

REFERENCE: U-6202

PROJECT: 48662

SEE SHEET 3 FOR PLAN SHEET LAYOUT  
AT TIME OF INVESTIGATION

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6202	1	47

**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 1919 TOTTENHAM. 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.

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

PERSONNEL

L. G. PUGH, LG

O. DAYNES

T. PARK

C. FUTRAL

D. CHALMERS

A. FOWLER

INVESTIGATED BY J. LEE STONE, LG

DRAWN BY S.V. HUDSON, LG

CHECKED BY J. LEE STONE, LG

SUBMITTED BY S. V. HUDSON, LG

DATE FEBRUARY 2022

**CONTENTS**

LINE	STATION	PLAN	PROFILE
-L-	14+50 to 150+41	4 to 22	26 to 31
-Y1-	10+00 to 11+25	5	31
-Y2-	10+25 to 11+57	5	31
-Y3-	10+00 to 13+58	5 and 5A	32
-Y4RPA-	17+50 to 19+27	5	32
-Y4RPA-SLIP-	10+00 to 11+46	6 to 7	38
-Y4RPA-	10+00 to 12+37	6	32
-Y4RPA-	10+00 to 16+40	6	32
-Y4LPC-	10+00 to 12+34	6 and 23	33
-Y5-	10+50 to 12+00	7	33
-Y6-	13+25 to 14+49	8	33
-Y7-	10+00 to 11+50	8	33
-Y8-	12+50 to 13+50	8	34
-Y9-	12+25 to 13+50	9	34
-Y10-	10+00 to 11+25	9	34
-Y11-	12+00 to 13+66	10	34
-Y12-	12+50 to 13+80	10	35
-Y13-	12+25 to 13+80	11	35
-Y14-	10+19 to 16+13	12 and 24	35
-Y15-	12+25 to 13+69	13	35
-Y16-	20+67 to 25+85	14 and 25	36
-Y17-	10+00 to 11+00	14	36
-Y18-	10+00 to 12+00	14	36
-Y19-	10+25 to 11+79	15	36
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-Y22-	10+75 to 11+94	16	37
-Y23-	10+00 to 11+50	18	37
-Y24-	12+00 to 13+25	19	38
-Y25-	14+25 to 16+00	20	38
-Y26-	10+00 to 13+25	20	38

**CROSS SECTIONS**

LINE	STATION	SHEETS
-L-	96+00 to 101+00	39 to 42

**ROADWAY  
SUBSURFACE INVESTIGATION**

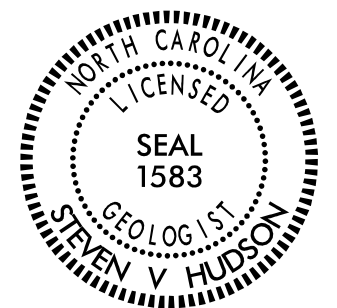
COUNTY NEW HANOVER  
PROJECT DESCRIPTION SR 2048 (GORDON ROAD)  
FROM US 17 (MARKET STREET) TO I-40.  
WIDEN ROADWAY.

**INVENTORY**

**APPENDICES**

APPENDIX	TITLE	SHEETS
A	CONE PENETRATION TEST BORING REPORTS	43 to 47

**CATLIN**  
Engineers and Scientists



DocuSigned by:  
Steve V. Hudson 03/08/2022  
01DB23BB746D469...  
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

Table containing sections: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSIBILITY, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, PLASTICITY, COLOR, FRACTURE SPACING, BEDDING, INDURATION, and NOTES.

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

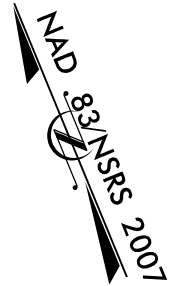
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**NEW HANOVER COUNTY**

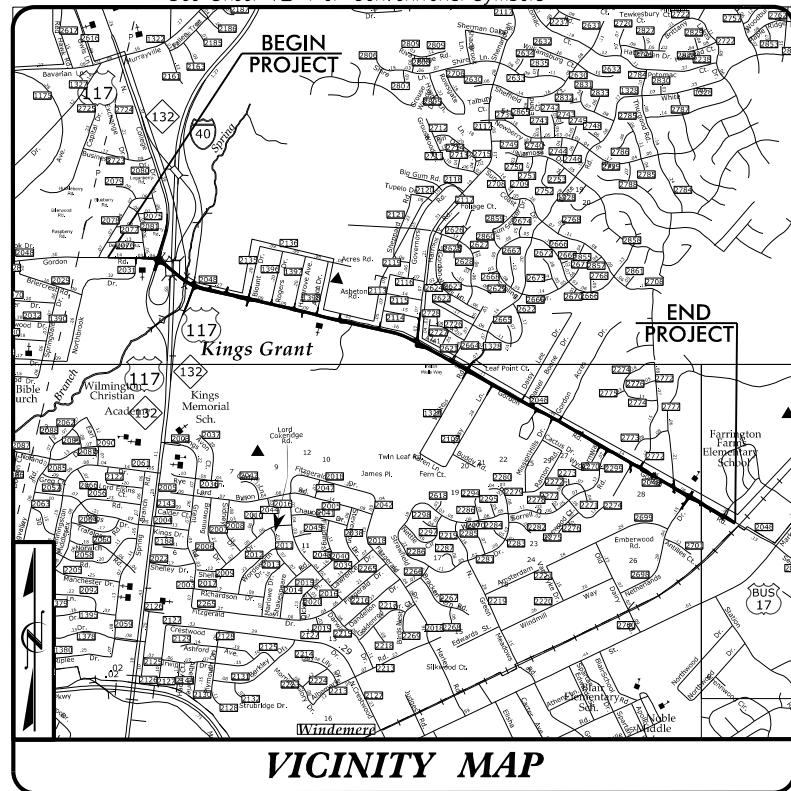
LOCATION: SR 2048 (GORDON ROAD) FROM  
US 17 BUS (MARKET STREET)  
TO INTERSTATE-40

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6202	3	47
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
48662.1.1		PE	

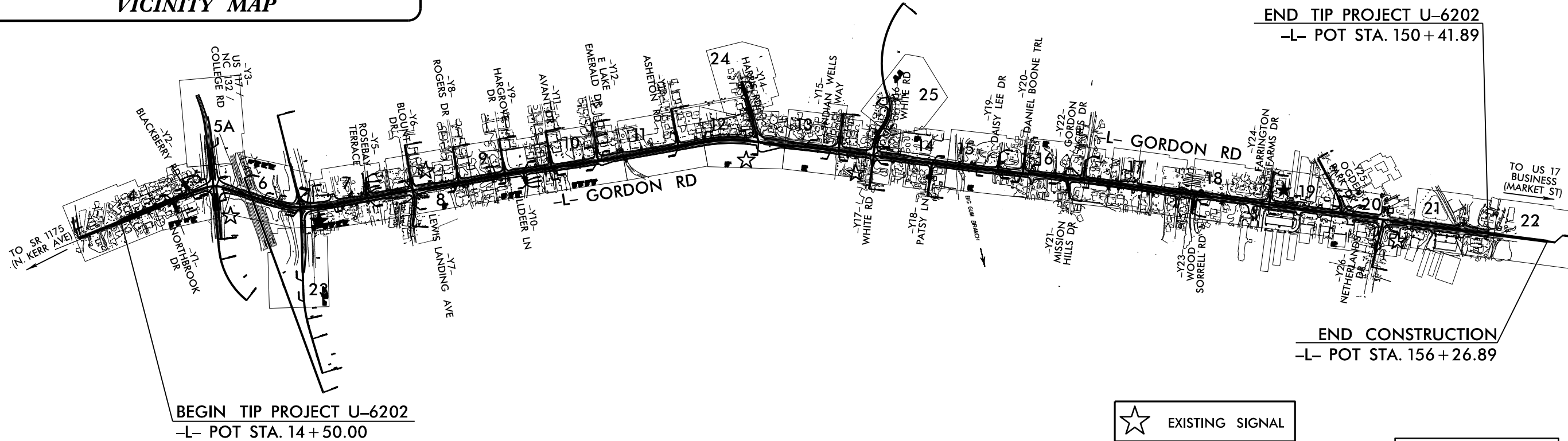


**TIP PROJECT: U-6202**



VICINITY MAP

DESIGN RECOMMENDATION PLAN SET



END TIP PROJECT U-6202  
-L- POT STA. 150+41.89

END CONSTRUCTION  
-L- POT STA. 156+26.89

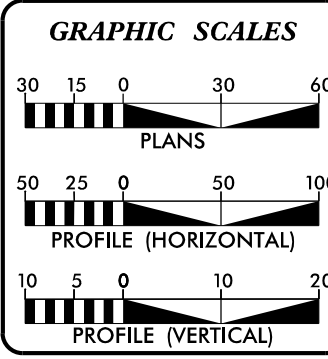
BEGIN TIP PROJECT U-6202  
-L- POT STA. 14+50.00

- NOTES:
- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III MODIFIED.
  - THIS PROJECT IS PARTIALLY WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WILMINGTON.

	EXISTING SIGNAL
	PROPOSED SIGNAL

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

**CONTRACT:**



**DESIGN DATA**

ADT 2019 =	25,700
ADT 2045 =	35,300
K =	8 %
D =	55 %
T =	4 % *
V =	50 MPH
* TTST =	1% DUAL 3%
FUNC CLASS =	URBAN ARTERIAL
SUBREGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY T.I.P. PROJECT U-6202 =	2.574 MILES
TOTAL LENGTH OF T.I.P. PROJECT U-6202 =	2.574 MILES
LENGTH BASED ON -L- CENTERLINE	

PREPARED IN THE OFFICE OF:

**HNTB**  
HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

FOR NCDOT DIVISION 3

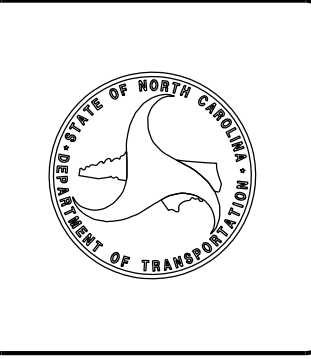
2018 STANDARD SPECIFICATIONS	DOUG M. WHEATLEY, PE PROJECT ENGINEER
RIGHT OF WAY DATE: JUNE 17, 2022	TATYANA GIBBS, EI PROJECT DESIGN ENGINEER
LETTING DATE: JUNE 18, 2024	BRIAN HARDING, PE NCDOT CONTACT

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.



February 18, 2022

WBS Number: 48662.1.1  
 TIP Number: U-6202  
 Project ID: 38794  
 County: New Hanover  
 Description: SR 2048 (Gordon Road) from US 17 (Market Street) to I-40. Widen Roadway.  
 CATLIN Number: 221297  
 SUBJECT: Geotechnical Inventory Report

**Project Description**

This project is located along existing SR 2048 (Gordon Road) and extends from the interchange with Interstate 40 (I-40) to near the intersection with US Highway 17 (Market Street) and will consist of existing alignment widening along Gordon Road and associated interchanges in addition to infrastructure upgrades of existing drainage structures (culverts and piping). Total proposed length of construction is approximately 3.7 miles (19,697± linear feet). This geotechnical investigation was confined to within and near the areas of proposed construction.

Fieldwork was conducted in between November 2021 and January 2022. Borings advanced during November and December 2018 were installed by, and under the direction of, Richard Catlin and Associates Inc., doing business as Catlin Engineers and Scientists (CATLIN) personnel during this investigation. Four (4) Standard penetration test (SPT) borings were advanced to approximately 24 feet below land surface (BLS) near the locations of the proposed structure upgrades. Hand auger borings along the proposed roadway alignments were completed at 109 locations along the project corridor during the field investigation. Cone Penetration Testing (CPT) was conducted at ten (10) locations at 50-foot intervals along Alignment -L- between stations 96+00 and 101+00 to depths ranging from 20.9 to 22.0 feet BLS. Representative soil samples were collected from the SPT and hand auger borings for visual classification in the field and for laboratory analysis.

The following alignments were investigated. Subsurface profiles and select cross sections are included in this report.

<u>LINE</u>	<u>STATION</u>	<u>LENGTH FEET</u>
-L-	14+50 to 150+41	13,591
-Y1-	10+00 to 11+25	125
-Y2-	10+25 to 11+57	132
-Y3-	10+00 to 13+58	358
-Y4RPA-	17+50 to 19+27	177
-Y4RPA_SLIP-	10+00 to 11+46	146
-Y4RPC-	10+00 to 12+37	237
-Y4RPD	10+00 to 16+40	640
-Y4LPC-	10+00 to 12+34	234

<u>LINE</u>	<u>STATION</u>	<u>LENGTH FEET</u>
-Y6-	13+25 to 14+49	124
-Y7-	10+00 to 11+50	150
-Y8-	12+50 to 13+50	100
-Y9-	12+25 to 13+50	125
-Y10-	10+00 to 11+25	125
-Y11-	12+00 to 13+66	166
-Y12-	12+50 to 13+80	130
-Y13-	12+25 to 13+80	155
-Y14-	10+19 to 16+13	594
-Y15-	12+25 to 13+69	144
-Y16-	20+67 to 25+85	518
-Y17-	10+00 to 11+00	100
-Y18-	10+00 to 12+00	200
-Y19-	10+25 to 11+79	154
-Y20-	10+75 to 12+25	103
-Y21-	10+00 to 11+25	125
-Y22-	10+75 to 11+94	119
-Y23-	10+00 to 11+50	150
-Y24-	12+00 to 12+25	125
-Y25-	14+25 to 16+00	175
-Y26-	10+00 to 13+25	325

**Areas of Special Geotechnical Interest**

- 1) The following sections exhibit seasonal high groundwater.

<u>LINE</u>	<u>STATION</u>
-L-	14+50 to 24+00
-L-	35+00 to 37+00
-L-	39+00 to 49+50
-L-	78+00 to 82+00
-L-	108+50 to 112+00
-L-	116+00 to 122+00
-L-	126+00 to 128+00
-L-	130+50 to 132+00
-L-	138+50 to 140+00
-Y1-	10+00 to 11+25
-Y2-	10+25 to 11+57
-Y3-	10+00 to 13+58
-Y4RPA-	17+50 to 19+27
-Y4RPA_SLIP-	10+00 to 11+46
-Y4RPC-	10+00 to 12+37
-Y5-	10+50 to 10+58
-Y6-	13+25 to 14+49

<u>LINE</u>	<u>STATION</u>
-Y9-	12+25 to 13+50
-Y13-	12+25 to 13+80
-Y14-	10+19 to 12+00
-Y24-	12+00 to 12+25
-Y25-	14+25 to 16+00
-Y26-	10+00 to 13+25

- 2) The following sections contain cohesive soils that may have the potential to cause embankment/subgrade and or slope stability problems during construction:

<u>LINE</u>	<u>STATION</u>
-L-	16+50 to 17+50
-L-	31+20 to 32+00
-L-	97+00 to 99+50
-L-	104+50 to 105+50
-L-	106+30 to 107+65
-Y4RPA-	17+50 to 19+27
-Y4RPA_SLIP-	10+00 to 11+46
-Y4RPD-	11+00 to 13+24
-Y22-	10+75 to 11+45

- 3) The following sections contain organic soils that have the potential to cause embankment/subgrade and or slope stability problems during construction:

<u>LINE</u>	<u>STATION</u>
-L-	47+75 to 49+25
-L-	88+60 to 89+45
-L-	96+11 to 99+85
-L-	106+30 to 107+65
-L-	130+30 to 131+80
-L-	141+53 to 144+34
-L-	147+83 to 150+41

### Physiography and Geology

This project corridor is located within the Coastal Plain physiographic province. Topography along the project is nearly flat to gently sloping. Ground elevations range from 13± to 45± feet above sea level.

Surficial soils in this area are generally classified as undivided coastal plain sediments.

### Ground Water

Ground water data was collected between November 2021 and January 2022. Twenty-four-hour groundwater levels measured from open boreholes ranged from approximately two (2) feet 14 feet BLS. Potentiometric surfaces were estimated from the CPT probes at depths ranging from approximately eight (8) to 14 feet BLS.

Water wells were identified within and along the proposed project limits at the following locations:

<u>LINE</u>	<u>STATION</u>	<u>OFFSET</u>
-L-	36+49	71' RT
-L-	36+76	71' RT
-L-	37+00	101' LT
-L-	38+38	52' RT
-L-	42+75	45' LT
-L-	46+91	47' LT
-L-	48+70	42' RT
-L-	49+87	86' LT
-L-	52+35	55' RT
-L-	59+32	39' RT
-L-	60+49	92' LT
-L-	104+85	48' LT
-L-	116+29	44' RT
-L-	123+17	115' RT
-Y6-	12+90	42' LT
-Y12-	12+90	50' RT
-Y17-	11+42	56' RT
-Y20-	12+29	38' LT

### Soils

Soils encountered along the project site include roadway embankment, artificial fill, alluvial, and undivided coastal plain sediments.

Roadway Embankment soils were identified beneath and adjacent to existing roadways and consist of approximately one (1) to eight (8) feet of loose to medium dense sand, sand with gravel, and silty sand (A-3 and A-2-4).

Artificial Fill was encountered adjacent to the alignments in low lying areas and consisted of approximately one (1) to six (6) feet of sand, sand with gravel, and silty sand (A-3, A-2-4).

Alluvial sediments consisting of muck and very loose to loose sands (A-2-4, A-3) with little to moderate organics were encountered beneath the roadway embankment at thickness of up to approximately six (6) feet from -L- Station 96+11 to 99+85.

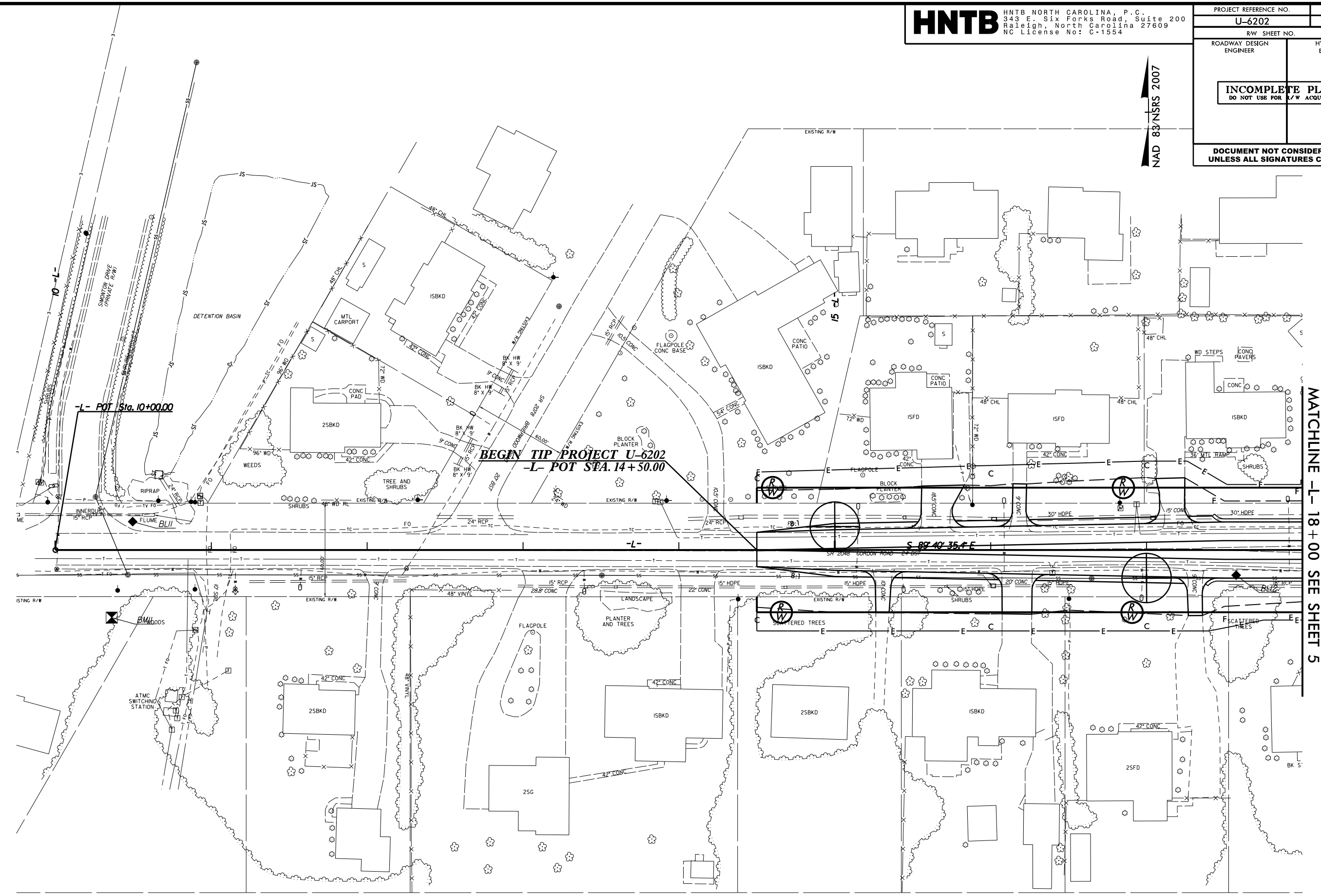
Undivided coastal plain sediments were identified along the project at thicknesses ranging from at least six (6) feet to greater than 30 feet. Undivided coastal plain sediments are primarily composed of loose to medium dense sand and silty sand (A-3, A-2-4). Limited zones of soft to medium stiff, low to moderately plastic clays and silts (A-6, A-4) are interbedded within the upper six (6) feet of the underlying sediments along the alignments as listed in Section 2 of the Areas of Special Geotechnical Interest in this report. Liquid limits of these fine-grained materials range from 21 to 37 with percentage passing 200 values ranging from 37 to 75.

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007



NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 26

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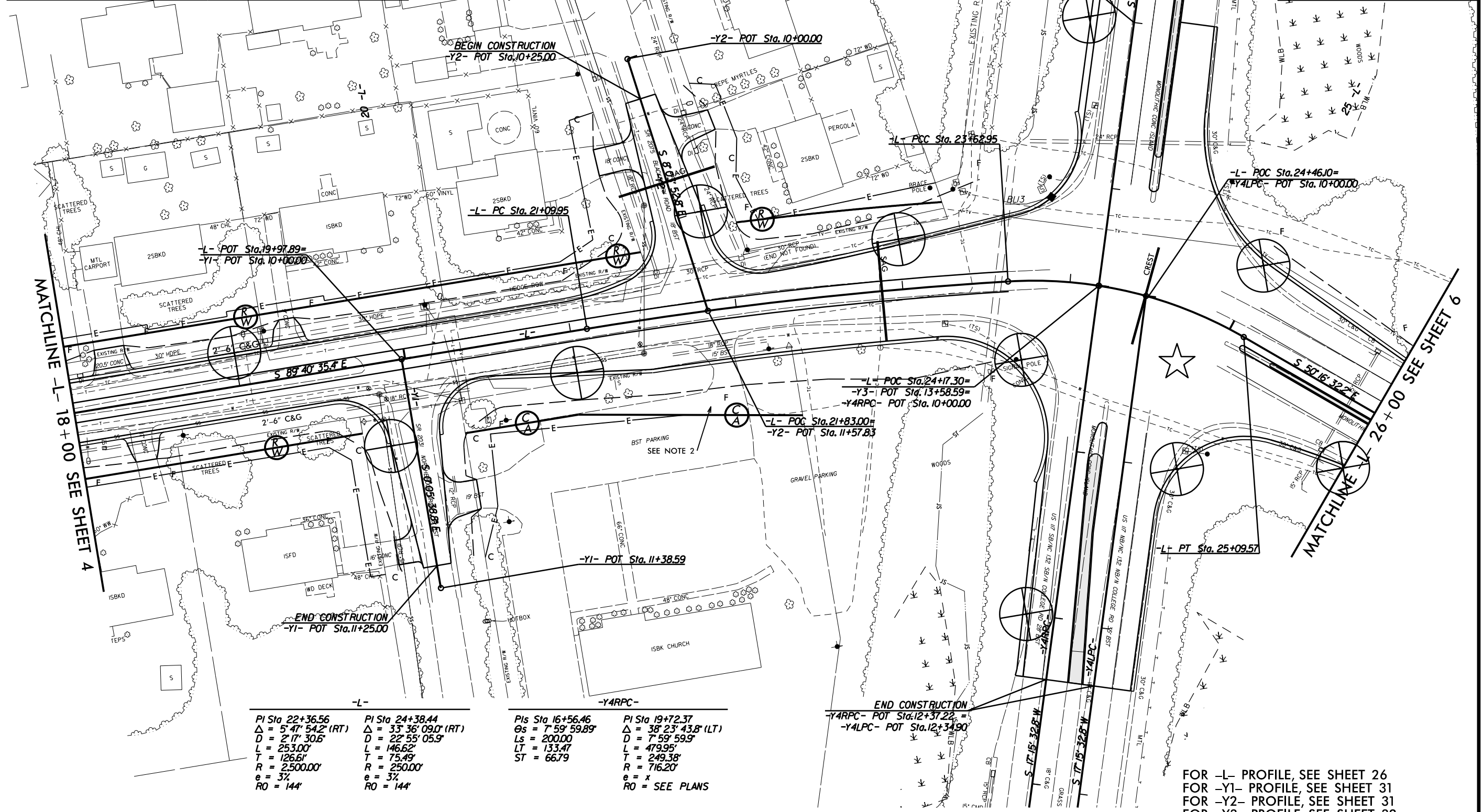
8/17/99

INTERSECTION OF GORDON RD (-L-) AND N. COLLEGE RD (US 117, NC 132) (-Y3-)		INTERSECTION OF GORDON RD (-L-), I-40, AND US 117/NC 132	
2019 ADT 2045 ADT	26500 31500	2019 ADT 2045 ADT	37300 71800
5300 7500	5300 6500	4100 4800	4900 6600
21700 26000	21200 25000	25700 35300	13800 19900
GORDON RD (SR 2048)		GORDON RD (SR 2048)	
N. COLLEGE RD (US 117, NC 132)		N. COLLEGE RD (US 117, NC 132)	
52700 92700		52700 92700	

NOTE: -Y3- DESIGN TO BE COMPLETED UPON COMPLETION OF UPDATED FINAL SURVEYS. DESIGN CURRENTLY SHOWN IS CONCEPT LEVEL - PLAN-VIEW ONLY.

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PROJECT REFERENCE NO. U-6202	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



<b>-L-</b>	<b>-Y4RPC-</b>
PI Sta 22+36.56	PIs Sta 16+56.46
$\Delta = 5' 47'' 54.2''$ (RT)	$\Delta = 7' 59'' 59.89''$
D = 2' 17'' 30.6'	Ls = 200.00
L = 253.00'	LT = 133.47
T = 126.61'	ST = 66.79
R = 2,500.00'	
e = 3%	
RO = 144'	
PI Sta 24+38.44	PI Sta 19+72.37
$\Delta = 33' 36'' 09.0''$ (RT)	$\Delta = 38' 23'' 43.8''$ (LT)
D = 22' 55'' 05.9'	D = 7' 59'' 59.9'
L = 146.62'	L = 479.95'
T = 75.49'	T = 249.38'
R = 2,500.00'	R = 716.20'
e = 3%	e = x
RO = 144'	RO = SEE PLANS

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.  
2. ROW NEEDED FOR INTERSECTION SIGHT DISTANCE.



NOTE: -Y4RPC- & -Y4LPC- DESIGN TO BE COMPLETED UPON COMPLETION OF UPDATED FINAL SURVEYS. DESIGN CURRENTLY SHOWN IS CONCEPT LEVEL - PLAN-VIEW ONLY.

FOR -L- PROFILE, SEE SHEET 26  
FOR -Y1- PROFILE, SEE SHEET 31  
FOR -Y2- PROFILE, SEE SHEET 31  
FOR -Y3- PROFILE, SEE SHEET 32  
FOR -Y4RPC- PROFILE, SEE SHEET 32  
FOR -Y4LPC- PROFILE, SEE SHEET 32

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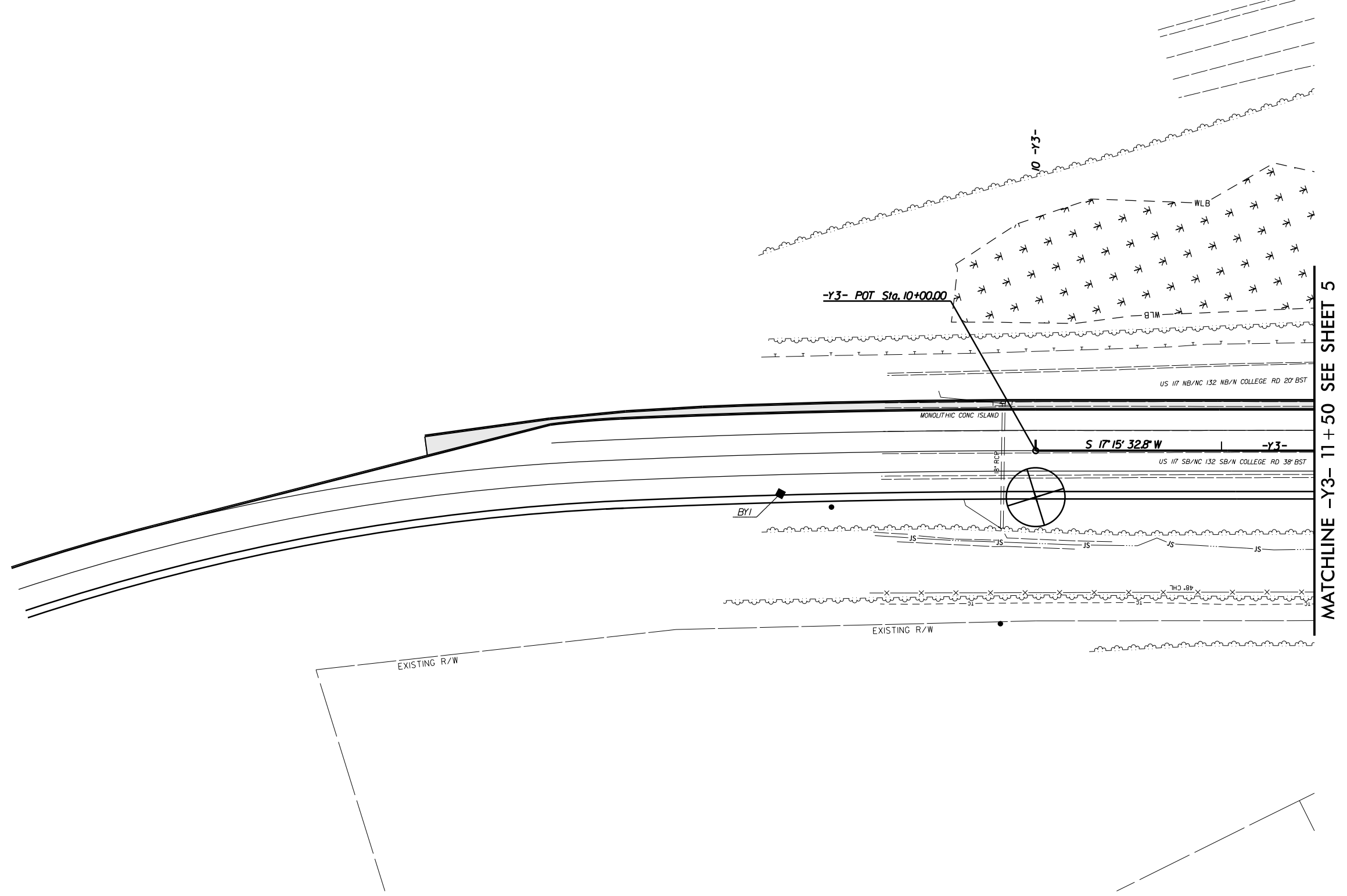
8/17/99

NOTE: -Y3- DESIGN TO BE COMPLETED UPON COMPLETION OF UPDATED FINAL SURVEYS. DESIGN CURRENTLY SHOWN IS CONCEPT LEVEL - PLAN-VIEW ONLY.

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Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO.		SHEET NO.	
U-6202		5A	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION			
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MATCHLINE -Y3- 11 + 50 SEE SHEET 5

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

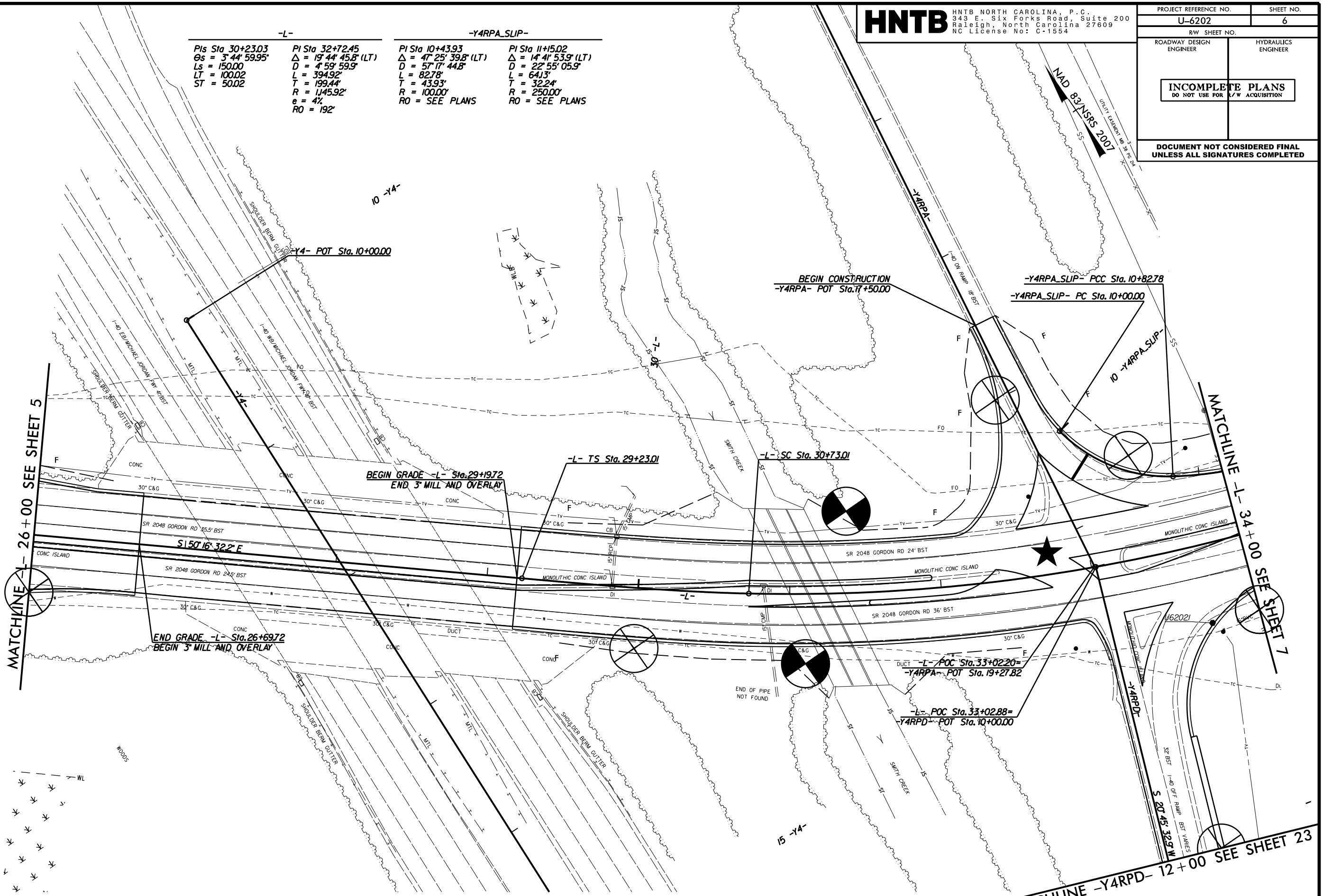
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8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

-L-		-Y4RPA_SLIP-	
PI Sta 30+23.03	PI Sta 32+72.45	PI Sta 10+43.93	PI Sta 11+50.02
Δs = 3' 44" 59.95"	Δ = 19' 44" 45.8" (LT)	Δ = 47' 25" 39.8" (LT)	Δ = 14' 41" 53.9" (LT)
Ls = 150.00	D = 4' 59" 59.9"	D = 57' 17" 44.8"	D = 22' 55" 05.9"
LT = 100.02	L = 394.92'	L = 82.78'	L = 64.13'
ST = 50.02	T = 199.44'	T = 43.93'	T = 32.24'
	R = 1,45.92'	R = 100.00'	R = 250.00'
	e = 4%	RO = SEE PLANS	RO = SEE PLANS
	RO = 192'		



NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

★ PROPOSED SIGNAL

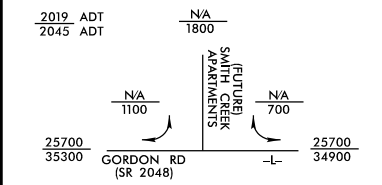
NOTE: -Y4RPD- DESIGN TO BE COMPLETED UPON COMPLETION OF UPDATED FINAL SURVEYS. DESIGN CURRENTLY SHOWN IS CONCEPT LEVEL - PLAN-VIEW ONLY.

FOR -L- PROFILE, SEE SHEET 26  
FOR -Y4RPA- PROFILE, SEE SHEET 32  
FOR -Y4RPA\_SLIP- PROFILE, SEE SHEET 38  
FOR -Y4RPD- PROFILE, SEE SHEET 33

17-FEB-2022 10:37 P:\2021\221257\NC DOT\_U6202\_GORDON-ROAD\_GEO TECH\U6202\_GEO\_RDWY\CADD\_GEO TECH\Site&Sub\U6202\_RDY\_PSH6.dgn

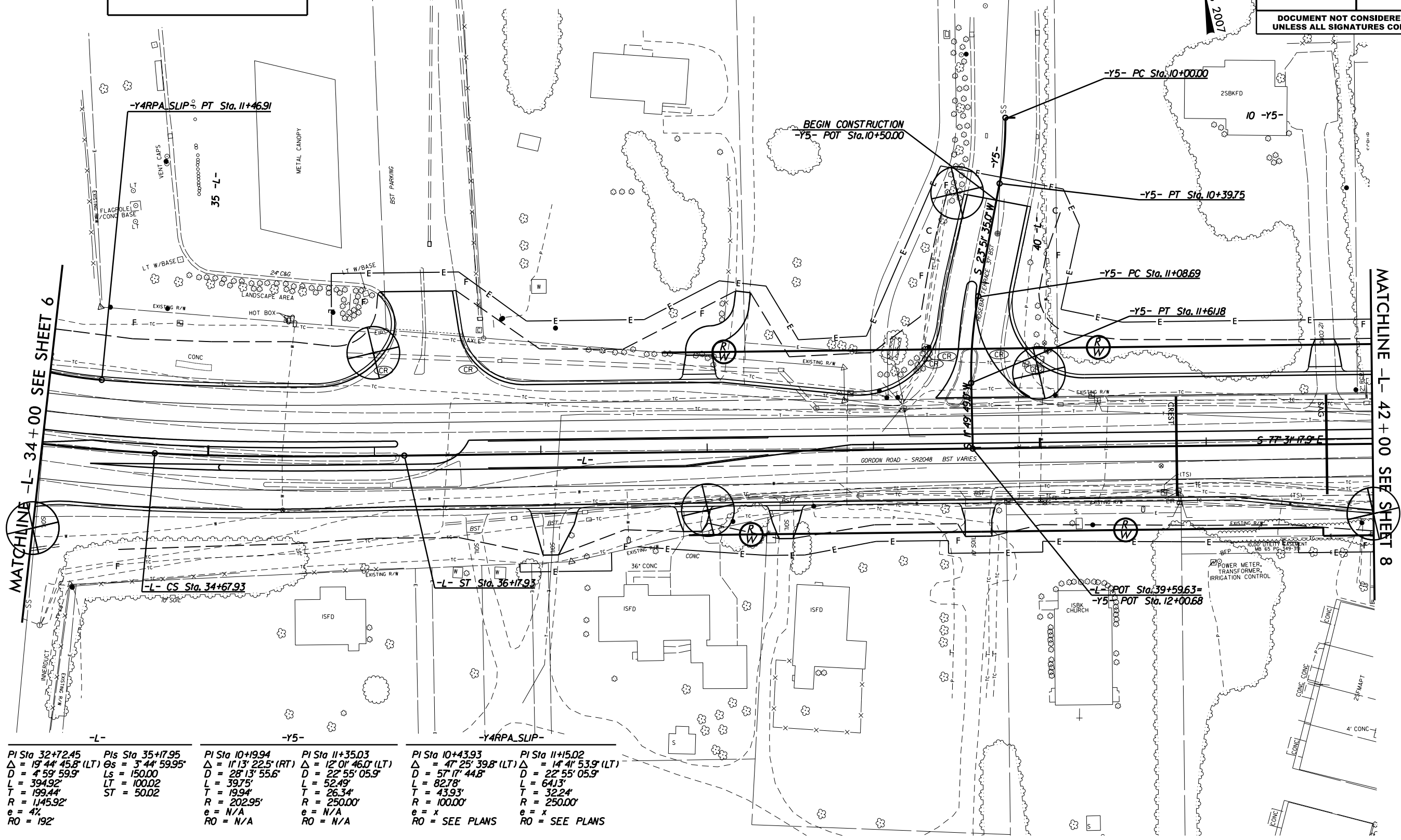
8/17/99

INTERSECTION OF GORDON RD (-L-) AND (FUTURE) SMITH CREEK APARTMENTS



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PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>7</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



PI Sta 32+72.45 Δ = 19' 44" 45.8" (LT) D = 4' 59" 59.9" L = 394.92' T = 199.44' R = 1145.92' e = 4% RO = 192'	PI Sta 35+17.95 Os = 3' 44" 59.95" Ls = 150.00 LT = 100.02 ST = 50.02	PI Sta 10+19.94 Δ = 11' 13" 22.5" (RT) D = 28' 13" 55.6" L = 39.75' T = 19.94' R = 202.95' e = N/A RO = N/A	PI Sta 11+35.03 Δ = 12' 01" 46.0" (LT) D = 22' 55" 05.9" L = 52.49' T = 26.34' R = 250.00' e = N/A RO = N/A	PI Sta 10+43.93 Δ = 47' 25" 39.8" (LT) D = 57' 17" 44.8" L = 82.78' T = 43.93' R = 100.00' e = x RO = SEE PLANS	PI Sta 11+15.02 Δ = 14' 41" 53.9" (LT) D = 22' 55" 05.9" L = 64.13' T = 32.24' R = 250.00' e = x RO = SEE PLANS
--	---	--	--	--	--

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

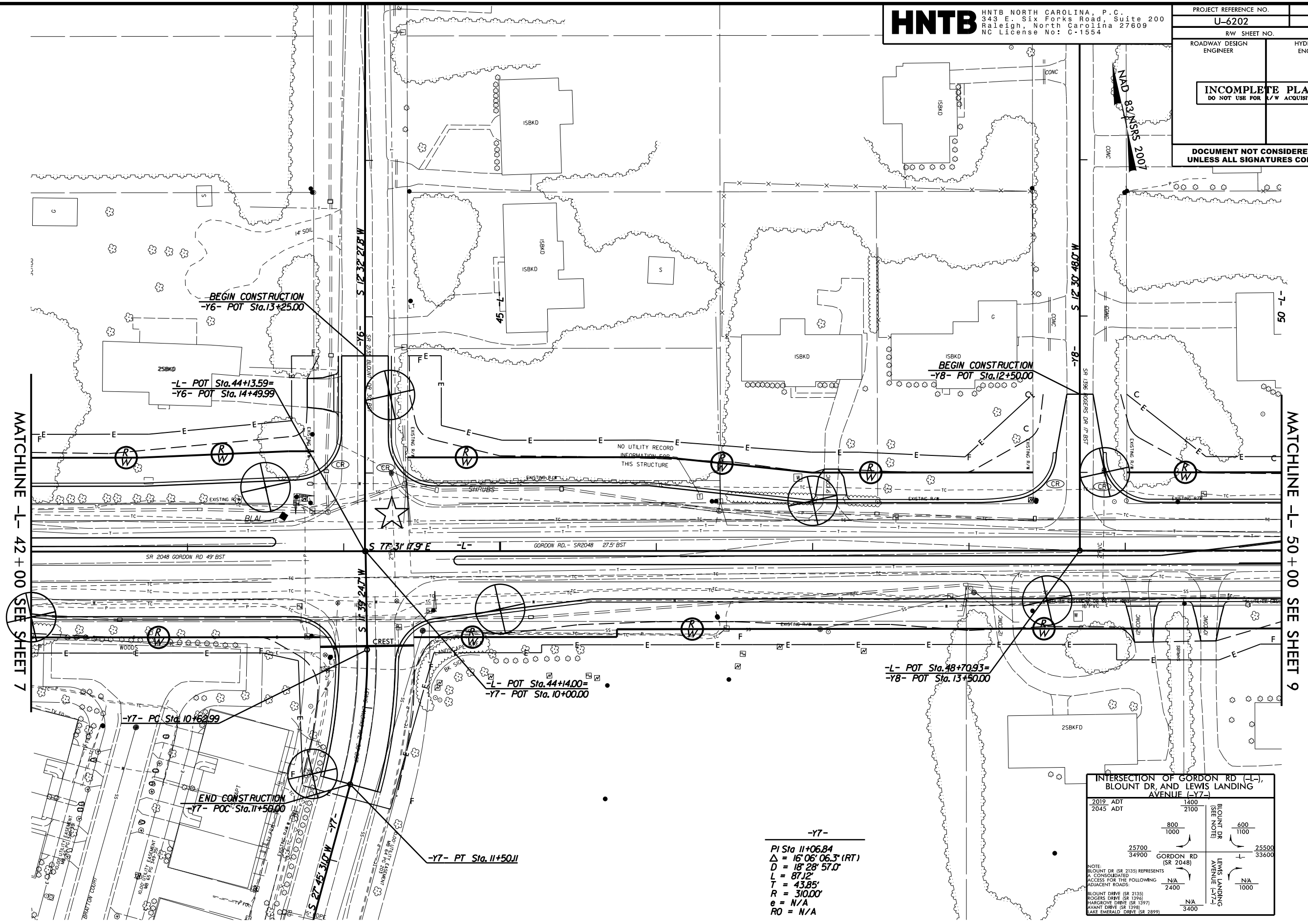
FOR -L- PROFILE, SEE SHEETS 26 AND 27  
FOR -Y4RPA SLIP- PROFILE, SEE SHEET 38  
FOR -Y5- PROFILE, SEE SHEET 33

17-FEB-2022 12:37 P:\2021\221257\NC DOT\_U6202\_GORDON-ROAD\_GEO TECH\U6202\_GEO\_RDWY\CADD\_GEO TECH\Site&Sub\U6202\_RDY\_PSH7.dgn

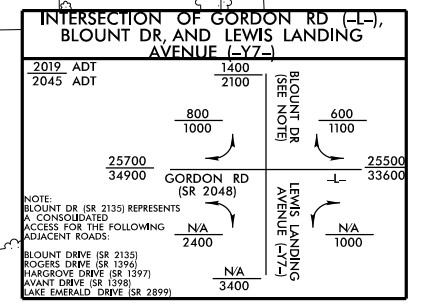
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PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>8</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**-Y7-**  
PI Sta 11+06.84  
 $\Delta = 16' 06" 06.3" (RT)$   
 $D = 18' 28" 57.0"$   
 $L = 87.12'$   
 $T = 43.85'$   
 $R = 310.00'$   
 $e = N/A$   
 $RO = N/A$



**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

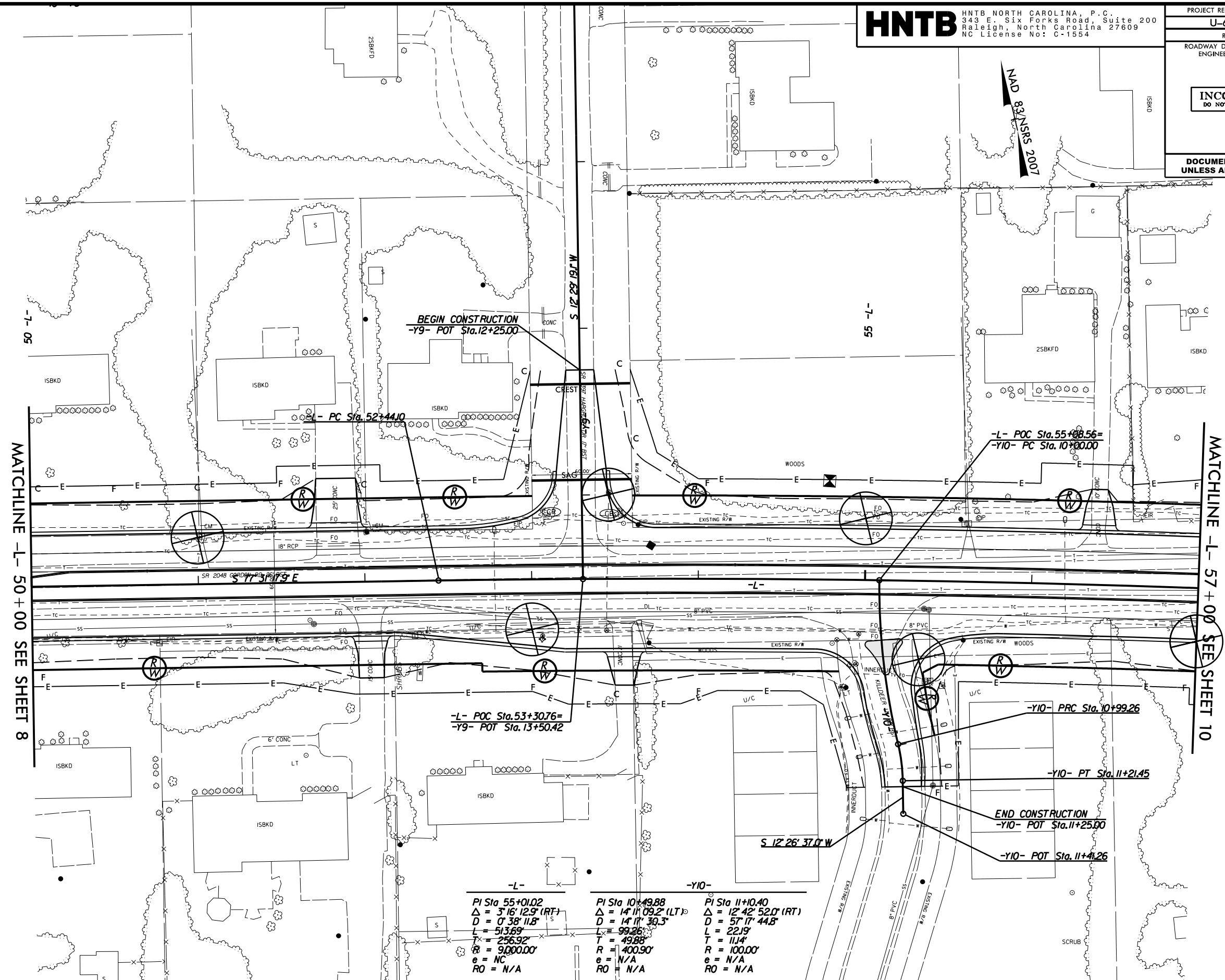
★ EXISTING SIGNAL

FOR -L- PROFILE, SEE SHEET 27  
FOR -Y6- PROFILE, SEE SHEET 33  
FOR -Y7- PROFILE, SEE SHEET 33  
FOR -Y8- PROFILE, SEE SHEET 34

17-FEB-2022 10:57 AM C:\DOT\U-6202-GORDON-ROAD-GEOTECH\U6202-GEOTECH\CADD\GEOTECH\Sub\U6202-FDY\_PSH6.dgn  
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8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L-	-Y10-	-Y10-
PI Sta 55+01.02	PI Sta 10+49.88	PI Sta 11+10.40
$\Delta = 3^{\circ} 16' 12.9''$ (RT)	$\Delta = 14^{\circ} 11' 09.2''$ (LT)	$\Delta = 12^{\circ} 42' 52.0''$ (RT)
$D = 0^{\circ} 38' 11.8''$	$D = 14^{\circ} 17' 30.3''$	$D = 57^{\circ} 17' 44.8''$
$L = 513.69'$	$L = 99.26'$	$L = 22.19'$
$T = 256.92'$	$T = 49.86'$	$T = 11.14'$
$R = 9,000.00'$	$R = 100.90'$	$R = 100.00'$
$e = NC$	$e = N/A$	$e = N/A$
$RO = N/A$	$RO = N/A$	$RO = N/A$

**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

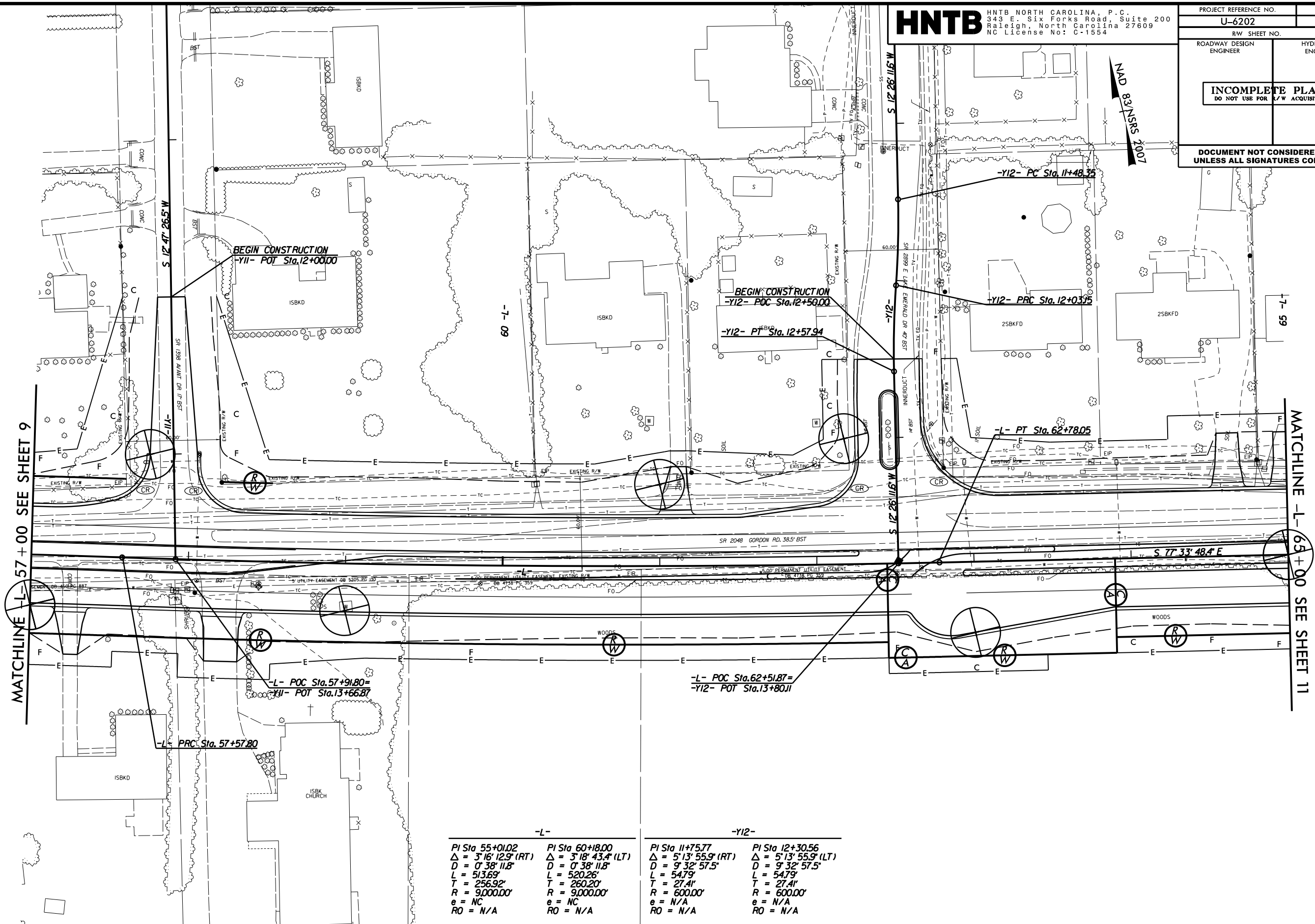
FOR -L- PROFILE, SEE SHEET 27  
FOR -Y9- PROFILE, SEE SHEET 34  
FOR -Y10- PROFILE, SEE SHEET 34

8/17/99

17-FEB-2022 10:57 AM D:\2021\221221\NC DOT\_U6202\_GORDON-ROAD\_GEOTECH\U6202\_GEO\_RDW\Y\CADD\_GEOTECH\Site&Sub\U6202\_RDY\_PSH10.dgn

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



-L-		-Y12-	
PI Sta 55+01.02	PI Sta 60+18.00	PI Sta 11+75.77	PI Sta 12+30.56
$\Delta = 3' 16' 12.9'' (RT)$	$\Delta = 3' 18' 43.4'' (LT)$	$\Delta = 5' 13' 55.9'' (RT)$	$\Delta = 5' 13' 55.9'' (LT)$
D = 0' 38' 11.8"	D = 0' 38' 11.8"	D = 9' 32' 57.5"	D = 9' 32' 57.5"
L = 513.69'	L = 520.26'	L = 54.79'	L = 54.79'
T = 256.92'	T = 260.20'	T = 27.4'	T = 27.4'
R = 9,000.00'	R = 9,000.00'	R = 600.00'	R = 600.00'
e = NC	e = NC	e = N/A	e = N/A
RO = N/A	RO = N/A	RO = N/A	RO = N/A

NOTE:  
 1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

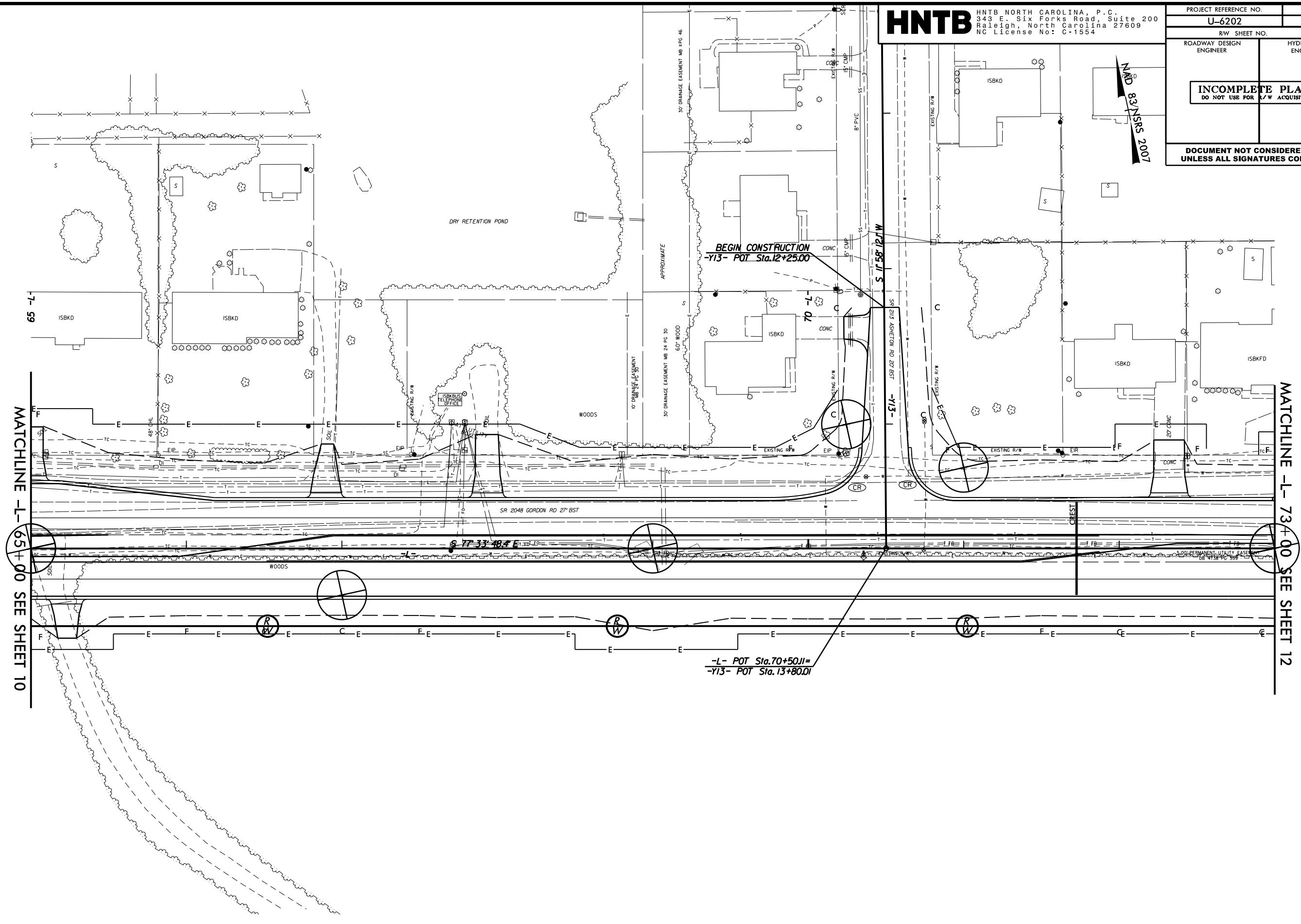
FOR -L- PROFILE, SEE SHEET 27  
 FOR -Y11- PROFILE, SEE SHEET 34  
 FOR -Y12- PROFILE, SEE SHEET 35

8/17/99

17-FEB-2022 12:37 P:\2021\221257-NC DOT U-6202-GORDON-ROAD-GEOTECH\U6202-Geo\_Roadway\CADD-GEOTECH\Sites&Sub\U6202\_RDY\_PSH11.dgn

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 65+00 SEE SHEET 10

MATCHLINE -L- 73+00 SEE SHEET 12

BEGIN CONSTRUCTION  
-Y13- POT Sta. 12+25.00

-L- POT Sta. 70+50.11=  
-Y13- POT Sta. 13+80.01

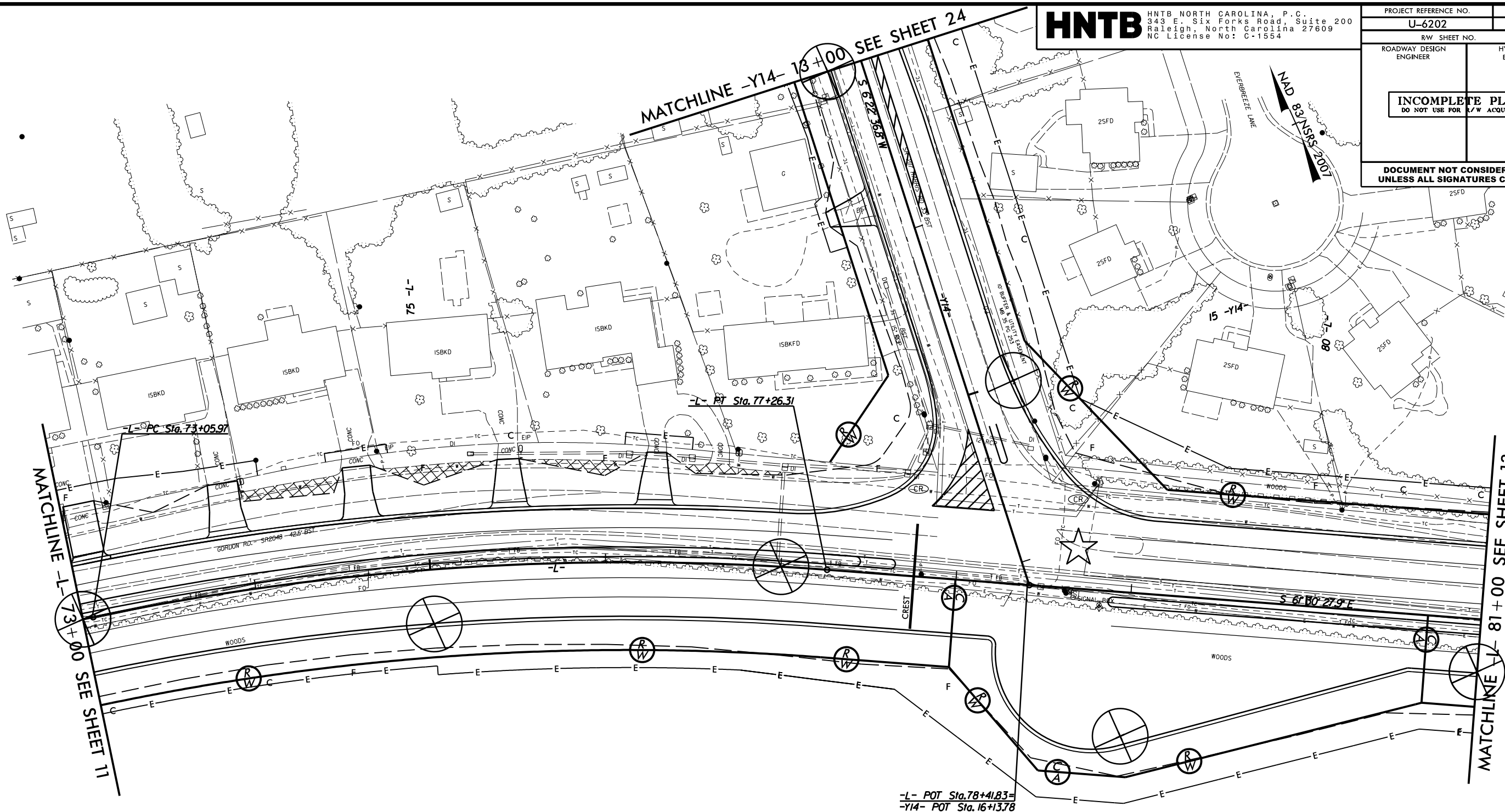
NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 28  
FOR -Y13- PROFILE, SEE SHEET 35

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PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>12</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 73+00 SEE SHEET 11

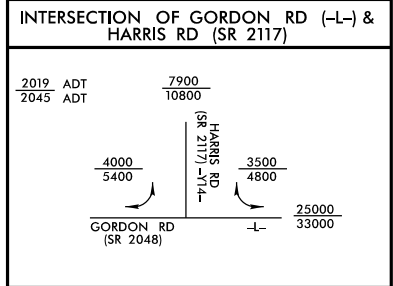
MATCHLINE -L- 81+00 SEE SHEET 13

MATCHLINE -Y14- 13+00 SEE SHEET 24

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-L-

PI Sta	75+17.53
Δ =	16° 03' 20.5" (RT)
D =	3' 49' 11.0"
L =	420.34'
T =	211.55'
R =	1500.00'
e =	4%
RO =	176'



★ EXISTING SIGNAL

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 28  
FOR -Y14- PROFILE, SEE SHEET 35

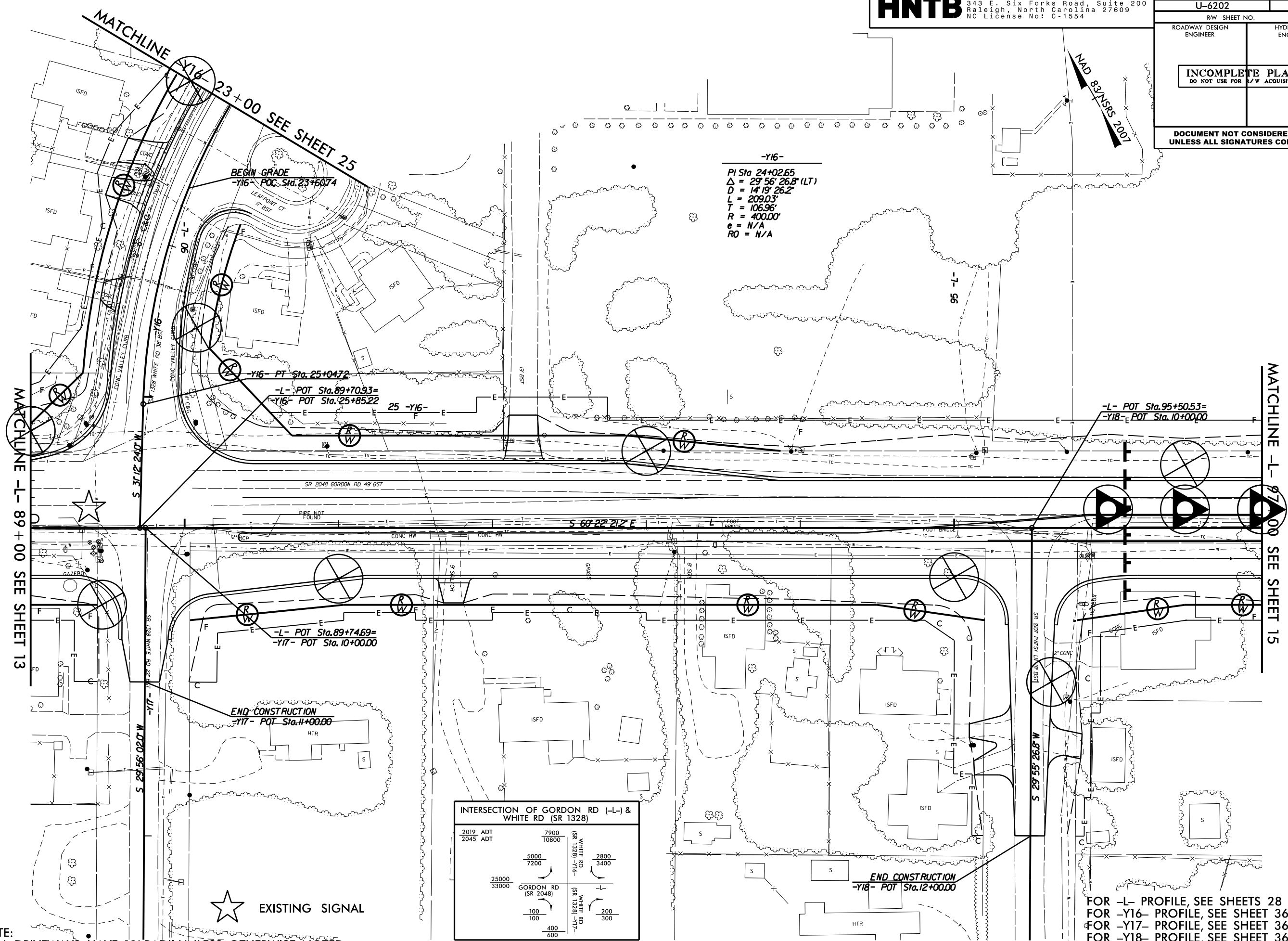




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PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>14</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**-Y16-**  
 PI Sta 24+02.65  
 $\Delta = 29^{\circ} 56' 26.8''$  (LT)  
 $D = 14^{\circ} 19' 26.2''$   
 $L = 209.03'$   
 $T = 106.96'$   
 $R = 400.00'$   
 $e = N/A$   
 $RO = N/A$

**INTERSECTION OF GORDON RD (-L) & WHITE RD (SR 1328)**

2019 ADT	7900	WHITE RD (SR 1328) -Y16-	2800
2045 ADT	10800	WHITE RD (SR 1328) -Y17-	3400
	5000		
	7200		
25000		GORDON RD (SR 2048)	
33000			
	100		200
	100		300
	400		
	600		

★ EXISTING SIGNAL

**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEETS 28 AND 29  
 FOR -Y16- PROFILE, SEE SHEET 36  
 FOR -Y17- PROFILE, SEE SHEET 36  
 FOR -Y18- PROFILE, SEE SHEET 36

17-FEB-2022 12:37 P:\2021\221257\NC DOT\_U-6202\_GORDON-ROAD\_GEO TECH\UG202\_GEO\_RDWY\CADD\_GEO TECH\Site&Sub\UG202\_RDY\_PSH14.dgn  
 User: jason



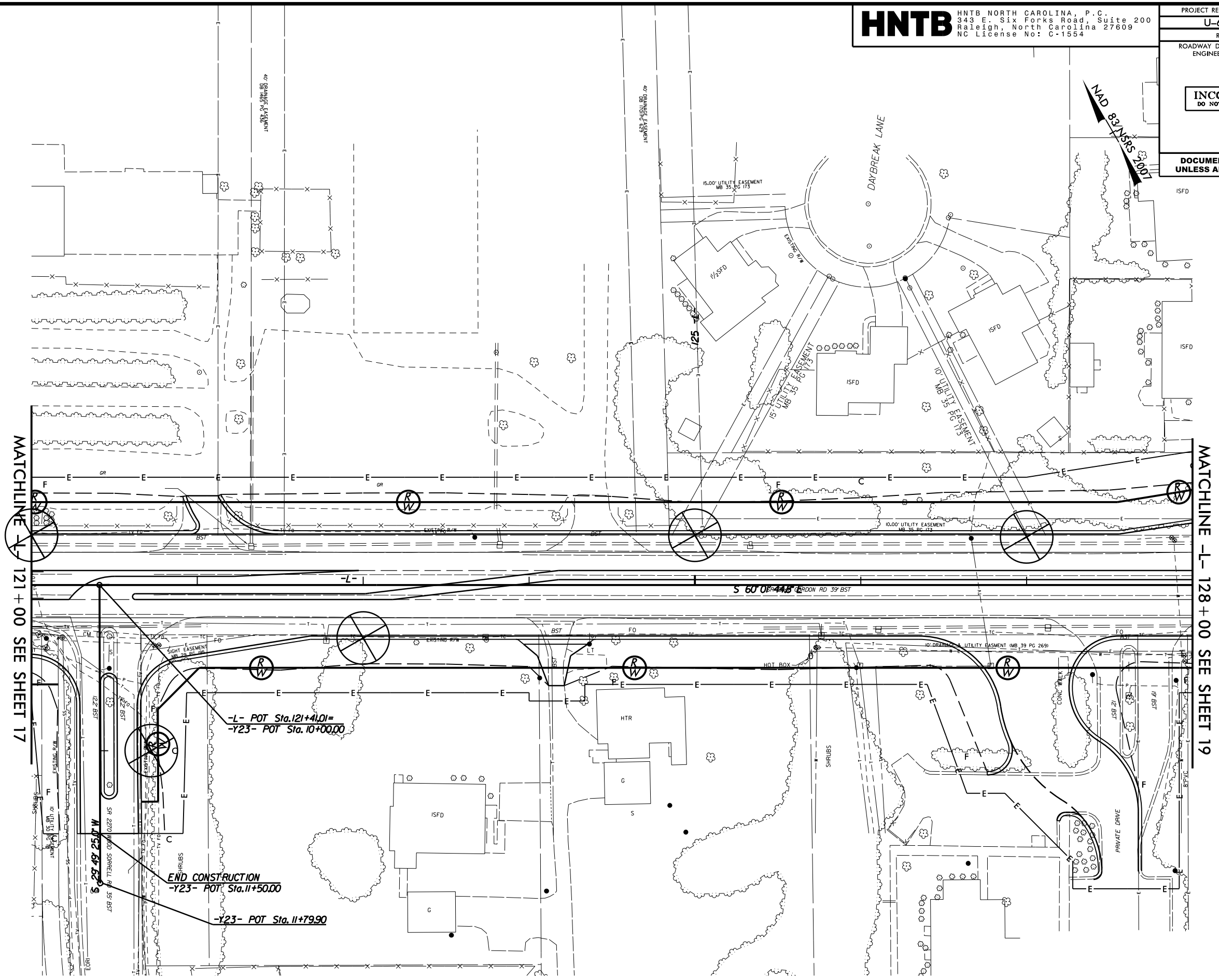




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PROJECT REFERENCE NO.	SHEET NO.
U-6202	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 121 + 00 SEE SHEET 17

MATCHLINE -L- 128 + 00 SEE SHEET 19

-L- POT Sta. 121+41.01 =  
-Y23- POT Sta. 10+00.00

END CONSTRUCTION  
-Y23- POT Sta. 11+50.00

-Y23- POT Sta. 11+79.90

- NOTE:
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.
  2. DRIVEWAY TO GRESHAM PLACE, LLC. PARCEL TO BE DISCUSSED AS DESIGN PROGRESSES.

FOR -L- PROFILE, SEE SHEET 30  
FOR -Y23- PROFILE, SEE SHEET 37

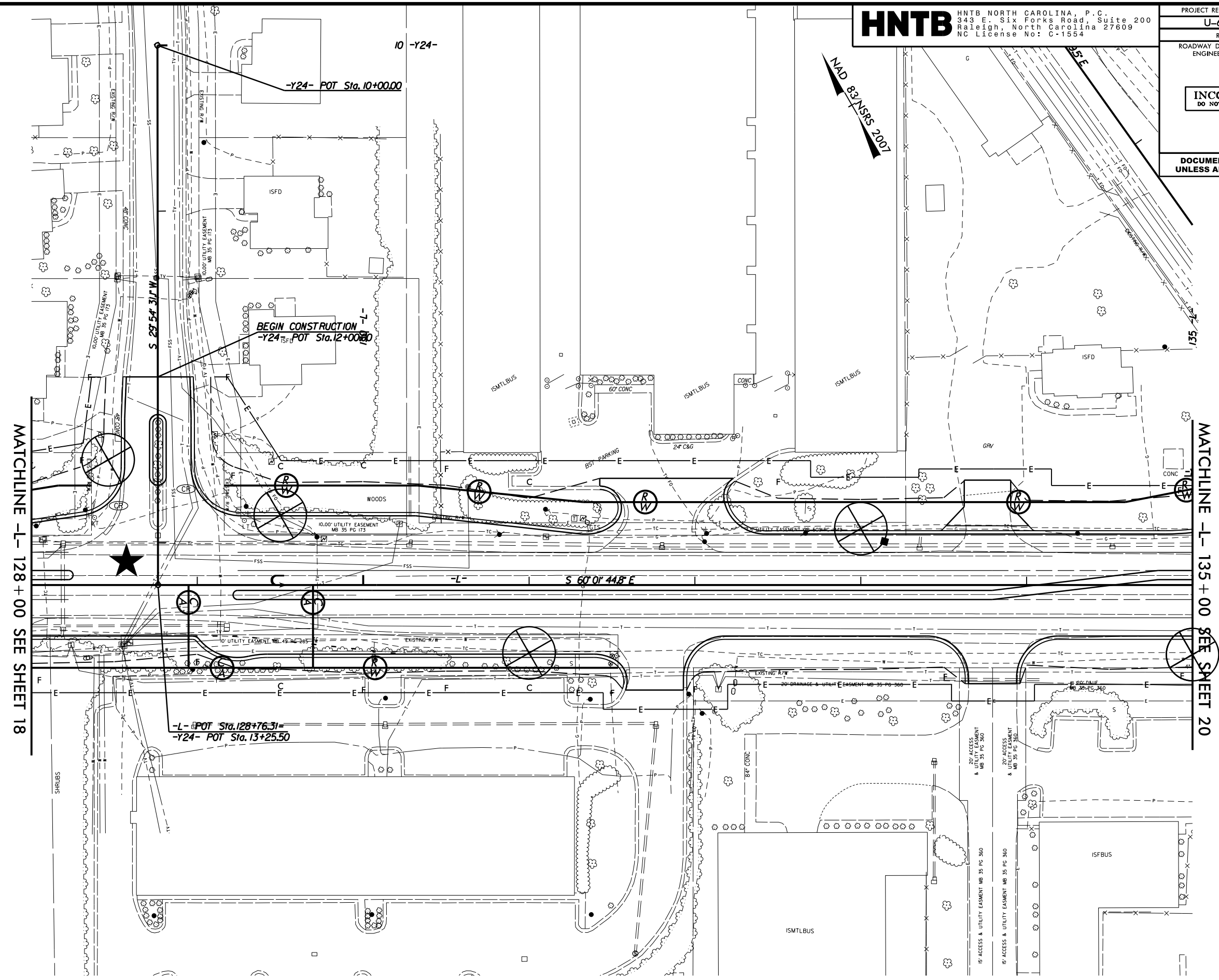
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8/17/99

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 128 + 00 SEE SHEET 18

MATCHLINE -L- 135 + 00 SEE SHEET 20

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

★ PROPOSED SIGNAL

FOR -L- PROFILE, SEE SHEET 30  
FOR -Y24- PROFILE SEE SHEET 38

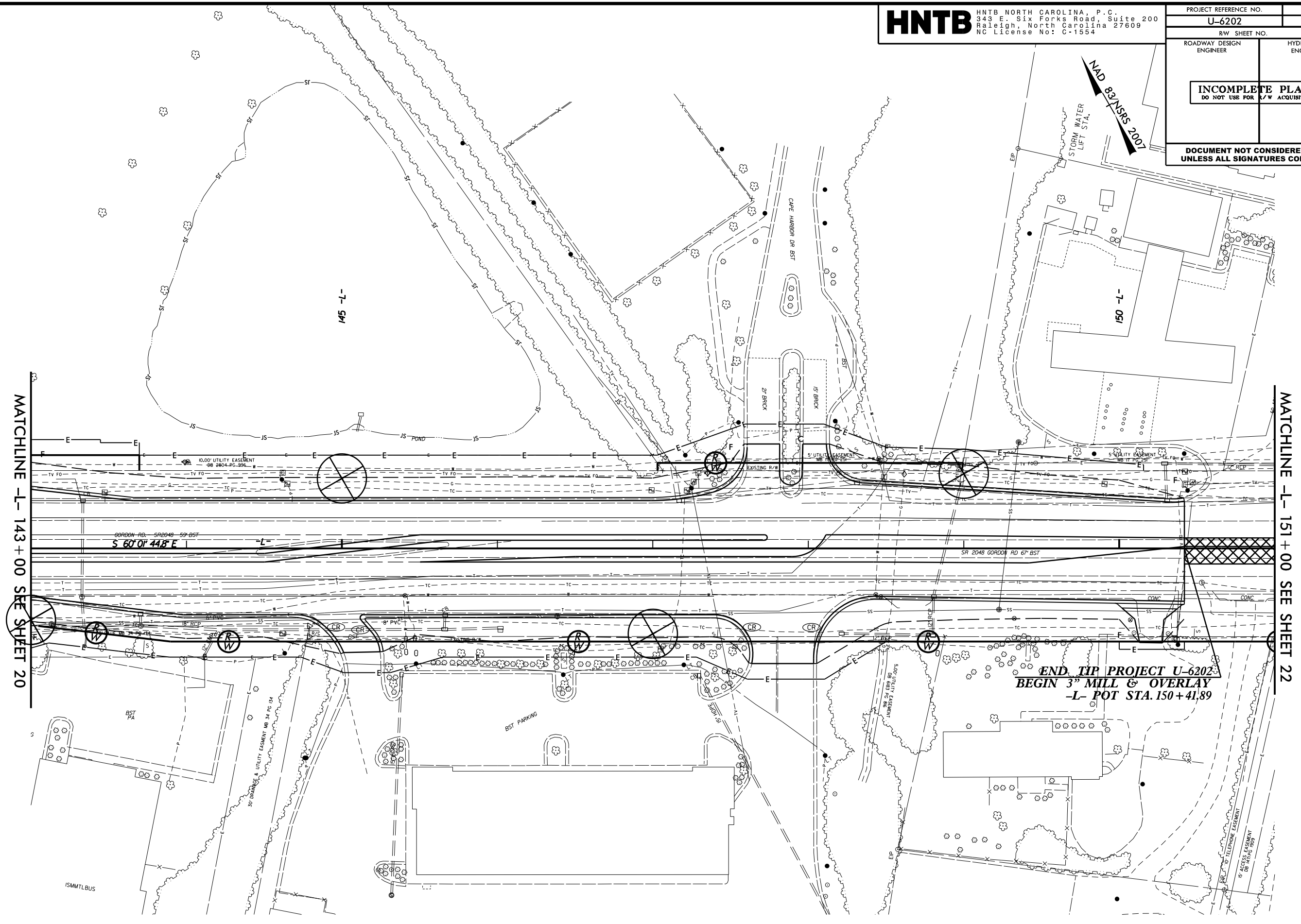




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PROJECT REFERENCE NO.	SHEET NO.
U-6202	21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 143 + 00 SEE SHEET 20

MATCHLINE -L- 151 + 00 SEE SHEET 22

**END, TIP PROJECT U-6202**  
**BEGIN 3" MILL & OVERLAY**  
**-L- POT STA. 150 + 41.89**

**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEETS 30 AND 31

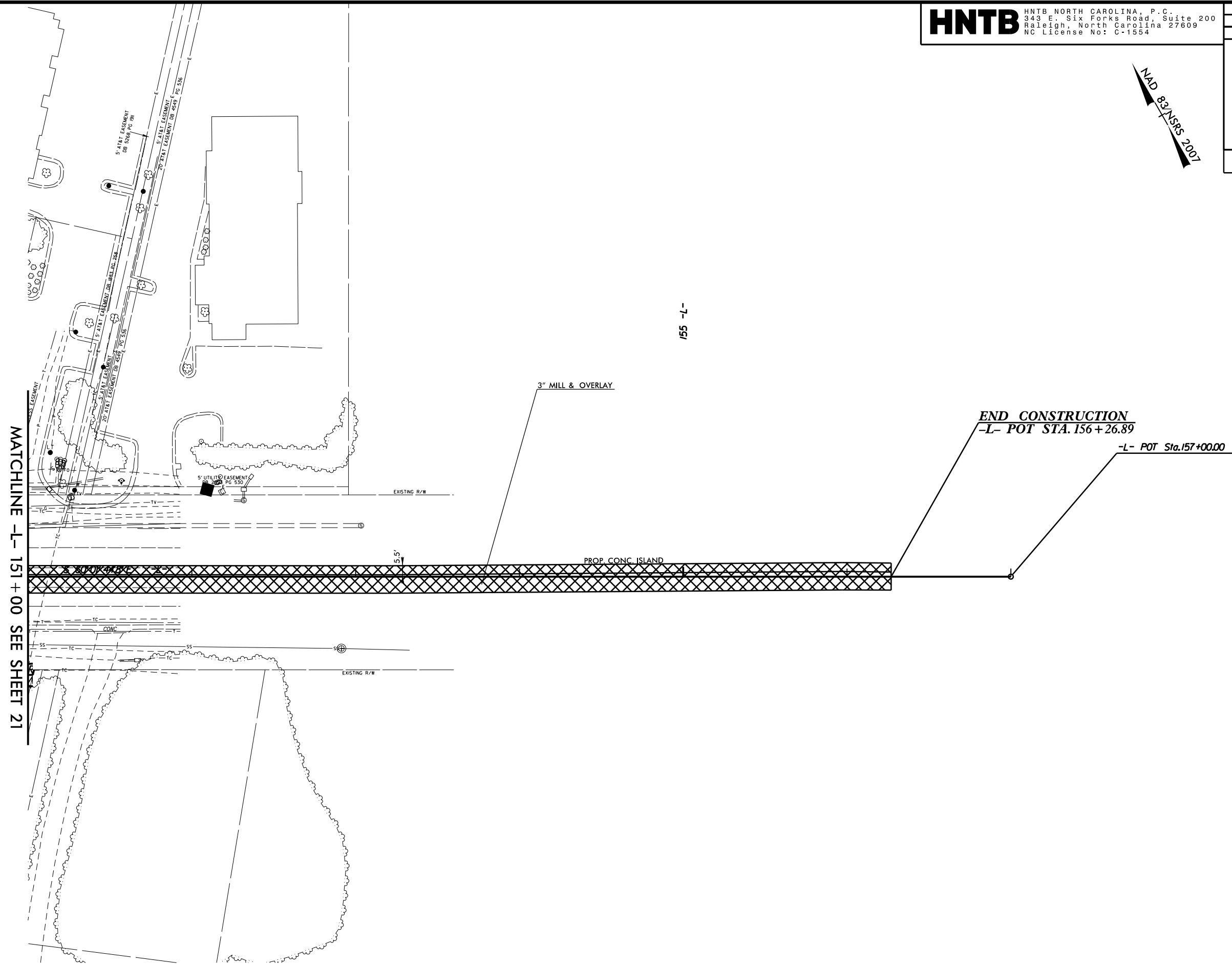
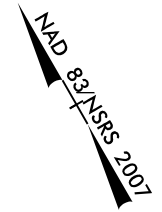
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STATION 143+00 TO 151+00

8/17/99

I:\FEB-2022\221257\NCDOT\_U-6202-GORDON-ROAD-GEOTECH\UG202-Geo\_RDW\CADD-GEOTECH\Station&Sub\UG202-Sub\UG202-FDY\_PSH22.dgn  
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PROJECT REFERENCE NO.	SHEET NO.
U-6202	22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- 151 + 00 SEE SHEET 21

155 -L-

**END CONSTRUCTION**  
-L- POT STA. 156 + 26.89

-L- POT Sta. 157 + 00.00

TIP PROJECT U-4751  
(UNDER CONSTRUCTION)

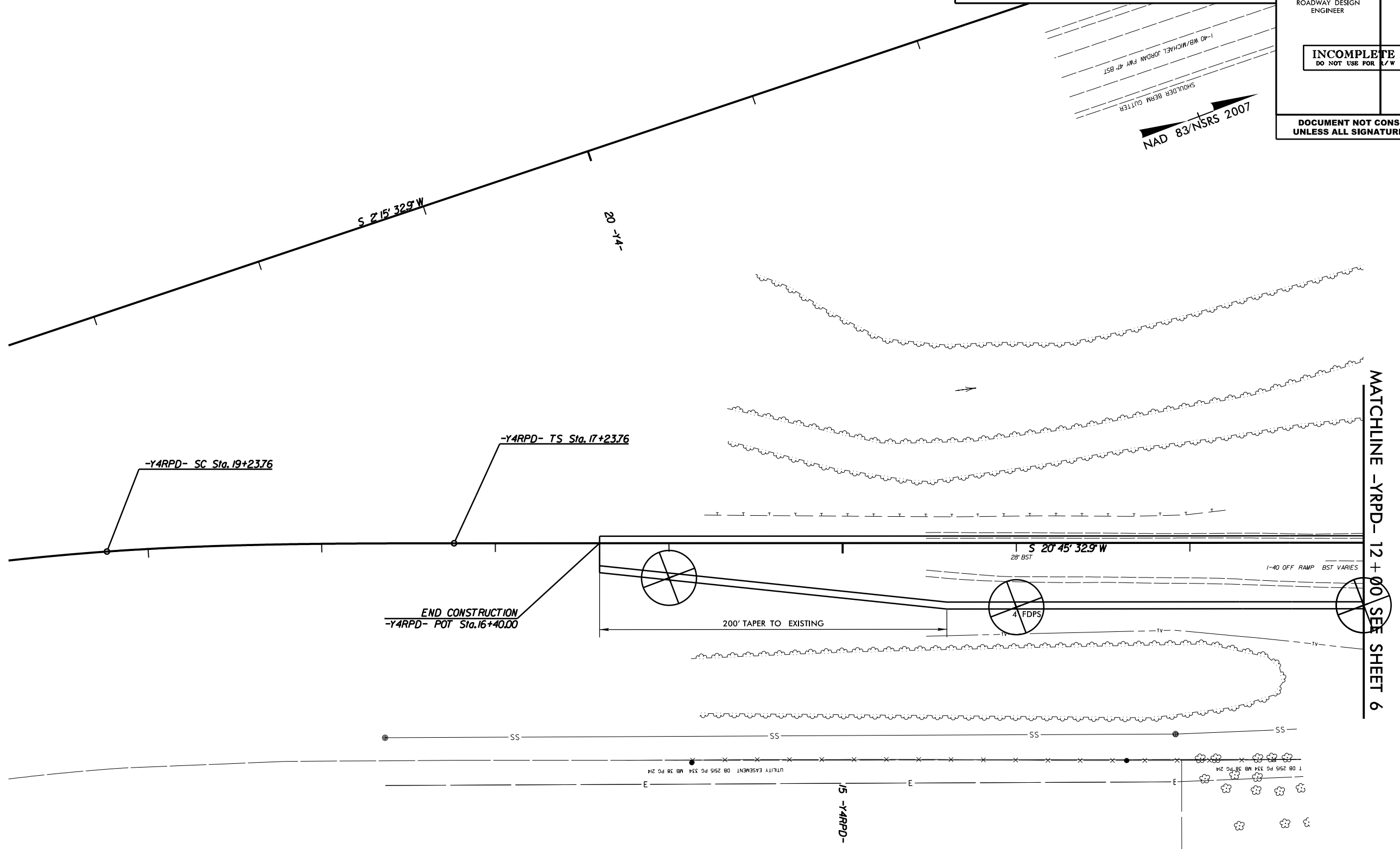
**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 31

8/17/99

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PROJECT REFERENCE NO. <b>U-6202</b>		SHEET NO. <b>23</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



-Y4RPD-		
PIs Sta 18+57.13	PI Sta 20+11.37	PIs Sta 21+65.46
$\Theta_s = 4^\circ 00' 00.04''$	$\Delta = 6^\circ 59' 59.9''$ (LT)	$\Theta_s = 4^\circ 00' 00.04''$
Ls = 200.00	D = 4' 00" 00.0'	Ls = 200.00
LT = 133.37	L = 175.00'	LT = 133.37
ST = 66.70	T = 87.61'	ST = 66.70
	R = 1,432.39'	
	e = x	
	RO = SEE PLANS	

NOTE: -Y4RPD- DESIGN TO BE COMPLETED UPON COMPLETION OF UPDATED FINAL SURVEYS. DESIGN CURRENTLY SHOWN IS CONCEPT LEVEL - PLAN-VIEW ONLY.

MATCHLINE -YRPD- 12 + 00 SEE SHEET 6

FOR -YRPD- PROFILE, SEE SHEET 33

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

I7-FEB-2022 12:37 P:\2021\221257\NCDOT\_U6202\_GORDON-ROAD\_GEO TECH\U6202\_GEO\_RDW\Y\CADD\_GEO TECH\SS\te&Sub\U6202\_FDY\_PSH23.dgn

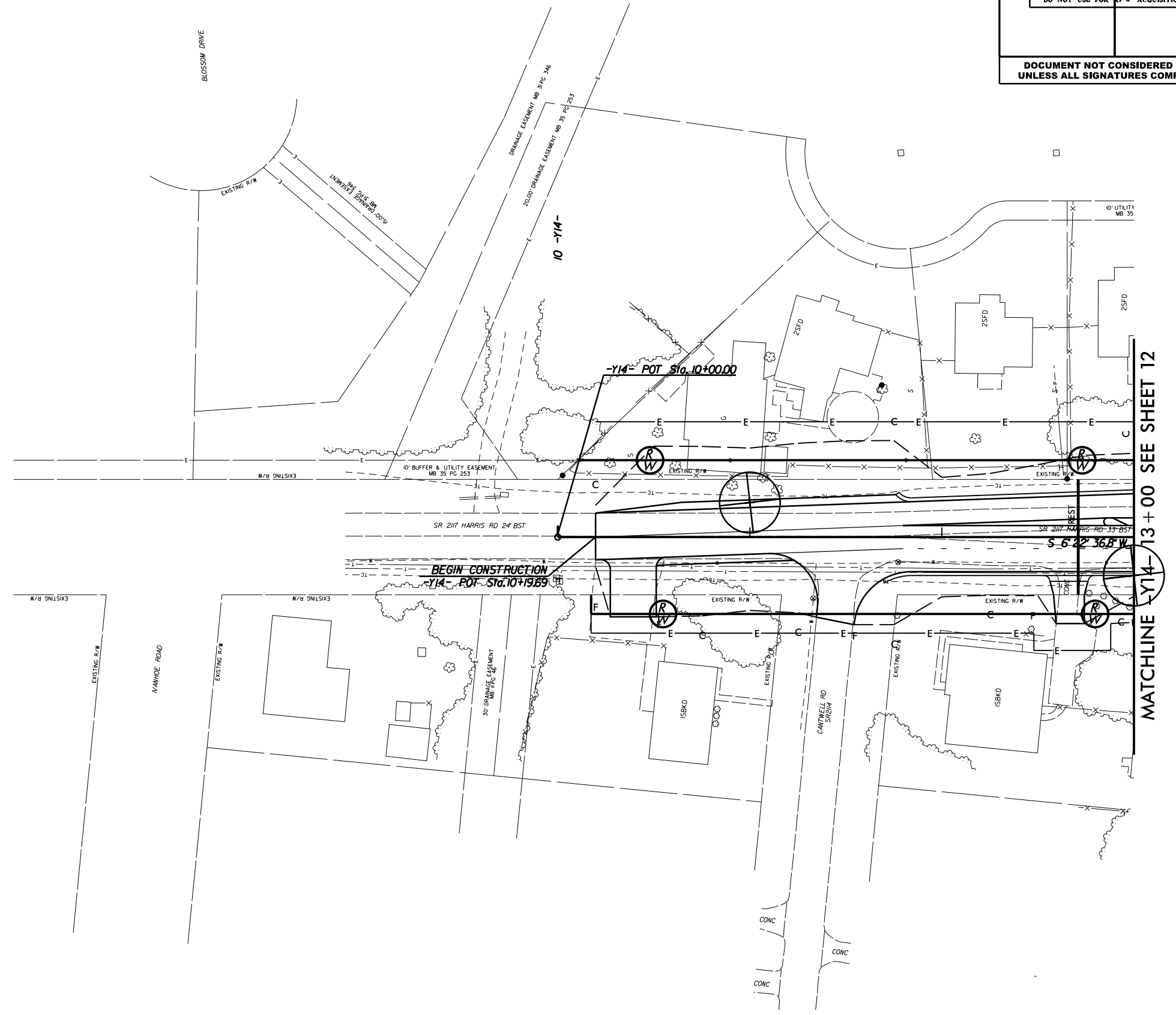
8/17/99

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8/17/99

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PROJECT REFERENCE NO.		SHEET NO.	
U-6202		24	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION			
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED			

NAD 83/NSRS 2007



**NOTE:**  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

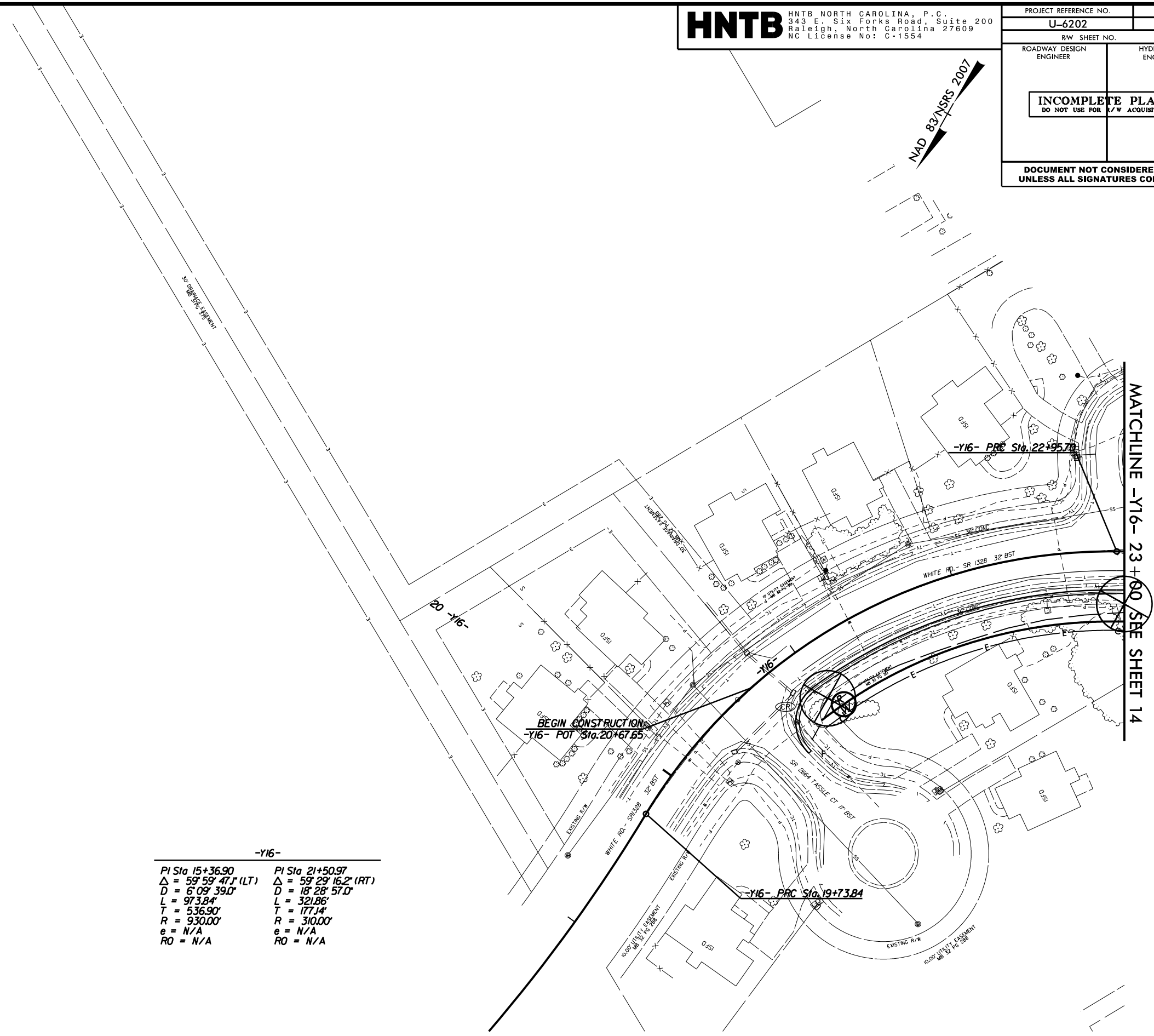
FOR -Y14- PROFILE, SEE SHEET 35

8/17/99

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PROJECT REFERENCE NO.		SHEET NO.	
U-6202		25	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION			
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED			

NAD 83 NRS 2007



-Y16-	
PI Sta 15+36.90	PI Sta 21+50.97
$\Delta = 59^{\circ} 59' 47.1''$ (LT)	$\Delta = 59^{\circ} 29' 16.2''$ (RT)
$D = 6^{\circ} 09' 39.0''$	$D = 18^{\circ} 28' 57.0''$
$L = 973.84'$	$L = 321.86'$
$T = 536.90'$	$T = 177.14'$
$R = 930.00'$	$R = 310.00'$
$e = N/A$	$e = N/A$
$RO = N/A$	$RO = N/A$

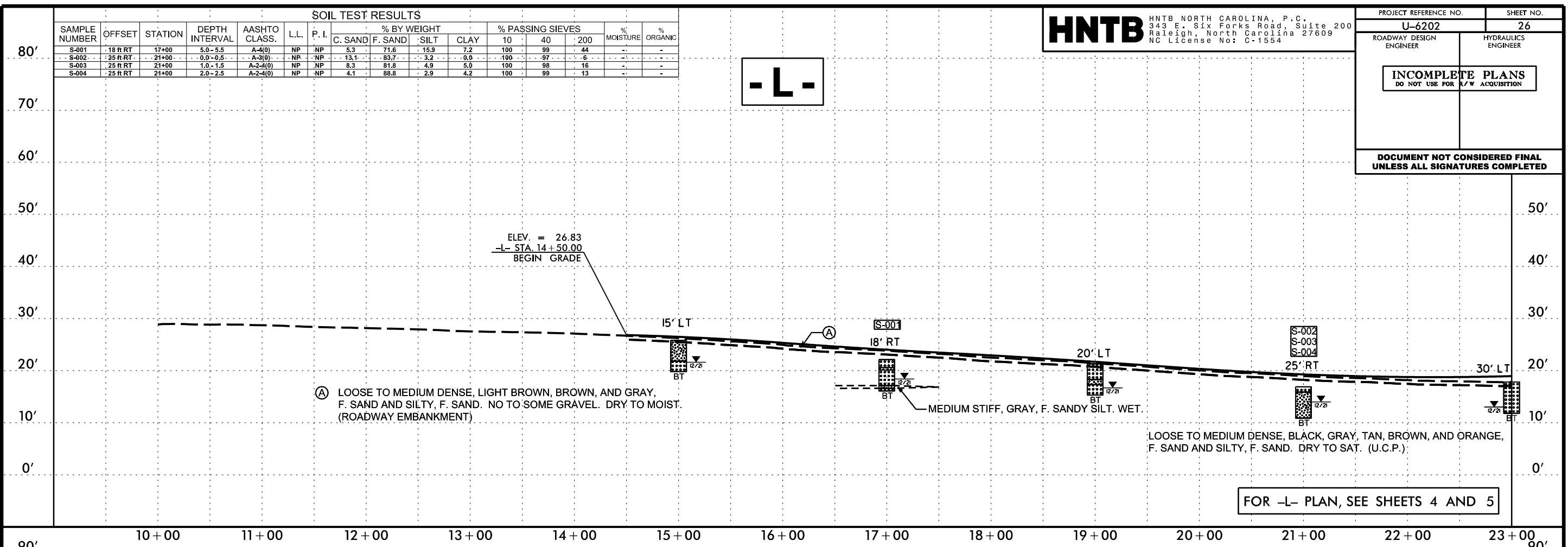
MATCHLINE -Y16- 23+00 SEE SHEET 14

NOTE:  
1. ALL DRIVEWAYS HAVE 10' RADII UNLESS OTHERWISE NOTED.

FOR -Y16- PROFILE, SEE SHEET 36

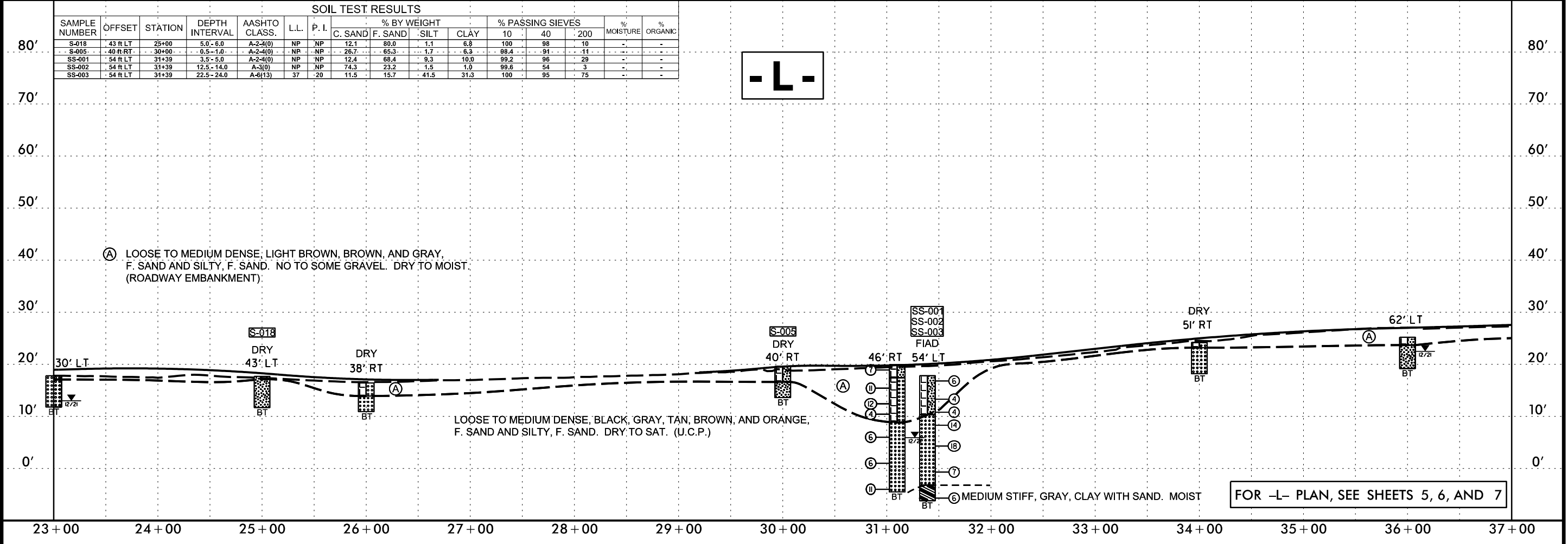
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-001	18 ft RT	17+00	5.0-5.5	A-4(0)	NP	NP	5.3	71.6	15.9	7.2	100	99	44	-	-
S-002	25 ft RT	21+00	0.0-0.5	A-3(0)	NP	NP	13.1	83.7	3.2	0.0	100	97	6	-	-
S-003	25 ft RT	21+00	1.0-1.5	A-2-4(0)	NP	NP	8.3	81.8	4.9	5.0	100	98	16	-	-
S-004	25 ft RT	21+00	2.0-2.5	A-2-4(0)	NP	NP	4.1	88.8	2.9	4.2	100	99	13	-	-



FOR -L- PLAN, SEE SHEETS 4 AND 5

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-018	43 ft LT	25+00	5.0-6.0	A-2-4(0)	NP	NP	12.1	80.0	1.1	6.8	100	98	10	-	-
S-005	40 ft RT	30+00	0.5-1.0	A-2-4(0)	NP	NP	26.7	65.3	1.7	6.3	98.4	91	11	-	-
SS-001	54 ft LT	31+39	3.5-5.0	A-2-4(0)	NP	NP	12.4	68.4	9.3	10.0	99.2	96	29	-	-
SS-002	54 ft LT	31+39	12.5-14.0	A-3(0)	NP	NP	74.3	23.2	1.5	1.0	99.6	54	3	-	-
SS-003	54 ft LT	31+39	22.5-24.0	A-6(13)	37	20	11.5	15.7	41.5	31.3	100	95	75	-	-



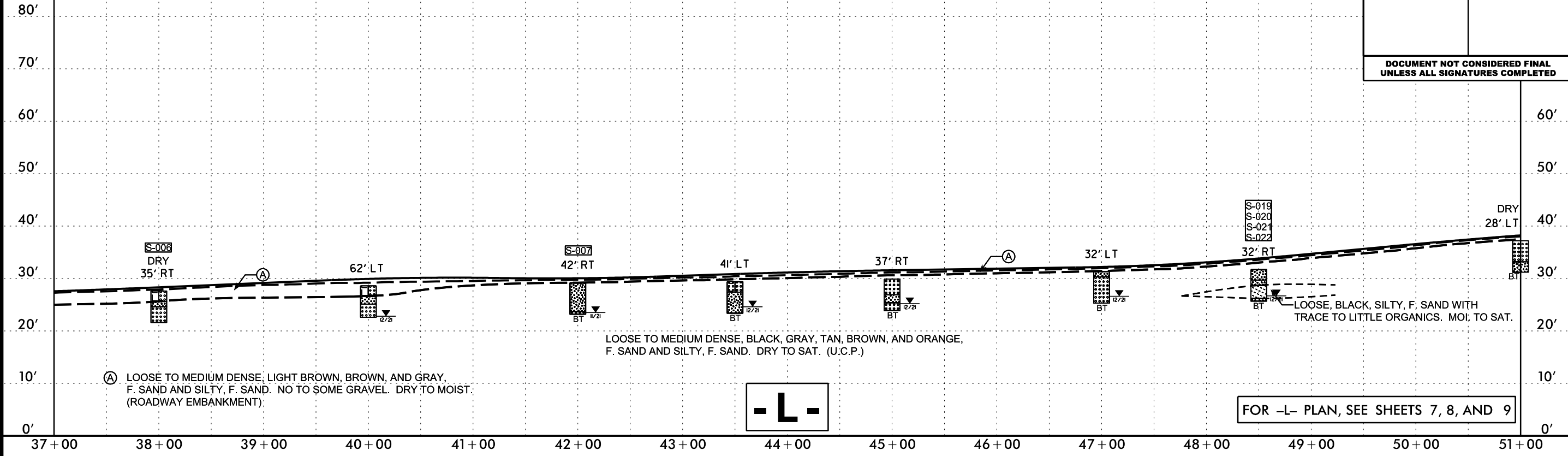
FOR -L- PLAN, SEE SHEETS 5, 6, AND 7

5/28/99

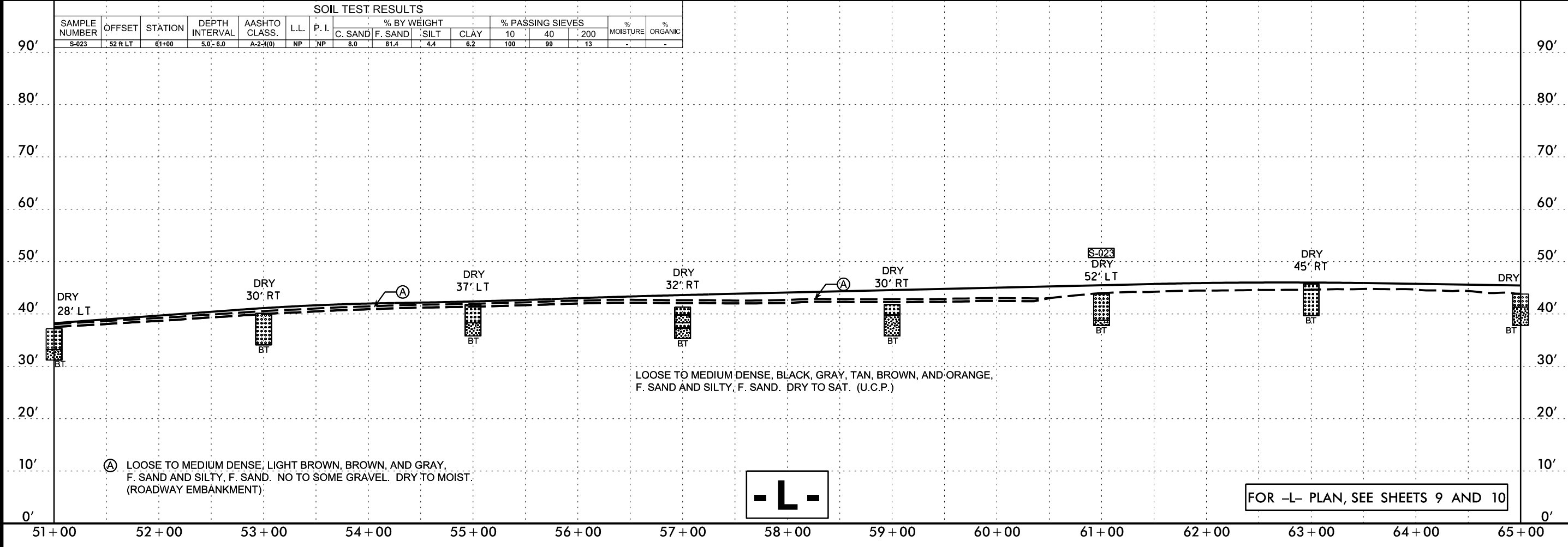
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PROJECT REFERENCE NO.	SHEET NO.
U-6202	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-006	35 ft RT	38+00	2.0-2.5	A-2-4(0)	NP	NP	7.2	79.3	5.9	7.5	100	100	15	-	-
S-007	42 ft RT	42+00	1.0-1.5	A-2-4(0)	NP	NP	13.7	76.0	5.9	4.4	99.3	99	12	-	-
S-019	32 ft RT	48+50	0.0-0.5	A-2-4(0)	NP	NP	16.3	73.4	5.1	5.2	97.2	98	14	-	-
S-020	32 ft RT	48+50	2.0-2.5	A-2-4(0)	NP	NP	16.2	77.5	3.5	2.8	100	98	10	-	-
S-021	32 ft RT	48+50	3.0-3.5	A-2-4(0)	NP	NP	16.3	71.4	5.5	6.8	99.9	98	16	-	3.0
S-022	32 ft RT	48+50	5.5-6.0	A-2-4(0)	NP	NP	6.1	80.6	5.5	7.8	99.3	99	18	-	-



SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-023	52 ft LT	61+00	5.0-6.0	A-2-4(0)	NP	NP	8.0	81.4	4.4	6.2	100	99	13	-	-



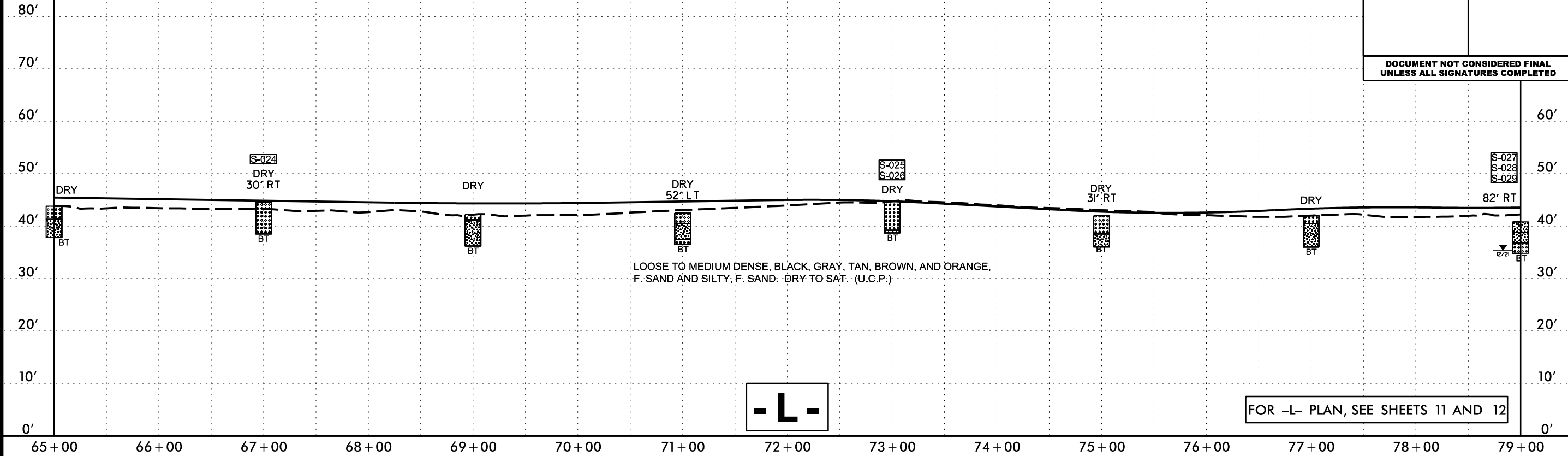
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5/28/99

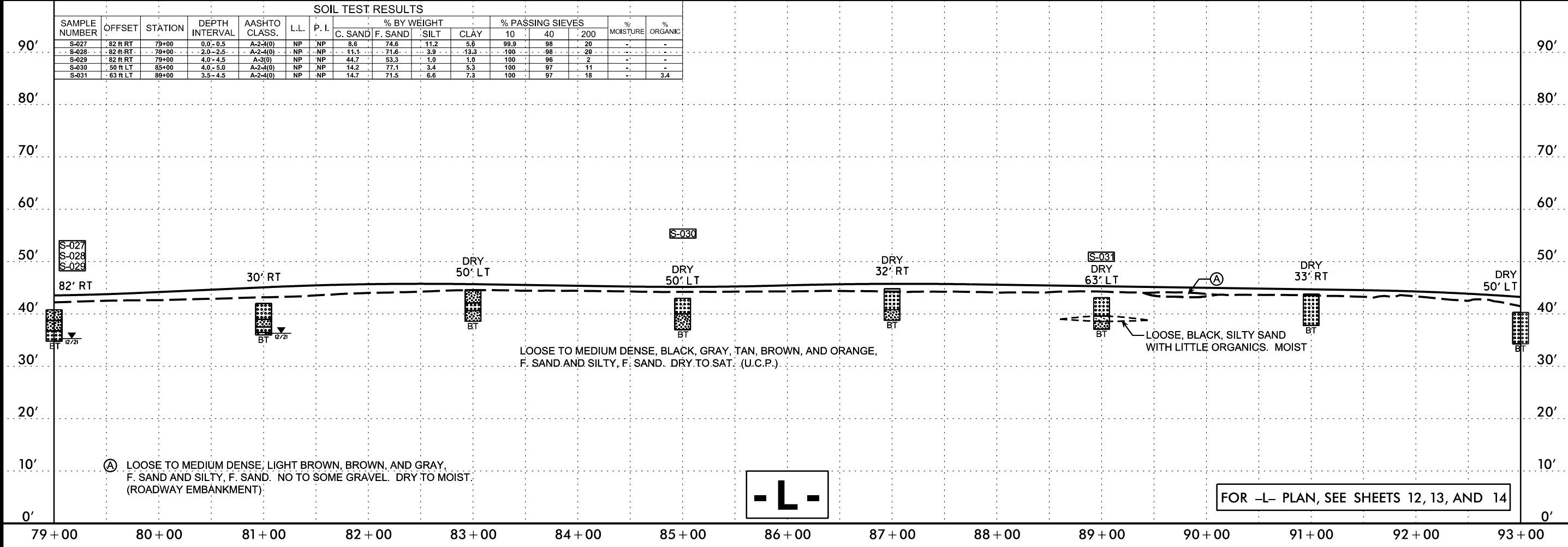
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Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-6202	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-024	30 ft RT	67+00	0.0-0.5	A-3(0)	NP	NP	13.5	82.5	1.8	2.2	99.0	98	5	-	-
S-025	CL	73+00	0.0-0.5	A-3(0)	NP	NP	15.3	80.4	1.2	3.2	98.6	97	6	-	-
S-026	CL	73+00	5.5-6.0	A-2-4(0)	NP	NP	4.3	89.0	4.2	2.5	100	99	12	-	-
S-027	82 ft RT	79+00	0.0-0.5	A-2-4(0)	NP	NP	8.6	74.6	11.2	5.6	99.9	98	20	-	-
S-028	82 ft RT	79+00	2.0-2.5	A-2-4(0)	NP	NP	11.1	71.6	3.9	13.3	100	98	20	-	-
S-029	82 ft RT	79+00	4.0-4.5	A-3(0)	NP	NP	44.7	53.3	1.0	1.0	100	96	2	-	-



SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-027	82 ft RT	79+00	0.0-0.5	A-2-4(0)	NP	NP	8.6	74.6	11.2	5.6	99.9	98	20	-	-
S-028	82 ft RT	79+00	2.0-2.5	A-2-4(0)	NP	NP	11.1	71.6	3.9	13.3	100	98	20	-	-
S-029	82 ft RT	79+00	4.0-4.5	A-3(0)	NP	NP	44.7	53.3	1.0	1.0	100	96	2	-	-
S-030	50 ft LT	85+00	4.0-5.0	A-2-4(0)	NP	NP	14.2	77.1	3.4	5.3	100	97	11	-	-
S-031	63 ft LT	89+00	3.5-4.5	A-2-4(0)	NP	NP	14.7	71.5	6.6	7.3	100	97	18	-	3.4



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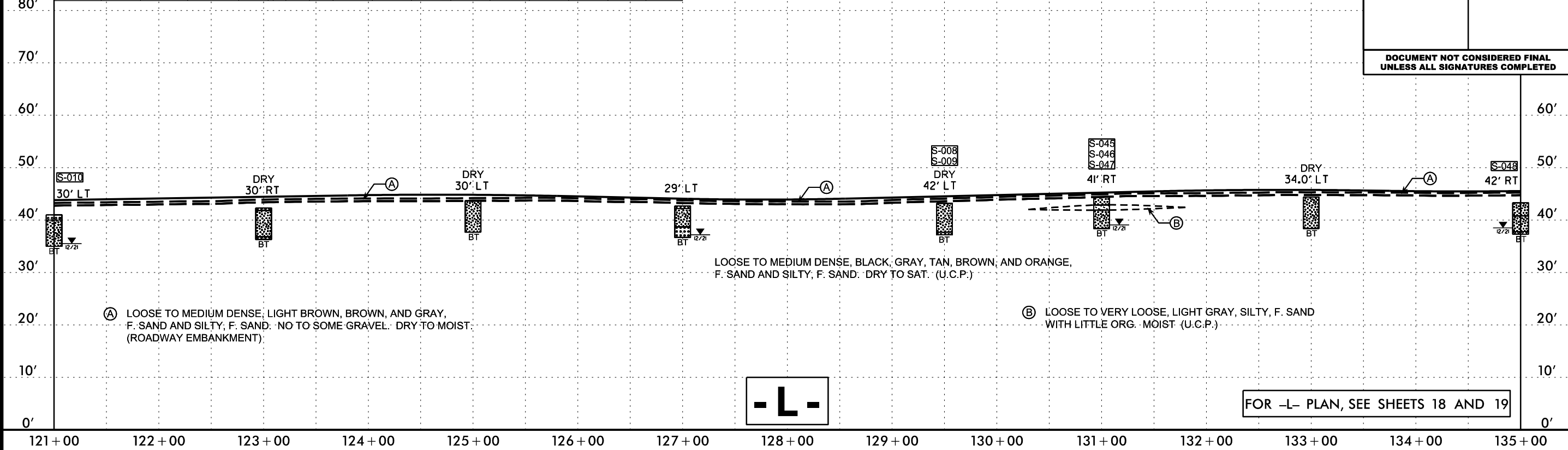


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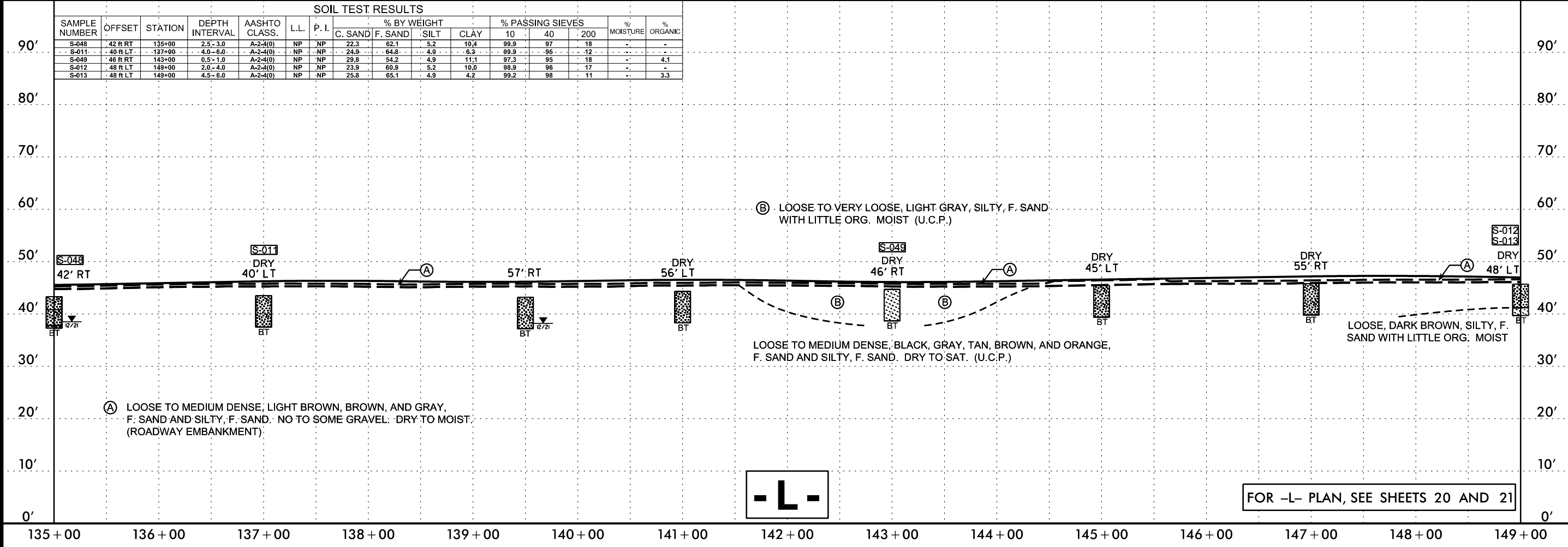
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PROJECT REFERENCE NO.	SHEET NO.
U-6202	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-010	30' LT	121+00	4.0-6.0	A-2-4(0)	NP	NP	14.9	77.5	2.7	4.9	97.1	97	11	-	-
S-008	42' LT	129+50	2.0-4.0	A-2-4(0)	NP	NP	13.3	62.7	13.6	10.4	99.6	97	28	-	-
S-009	42' LT	129+50	5.5-6.0	A-2-4(0)	NP	NP	7.5	84.9	3.4	4.2	99.9	99	11	-	-
S-045	41' RT	131+00	0.5-1.0	A-2-4(0)	NP	NP	14.7	74.3	7.1	3.9	96.2	97	14	-	-
S-046	41' RT	131+00	1.5-2.0	A-2-4(0)	NP	NP	11.9	75.7	10.4	2.0	99.6	100	15	-	-
S-047	41' RT	131+00	2.5-3.0	A-2-4(0)	NP	NP	13.8	66.6	10.6	9.0	99.5	96	22	-	3.2
S-048	42' RT	135+00	2.5-3.0	A-2-4(0)	NP	NP	22.3	62.1	5.2	10.4	99.9	97	18	-	-



SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-048	42' RT	135+00	2.5-3.0	A-2-4(0)	NP	NP	22.3	62.1	5.2	10.4	99.9	97	18	-	-
S-011	40' LT	137+00	4.0-6.0	A-2-4(0)	NP	NP	24.9	64.8	4.0	6.3	99.9	95	12	-	-
S-049	46' RT	143+00	0.5-1.0	A-2-4(0)	NP	NP	29.8	54.2	4.9	11.1	97.3	95	18	-	4.1
S-012	48' LT	149+00	2.0-4.0	A-2-4(0)	NP	NP	23.9	60.9	5.2	10.0	98.9	96	17	-	-
S-013	48' LT	149+00	4.5-6.0	A-2-4(0)	NP	NP	25.8	65.1	4.9	4.2	99.2	98	11	-	3.3



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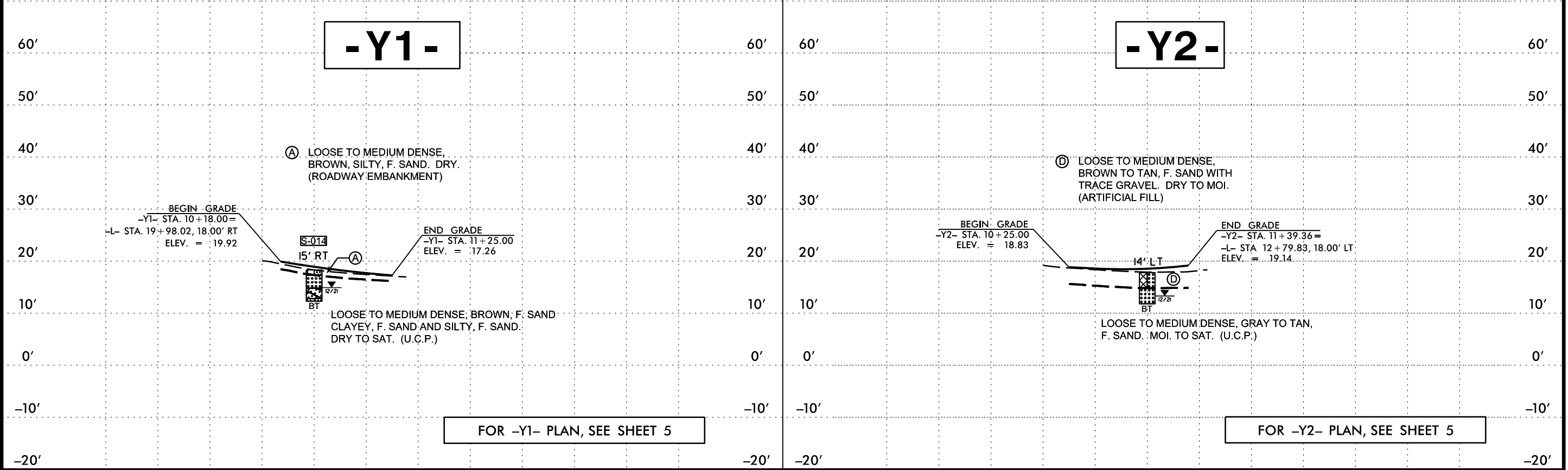
PROJECT REFERENCE NO.	SHEET NO.
U-6202	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
							NP	NP	NP	NP	NP	NP	NP		
S-012	48 ft LT	149+00	2.0-4.0	A-2-4(0)	NP	NP	23.9	60.9	5.2	10.0	98.9	96	17	-	-
S-013	48 ft LT	149+00	4.5-6.0	A-2-4(0)	NP	NP	26.8	65.1	4.9	4.2	99.2	98	11	-	3.3



149 + 00      150 + 00      151 + 00

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
							NP	NP	NP	NP	NP	NP	NP		
S-014	15 ft RT	10+50	5.5-6.0	A-2-4(0)	NP	NP	14.6	73.6	4.8	7.0	99.8	96	17	-	-



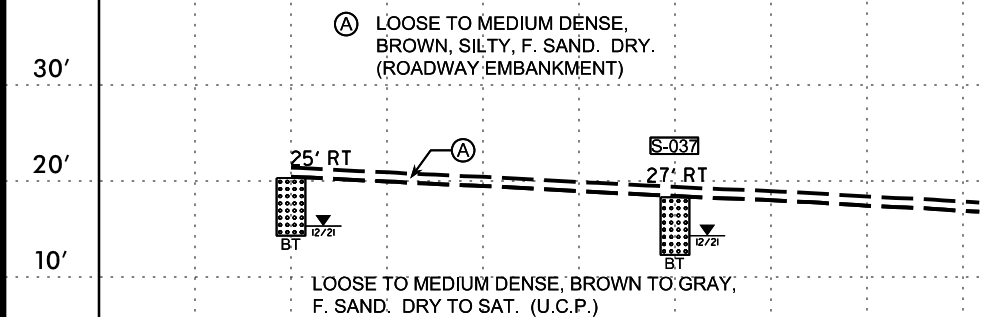
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5/28/99

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-037	27' RT	12+00	3.0-4.0	A-3(0)	NP	NP	22.6	70.8	1.1	5.5	100	94	8	-	-

**- Y3 -**



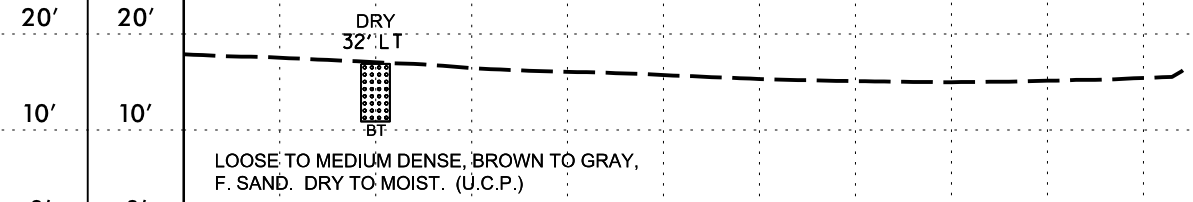
FOR -Y3- PLAN, SEE SHEETS 5 AND 5A

10+00 11+00 12+00 13+00 14+00 15+00

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 NC License No: C-1554

PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>32</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

**- Y4LPC -**

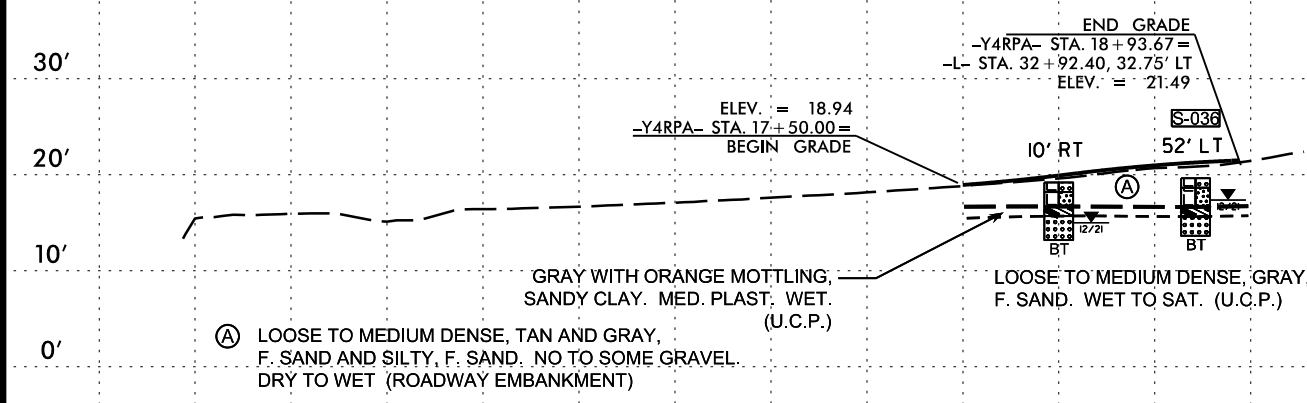


FOR -Y4LPC- PLAN, SEE SHEET 5

10+00 11+00 12+00 13+00 14+00 15+00 16+00

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-036	52' LT	18+72	3.0-4.0	A-6(11)	33	18	3.5	32.9	31.9	31.7	100	98	74	25	-

**- Y4RPA -**

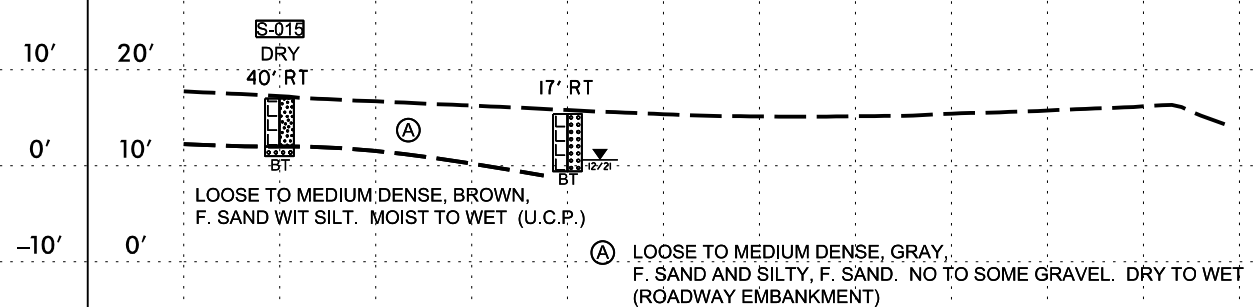


FOR -Y4RPA- PLAN, SEE SHEET 6

13+00 14+00 15+00 16+00 17+00 18+00 19+00

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-015	40' RT	10+50	1.5-2.0	A-2-4(0)	NP	NP	24.5	64.5	4.4	6.6	93.7	92	15	-	-

**- Y4RPC -**



FOR -Y4RPC- PLAN, SEE SHEET 5

10+00 11+00 12+00 13+00 14+00 15+00 16+00

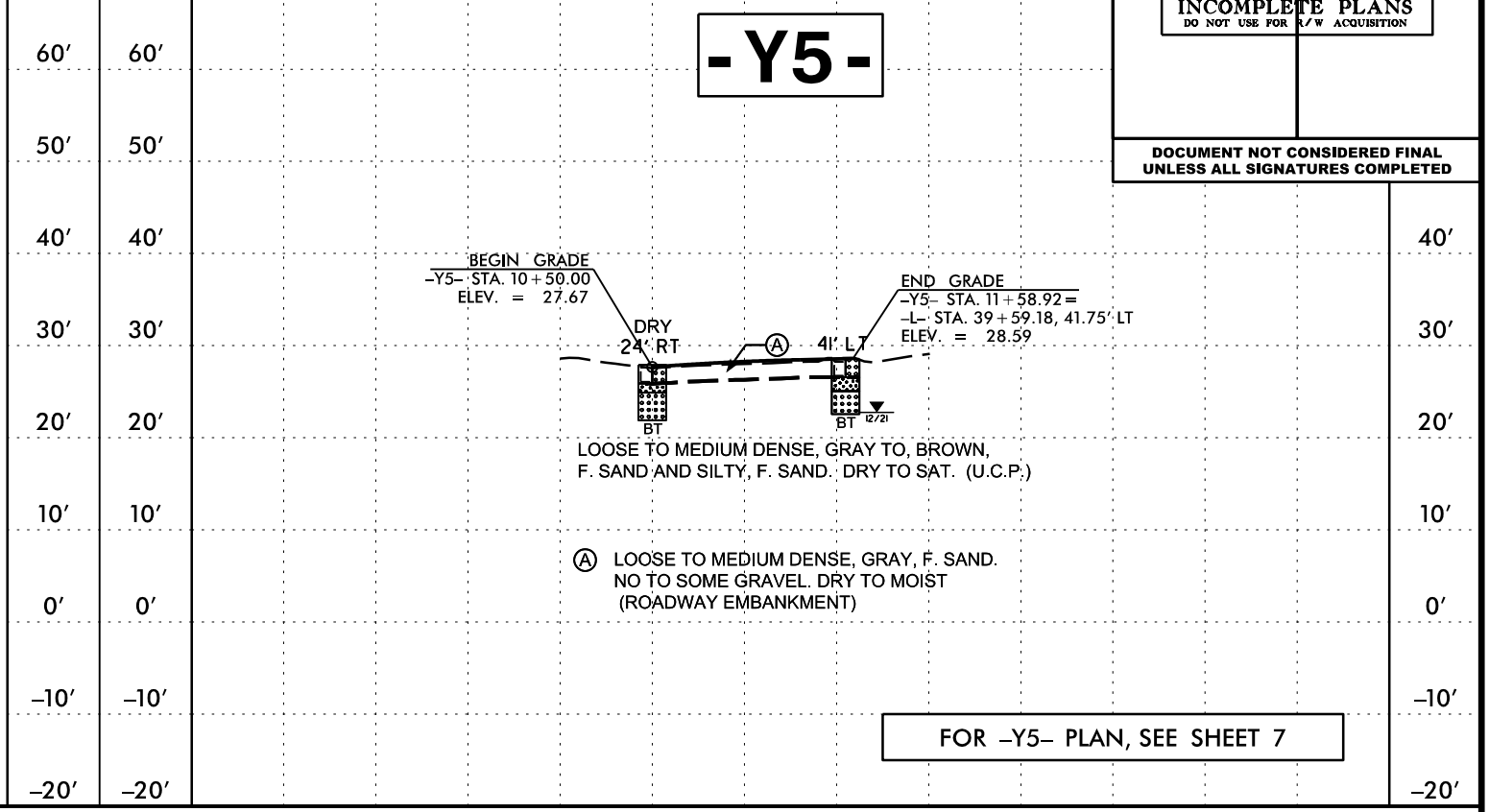
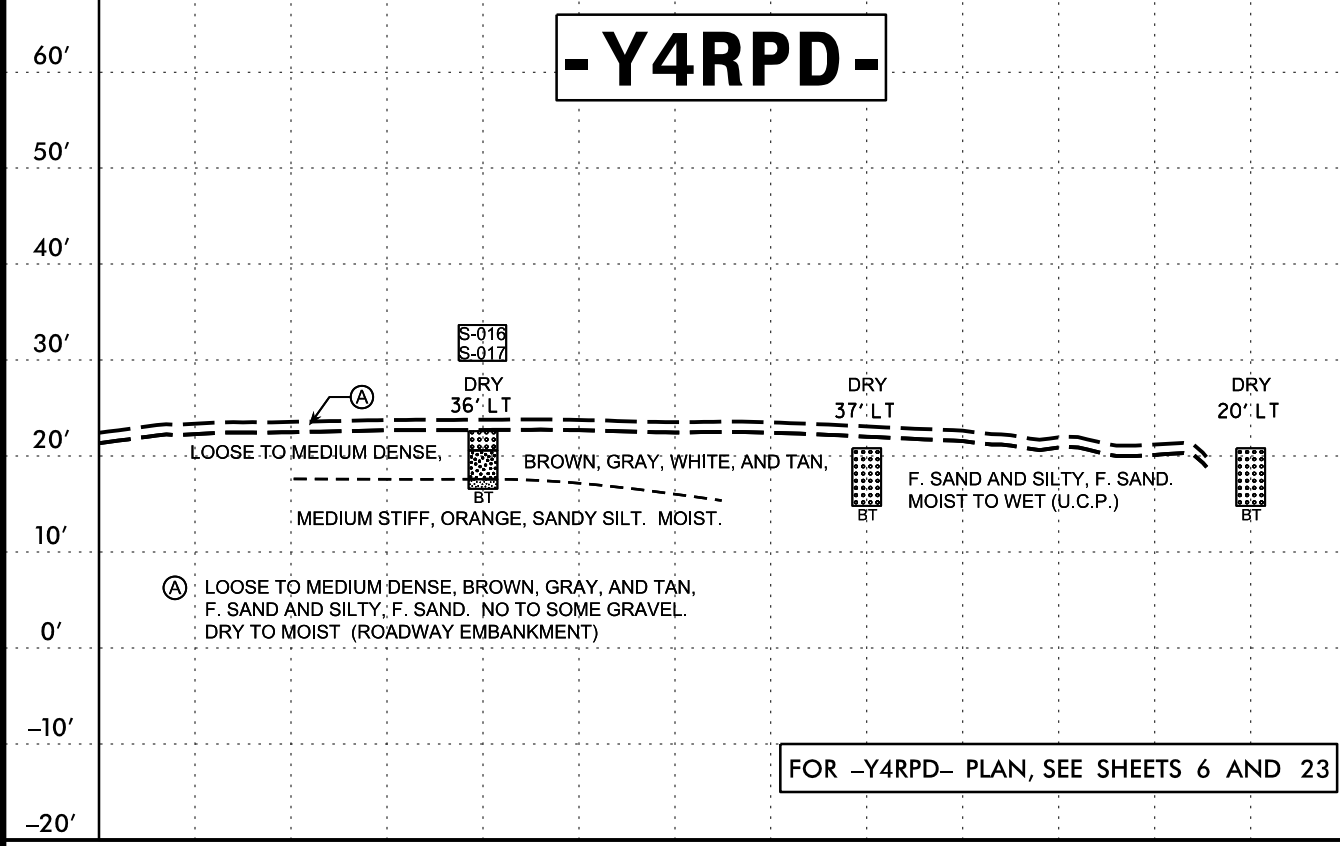
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5/28/99

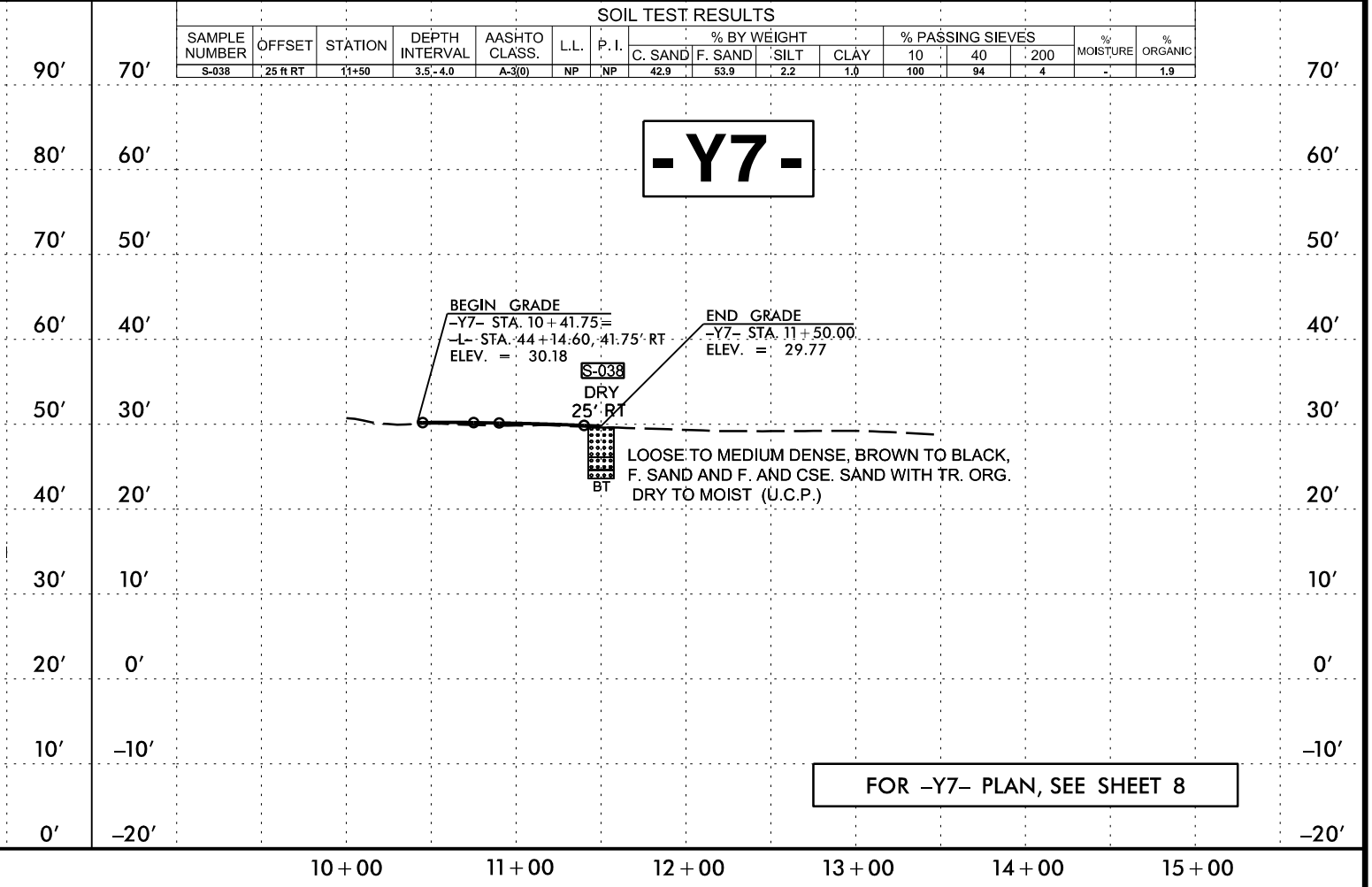
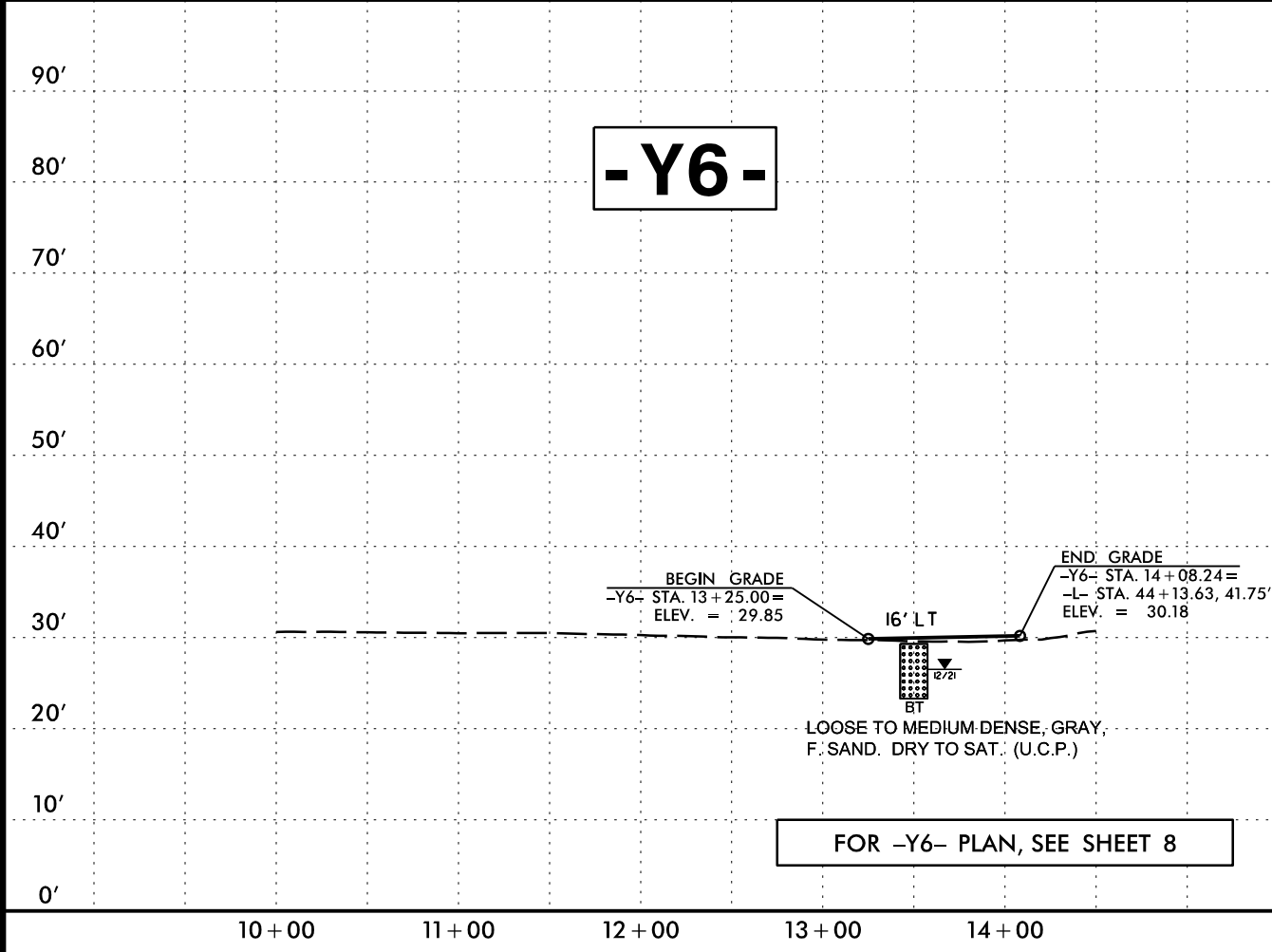
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
							NP	NP	NP	NP	NP	NP	NP		
S-016	36 ft LT	12+00	2.5-3.0	A-2-4(0)	NP	NP	3.8	82.2	9.0	5.0	100	100	29	-	-
S-017	36 ft LT	12+00	5.0-6.5	A-4(0)	25	3	1.0	73.4	9.5	16.1	100	100	61	-	-

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343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO. <b>U-6202</b>	SHEET NO. <b>33</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



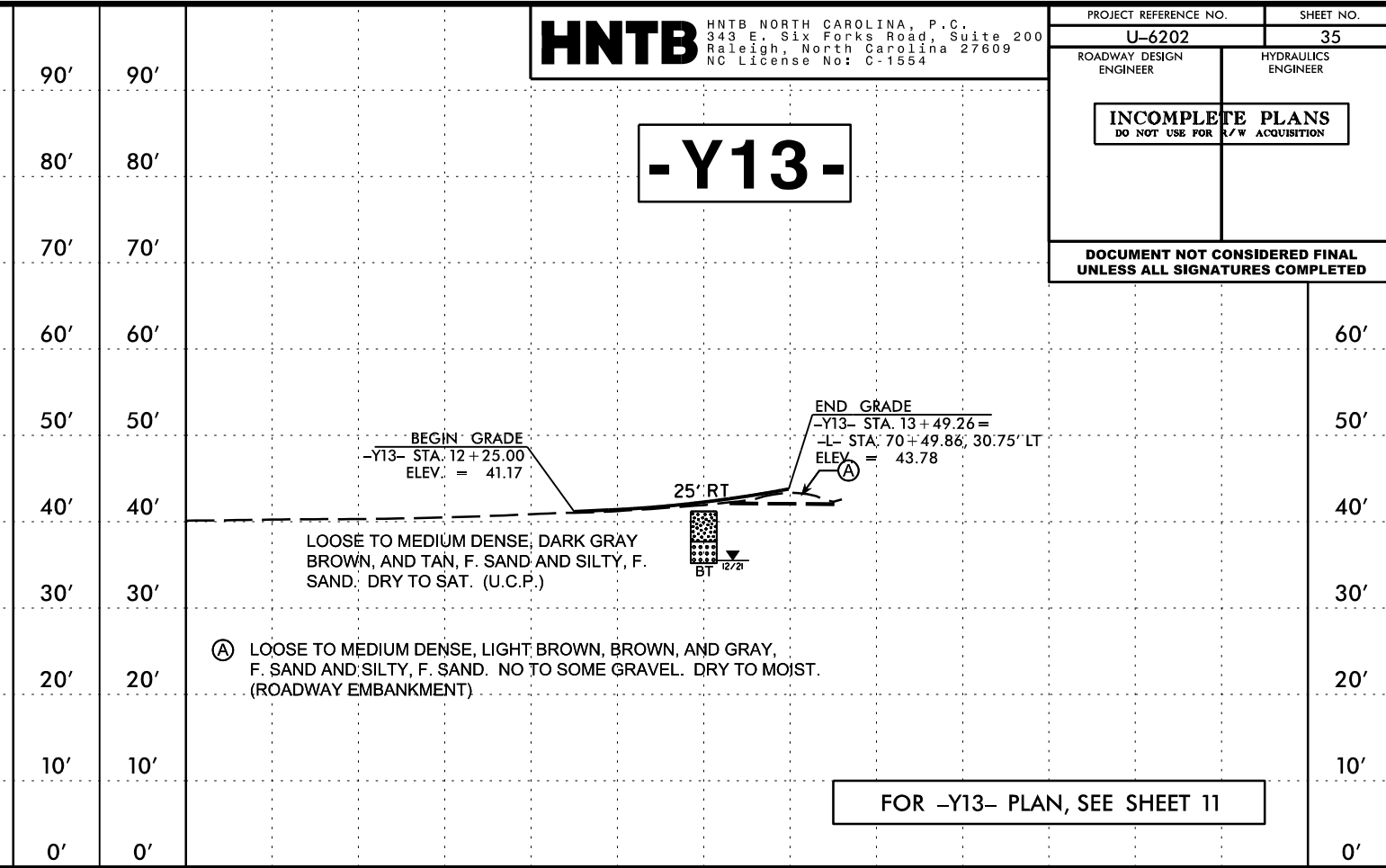
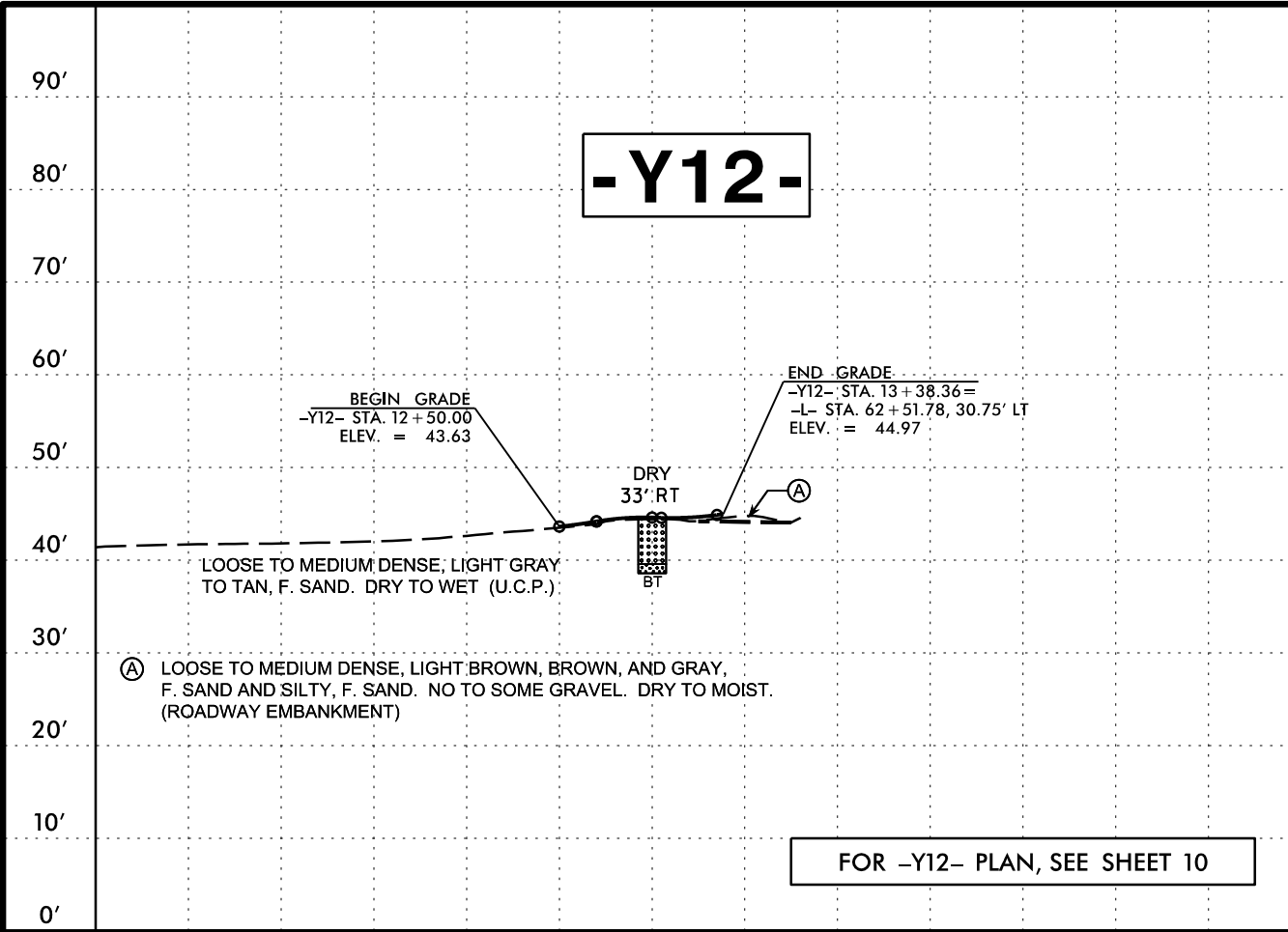
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
							NP	NP	NP	NP	NP	NP	NP		
S-038	25 ft RT	11+50	3.5-4.0	A-3(0)	NP	NP	42.9	53.9	2.2	1.0	100	94	4	-	1.9



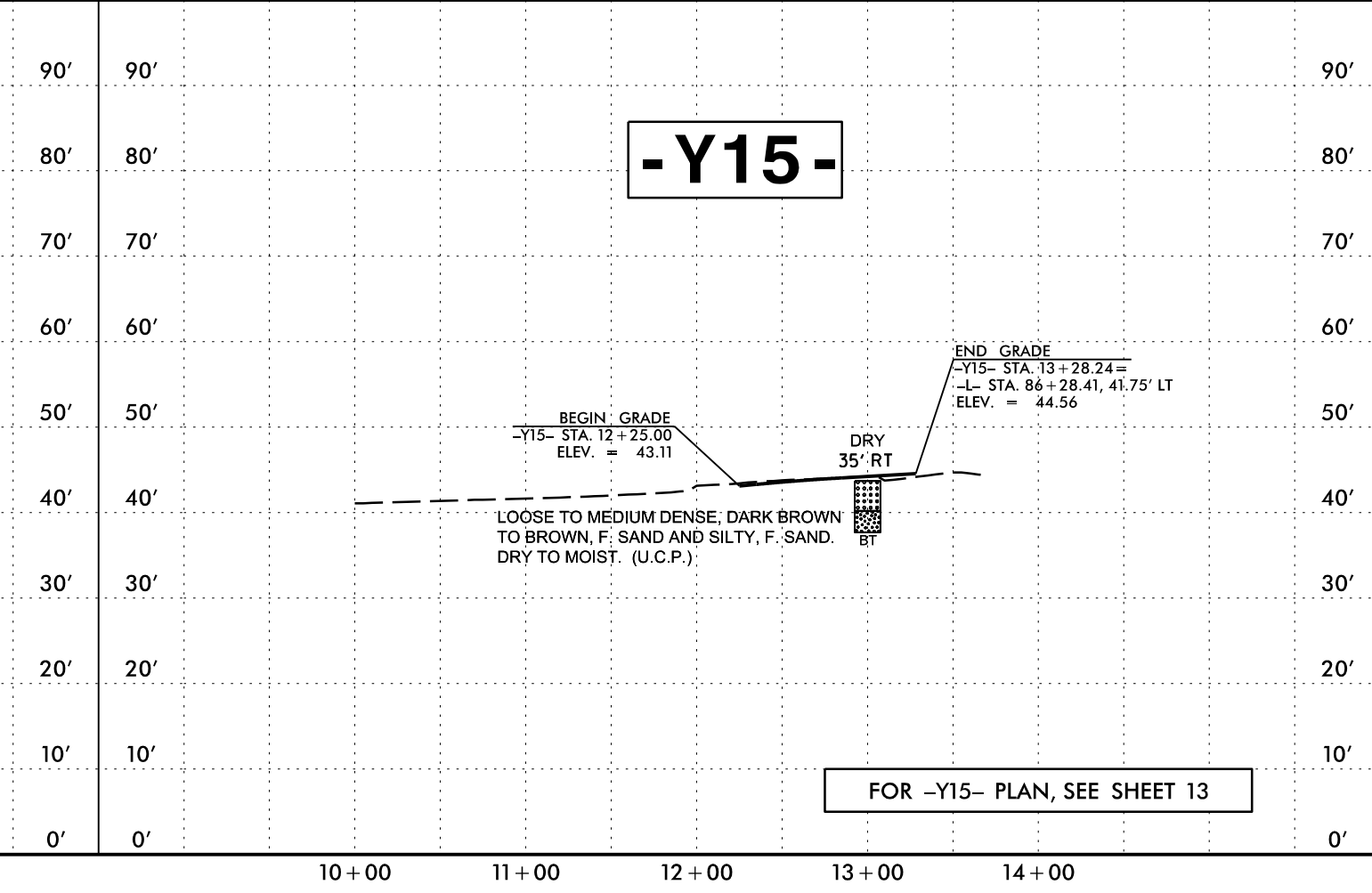
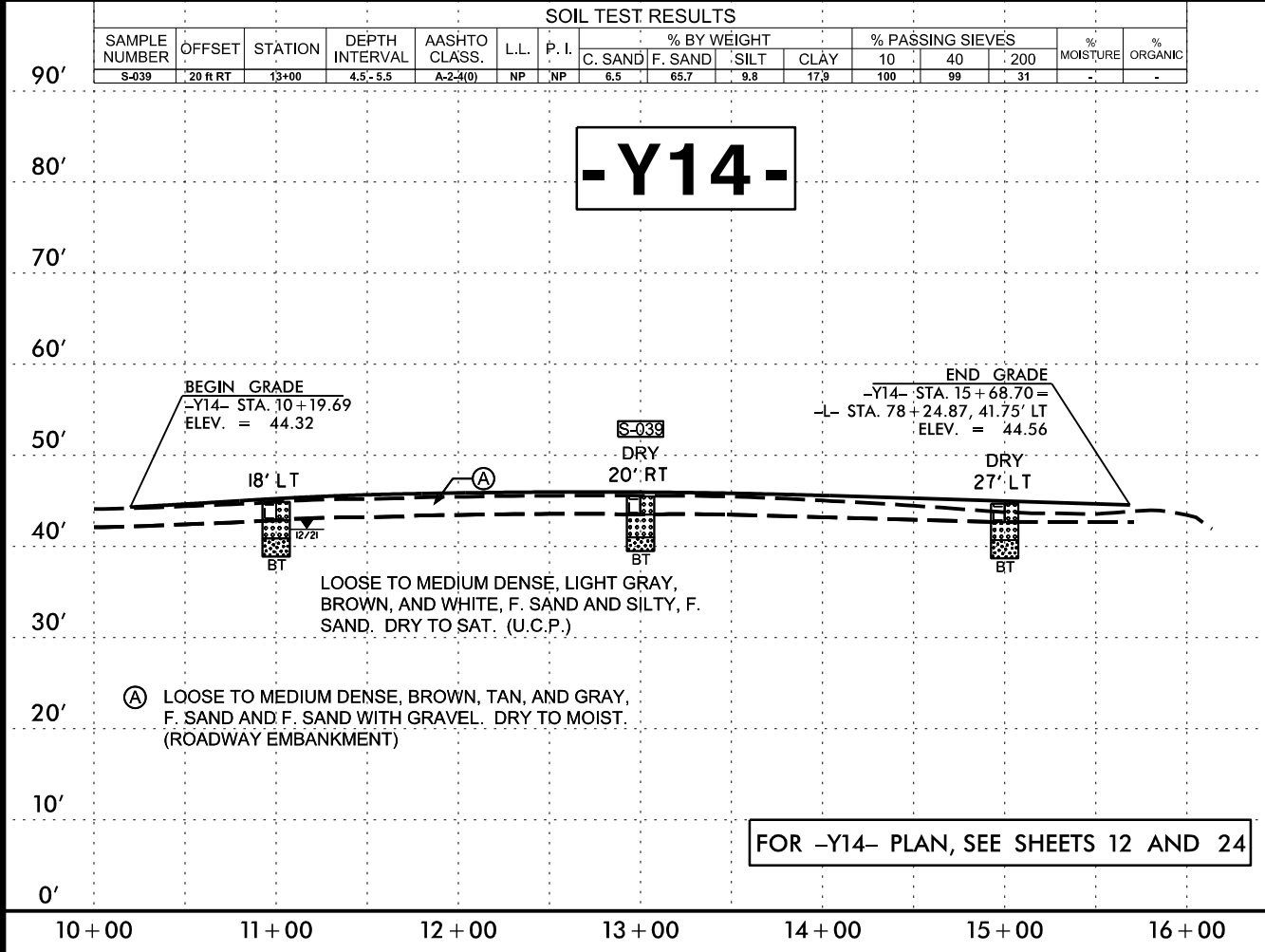
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5/28/99



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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-039	20 ft RT	13+00	4.5-5.5	A-2-4(0)	NP	NP	6.5	65.7	9.8	17.9	100	99	31	-	-



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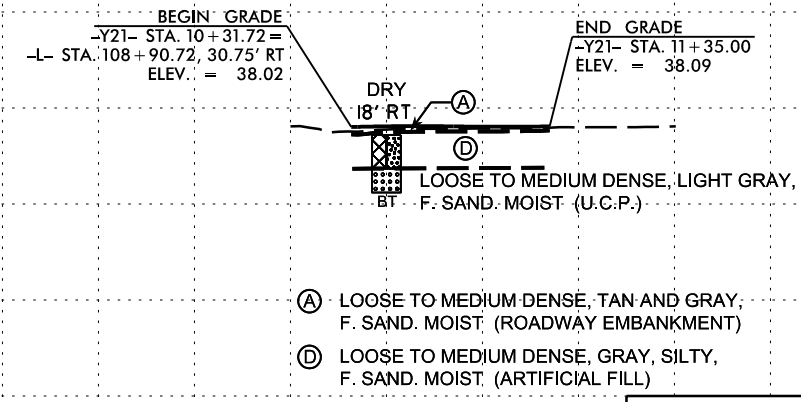
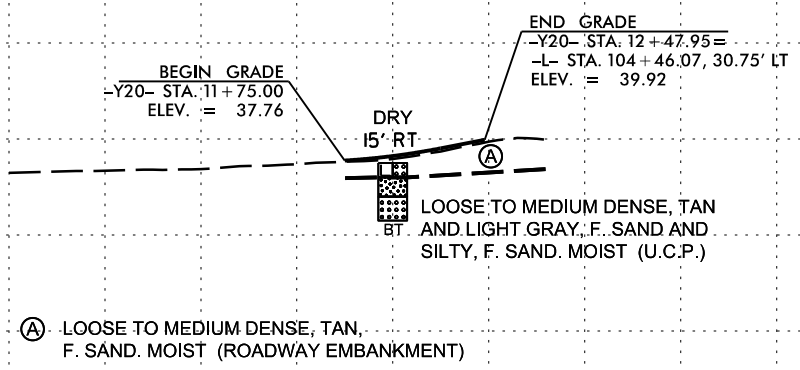
5/28/99

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. Six Forks Road, Suite 200  
Raleigh, North Carolina 27609  
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-6202	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

**-Y20-**

**-Y21-**



(A) LOOSE TO MEDIUM DENSE, TAN, F. SAND, MOIST (ROADWAY EMBANKMENT)

(A) LOOSE TO MEDIUM DENSE, TAN AND GRAY, F. SAND, MOIST (ROADWAY EMBANKMENT)  
(D) LOOSE TO MEDIUM DENSE, GRAY, SILTY, F. SAND, MOIST (ARTIFICIAL FILL)

FOR -Y20- PLAN, SEE SHEET 15

FOR -Y21- PLAN, SEE SHEET 16

10+00 11+00 12+00

10+00 11+00 12+00

SOIL TEST RESULTS

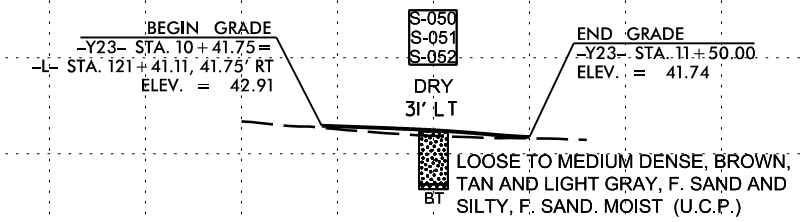
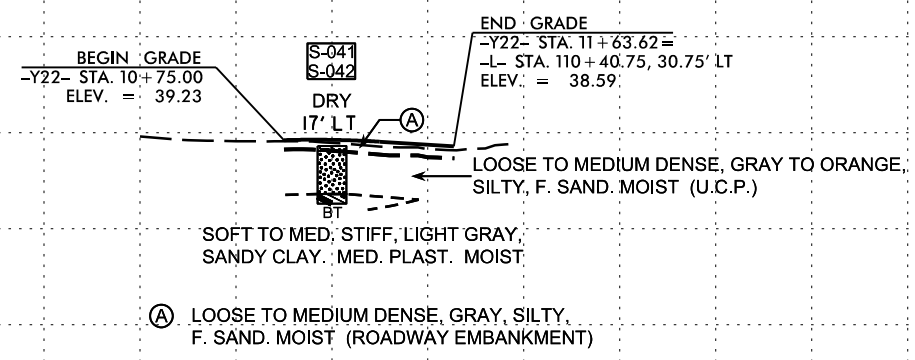
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-041	17' RL	11+00	3.0-4.0	A-2-4(0)	NP	NP	3.4	80.3	10.5	5.8	96.8	99	22	-	-
S-042	17' RL	11+00	5.0-6.0	A-6(9)	31	18	1.0	39.5	20.0	38.6	99.7	100	66	-	-

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-050	31' RL	11+00	0.5-1.0	A-2-4(0)	NP	NP	14.1	71.0	8.4	6.5	99.3	98	18	-	-
S-051	31' RL	11+00	3.5-4.0	A-2-4(0)	NP	NP	10.7	73.8	5.0	10.4	100	99	18	-	-
S-052	31' RL	11+00	5.5-6.0	A-3(0)	NP	NP	7.7	89.1	1.5	1.7	100	100	5	-	-

**-Y22-**

**-Y23-**



(A) LOOSE TO MEDIUM DENSE, GRAY, SILTY, F. SAND, MOIST (ROADWAY EMBANKMENT)

LOOSE TO MEDIUM DENSE, BROWN, TAN AND LIGHT GRAY, F. SAND AND SILTY, F. SAND, MOIST (U.C.P.)

FOR -Y22- PLAN, SEE SHEET 16

FOR -Y23- PLAN, SEE SHEET 18

10+00 11+00 12+00 13+00

10+00 11+00

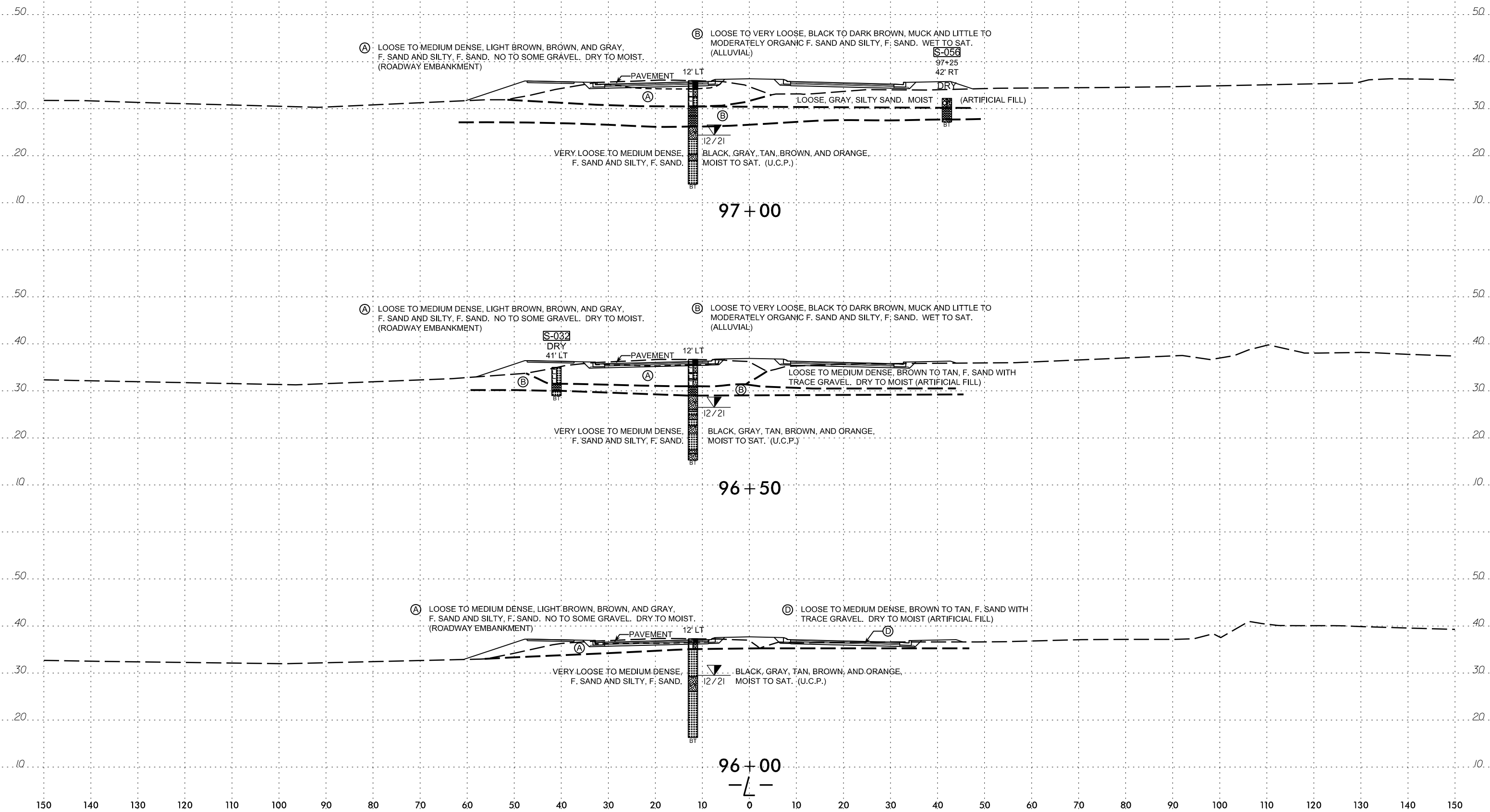
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 5/28/99



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

### SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-032	41 ft LT	96+50	3.5 - 4.5	A-2-4(0)	NP	NP	13.1	56.3	21.6	9.0	99.9	95	34	-	20.5
S-056	42 ft RT	97+25	2.0 - 2.5	A-4(0)	NP	NP	5.1	26.0	65.2	3.6	95.3	99	70	-	39.0

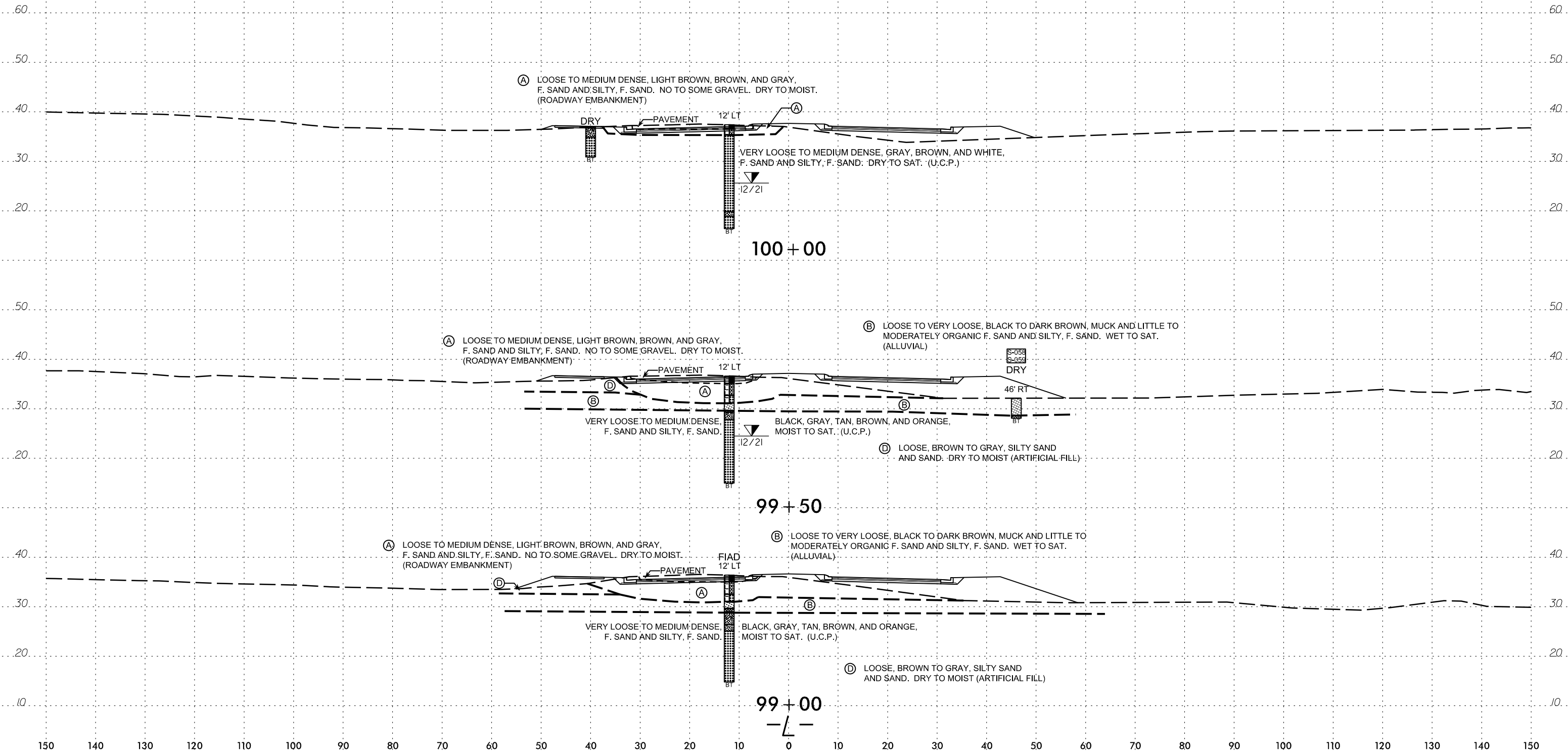


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AT ILM-SHIDSON-21  
shudson

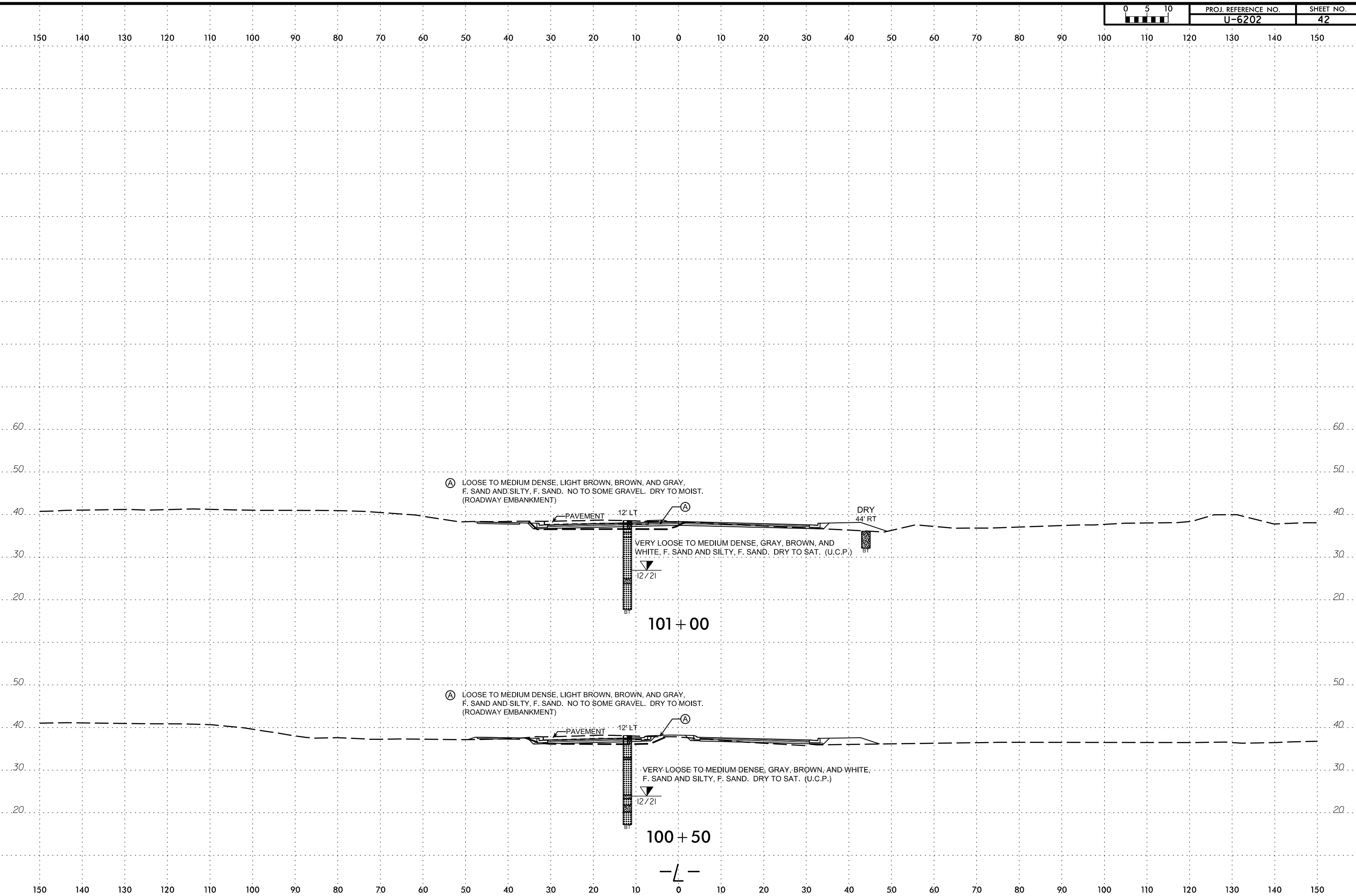


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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-058	46 ft RT	99+50	0.0 - 3.5	A-2-4(0)	NP	NP	28.1	53.9	11.5	6.5	99.7	92	22	-	5.9
S-059	46 ft RT	99+50	3.5 - 4.0	A-2-4(0)	NP	NP	28.1	53.8	14.7	3.4	99.9	92	22	-	6.2



6/23/16  
07-MAR-2022 10:08  
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AT ILM-SHIDSON-21  
shidson



**REFERENCE: U-6202**

**PROJECT: 48662**

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

STATE	STATE PROJECT REFERENCE NO.
N.C.	U-6202



**ROADWAY**  
**SUBSURFACE INVESTIGATION**

COUNTY NEW HANOVER  
PROJECT DESCRIPTION SR 2048 (GORDON ROAD)  
FROM US 17 (MARKET STREET) TO I-40.  
WIDEN ROADWAY.

**INVENTORY**

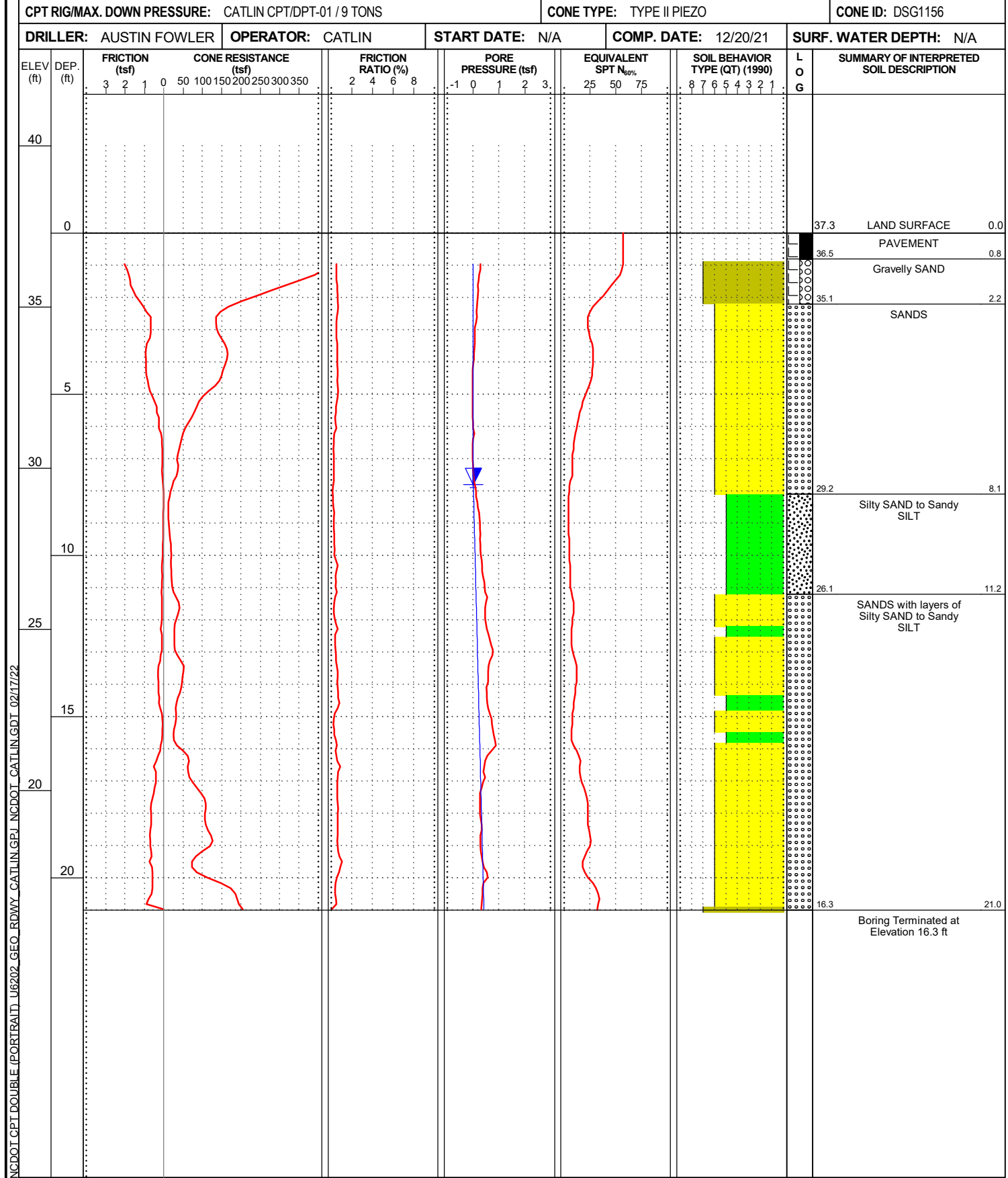
**APPENDIX A**

**CONE PENETRATION TEST**  
**BORING REPORTS**

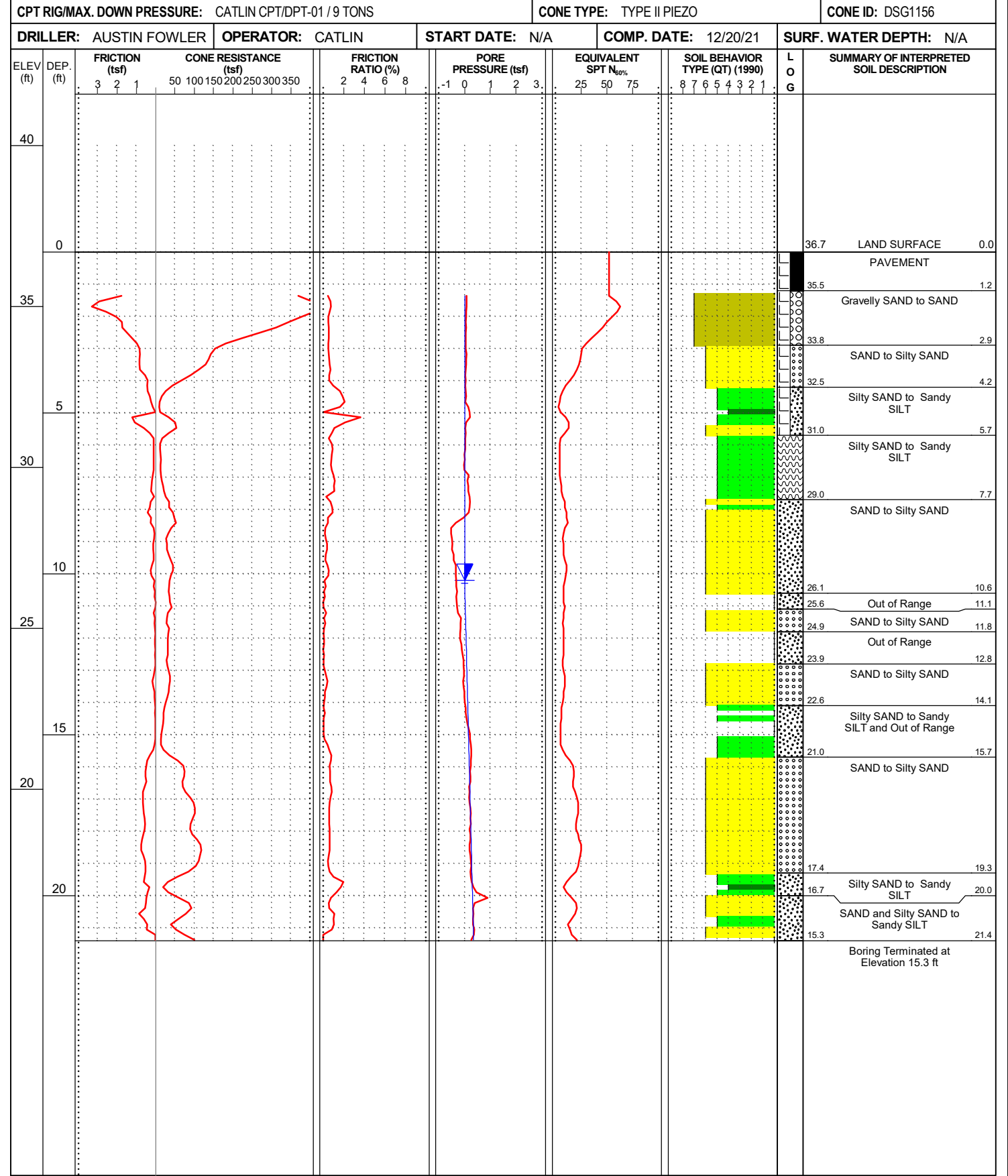
# CONE PENETRATION TEST BORING REPORT



WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway			GROUND WTR (ft)
BORING NO.: L_09600_CPT	STATION: 96+00	OFFSET: 12 ft LT	ALIGNMENT: -L-
COLLAR ELEV.: 37.3 ft	TOTAL DEPTH: 21.0 ft	NORTHING: 191,718	EASTING: 2,348,290
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS		CONE TYPE: TYPE II PIEZO	
DRILLER: AUSTIN FOWLER		OPERATOR: CATLIN	
START DATE: N/A		COMP. DATE: 12/20/21	
SURF. WATER DEPTH: N/A			



WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway			GROUND WTR (ft)
BORING NO.: L_09650_CPT	STATION: 96+50	OFFSET: 12 ft LT	ALIGNMENT: -L-
COLLAR ELEV.: 36.7 ft	TOTAL DEPTH: 21.4 ft	NORTHING: 191,694	EASTING: 2,348,334
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS		CONE TYPE: TYPE II PIEZO	
DRILLER: AUSTIN FOWLER		OPERATOR: CATLIN	
START DATE: N/A		COMP. DATE: 12/20/21	
SURF. WATER DEPTH: N/A			



NCDOT CPT DOUBLE (PORTRAIT) U6202\_GEO\_RDWY\_CATLIN.GPJ NCDOT\_CATLIN.GDT 02/17/22



# CONE PENETRATION TEST BORING REPORT



WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway				GROUND WTR (ft)
BORING NO.: L_09700_CPT	STATION: 97+00	OFFSET: 12 ft LT	ALIGNMENT: -L-	EST. 0 HR. 11.6
COLLAR ELEV.: 36.0 ft	TOTAL DEPTH: 22.0 ft	NORTHING: 191,669	EASTING: 2,348,377	24 HR. N/A

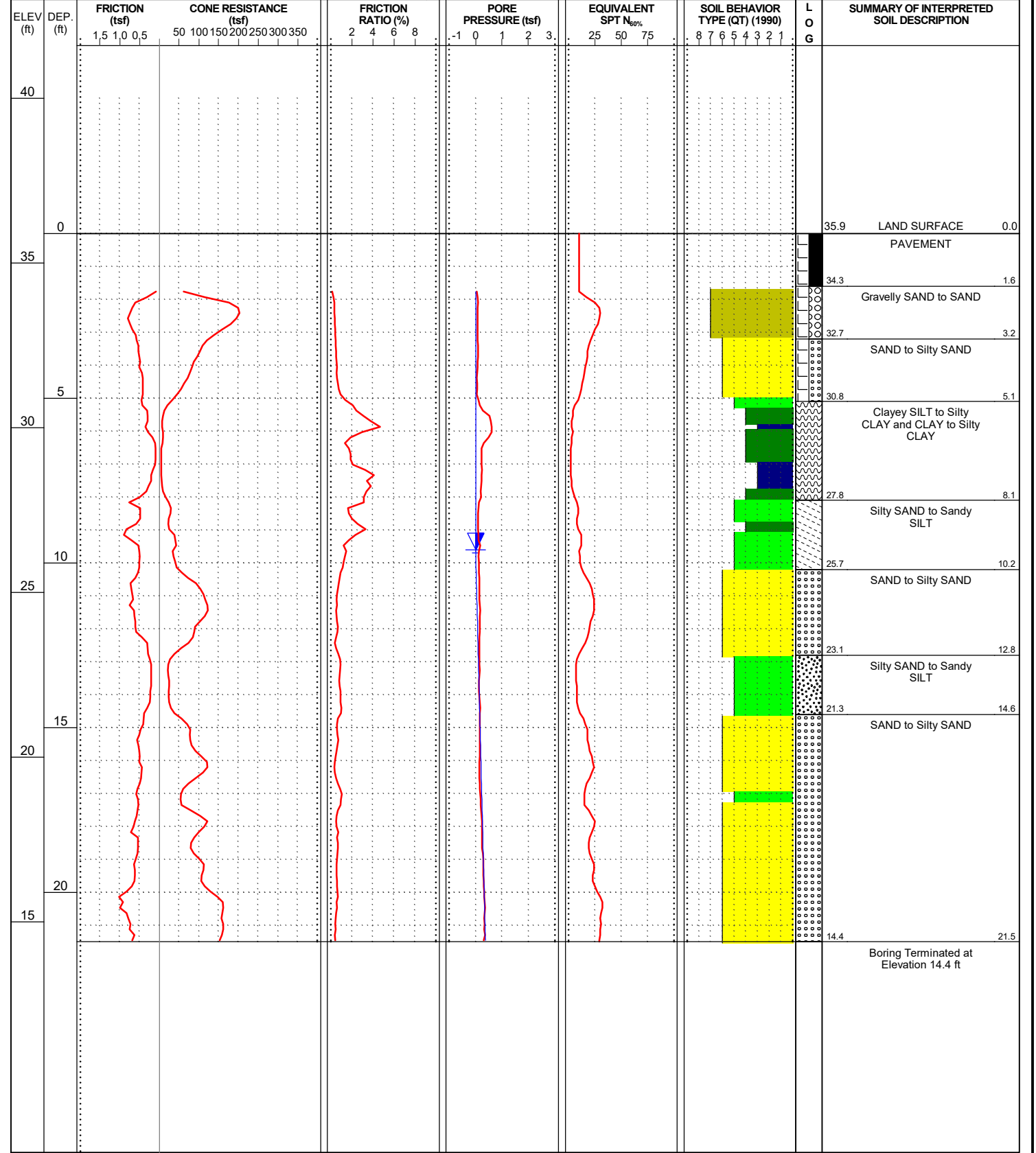
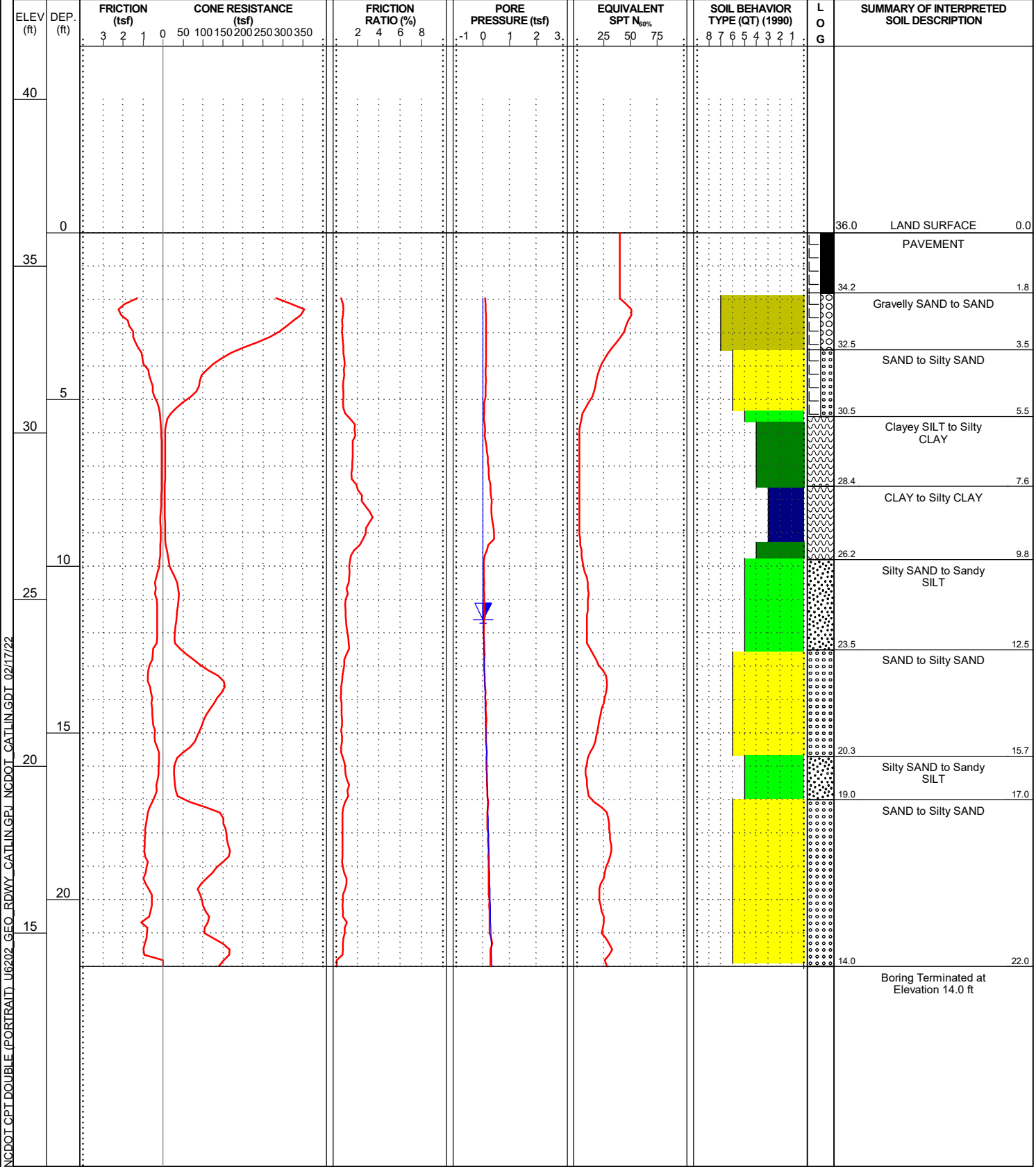
WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway				GROUND WTR (ft)
BORING NO.: L_09750_CPT	STATION: 97+50	OFFSET: 12 ft LT	ALIGNMENT: -L-	EST. 0 HR. 9.6
COLLAR ELEV.: 35.9 ft	TOTAL DEPTH: 21.5 ft	NORTHING: 191,644	EASTING: 2,348,421	24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS      CONE TYPE: TYPE II PIEZO      CONE ID: DSG1156

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS      CONE TYPE: TYPE II PIEZO      CONE ID: DSG1156

DRILLER: AUSTIN FOWLER    OPERATOR: CATLIN    START DATE: N/A    COMP. DATE: 12/20/21    SURF. WATER DEPTH: N/A

DRILLER: AUSTIN FOWLER    OPERATOR: CATLIN    START DATE: N/A    COMP. DATE: 12/20/21    SURF. WATER DEPTH: N/A



NGDOT CPT DOUBLE (PORTRAIT) U6202\_GEO\_RDWY\_CATLIN.GPJ NCDOT\_CATLIN.GDI 02/17/22

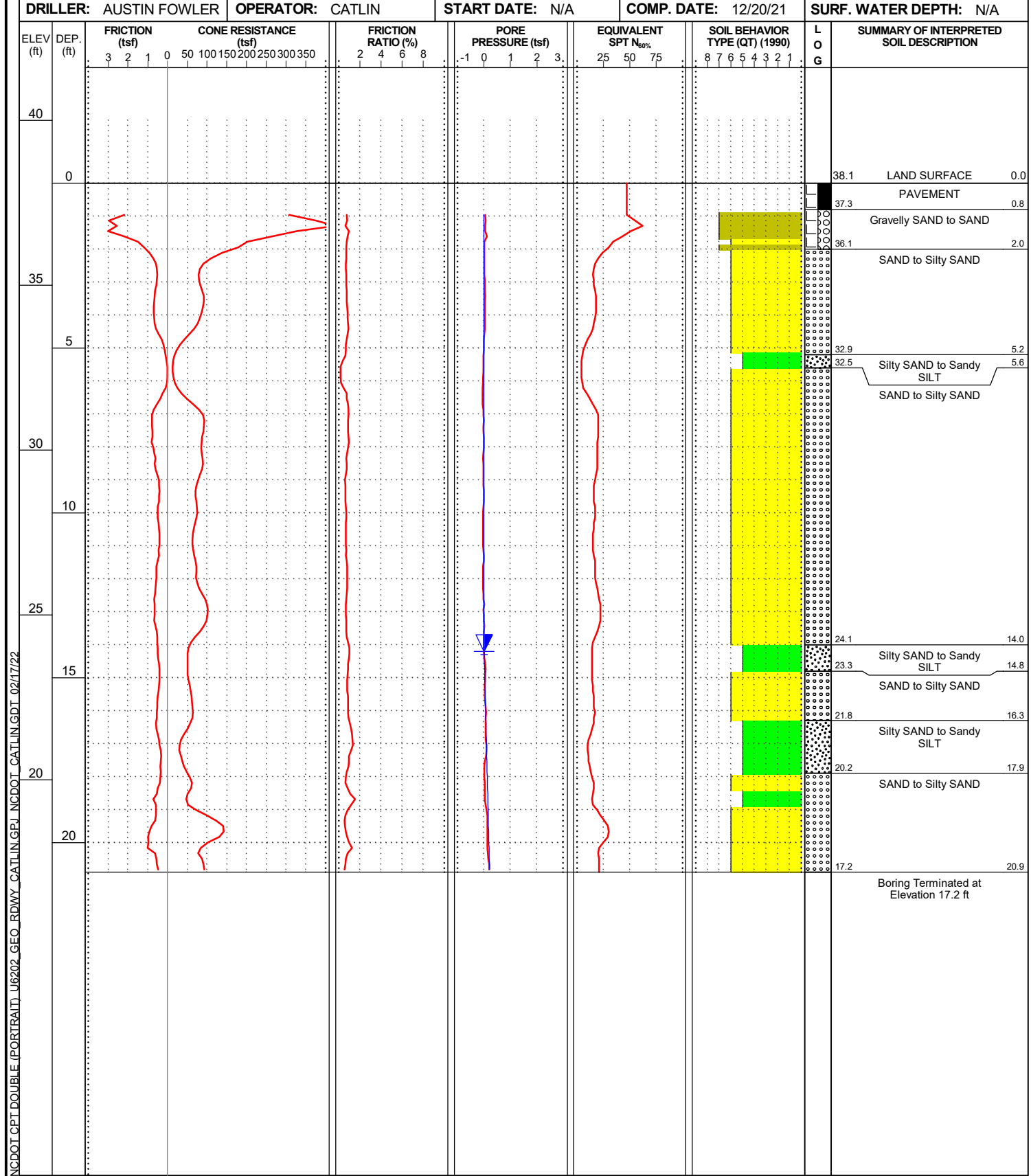




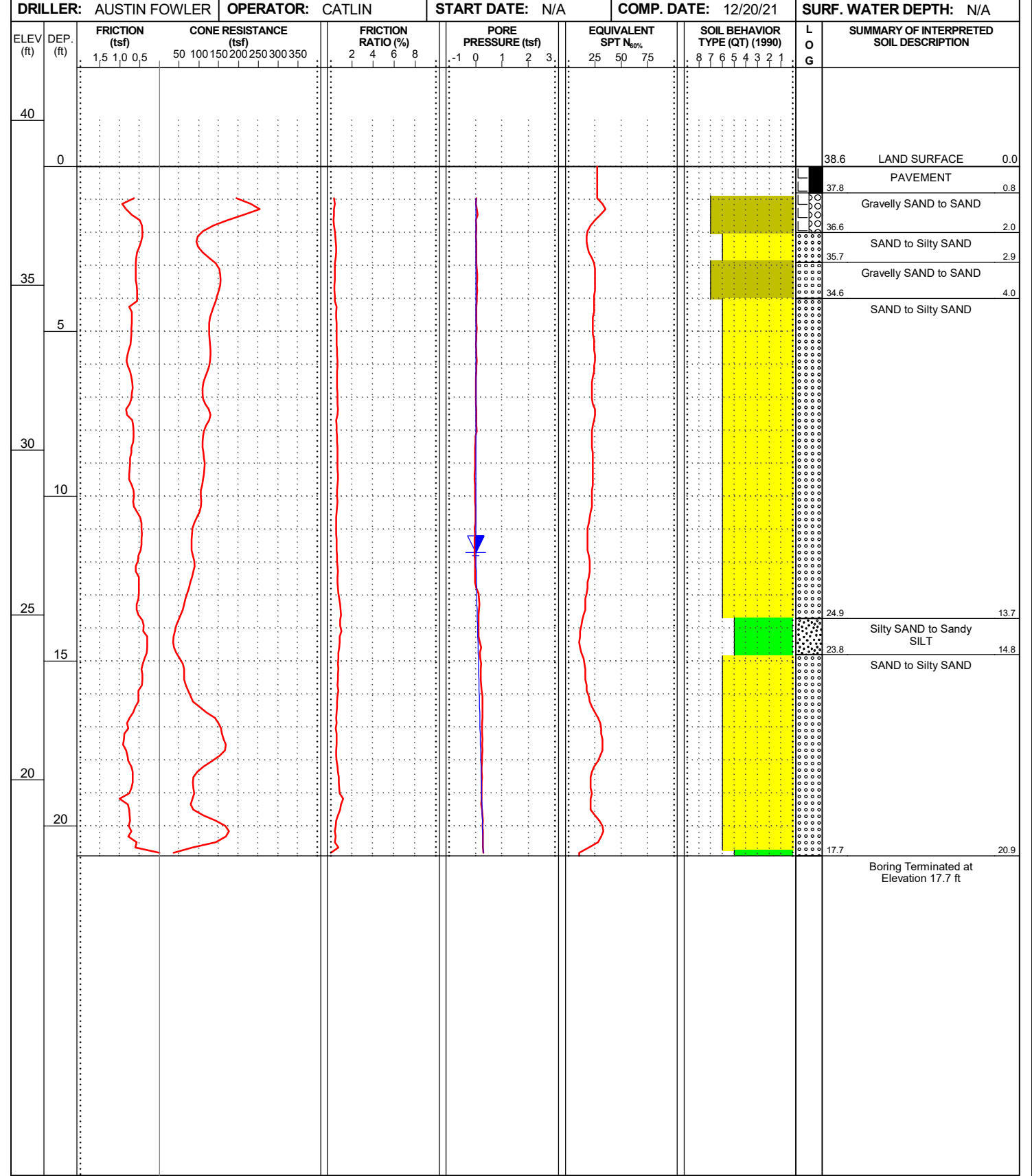
# CONE PENETRATION TEST BORING REPORT



WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway			GROUND WTR (ft)
BORING NO.: L_10050_CPT	STATION: 100+50	OFFSET: 12 ft LT	ALIGNMENT: -L-
COLLAR ELEV.: 38.1 ft	TOTAL DEPTH: 20.9 ft	NORTHING: 191,496	EASTING: 2,348,682
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS		CONE TYPE: TYPE II PIEZO	
DRILLER: AUSTIN FOWLER		OPERATOR: CATLIN	
START DATE: N/A		COMP. DATE: 12/20/21	
SURF. WATER DEPTH: N/A			



WBS: 48662.1.1	TIP: U6202	COUNTY: NEW HANOVER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: SR 2048 (Gordon Rd.) from US 17 (Market Street) to I-40 . Widen Roadway			GROUND WTR (ft)
BORING NO.: L_10100_CPT	STATION: 101+00	OFFSET: 12 ft LT	ALIGNMENT: -L-
COLLAR ELEV.: 38.6 ft	TOTAL DEPTH: 20.9 ft	NORTHING: 191,472	EASTING: 2,348,725
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / 9 TONS		CONE TYPE: TYPE II PIEZO	
DRILLER: AUSTIN FOWLER		OPERATOR: CATLIN	
START DATE: N/A		COMP. DATE: 12/20/21	
SURF. WATER DEPTH: N/A			



NCDOT CPT DOUBLE (PORTRAIT) U6202\_GEO\_RDWY\_CATLIN.GPJ NCDOT\_CATLIN.GDI 02/17/22