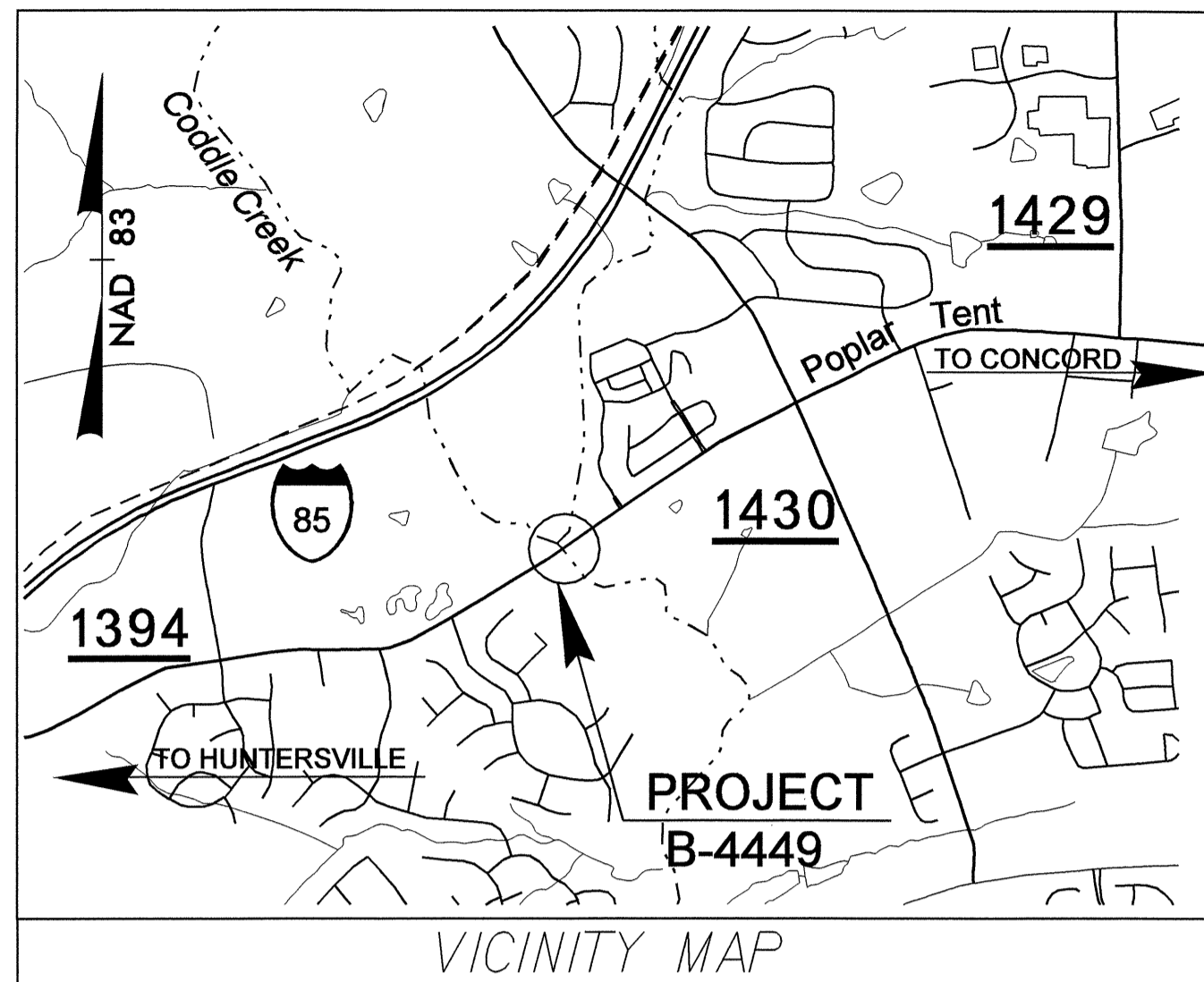


09/08/09

TIP PROJECT: B-4449

See Sheet 1-A For Index of Sheets



VICINITY MAP

THIS PROJECT IS WITHIN CONCORD MUNICIPAL BOUNDARIES

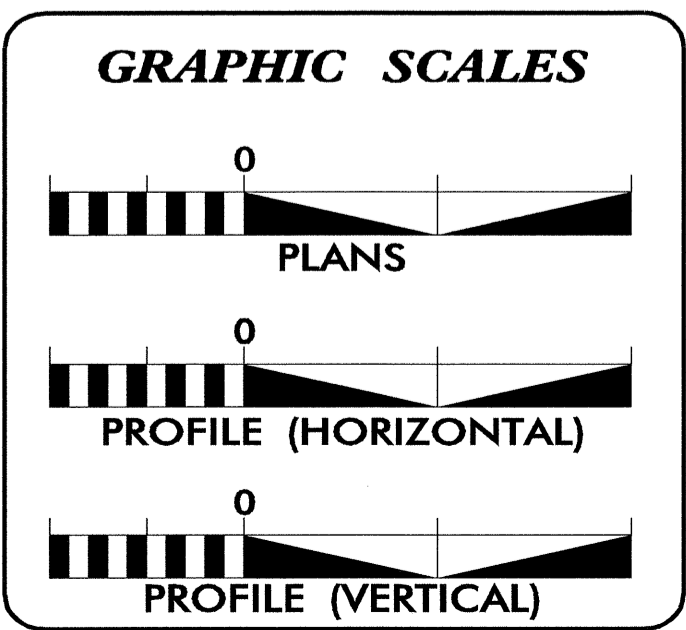
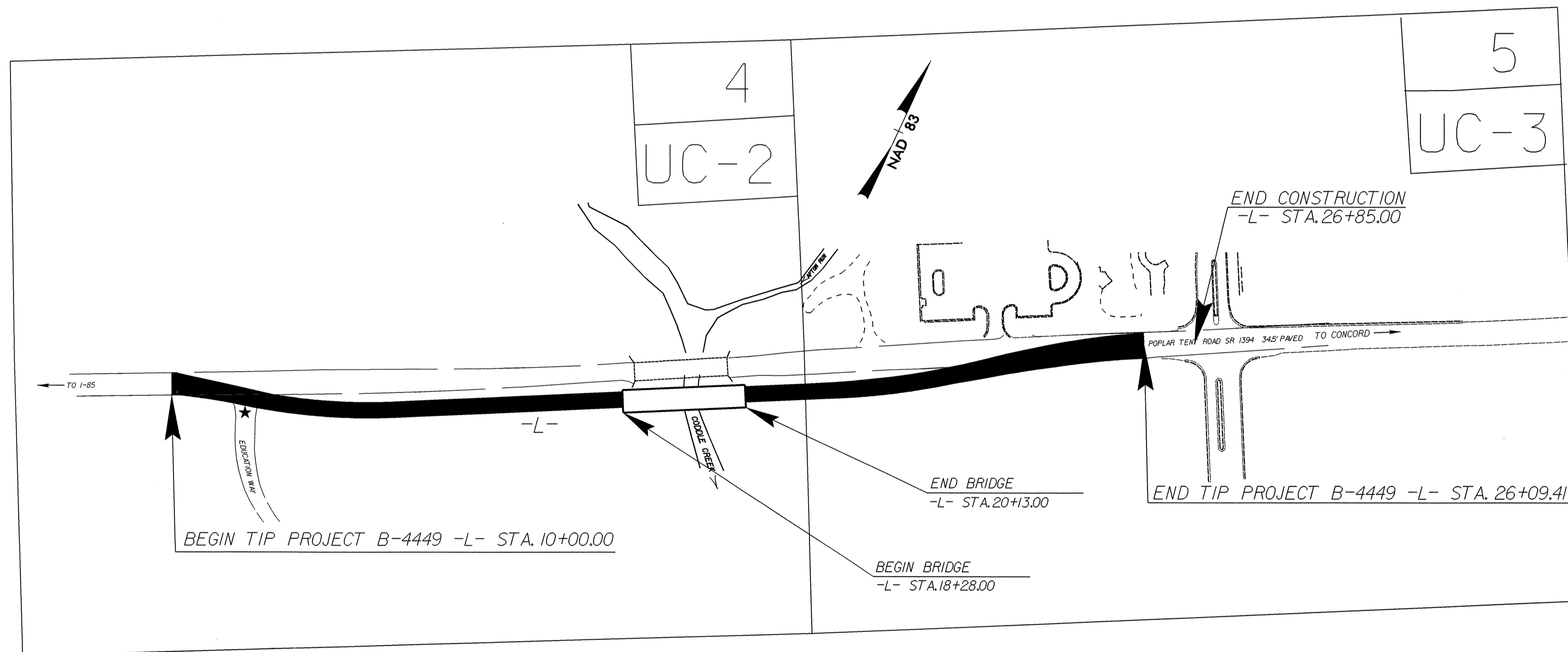
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
CABARRUS COUNTY**

**LOCATION: BRIDGE NO. 2 OVER CODDLE CREEK
ON SR 1394 (POPLAR TENT ROAD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNAL

T.I.P. NO.	SHEET NO.
B-4449	UC-1

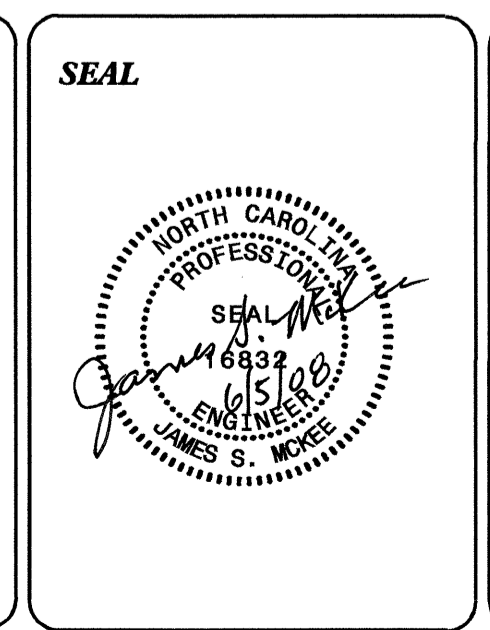


INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-3	UTILITY CONSTRUCTION PLAN SHEETS
UC-4	PROFILE SHEET
UC-5 & UC-7	DETAILS SHEET
UC-6	PIER DETAILS SHEET

WATER AND SEWER OWNERS ON PROJECT

(1) WATER CITY OF CONCORD
(2) SANITARY SEWER CITY OF CONCORD



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
PROJECT SERVICES
UTILITY SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

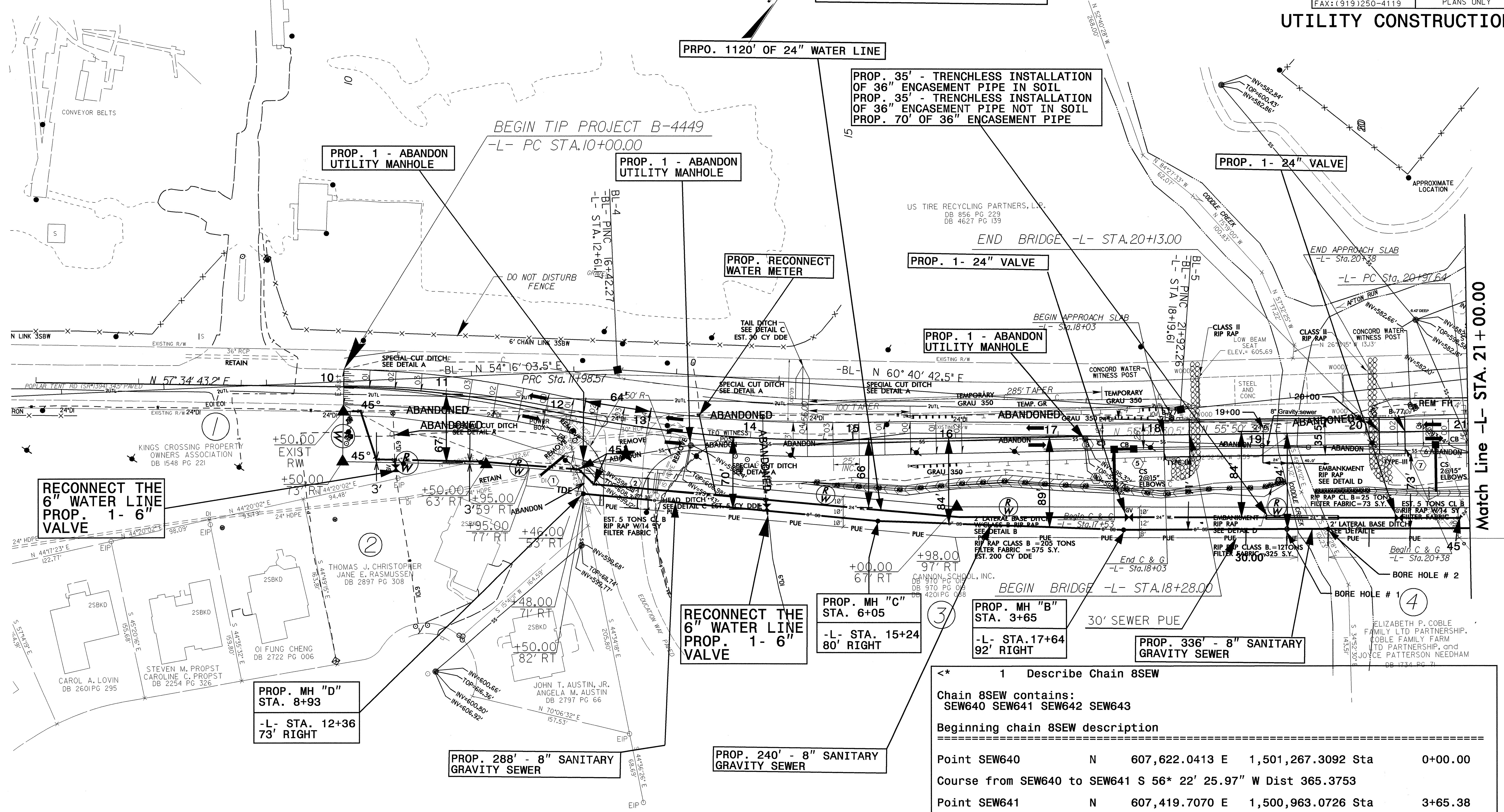
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Steve McKee, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Jamshid Hafshejani UTILITIES PROJECT DESIGNER

01-AUG-2008 09:08 R:\Utilities\RDY\UT\Proj\B4449ACAD\B-4449_rdy_UC1.tsh.dgn \$\$\$USERNAME\$\$\$



UTILITY CONSTRUCTION

Note:
 The owner of the existing water and sewer is The City of Concord.
 The Contractor will be required to limit interruption of service to water and sewer to a one time maximum 8 hours period for each.
 All water lines shall be DI, PC 350.
 All sewer lines shall be DI, PC 350. Sewer pipe from sewer station 0+00 to station 3+65 shall be DIRJ, PC 350.



RECONNECT THE 6" WATER LINE PROP. 1- 6"

RECONNECT THE 6" WATER LINE PROP. 1- 6"

PROP. MH "D" STA. 8+93
 -L- STA. 12+36
 73' RIGHT

PROP. 288' - 8" SANITARY GRAVITY SEWER

PROP. 240' - 8" SANITARY GRAVITY SEWER

PROP. MH "C" STA. 6+05
 -L- STA. 15+24
 80' RIGHT

PROP. MH "B" STA. 3+65
 -L- STA. 17+64
 92' RIGHT

PROP. 336' - 8" SANITARY GRAVITY SEWER

<* 1 Describe Chain 8SEW

Chain 8SEW contains:
 SEW640 SEW641 SEW642 SEW643

Beginning chain 8SEW description

Point SEW640	N	607,622.0413	E	1,501,267.3092	Sta	0+00.00
Course from SEW640 to SEW641 S 56° 22' 25.97" W Dist 365.3753						
Point SEW641	N	607,419.7070	E	1,500,963.0726	Sta	3+65.38
Course from SEW641 to SEW642 S 58° 44' 20.28" W Dist 239.7058						
Point SEW642	N	607,295.3146	E	1,500,758.1692	Sta	6+05.08
Course from SEW642 to SEW643 S 62° 00' 32.62" W Dist 288.1797						
Point SEW643	N	607,160.0627	E	1,500,503.7002	Sta	8+93.26

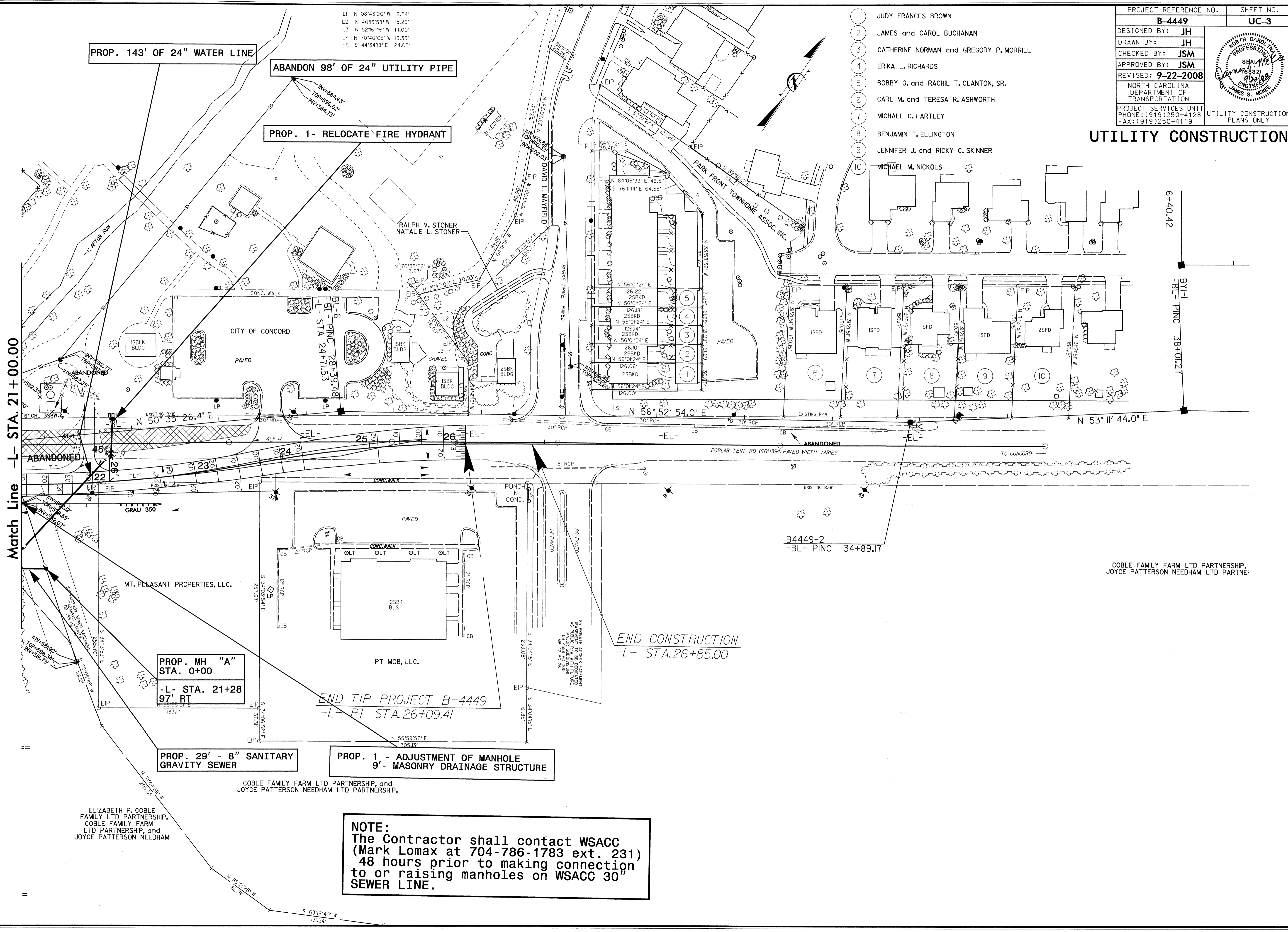
Ending chain 8SEW description

Note:
 The Contractor's attention is directed to Sections 1550, 102 and 107 of the Standard Specifications concerning the trenchless installation. No damage is allowed to the wetland or stream by the trenchless installation. The Contractor's Engineer shall design the installation method and provide on-site oversight.

★ DENOTES TRAFFIC SIGNAL

R:\ut\1\t\es\pdy\ut\Pro\B-4449_r\du\UC-2_psh4.dgn

5/14/09
 12-SEP-2008 13:22
 N:\NUN\12-SEP-2008\13:22\B-4449_rdy_UC3.pst5.dgn



L1 N 08°43'26" W 19.24'
 L2 N 40°13'58" W 15.23'
 L3 N 52°16'46" W 14.00'
 L4 N 70°46'05" W 19.35'
 L5 S 44°34'18" E 24.05'

PROP. 143' OF 24" WATER LINE

ABANDON 98' OF 24" UTILITY PIPE

PROP. 1- RELOCATE FIRE HYDRANT

Match Line -L- STA. 21+00.00

PROP. MH "A"
STA. 0+00

-L- STA. 21+28
97' RT

PROP. 29' - 8" SANITARY
GRAVITY SEWER

PROP. 1 - ADJUSTMENT OF MANHOLE
9' - MASONRY DRAINAGE STRUCTURE

COBLE FAMILY FARM LTD PARTNERSHIP and
JOYCE PATTERSON NEEDHAM LTD PARTNERSHIP.

ELIZABETH P. COBLE
FAMILY LTD PARTNERSHIP,
COBLE FAMILY FARM
LTD PARTNERSHIP, and
JOYCE PATTERSON NEEDHAM

NOTE:
The Contractor shall contact WSACC
(Mark Lomax at 704-786-1783 ext. 231)
48 hours prior to making connection
to or raising manholes on WSACC 30"
SEWER LINE.

- 1 JUDY FRANCES BROWN
- 2 JAMES and CAROL BUCHANAN
- 3 CATHERINE NORMAN and GREGORY P. MORRILL
- 4 ERIKA L. RICHARDS
- 5 BOBBY G. and RACHIL T. CLANTON, SR.
- 6 CARL M. and TERESA R. ASHWORTH
- 7 MICHAEL C. HARTLEY
- 8 BENJAMIN T. ELLINGTON
- 9 JENNIFER J. and RICKY C. SKINNER
- 10 MICHAEL M. NICKOLS

PROJECT REFERENCE NO.	SHEET NO.
B-4449	UC-3
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: JSM	
APPROVED BY: JSM	
REVISED: 9-22-2008	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

6+40.42
 B1-1
 -BL- PINC 38+01.27

COBLE FAMILY FARM LTD PARTNERSHIP,
JOYCE PATTERSON NEEDHAM LTD PARTNER

END CONSTRUCTION
-L- STA. 26+85.00

END TIP PROJECT B-4449
-L- PT STA. 26+09.41

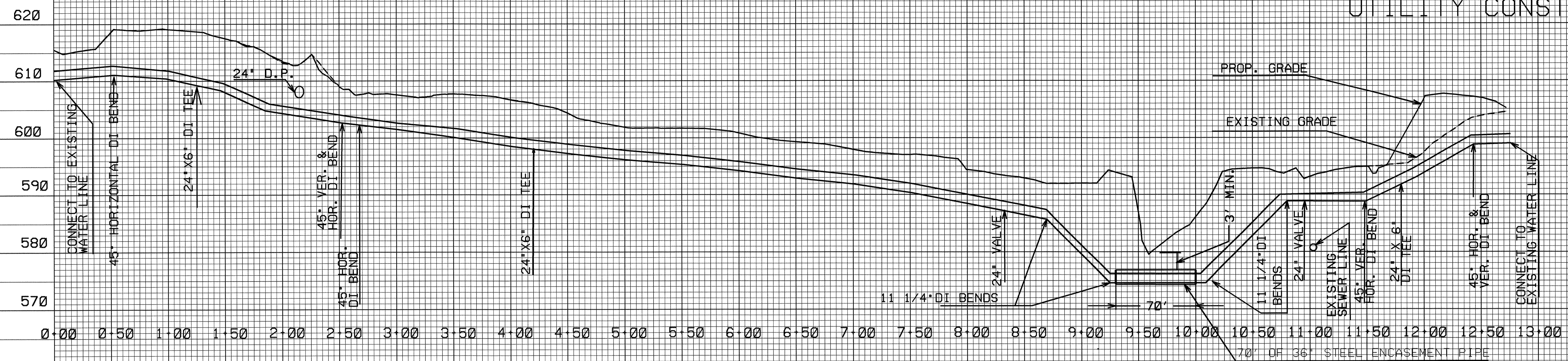
B4449-2
-BL- PINC 34+89.17

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4449	UC-4
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: JSM	
APPROVED BY: JSM	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

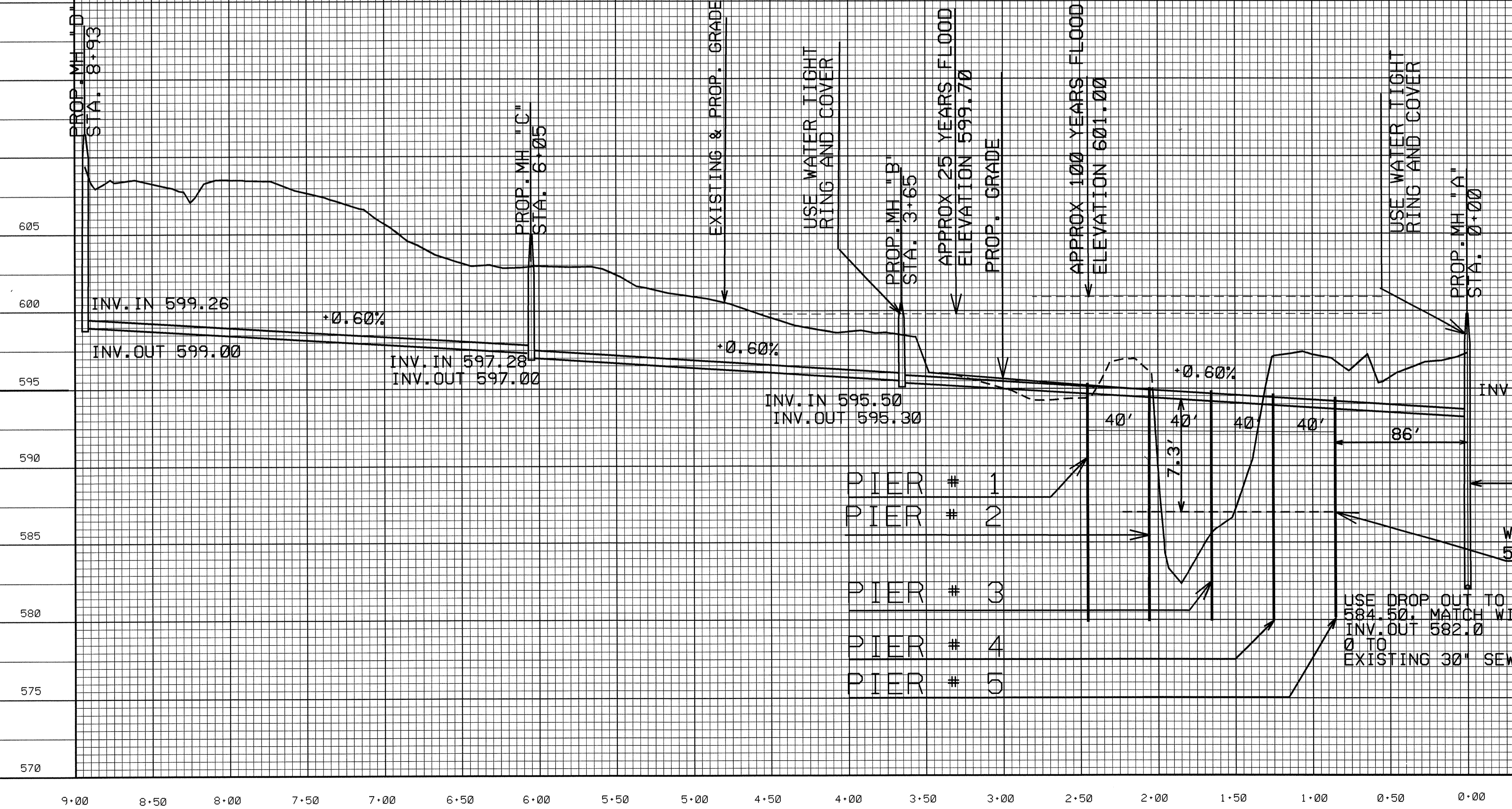
PROP. 24" WATER LINE

UTILITY CONSTRUCTION



PROP. 8" SEWER LINE

NOTE:
 SEE UC-6 FOR PIER DETAILS.
 PIER NOS. 1, 2, 4 AND 5 USE
 SINGLE HP 8X36.
 PIER NO. 3 USE DOUBLE HP 8X36.
 PIERS SHALL BE PLACED AT THE
 MIDPOINT OF EACH 3-PIPE
 ASSEMBLY (20-FT JOINTS) WITH
 NO SUPPORT UNDER THE MIDDLE
 PIPE SECTION. DIRJ PIPE SHALL
 BE RIGID RESTRAINED JOINT.



- PIER # 1
- PIER # 2
- PIER # 3
- PIER # 4
- PIER # 5

USE DROP OUT TO INV IN
 584.50, MATCH WITH
 INV. OUT 582.0
 TO
 EXISTING 30" SEWER LINE

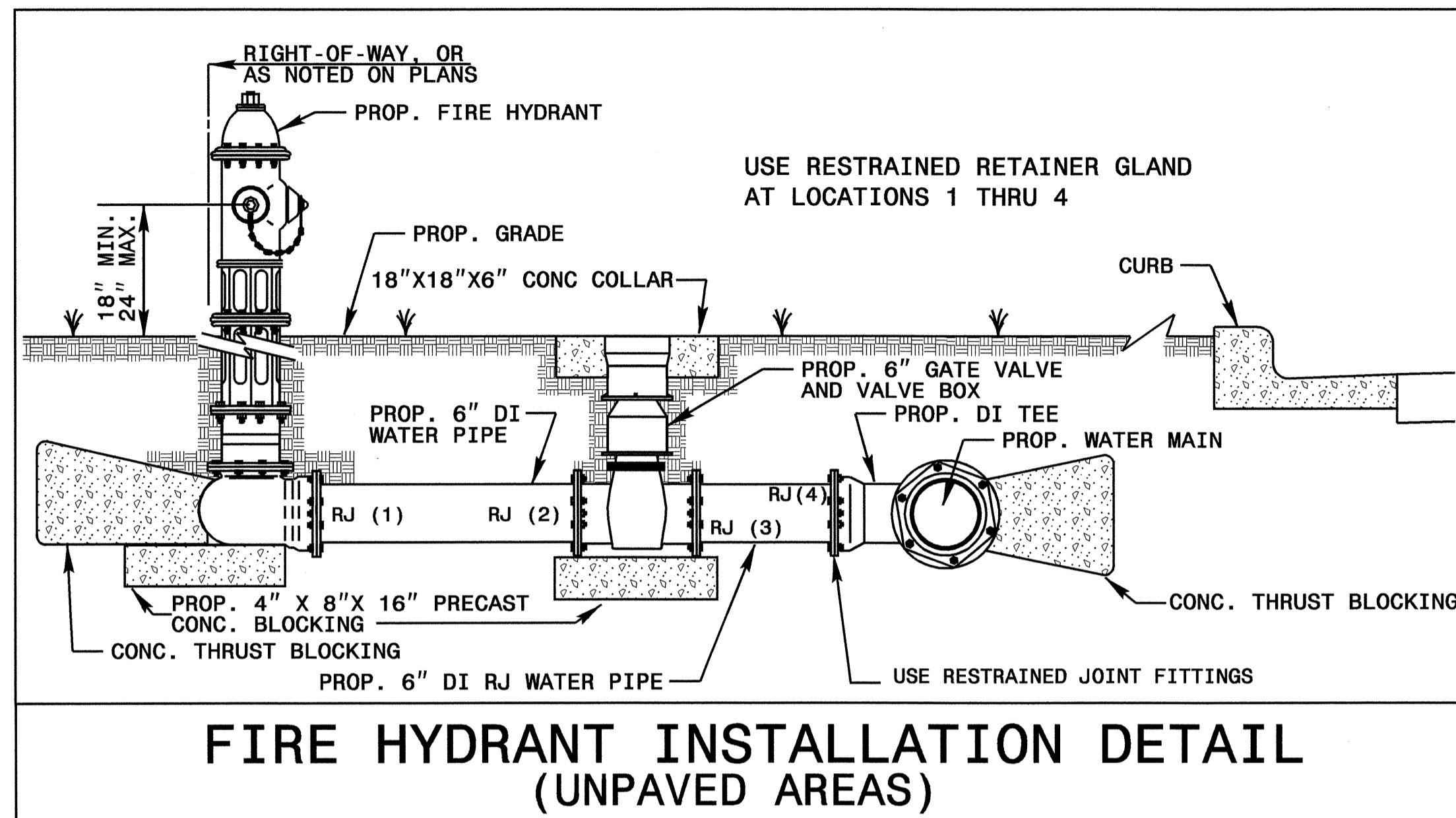
5' IN SIDE DROP
 MANHOLE
 SEE WSACC AND CITY OF
 CONCORD DETAIL.

WATER SURFACE ELEVATION
 587.00 ON 3/27/07

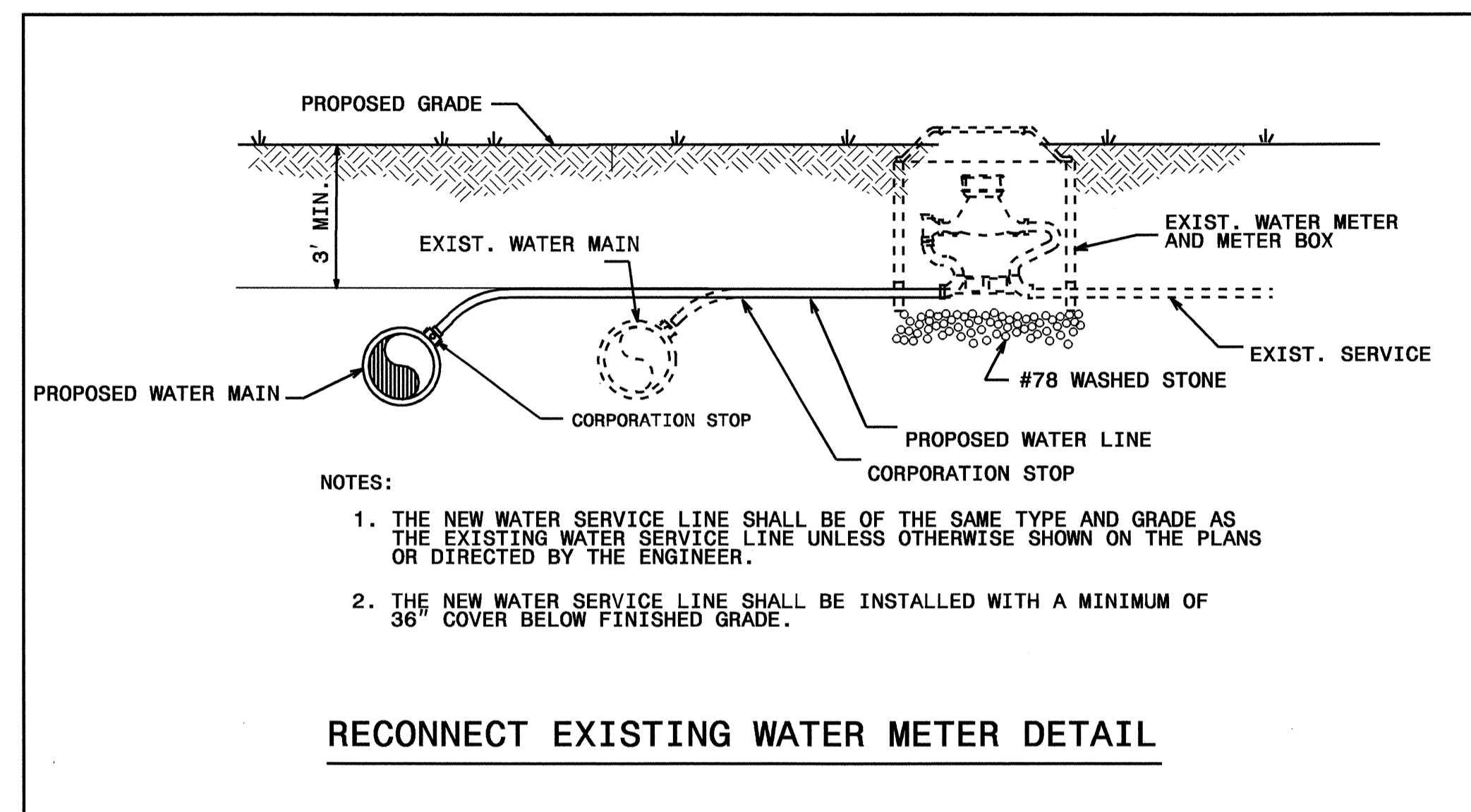
03 JUN 2008 10:20 UC4_SEWER_WATER_PROF_RDY_XPL.DGN
 10:20 UC4_SEWER_WATER_PROF_RDY_XPL.DGN

PROJECT REFERENCE NO.	SHEET NO.
B-4449	UC-5
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: JSM	
APPROVED BY: JSM	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

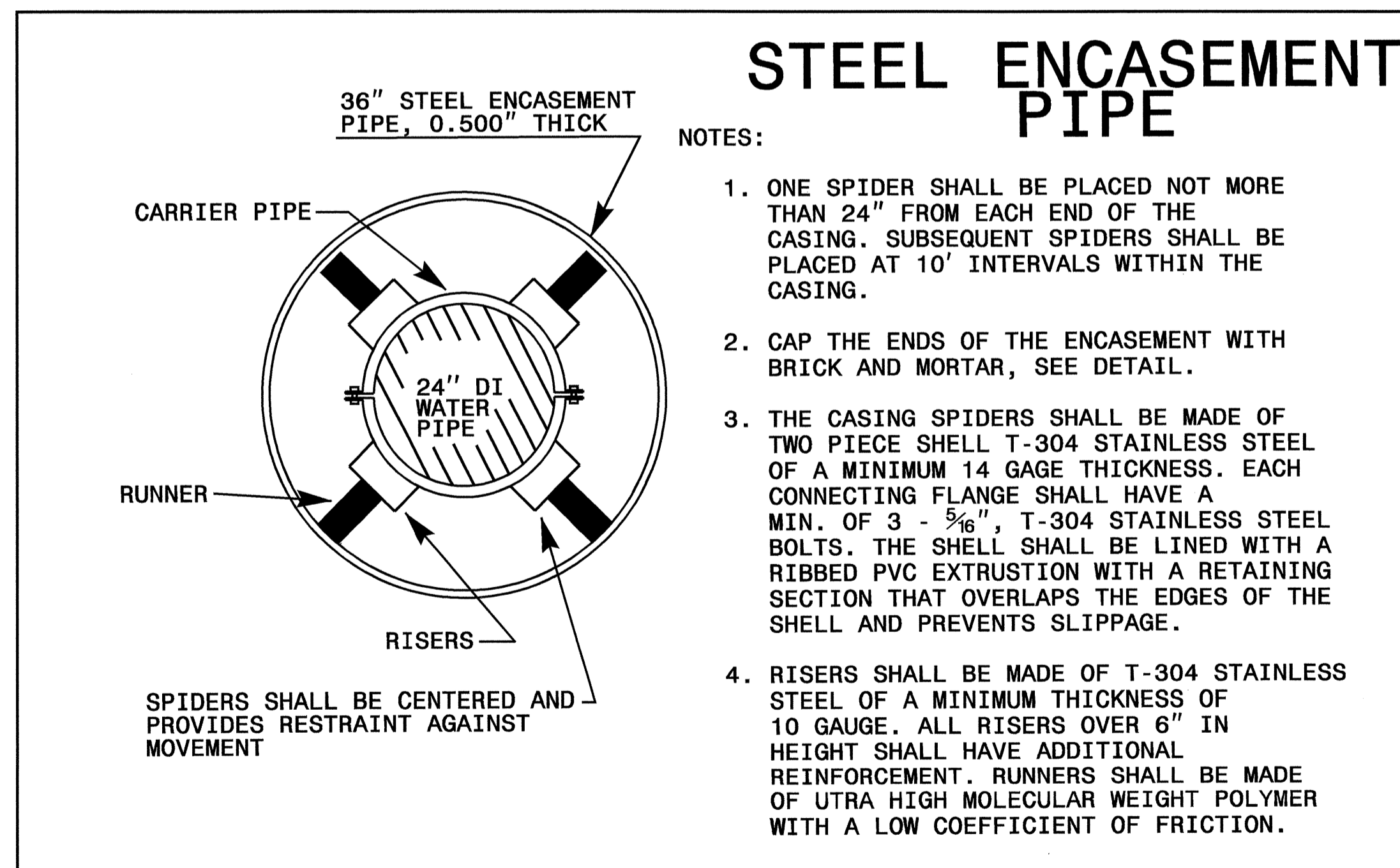


FIRE HYDRANT INSTALLATION DETAIL (UNPAVED AREAS)



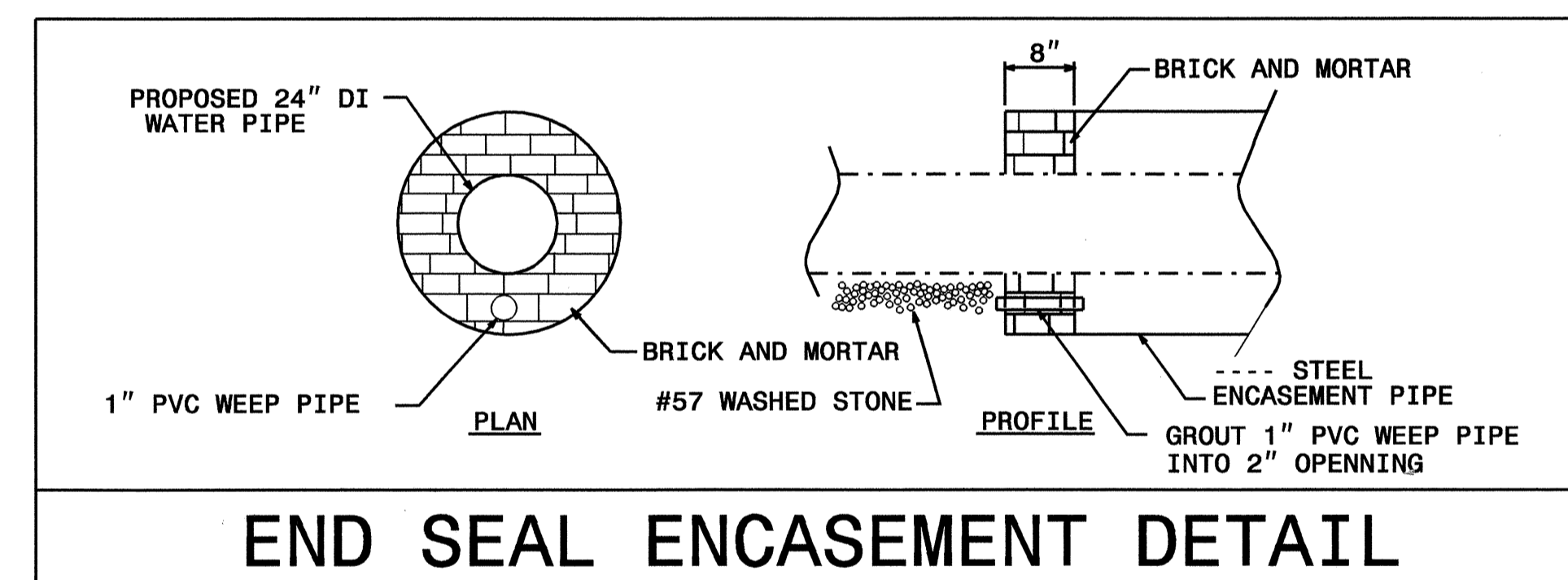
- NOTES:
1. THE NEW WATER SERVICE LINE SHALL BE OF THE SAME TYPE AND GRADE AS THE EXISTING WATER SERVICE LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
 2. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUM OF 36\"/>

RECONNECT EXISTING WATER METER DETAIL

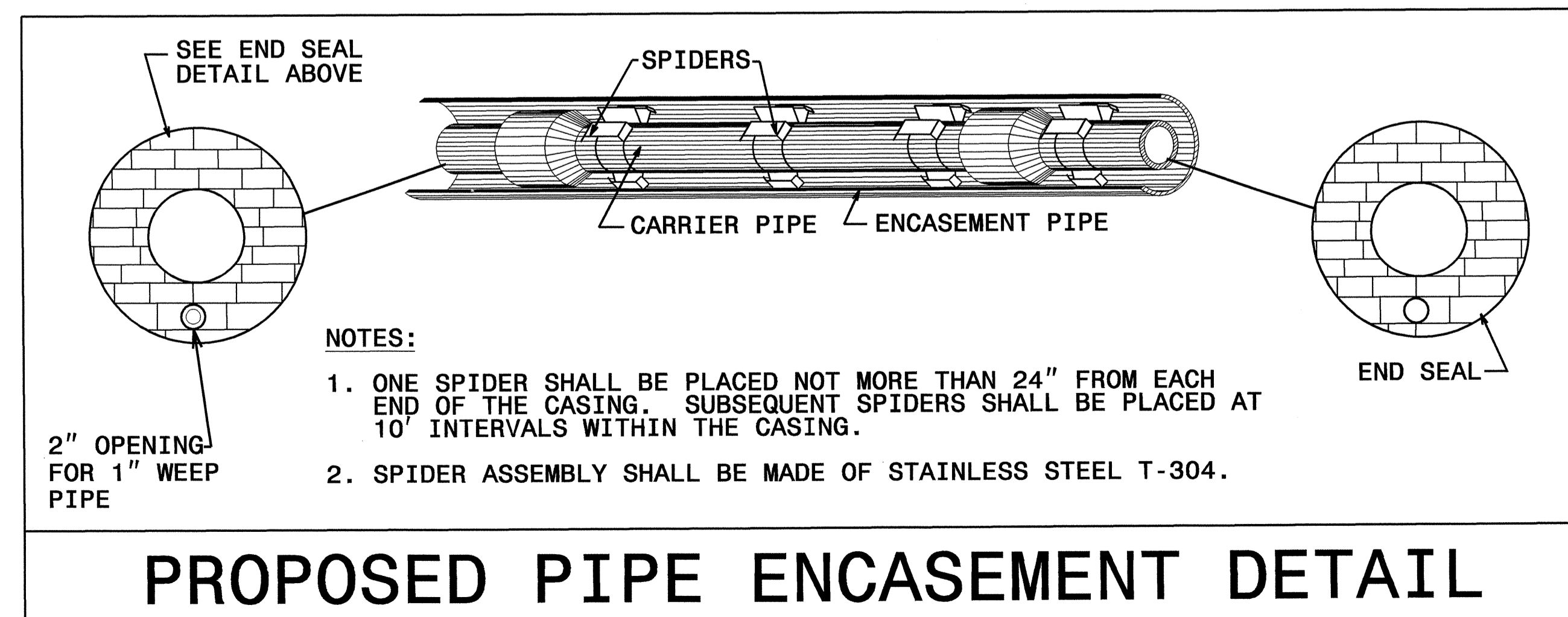


STEEL ENCASEMENT PIPE

- NOTES:
1. ONE SPIDER SHALL BE PLACED NOT MORE THAN 24\"/>
 2. CAP THE ENDS OF THE ENCASEMENT WITH BRICK AND MORTAR, SEE DETAIL.
 3. THE CASING SPIDERS SHALL BE MADE OF TWO PIECE SHELL T-304 STAINLESS STEEL OF A MINIMUM 14 GAGE THICKNESS. EACH CONNECTING FLANGE SHALL HAVE A MIN. OF 3 - 5/16\"/>
 4. RISERS SHALL BE MADE OF T-304 STAINLESS STEEL OF A MINIMUM THICKNESS OF 10 GAUGE. ALL RISERS OVER 6\"/>



END SEAL ENCASEMENT DETAIL

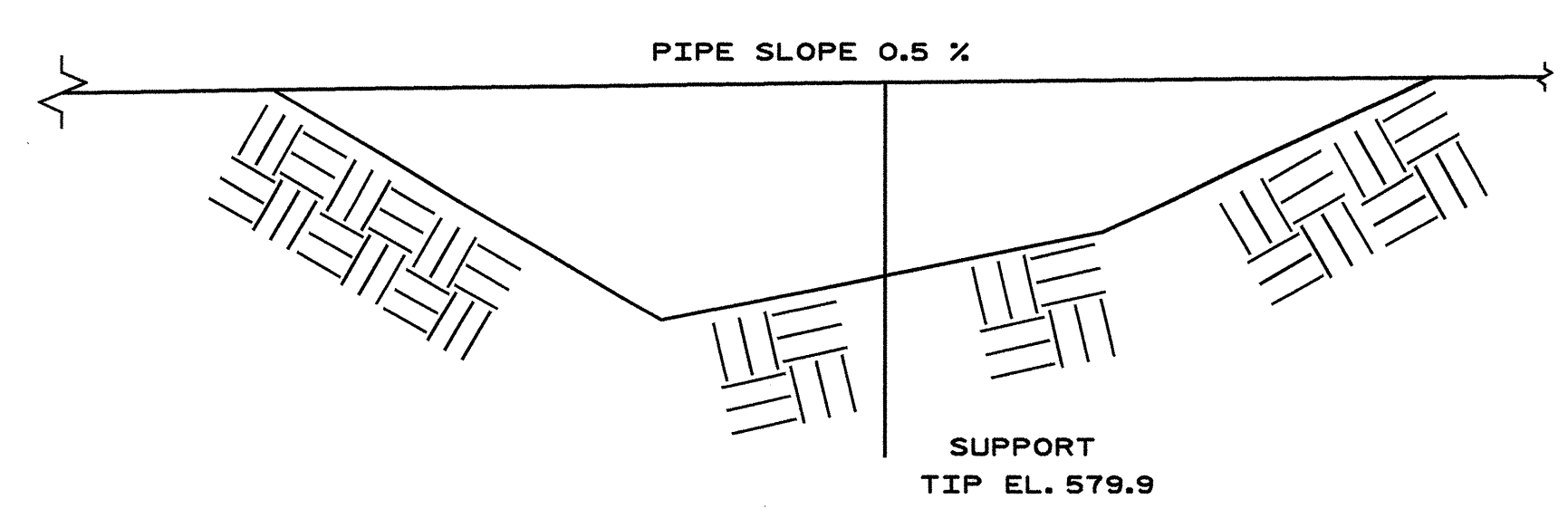


- NOTES:
1. ONE SPIDER SHALL BE PLACED NOT MORE THAN 24\"/>
 2. SPIDER ASSEMBLY SHALL BE MADE OF STAINLESS STEEL T-304.

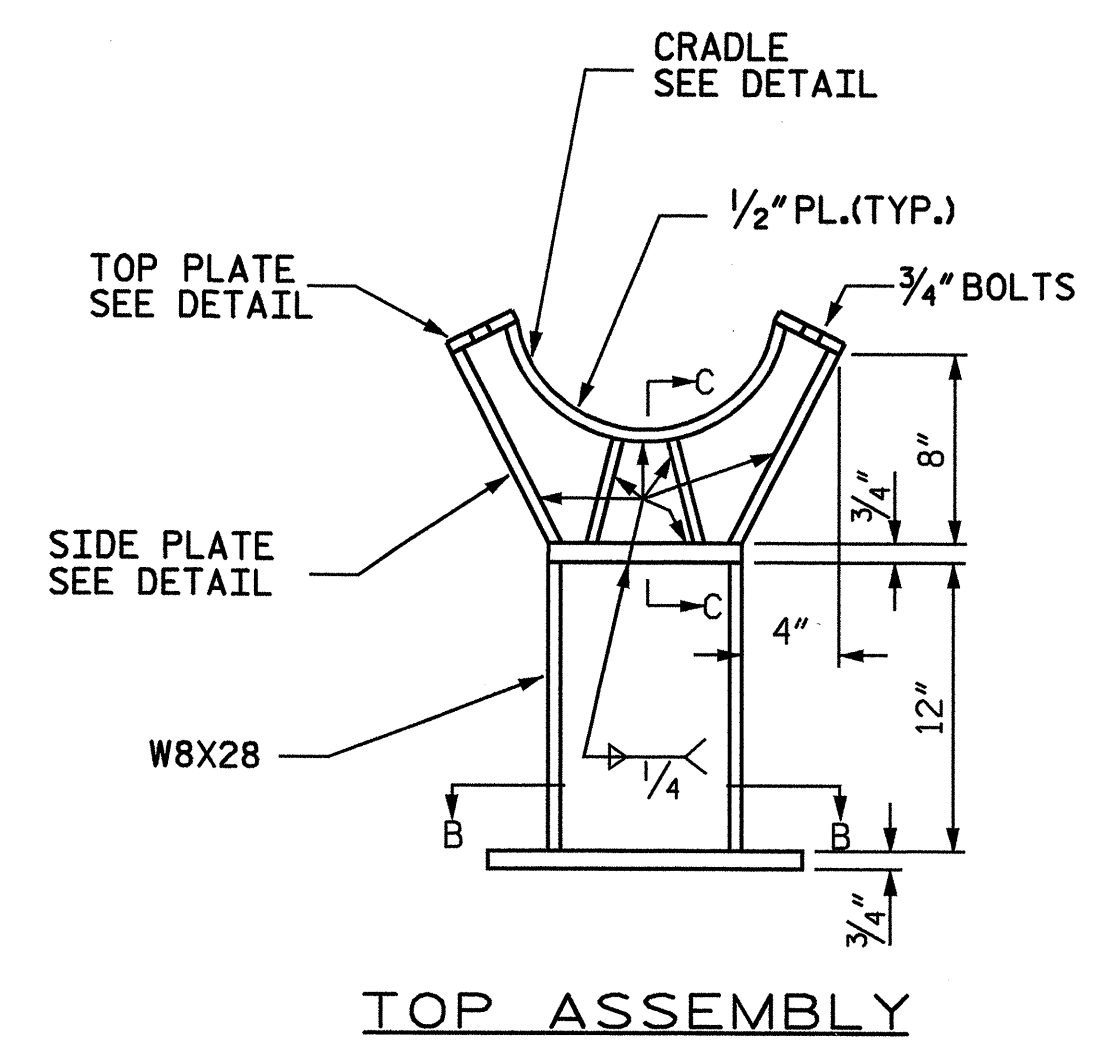
PROPOSED PIPE ENCASEMENT DETAIL

GENERAL NOTES

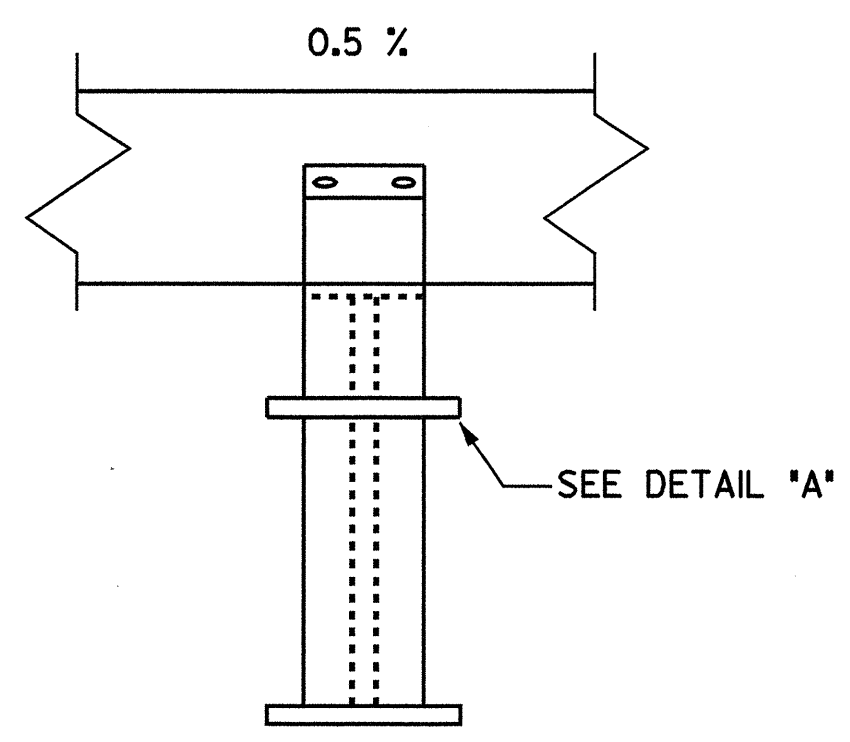
CONTRACTOR SHALL VERIFY ALL ELEVATIONS
 ALL STEEL SHALL BE AASHTO M270. HP PILES SHALL BE GRADE 50 OR GREATER
 THE PIPE SHALL BE SECURED TO THE CRADLE WITH GALVANIZED STRAPS. THE STRAPS SHALL BE APPROVED BY THE ENGINEER
 FOR OTHER SUPPORTS IN GROUND, IF DESIRED, A SINGLE HP 8 X 36 PILE CAN BE DRIVEN TO THE SAME TIP ELEVATION AS SHOWN. A TOP PLATE AS SHOWN IN SECTION B-B SHALL THEN BE WELDED TO THE TOP OF THE PILE
 IN ORDER TO SUPPORT THE PIPE, A TOP ASSEMBLY AS SHOWN SHALL BE THEN CONNECTED TO THE PILE TOP PLATE
 ALL WELDS SHALL BE DONE IN ACCORDANCE WITH THE LATEST AWS BRIDGE WELDING CODE.
 ALL ELEVATIONS ARE GIVEN IN FEET
 ALL STEEL SHALL BE HOT DIPPED GALVANIZED



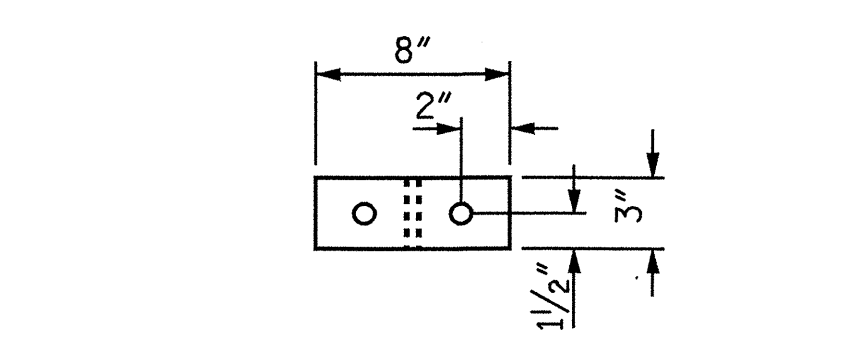
ELEVATION



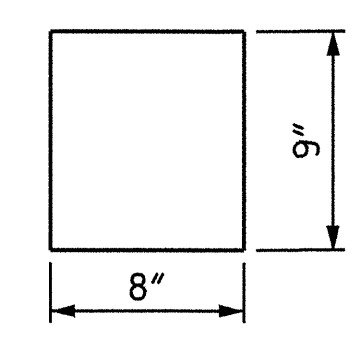
TOP ASSEMBLY



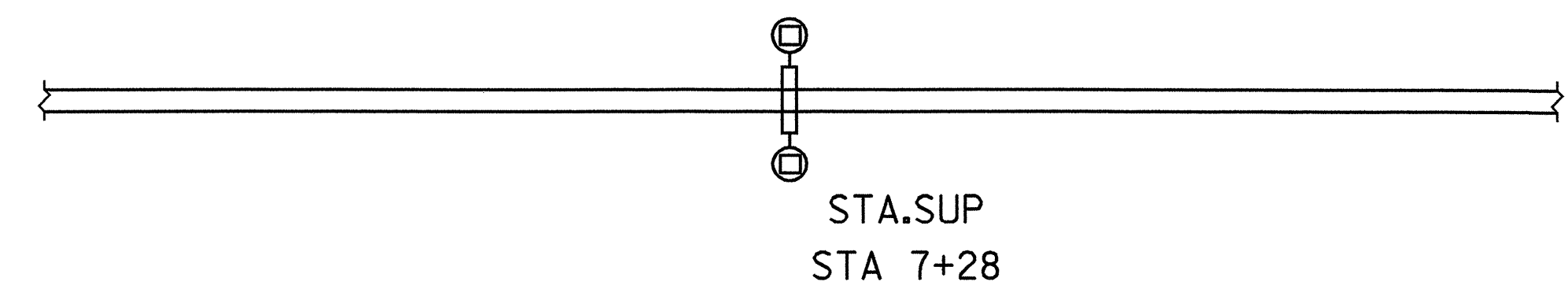
SIDE VIEW



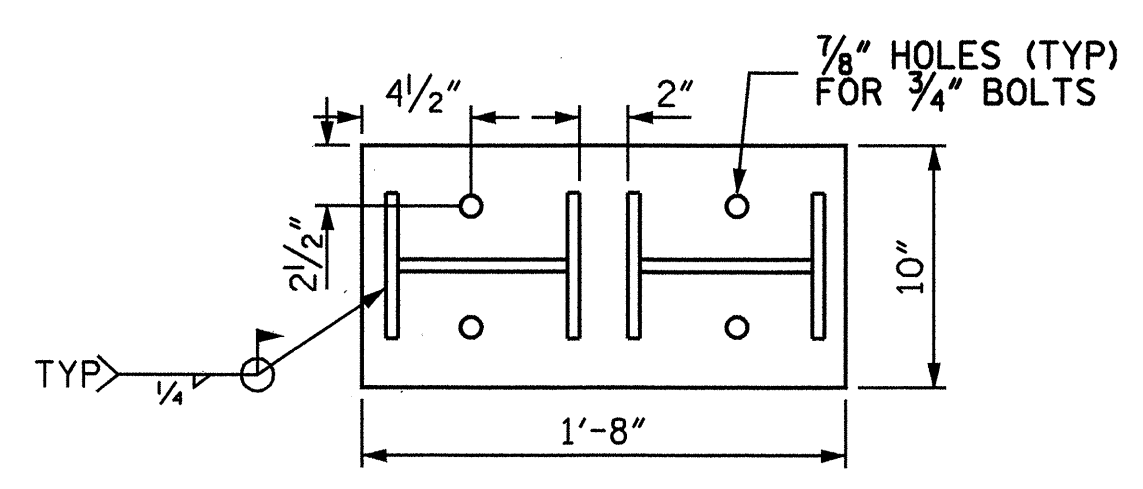
VIEW OF TOP PLATE



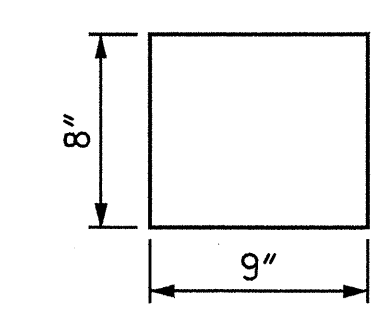
VIEW OF SIDE PLATE



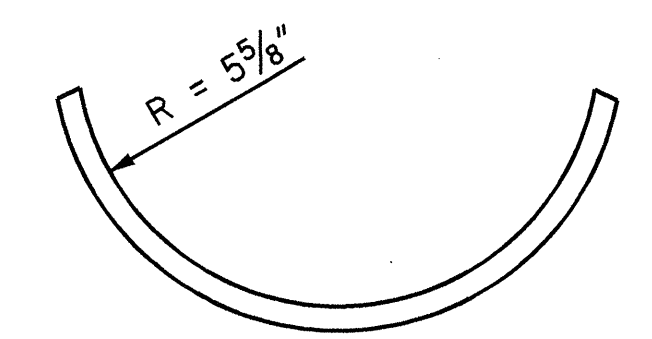
PLAN



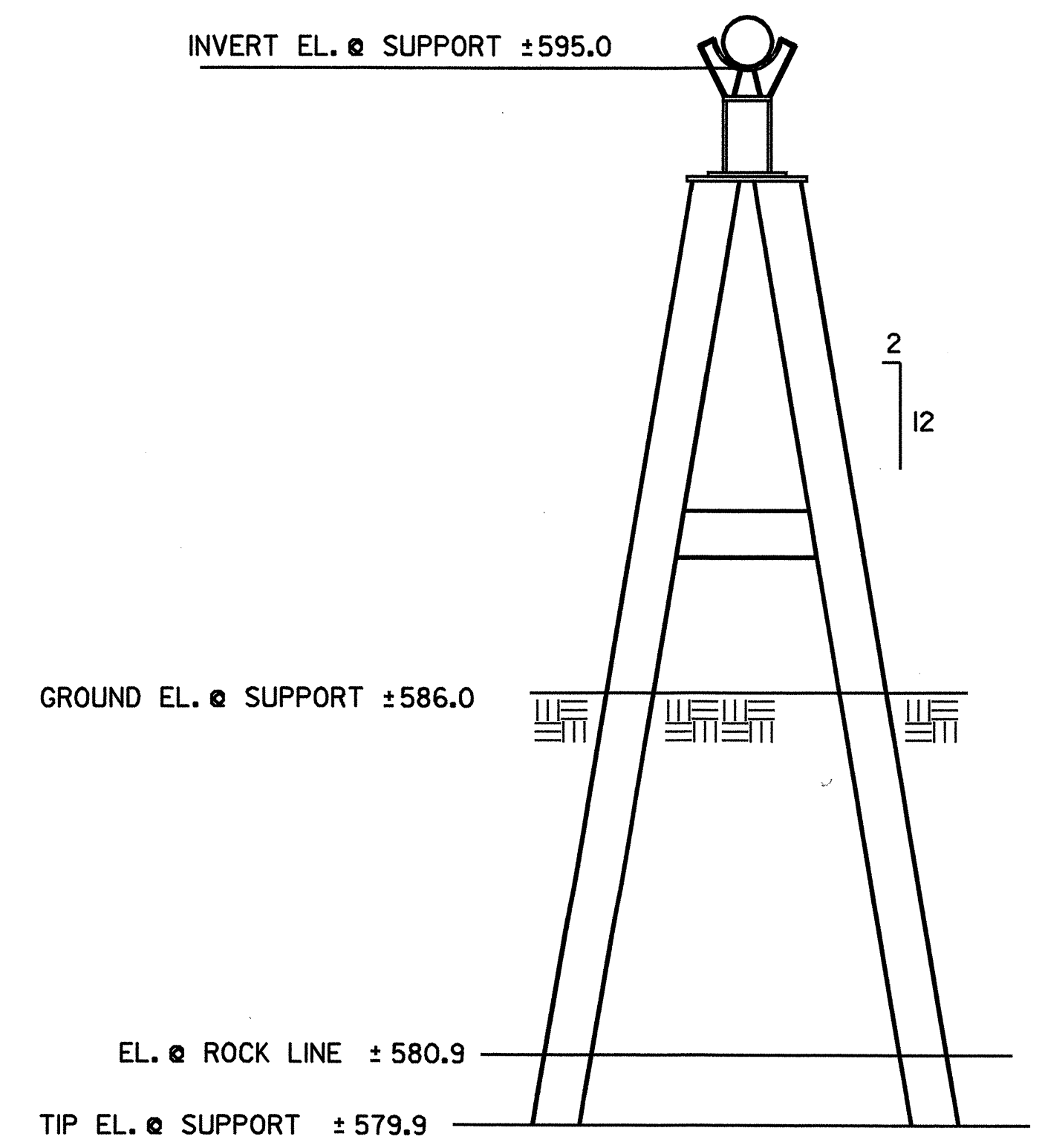
VIEW A-A



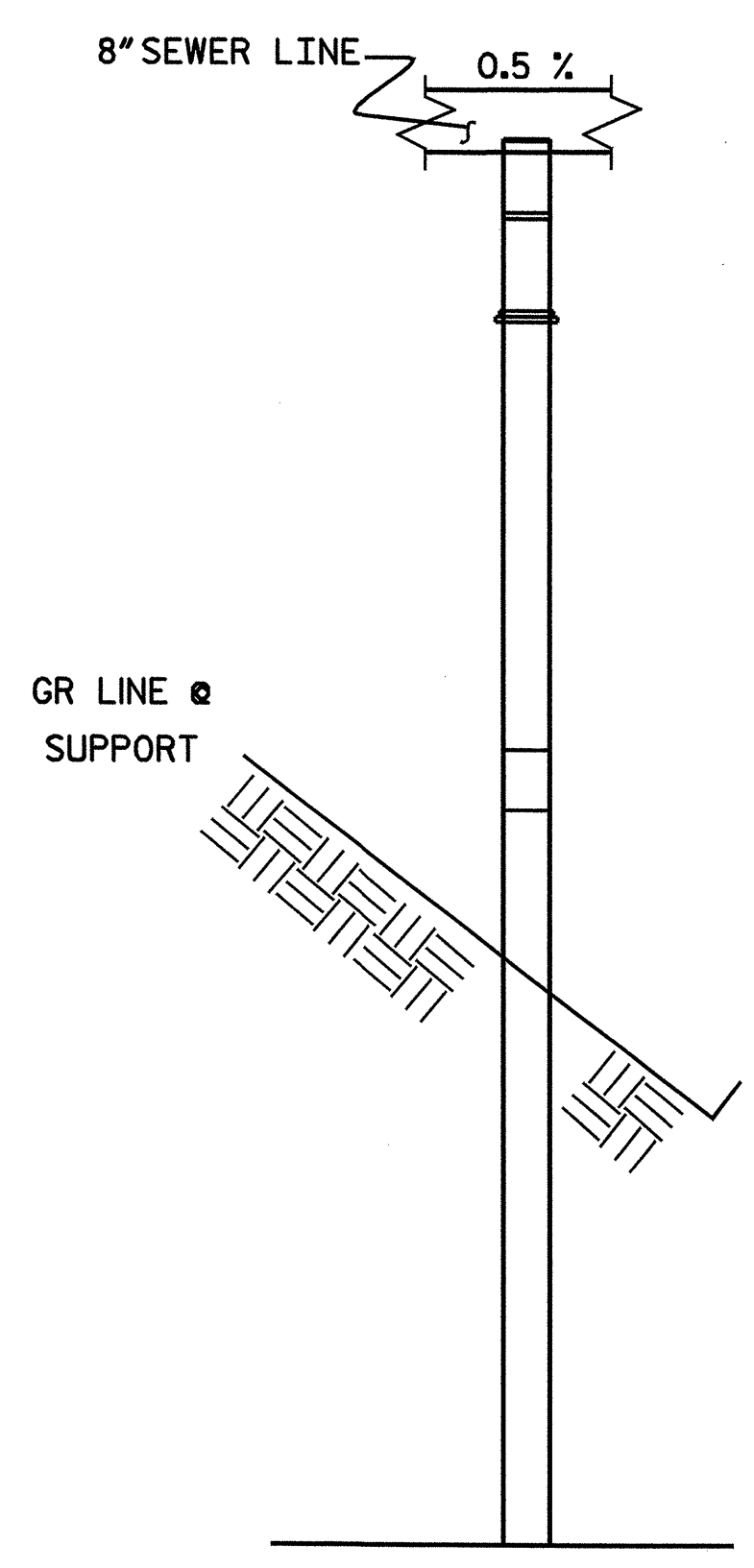
**PLATE AT TOP OF W8X28
 DETAIL "A"**



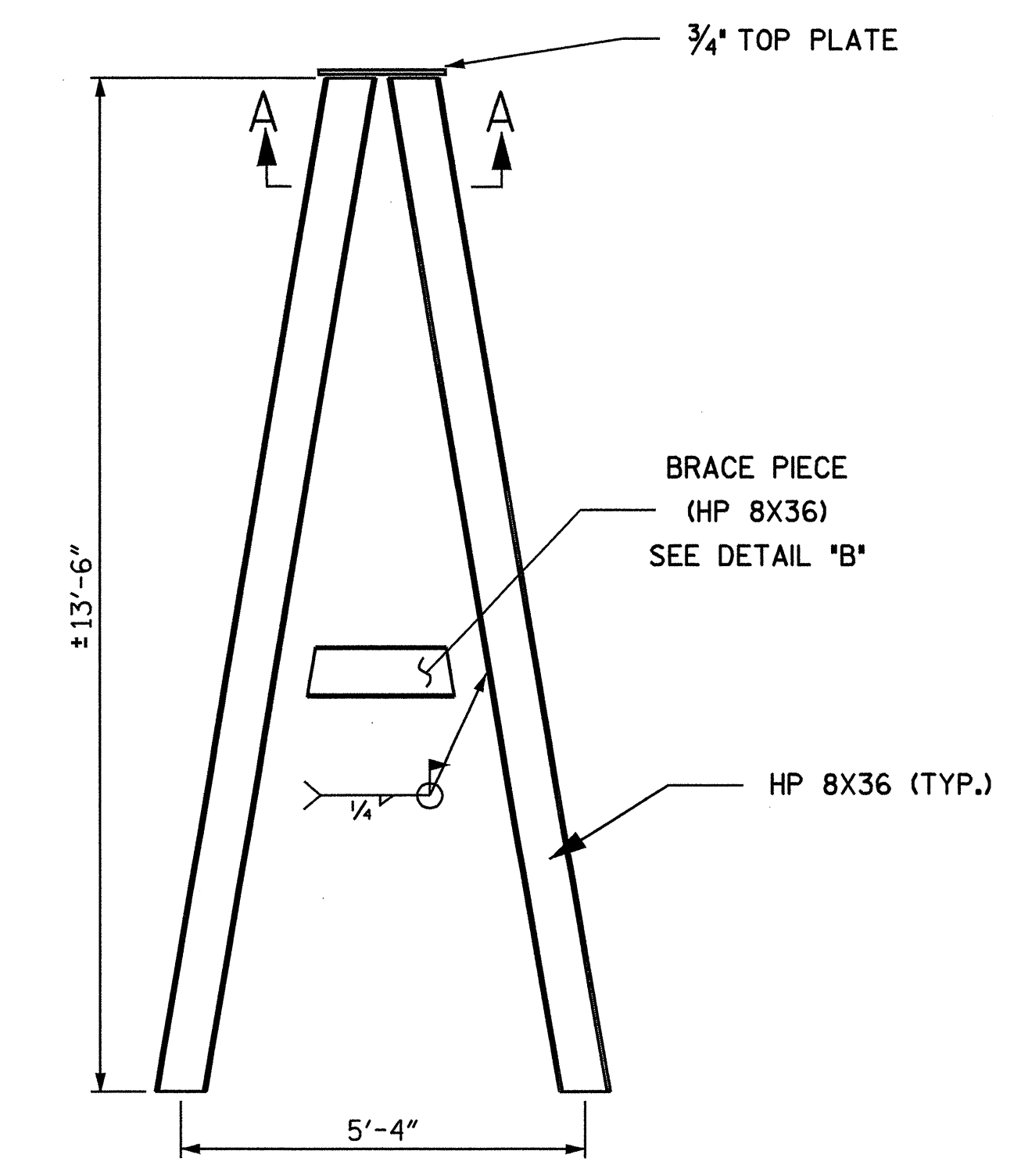
SIDE VIEW OF CRADLE



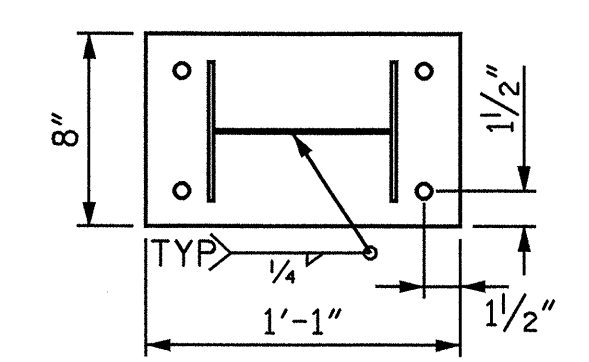
ELEVATION



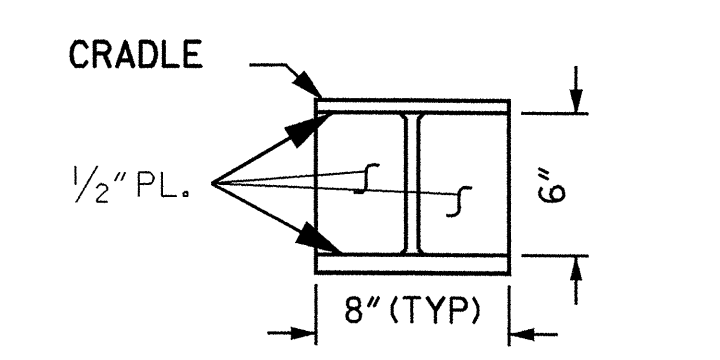
SIDE VIEW



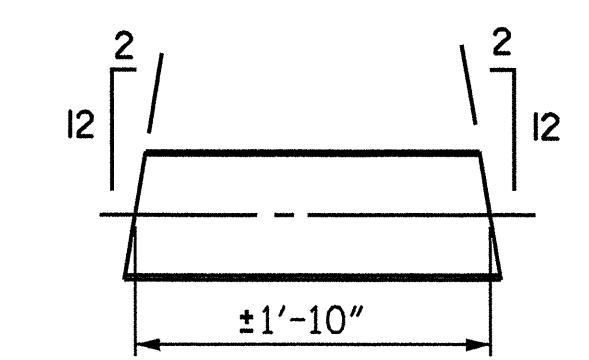
SUPPORT LEGS DETAILS



SECTION B-B



SECTION C-C



DETAIL "B"



PROJECT NO. B-4449
CABARRUS COUNTY
 STATION: 7+28

SHEET OF

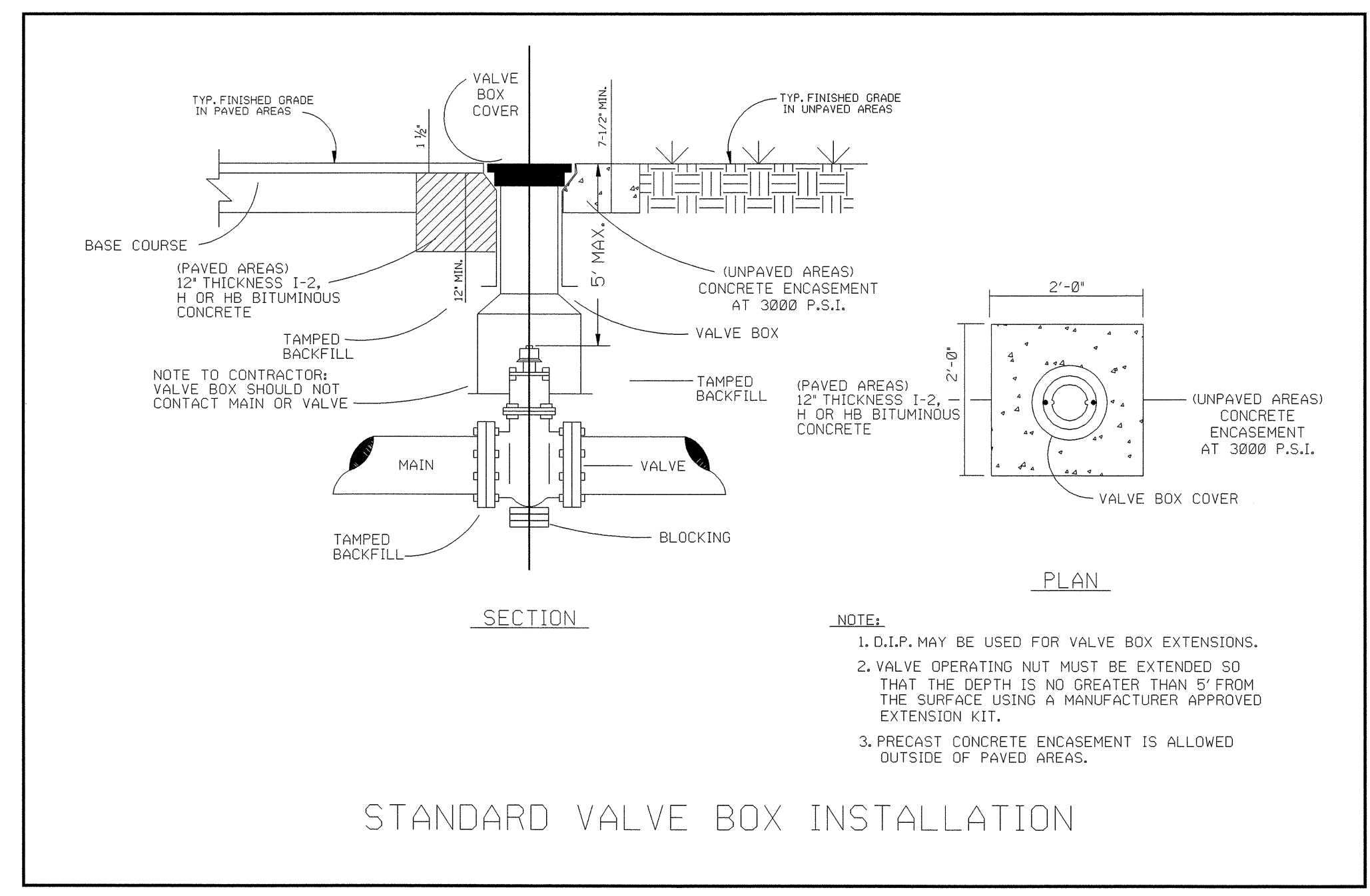
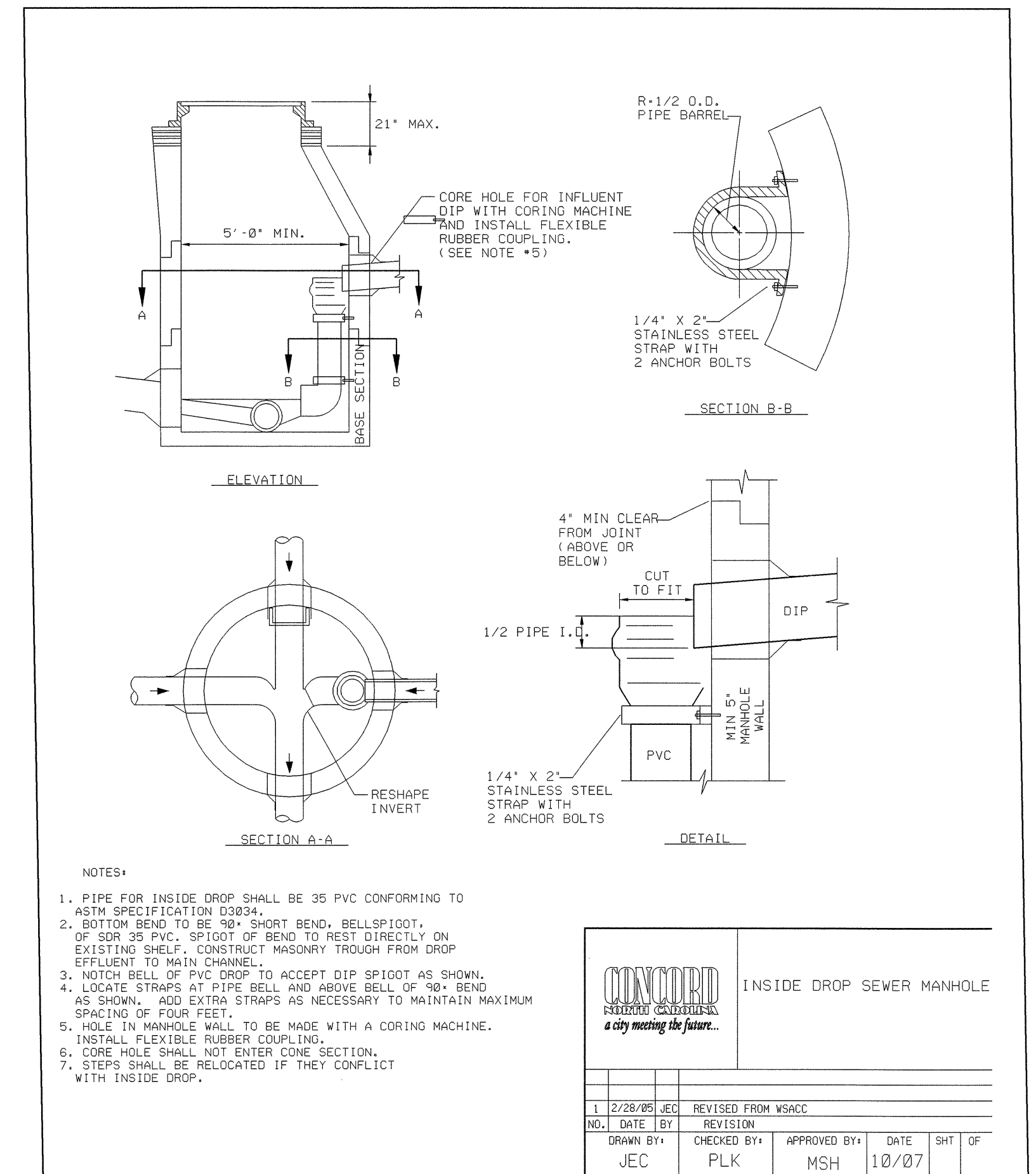
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. UC-6
SUPPORT FOR 8" Ø PIPE						TOTAL SHEETS
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			UC-6 TOTAL SHEETS
2			4			

DRAWN BY : J. Keene DATE : May 08
 CHECKED BY : F. Asefnia DATE : May 08

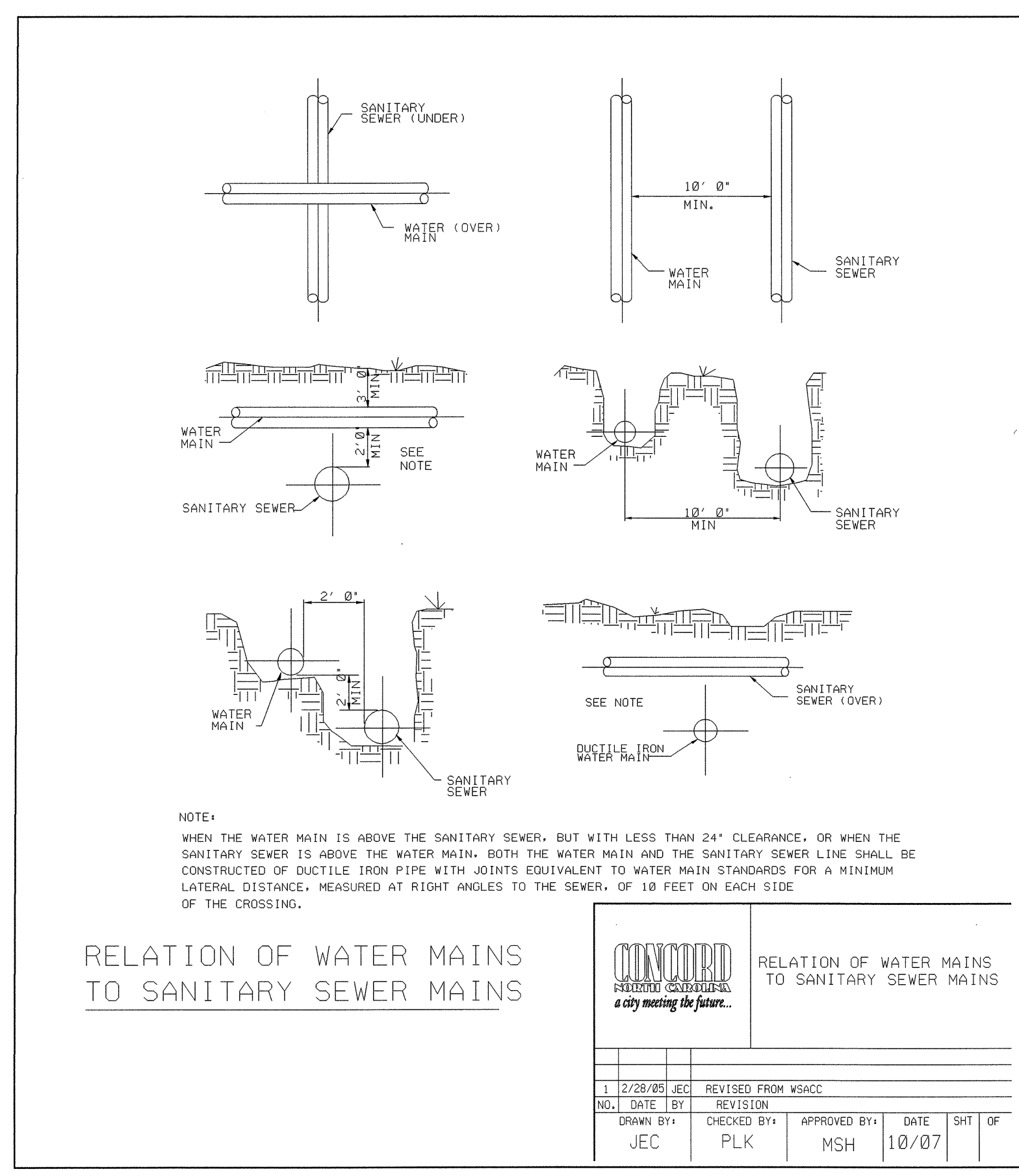
8/17/09

PROJECT REFERENCE NO. B-4449	SHEET NO. UC-7
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: JSM	
APPROVED BY: JSM	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

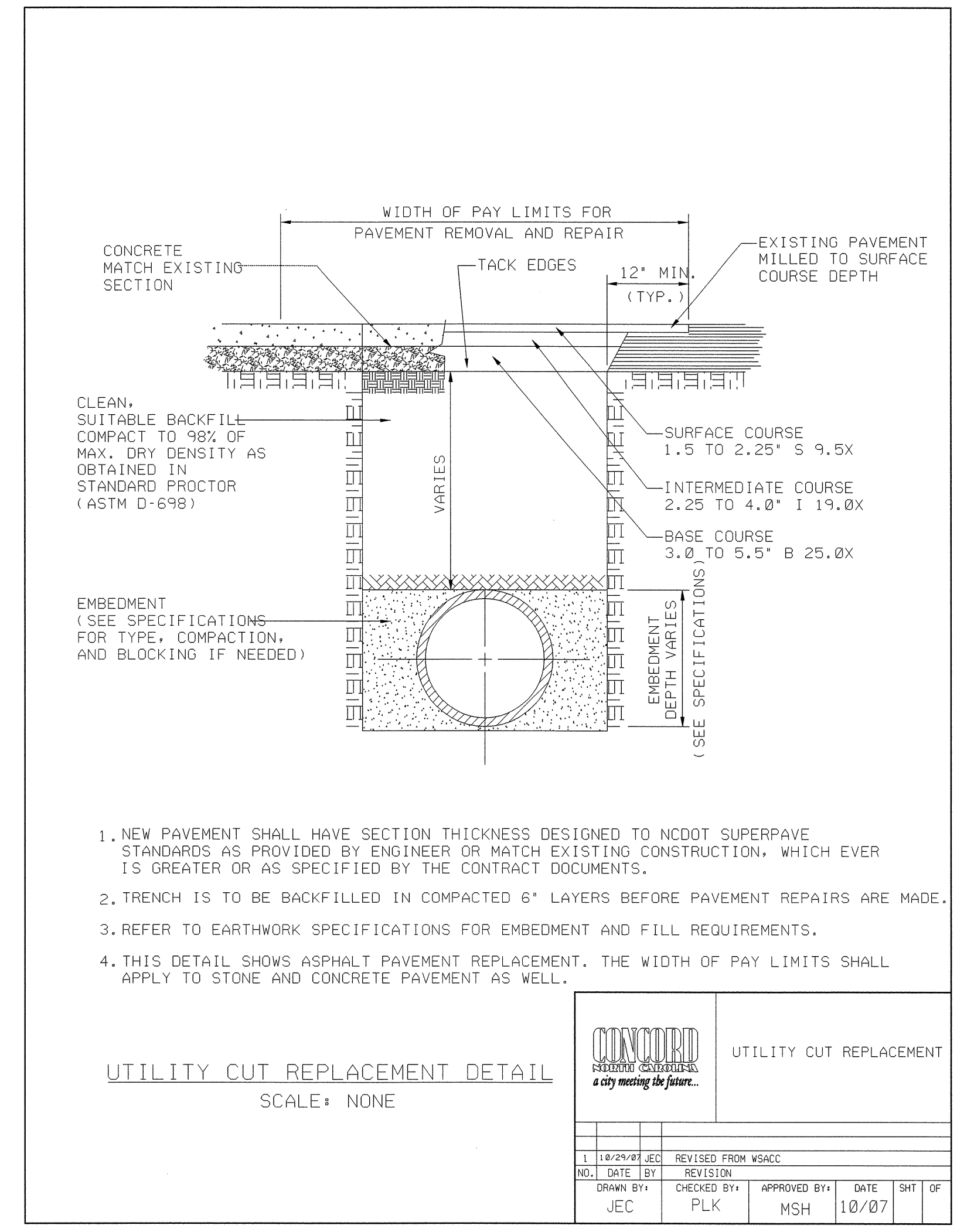


STANDARD VALVE BOX INSTALLATION



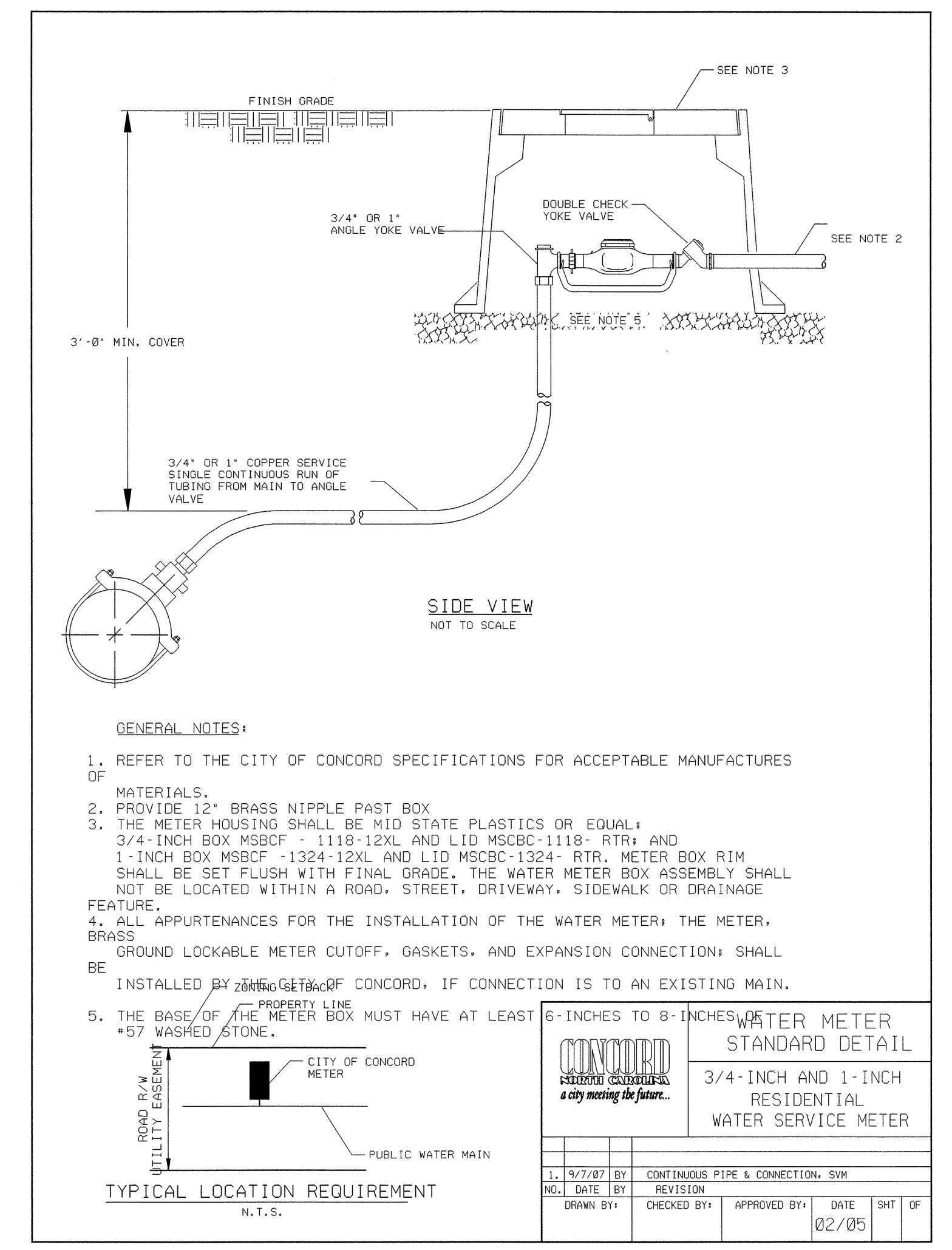
RELATION OF WATER MAINS TO SANITARY SEWER MAINS

CONCORD		UTILITY CUT REPLACEMENT	
a city meeting the future.		a city meeting the future.	
NO.	DATE	BY	REVISION
1	2/28/05	JEC	REVISED FROM WSACC
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE
JEC	PLK	MSH	10/07



UTILITY CUT REPLACEMENT DETAIL

CONCORD		UTILITY CUT REPLACEMENT	
a city meeting the future.		a city meeting the future.	
NO.	DATE	BY	REVISION
1	10/24/07	JEC	REVISED FROM WSACC
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE
JEC	PLK	MSH	10/07



TYPICAL LOCATION REQUIREMENT

CONCORD		UTILITY CUT REPLACEMENT	
a city meeting the future.		a city meeting the future.	
NO.	DATE	BY	REVISION
1	9/7/07	JEC	CONTINUOUS PIPE & CONNECTION, SYM
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE
JEC	PLK	MSH	02/05

05 JUN 2008 08:15 \\proj\proj\64449de\ta1\UC.5.7.dgn

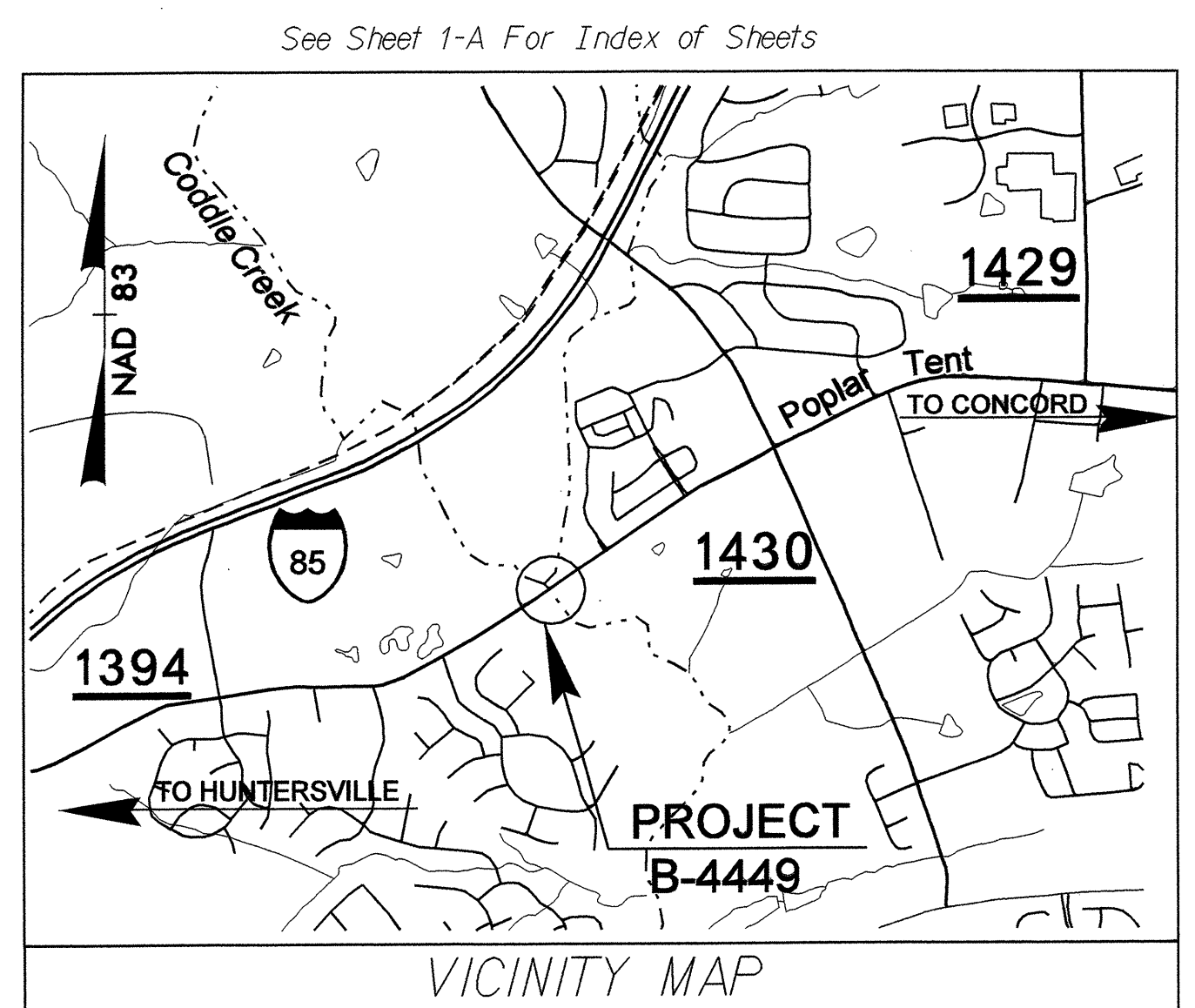
T.I.P. NO.	SHEET NO.
B-4449	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

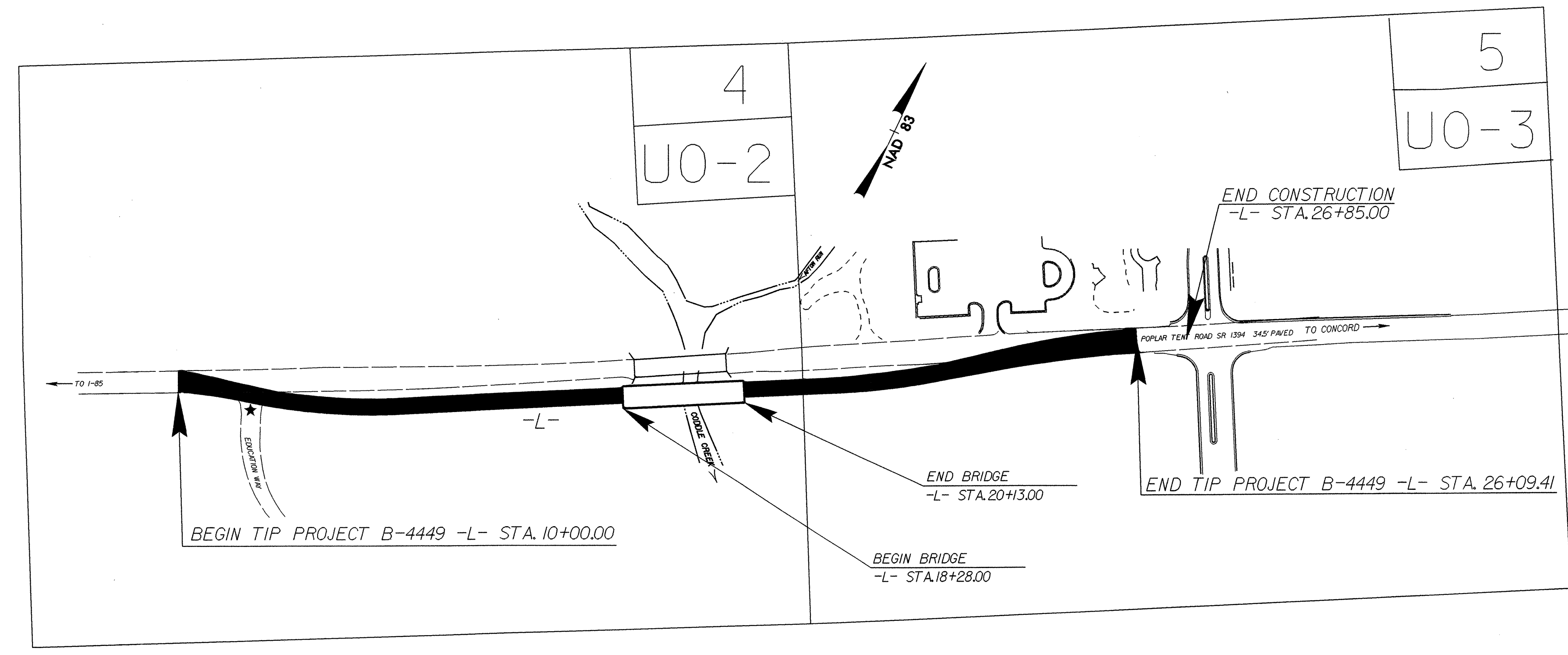
**UTILITIES BY OTHERS PLANS
CABARRUS COUNTY**

**LOCATION: BRIDGE NO. 2 OVER CODDLE CREEK
ON SR 1394 (POPLAR TENT ROAD)**

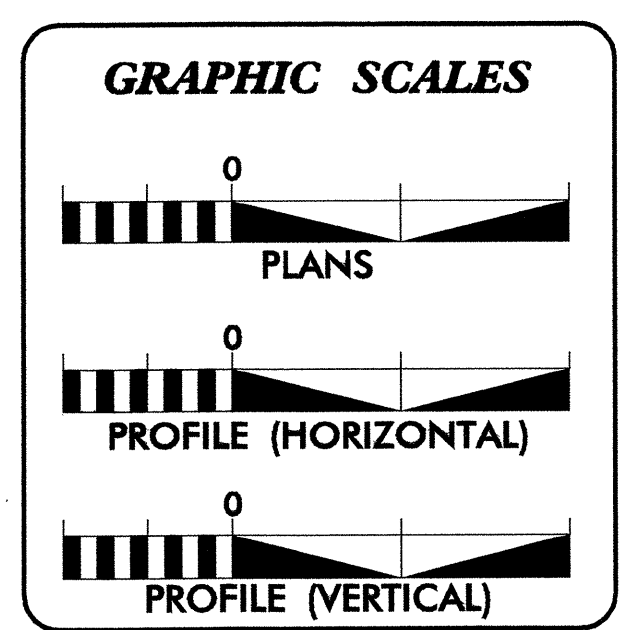
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNAL,
UTILITIES**



VICINITY MAP
THIS PROJECT IS WITHIN CONCORD MUNICIPAL BOUNDARIES



TIP PROJECT: B-4449



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-3	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT
(1) DUKE ENERGY: POWER
(2) WINDSTREAM: TELEPHONE
(3) TIME WARNER: TV CABLE
(4) CITY OF CONCORD: POWER

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
DESIGN SERVICES
UTILITY SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

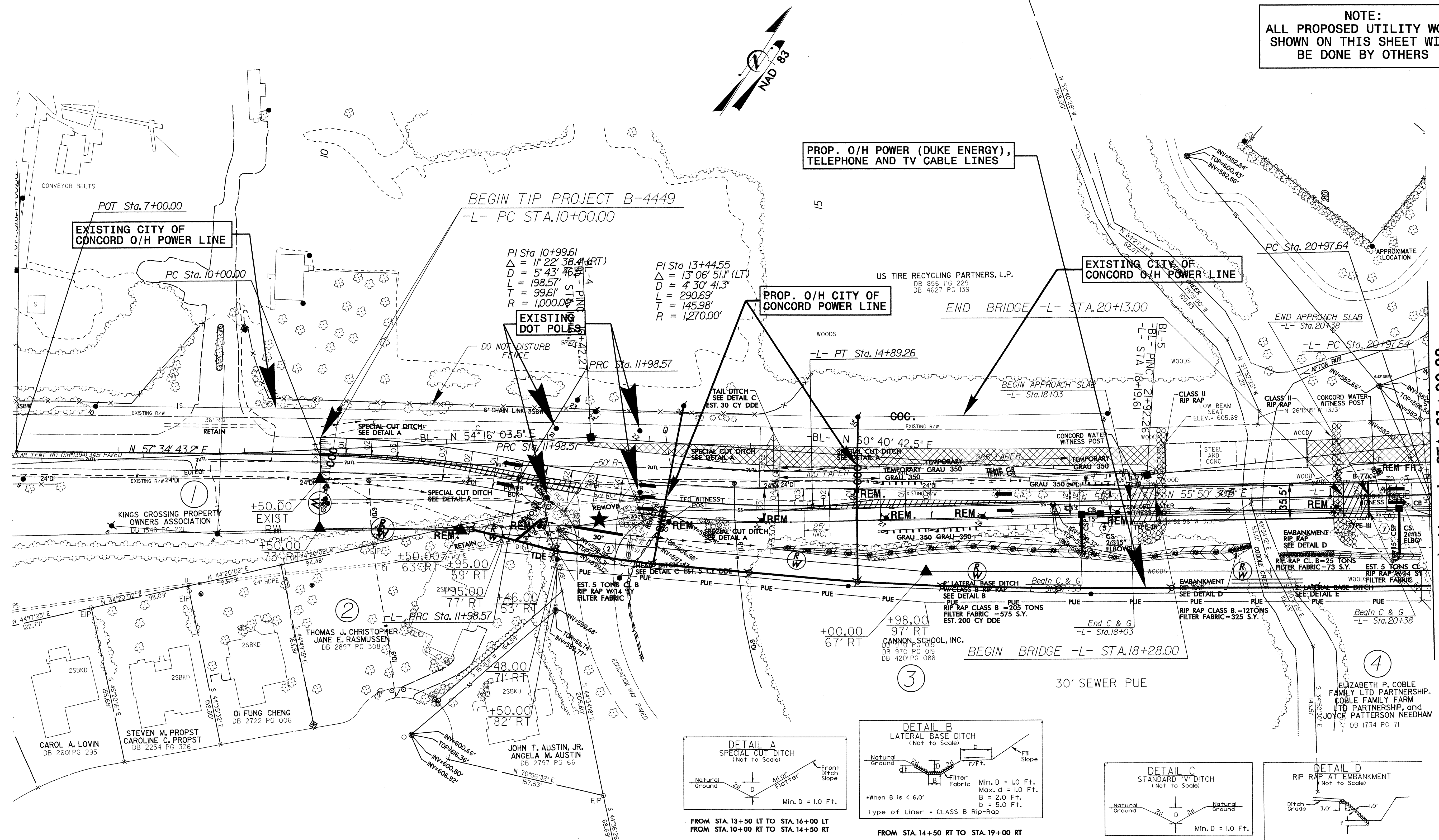
Roger Worthington, P.E.	UTILITIES SECTION ENGINEER
Steve McKee, P.E.	UTILITIES SQUAD LEADER PROJECT ENGINEER
Jamshid Hafshejani	UTILITIES PROJECT DESIGNER

31-JUL-2008 10:56 F:\utilities\rdy\ut\proj\b-4449_rdy_uol_tsh.dgn \$\$\$USERNAME\$\$\$

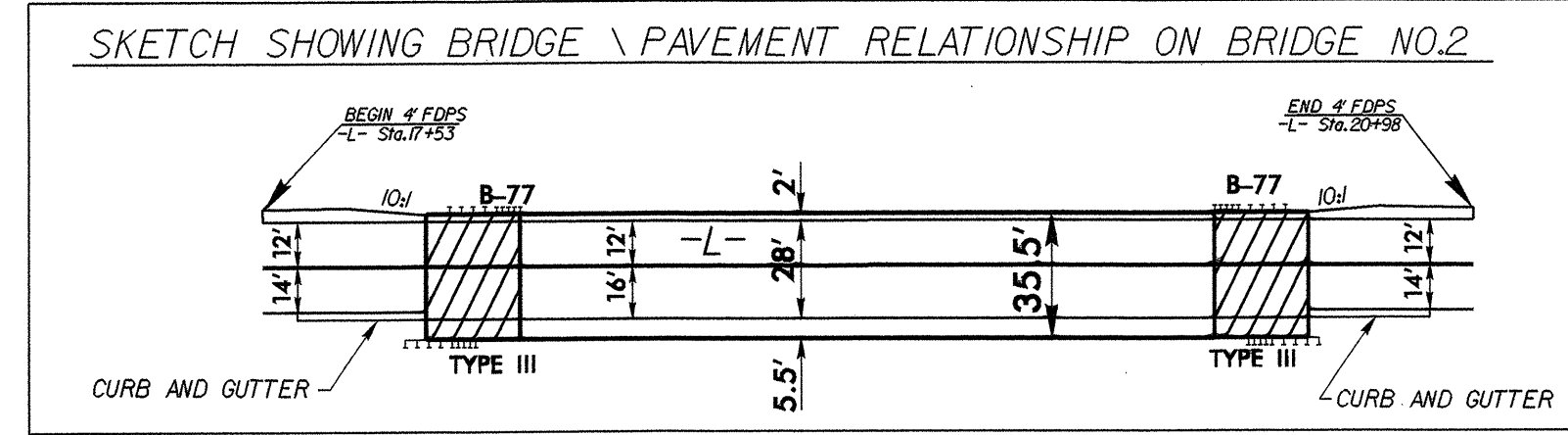
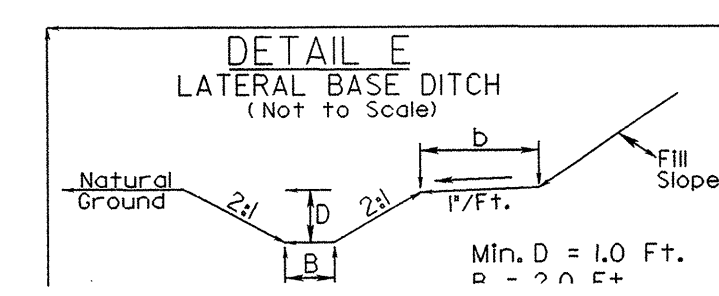
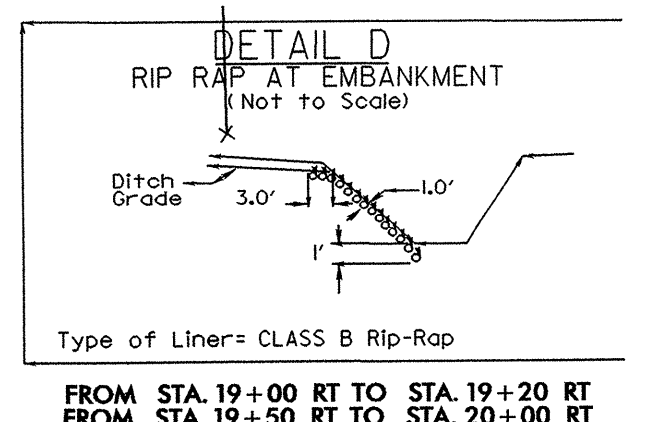
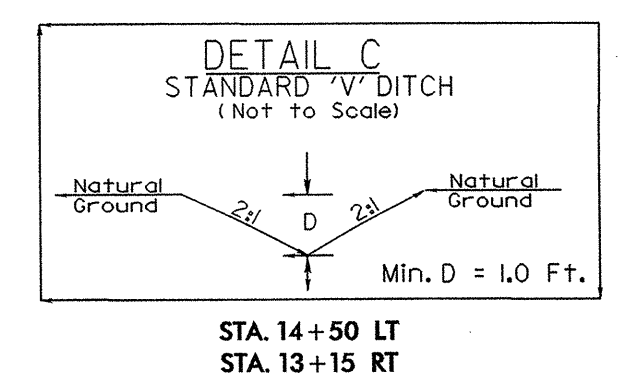
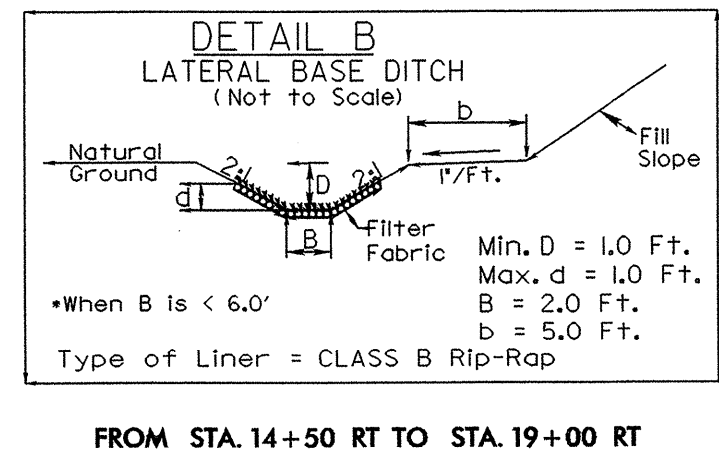
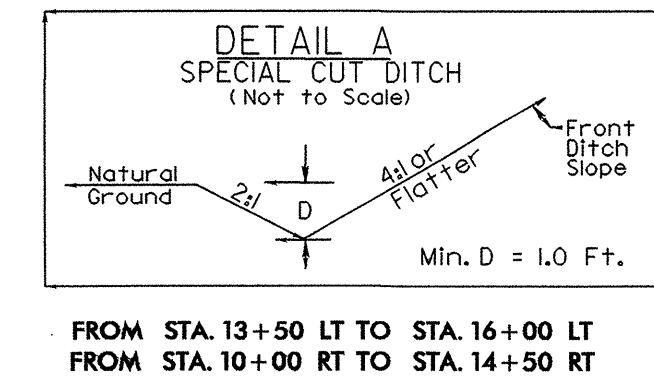
SEE SHEET 6 FOR -L- PROFILE

UTILITIES BY OTHERS

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



Match Line -L- STA. 21+00.00



★ DEPENDLESS EXPIRING TRAFFIC SIGNAL

PI Sta 10+99.61
Δ = 1° 22' 38.4" (RT)
D = 5' 43' 46.5"
L = 198.57'
T = 99.61'
R = 1,000.00'

PI Sta 13+44.55
Δ = 1° 30' 51.1" (LT)
D = 4' 30' 41.3"
L = 290.69'
T = 145.98'
R = 1,270.00'

8/21/2006

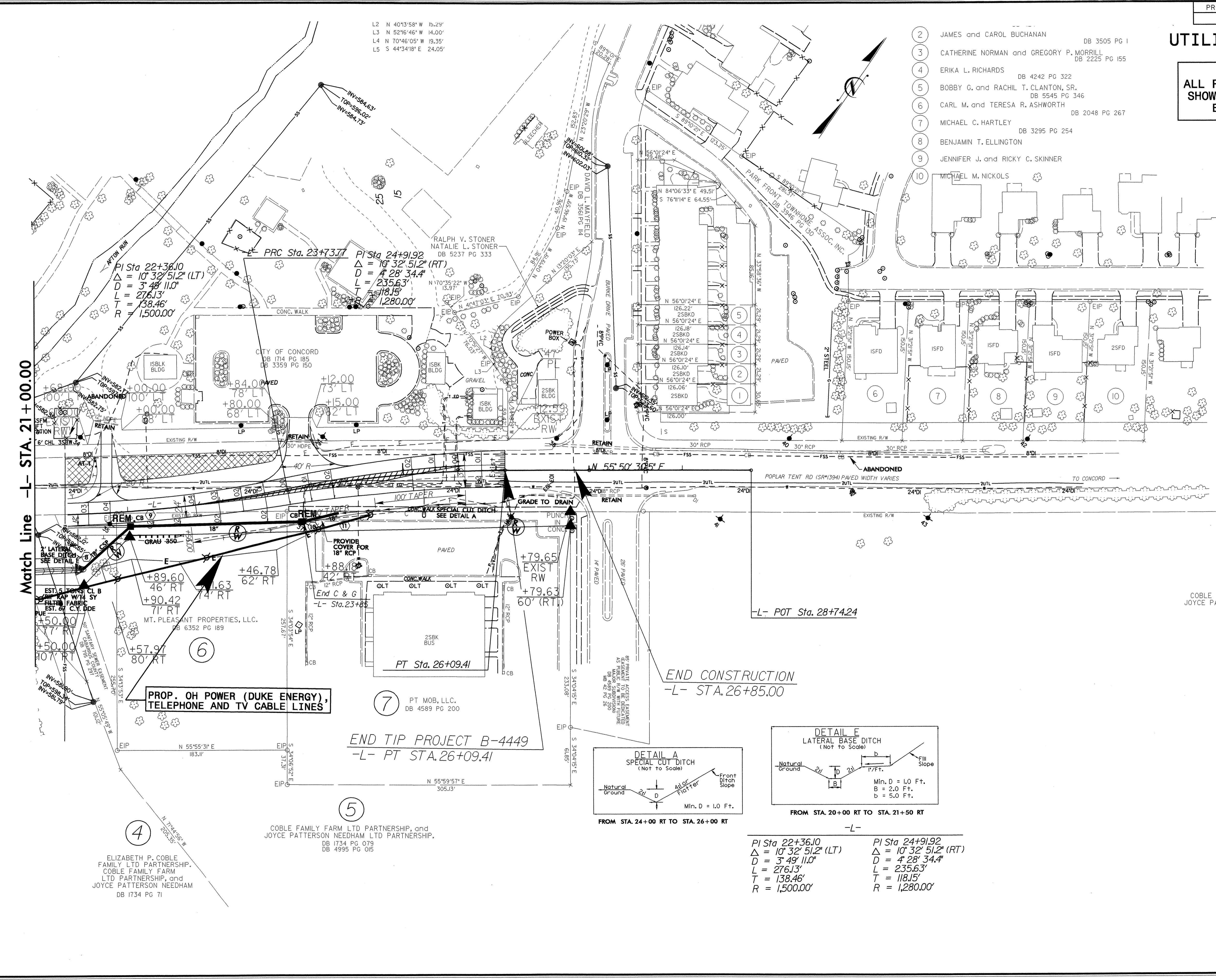
8/21/2006 14:05:05

UTILITIES BY OTHERS

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

- 2 JAMES and CAROL BUCHANAN DB 3505 PG 1
- 3 CATHERINE NORMAN and GREGORY P. MORRILL DB 2225 PG 155
- 4 ERIKA L. RICHARDS DB 4242 PG 322
- 5 BOBBY G. and RACHIL T. CLANTON, SR. DB 5545 PG 346
- 6 CARL M. and TERESA R. ASHWORTH DB 2048 PG 267
- 7 MICHAEL C. HARTLEY DB 3295 PG 254
- 8 BENJAMIN T. ELLINGTON
- 9 JENNIFER J. and RICKY C. SKINNER
- 10 MICHAEL M. NICKOLS

SEE SHEET 6 FOR -L- PROFILE

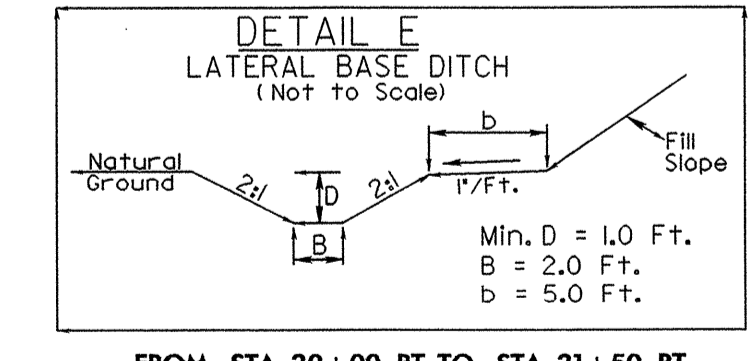
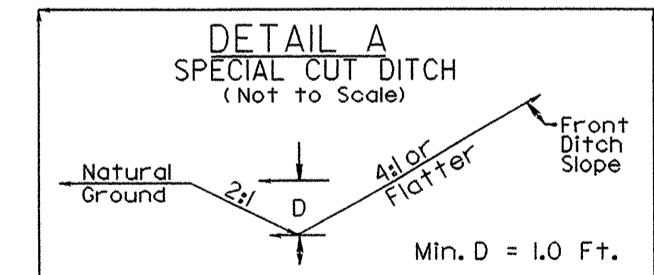


Match Line -L- STA. 21+00.00

**PROP. OH POWER (DUKE ENERGY),
 TELEPHONE AND TV CABLE LINES**

**END TIP PROJECT B-4449
 -L- PT STA. 26+09.41**

**END CONSTRUCTION
 -L- STA. 26+85.00**



-L-

PI Sta 22+36.10	PI Sta 24+91.92
$\Delta = 10^{\circ} 32' 51.2''$ (LT)	$\Delta = 10^{\circ} 32' 51.2''$ (RT)
D = 3' 49' 11.0"	D = 4' 28' 34.4"
L = 276.13'	L = 235.63'
T = 138.46'	T = 118.15'
R = 1,500.00'	R = 1,280.00'

4 ELIZABETH P. COBLE
 FAMILY LTD PARTNERSHIP,
 COBLE FAMILY FARM
 LTD PARTNERSHIP, and
 JOYCE PATTERSON NEEDHAM
 DB 1734 PG 71

5 COBLE FAMILY FARM LTD PARTNERSHIP, and
 JOYCE PATTERSON NEEDHAM LTD PARTNERSHIP,
 DB 1734 PG 079
 DB 4995 PG 015

7 PT MOB, LLC,
 DB 4589 PG 200

COBLE FAMILY FARM LTD PARTNERSHIP,
 JOYCE PATTERSON NEEDHAM LTD PARTNE
 DB 1734 PG 079
 DB 4995 PG 015

L2 N 40°13'58" W 15.29'
 L3 N 52°16'46" W 14.00'
 L4 N 70°46'05" W 19.35'
 L5 S 44°34'18" E 24.05'

PRC Sta. 23+73.77 PI Sta. 24+91.92
 $\Delta = 10^{\circ} 32' 51.2''$ (RT)
 D = 4' 28' 34.4"
 L = 235.63'
 T = 118.15'
 R = 1,280.00'

PI Sta 22+36.10
 $\Delta = 10^{\circ} 32' 51.2''$ (LT)
 D = 3' 49' 11.0"
 L = 276.13'
 T = 138.46'
 R = 1,500.00'