

09/08/99

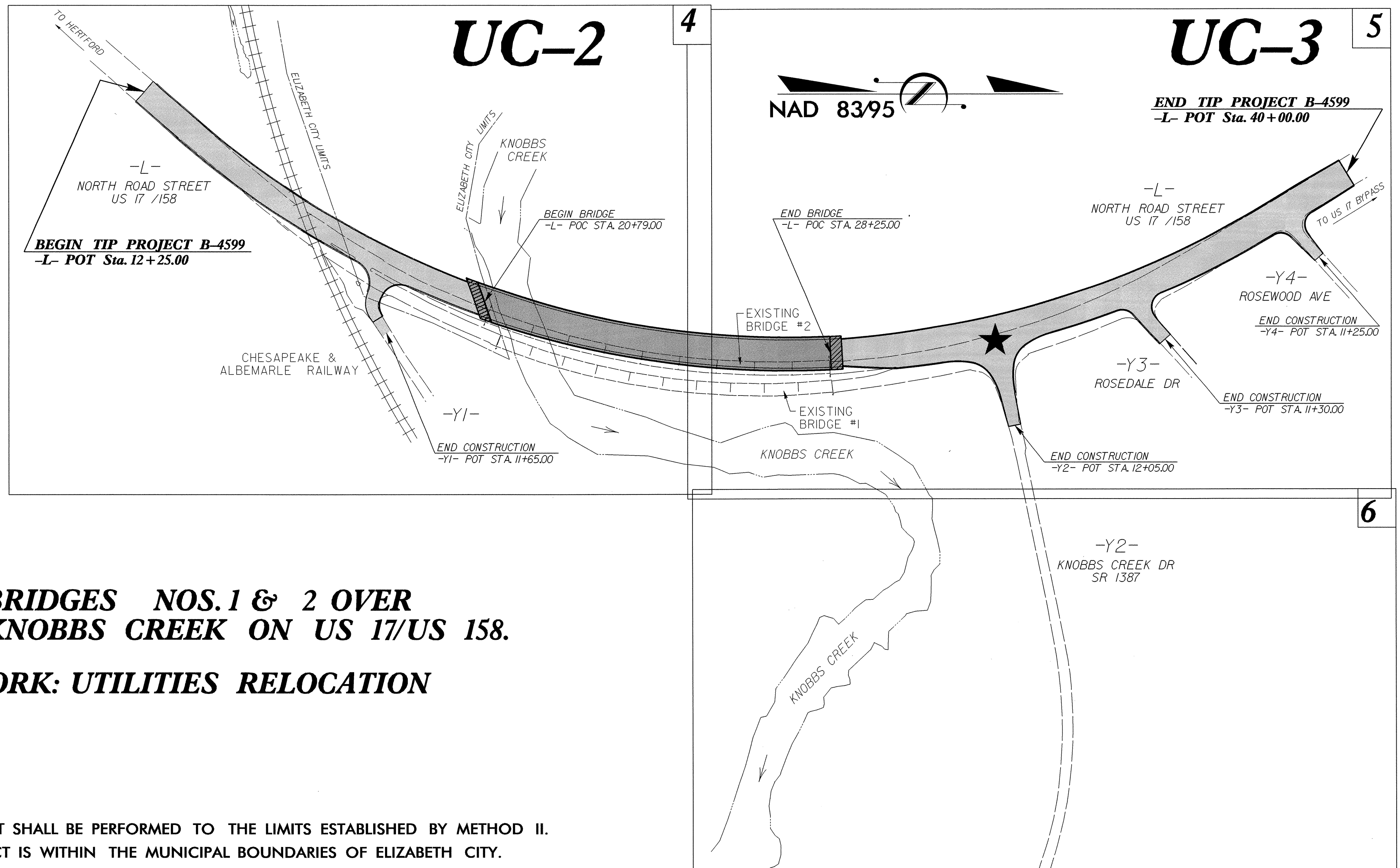
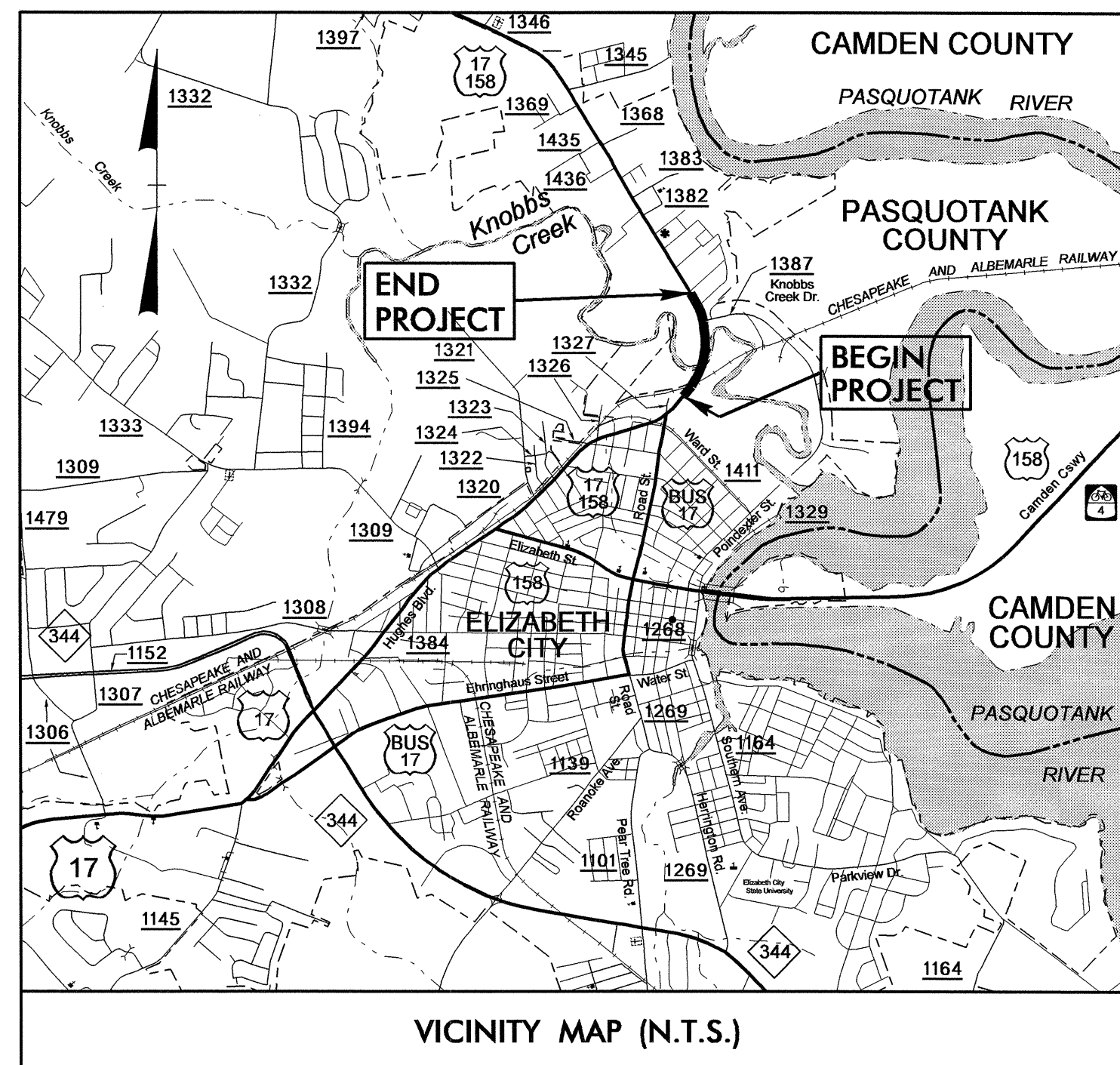
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Symbology

T.I.P. NO.	SHEET NO.
B-4599	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
PASQUOTANK COUNTY

TIP PROJECT: B-4599

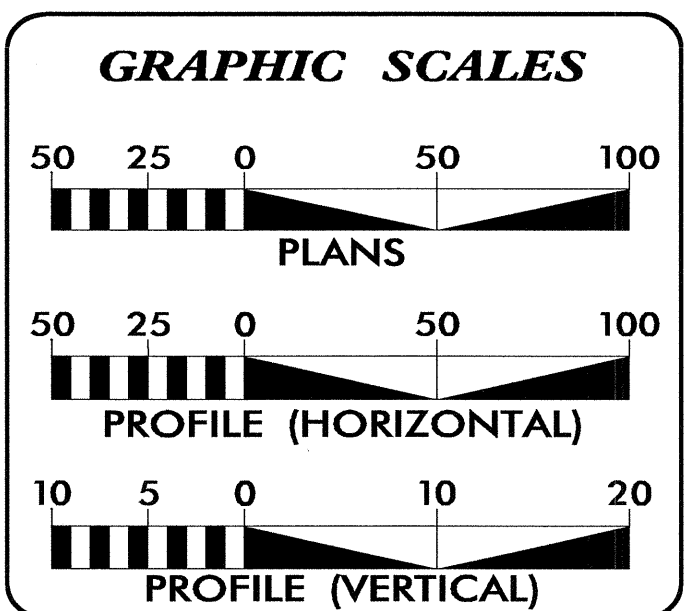


★ UPGRADE SIGNAL

**LOCATION: BRIDGES NOS. 1 & 2 OVER
KNOBBS CREEK ON US 17/US 158.**

TYPE OF WORK: UTILITIES RELOCATION

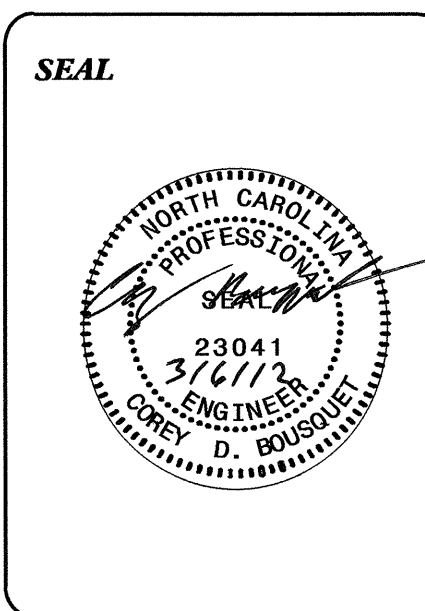
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF ELIZABETH CITY.



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-3	UTILITY CONSTRUCTION PLAN SHEETS
UC-4 THRU UC-11	PROFILE SHEET
UC-12	DETAILS SHEET

WATER AND SEWER OWNERS ON PROJECT

(1) City of Elizabeth City (WATER)
(2) City of Elizabeth City (SEWER)



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

1591 MAIL SERVICES CENTER
RALEIGH, NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Nabil Hamdan UTILITIES PROJECT DESIGNER

06-MAR-2012 11:06 AM C:\Users\perry\Proj\B4599_rdy_tsh.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4599	UC-2
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISIONS:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83/95

SEE SHEETS 7 & 8 FOR -L- PROFILE
SEE SHEET 8 FOR -YI- PROFILE
DRIVEWAY RADII 10' UNLESS SHOWN OTHERWISE.

FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-125

-L-
 PI Sta 27+60.68
 $\Delta = 72^\circ 33' 14.9" (LT)$
 $D = 2^\circ 57' 12.2"$
 $L = 2,456.64'$
 $T = 1,423.88'$
 $R = 1,940.00'$
 $RO = 140' (PC)$
 $SE = 0.035 \text{ ft/ft}$
 $V = 50 \text{ mph}$

-YI-
 PI Sta 10+99.76
 $\Delta = 57^\circ 21' 41.3" (LT)$
 $D = 11^\circ 35' 29.6"$
 $L = 50.06'$
 $T = 27.35'$
 $R = 50.00'$

PROP. 620' OF 12" WATER LINE
 PROP. 20' OF 20" WATER LINE
 1- PROP. 12" GATE VALVE
 1- PROP. 20"x12" REDUCER
 522' TRENCHLESS INSTALLATION OF 12" IN SOIL
 58' TRENCHLESS INSTALLATION OF 12" NOT IN SOIL

THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.

BEGIN TIP PROJECT B-4599

-L- POT Sta. 12+25.00

1 - PROP. 6" PLUG
1 - PROP. 2" BLOW OFF

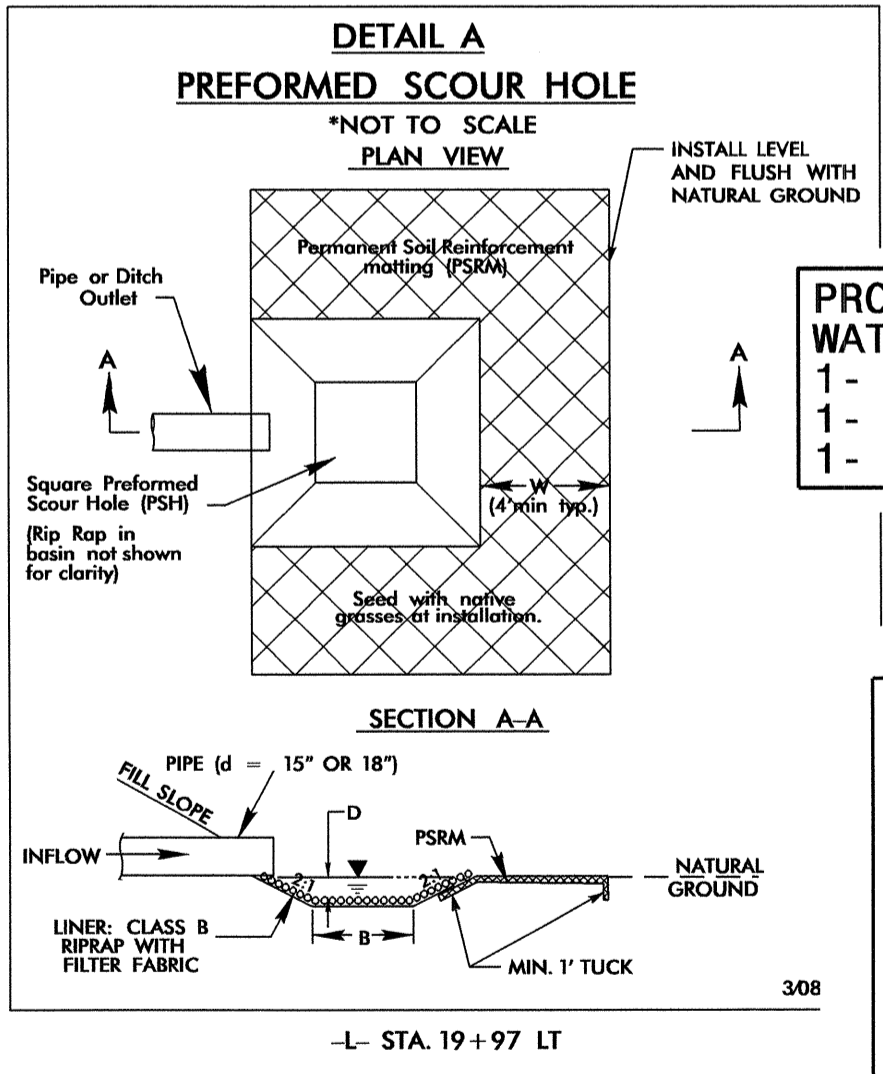
ABANDON 6" WATER LINE
MAINTAIN 8" WATER LINE

PROP. 80' OF 2" WATER LINE
 1- PROP. 2" GATE VALVE
 1- PROP. 6"x2" TAPPING SADDLE
 1- RELOCATE FIRE HYDRANT

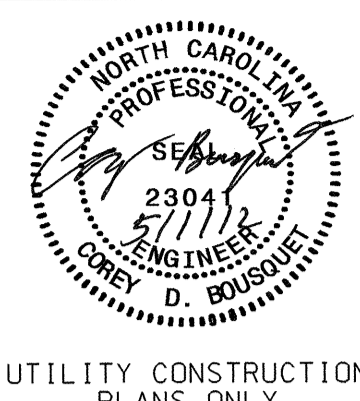
NOTE:
DUE TO EXISTING UTILITIES ALONG US 17 THE 8" TRENCHLESS INSTALLATION ALONG -YI- MAY HAVE TO BE INSTALLED BY OPEN CUT.

PROP. 224' OF 8" DI WATER LINE
 1- PROP. 8" GATE VALVE
 72' TRENCHLESS INSTALLATION OF 8" IN SOIL
 8' TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

- PROP. 30' OF 8" DI WATER LINE
1- PROP. 8" GATE VALVE



01-MAY-2012 09:44 ... B4599_r.dwg ... UC02.dgn



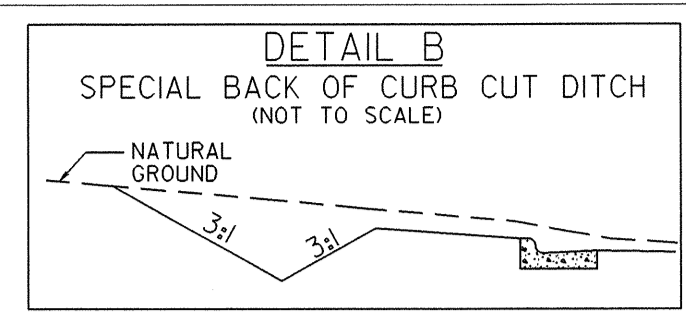
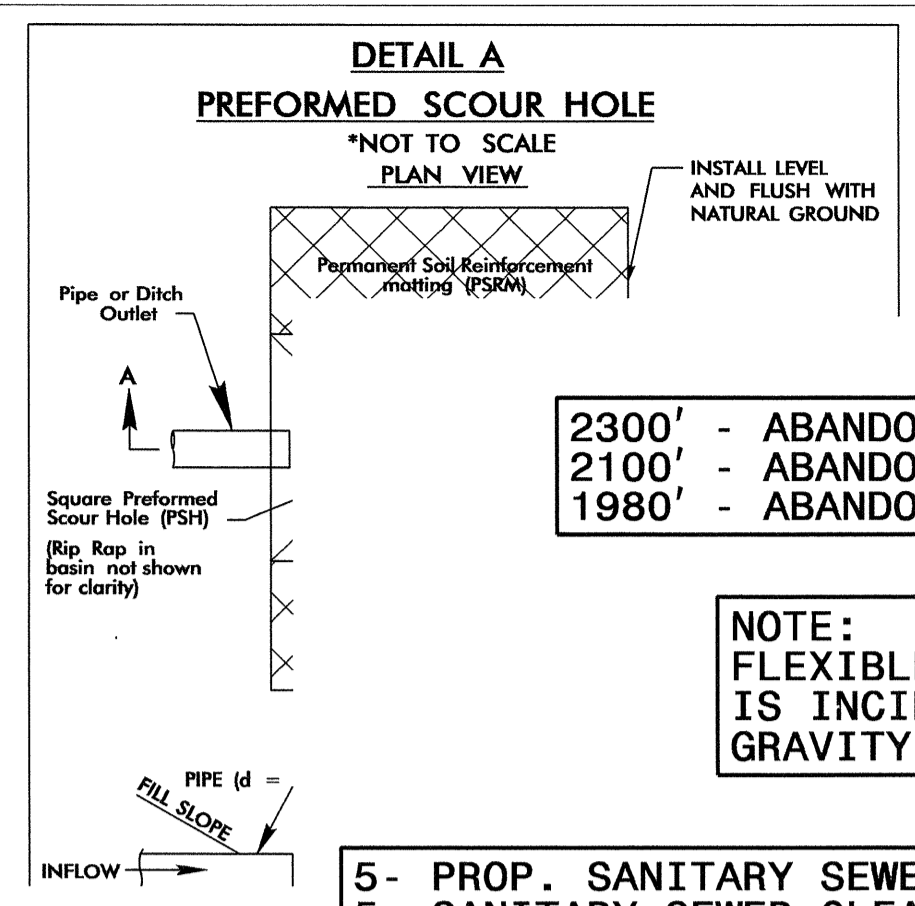
SEE SHEETS 7 & 8 FOR -L- PROFILE
 SEE SHEET 8 FOR -Y2-, -Y3-, & -Y4- PROFILES
 DRIVEWAY RADII 10' UNLESS SHOWN OTHERWISE.

FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-125

-L-
 PI Sta. 27+60.68
 $\Delta = 72' 33" 14.9" (LT)$
 $D = 2' 57" 12.2"$
 $L = 2,456.64'$
 $T = 1,423.88'$
 $R = 1,940.00'$
 $RO = 157.5' (PT)$
 $SE = 0.035 \text{ ft/ft}$
 $V = 50 \text{ mph}$

-Y3-
 PI Sta. 10+65.38
 $\Delta = 19' 52' 39.9" (LT)$
 $D = 3' 49' 51.6"$
 $L = 62.45'$
 $T = 31.54'$
 $R = 180.00'$

NOTE:
 DUE TO EXTENSIVE UTILITIES ALONG US 17 THE 8" TRENCHLESS INSTALLATIONS ALONG KNOBBS CREEK DR., ROSEDALE DR., AND ROSEWOOD AVE. MAY HAVE TO BE INSTALLED BY OPEN CUT.



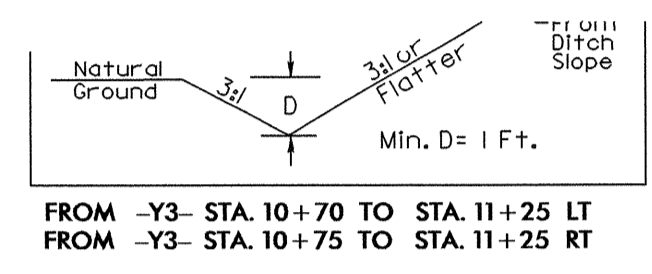
2300' - ABANDON 6" UTILITY PIPE
 2100' - ABANDON 8" UTILITY PIPE
 1980' - ABANDON 20" UTILITY PIPE

NOTE:
 FLEXIBLE COUPLING IS INCIDENTAL TO GRAVITY SEWER PIPE

5- PROP. SANITARY SEWER CLEAN-OUT & SERVICE LINE
 5- SANITARY SEWER CLEAN-OUT

PROP. 1420' OF 12" WATER LINE
 PROP. 20' OF 20" WATER LINE
 1 - PROP. 12" GATE VALVE
 - RELOCATE WATER METER
 297' TRENCHLESS INSTALLATION OF 12" IN SOIL
 33' TRENCHLESS INSTALLATION OF 12" NOT IN SOIL

THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.



20' OF 8" DI SEWER PIPE
 2 - FLEXIBLE COUPLINGS

20' OF 8" DI SEWER PIPE
 2 - FLEXIBLE COUPLINGS

20' OF 8" DI SEWER PIPE
 2 - FLEXIBLE COUPLINGS

20' OF 8" DI SEWER PIPE
 2 - FLEXIBLE COUPLINGS

20' OF 8" DI SEWER PIPE
 2 - FLEXIBLE COUPLINGS

PROP. 216' OF 8" DI WATER LINE
 1 - PROP. 8" GATE VALVE
 1 - PROP. 8"X6" REDUCER
 72' TRENCHLESS INSTALLATION OF 8" IN SOIL
 8' TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

PROP. 175' OF 8" DI WATER LINE
 1 - PROP. 8" GATE VALVE
 1 - PROP. 8"X6" REDUCER
 88' TRENCHLESS INSTALLATION OF 8" IN SOIL
 10' TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

PROP. 240' OF 8" DI WATER LINE
 1 - PROP. 8" GATE VALVE
 95' TRENCHLESS INSTALLATION OF 8" IN SOIL
 11' TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

END TIP PROJECT B-4599
 -L- POT Sta. 40+00.00

1 - PROP. 6" PLUG
 1 - PROP. 2" BLOWOFF

END CONSTRUCTION
 -Y4- POT STA. 11+25.00

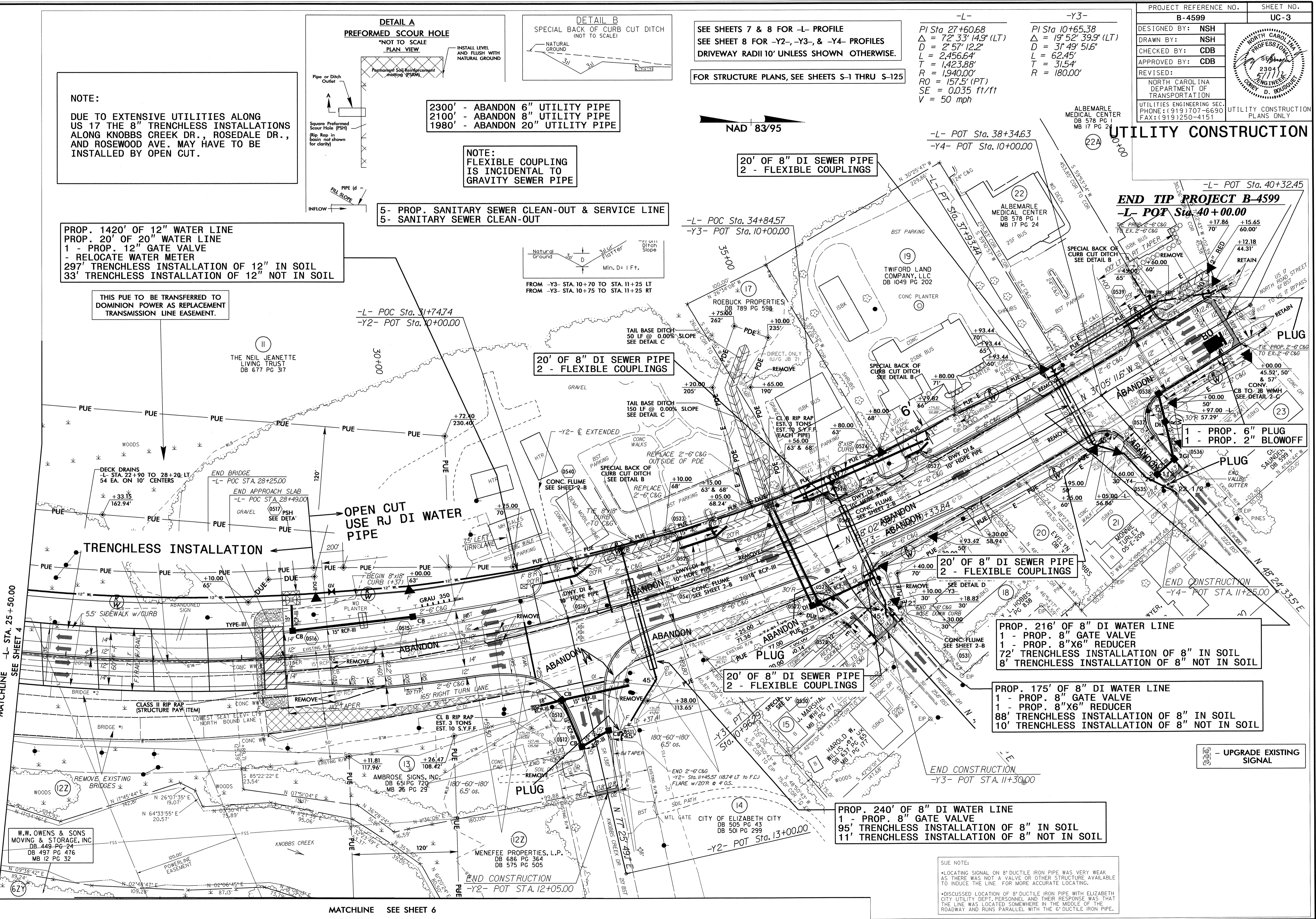
END CONSTRUCTION
 -Y3- POT STA. 11+30.00

END CONSTRUCTION
 -Y2- POT STA. 12+05.00

W.W. OWENS & SONS
 MOVING & STORAGE, INC
 DB 449 PG 24
 DB 497 PG 476
 MB 12 PG 32

SUE NOTE:
 *LOCATING SIGNAL ON 8" DUCTILE IRON PIPE WAS VERY WEAK AS THERE WAS NOT A VALVE OR OTHER STRUCTURE AVAILABLE TO INDUCE THE LINE. FOR MORE ACCURATE LOCATING.
 *DISCUSSED LOCATION OF 8" DUCTILE IRON PIPE WITH ELIZABETH CITY UTILITY DEPT. PERSONNEL AND THEIR RESPONSE WAS THAT THE LINE WAS LOCATED SOMEWHERE IN THE MIDDLE OF THE ROADWAY AND RUNS PARALLEL WITH THE 6" DUCTILE IRON PIPE.

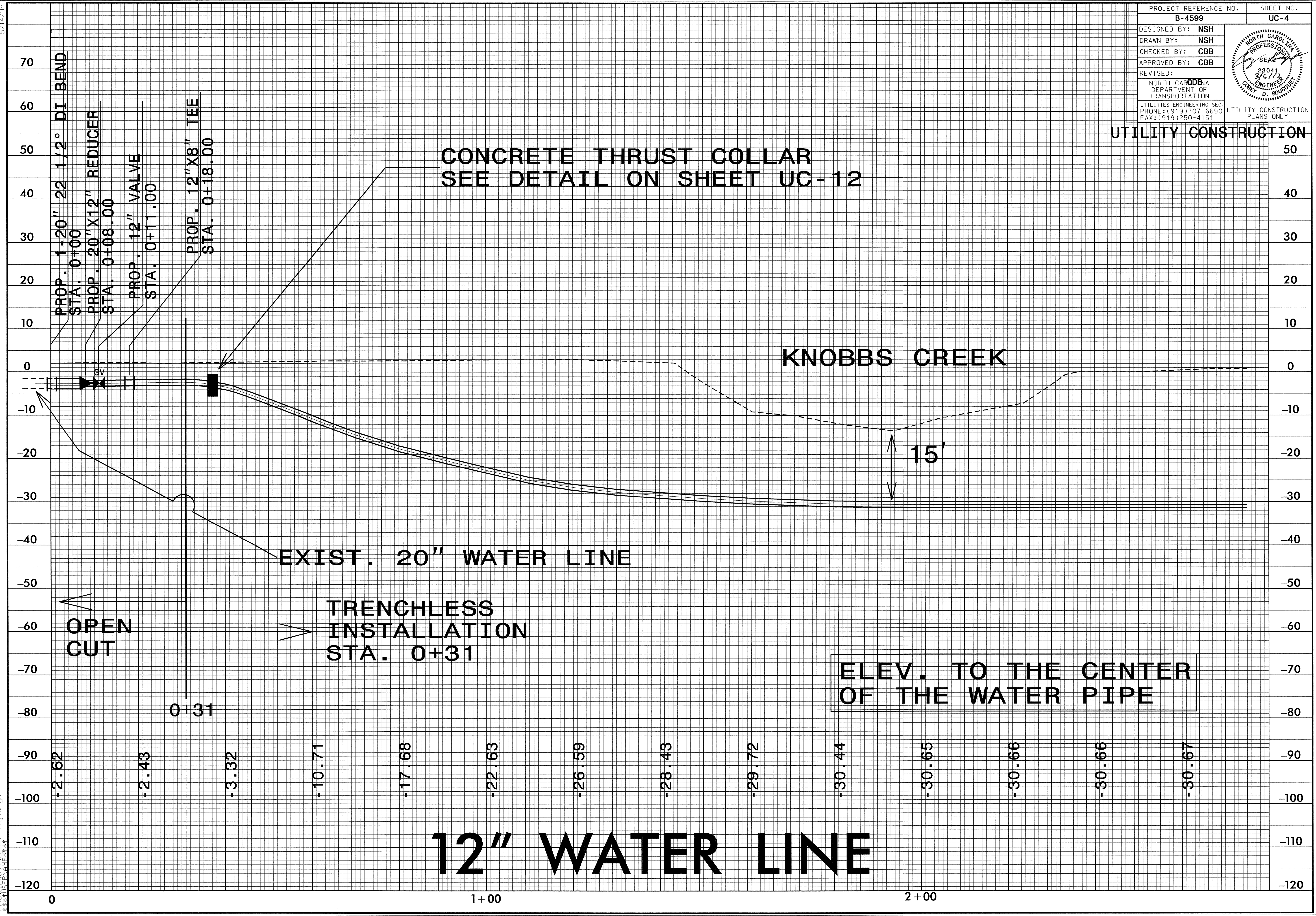
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 85/124/298



5/14/99

PROJECT REFERENCE NO. B-4599	SHEET NO. UC-4
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



CONCRETE THRUST COLLAR
SEE DETAIL ON SHEET UC-12

KNOBBS CREEK

15'

EXIST. 20" WATER LINE

TRENCHLESS
INSTALLATION
STA. 0+31

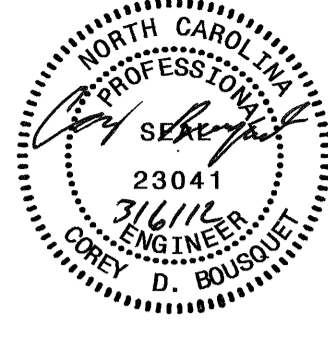
OPEN
CUT

ELEV. TO THE CENTER
OF THE WATER PIPE

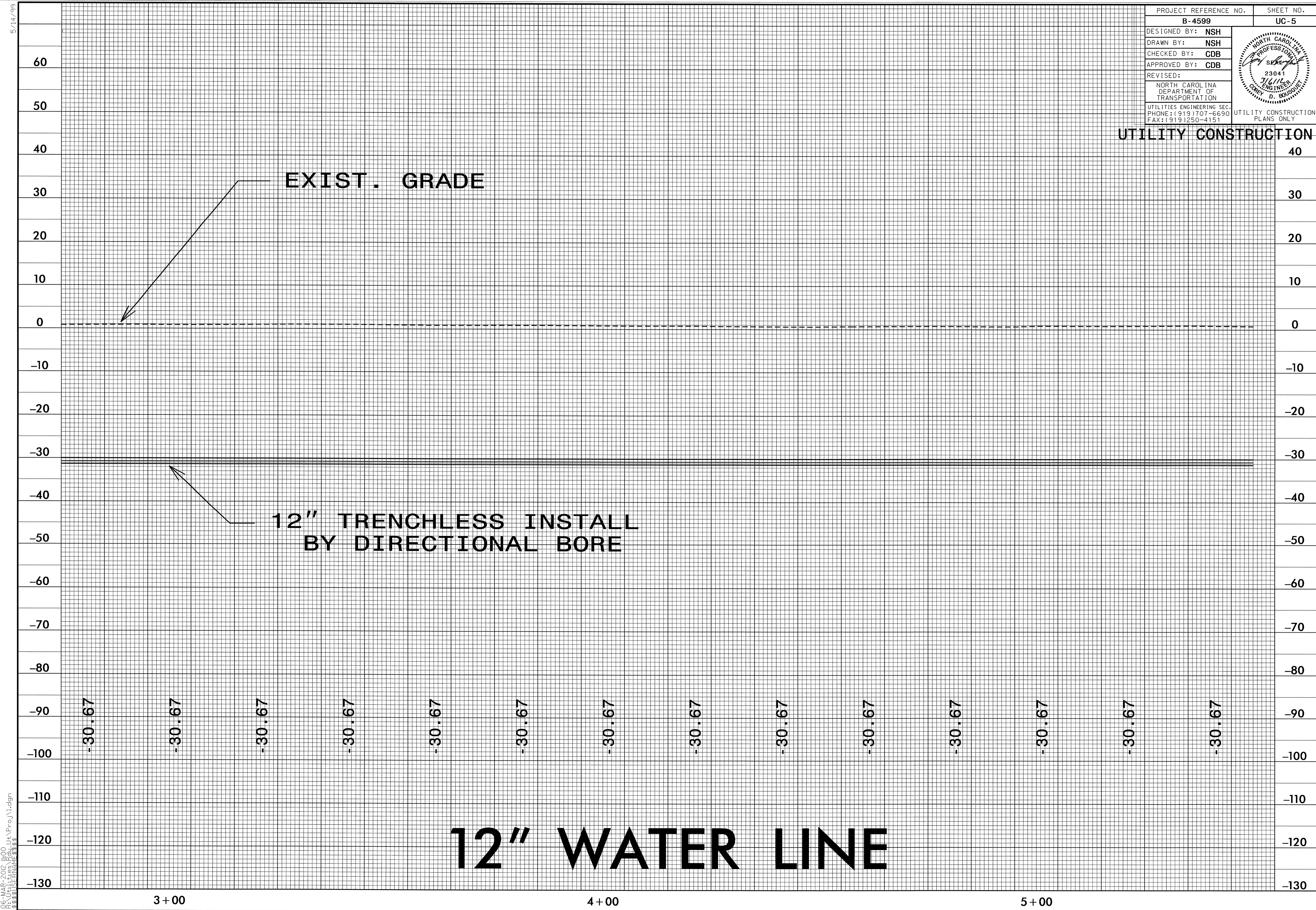
12" WATER LINE

- 2.62
- 2.43
- 3.32
- 10.71
- 17.68
- 22.63
- 26.59
- 28.43
- 29.72
- 30.44
- 30.65
- 30.66
- 30.66
- 30.67

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PROJECT REFERENCE NO.	SHEET NO.
B-4599	UC-5
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DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

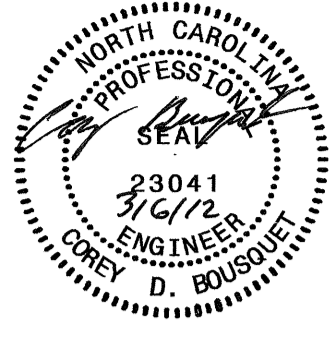
UTILITY CONSTRUCTION



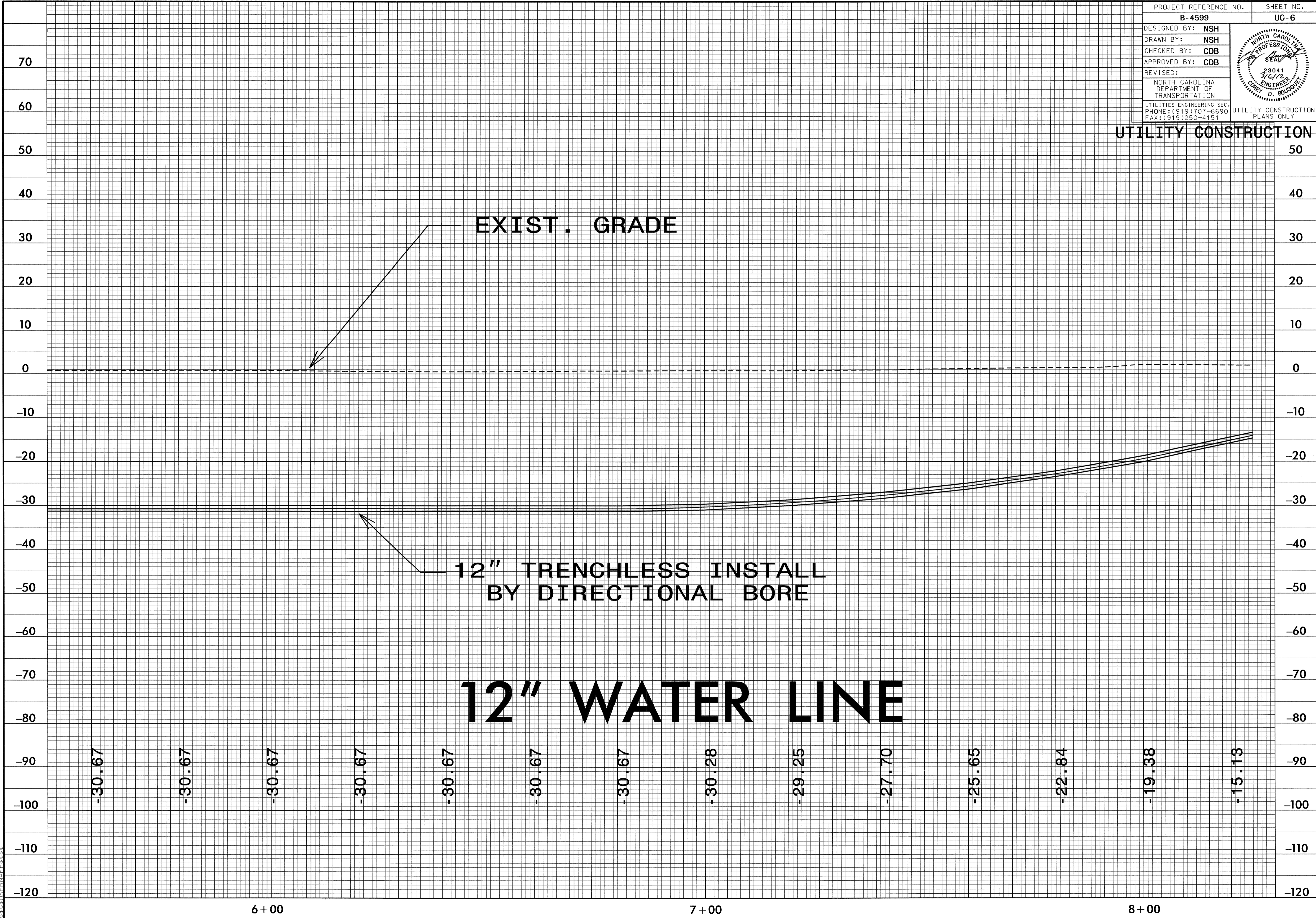
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5/14/99

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DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



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6+00

7+00

8+00

-30.67

-30.67

-30.67

-30.67

-30.67

-30.67

-30.67

-30.28

-29.25

-27.70

-25.65

-22.84

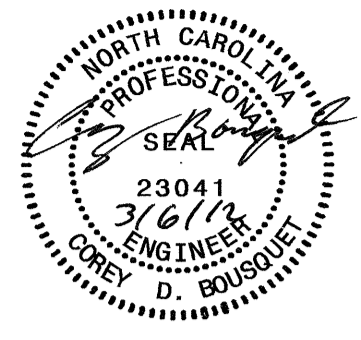
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-15.13

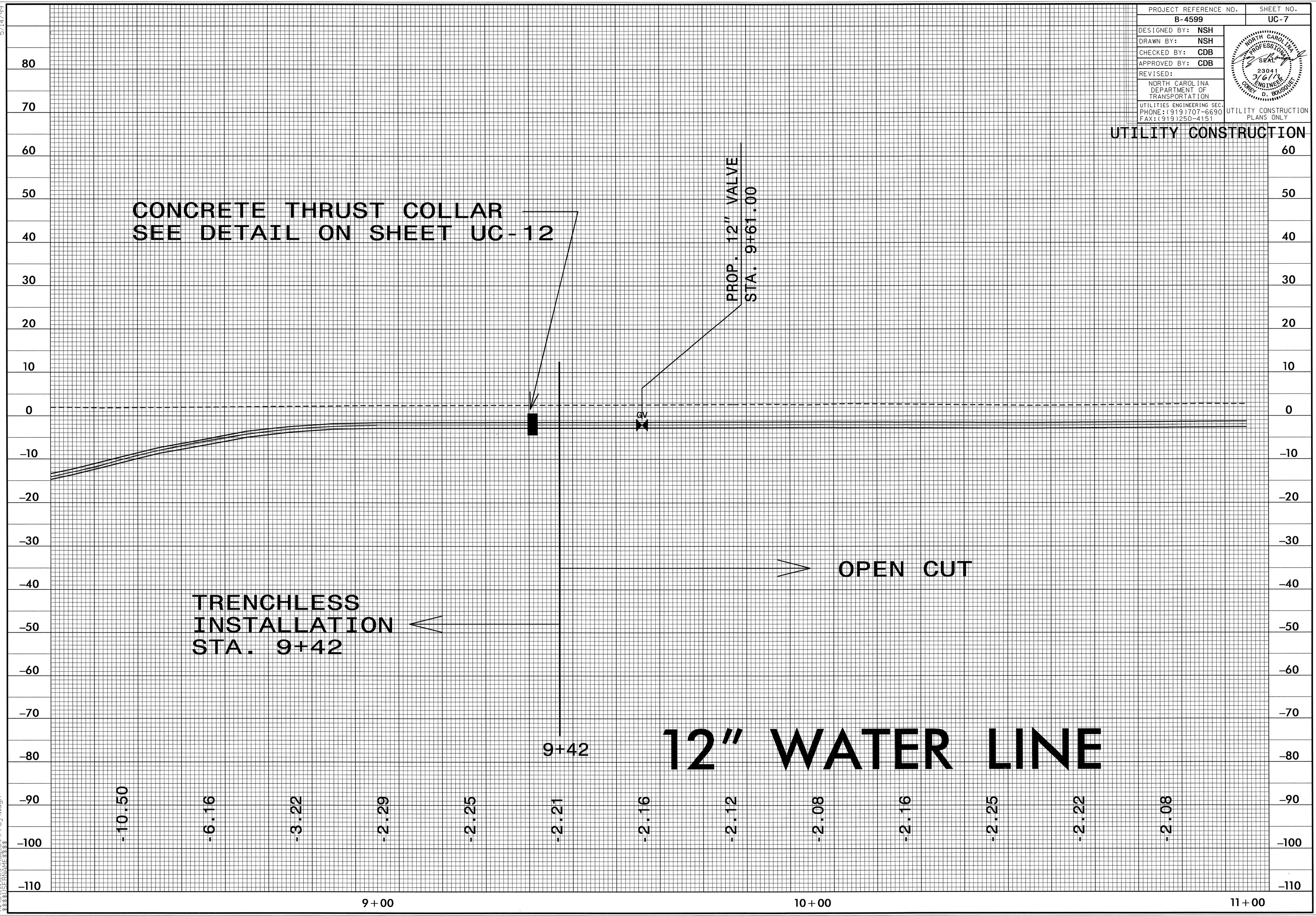
12" WATER LINE

5/14/99

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DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



60

50

40

30

20

10

0

-10

-20

-30

-40

-50

-60

-70

-80

-90

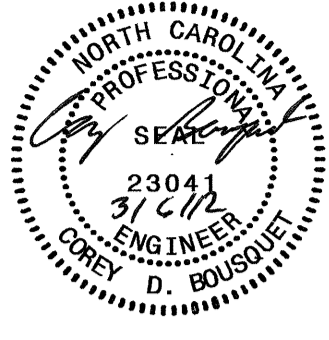
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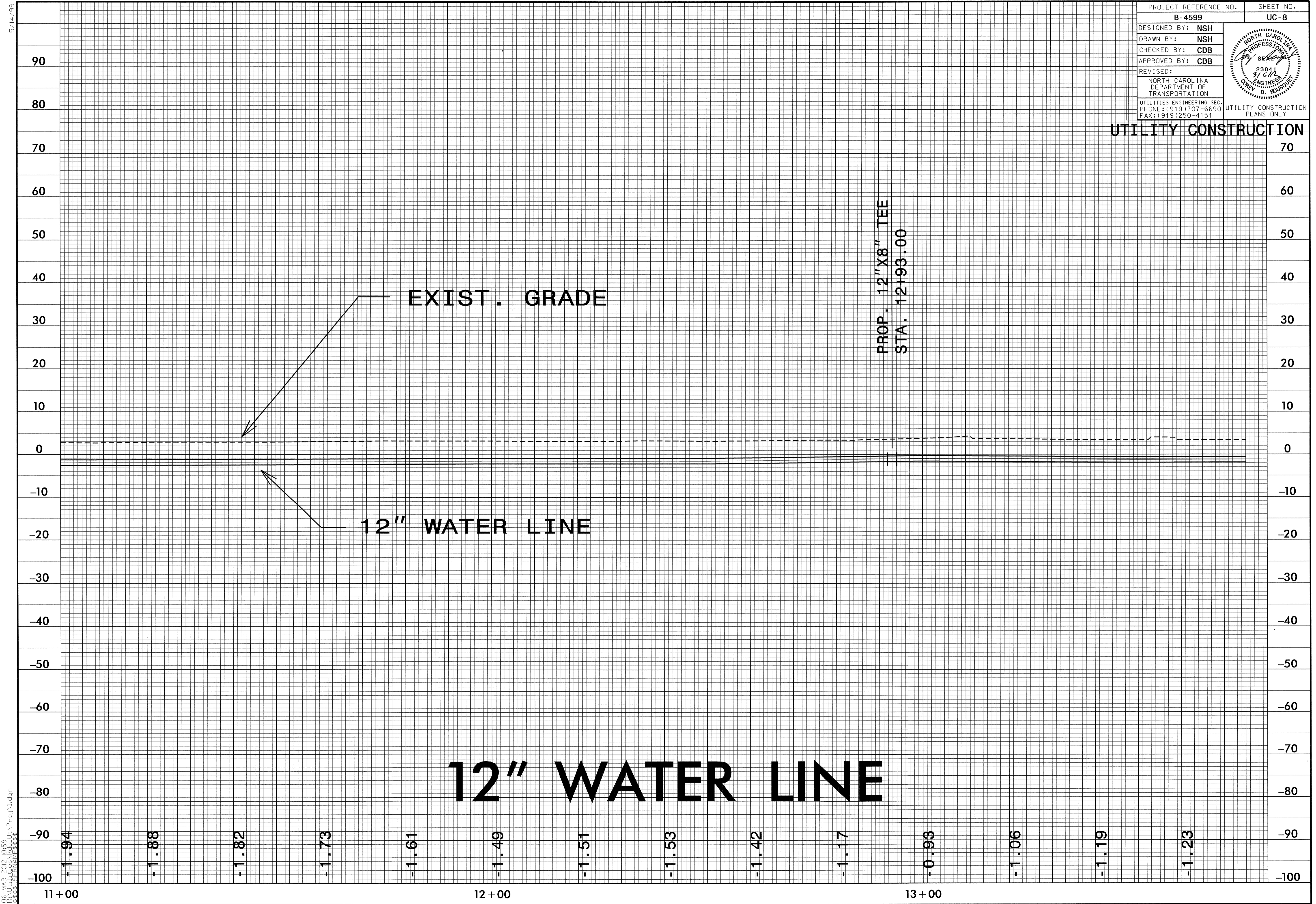
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11+00

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CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

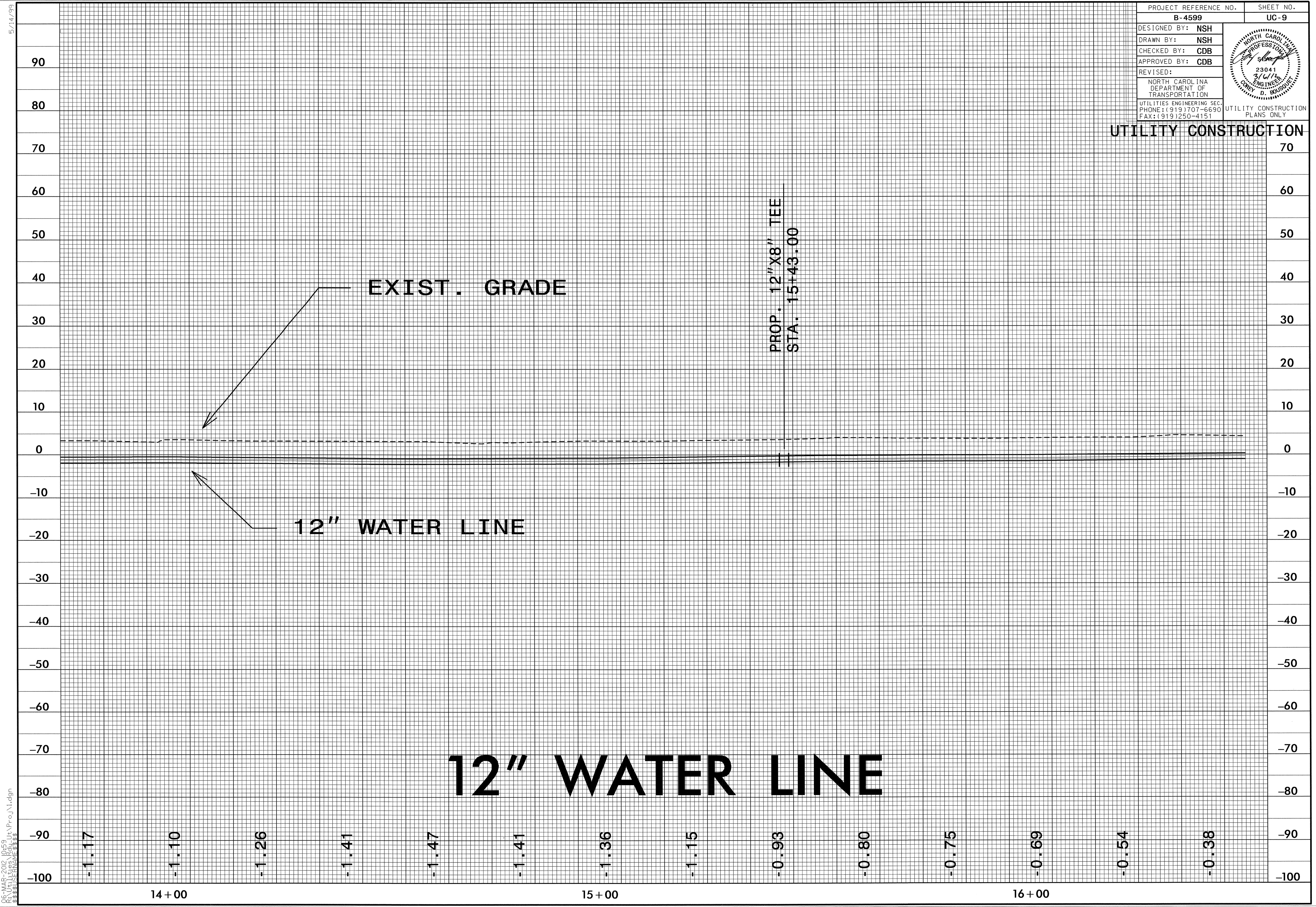


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DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



12" WATER LINE

PROP. 12"X8" TEE
STA. 15+43.00

EXIST. GRADE

12" WATER LINE

- 1.17
- 1.10
- 1.26
- 1.41
- 1.47
- 1.41
- 1.36
- 1.15
- 0.93
- 0.80
- 0.75
- 0.69
- 0.54
- 0.38

14+00

15+00

16+00

5/14/99

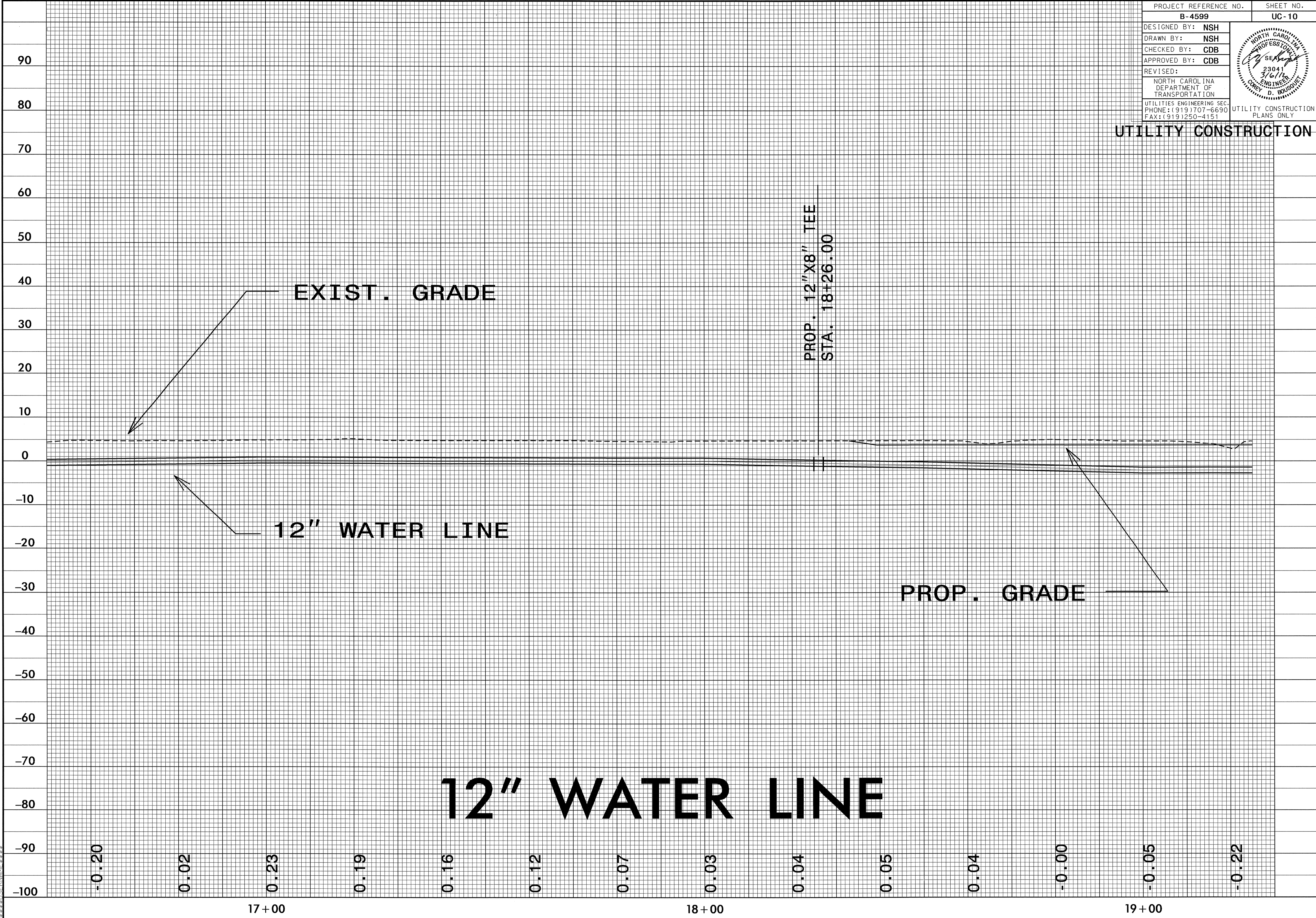
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PROJECT REFERENCE NO. B-4599	SHEET NO. UC-10
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



EXIST. GRADE

12" WATER LINE

PROP. GRADE

PROP. 12" X 8" TEE
STA. 18+26.00

12" WATER LINE

-0.20

0.02

0.23

0.19

0.16

0.12

0.07

0.03

0.04

0.05

0.04

-0.00

-0.05

-0.22

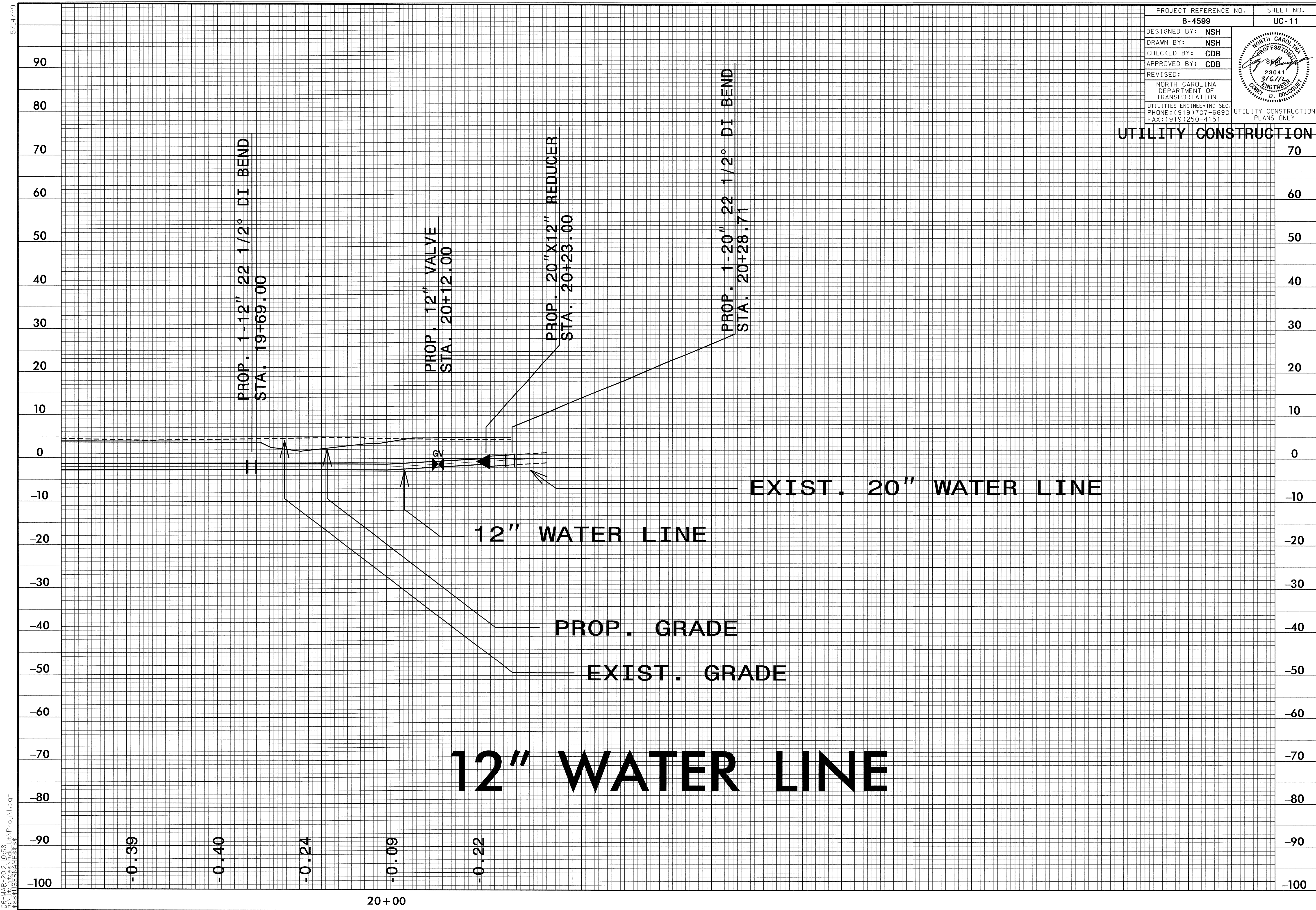
17+00

18+00

19+00

PROJECT REFERENCE NO.	SHEET NO.
B-4599	UC-11
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



12" WATER LINE

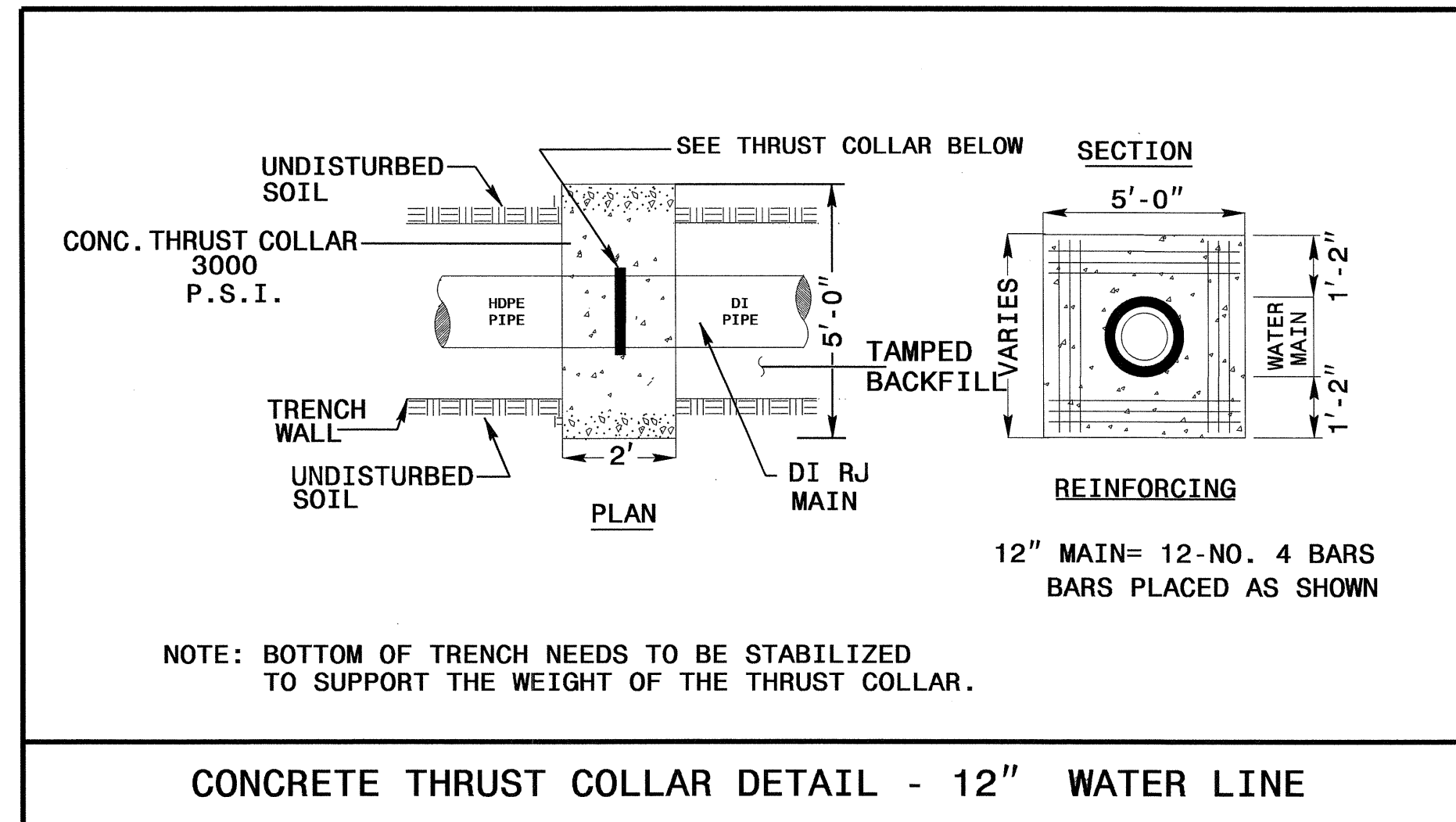
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5/14/99

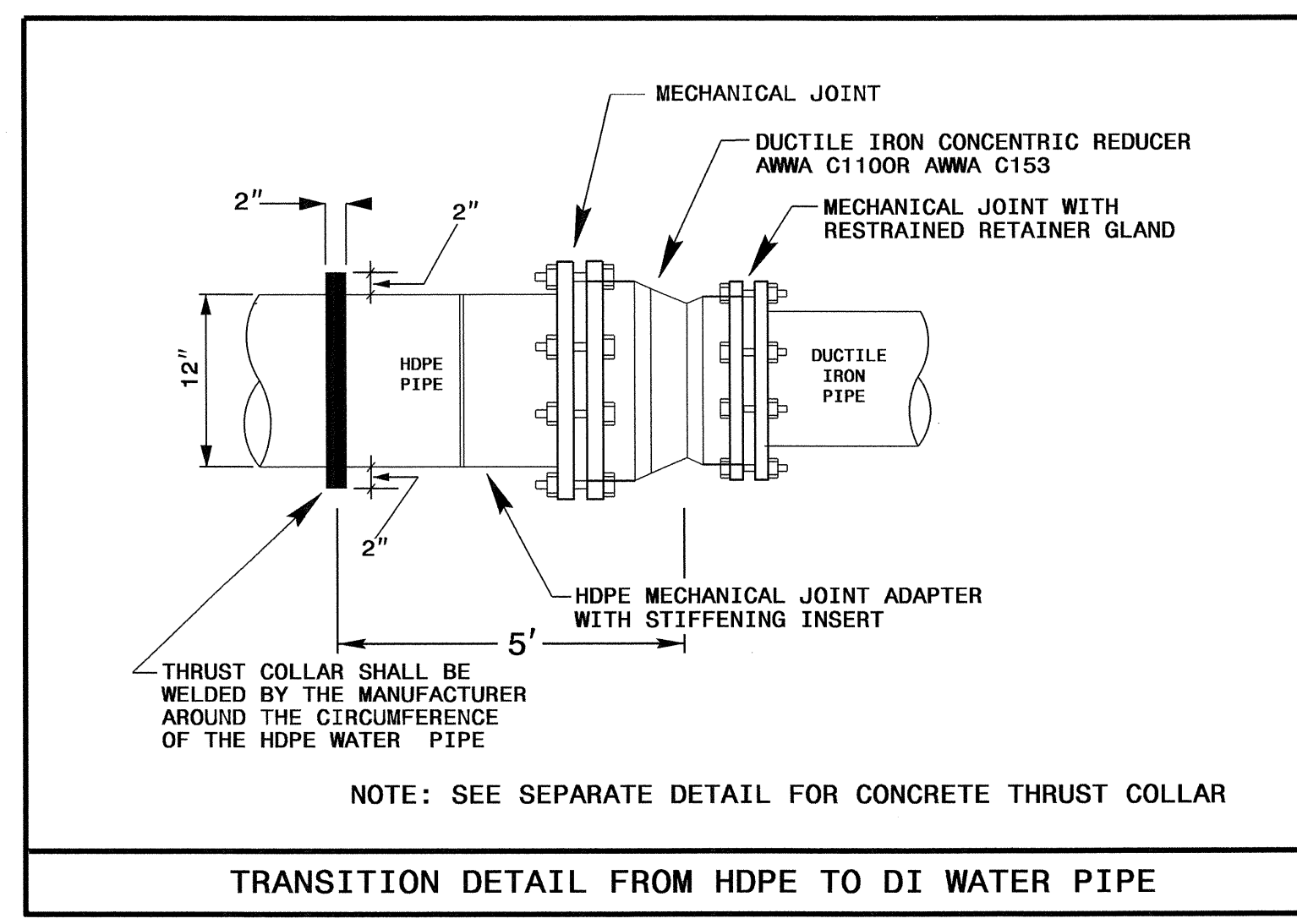
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B-4599	UC-12
DESIGNED BY: NSH	
DRAWN BY: NSH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

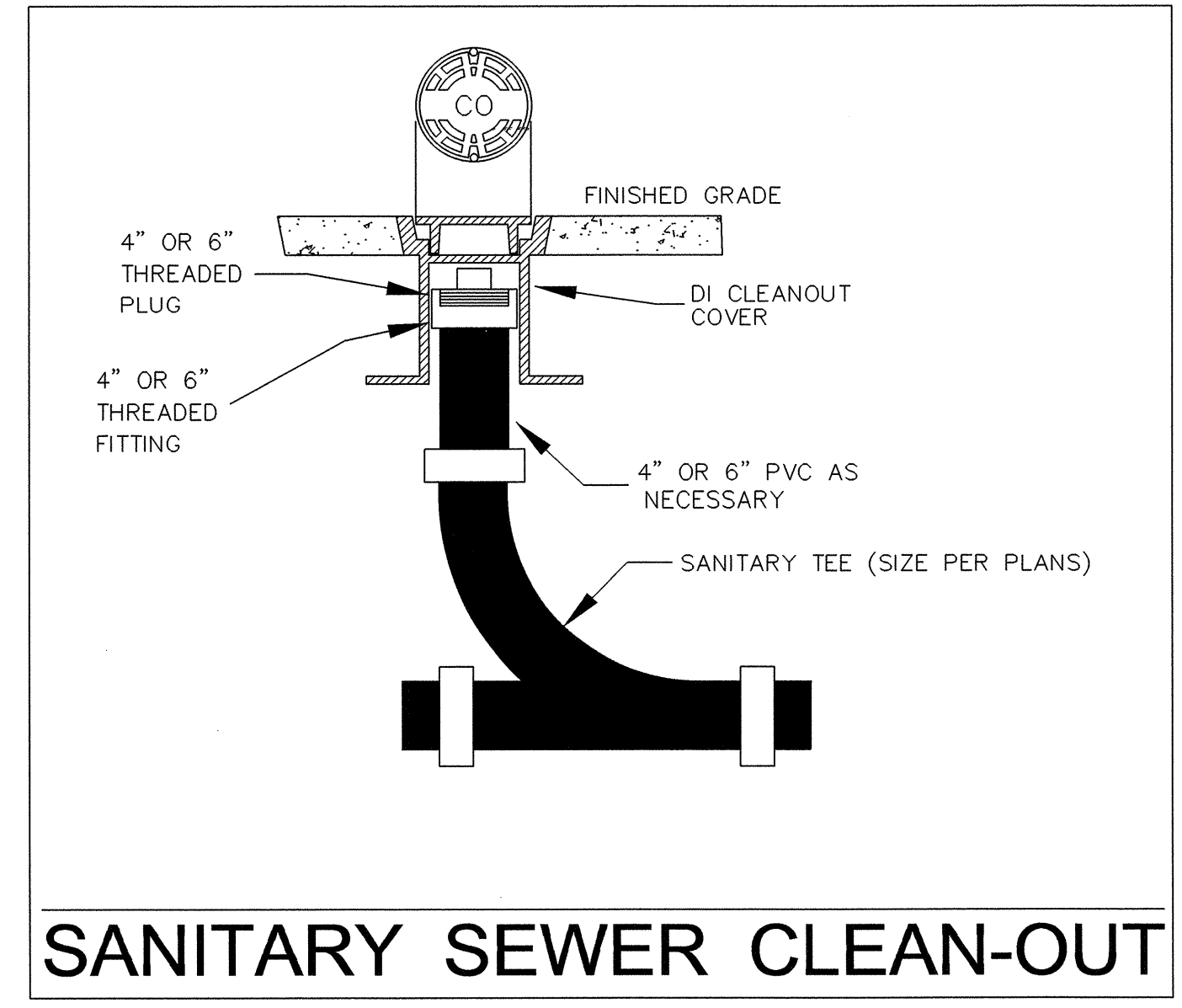
UTILITY CONSTRUCTION



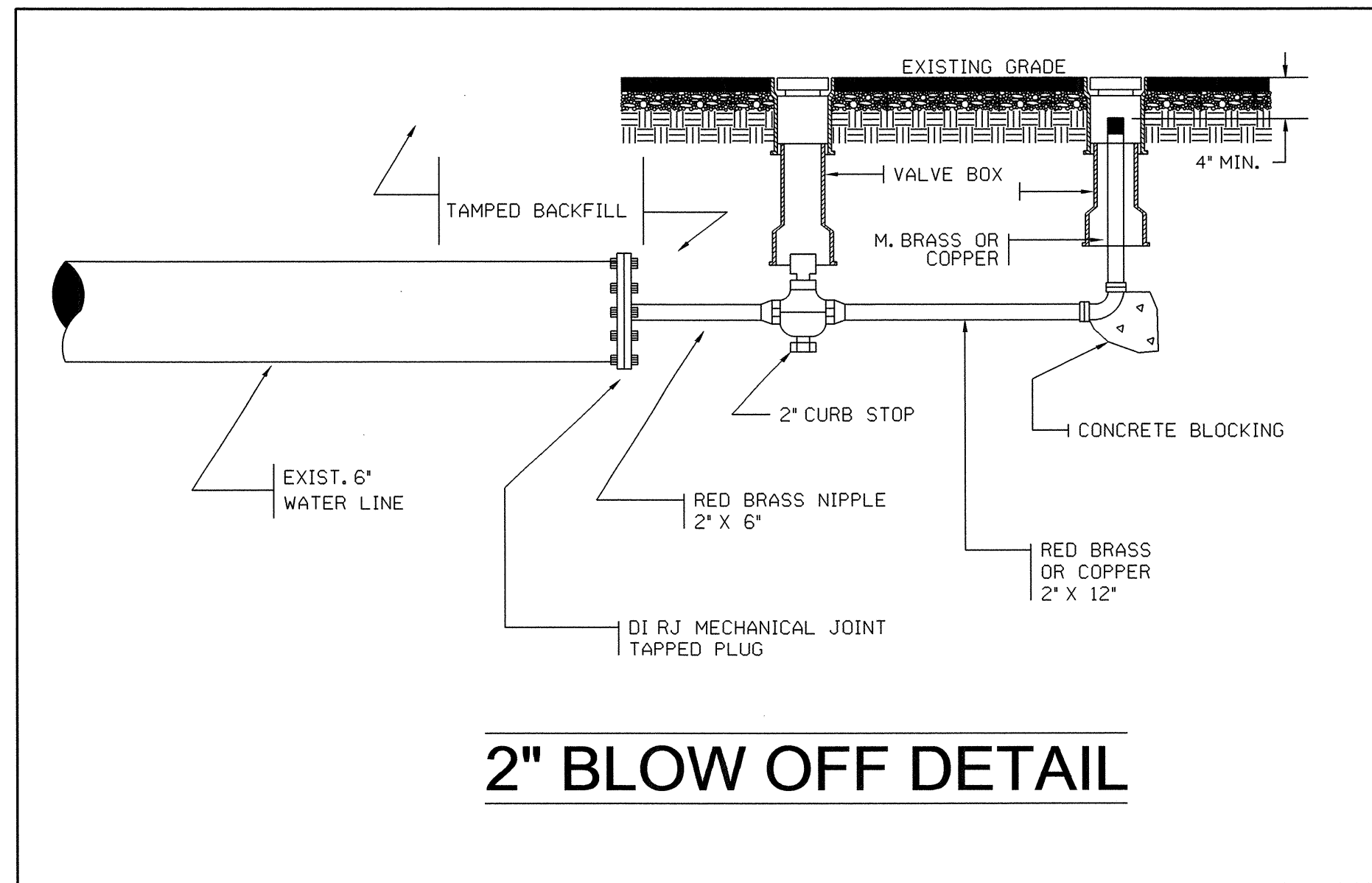
CONCRETE THRUST COLLAR DETAIL - 12" WATER LINE



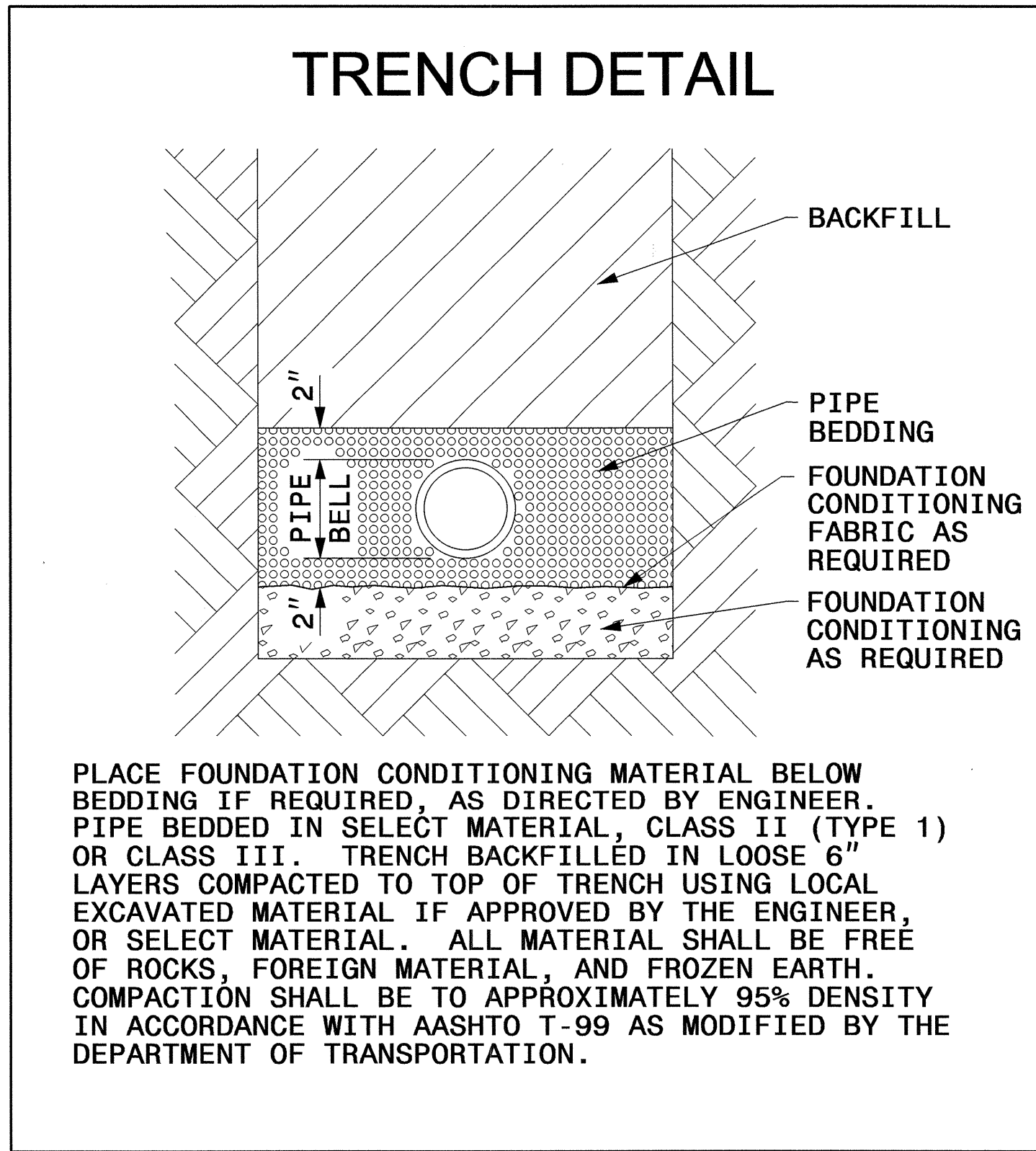
TRANSITION DETAIL FROM HDPE TO DI WATER PIPE



SANITARY SEWER CLEAN-OUT



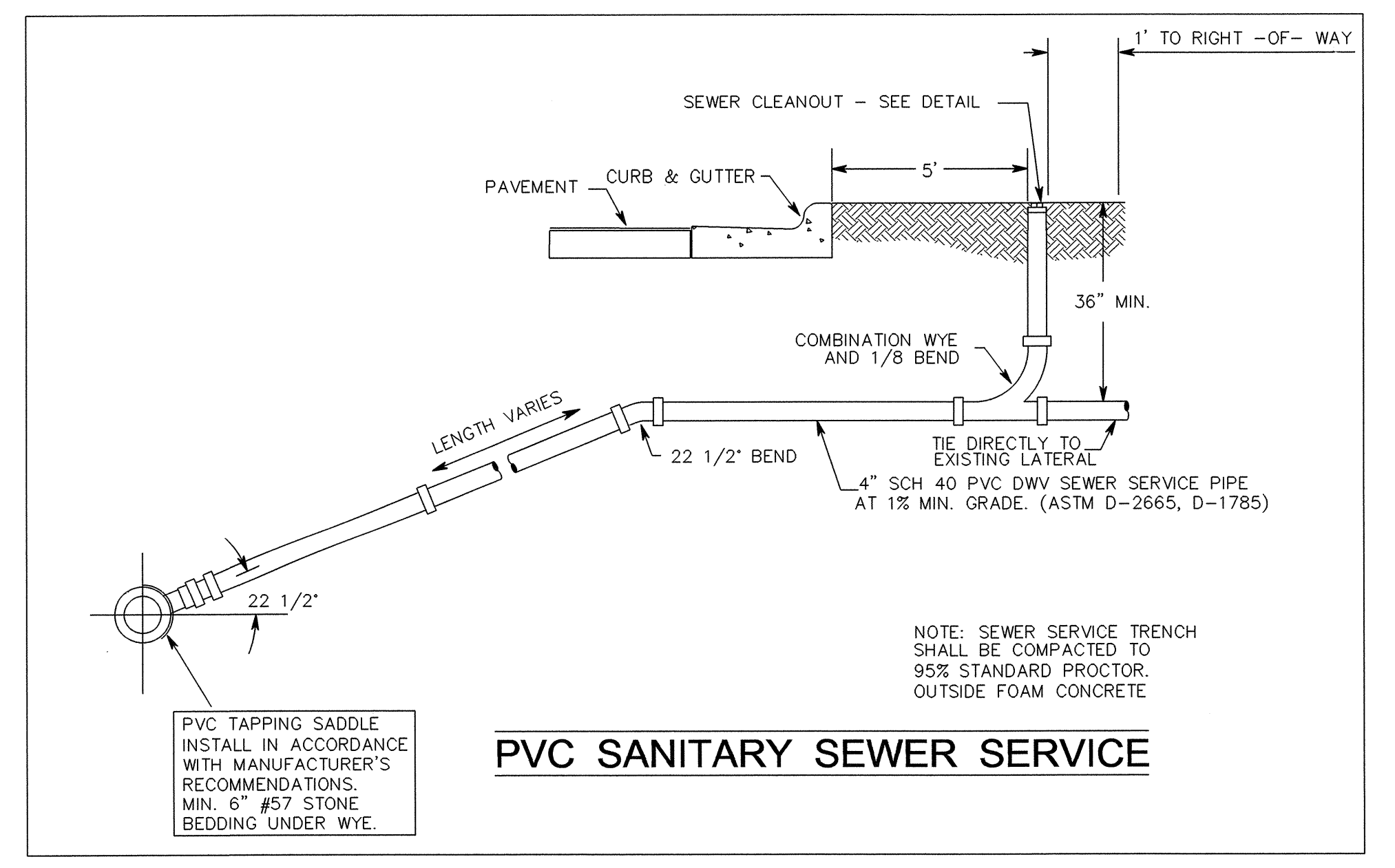
2" BLOW OFF DETAIL



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1515.01	WATER METER
1515.02	FIRE HYDRANT



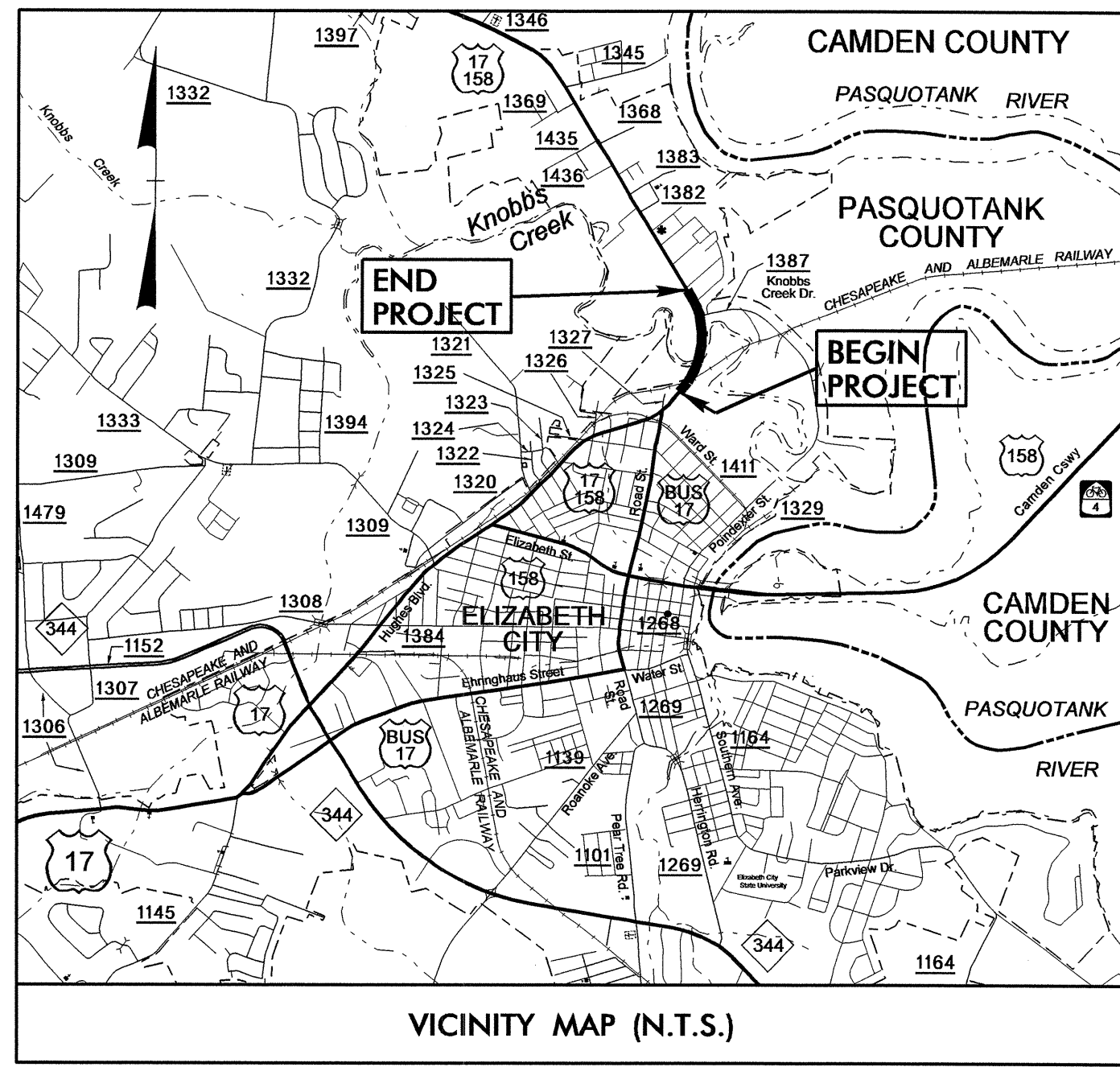
PVC SANITARY SEWER SERVICE

05/08/99

TIP PROJECT: B-4599

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

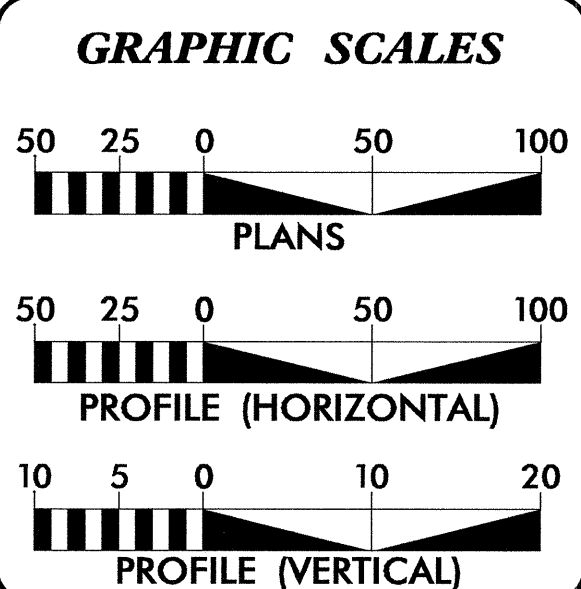
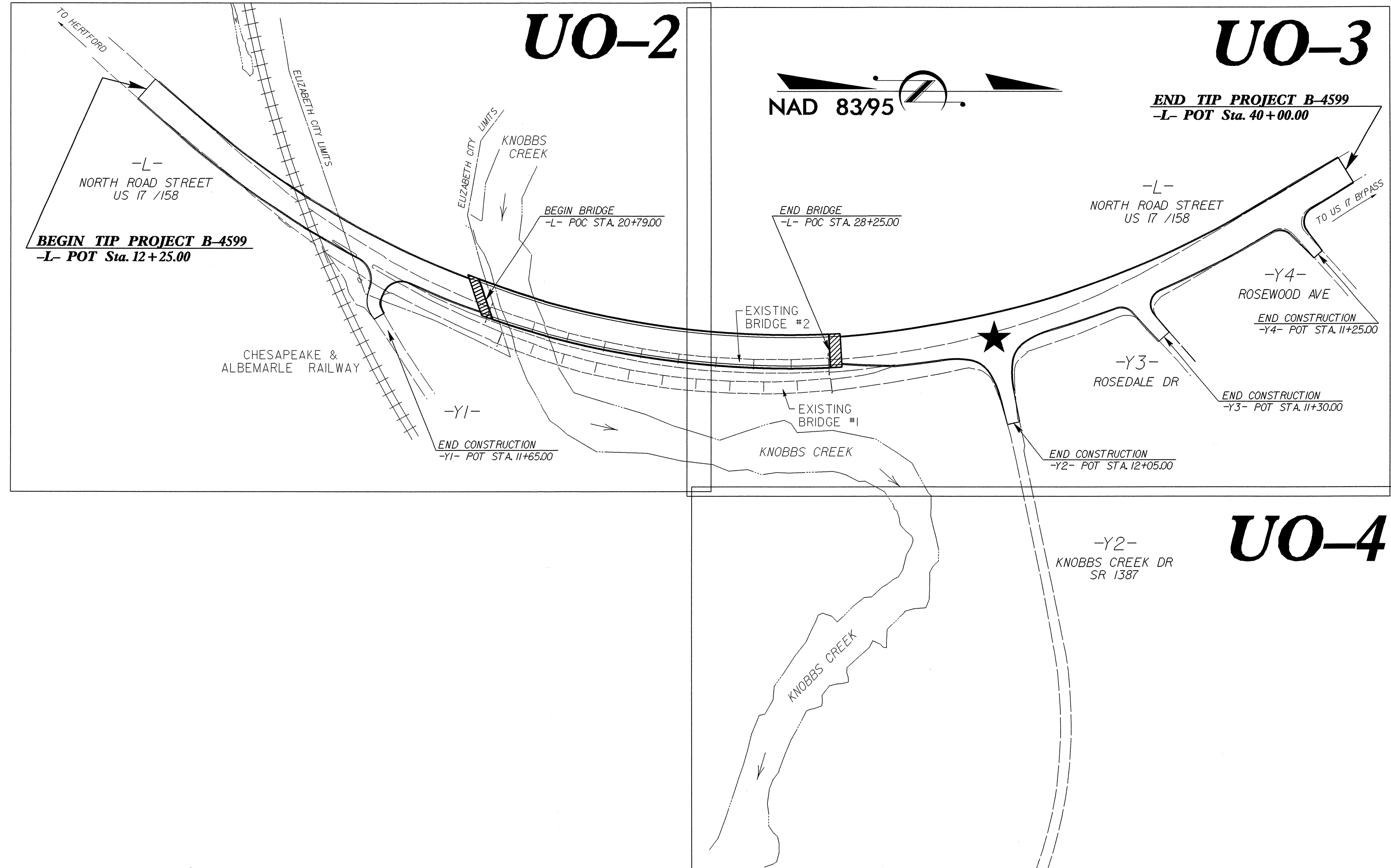
T.I.P. NO.	SHEET NO.
B-4599	UO-1



UTILITIES BY OTHERS PLANS PASQUOTANK COUNTY

LOCATION: BRIDGES NO. 1 & 2 OVER KNOBBS CREEK ON US 17/US 158

TYPE OF WORK: UTILITY BY OTHERS RELOCATION



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-4	UTILITY BY OTHERS PLAN SHEETS

- UTILITY OWNERS ON PROJECT
- (1) CITY OF ELIZABETH CITY - LLOYD WEATHERMAN (704) 545-7327 LLODY@PEINC.NET
 - (2) CENTURY LINK - HESTER JONES (252) 335-2678 HESTER.JONES@CENTURYLINK.COM
 - (3) DOMINION POWER (TRANSMISSION) - FRED HARMELING (804) 771-6312 FRED.HARMELING@DOM.COM
 - (4) DOMINION POWER (DISTRIBUTION) - LEE WALL (252) 308-1021 CLARENCE.WALL@DOM.COM
 - (5) PIEDMONT NATURAL GAS - WILL MORRISON (252) 264-2714 WILLIAM.MORRISON@PIEDMONTNG.COM
 - (6) TIME WARNER CABLE - BOB BENNETT (252) 265-4168 BOB.BENNETT@TWCABLE.COM

UTILITY DESIGN BY:

MA Engineering
CONSULTANTS, INC.

598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

NCDOT PROJECT ENGINEER:
RON WILKINS, P.E.
PREPARED FOR:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT
RALEIGH, NC

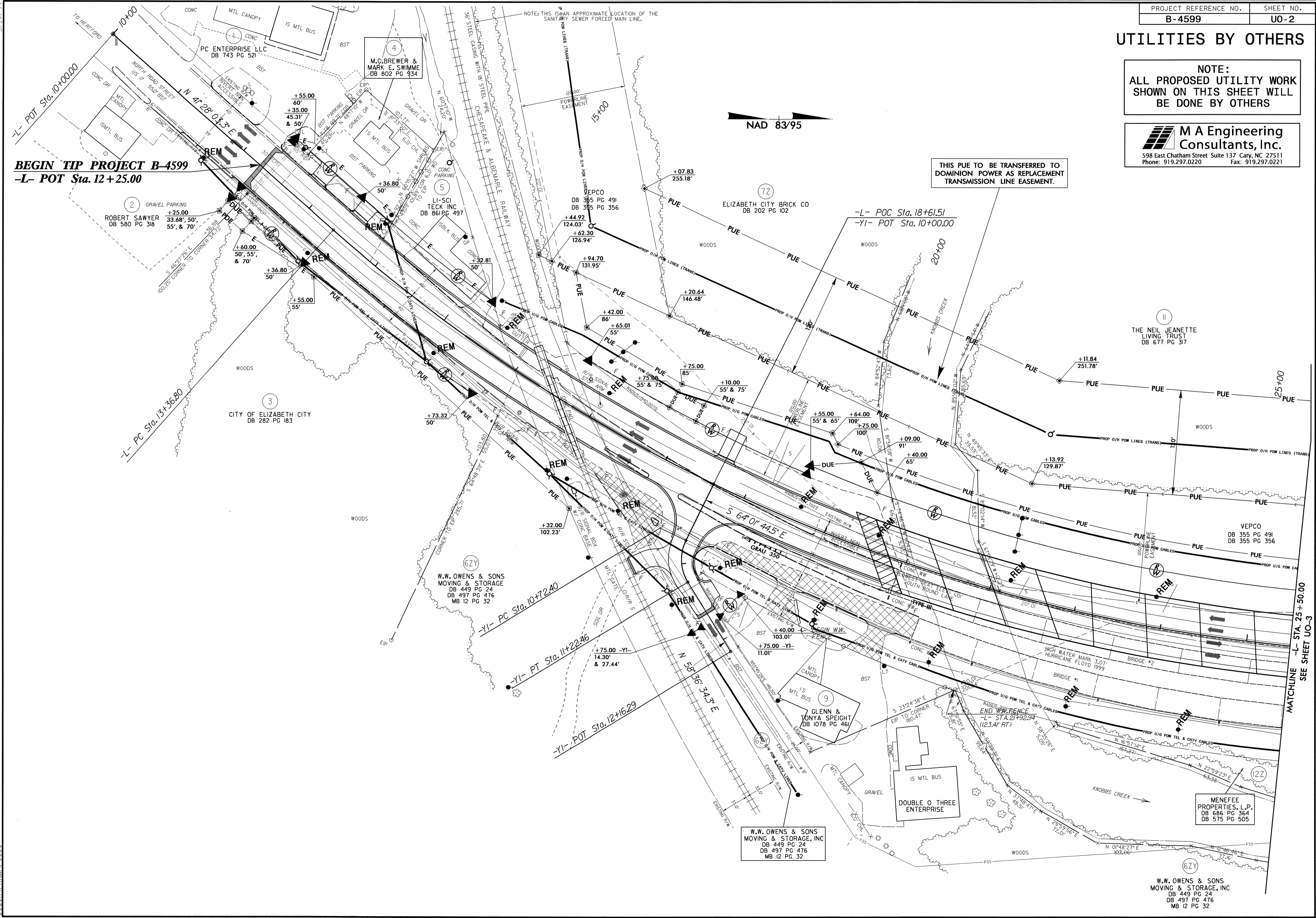
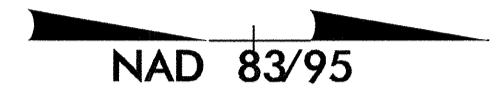
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UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

**M A Engineering
Consultants, Inc.**
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0221

THIS PUE TO BE TRANSFERRED TO
DOMINION POWER AS REPLACEMENT
TRANSMISSION LINE EASEMENT.



BEGIN TIP PROJECT B-4599
-L- POT Sta. 12+25.00

5/14/09

05-MAR-2012 14:51
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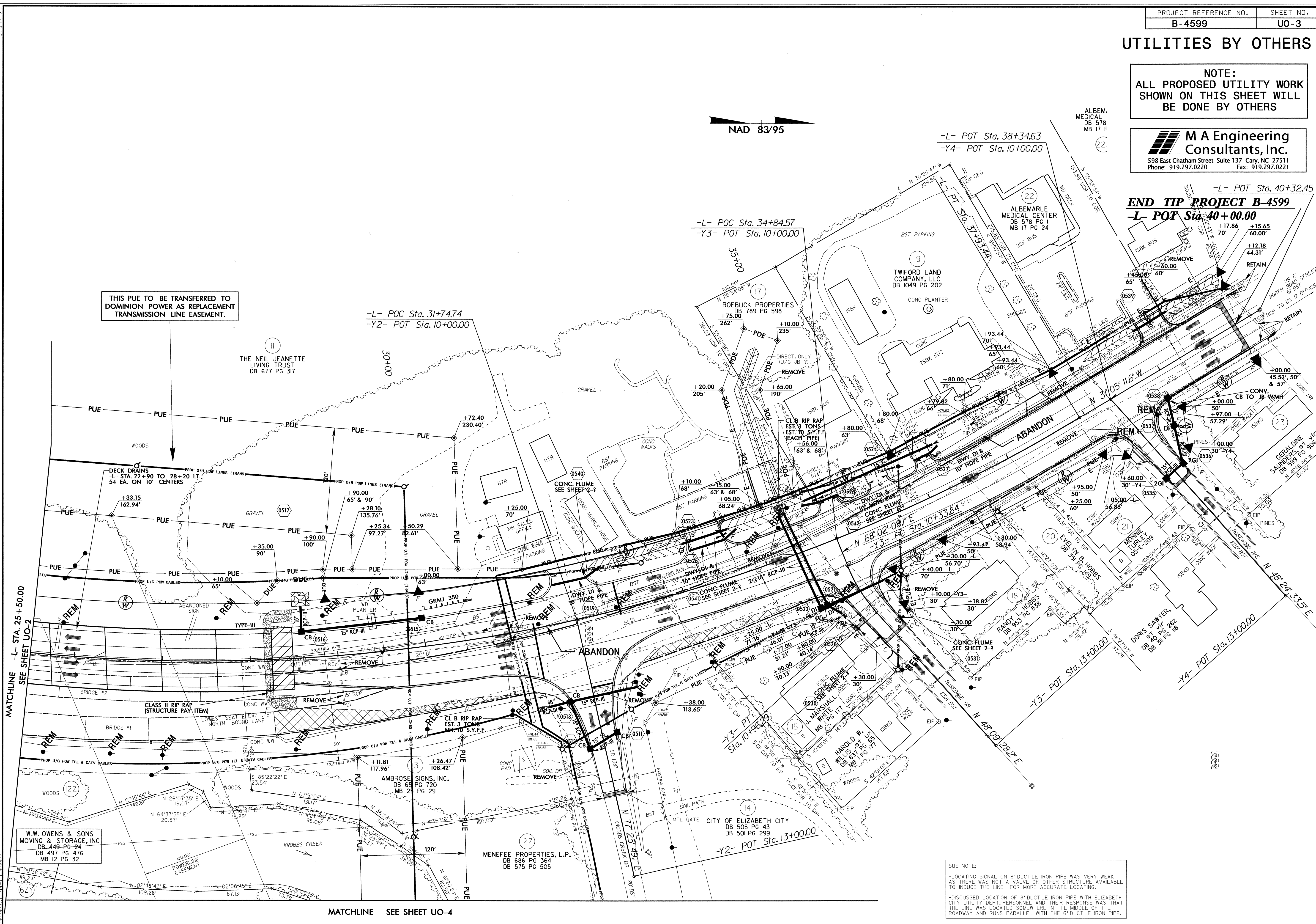
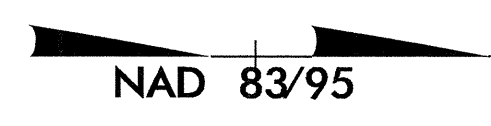
MATCHLINE -L- STA. 25+50.00
SEE SHEET UO-3

W.W. OWENS & SONS
MOVING & STORAGE, INC
DB 449 PG 24
DB 497 PG 476
MB 12 PG 32

UTILITIES BY OTHERS

NOTE:
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M A Engineering Consultants, Inc.
598 East Chatham Street Suite 137 Cary, NC 27511
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THIS PUE TO BE TRANSFERRED TO DOMINION POWER AS REPLACEMENT TRANSMISSION LINE EASEMENT.

END TIP PROJECT B-4599
-L- POT Sta. 40+00.00

MATCHLINE -L- STA. 25+50.00
SEE SHEET UO-2

MATCHLINE SEE SHEET UO-4

W.W. OWENS & SONS
MOVING & STORAGE, INC.
DB 449 PG 24
DB 497 PG 476
MB 12 PG 32

MENEFEE PROPERTIES, L.P.
DB 686 PG 364
DB 575 PG 505

SUE NOTES
*LOCATING SIGNAL ON 8" DUCTILE IRON PIPE WAS VERY WEAK AS THERE WAS NOT A VALVE OR OTHER STRUCTURE AVAILABLE TO INDUCE THE LINE FOR MORE ACCURATE LOCATING.
*DISCUSSED LOCATION OF 8" DUCTILE IRON PIPE WITH ELIZABETH CITY UTILITY DEPT. PERSONNEL AND THEIR RESPONSE WAS THAT THE LINE WAS LOCATED SOMEWHERE IN THE MIDDLE OF THE ROADWAY AND RUNS PARALLEL WITH THE 6" DUCTILE IRON PIPE.

05-MAR-2012 15:24 R:\Utilities\B4599\U0-3.dgn

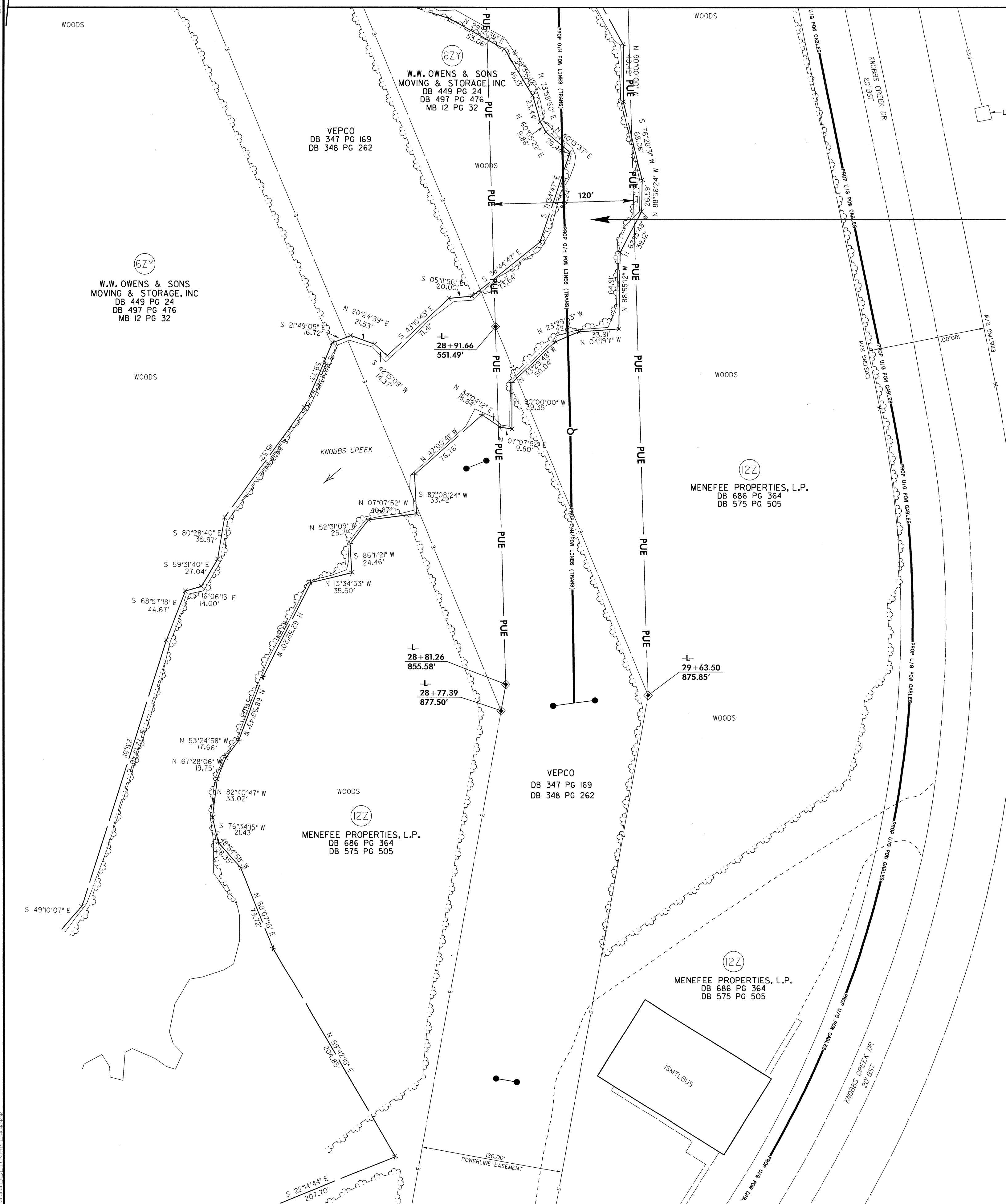
UTILITIES BY OTHERS

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MATCHLINE SEE SHEET UO-3

6/17/99



THIS PUE TO BE TRANSFERRED TO
DOMINION POWER AS REPLACEMENT
TRANSMISSION LINE EASEMENT.

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Utilities\RDH\UT\Proj\B4599\ut_psh_uo4.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$