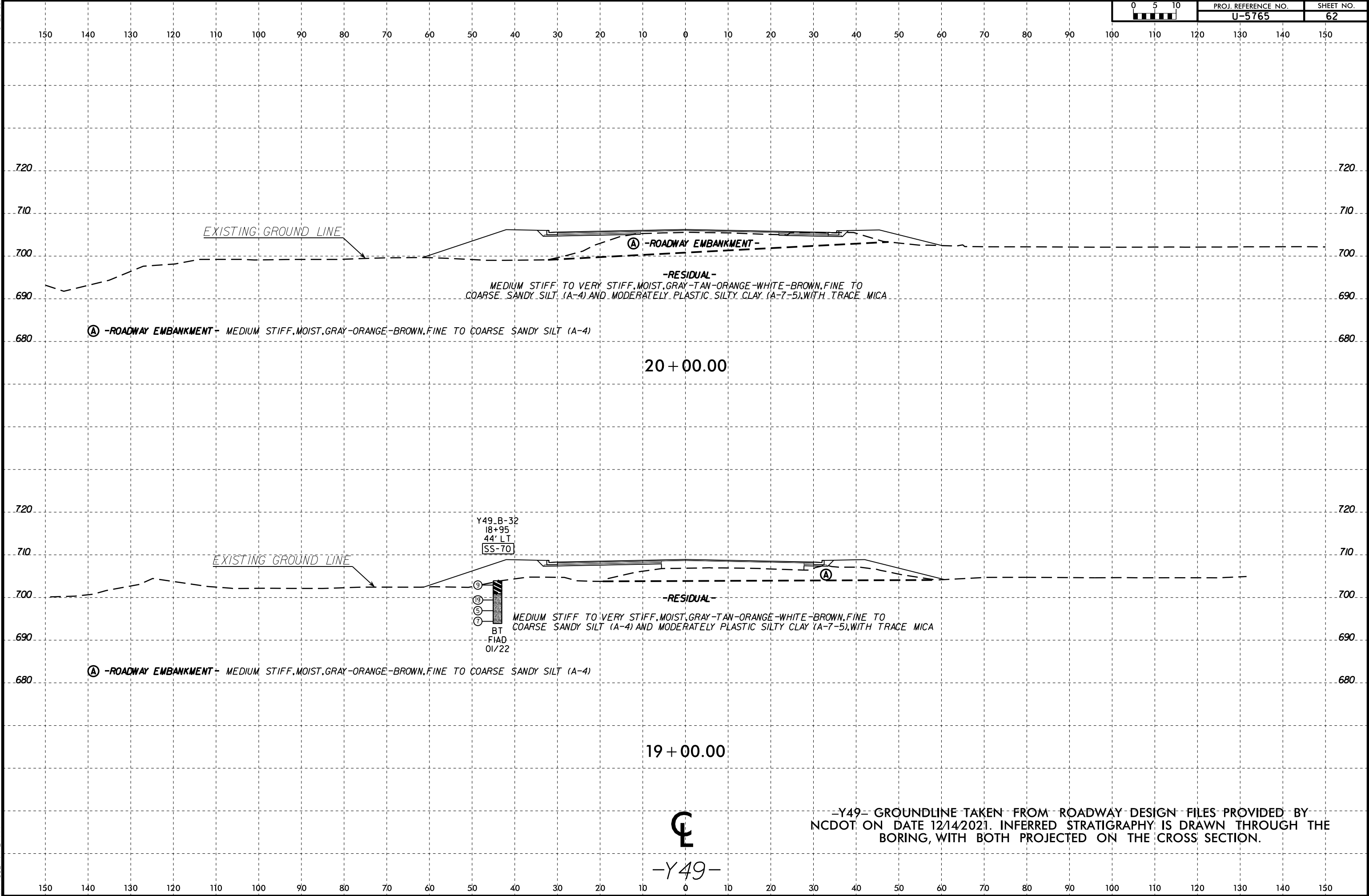


6/23/16

05-MAY-2022 14:34
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SUBSENAME



PROJ. REFERENCE NO.	SHEET NO.
U-5765	62

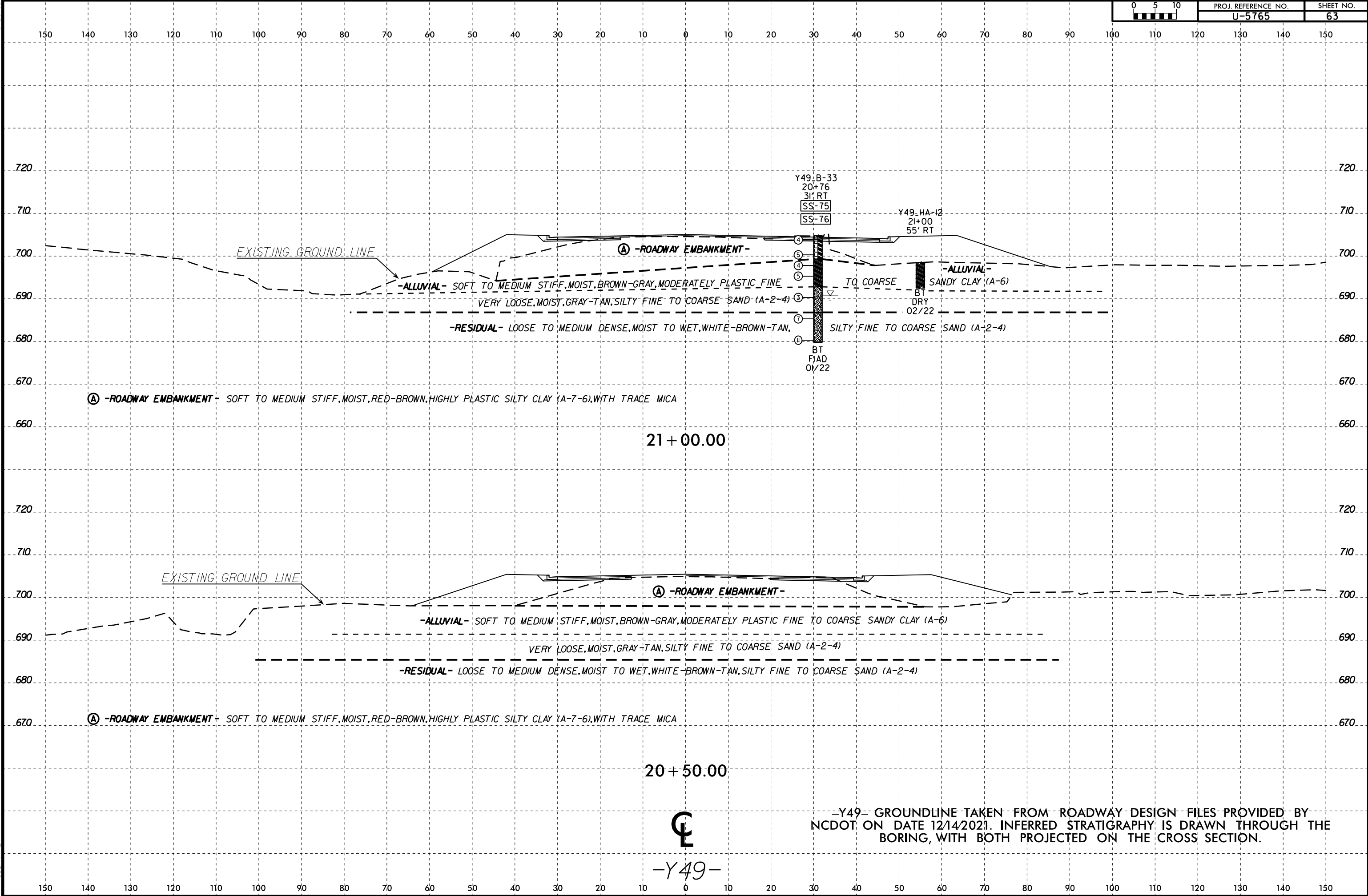


6/23/16

05-MAY-2022 14:34
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SUBMITTAL



PROJ. REFERENCE NO.	SHEET NO.
U-5765	63

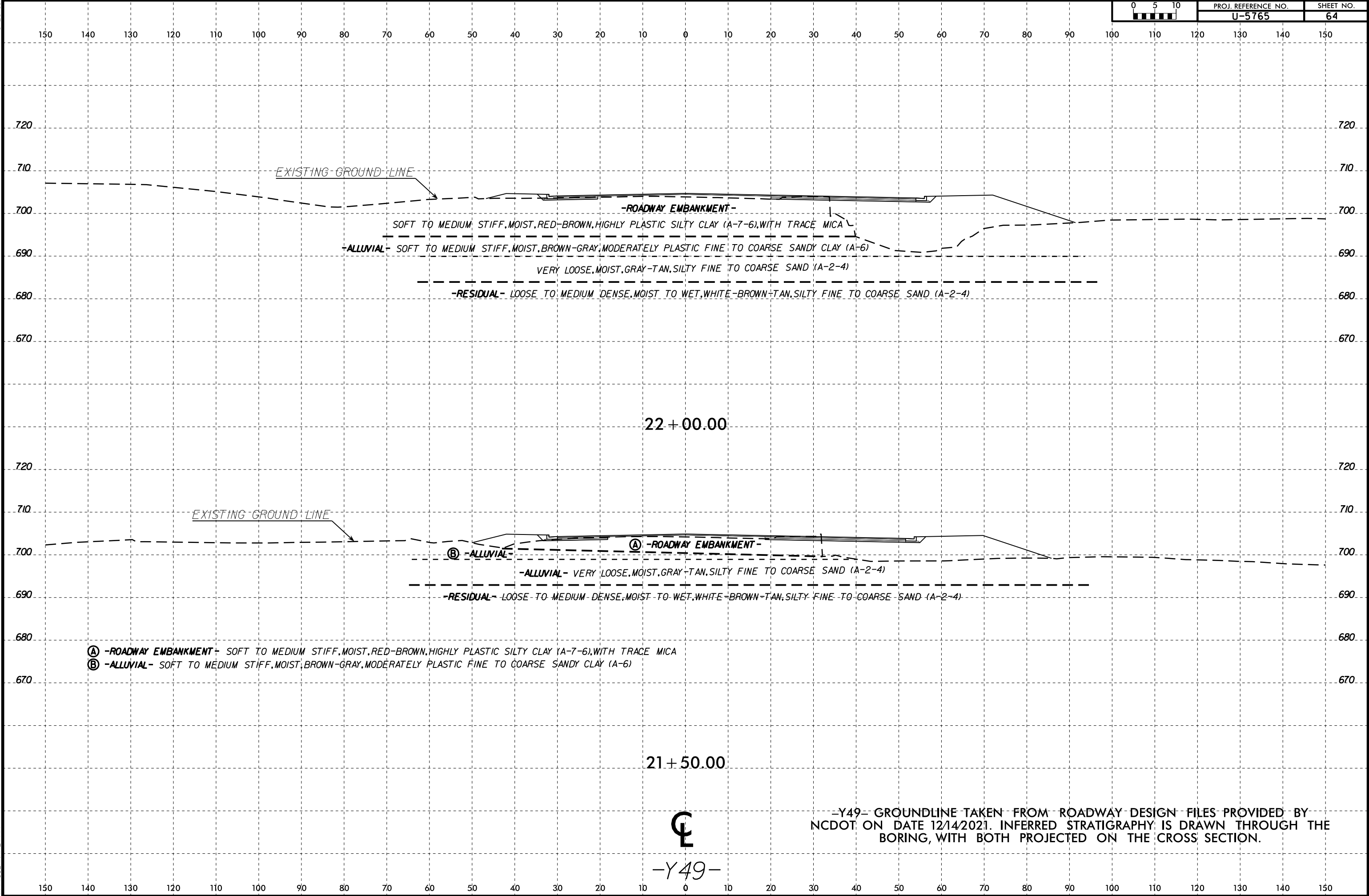


6/23/16

05-MAY-2022 14:34
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\$\$\$USERNAME\$\$\$



PROJ. REFERENCE NO.	SHEET NO.
U-5765	64

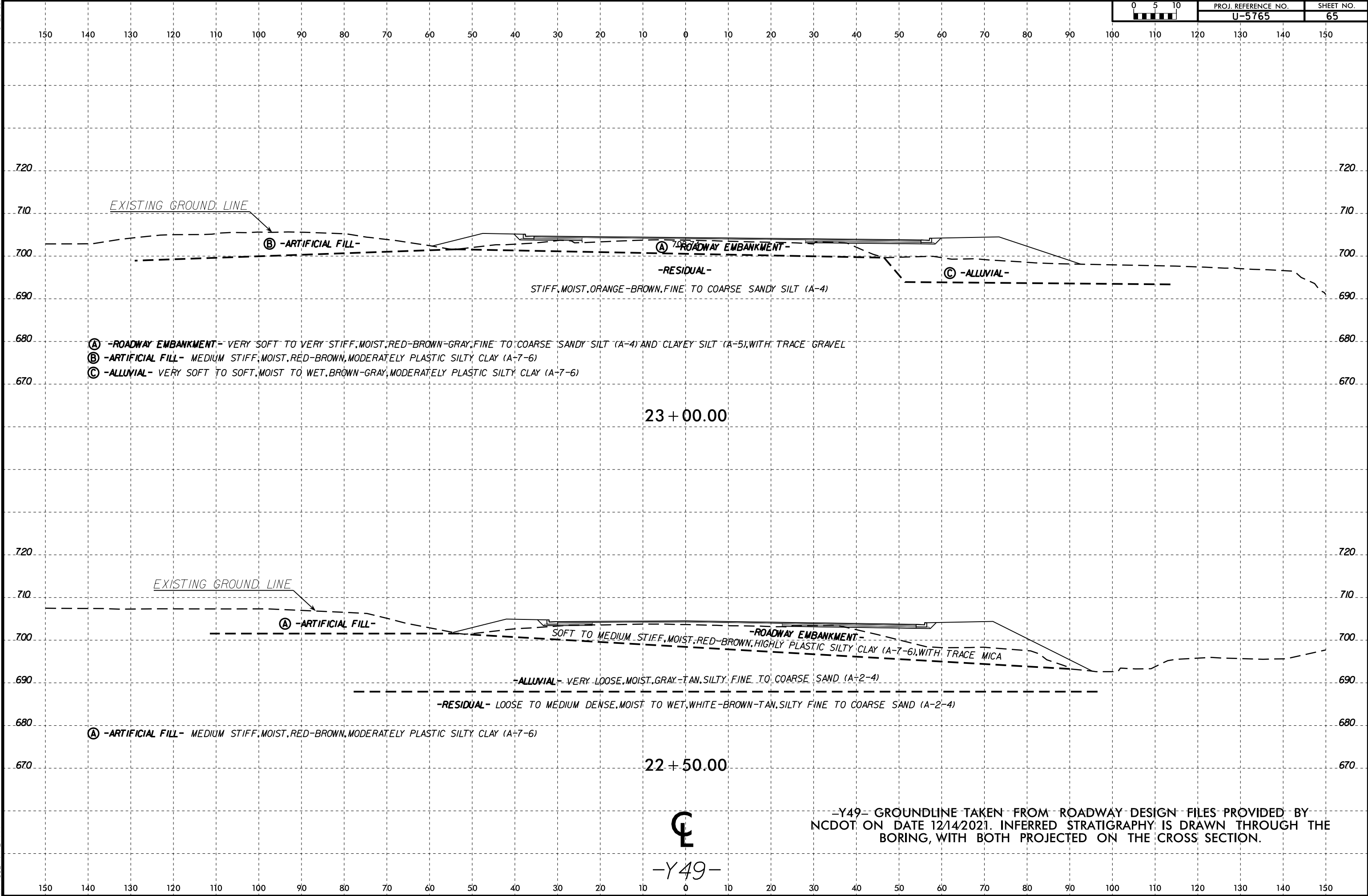


6/23/16

05-MAY-2022 14:34
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PROJ. REFERENCE NO.	SHEET NO.
U-5765	65

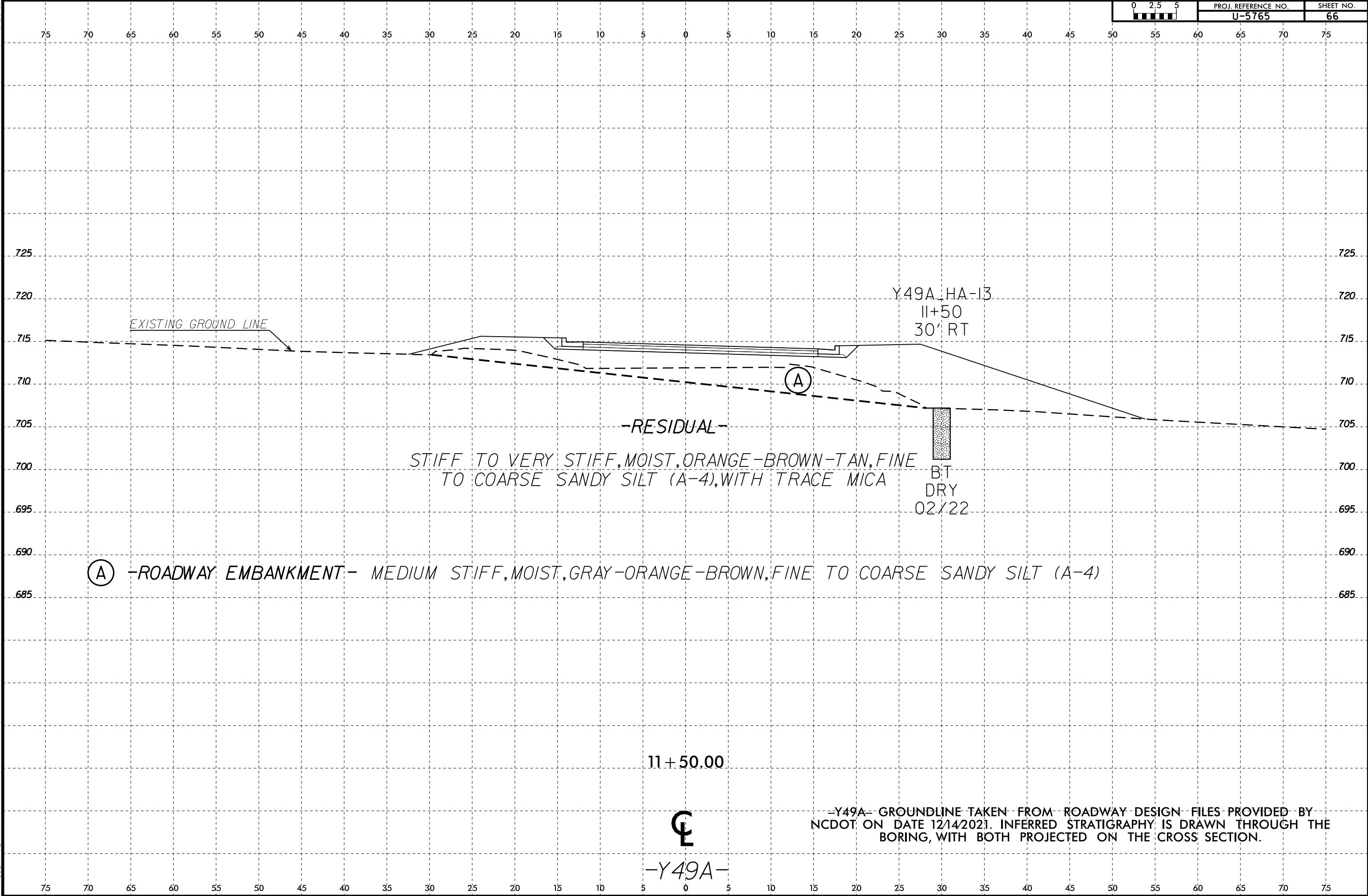


6/23/16

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PROJ. REFERENCE NO.	SHEET NO.
U-5765	66



EXISTING GROUND LINE

Y49A HA-13
11+50
30' RT

-RESIDUAL-

STIFF TO VERY STIFF, MOIST, ORANGE-BROWN-TAN, FINE
TO COARSE SANDY SILT (A-4), WITH TRACE MICA

BT
DRY
02/22

(A) -ROADWAY EMBANKMENT- MEDIUM STIFF, MOIST, GRAY-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4)

11+50.00

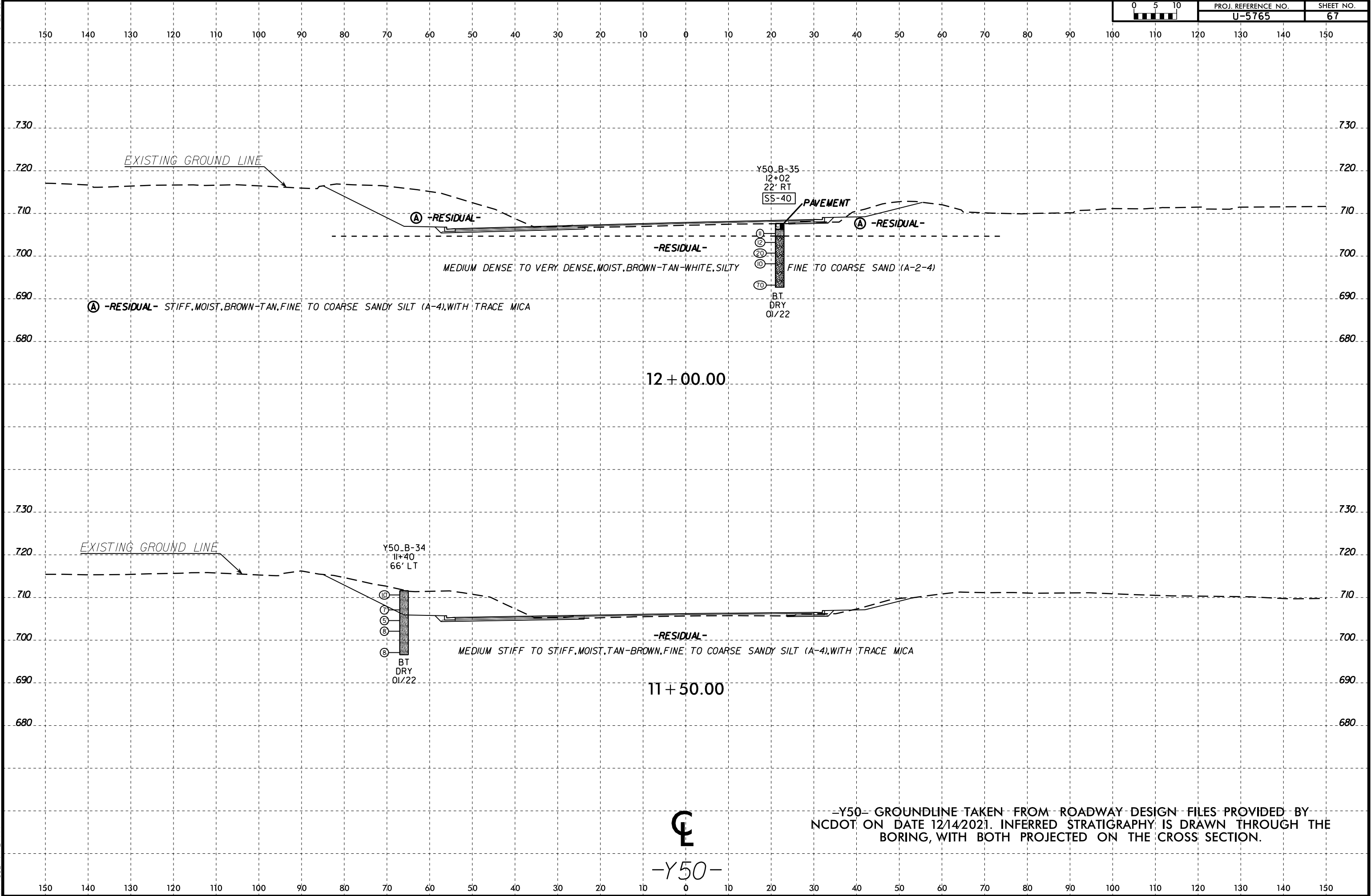
CL

-Y49A-

Y49A- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY
NCDOT ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE
BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16

05-MAY-2022 14:34
C:\Users\jnk\Documents\brun\OneDrive - ECS Corporate Services\08 Geo Projects\14000-14900\14900\14951 - U-5765 - NC73 From SR 5544 to SR 2316 Widening\CADD\GEO\TECH\SSC\U5765_GEO_XSL\Y50.dgn
SUBNAME

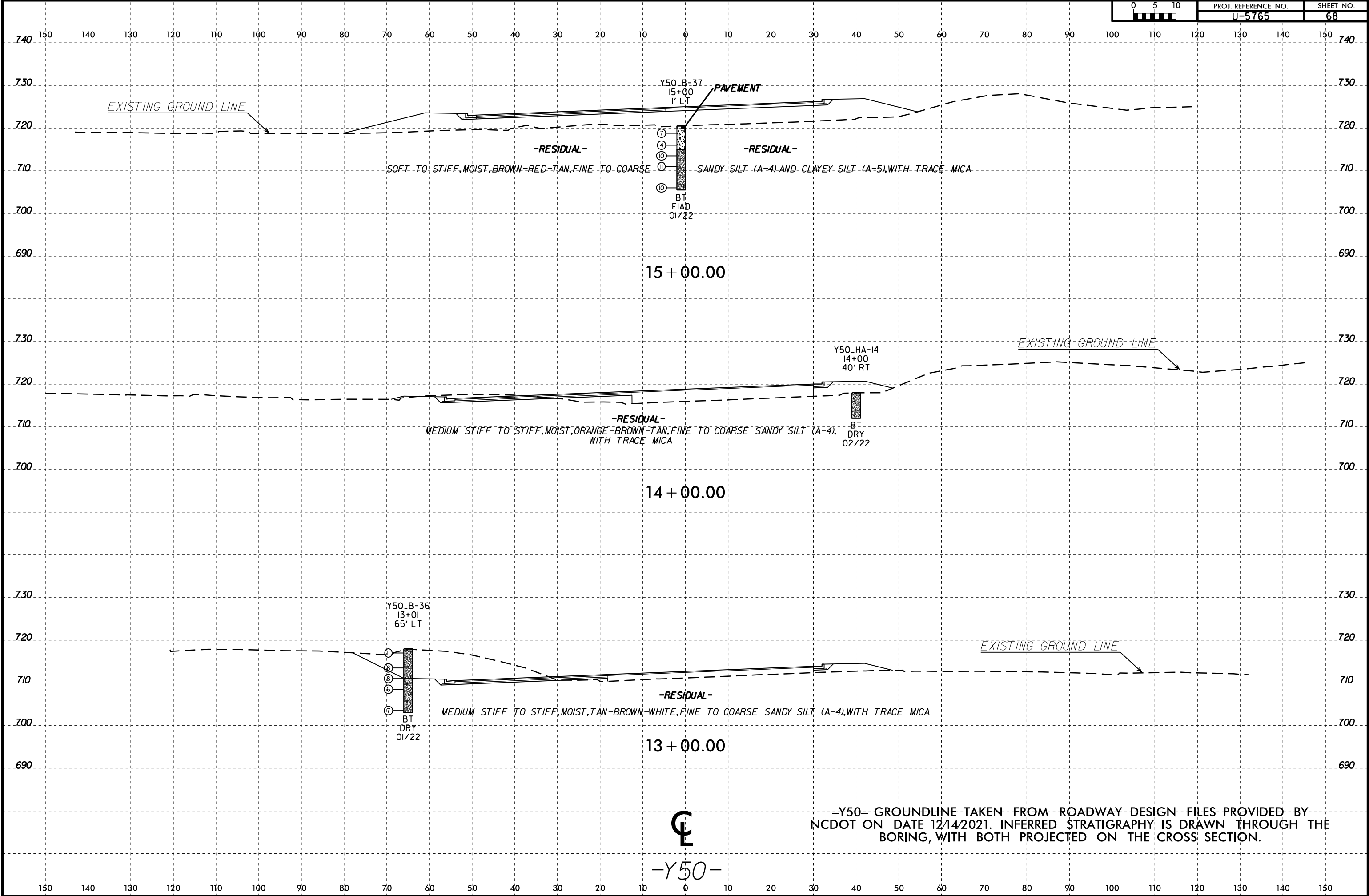


6/23/16

05-MAY-2022 14:34
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SUBMITNAME



PROJ. REFERENCE NO.	SHEET NO.
U-5765	68

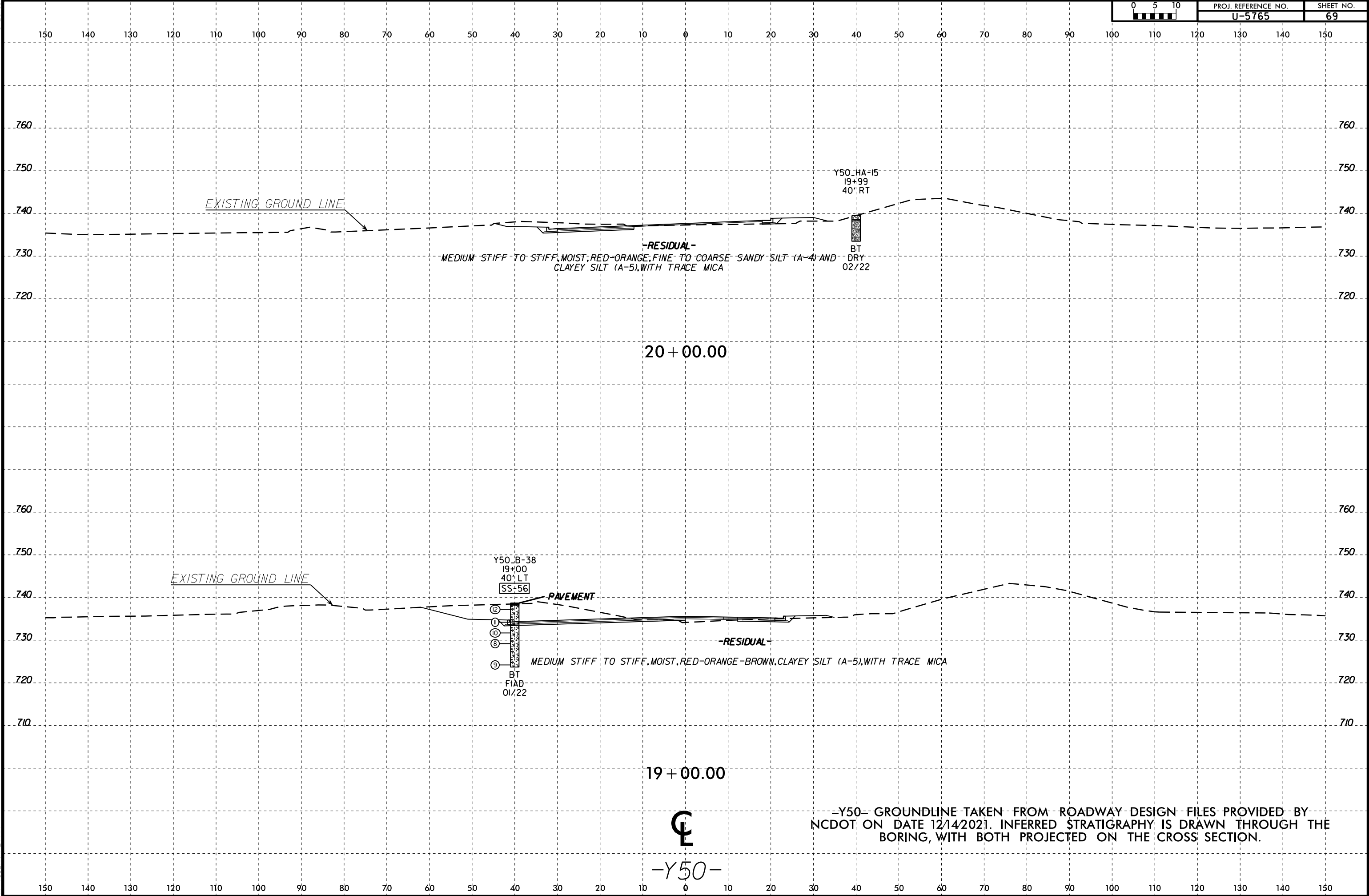


6/23/16

05-MAY-2022 14:34
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USER NAME

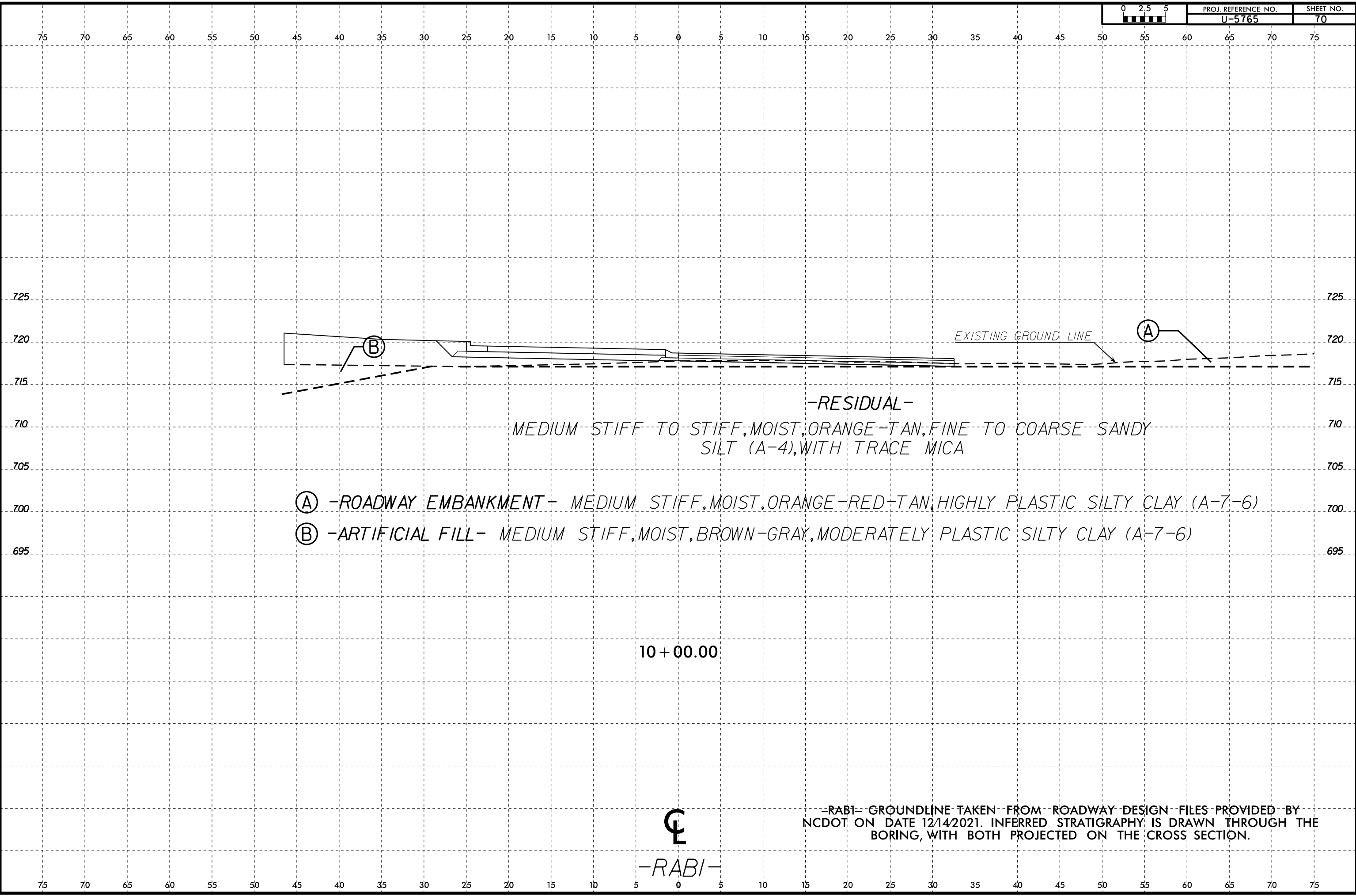


PROJ. REFERENCE NO.	SHEET NO.
U-5765	69



6/23/16
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05-MAY-2022 14:34
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\$\$\$SUBNAME\$\$\$

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PROJ. REFERENCE NO.		
U-5765		
SHEET NO.		
70		

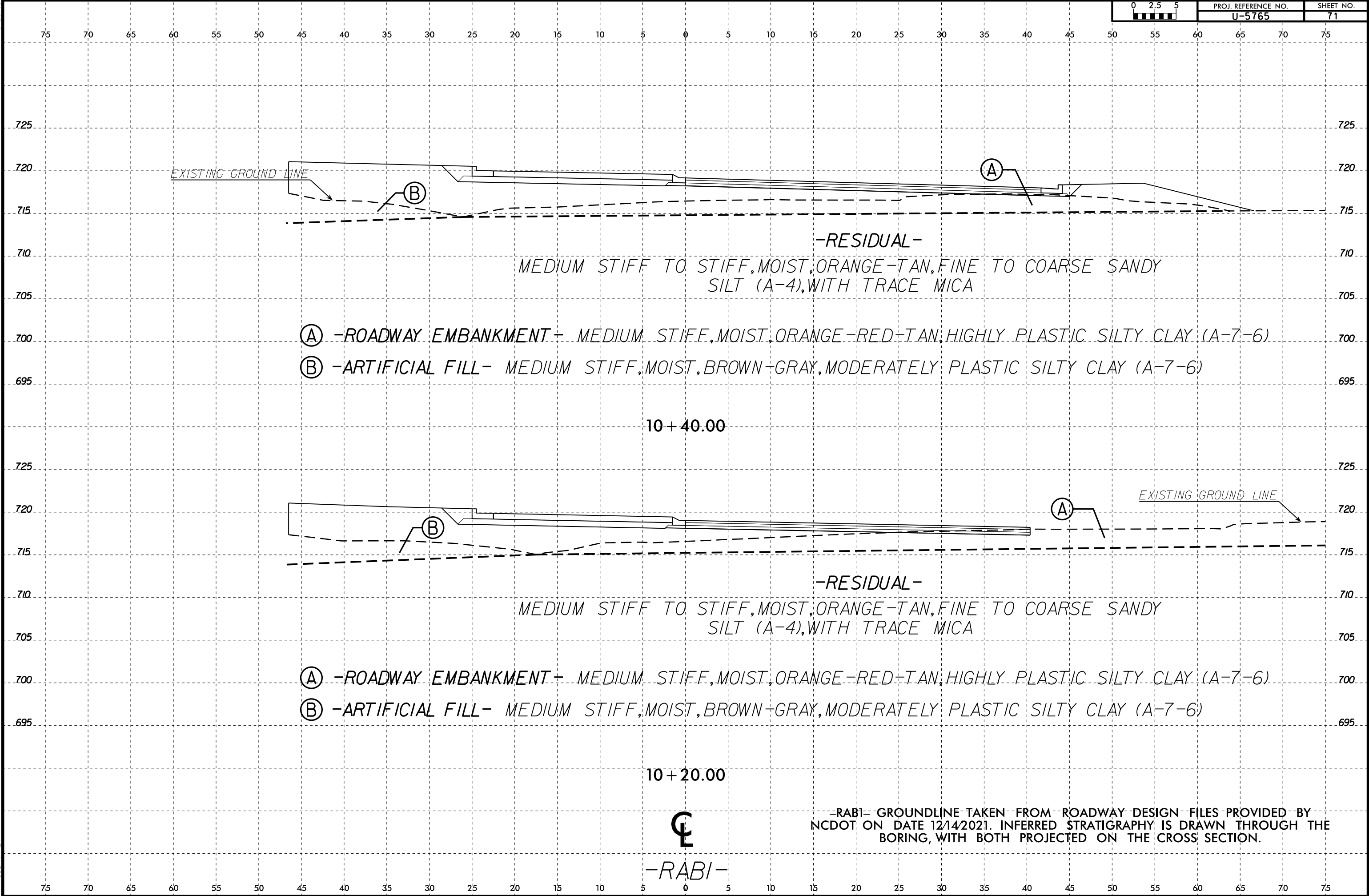


6/23/16

05-MAY-2022 14:34
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PROJ. REFERENCE NO.	SHEET NO.
U-5765	71

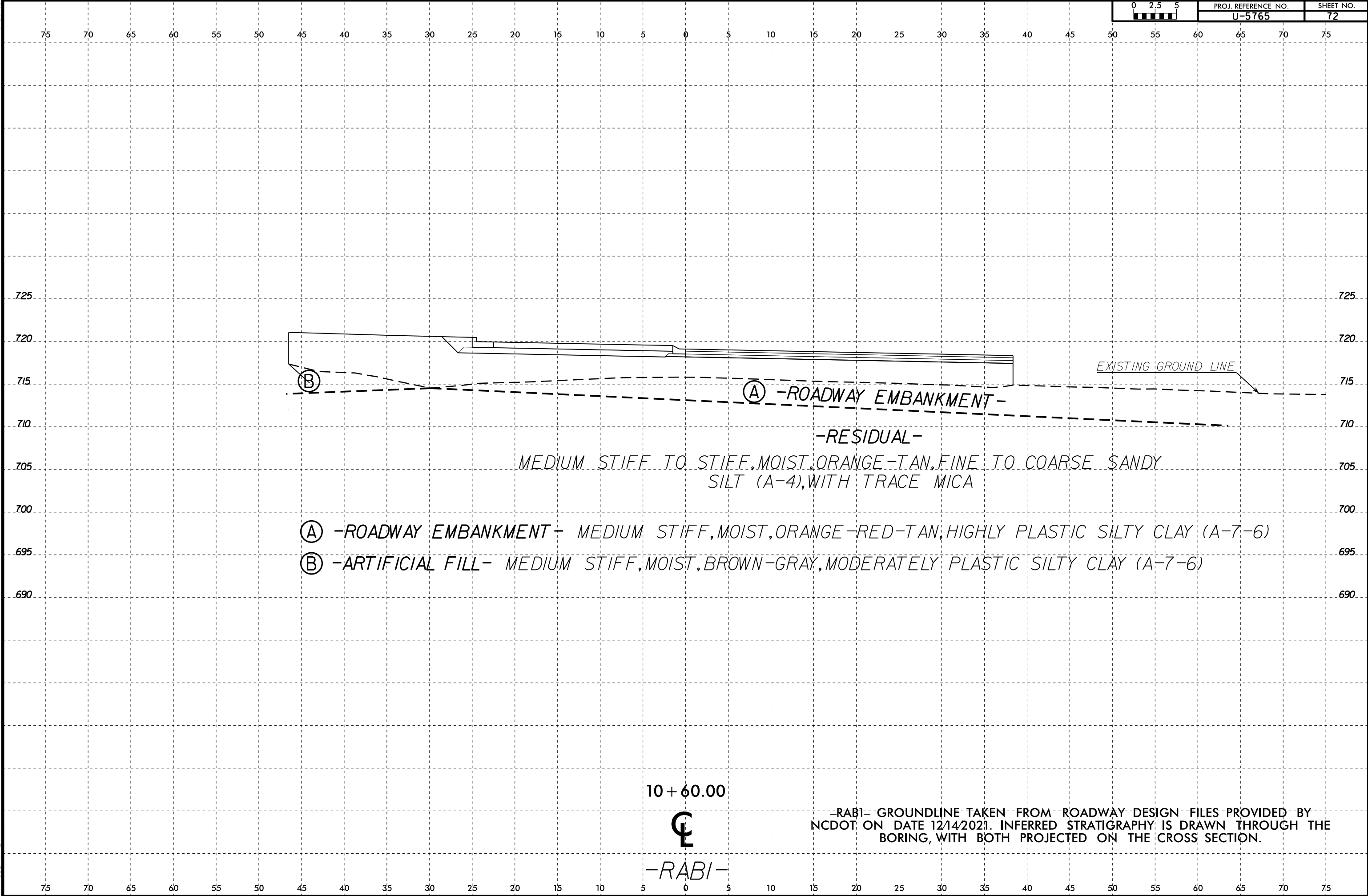


6/23/16

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PROJ. REFERENCE NO.	SHEET NO.
U-5765	72



- (A) -ROADWAY EMBANKMENT- MEDIUM STIFF,MOIST,ORANGE-RED-TAN,HIGHLY PLASTIC SILTY CLAY (A-7-6)
- (B) -ARTIFICIAL FILL- MEDIUM STIFF,MOIST,BROWN-GRAY,MODERATELY PLASTIC SILTY CLAY (A-7-6)

10 + 60.00

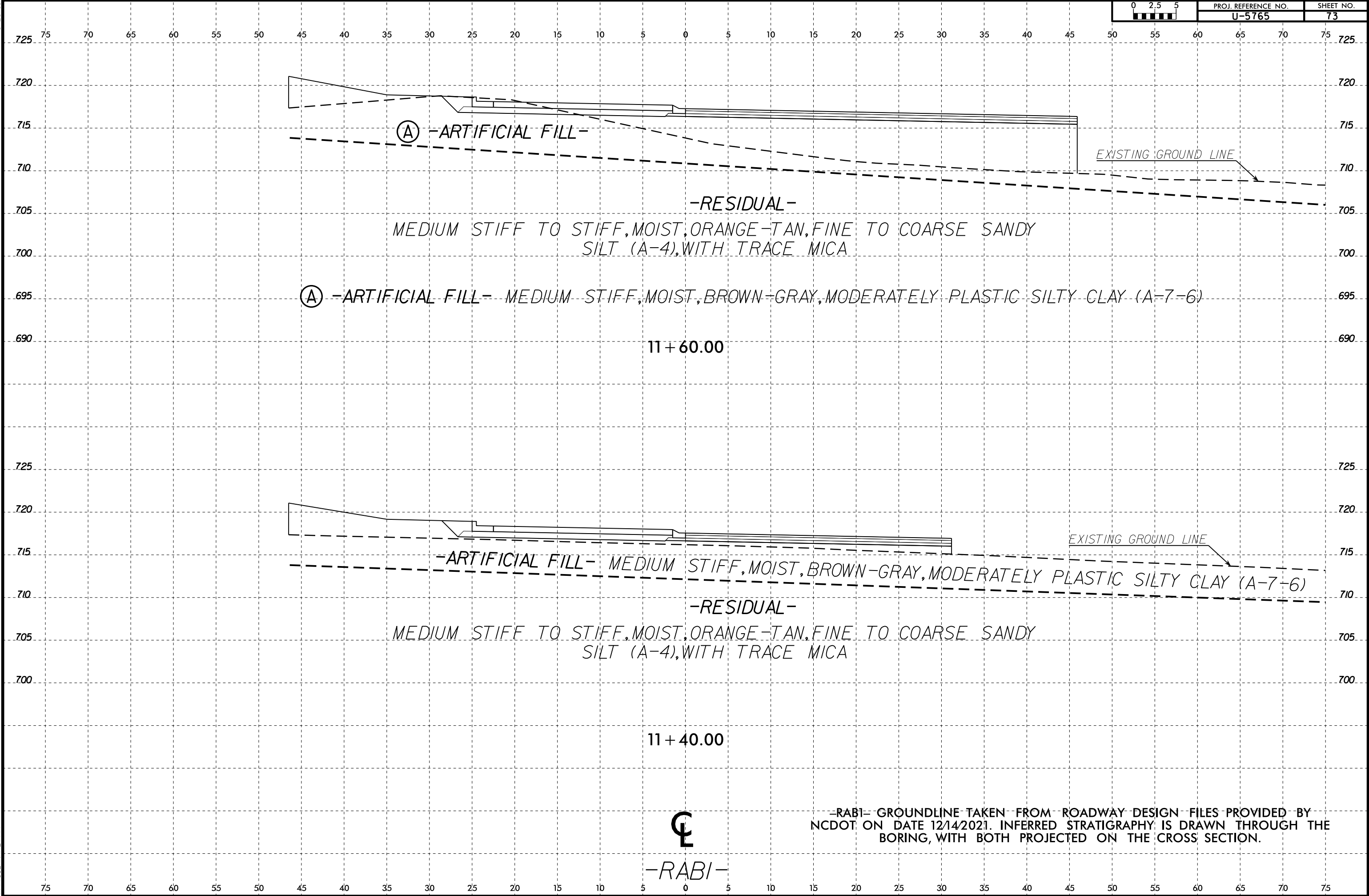


-RAB1-

-RAB1- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY NCDOT ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.



PROJ. REFERENCE NO.	SHEET NO.
U-5765	73

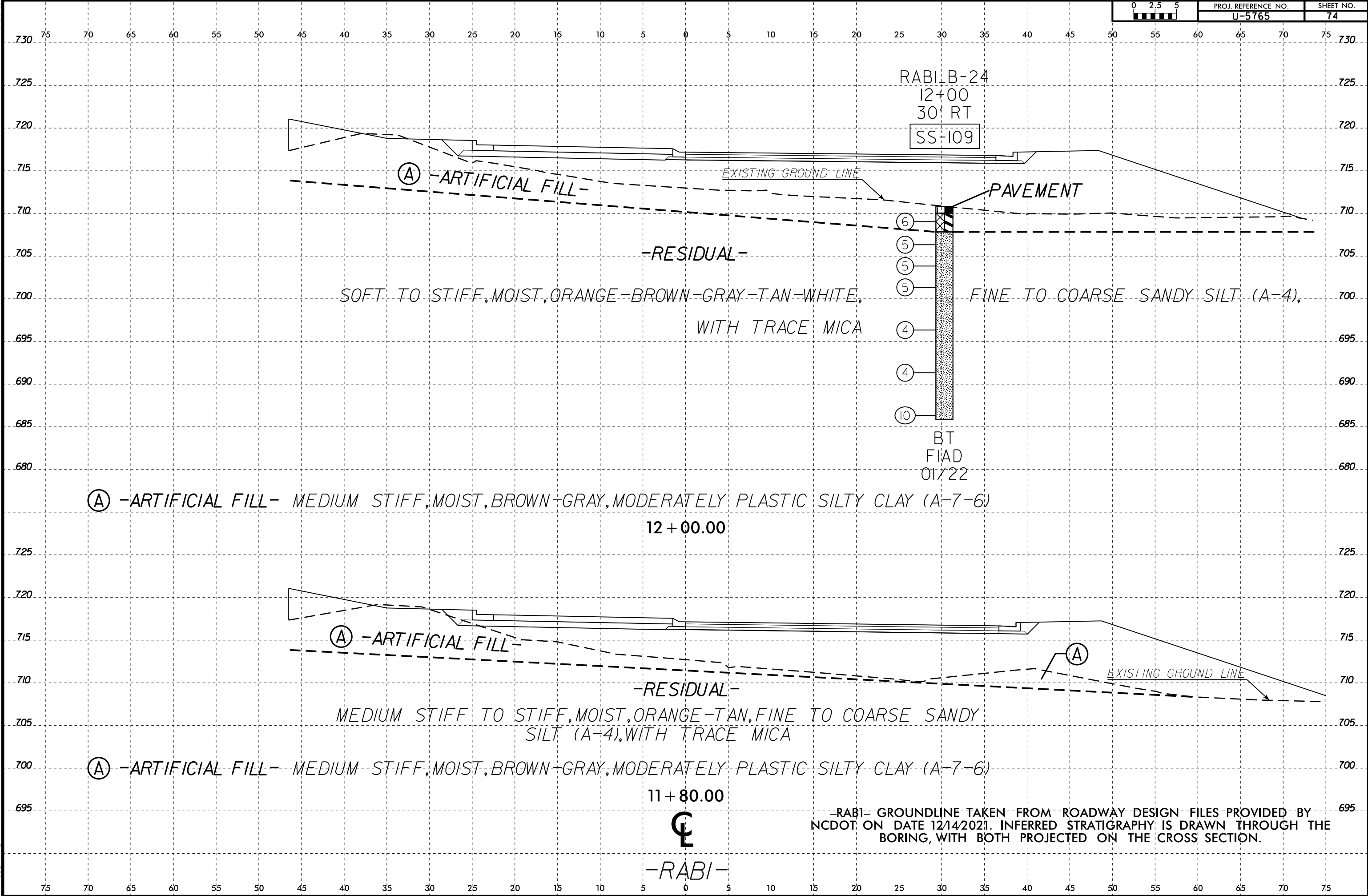


6/23/16

05-MAY-2022 14:34
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PROJ. REFERENCE NO.	SHEET NO.
U-5765	74

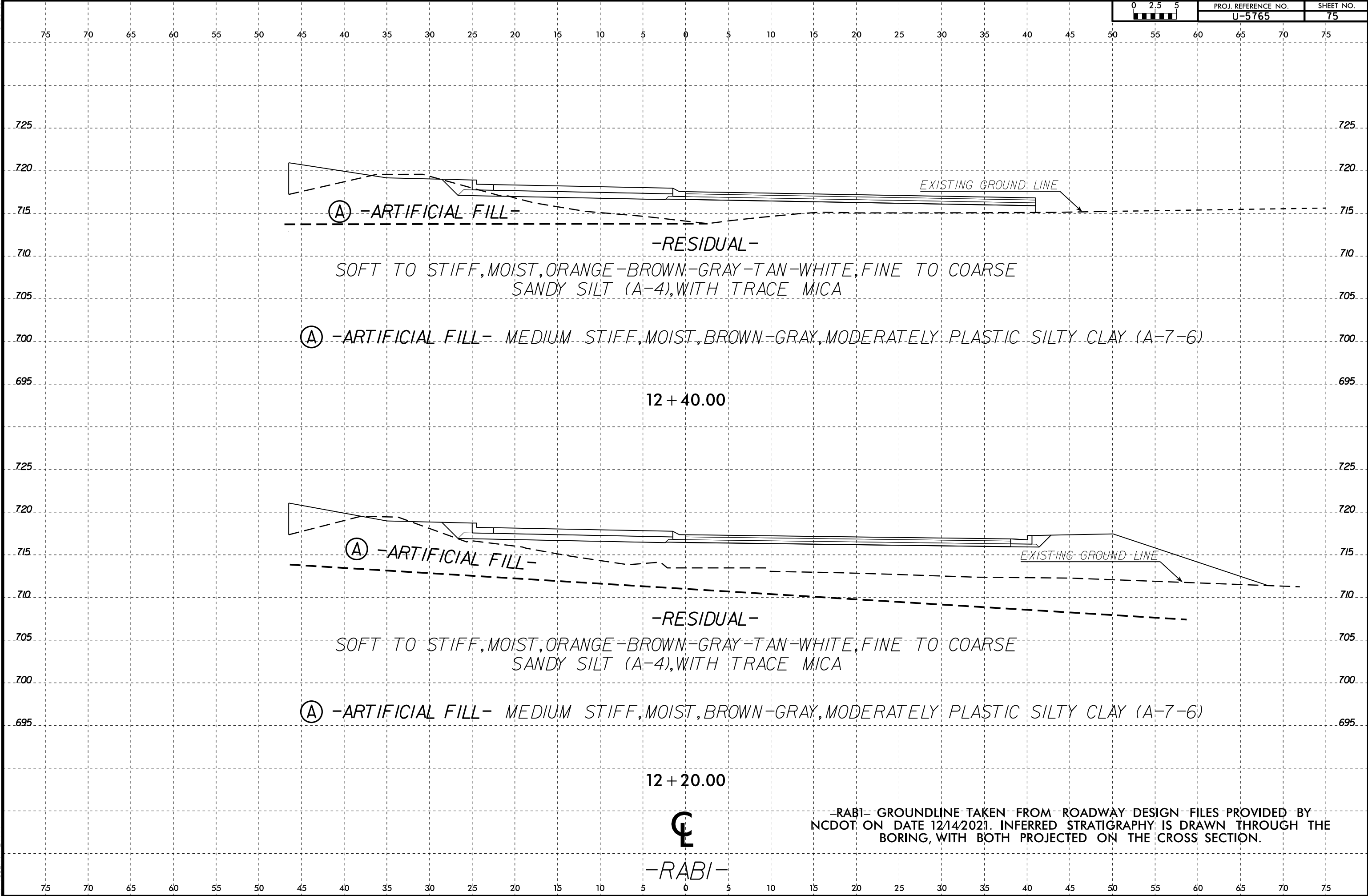


6/23/16

05-MAY-2022 14:34
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SUBMIT



PROJ. REFERENCE NO.	SHEET NO.
U-5765	75

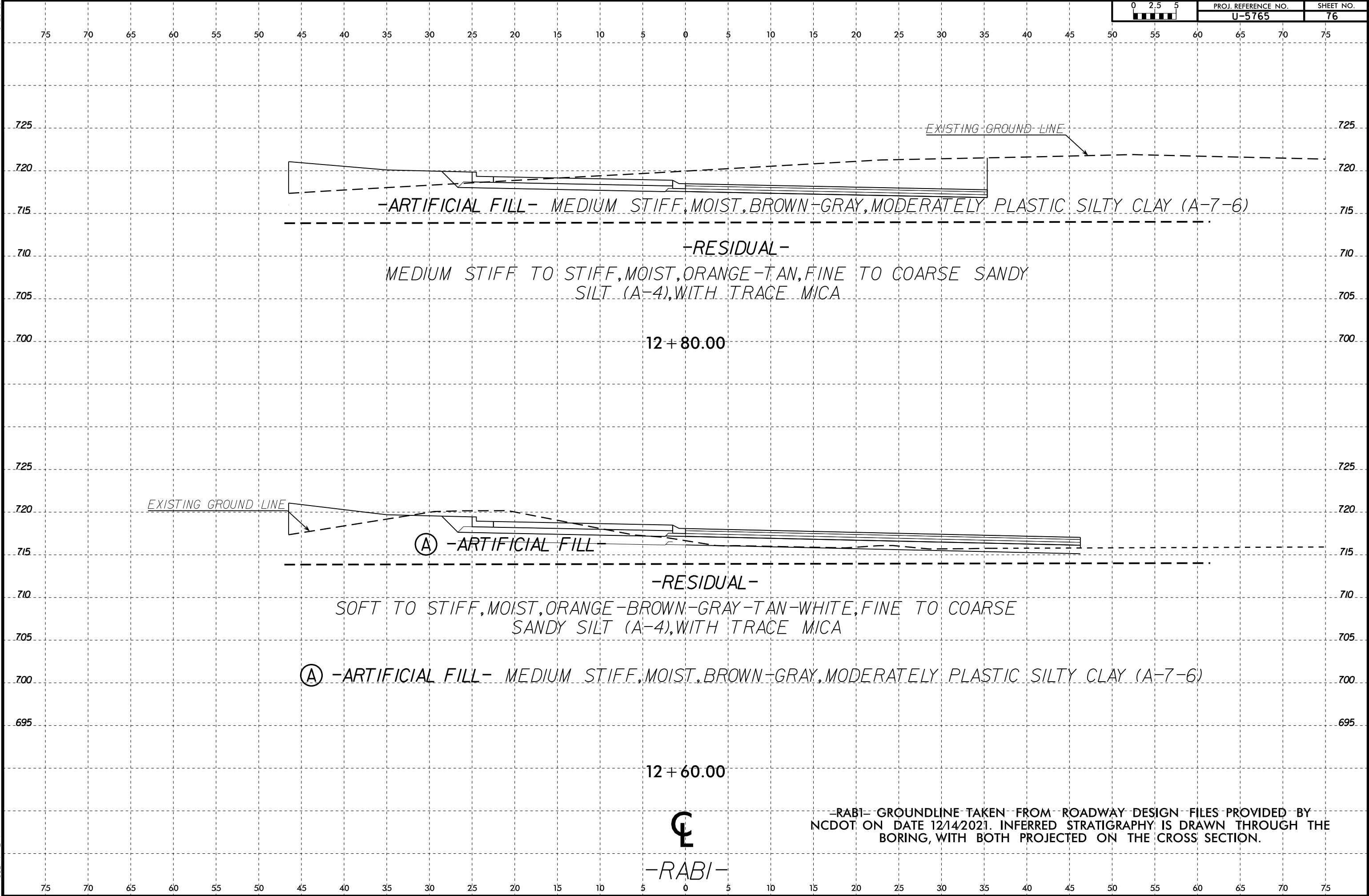


6/23/16

05-MAY-2022 14:34
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SUBSECTNAME



PROJ. REFERENCE NO.	SHEET NO.
U-5765	76

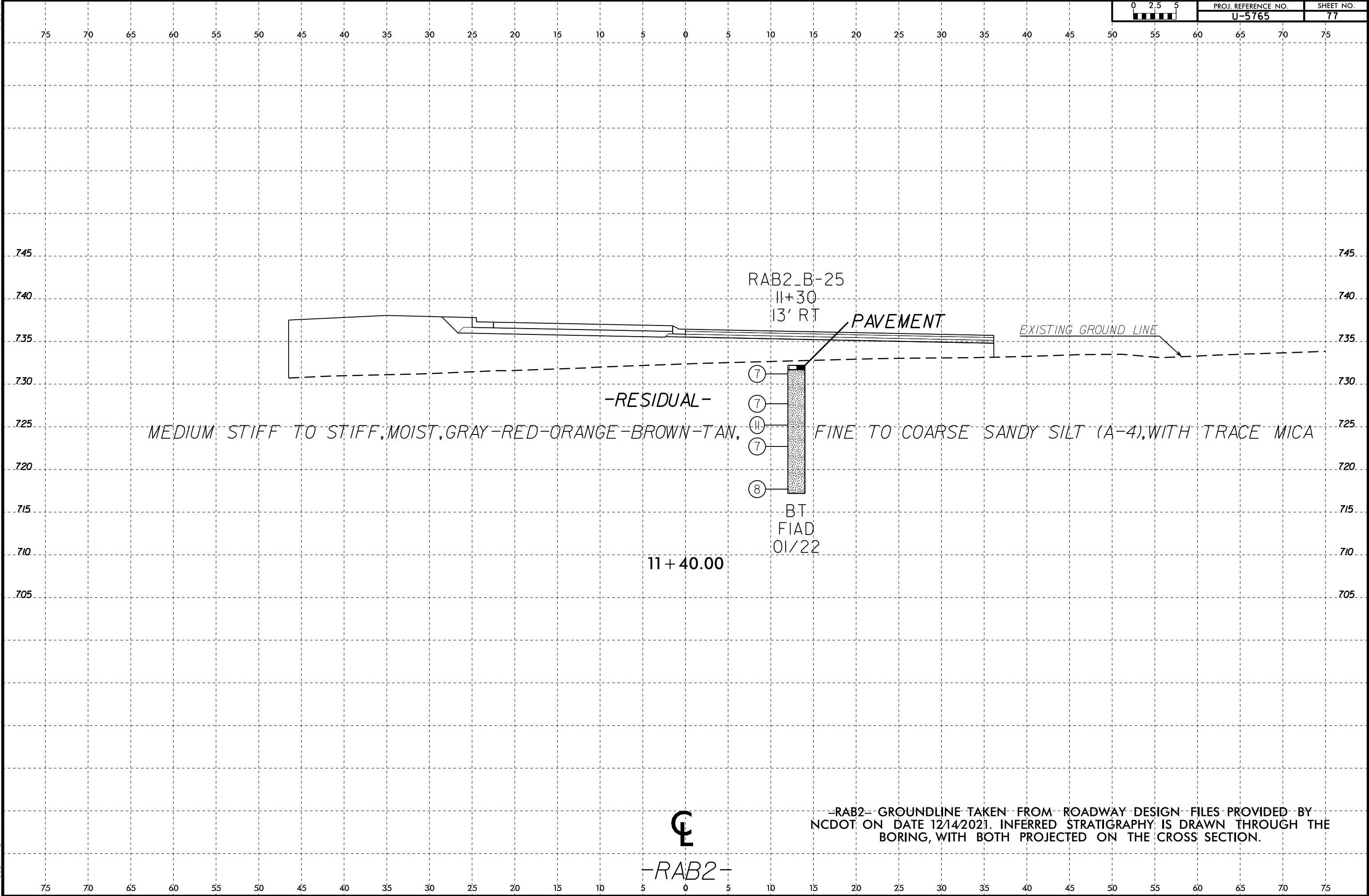


6/23/16

05-MAY-2022 14:34
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\$\$\$USERNAME\$\$\$



PROJ. REFERENCE NO.	SHEET NO.
U-5765	77



-RAB2- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY NCDOT ON DATE 12/14/2021. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

-RAB2-

PROJECT: 50178
REFERENCE: U-5765

PROJECT REFERENCE NO.	SHEET NO.
U-5765	78

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
APPENDIX A
BORE LOGS

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 50178.1.1						TIP U-5765				COUNTY MECKLENBURG				GEOLOGIST J. Garrick			
SITE DESCRIPTION NC73 from SR 5544 (West Catawba Ave) to SR 2316 (Northcross Ave)														GROUND WTR (ft)			
BORING NO. L2_RW-HA-1				STATION 440+77				OFFSET 115 ft LT				ALIGNMENT -L2-				0 HR. Dry	
COLLAR ELEV. 726.4 ft				TOTAL DEPTH 6.0 ft				NORTHING 621,897				EASTING 1,438,580				24 HR. Dry	
DRILL RIG/HAMMER EFF./DATE N/A										DRILL METHOD Hand Auger				HAMMER TYPE N/A			
DRILLER N/A						START DATE 02/17/22				COMP. DATE 02/17/22				SURFACE WATER DEPTH N/A			
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)		
730																	
														726.4	GROUND SURFACE 0.0		
725														723.4	ARTIFICIAL FILL Stiff, Moist, Red-Brown, Clayey SILT (A-5), with trace mica 3.0		
														720.4	Medium Stiff to Stiff, Moist, Orange-Red-Brown, Fine to Coarse Sandy SILT (A-4), with trace mica 6.0		
															Boring Terminated at Elevation 720.4 ft In Artificial Fill Sandy SILT (A-4)		

PROJECT: 50178
REFERENCE: U-5765

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
APPENDIX B
LABORATORY TEST RESULTS
SOIL TESTS FOR QUALITY

PROJECT REFERENCE NO.

U-5765

SHEET NO.

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