STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5536	1	22

REFERENCE: U-5536

PROJECT: 44108

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	10+78 - 70+45	4-8	9-11
-Y1A-	12+00 - 16+00	6	11
-Y1B-	10+00 - 17+06	7	11
-Y2-	10+00 - 12+50	4	12
-Y3-	11+19 - 16+47	4	12
-Y4-	10+18 - 13+78	5	12
-Y5-	11+37 - 15+93	6	12
-Y6-	10+18 - 14+70	6	13
-Y7-	10+18 - 13+09	7	13
-Y8-	12+10 - 18+33	7	13
-Y9-	12+15 - 13+95	5	13
-RABT1-	10+00 - 13+27	4	-
-RABT2-	10+00 - 13+27	6	-
-RABT3-	10+00 - 12+95	6	-
-RABT4-	10+00 - 13+27	7	-

CROSS SECTIONS

LINE	STATION	SHEET
-L-	21+50-22+00	14
-L-	22+50 - 23+50	15
-L-	24+00 - 24+50	16
-Y4-	10+18 - 12+00	17
-Y4-	12+50 - 13+50	18
-Y7-	10+18 - 12+00	19
-Y7-	12+50	20

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *FORSYTH*

PROJECT DESCRIPTION *GREAT WAGON RD (NEW LOCATION) FROM SR 1001 (SHALLOWFORD RD) TO SR 1308 (LEWISVILLE-VIENNA RD)*

INVENTORY

CAUTION NOTICE

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

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

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

NOTES:

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

PERSONNEL

E. FERREIRA, EI

NCDOT

INVESTIGATED BY *NCDOT*

DRAWN BY *E. FERREIRA, EI*

CHECKED BY *D. BROWN, PE*

SUBMITTED BY *D. BROWN, PE*

DATE *JULY 2021*

NORTH CAROLINA PROFESSIONAL SEAL 028422 ENGINEER DONALD W. BROWN JR.

DocuSigned by:

8/2/2021

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SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-5536	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

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

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

CONSISTENCY OR DENSENESS

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

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

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

GRADATION

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

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

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

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

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

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

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

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

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

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

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

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

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

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

BENCH MARK:

ELEVATION: FEET

NOTES:

BORING ELEVATIONS GENERATED FROM FILE u5536_ddc_tin.TIN
FIAD = FILLED IMMEDIATELY AFTER DRILLING

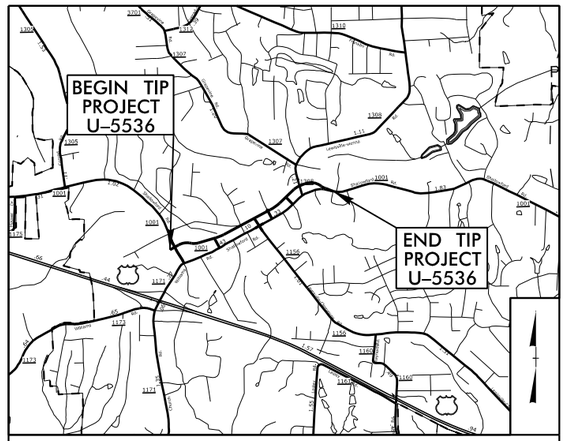
DATE: 8-15-14

09/08/99

TIP PROJECT: U-5536

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP ***N.T.S.***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FORSYTH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5536	3	22

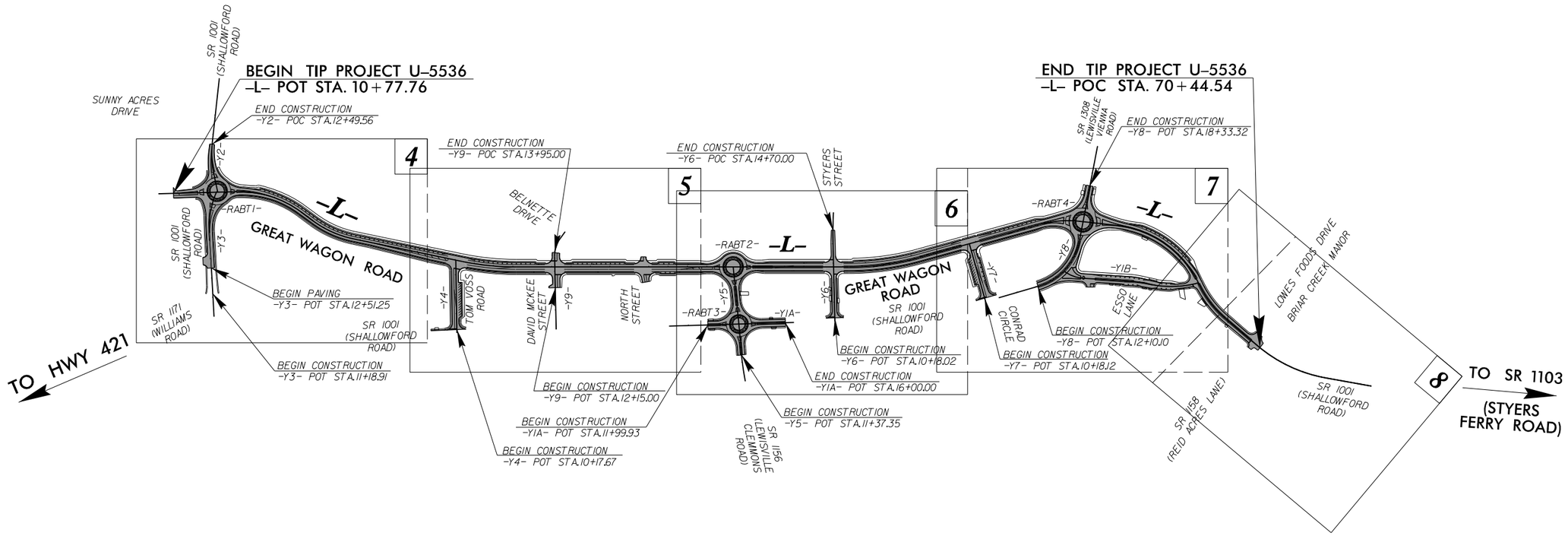
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44108.1.2	N/A	P.E.

LOCATION: ***PROPOSED GREAT WAGON ROAD FROM SR 1001 (SHALLOWFORD ROAD) TO SR 1308 (LEWISVILLE–VIENNA ROAD) IN LEWISVILLE***

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

25% PLANS

NAD 83/NA 2011



THIS PROJECT IS WITHIN THE TOWNSHIP OF LEWISVILLE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ___.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2021 = N/A
ADT 2040 = 8,200
K = 12 %
D = 60 %
T = 3 %
V = 40 MPH
TTST = 1 % DUALS = 2 %
FUNC CLASS = MINOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5536 = *1.130 MILES*

TOTAL LENGTH TIP PROJECT U-5536 = *1.130 MILES*

Prepared in the Office of:
CDM Smith
CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3228
NC COA No. F-1255

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 19, 2020

LETTING DATE:
JUNE 21, 2022

DAVID Z. KEISER, P.E.
PROJECT ENGINEER

ADAM M. CONRAD, P.E.
PROJECT DESIGN ENGINEER

CONNIE K. JAMES, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-5536	3A

July 28, 2021

STATE PROJECT: 44108.1.2 (U-5536)
COUNTY: Forsyth
DESCRIPTION: Great Wagon Road from SR 1001 TO SR 1308 in Lewisville, NC

SUBJECT: Roadway Subsurface Inventory

Project Description
The proposed project will mostly be new location roadway (Great Wagon Road) from Shallowford Road (SR. 1001) to Lewisville-Vienna Road (SR. 1308) in Lewisville, NC. This will be a multilane facility, with bicycle and pedestrian accommodations.

Alignment	Description	Beg/End Stations
-L-	New Location (Great Wagon Rd) from Shallowford Rd (SR 1001) to Lewisville -Vienna Rd (SR 1308)	10+77.76 to 70+44.54
-Y1A-	Shallowford Road (SR 1001)	11+99.93 to 16+00.00
-Y1B-	Shallowford Road (SR 1001)	10+00.00 to 17+06.03
-Y2-	Shallowford Road (SR 1001)	10+00.00 to 12+49.56
-Y3-	Shallowford Road (SR 1001)	11+18.91 to 16+46.87
-Y4-	New Location, Connector	10+17.67 to 13+75.77
-Y5-	Clemmons Rd (SR 1156)	11+37.35 to 15+92.77
-Y6-	Styers Street	10+18.02 to 14+70.00
-Y7-	Conrad Circle	10+18.12 to 13+09.42
-Y8-	Lewisville -Vienna Rd (SR 1308)	12+10.10 to 18+33.32
-Y9-	Mckee Street	12+15.00 to 13+95.00
-RABT1-	Roundabout, Shallowford Road (SR 1001)	10+00.00 to 13+26.72
-RABT2-	New Location (Great Wagon Rd) Roundabout	10+00.00 to 13+26.72
-RABT3-	Roundabout, Shallowford Road (SR 1001)	10+00.00 to 12+95.30
-RABT4-	New Location (Great Wagon Rd) Roundabout	10+00.00 to 13+26.72

Plans call for a new multilane major collector roadway, Great Wagon Road (-L-) which will tie to the existing roadway at Shallowford Road (SR. 1001) to Lewisville-Vienna Road (SR. 1308). The Great Wagon Road (-L-) typical section shows two through lanes, a center turn lane, a bicycle lane, variable space for parking on the side of the road, new curb and gutter, and a sidewalk. The project corridor is approximately 1.13 miles long through existing commercial properties, undeveloped woodlands, and residential property. There will be four new roundabouts along the corridor.

A geotechnical field investigation was conducted for this project in May of 2021. Drilling was performed by NCDOT's Western Regional Field Office in Harrisburg, NC using an ATV-mounted CME-550X drill rig. The drill rig was equipped with an automatic hammer.

A total of 20 Standard Penetration Test (SPT) borings were performed for the project. Representative soil samples from select borings were collected in the field for analysis by the NCDOT Materials and Test Unit Soils Laboratory.

Physiography & Geology

The project site is located in Forsyth County, North Carolina, which lies within the Piedmont Geologic Province of North Carolina. The site is part of the Charlotte Belt which is generally characterized by low grade metamorphosed volcanic rock. Review of the *Geologic Map of the East Half of the Winston-Salem Quadrangle, North Carolina-Virginia (1975)* shows that the site is underlain by Gneiss and Schist (bc).

Soil Properties

Soils encountered at the site include artificial fill, roadway embankment, alluvial, and residual soils.

Artificial fill was encountered on -L-, -Y4- and -Y7-, and consisted of stiff Clayey Silt (A-4), soft to medium stiff Silty Clay (A-7-5 and A-7-6), medium stiff Sandy Clay (A-6), and loose Silty Sand (A-2-4). Laboratory analysis of the submitted soil samples reported a PI range of 11 to 25, and the samples were moist.

Roadway embankment was encountered in borings along -L-. The material was classified as medium stiff to very stiff slightly Plastic Clay (A-7-6) and Sandy Clay (A-6). The samples were moist. Laboratory test sample had a PI of 14.

Alluvial soil was encountered along -L- with material classified as medium stiff to stiff Clay (A-7-5). The samples were moist.

Native residual soils were encountered in all borings except for boring Y7_1180. The soil types consist of medium stiff to stiff, SILT (A-4 and A-5), soft to stiff Silty Clay (A-7-5 and A-7-6), medium stiff to very stiff Sandy Clay (A-6), and very loose to medium dense Silty Sand (A-2-4). The samples were moist to wet. Laboratory testing on clay samples had PIs ranging from NP to 29.

Rock Properties

Weathered rock (biotite-quartz gneiss) was encountered along -L- at boring L_4900 at a depth of approximately 19.2 feet below the ground surface (el. 923.5).

Groundwater

At the time of drilling, groundwater was encountered in only one boring at Sta. 49+00 -L- at a depth of 16.5 feet below the current ground surface (el. 926.2 feet). All borings were left open for a 24-hour stabilization period, after which groundwater was only encountered in the same boring at a depth of 12 feet below the current ground surface (el. 930.7 feet).

Areas of Special Geotechnical Interest

Alluvial Soils

Alluvial soil was encountered at the two locations as shown below.

Alignment	Station (±)	Offset (ft ±)
-L-	27+00 to 28+25	CL
-L-	40+50 to 42+00	CL to 50 RT

Other areas of potential minor/shallow alluvial soils include several drainage ditches observed along the project.

Artificial Fill

Artificial fill was encountered at the following locations:

Alignment	Station (±)	Offset (ft ±)
-L-	37+00 to 41+00	50 LT to 50 RT
-Y4-	10+17.57 to 13+51.18	40 LT to 40 RT
-Y7-	10+18.12 to 12+91.42	50 LT to 300 RT

Items of Interest

USTs, ASTs, water wells and gas pumps, or indictors thereof, were noted on the plans near the right-of-way at the following location(s):

Type	Alignment	Station (±)	Offset (ft ±)
Gas Pumps, Fill Ports, MW	-Y5-	10+32	60-120 LT
Gas Pumps, Fill Ports, MW	-L-	50+50	100-250 LT

There were several monitoring wells (MW) located at stations 55+70 on -L- (60-150 FT RT), and on -Y1A- at station 12+30 (50-90 FT LT).

Water Wells

Water wells, or indictors thereof, were noted on the plans near the right-of-way at the following location(s):

Type	Alignment	Station (±)	Offset (ft ±)
Water Well	-Y4-	11+10	108 RT
Water Well	-Y9-	15+17	66 LT
Water Well	-Y1A-	16+16	118 RT
Water Well	-Y6-	10+16	77 RT
Water Well	-Y6-	13+75	45 RT

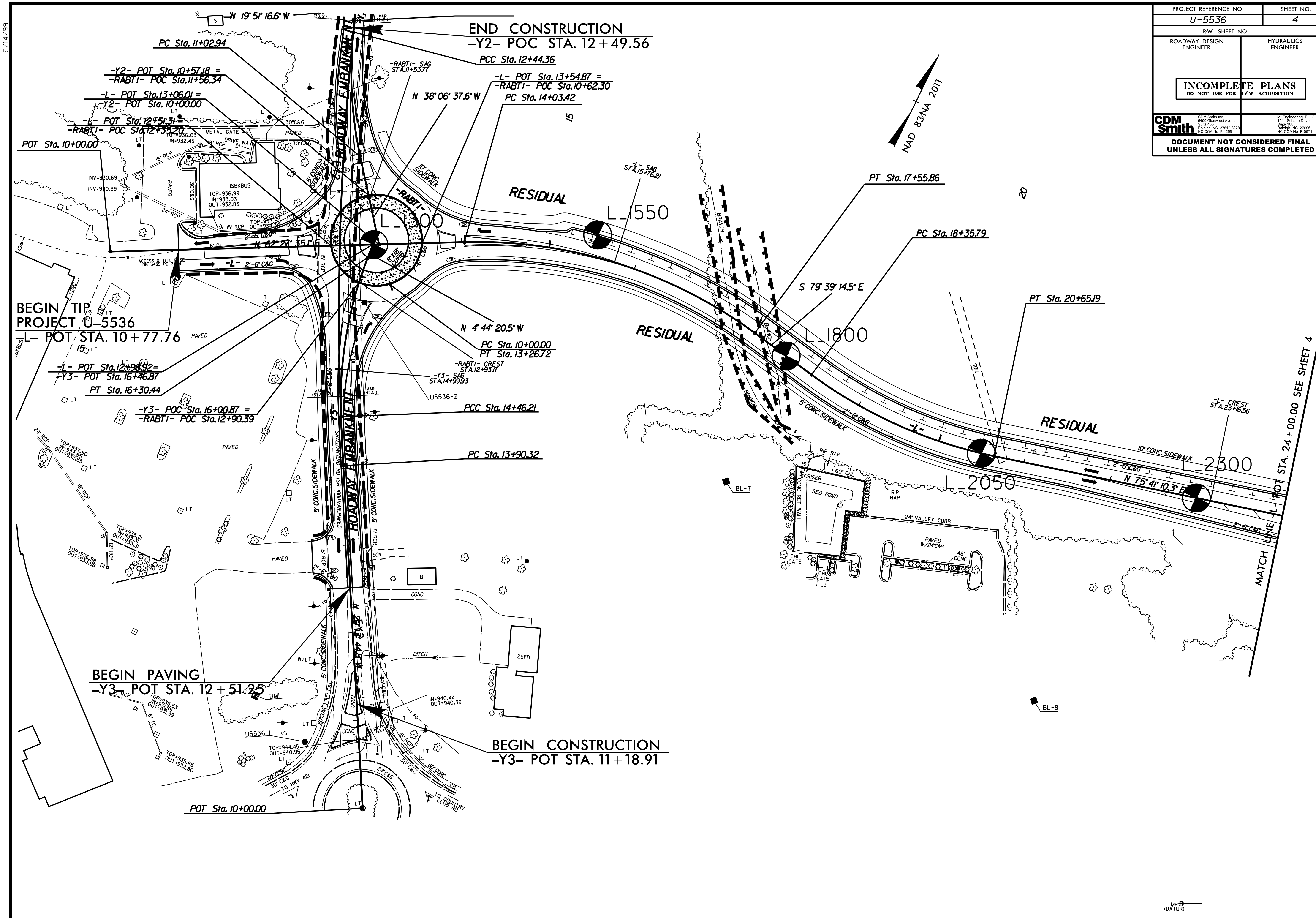
Ponds and Wetland Locations

Type	Alignment	Station (±)
Stream/Branch	-L-	17+25
Stream/Branch	-L-	17+72
Drainage Ditch	-L-	25+80
Stream/Branch	-L-	28+15
Stream/Branch	-L-	41+27
Drainage Ditch	-L-	54+50

Soil with High Plasticity Indices

Based on laboratory testing, soil at the following locations was determined to be highly plastic (PI=26 to 35).

Alignment	Station (±)	Offset (ft ±)
-L-	21+75 to 24+25	CL


PROJECT REFERENCE NO.
SHEET NO.
U-5536
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
CDM Smith
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED
NAD 83/NA 2011
5/14/99
END CONSTRUCTION
-Y2- POC STA. 12+49.56
PCC Sta. 12+44.36
PC Sta. 11+02.94
-Y2- POT Sta. 10+57.18 =
-RABT1- POC Sta. 11+56.34
-L- POT Sta. 13+06.01 =
-Y2- POT Sta. 10+00.00
-L- POT Sta. 12+51.31 =
-RABT1- POC Sta. 12+35.20
POT Sta. 10+00.00
-L- POT Sta. 13+54.87 =
-RABT1- POC Sta. 10+62.30
PC Sta. 14+03.42
N 19° 51' 16.6" W
N 38° 06' 37.6" W
-RABT1- SAG STA. 11+53.77
RESIDUAL
L_1550
L_1800
L_2050
L_2300
-L- SAG STA. 15+76.21
PT Sta. 17+55.86
PC Sta. 18+35.79
PT Sta. 20+65.19
S 79° 39' 14.5" E
N 75° 41' 10.3" E
-L- CREST STA. 23+16.56
MATCH LINE -L- POT STA. 24+00.00 SEE SHEET 4
BEGIN TIP
PROJECT U-5536
-L- POT STA. 10+77.76
-L- POT Sta. 12+98.92 =
-Y3- POT Sta. 16+46.87
PT Sta. 16+30.44
-Y3- POC Sta. 16+00.87 =
-RABT1- POC Sta. 12+90.39
N 4° 44' 20.5" W
PC Sta. 10+00.00
PT Sta. 13+26.72
-RABT1- CREST STA. 12+93.17
-Y3- SAG STA. 14+99.93
U5536-2
PCC Sta. 14+46.21
PC Sta. 13+90.32
ROADWAY EMBANKMENT
5' CONC. SIDEWALK
10' CONC. SIDEWALK
SED POND
24" VALLEY CURB
BL-7
BL-8
BEGIN PAVING
-Y3- POT STA. 12+51.25
U5536-1
BEGIN CONSTRUCTION
-Y3- POT STA. 11+18.91
POT Sta. 10+00.00
TO HWY 421
TO COUNTRY CLUB RD
2SFD
MH (DATUM)

PROJECT REFERENCE NO.	SHEET NO.
U-5536	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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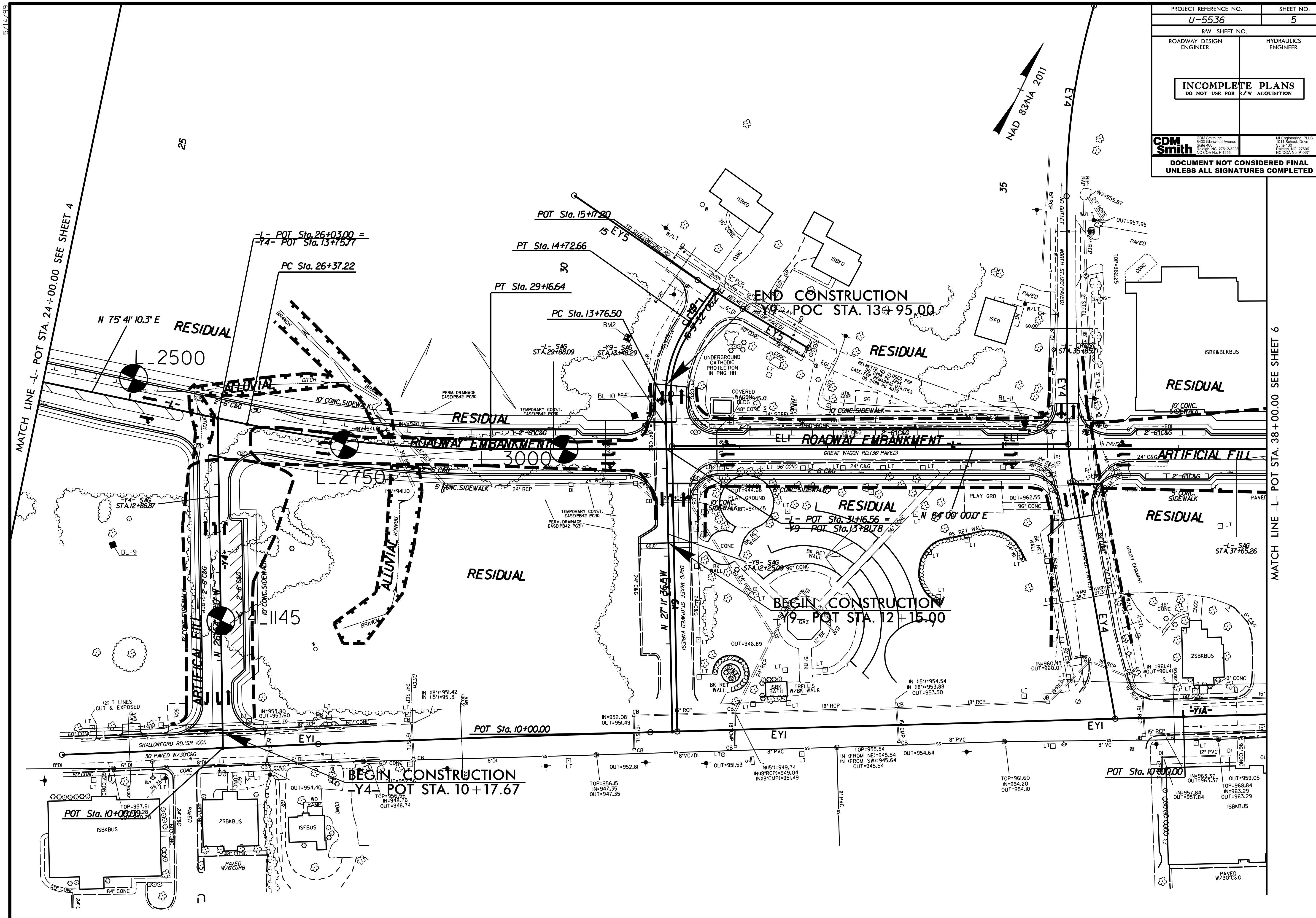

5/14/99
MATCH LINE -L- POT STA. 24+00.00 SEE SHEET 4
MATCH LINE -L- POT STA. 38+00.00 SEE SHEET 6
NAD 83/NA 2011
25
30
35
N 75° 41' 10.3" E
L_2500
L_2750
L_3000
Y4_1145
-L- POT Sta. 26+03.00 =
-Y4- POT Sta. 13+75.77
PC Sta. 26+37.22
PT Sta. 29+16.64
PT Sta. 14+72.66
POT Sta. 15+17.20
PC Sta. 13+76.50
-L- SAG STA. 29+88.09
-Y9- SAG STA. 13+48.29
END CONSTRUCTION
-Y9- POC STA. 13+95.00
BEGIN CONSTRUCTION
-Y9- POT STA. 12+15.00
BEGIN CONSTRUCTION
-Y4- POT STA. 10+17.67
-L- POT Sta. 31+16.56 =
-Y9- POT Sta. 13+21.78
N 64° 00' 00.0" E
-Y4- SAG STA. 12+86.87
-Y9- SAG STA. 12+25.09
-L- CREST STA. 35+85.71
-L- SAG STA. 37+65.26
POT Sta. 10+00.00
RESIDUAL
ALLUVIAL
ROADWAY EMBANKMENT
ARTIFICIAL FILL
GREAT WAGON RD. (36' PAVED)
SHALLOWFORD RD. (SR 1001)
DAVID MCKEE ST. (PAVED VARIES)
NORTH ST. (20' PAVED)
EY1
EY4
EY5
-Y1A-
BL-9
BL-10
BL-11
BM2
PLAY GROUND
PLAY GRD
COVERED WAGON BLDG
UNDERGROUND CATHODIC PROTECTION IN PNG HH
BELNETTE RD CLOSED PER DB 2498 PG 3794 EASE. FOR REMAINING UTILITIES DB 2498 PG 4079
10' CONC. SIDEWALK
5' CONC. SIDEWALK
2'-6" C&G
PERM. DRAINAGE EASE(PB42 PG31)
TEMPORARY CONST. EASE(PB42 PG31)
1SBKBUS
2SBKBUS
1SFBUS
1SBKD
1SFD
1SBK&BLKBUS

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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CDM Smith CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255	MI Engineering, PLLC 1011 Schaub Drive Suite 100 Raleigh, NC 27606 NC COA No.

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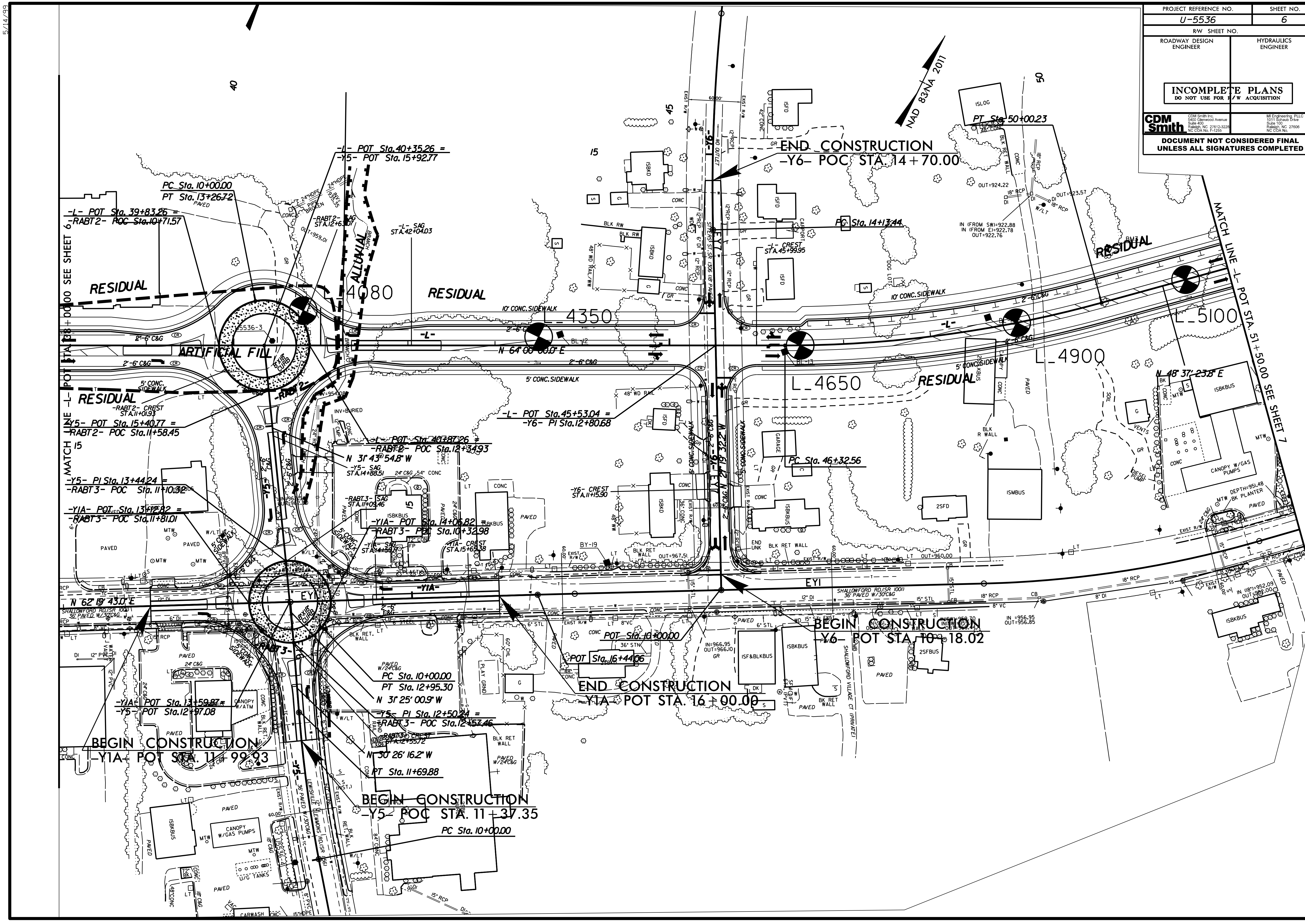

NAD 83/NA 2011
MATCH LINE -L- POT STA. 38+00.00 SEE SHEET 6
MATCH LINE -L- POT STA. 51+50.00 SEE SHEET 7
END CONSTRUCTION
-Y6- POC STA. 14+70.00
-L- POT Sta. 40+35.26 =
-Y5- POT Sta. 15+92.77
PC Sta. 10+00.00
PT Sta. 13+26.72
-L- POT Sta. 39+83.26 =
-RABT2- POC Sta. 10+71.57
-RABT2- SAG
STA. 12+63.07
-L- SAG
STA. 42+04.03
ALLUVIAL
RESIDUAL
ARTIFICIAL FILL
L_4080
L_4350
L_4650
L_4900
L_5100
10' CONC. SIDEWALK
5' CONC. SIDEWALK
2'-6" C&G
N 64° 00' 00.0" E
N 48° 37' 23.8" E
PT Sta. 50+00.23
PC Sta. 14+13.44
-L- CREST
STA. 45+99.95
-L- POT Sta. 45+53.04 =
-Y6- PI Sta. 12+80.68
PC Sta. 46+32.56
-Y6- CREST
STA. 11+15.90
-RABT2- CREST
STA. 11+01.93
-Y5- POT Sta. 15+40.77 =
-RABT2- POC Sta. 11+58.45
-L- POT Sta. 40+87.26 =
-RABT2- POC Sta. 12+34.93
N 31° 43' 54.8" W
-Y5- SAG
STA. 14+88.51
-Y5- PI Sta. 13+44.24 =
-RABT3- POC Sta. 11+10.32
-Y1A- POT Sta. 13+12.82 =
-RABT3- POC Sta. 11+81.01
-RABT3- SAG
STA. 11+09.46
-Y1A- POT Sta. 14+06.82 =
-RABT3- POT Sta. 10+32.98
-Y1A- CREST
STA. 15+63.38
N 62° 19' 43.0" E
SHALLOWFORD RD. (SR 1001)
BEGIN CONSTRUCTION
-Y6- POT STA. 10+18.02
POT Sta. 16+00.00
POT Sta. 16+44.06
END CONSTRUCTION
-Y1A- POT STA. 16+00.00
PC Sta. 10+00.00
PT Sta. 12+95.30
N 31° 25' 00.9" W
-Y5- PI Sta. 12+50.24 =
-RABT3- POC Sta. 12+57.46
-Y1A- POT Sta. 13+59.87 =
-Y5- POT Sta. 12+97.08
BEGIN CONSTRUCTION
-Y1A- POT STA. 11+99.93
N 30° 26' 16.2" W
PT Sta. 11+69.88
BEGIN CONSTRUCTION
-Y5- POC STA. 11+37.35
PC Sta. 10+00.00
SHALLOWFORD VILLAGE CT (PRIVATE)
CANOPY W/GAS PUMPS
ISMBUS
ISBKBUS
2SFD

PROJECT REFERENCE NO.	SHEET NO.
U-5536	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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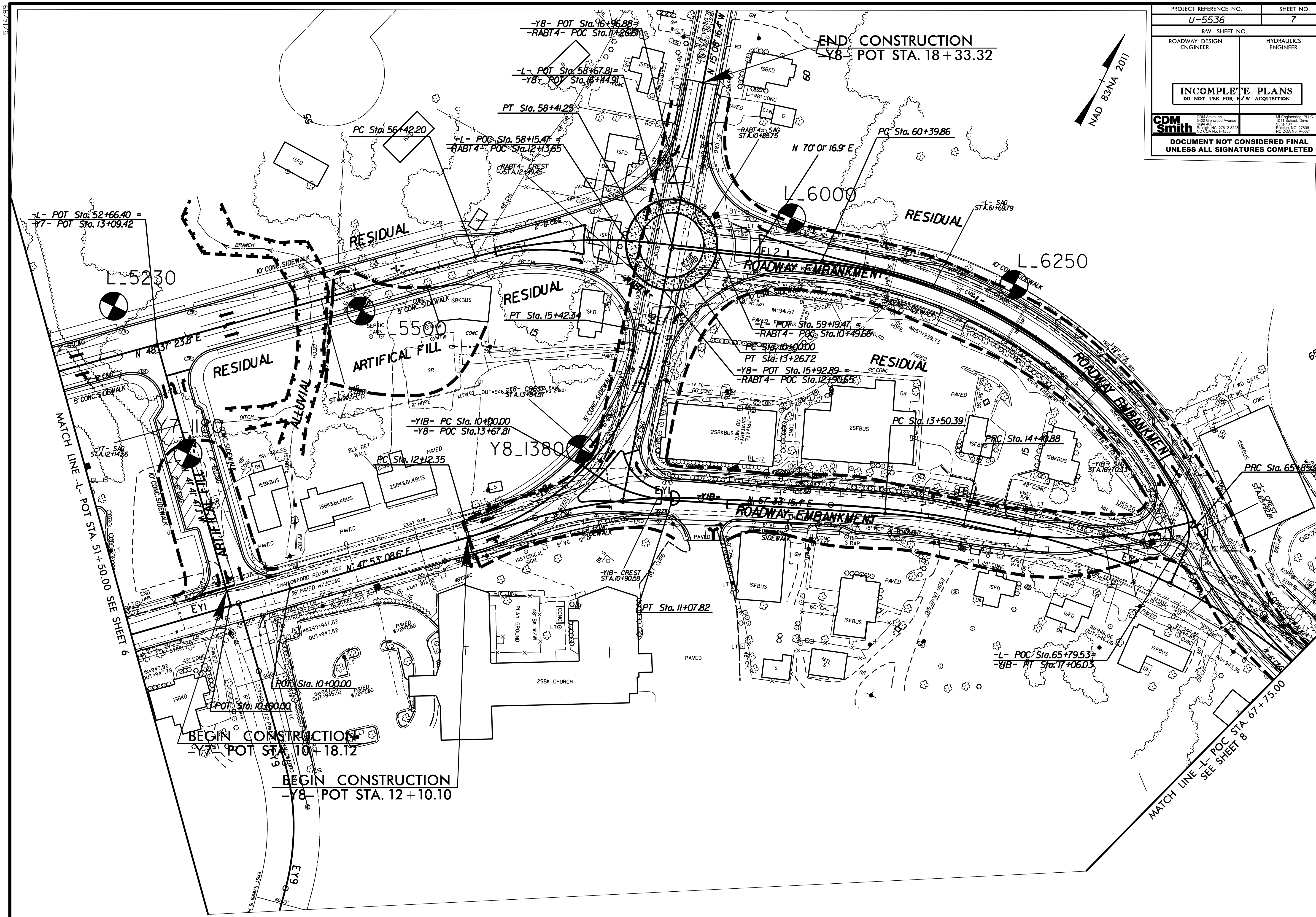

END CONSTRUCTION
-Y8- POT STA. 18+33.32
BEGIN CONSTRUCTION
-Y7- POT STA. 10+18.12
BEGIN CONSTRUCTION
-Y8- POT STA. 12+10.10
MATCH LINE -L- POT STA. 51+50.00 SEE SHEET 6
MATCH LINE -L- POC STA. 67+75.00 SEE SHEET 8
NAD 83/NA 2011
-Y8- POT Sta. 16+96.88=
-RABT4- POC Sta. 11+26.81
-L- POT Sta. 58+67.81=
-Y8- POT Sta. 16+44.91
PT Sta. 58+41.25
PC Sta. 56+42.20
-L- POC Sta. 58+15.47=
-RABT4- POC Sta. 12+13.65
PC Sta. 60+39.86
N 70° 01' 16.9" E
-L- POT Sta. 52+66.40 =
-Y7- POT Sta. 13+09.42
L_5230
L_5500
L_6000
L_6250
Y7_1180
Y8_1380
RESIDUAL
ARTIFICAL FILL
ALLUVIAL
ROADWAY EMBANKMENT
N 48° 37' 23.8" E
N 47° 53' 08.6" E
N 67° 33' 15.4" E
N 15° 06' 16.4" W
PT Sta. 15+42.34
-L- POT Sta. 59+19.47 =
-RABT4- POC Sta. 10+49.66
PC Sta. 10+00.00
PT Sta. 13+26.72
-Y8- POT Sta. 15+92.89 =
-RABT4- POC Sta. 12+90.55
-Y1B- PC Sta. 10+00.00
-Y8- POC Sta. 13+67.81
PC Sta. 12+12.35
PC Sta. 13+50.39
PRC Sta. 14+40.88
PRC Sta. 65+85.29
PT Sta. 11+07.82
POT Sta. 10+00.00
POT Sta. 10+00.00
-L- POC Sta. 65+79.53=
-Y1B- PT Sta. 17+06.03
-Y1B- CREST STA. 10+90.58
2SBK CHURCH
PLAY GROUND
SHALLOWFORD RD. (SR 1001)

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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5400 Glenwood Avenue
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Raleigh, NC 27606
NC COA No. P-0671

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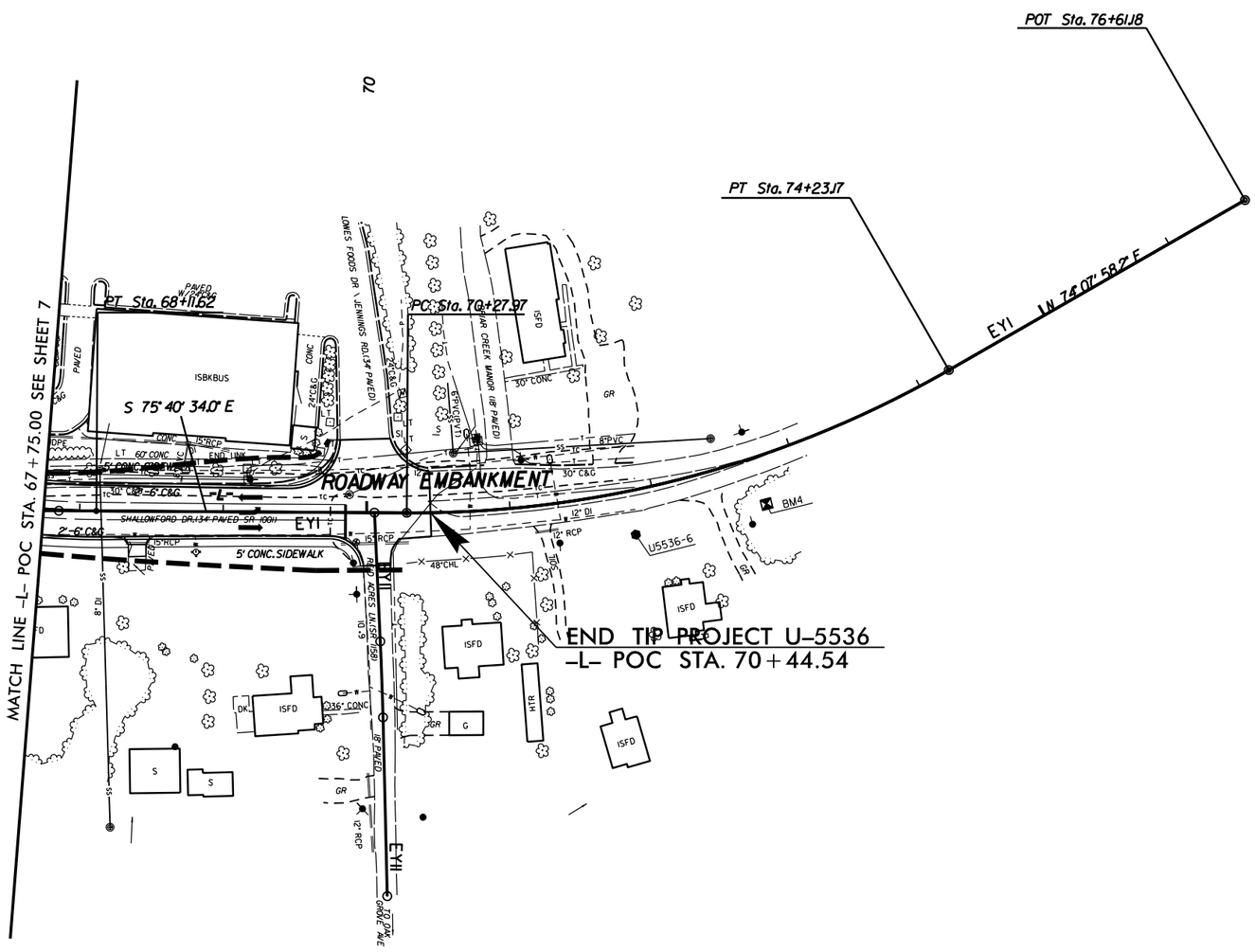
NAD 83/NA 2011



5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CDM Smith — CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. P-1255

MJ Engineering, PLLC 1011 Schaub Drive Suite 100 Raleigh, NC 27606 NC COA No. P-0671

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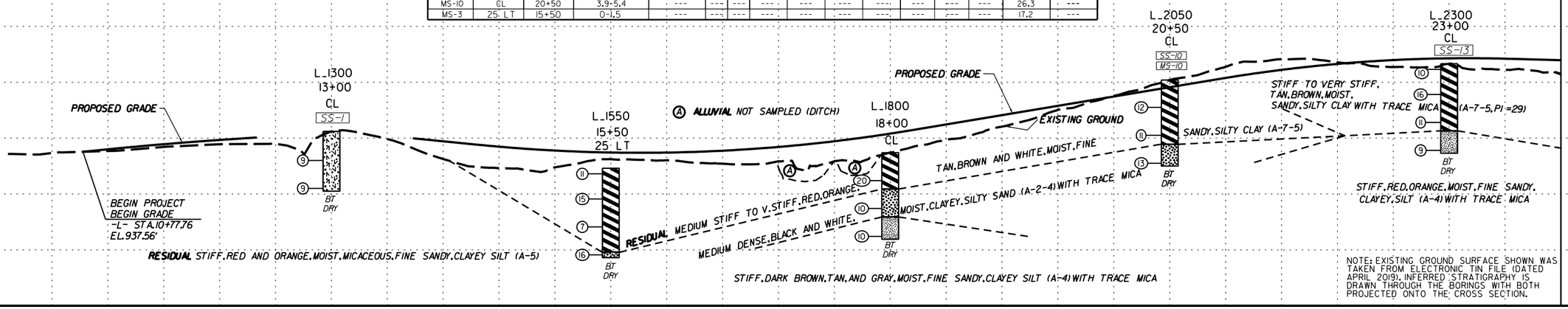
-L-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-1	CL	13+00	4.2-5.7	A-5(1)	50	6	17.4	48.6	15.8	18.2	100	94	42	---	---
SS-10	CL	20+50	3.9-5.4	A-7-5(12)	51	21	19.0	20.8	13.8	46.4	99	87	62	---	---
SS-13	CL	23+00	0-1.5	A-7-5(19)	64	29	16.3	22.0	17.3	44.4	98	88	65	---	---
MS-10	CL	20+50	3.9-5.4	---	---	---	---	---	---	---	---	---	---	26.3	---
MS-3	25' LT	15+50	0-1.5	---	---	---	---	---	---	---	---	---	---	17.2	---

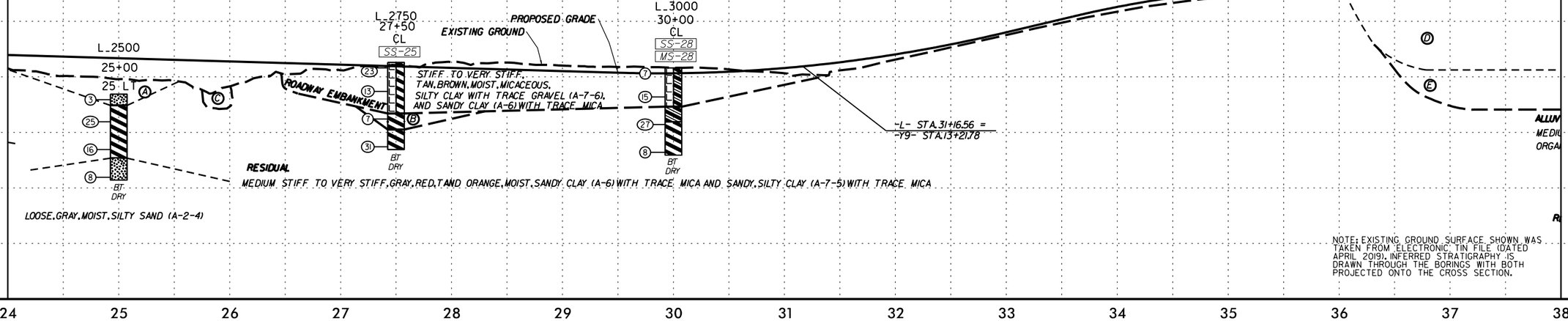


NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

-L-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-28	CL	30+00	0-1.5	A-6(2)	40	14	29.9	26.4	11.4	32.3	89	71	42	---	---
MS-28	CL	30+00	0-1.5	---	---	---	---	---	---	---	---	---	---	23.1	---
SS-25	CL	27+50	4.2-5.7	A-7-6(5)	44	21	26.6	24.6	10.4	38.3	89	67	42	---	---
MS-17	25 LT	25+00	0-1.5	---	---	---	---	---	---	---	---	---	---	13.4	---



NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	10

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

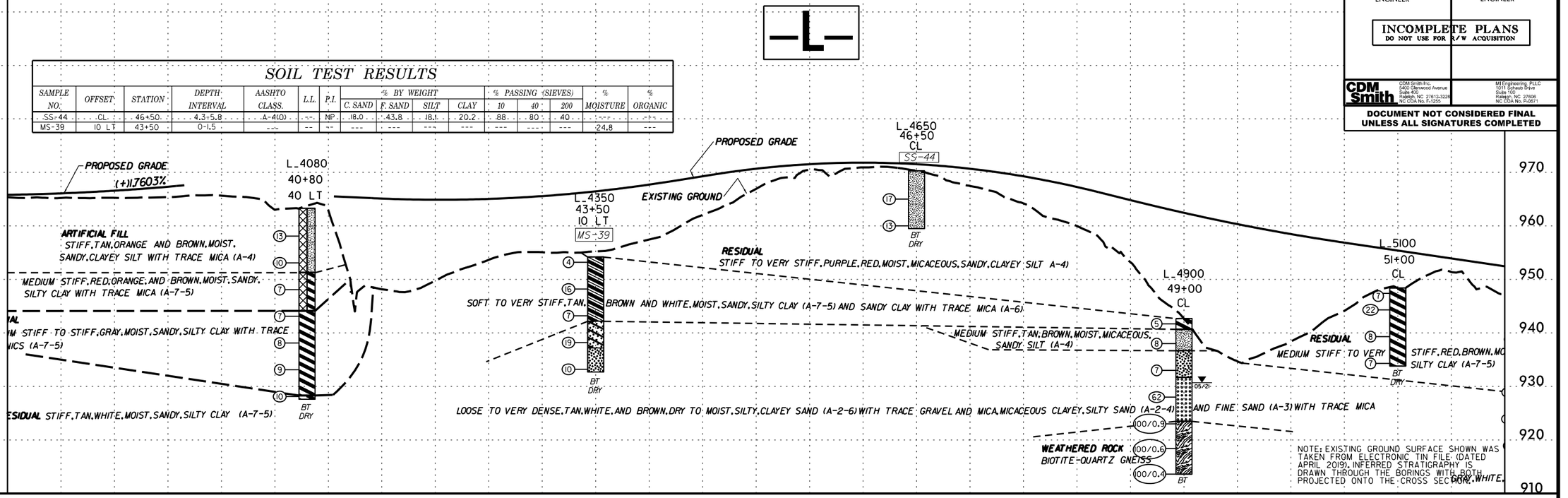
CDM Smith
CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3226
NC COA No. P-1255

MJ Engineering, PLLC
1011 Schaub Drive
Suite 100
Raleigh, NC 27606
NC COA No. P-0071

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

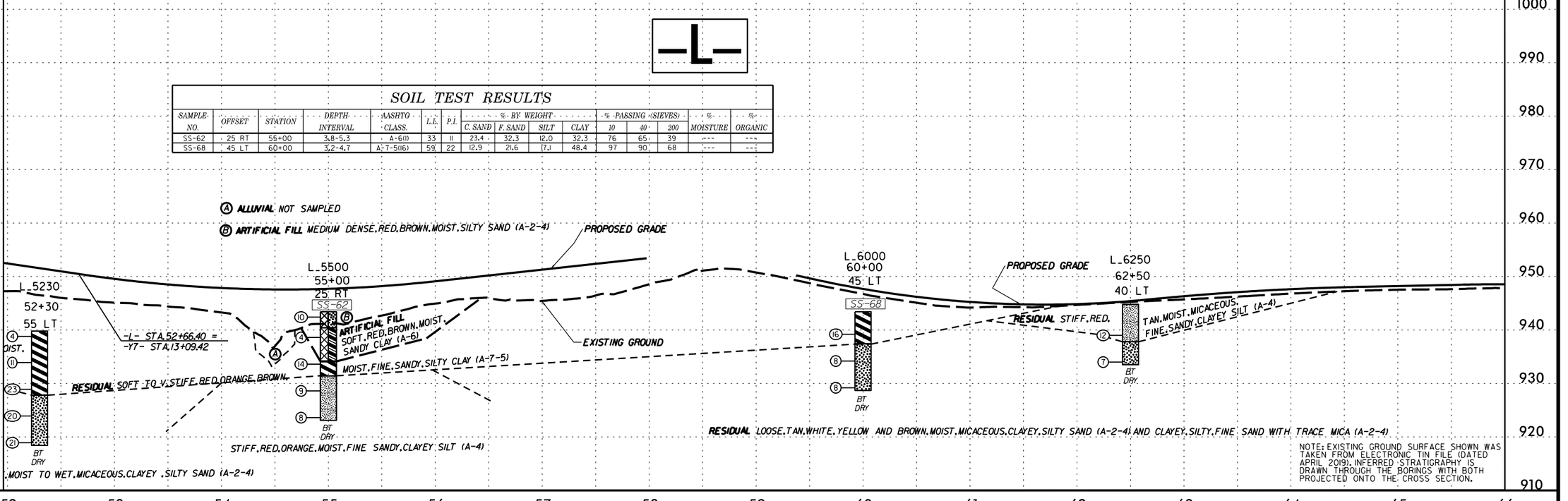
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-44	CL	46+50	4.3-5.8	A-4(0)	---	NP	18.0	43.8	18.1	20.2	88	80	40	---	---
MS-39	10 LT	43+50	0-1.5	---	--	--	---	---	---	---	---	---	---	24.8	---



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-62	25 RT	55+00	3.8-5.3	A-6(1)	33	11	23.4	32.3	12.0	32.3	76	65	39	---	---
SS-68	45 LT	60+00	3.2-4.7	A-7-5(16)	59	22	12.9	21.6	17.1	48.4	97	90	68	---	---



$$$$$$$$SYSTIME$$$$$$
$$$$$$$$FILENAME$$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

CDM Smith
CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
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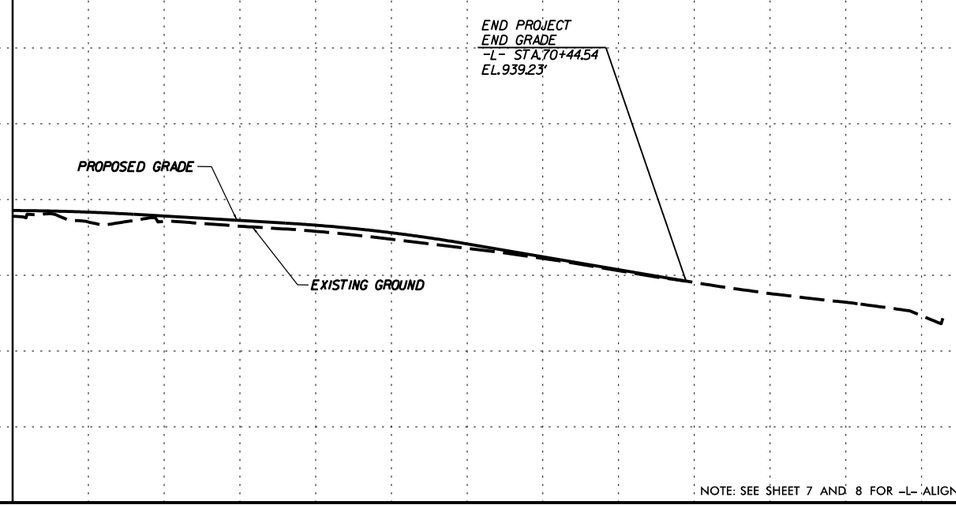
Raleigh, NC 27606
NC CDA No. P-0671

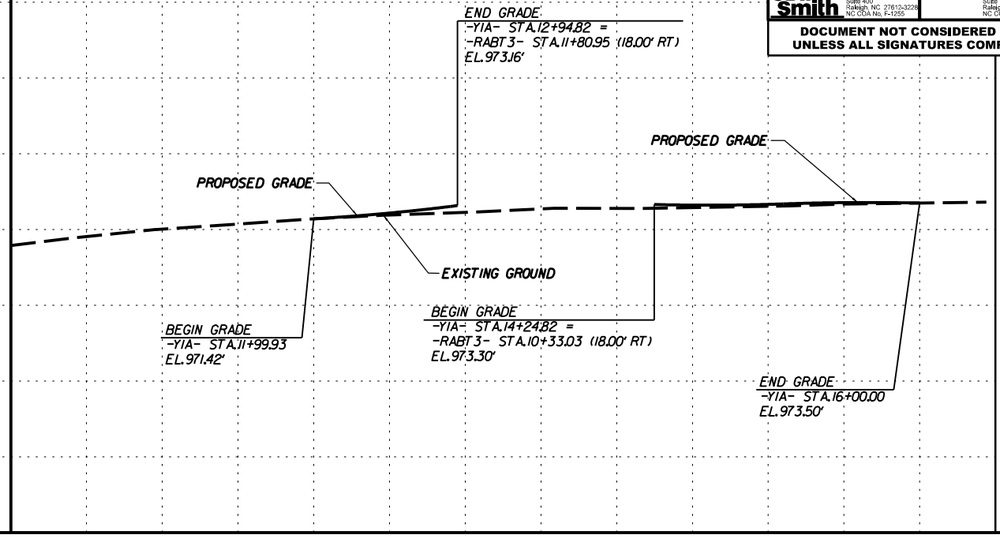
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L-

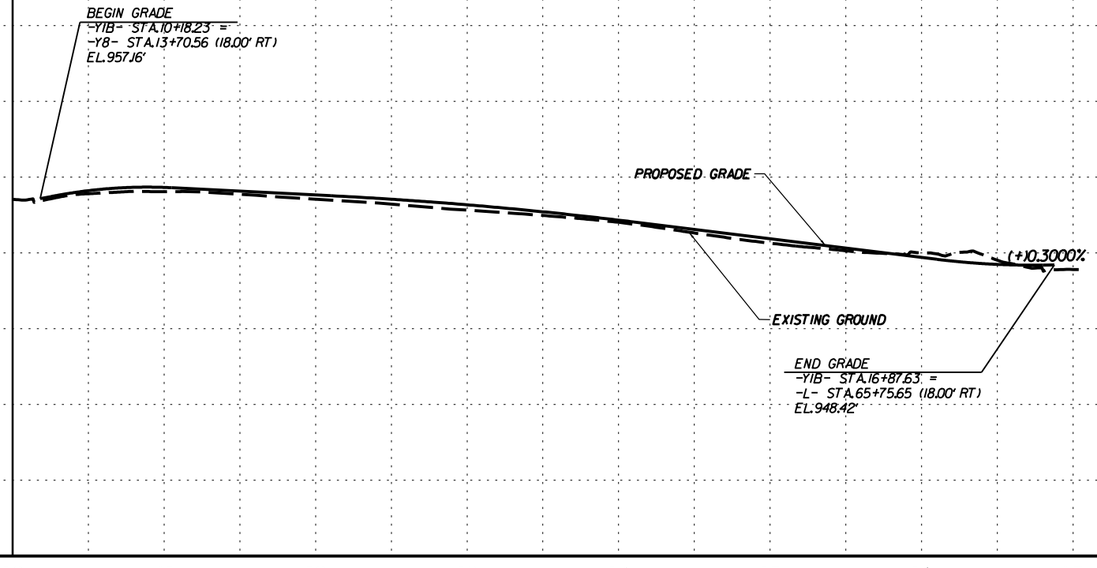


NOTE: SEE SHEET 7 AND 8 FOR -L- ALIGNMENT

-Y1A-



-Y1B-



$$$$$$$$SYSTIME$$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$FILENAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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CDM Smith Inc.
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NC COA No. F-1255

MI Engineering, PLLC
1011 Schaub Drive
Suite 100
Raleigh, NC 27606
NC COA No. P-0671

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

–Y2–

BEGIN GRADE
–Y2– STA.10+75.19 =
–RABT1–, 11+56.86 (18.00' RT)
EL.938.41'

END GRADE
–Y2– STA.12+49.56
EL.934.77'

EXISTING GROUND

PROPOSED GRADE

NOTE: SEE SHEET 4 FOR –Y2– ALIGNMENT

–Y3–

BEGIN CONSTRUCTION
–Y3– STA.11+18.91

BEGIN GRADE
–Y3– STA.12+51.25
EL.943.64'

PROPOSED GRADE

EXISTING GROUND

END GRADE
–Y3– STA.15+82.80 =
–RABT1– STA.12+91.81 (18.00' RT)
EL.942.02'

NOTE: SEE SHEET 4 FOR –Y3– ALIGNMENT

–Y4–

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	PI	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING SIEVES #10	#40	#200	MOISTURE	ORGANIC
SS-21	CL	11+45	0-5.5	A-7-6(9)	46	25	21.2	25.4	9.0	44.4	92	81	52	---	---

BEGIN GRADE
–Y4– STA.10+17.67
EL.956.82'

Y4_1145
11+45
CL.
SS-21

EXISTING GROUND

END GRADE
–Y4– STA.13+51.18 =
–L– STA.26+08.36 (24.00' RT)
EL.952.99'

PROPOSED GRADE

ARTIFICAL FILL SOFT, GRAY, MOIST, SANDY, SILTY CLAY (A-7-6)
RESIDUAL STIFF, RED AND BROWN, MOIST, FINE, SANDY, SILTY CLAY (A-7-5) WITH TRACE MICA
MEDIUM STIFF, TAN AND BROWN, MOIST, FINE, SANDY CLAYEY SILT (A-4) WITH TRACE MICA
BT
DRY

NOTE: SEE SHEET 5 FOR –Y4– ALIGNMENT

–Y5–

END GRADE
–Y5– STA.12+32.24 =
–RABT3– STA.12+57.31 (18.00' RT)
EL.975.47'

BEGIN GRADE
–Y5– STA.13+62.24 =
–RABT3– STA.11+10.32 (18.00' RT)
EL.970.77'

PROPOSED GRADE

BEGIN GRADE
–Y5– STA.11+37.35
EL.978.58'

PROPOSED GRADE

EXISTING GROUND

END GRADE
–Y5– STA.15+22.77
–RABT2– STA.11+58.45 (18.00' RT)
EL.967.14'

NOTE: SEE SHEET 6 FOR –Y5– ALIGNMENT

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$DGN$$$$$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5536	13

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
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MI Engineering, PLLC
1011 Schaub Drive
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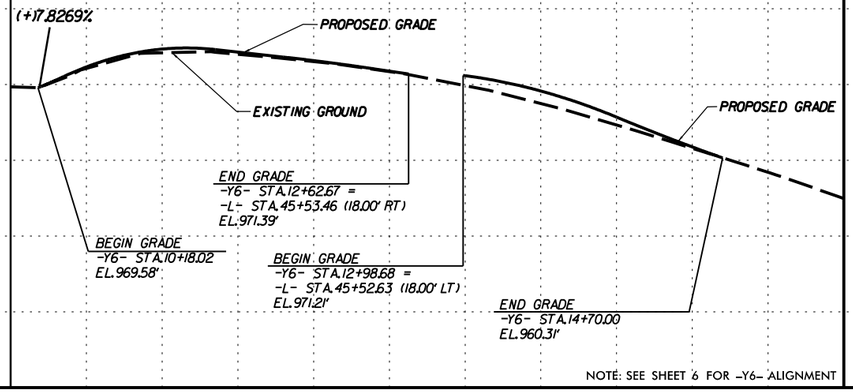
Raleigh, NC 27606
NC CDA No. P-2071

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

–Y6–

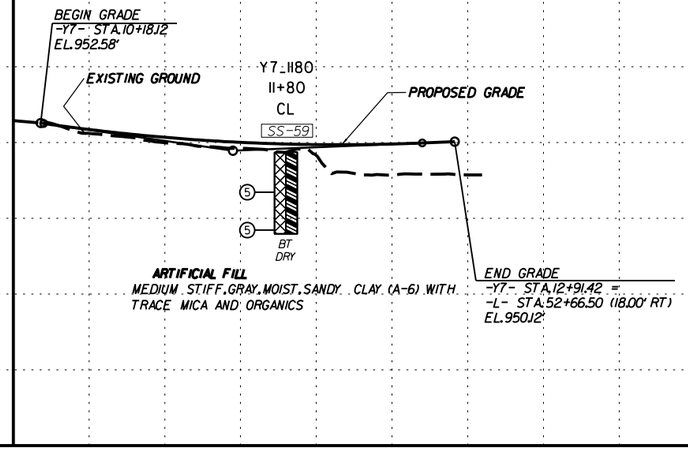


NOTE: SEE SHEET 6 FOR –Y6– ALIGNMENT

–Y7–

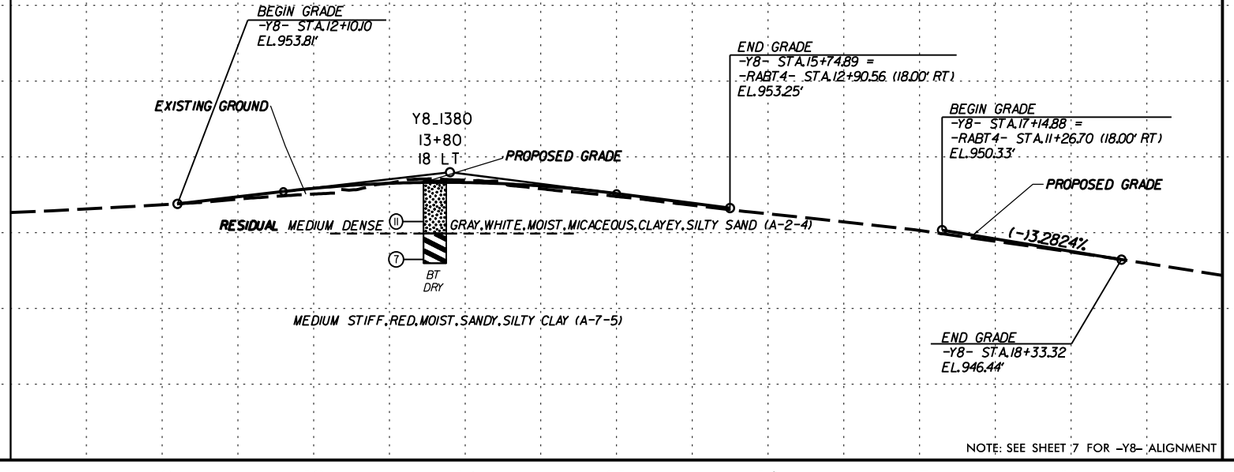
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-59	CL	11+80	4.3-5.8	A-6(2)	37	16	27.0	27.9	8.8	36.3	83	69	40	---	---



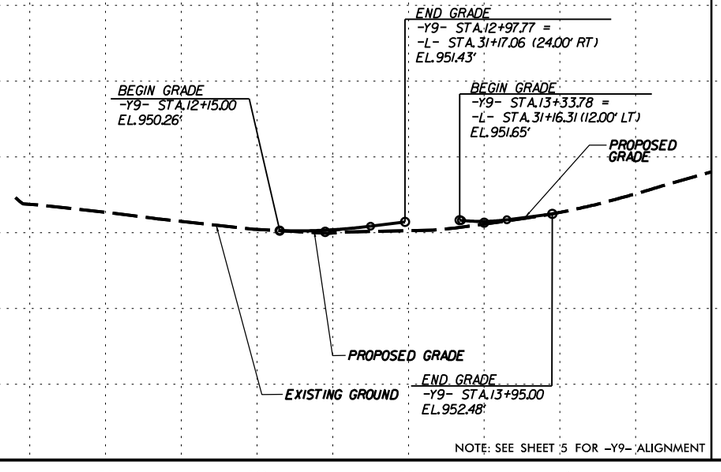
NOTE: SEE SHEET 7 FOR –Y7– ALIGNMENT

–Y8–



NOTE: SEE SHEET 7 FOR –Y8– ALIGNMENT

–Y9–

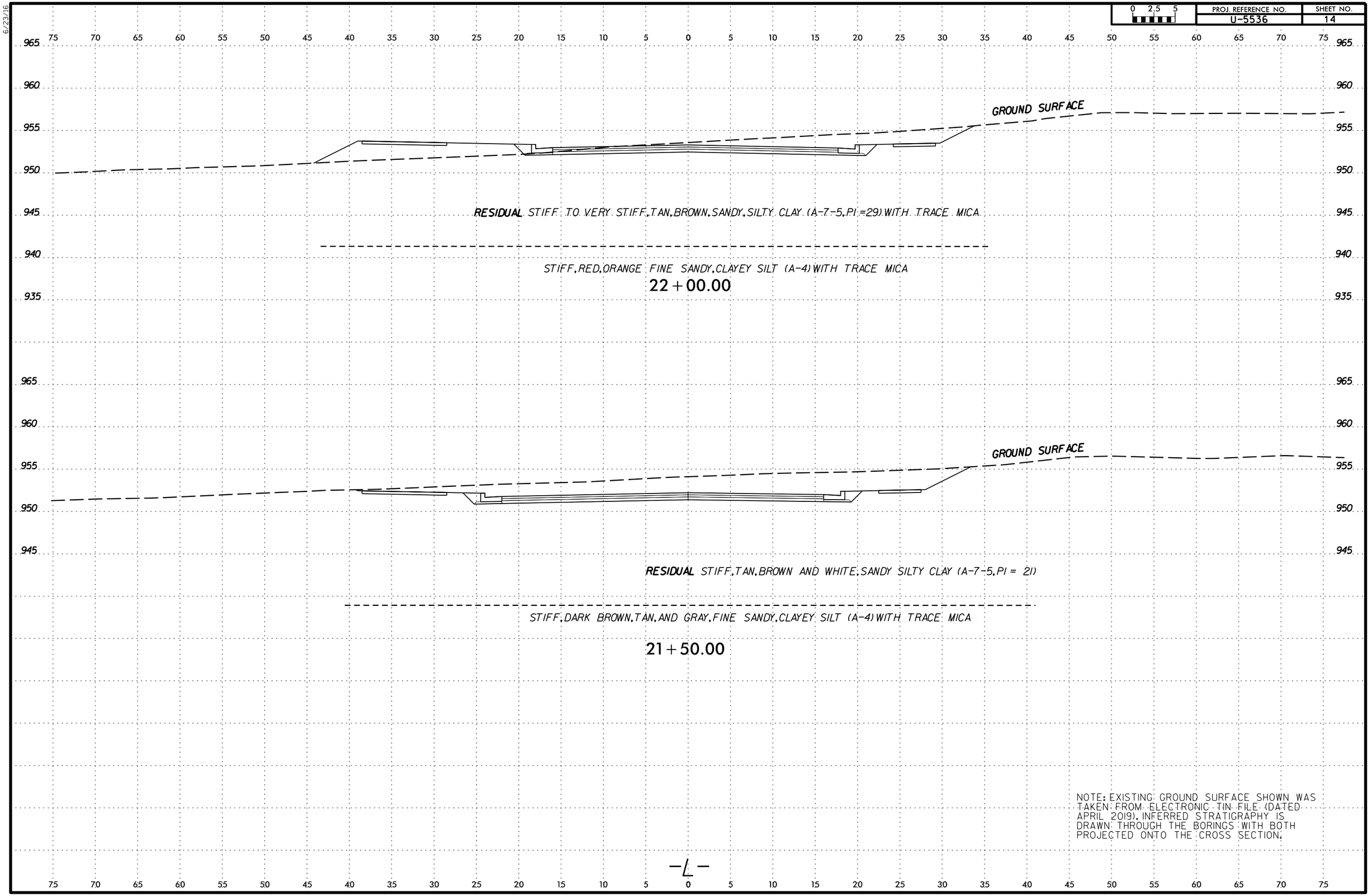


NOTE: SEE SHEET 5 FOR –Y9– ALIGNMENT

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$FILENAME$$$$

6/23/16

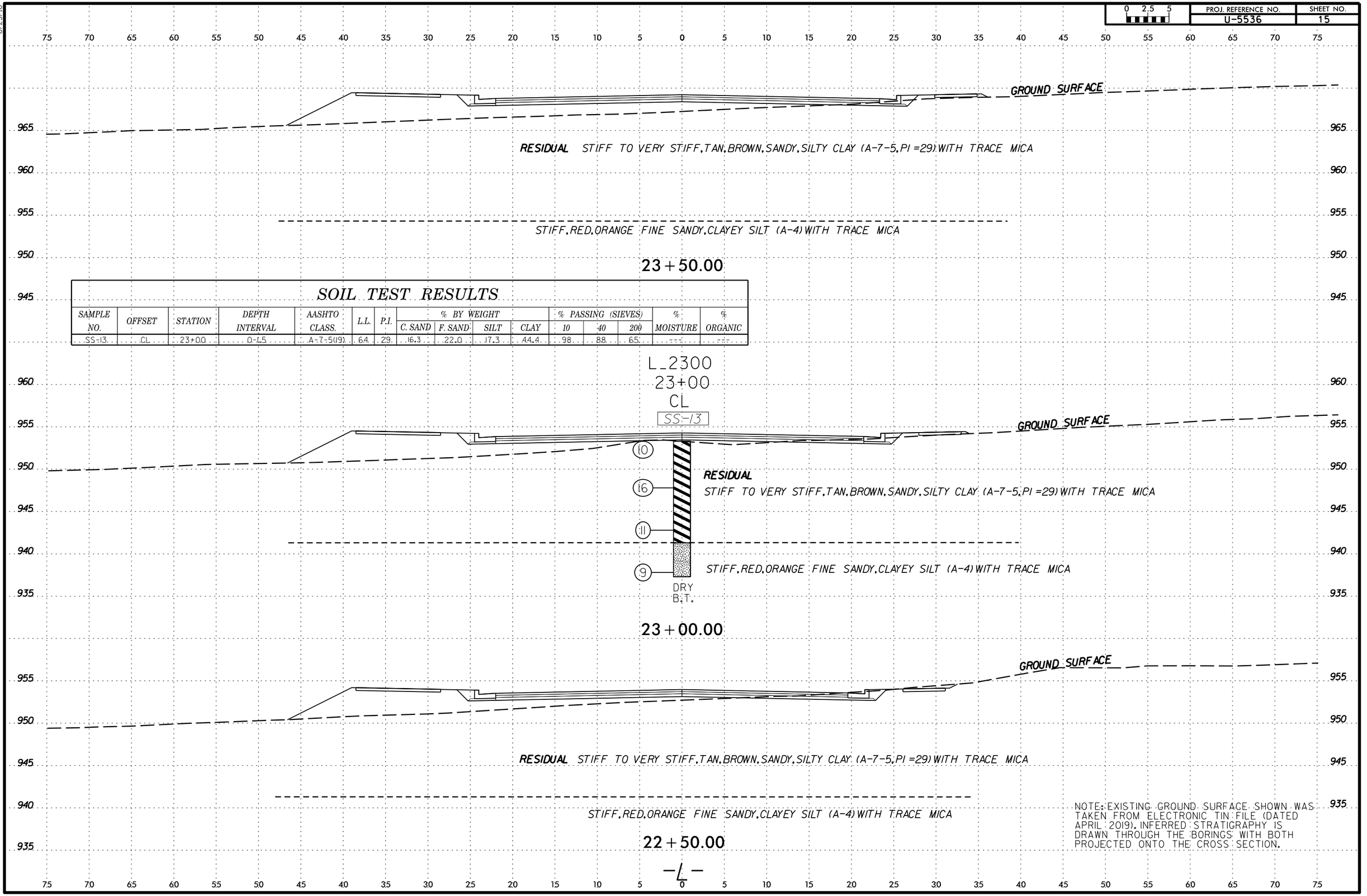
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	14



NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	15



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-13	CL	23+00	0-1.5	A-7-5(09)	64	29	16.3	22.0	17.3	44.4	98	88	65	---	---

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	16

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

965 960 955 950 945 940 935 930

GROUND SURFACE

RESIDUAL VERY LOOSE, GRAY, SILTY SAND (A-2-4)

VERY STIFF, RED AND ORANGE, FINE SANDY, SILTY CLAY (A-7-5) WITH TRACE MICA

LOOSE, BLACK AND WHITE, CLAYEY, SILTY SAND (A-2-4) WITH TRACE MICA

24+50.00

955 950 945 940 935

GROUND SURFACE

RESIDUAL STIFF TO VERY STIFF, TAN, BROWN, SANDY, SILTY CLAY (A-7-5, PI=29) WITH TRACE MICA

MEDIUM STIFF, RED, ORANGE FINE SANDY, CLAYEY, SILT (A-4) WITH TRACE MICA

24+00.00

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	17

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

955 / 950 / 945

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

12+00.00

Y4_1145
11+45
CL
SS-21

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-21	CL	11+45	0-1.5	A-7-6(9)	46	25	21.2	25.4	9.0	44.4	92	81	52	---	---

955 / 950 / 945

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6) (4)

RESIDUAL (14) STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4) (8)

11+50.00

960 / 955 / 950

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

11+00.00

955 / 950

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

10+50.00

955 / 950 / 945

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

10+17.67

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

-Y4-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	18

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

955
950
945

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

13 + 50.00

955
950
945

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

13 + 00.00

955
950
945
940

GROUND SURFACE

ARTIFICIAL FILL SOFT, GRAY, SANDY, SILTY CLAY (A-7-6)

RESIDUAL STIFF, RED AND BROWN, FINE, SANDY, SILTY CLAY WITH TRACE MICA (A-7-5)

MEDIUM STIFF, TAN AND BROWN, FINE, SANDY CLAYEY SILT WITH TRACE MICA (A-4)

12 + 50.00

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

-Y4-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	19

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-59	CL	11+80	0-1.5	A-6(2)	37	16	27.0	27.9	8.8	36.3	83	69	40	---	---

Y7_1180
11+80
CL
SS-59

5
5

12+00.00

ARTIFICAL FILL MEDIUM STIFF,GRAY,SANDY CLAY,WITH TRACE MICA (A-6) AND TRACE ORGANICS

GROUND SURFACE

11+50.00

ARTIFICAL FILL MEDIUM STIFF,GRAY,SANDY CLAY,WITH TRACE MICA (A-6) AND TRACE ORGANICS

GROUND SURFACE

11+00.00

ARTIFICAL FILL MEDIUM STIFF,GRAY,SANDY CLAY,WITH TRACE MICA (A-6) AND TRACE ORGANICS

GROUND SURFACE

10+50.00

ARTIFICAL FILL MEDIUM STIFF,GRAY,SANDY CLAY,WITH TRACE MICA (A-6) AND TRACE ORGANICS

GROUND SURFACE

10+18.00

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5536	20

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2.5 5

950
945
940
935

12 + 50.00

GROUND SURFACE

ARTIFICAL FILL MEDIUM STIFF, GRAY, SANDY CLAY, WITH TRACE MICA (A-6) AND TRACE ORGANICS

NOTE: EXISTING GROUND SURFACE SHOWN WAS TAKEN FROM ELECTRONIC TIN FILE (DATED APRIL 2019). INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.

-Y7-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75