

REFERENCE: U-3422

PROJECT: 39001

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-3422	1	28

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	ROADWAY TITLE SHEET
4-19B	SITE PLAN
20-23	BORE LOGS
24	SOIL TEST RESULTS

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY CUMBERLAND
PROJECT DESCRIPTION CAMDEN ROAD WIDENING
FROM FUTURE FAYETTEVILLE OUTER LOOP
TO NC 59
SITE DESCRIPTION 8 BORING LOCATIONS FOR
TEMPORARY SHORING

CAUTION NOTICE

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

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

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

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

PERSONNEL

J. ROSE

CATLIN INC.

INVESTIGATED BY J. HOLLAND

DRAWN BY J. HOLLAND

CHECKED BY J. CRENSHAW

SUBMITTED BY SCHNABEL ENG.

DATE MARCH 2023



DocuSigned by:
Jason Holland 03/28/2023
DF1514200003448A
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																													
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6										WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.										HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:										ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - 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 (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.																													
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										WEATHERED ROCK (WR)										NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.																													
MINERALOGICAL COMPOSITION										CRYSTALLINE ROCK (CR)										FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.										NON-CRYSTALLINE ROCK (NCR)										FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.																			
COMPRESSIBILITY										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.																																							
PERCENTAGE OF MATERIAL										WEATHERING										FRESH										ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.																													
GROUND WATER										VERY SLIGHT (V SL.)										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 (SL.)										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.																			
MISCELLANEOUS SYMBOLS										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																			
RECOMMENDATION SYMBOLS										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																			
ABBREVIATIONS										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.									
TEXTURE OR GRAIN SIZE										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.																			
SOIL MOISTURE - CORRELATION OF TERMS										MEDIUM HARD										CAN BE GROUVED OR GOUGED 0.25 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.										SOFT										CAN BE GROUVED 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.																			
PLASTICITY										VERY SOFT										CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.										FRACTURE SPACING										BEDDING																			
EQUIPMENT USED ON SUBJECT PROJECT										VERY CLOSE										MORE THAN 10 FEET										VERY THICKLY BEDDED										4 FEET																			
INDURATION										MODERATELY CLOSE										3 TO 10 FEET										THICKLY BEDDED										1.5 - 4 FEET																			
DRILL UNITS:										CLOSE										1 TO 3 FEET										THINLY BEDDED										0.16 - 1.5 FEET																			
ADVANCING TOOLS:										VERY CLOSE										LESS THAN 0.16 FEET										VERY THINLY BEDDED										0.03 - 0.16 FEET																			
HAMMER TYPE:										EXTREMELY CLOSE										LESS THAN 0.16 FEET										THICKLY LAMINATED										0.008 - 0.03 FEET																			
CORE SIZE:										FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.										INDURATED										RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.																													
HAND TOOLS:										FRIABLE										MODERATELY INDURATED										GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.																													
INDURATION										INDURATED										EXTREMELY INDURATED										SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.																													

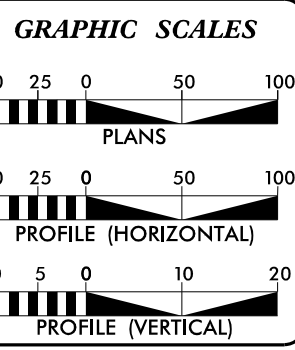
PLOT DRIVER: \$PLTDVRS\$
 USER: \$USERS\$
 FILE: \$PWVARVAULTPATHDESC\$

REVISIONS

3/25/2022: PROJECT WIDE EASEMENT REVISIONS ON PSHS 11, 12, 14-17, 17A, 18, 19A
 8/12/2022: ROW/EASEMENT REVISIONS ON PSHS 12, 13, & 16; OWNER NAME CHANGES ON PSHS 10, 12, 13, 15, 16, 19
 8/26/2022: PARCEL 242-244 ROW/CA & TCE REVISED
 9/20/2022: PARCELS 92-94 ROW REVISED & TCE REVISED; PARCEL 94 PUE REVISED
 10/27/2022: PARCEL 7C EASEMENTS REMOVED; PARCELS 64-67 & 71-73 CAROWEASEMENTS REVISED
 11/21/2022: PSH 15-PDE REVISED ON PARCELS 169 & 177; PARCELS 189, 190, 192, 193, & 194
 12/20/2022: PSH 7; PARCELS 42, 42A, AND 42B CHANGED TO PARCEL 41
 12/20/2023: PARCEL 41 ROW REVISED; PUE REVISED; TCE REVISED; PARCEL 113 ROW REVISED, DUE REVISED, TCE REVISED
 1/31/2023:

CONTRACT:

TIP PROJECT: U-3422



DESIGN DATA

ADT 2017	=	26,100
ADT 2040	=	38,500
K	=	9 %
D	=	60 %
T	=	4 % *
V	=	50 MPH
(* TTST 1% + DUAL 3%)		
FUNC CLASS	=	MINOR ARTERIAL STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3422	=	3.514 MILES
LENGTH STRUCTURE TIP PROJECT U-3422	=	0.000 MILES
TOTAL LENGTH TIP PROJECT U-3422	=	3.514 MILES

Prepared by the Office of:

HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 JULY 30, 2021

LETTING DATE:
 OCTOBER 17, 2023

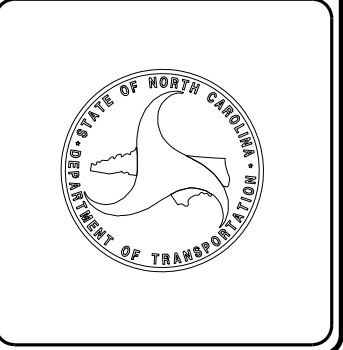
PHILLIP E. ROGERS, PE PROJECT ENGINEER
ALEXANDER D. SNIDER, PE PROJECT DESIGN ENGINEER
SEAN MATUSZEWSKI, PE NCDOT CONTACT

HYDRAULICS ENGINEER

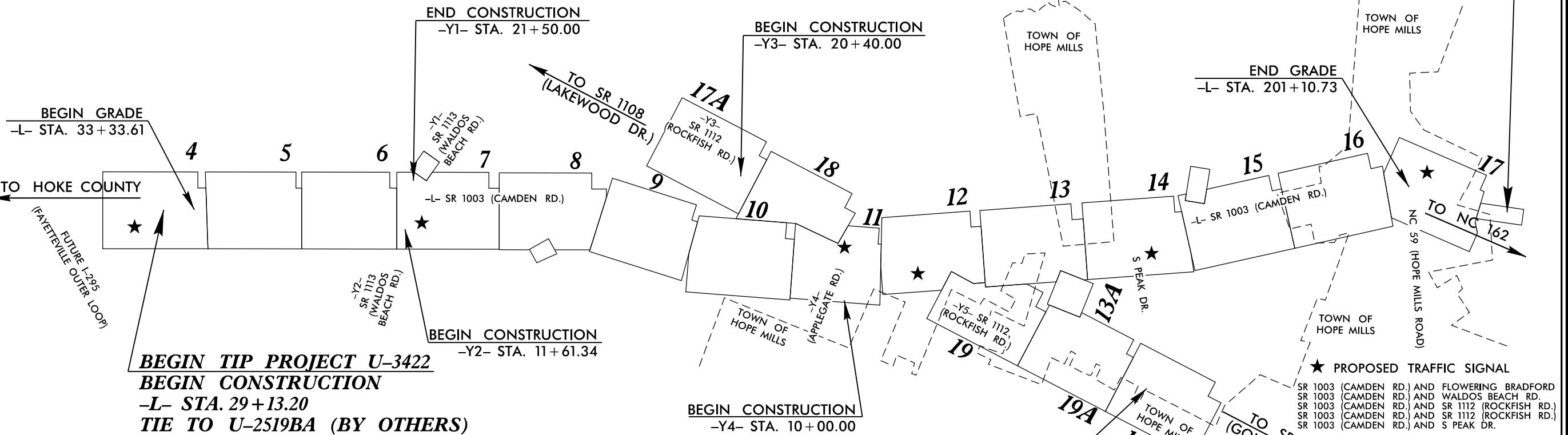
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ROADWAY DESIGN ENGINEER

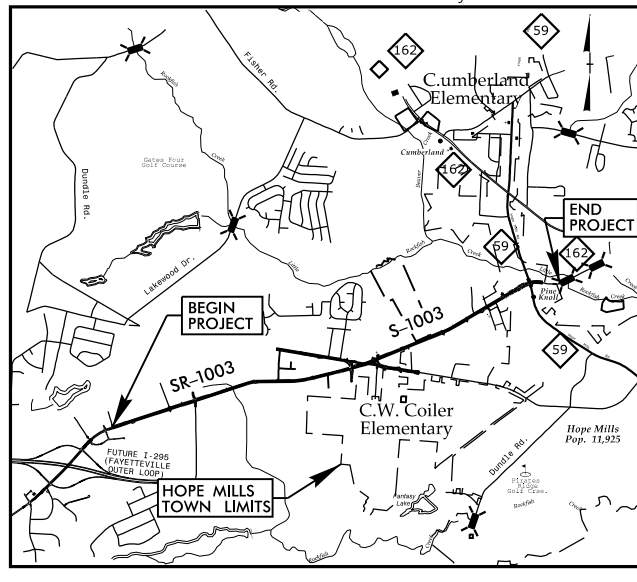
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NOTES:
 THIS PROJECT HAS PARTIALLY CONTROLLED ACCESS WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS.
 CLEARING ON THE PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY MODIFIED METHOD III
 A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HOPE MILLS, NC



VICINITY MAP
 (NOT TO SCALE)



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

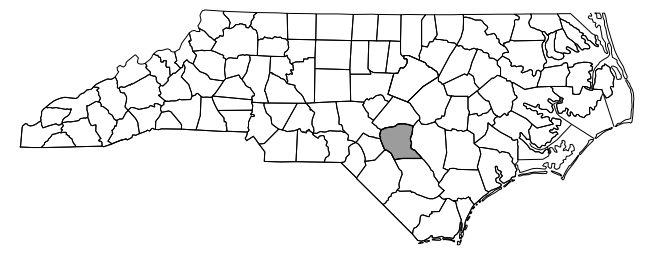
CUMBERLAND COUNTY

LOCATION: SR 1003 (Camden Road) from Future I-295
(Fayetteville Outer Loop) To NC 59 (Hope Mills Road)

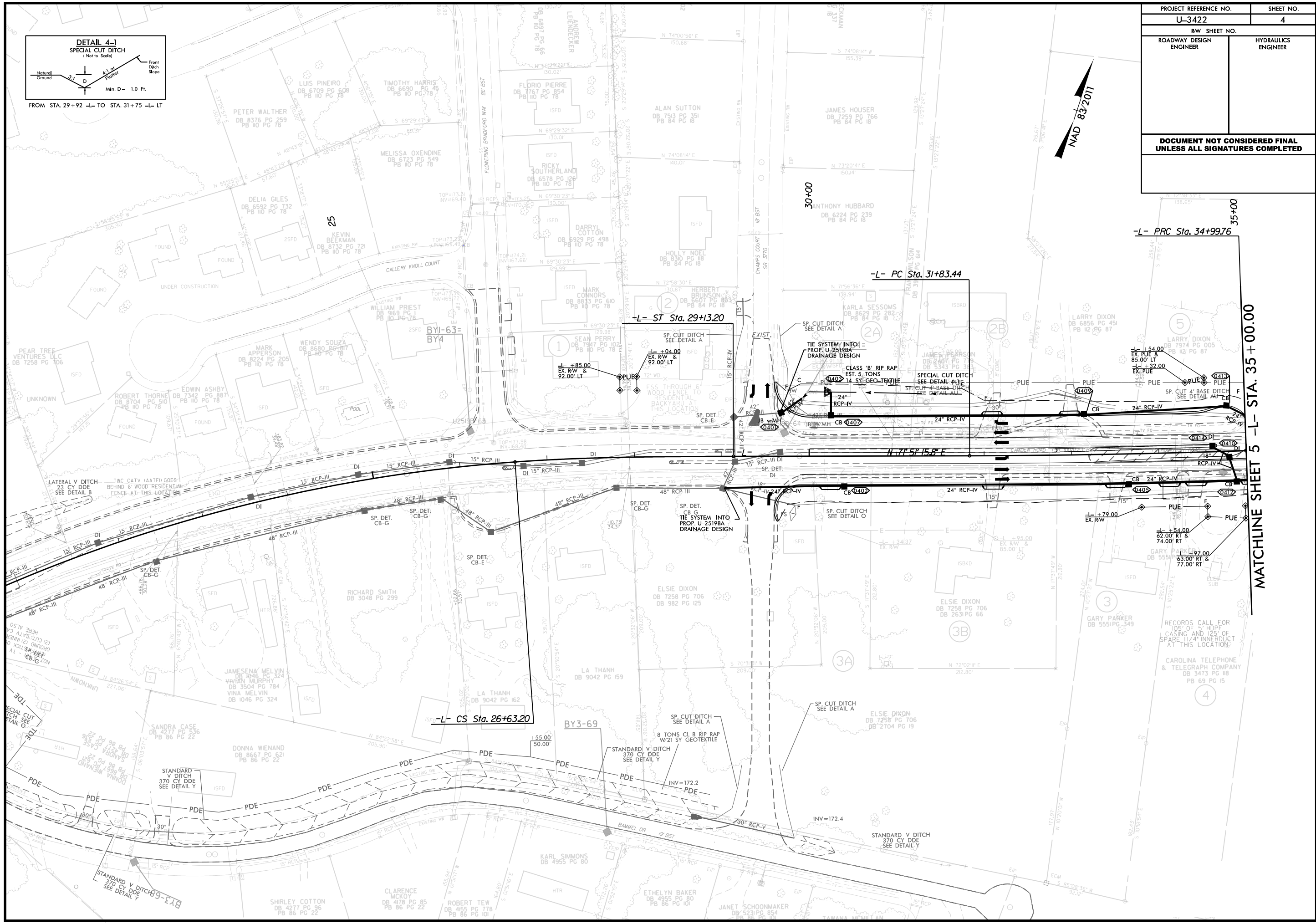
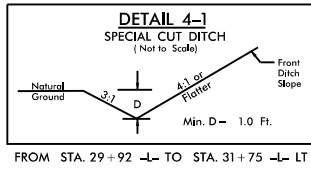
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS

75% / ROW PLANS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422	3	28
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39001.1.1	STP-1003 (131)	P.E.	
39001.2.1	STP-1003 (179)	ROW	
39001.2.2	STP-1003 (179)	UTILITIES	
39001.3.1	STP-1003 (179)	CONSTRUCTION	



PROJECT REFERENCE NO.	SHEET NO.
U-3422	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L- PRC Sta. 34+99.76

-L- PC Sta. 31+83.44

-L- ST Sta. 29+13.20

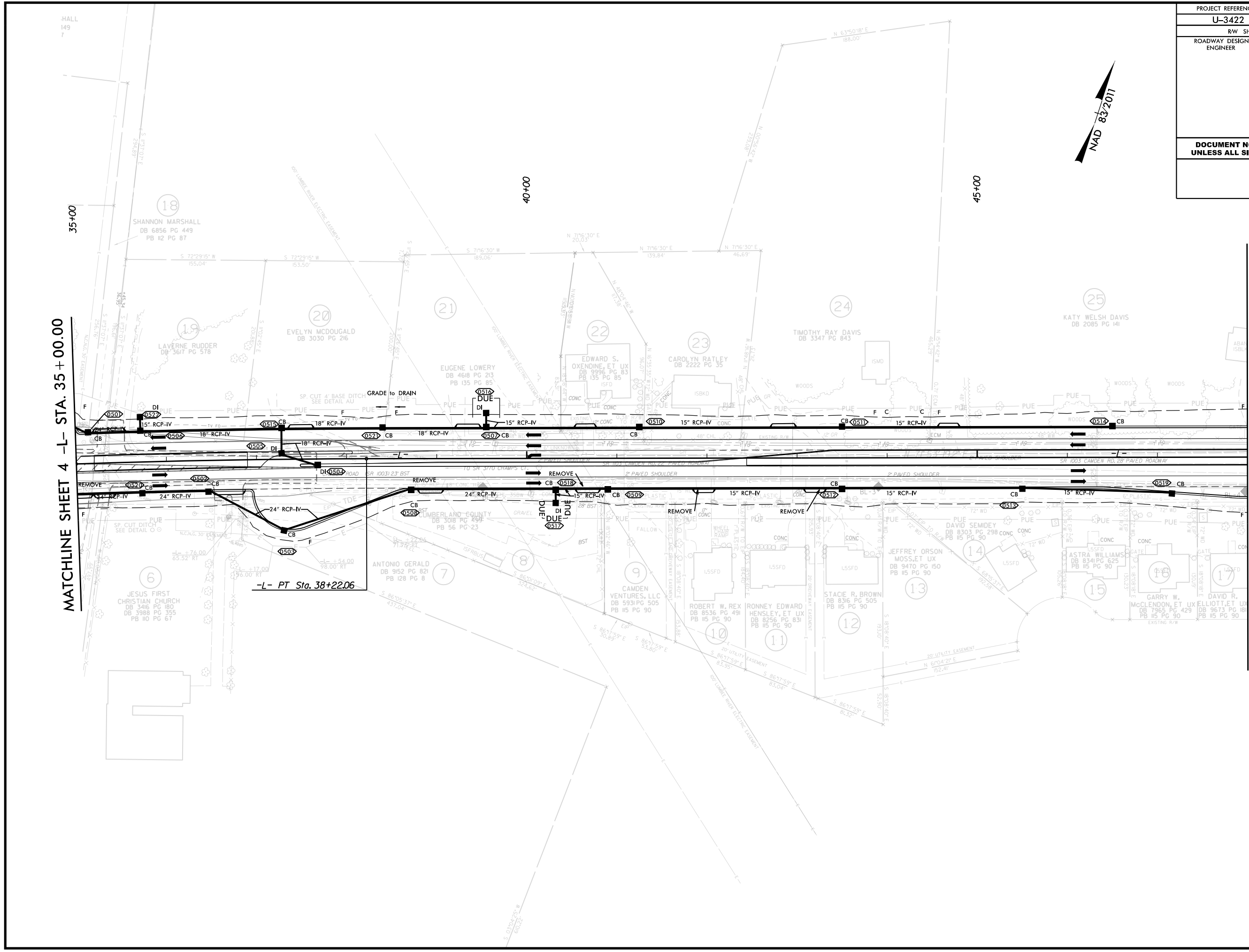
-L- CS Sta. 26+63.20

MATCHLINE SHEET 5 -L- STA. 35+00.00

RECORDS CALL FOR 105' OF 5" HDPE CASING AND 125' OF SPARE 11/4" INNERDUCT AT THIS LOCATION.
CAROLINA TELEPHONE & TELEGRAPH COMPANY DB 3473 PG 118 PB 69 PG 15

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 DATE: 3/1/2023

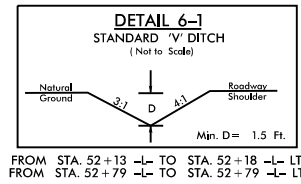
PROJECT REFERENCE NO.	SHEET NO.
U-3422	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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MATCHLINE SHEET 4 -L- STA. 35+00.00

-L- PT Sta. 38+22.06

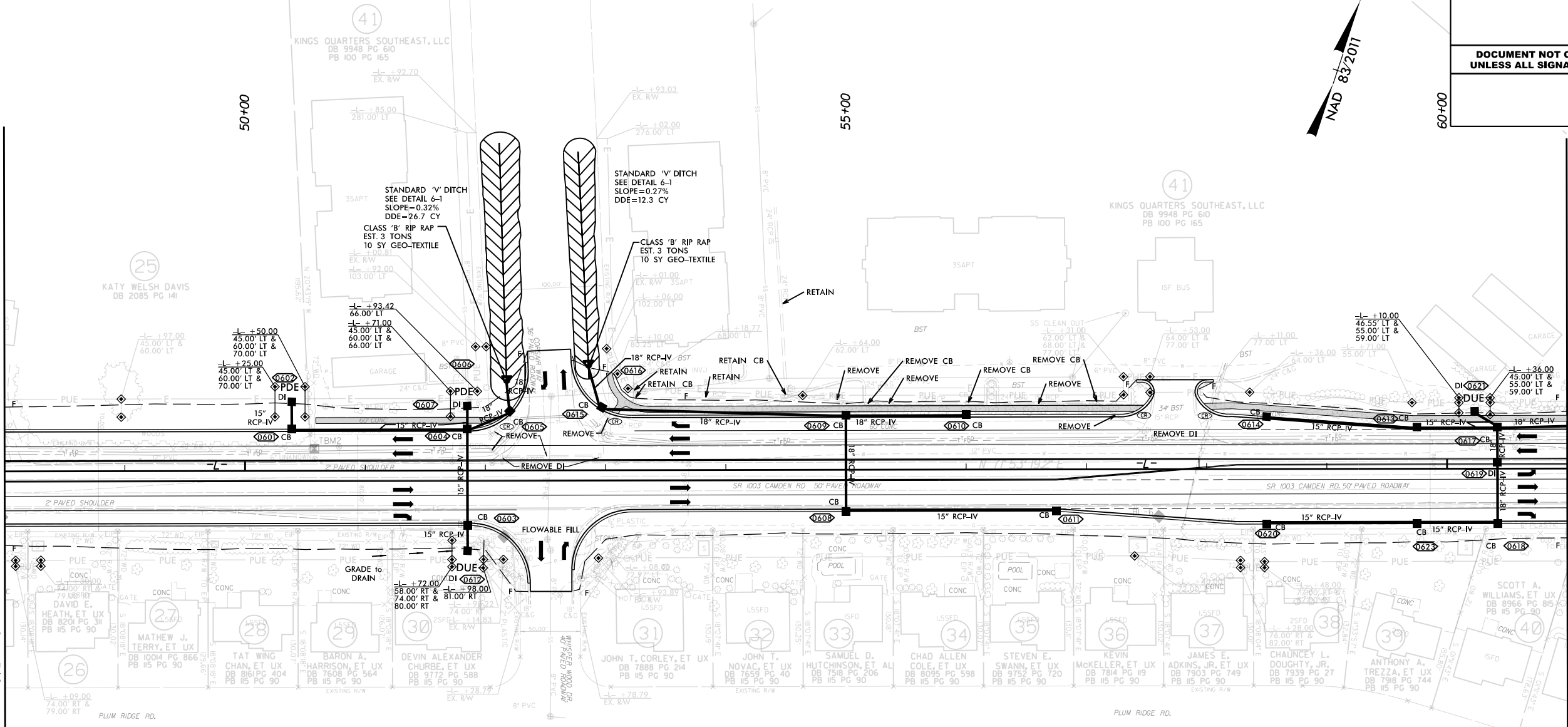
MATCHLINE SHEET 6 -L- STA. 48+00.00



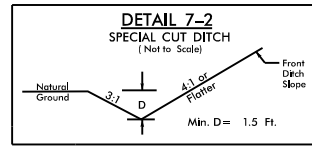
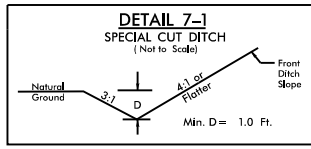
PROJECT REFERENCE NO.	SHEET NO.
U-3422	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE SHEET 5 -L- STA. 48+00.00

MATCHLINE SHEET 7 -L- STA. 61+00.00

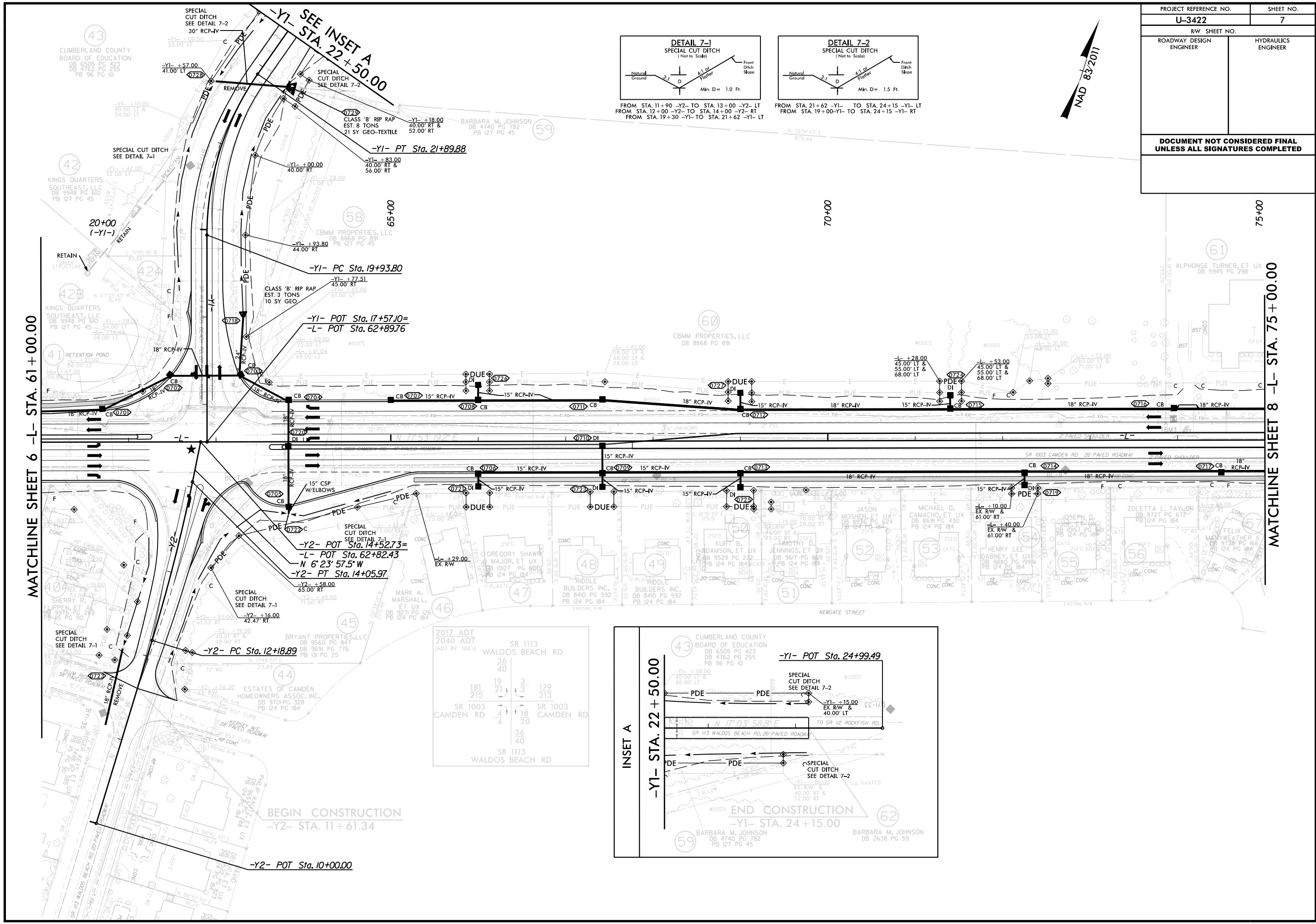


PROJECT REFERENCE NO.	SHEET NO.
U-3422	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



FROM STA. 11+90 -Y2- TO STA. 13+00 -Y2- LT
FROM STA. 12+00 -Y2- TO STA. 14+00 -Y2- RT
FROM STA. 19+30 -Y1- TO STA. 21+62 -Y1- LT

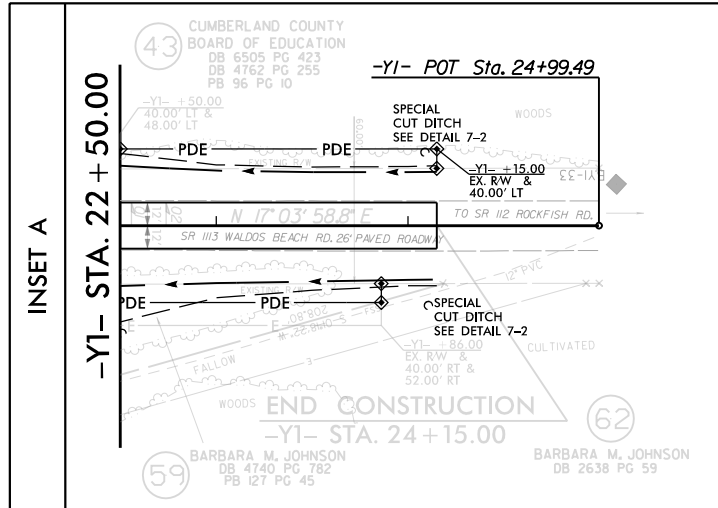
FROM STA. 21+62 -Y1- TO STA. 24+15 -Y1- LT
FROM STA. 19+00 -Y1- TO STA. 24+15 -Y1- RT



MATCHLINE SHEET 6 -L- STA. 61+00.00

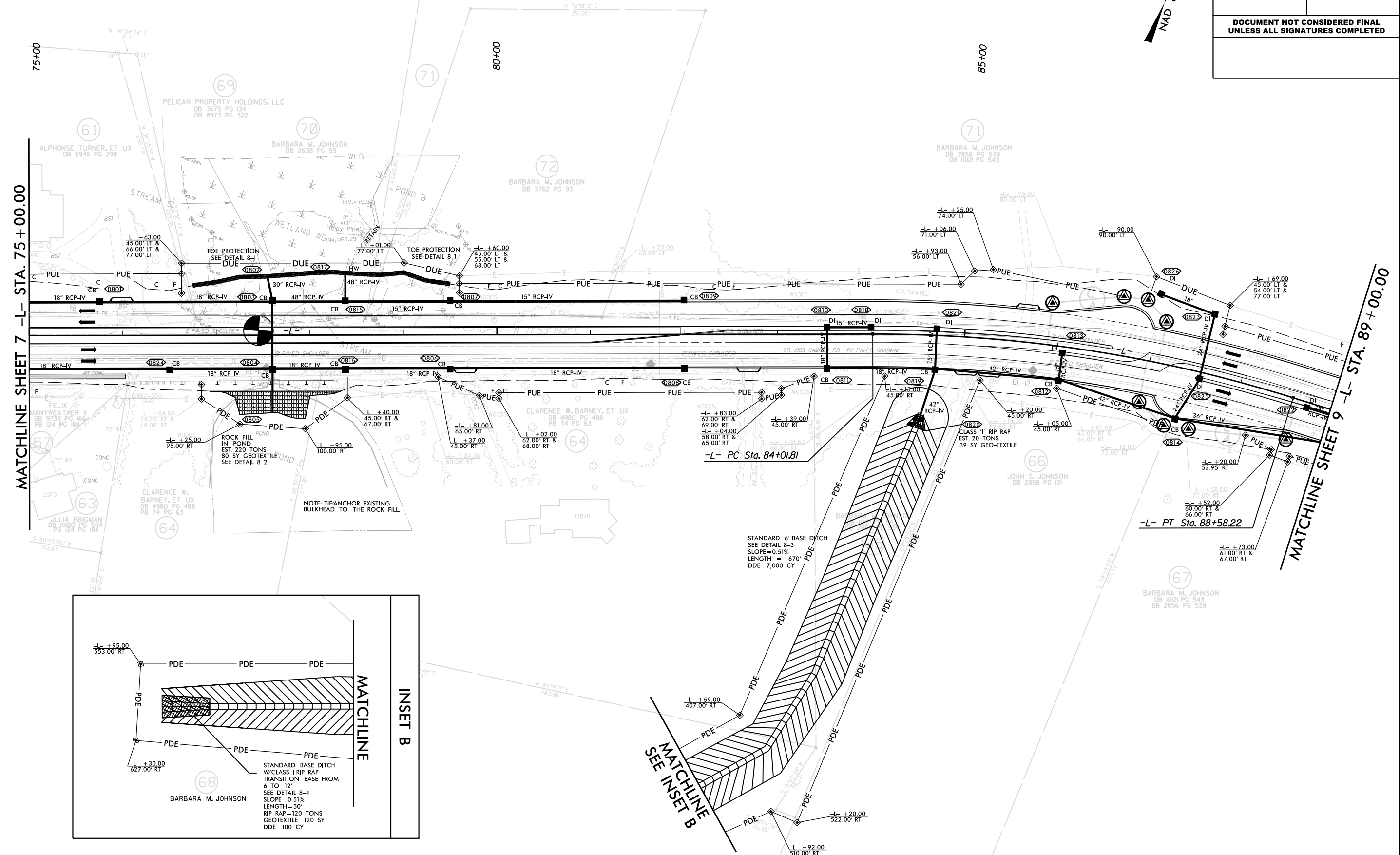
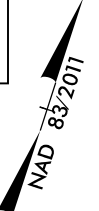
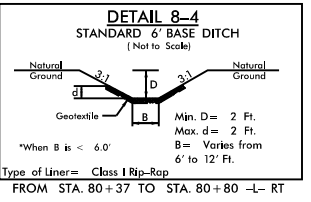
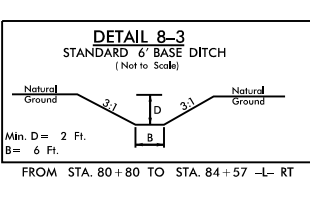
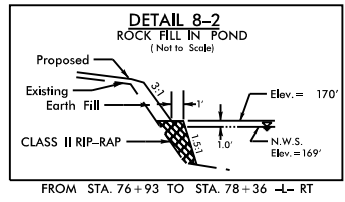
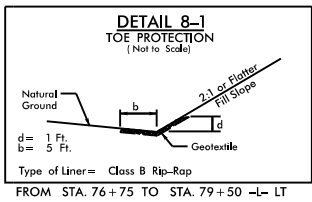
MATCHLINE SHEET 8 -L- STA. 75+00.00

2017 ADT			
2040 ADT (ADT IN 100'S)			
SR 1113	36	40	
WALDOS BEACH RD.	181	19	3
	215	21	179
			213
SR 1003	4	18	
CAMDEN RD.	4	20	
SR 1113	36	40	
WALDOS BEACH RD.			



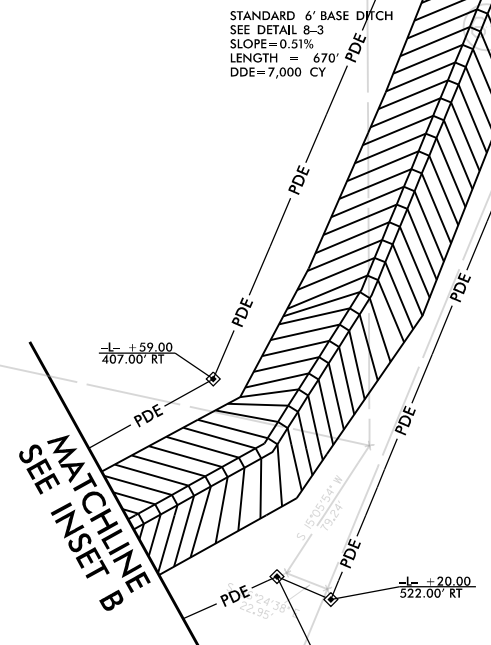
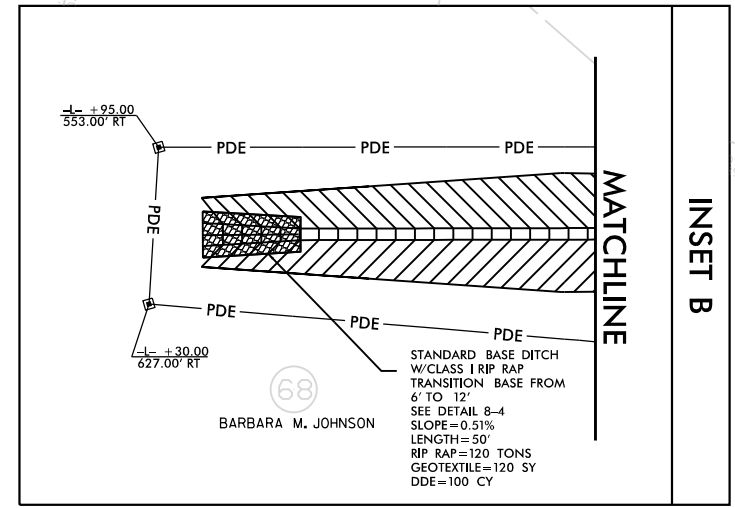
PLOT DRIVER: NCDOT_eng_100.plt
 USER: jholland
 DATE: 3/1/2023
 TIME: 12:19:00 PM
 FILE: PENTABLE1_NCDOT_Plan_Sheets_BRDC.tbl

PROJECT REFERENCE NO. U-3422		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE SHEET 7 -L- STA. 75+00.00

MATCHLINE SHEET 9 -L- STA. 89+00.00



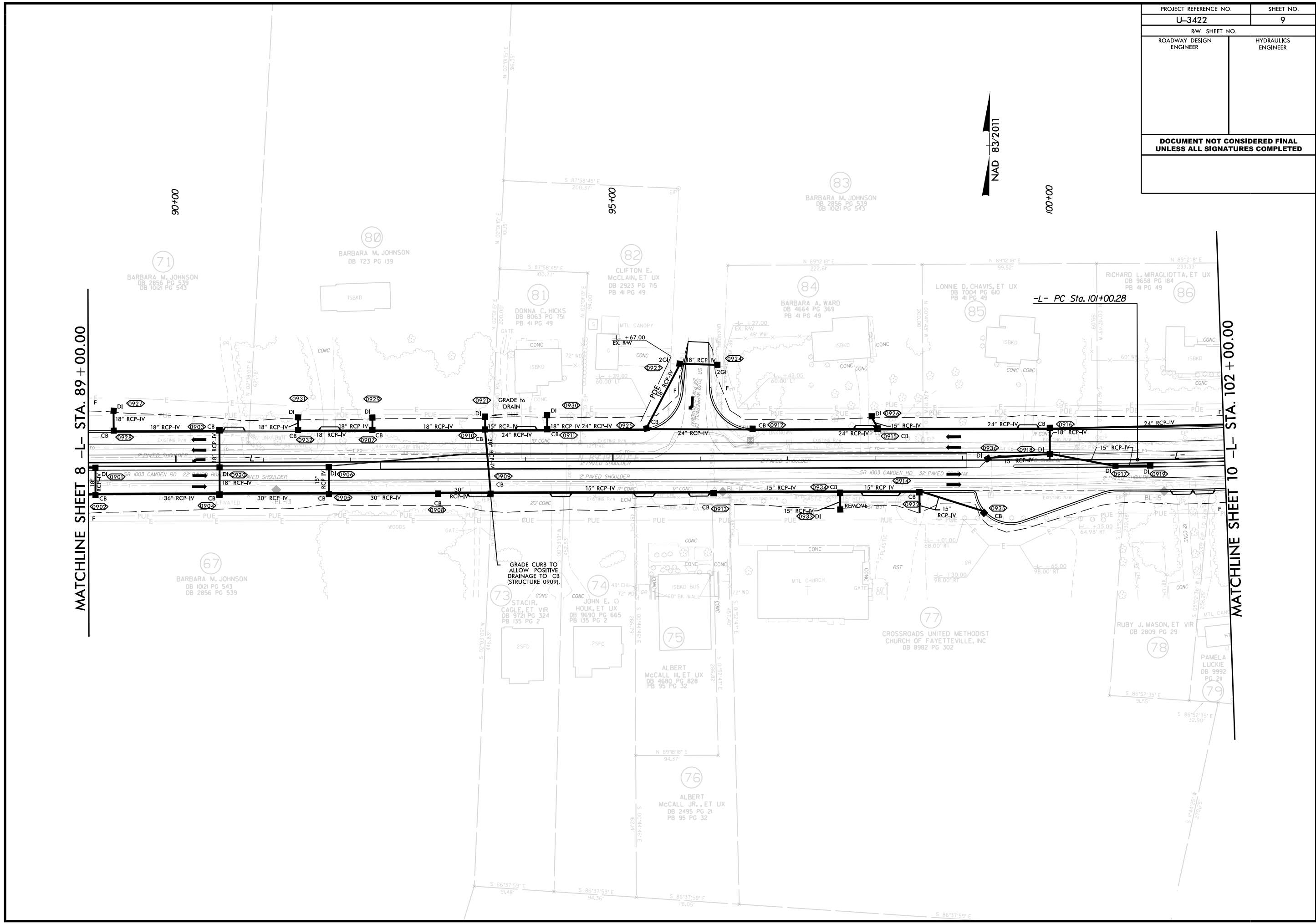
PLOT DRIVER: NCDOT_eng_100.plt
 USER: jholland
 FILE:
 PENTABLE: NCDOT_Plon_Sheets.BRDG.tbl
 DATE: 2/24/2023
 TIME: 9:42:31 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE SHEET 8 -L- STA. 89+00.00

MATCHLINE SHEET 10 -L- STA. 102+00.00



PENTABLE: NCDOT_Plan_Sheets.BRDG.tbl
 USER: Jholland
 DATE: 3/1/2023
 TIME: 12:23:56 PM

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: Jholland
 DATE: 3/1/2023
 TIME: 12:23:56 PM

90+00

95+00

100+00

71
 BARBARA M. JOHNSON
 DB 2856 PG 539
 DB 1021 PG 543

80
 BARBARA M. JOHNSON
 DB 723 PG 139

82
 CLIFTON E. McCLAIN, ET UX
 DB 2923 PG 715
 PB 41 PG 49

83
 BARBARA M. JOHNSON
 DB 2856 PG 539
 DB 1021 PG 543

81
 DONNA C. HICKS
 DB 8063 PG 751
 PB 41 PG 49

84
 BARBARA A. WARD
 DB 4654 PG 369
 PB 41 PG 49

85
 LONNIE D. CHAVIS, ET UX
 DB 7004 PG 610
 PB 41 PG 49

86
 RICHARD L. MIRAGLIOTTA, ET UX
 DB 9658 PG 184
 PB 41 PG 49

67
 BARBARA M. JOHNSON
 DB 1021 PG 543
 DB 2856 PG 539

73
 STACIR. CAGLE, ET VIR
 DB 9721 PG 324
 PB 135 PG 2

74
 JOHN E. HOURK, ET UX
 DB 9690 PG 665
 PB 135 PG 2

75
 ALBERT McCALL III, ET UX
 DB 4680 PG 828
 PB 95 PG 32

76
 ALBERT McCALL JR., ET UX
 DB 2495 PG 21
 PB 95 PG 32

77
 CROSSROADS UNITED METHODIST
 CHURCH OF FAYETTEVILLE, INC
 DB 8982 PG 302

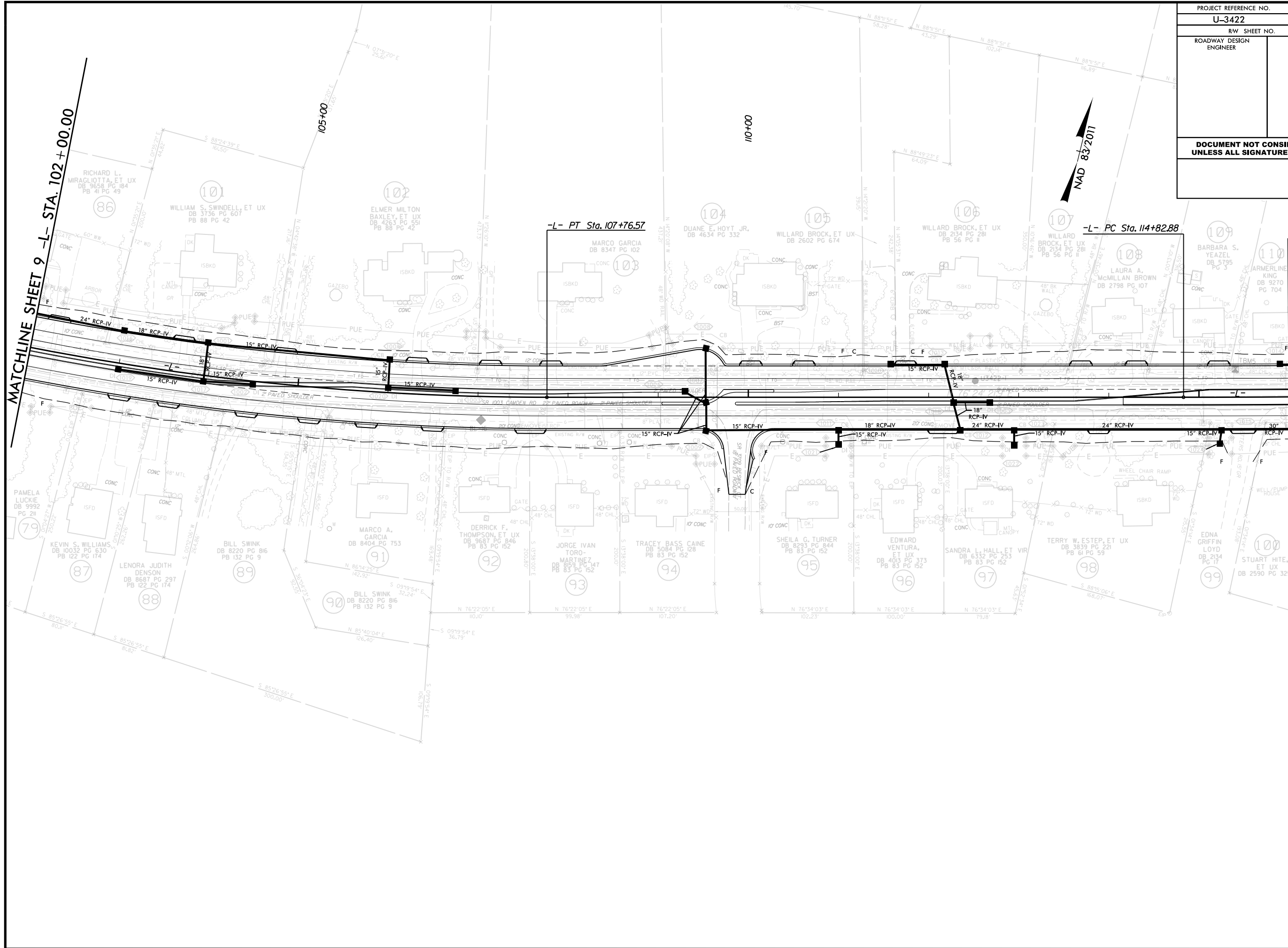
78
 RUBY J. MASON, ET VIR
 DB 2809 PG 29

79
 PAMELA LUCKIE
 DB 9992 PG 28

GRADE CURB TO ALLOW POSITIVE DRAINAGE TO CB (STRUCTURE 0909).

-L- PC Sta. 101+00.28

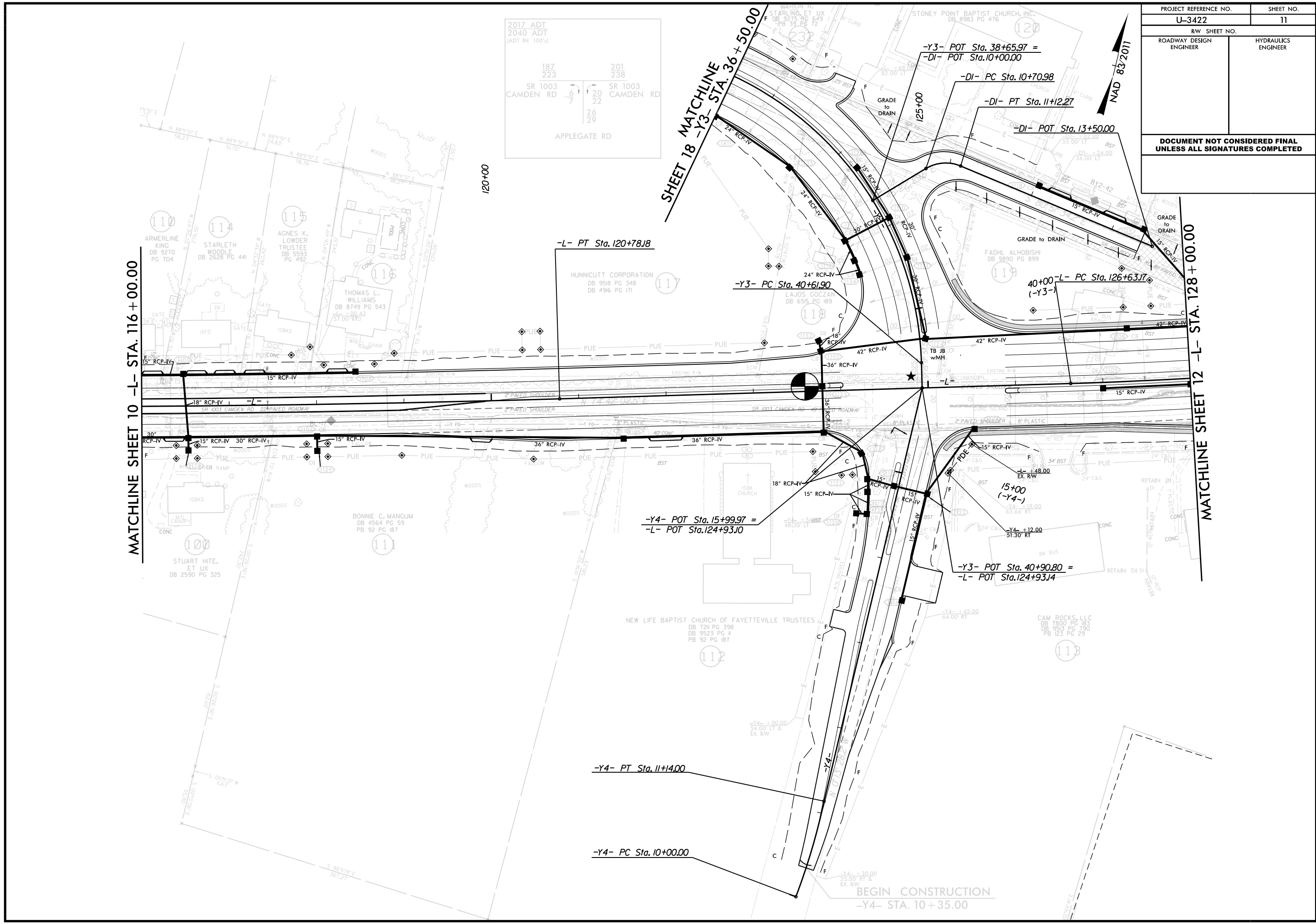
PROJECT REFERENCE NO.		SHEET NO.	
U-3422		10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
 USER: jholland
 DATE: 3/2/2023
 TIME: 9:54:12 AM

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
 USER: jholland
 DATE: 3/2/2023
 TIME: 9:54:12 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



2017 ADT	201
2040 ADT	238
(ADT IN 100's)	
187	201
223	238
SR 1003	SR 1003
CAMDEN RD	CAMDEN RD
6	20
7	22
	26
	29
APPLGATE RD	

MATCHLINE SHEET 10 -L- STA. 116+00.00

SHEET 18 -Y3- STA. 36+50.00

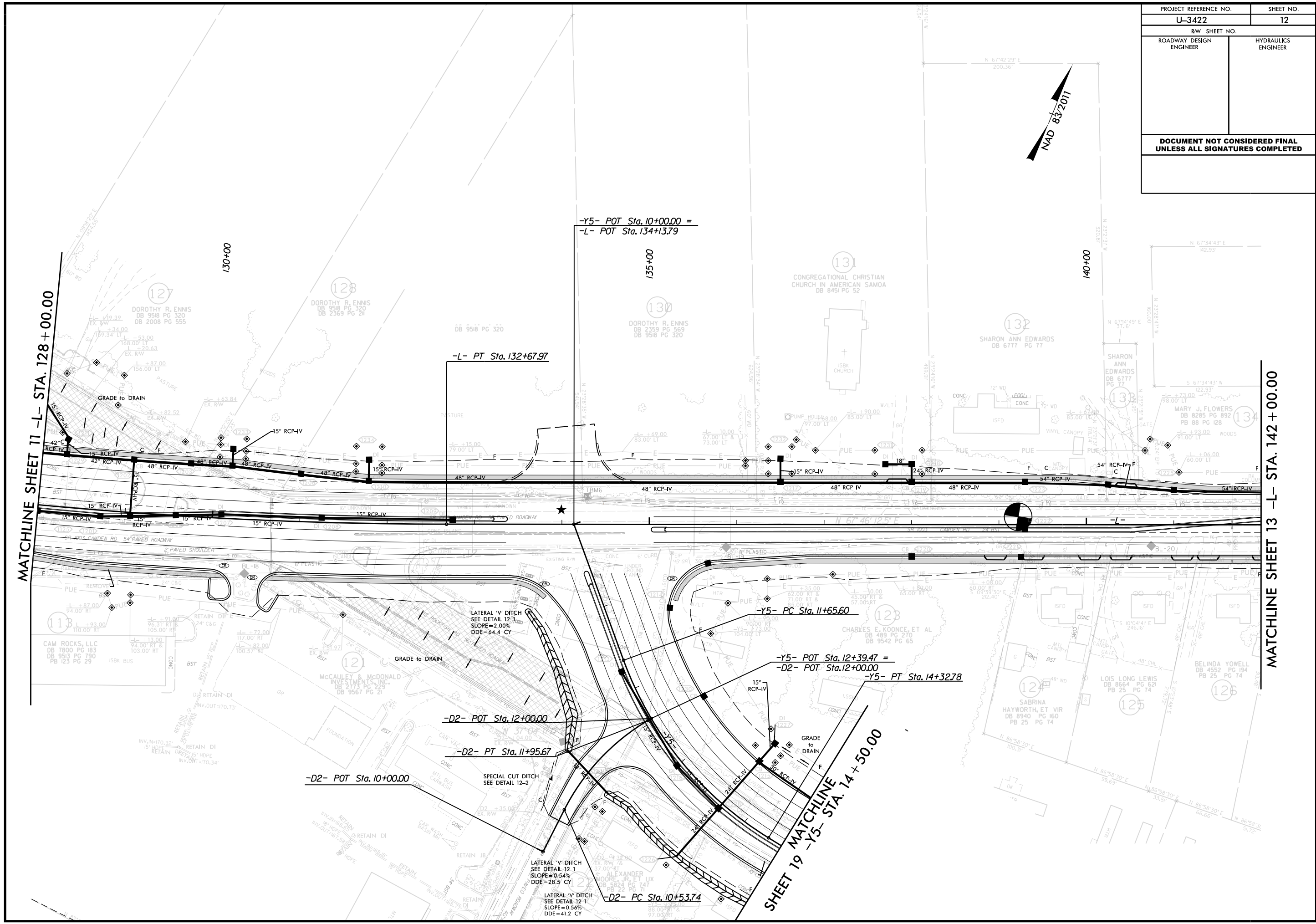
MATCHLINE SHEET 12 -L- STA. 128+00.00

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: jholland
 FILE: \

DATE: 3/2/2023
 TIME: 9:10:27 AM

BEGIN CONSTRUCTION
 -Y4- STA. 10+35.00

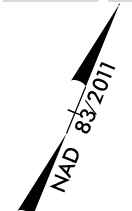
PROJECT REFERENCE NO.	SHEET NO.
U-3422	12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE SHEET 11 -L- STA. 128 + 00.00

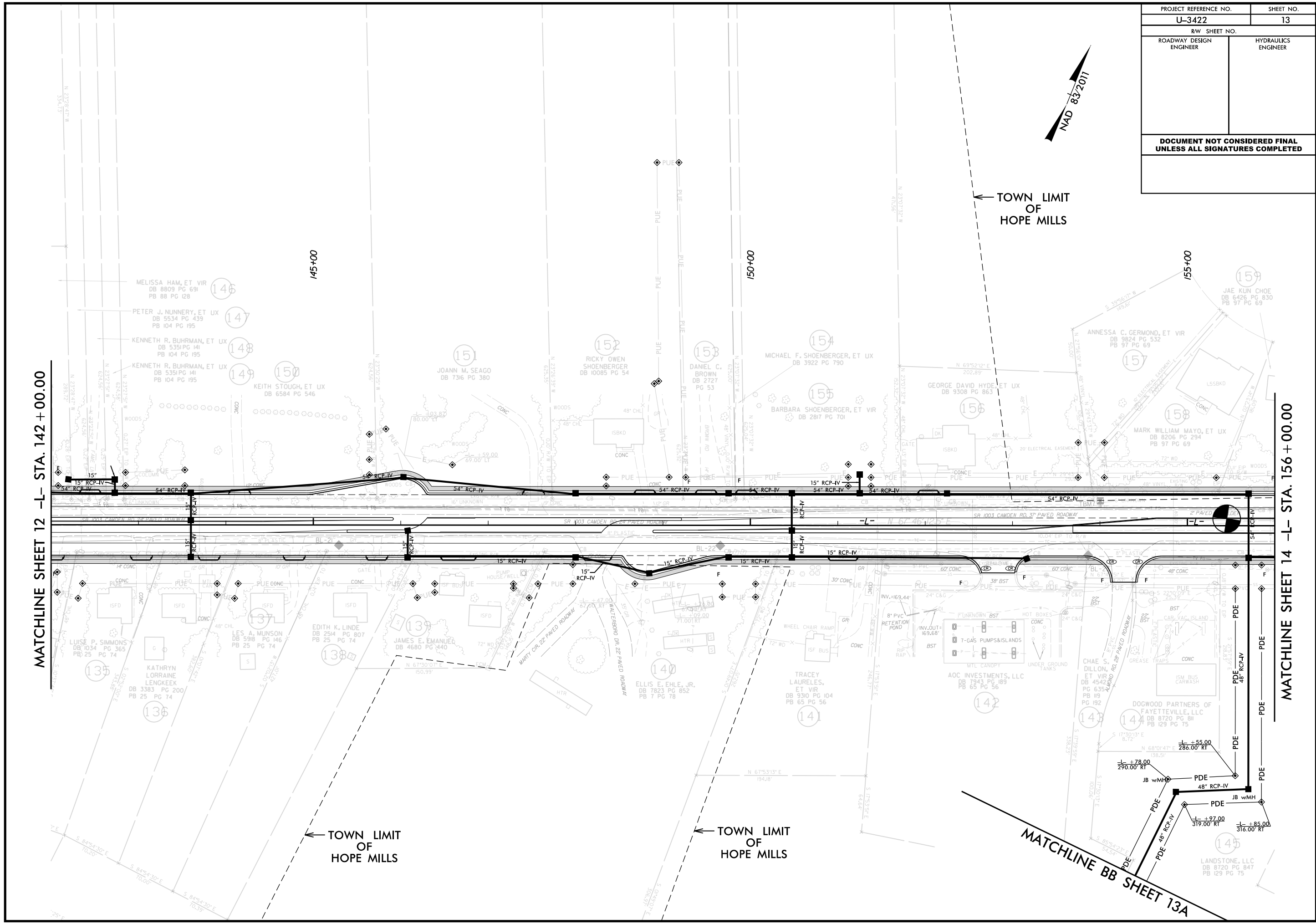
MATCHLINE SHEET 13 -L- STA. 142 + 00.00

SHEET 19 MATCHLINE
-Y5- STA. 14 + 50.00



PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: jholland
 FILE:
 PENTABLE: NCDOT_Plon_Sheets.BRDG.tbl
 TIME: 9:15:28 AM
 DATE: 3/2/2023

PROJECT REFERENCE NO.		SHEET NO.	
U-3422		13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE SHEET 12 -L- STA. 142+00.00

MATCHLINE SHEET 14 -L- STA. 156+00.00

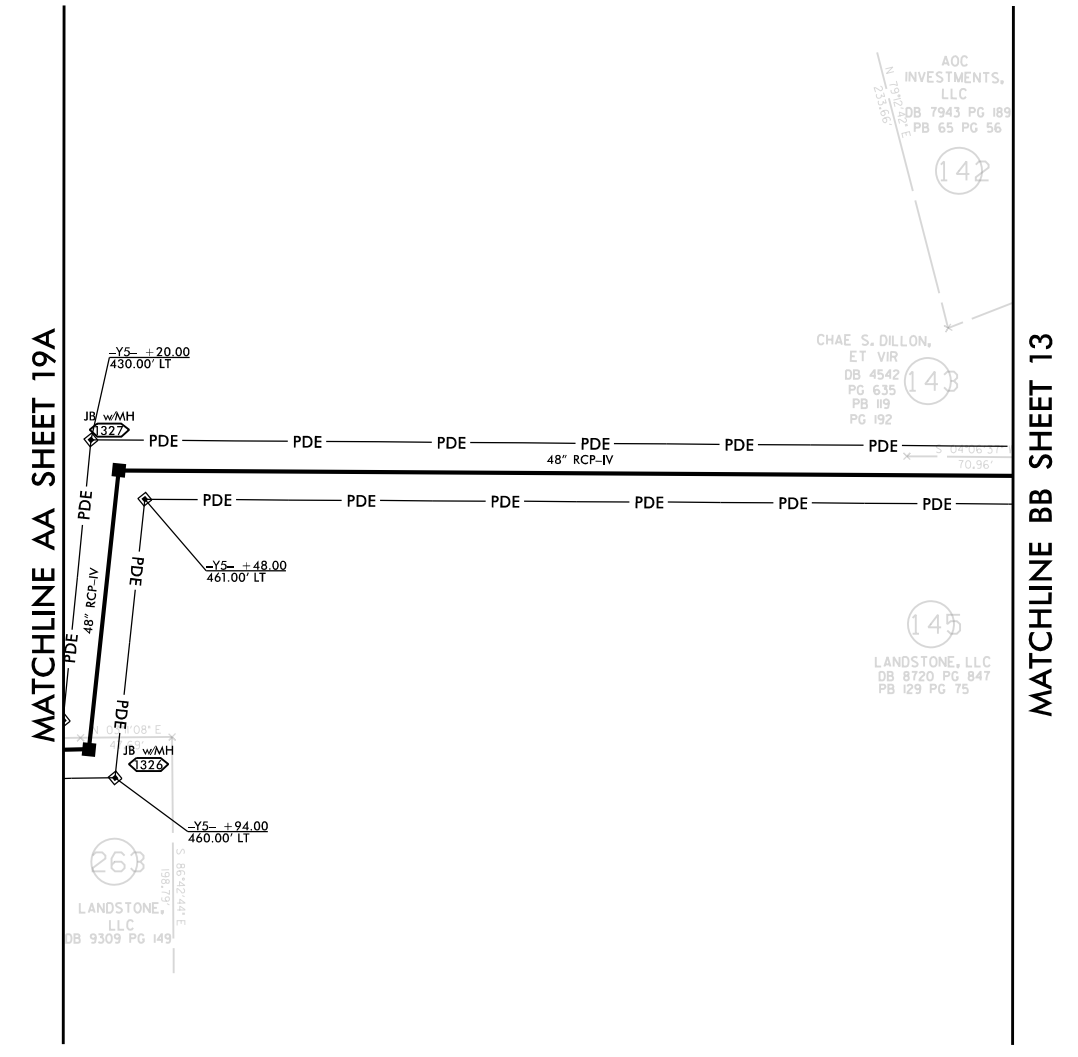
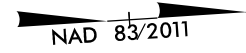
TOWN LIMIT OF HOPE MILLS

TOWN LIMIT OF HOPE MILLS

MATCHLINE BB SHEET 13A

PLOT DRIVER: NCD01_color_eng_100.plt
 USER: jholland
 PENTABLE: NCD01_Plan_Sheets.BRDG.tbl
 DATE: 3/2/2023
 TIME: 9:25:03 AM
 FILE: \

PROJECT REFERENCE NO. U-3422	SHEET NO. 13A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



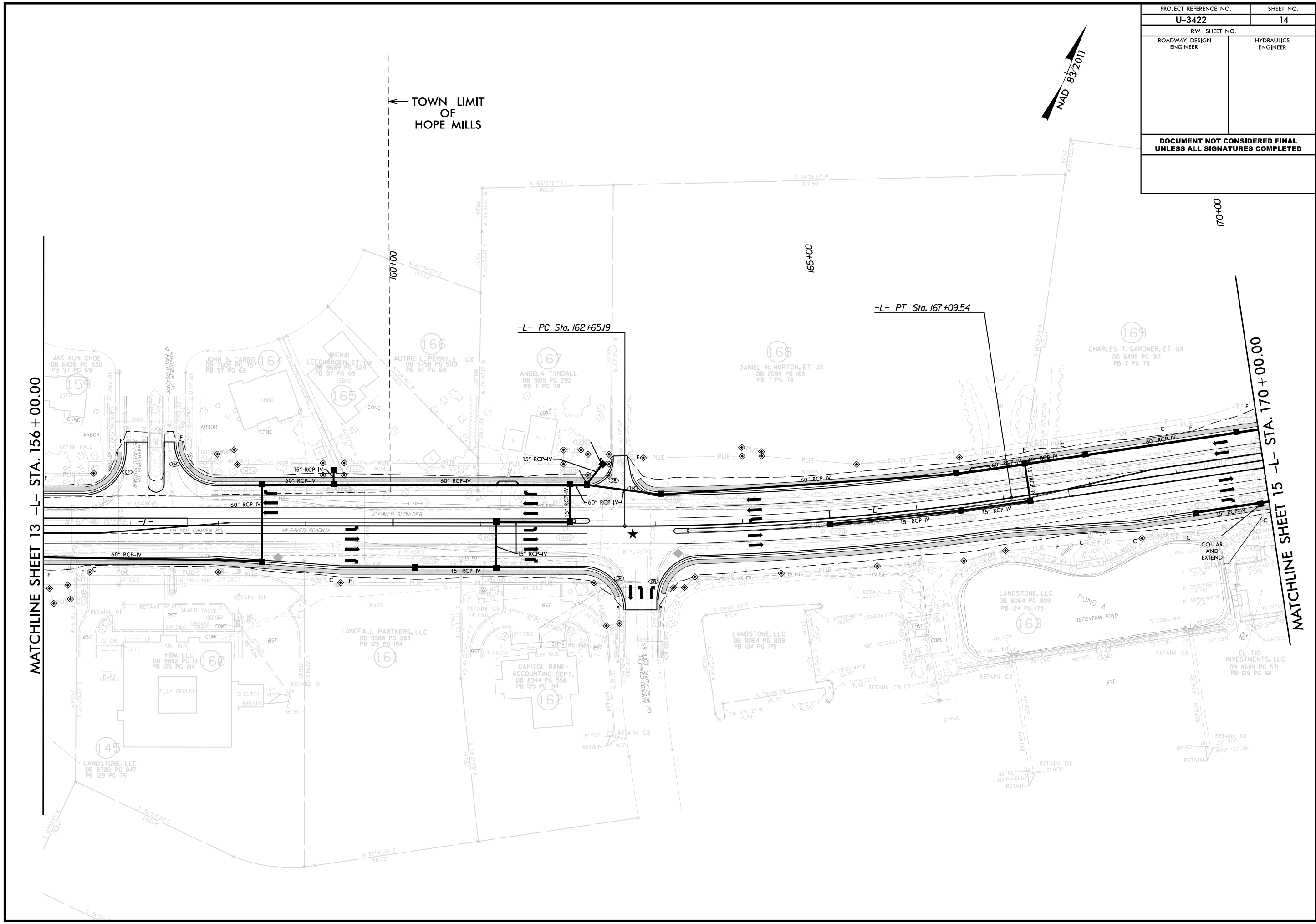
PROJECT REFERENCE NO.		SHEET NO.	
U-3422		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



← TOWN LIMIT
OF
HOPE MILLS

MATCHLINE SHEET 13 -L- STA. 156+00.00

MATCHLINE SHEET 15 -L- STA. 170+00.00

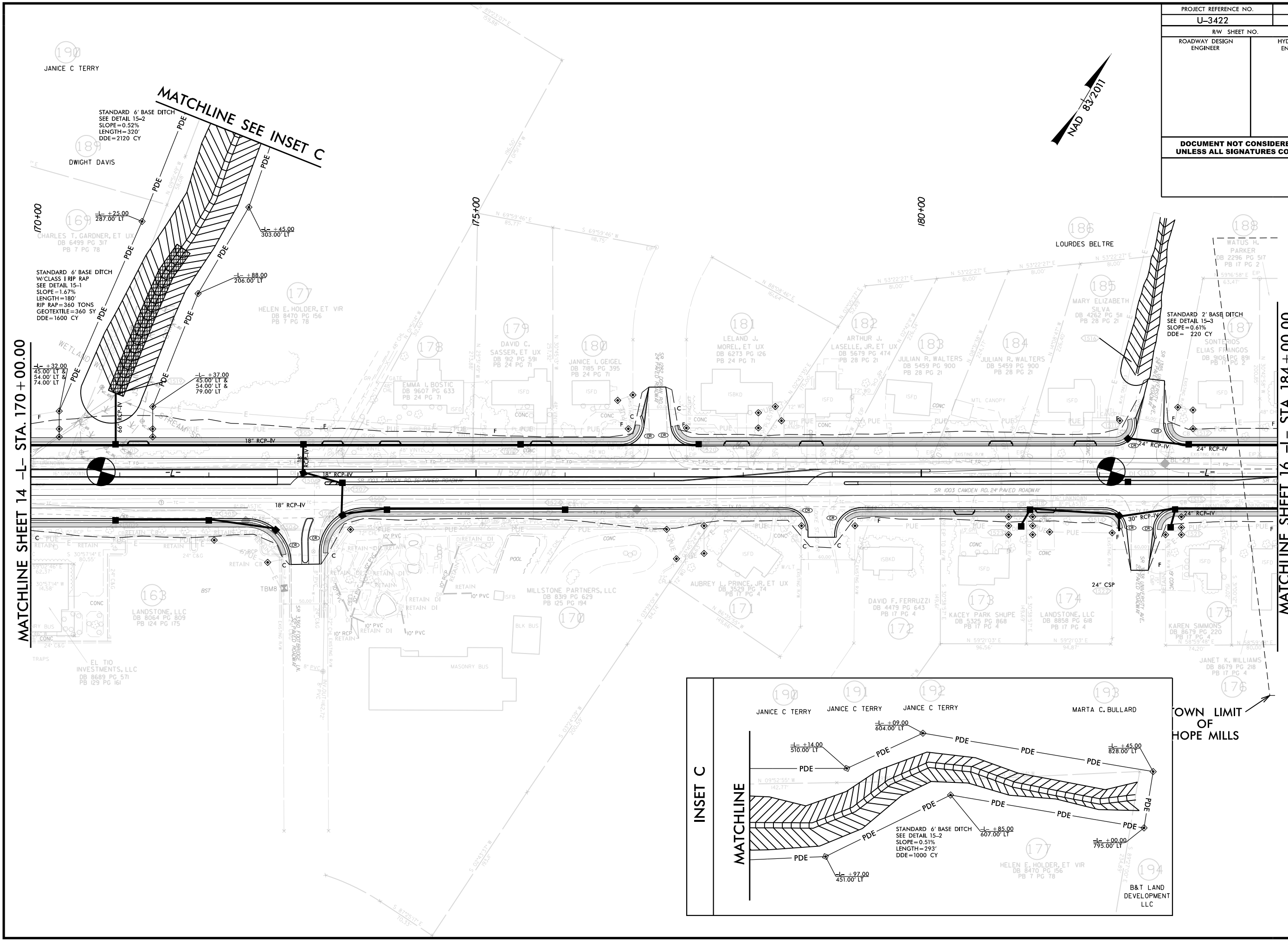
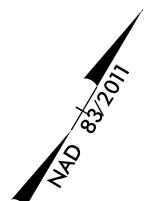


PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: Jholland
 FILE: \\

PENTABLE: NCDOT_Plan_Sheets_BRDC.tbl
 TIME: 12:34:50 PM

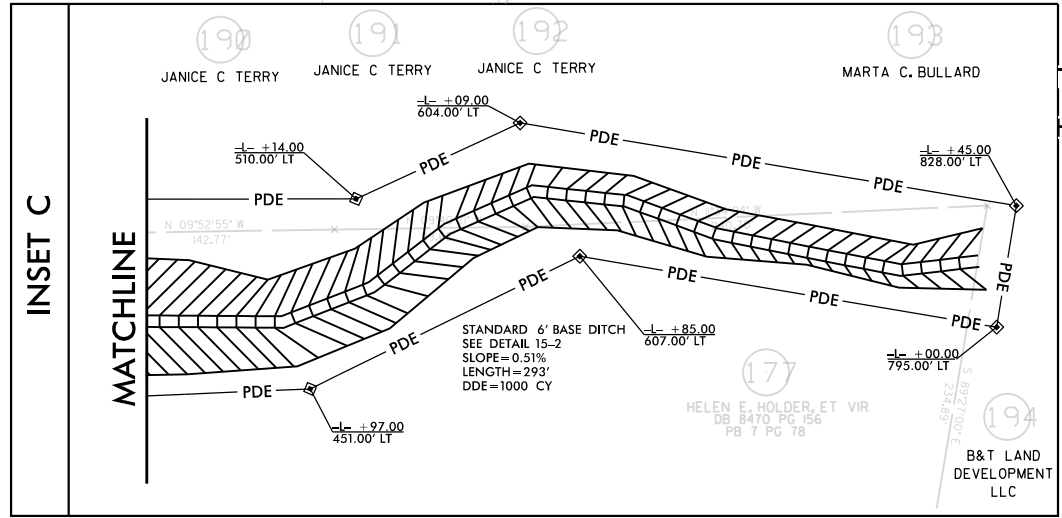
DATE: 3/1/2023

PROJECT REFERENCE NO.	SHEET NO.
U-3422	15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE SHEET 14 -L- STA. 170 + 00.00

MATCHLINE SHEET 16 -L- STA. 184 + 00.00

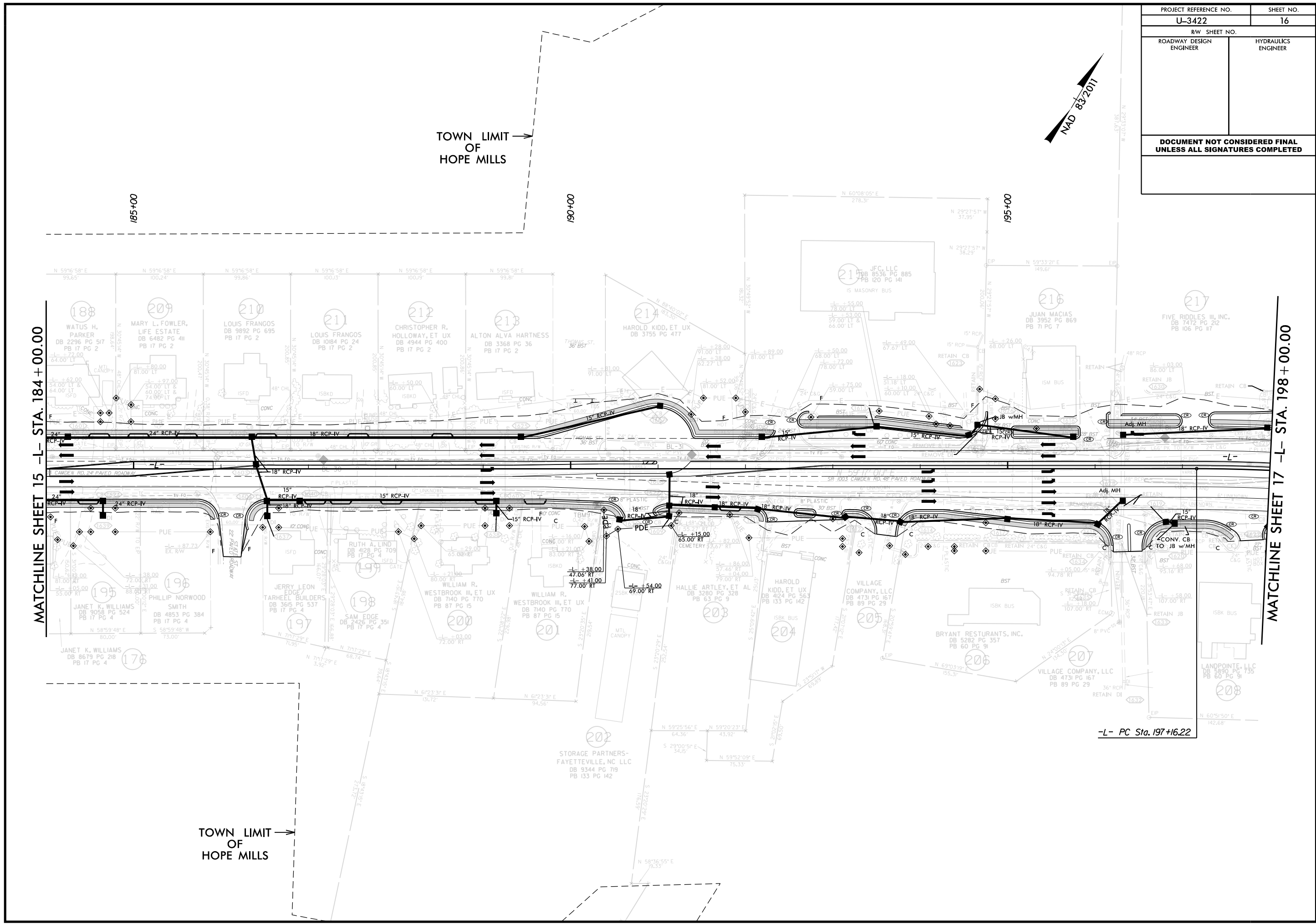


TOWN LIMIT OF HOPE MILLS

PLOT DRIVER: NCDOT_pdf_color_eng-100.plt
 USER: jholland
 FILE: \

PENTABLE: NCDOT_Plan_Sheets_BRDC.tbl
 TIME: 9:21:26 AM
 DATE: 3/2/2023

PROJECT REFERENCE NO.		SHEET NO.	
U-3422		16	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE SHEET 15 -L- STA. 184+00.00

MATCHLINE SHEET 17 -L- STA. 198+00.00

-L- PC Sta. 197+16.22

PLOT DRIVER: NCD01_Plan_Sheets_BRDC.tbl
 USER: jholand
 DATE: 3/1/2023
 TIME: 12:37:45 PM

PLOT DRIVER: NCD01_.pdf_color_eng_100.plt
 USER: jholand
 DATE: 3/1/2023
 TIME: 12:37:45 PM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ADDITIONAL SURVEY TO BE PROVIDED



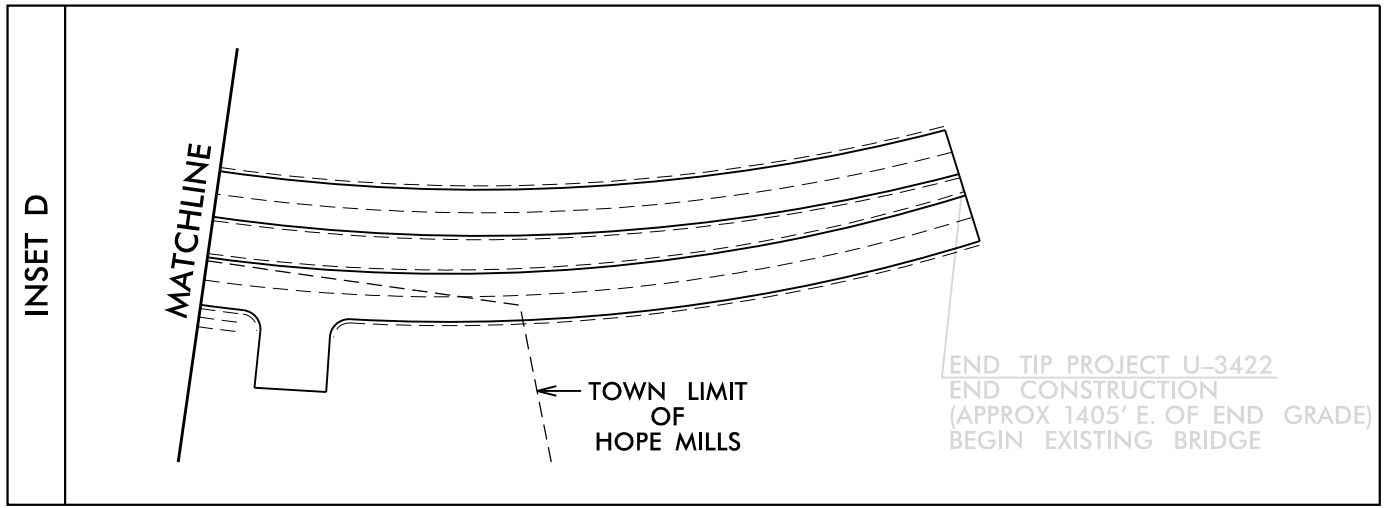
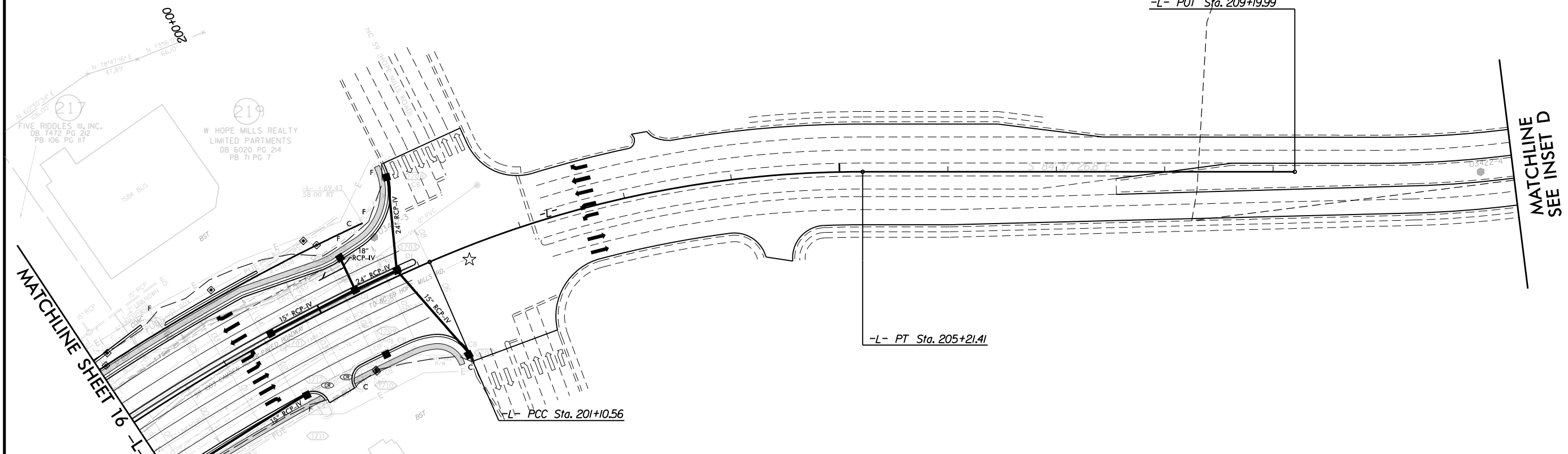
← TOWN LIMIT OF HOPE MILLS

205+00

-L- POT Sta. 209+19.99

-L- PT Sta. 205+21.41

-L- PCC Sta. 201+10.56



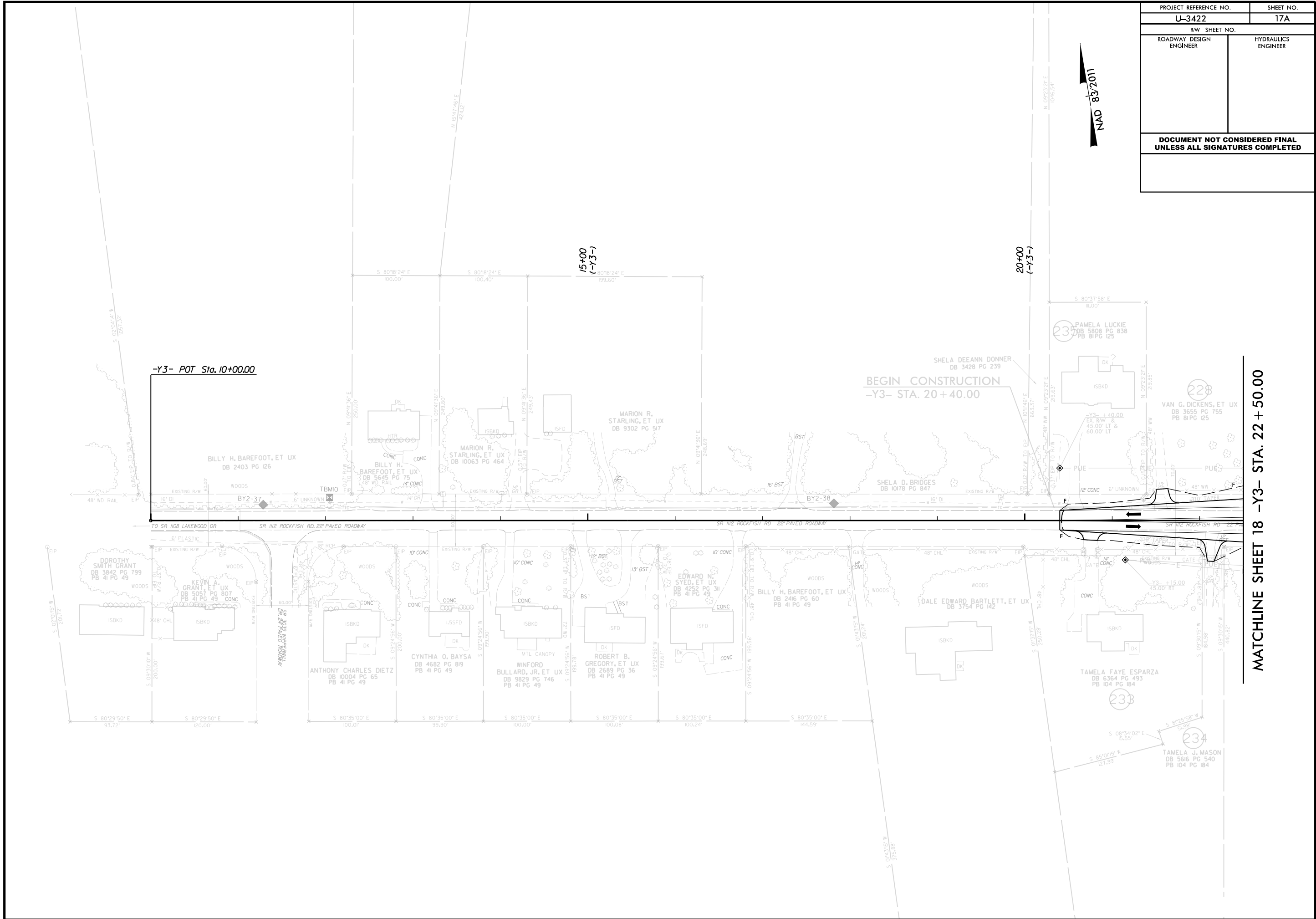
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 USER: jholland
 FILE: \

DATE: 3/1/2023
 TIME: 12:41:15 PM

PENTABLE: NCDOT_Plan_Sheets_BRDC.tbl

PROJECT REFERENCE NO.	SHEET NO.
U-3422	17A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/2011



-Y3- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y3- STA. 20+40.00

MATCHLINE SHEET 18 -Y3- STA. 22 + 50.00

PLOT DRIVER: NCDOT_Plan_Sheets_BRDG.tbl
TIME: 12:43:12 PM

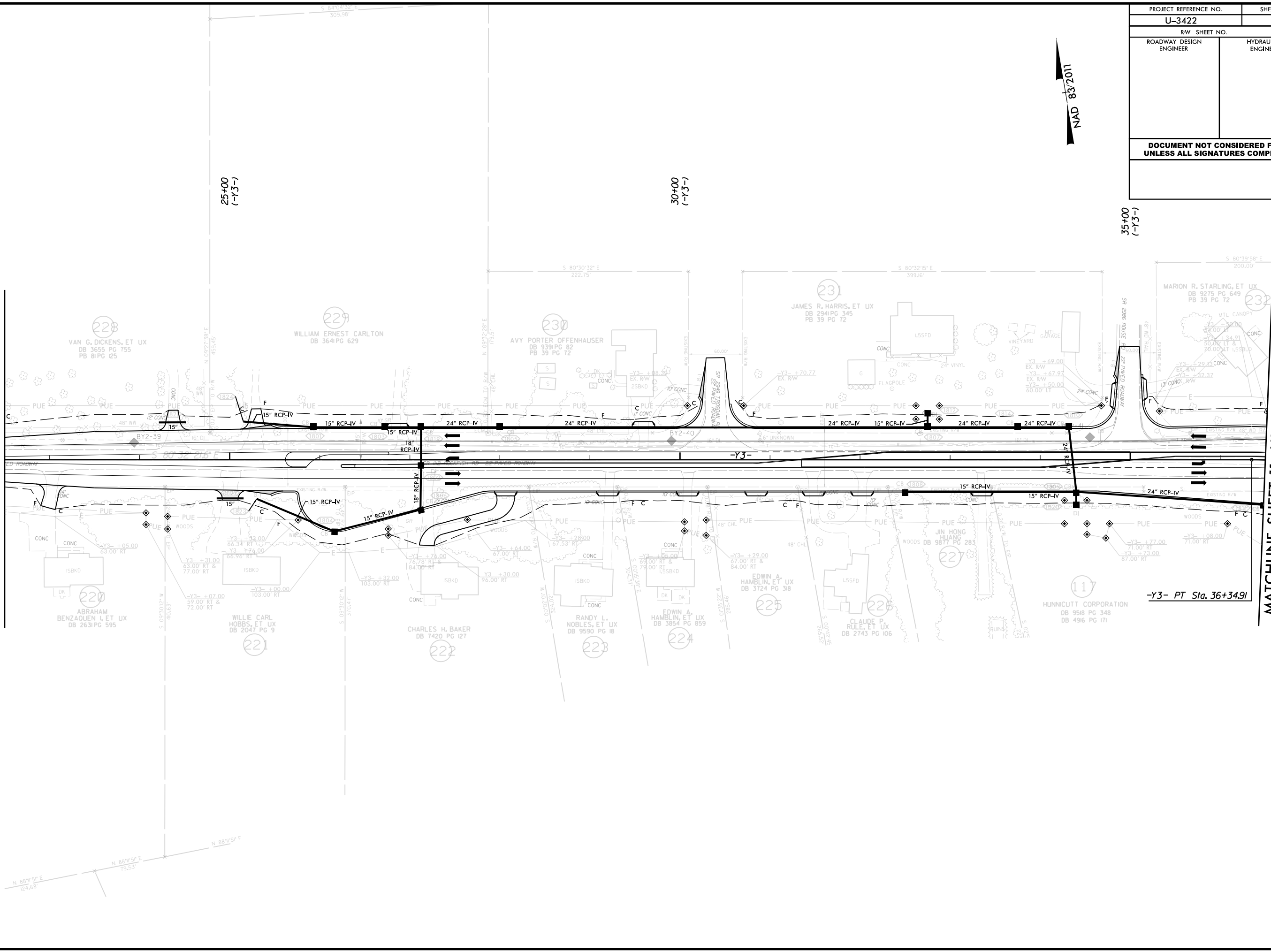
USER: jholland
DATE: 3/1/2023
FILE: \

PROJECT REFERENCE NO.	SHEET NO.
U-3422	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE SHEET 17A -Y3- STA. 22 + 50.00

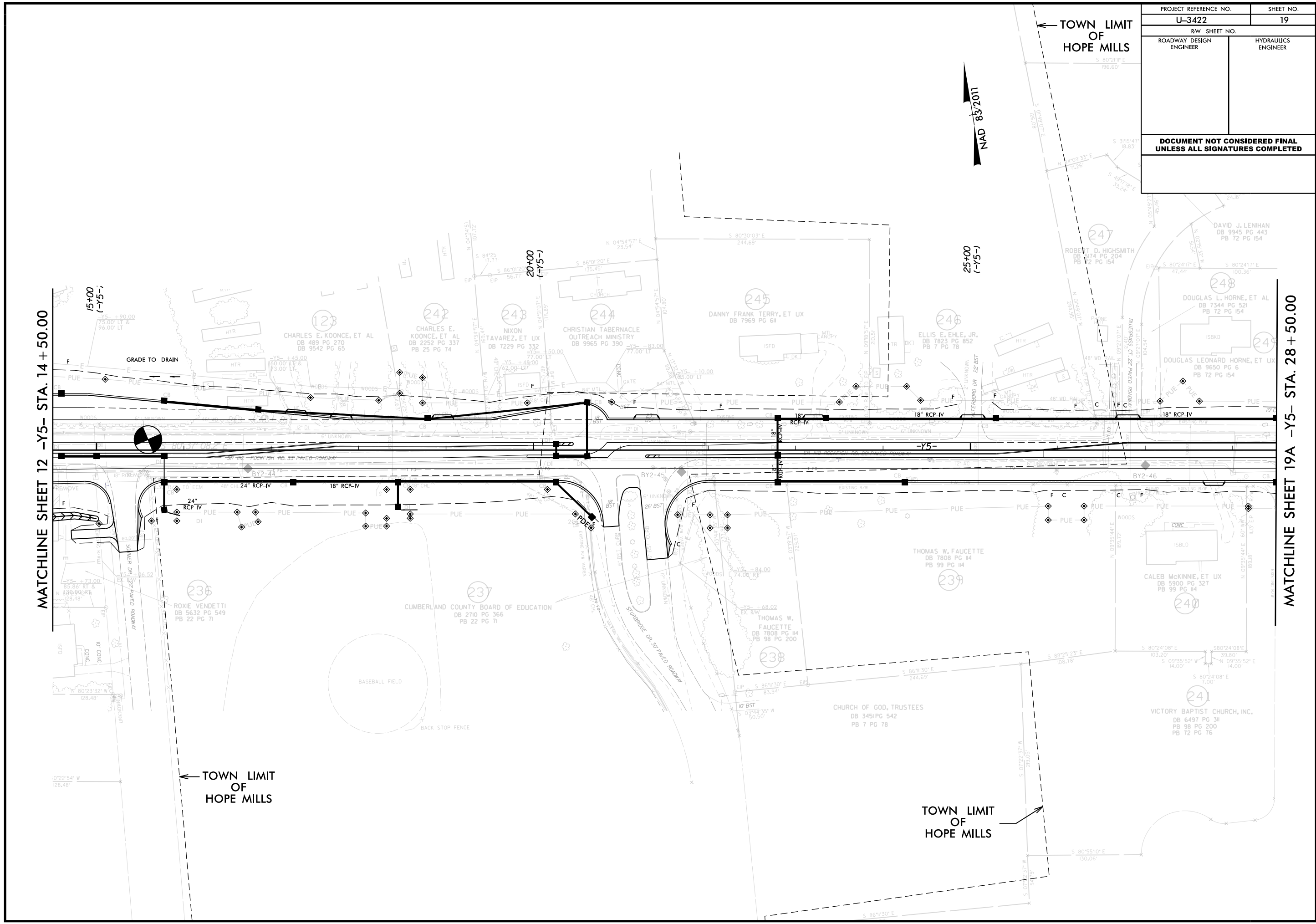
MATCHLINE SHEET 11 -Y3- STA. 36 + 50.00



35+00 (-Y3-)

-Y3- PT Sta. 36+34.91

PROJECT REFERENCE NO.		SHEET NO.	
U-3422		19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE SHEET 12 -Y5- STA. 14 + 50.00

MATCHLINE SHEET 19A -Y5- STA. 28 + 50.00

NAD 83/2011

GRADE TO DRAIN

TOWN LIMIT OF HOPE MILLS

TOWN LIMIT OF HOPE MILLS

0°22'54" W
128.48'

S 80°55'10" E
130.06'

ROXIE VENDETTI
DB 5632 PG 549
PB 22 PG 71

CUMBERLAND COUNTY BOARD OF EDUCATION
DB 2710 PG 366
PB 22 PG 71

THOMAS W. FAUCETTE
DB 7808 PG 14
PB 98 PG 200

CHURCH OF GOD, TRUSTEES
DB 3451 PG 542
PB 7 PG 78

VICTORY BAPTIST CHURCH, INC.
DB 6497 PG 311
PB 98 PG 200
PB 72 PG 76

236

237

238

239

240

241

123

242

243

244

245

246

247

248

249

15+00
(-Y5-)

20+00
(-Y5-)

25+00
(-Y5-)

24"

18" RCP-IV

18" RCP-IV

18" RCP-IV

18" RCP-IV

18" RCP-IV

18" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

24" RCP-IV

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18" RCP-IV

18" RCP-IV

18" RCP-IV

18" RCP-IV

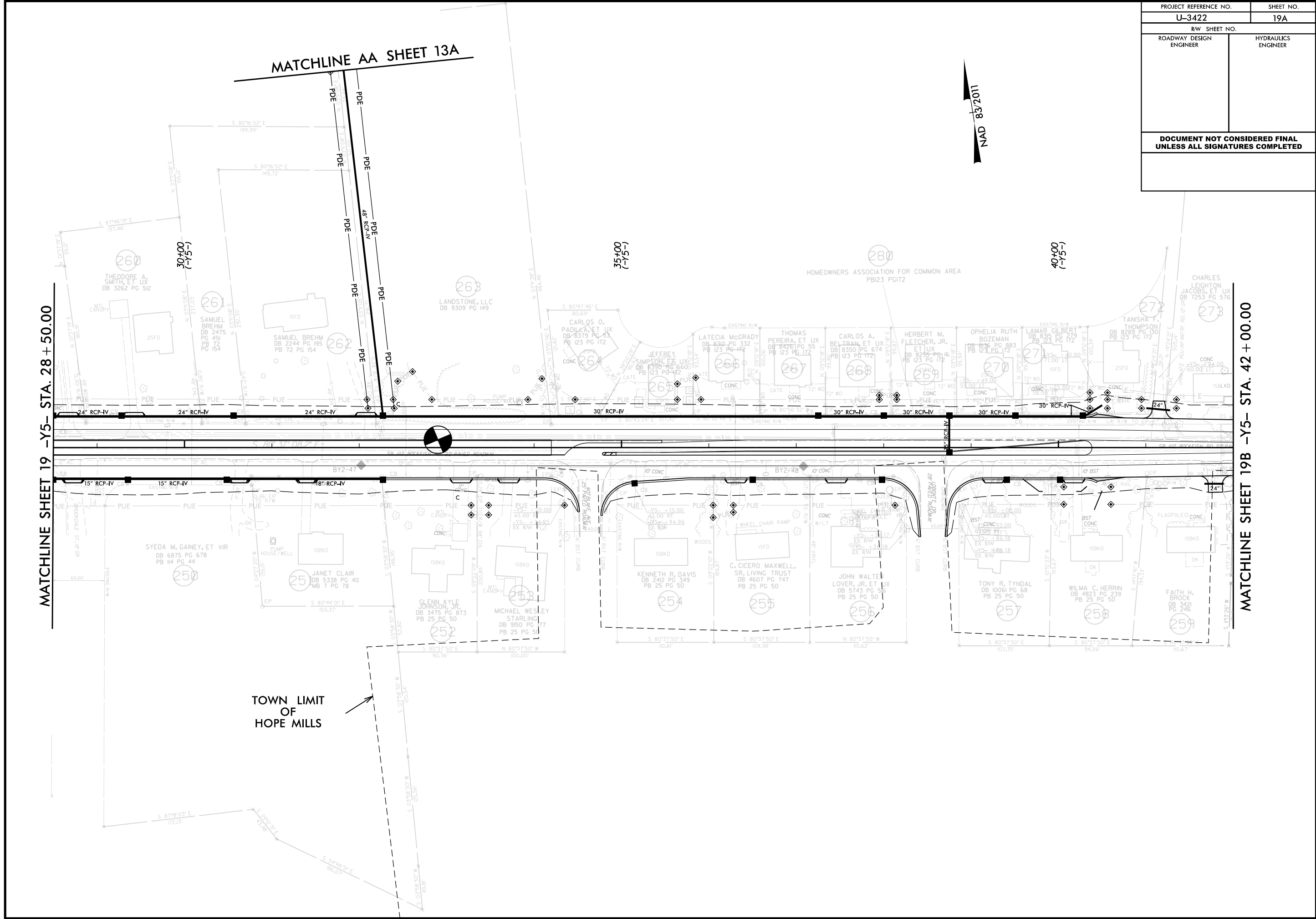
18" RCP-IV

18" RCP-IV

18" RCP-IV

18" RCP-IV

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE SHEET 19 -Y5- STA. 28 + 50.00

MATCHLINE SHEET 19B -Y5- STA. 42 + 00.00

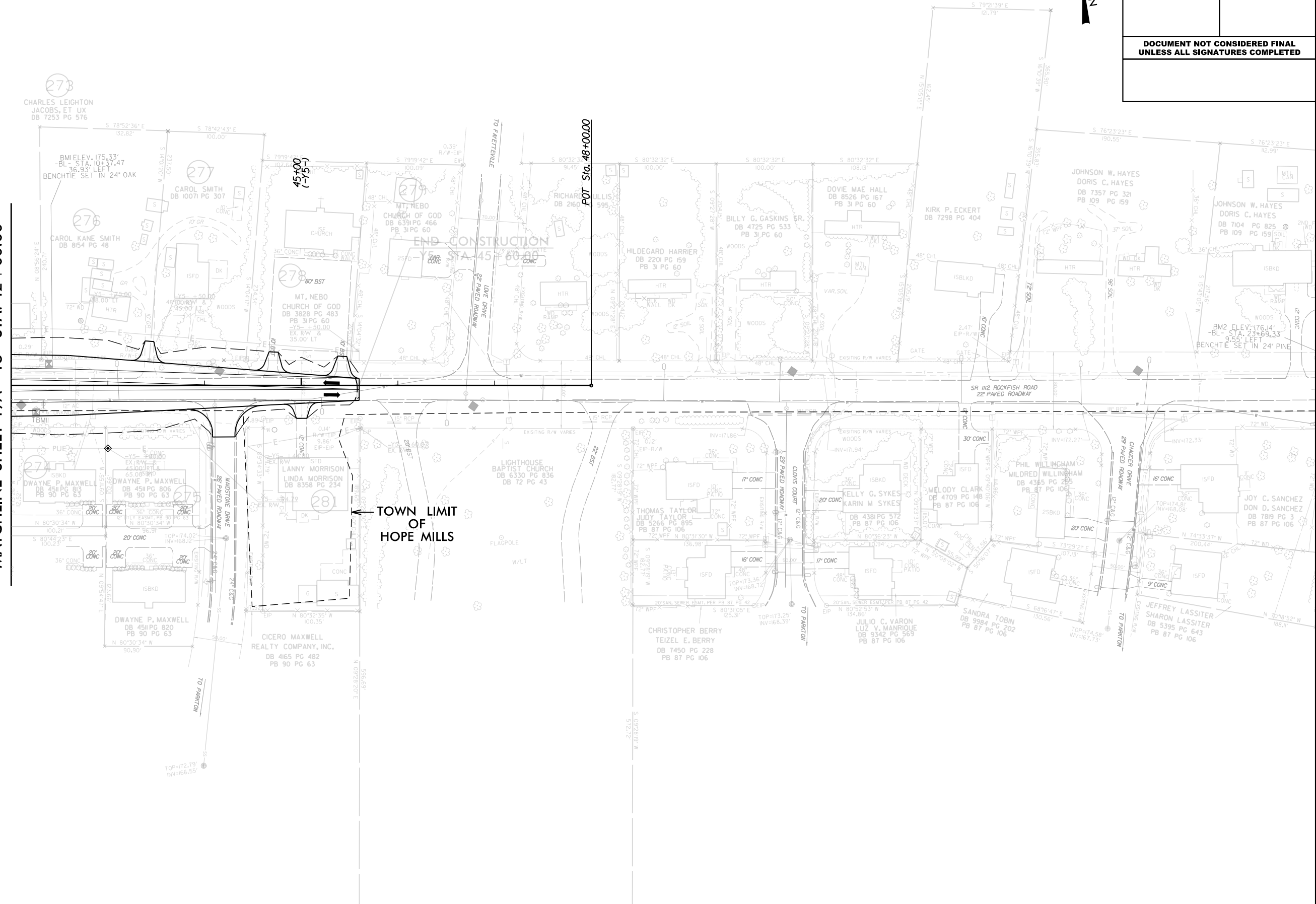
TOWN LIMIT
OF
HOPE MILLS

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/2011

MATCHLINE SHEET 19A -Y5- STA. 42+00.00



PENTABLE: NCDOT_Plon_Sheets.BRDG.tbl
 USER: Jholland
 DATE: 3/1/2023
 TIME: 12:50:06 PM

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: Jholland
 DATE: 3/1/2023
 TIME: 12:50:06 PM

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 39001.1.1		TIP U-3422		COUNTY CUMBERLAND		GEOLOGIST J. Rose								
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring							GROUND WTR (ft)							
BORING NO. L_7745		STATION 77+45		OFFSET 5 ft LT		ALIGNMENT -L-								
COLLAR ELEV. 173.5 ft		TOTAL DEPTH 10.0 ft		NORTHING 445,716		EASTING 1,998,969								
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Edmondson, J. M.		START DATE 02/21/23		COMP. DATE 02/21/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
175														GROUND SURFACE 0.0
	172.5	1.0	5	6	8									ROADWAY EMBANKMENT ASPHALT 0.7' 0.7
	170.0	3.5	2	2	3									Gray, orange, and tan, fine SAND (A-3), with some silt 3.0
														ALLUVIAL 6.5
														Brown and tan, silty SAND (A-2-4(0)) 6.5
														Dark Brown, silty SAND (A-2-4), with little organics, contains wood fragments 10.0
165	165.0	8.5	2	4	8									Boring Terminated at Elevation 163.5 ft in silty SAND (A-2-4) 10.0

WBS 39001.1.1		TIP U-3422		COUNTY CUMBERLAND		GEOLOGIST J. Rose								
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring							GROUND WTR (ft)							
BORING NO. L_12359		STATION 123+59		OFFSET 6 ft LT		ALIGNMENT -L-								
COLLAR ELEV. 184.7 ft		TOTAL DEPTH 10.0 ft		NORTHING 446,483		EASTING 2,003,487								
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Edmondson, J. M.		START DATE 02/21/23		COMP. DATE 02/21/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
185														GROUND SURFACE 0.0
	183.7	1.0	8	4	3									ROADWAY EMBANKMENT ASPHALT 0.8' 0.8
	181.2	3.5	WOH	WOH	WOH									Gray, tan, and orange, fine SAND (A-3) 3.0
														UNDIVIDED COASTAL PLAIN 6.5
														Tan, fine SAND (A-3), with trace silt, with trace clay 6.5
														Tan, clayey SAND (A-2-6(0)) 10.0
175														Boring Terminated at Elevation 174.7 ft in clayey SAND (A-2-6(0)) 10.0

NCDOT BORE DOUBLE U3422_GEO_SHRG_POSTLAB.GPJ NC_DOT.GDT 3/8/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 39001.1.1		TIP U-3422		COUNTY CUMBERLAND		GEOLOGIST J. Rose								
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring							GROUND WTR (ft)							
BORING NO. L_17079		STATION 170+79		OFFSET 6 ft LT		ALIGNMENT -L-								
COLLAR ELEV. 167.0 ft		TOTAL DEPTH 10.0 ft		NORTHING 448,277		EASTING 2,007,840								
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Edmondson, J. M.		START DATE 02/21/23		COMP. DATE 02/21/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
170														
165	166.0	1.0	5	6	5									167.0 GROUND SURFACE 0.0 166.3 ROADWAY EMBANKMENT ASPHALT 0.7' 0.7 164.0 Brown, fine SAND (A-3), with trace silt UNDIVIDED COASTAL PLAIN 3.0 Light Brown, silty SAND (A-2-4(0))
160	163.5	3.5	2	2	1									
	158.5	8.5	3	5	6									157.0 Boring Terminated at Elevation 157.0 ft in silty SAND (A-2-4(0)) 10.0

WBS 39001.1.1		TIP U-3422		COUNTY CUMBERLAND		GEOLOGIST J. Rose								
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring							GROUND WTR (ft)							
BORING NO. L_18219		STATION 182+13		OFFSET 6 ft LT		ALIGNMENT -L-								
COLLAR ELEV. 169.8 ft		TOTAL DEPTH 10.0 ft		NORTHING 448,857		EASTING 2,008,815								
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Edmondson, J. M.		START DATE 02/21/23		COMP. DATE 02/21/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
170														
165	168.8	1.0	15	14	14									169.8 GROUND SURFACE 0.0 169.0 ROADWAY EMBANKMENT ASPHALT 0.8' 0.8 166.8 Brown, silty SAND (A-2-4(0)), with trace silt UNDIVIDED COASTAL PLAIN 3.0 Brown, fine SAND (A-3), with trace silt
160	161.3	8.5	9	8	8									159.8 Boring Terminated at Elevation 159.8 ft in fine SAND (A-3) 10.0

NCDOT BORE DOUBLE U3422_GEO_SHRG_POSTLAB.GPJ NC_DOT.GDT 3/8/23

CAMDEN ROAD WIDENING FROM FUTURE FAYETTEVILLE OUTER LOOP TO NC 59 (U-3422)

-L- SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-19	77+45	5' LT	3.5-5.0	A-2-4(0)	NP	NP	54.8	28.7	8.9	7.6	95.2	57	18	18	-
SS-20	77+45	5' LT	8.5-10.0	-	-	-	-	-	-	-	-	-	-	-	3.8
SS-17	123+59	6' LT	8.5-10.0	A-2-6(0)	33	14	65.6	14.8	2.9	16.7	97.9	59	20	15	-
SS-14	139+22	9' LT	8.5-10.0	A-3(0)	NP	NP	71.1	21.2	1.8	5.8	97.3	50	8	4	-
SS-07	155+45	8' LT	1.0-2.5	A-2-4(0)	NP	NP	46.2	41.2	6.6	6.0	99.9	74	14	5	-
SS-06	170+79	6' LT	8.5-10.0	A-2-4(0)	NP	NP	4.9	80.5	1.6	13.0	100	98	15	22	-
SS-01	182+13	6' LT	1.0-2.5	A-2-4(0)	NP	NP	39.1	51.4	4.5	5.0	99.7	81	11	5	-

-Y5- SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-24	15+59	12' LT	1.0-2.5	A-3(0)	NP	NP	27.2	65.0	2.8	5.0	100	88	9	5	-
SS-22	32+90	9' LT	3.5-5.0	A-2-4(0)	NP	NP	46.3	42.5	2.2	9.0	99.8	76	12	6	-