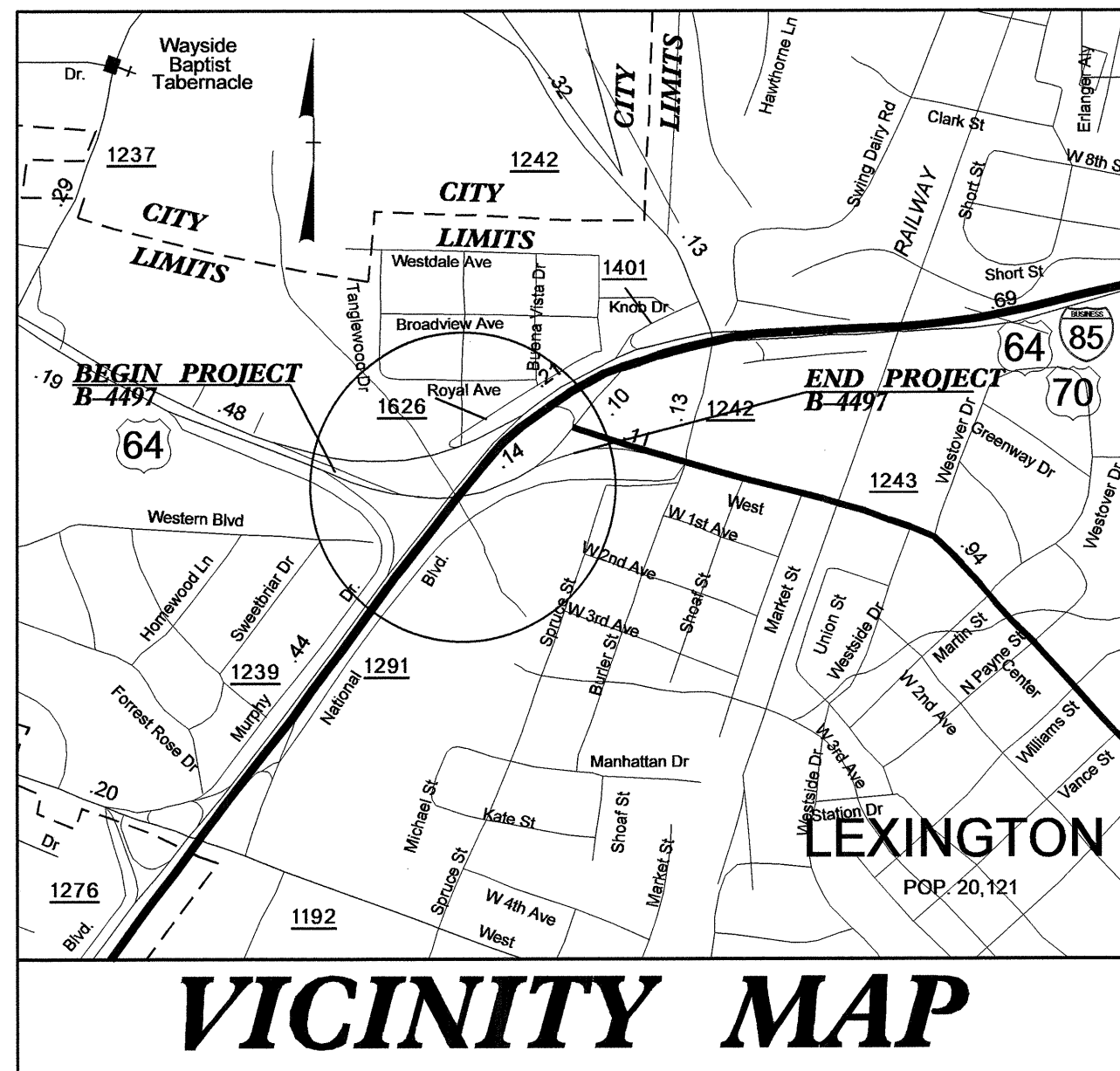
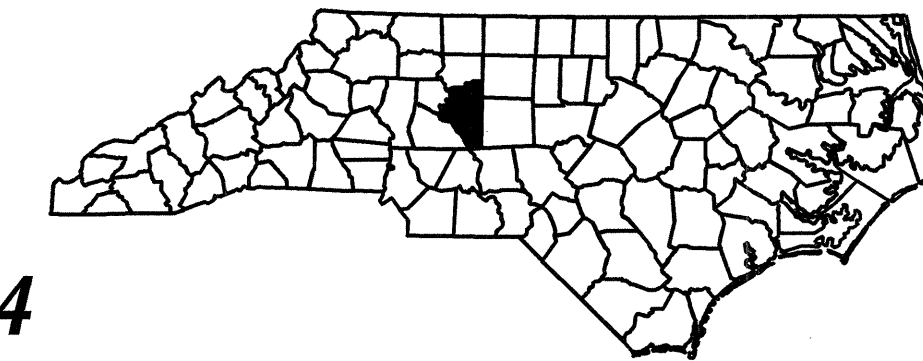


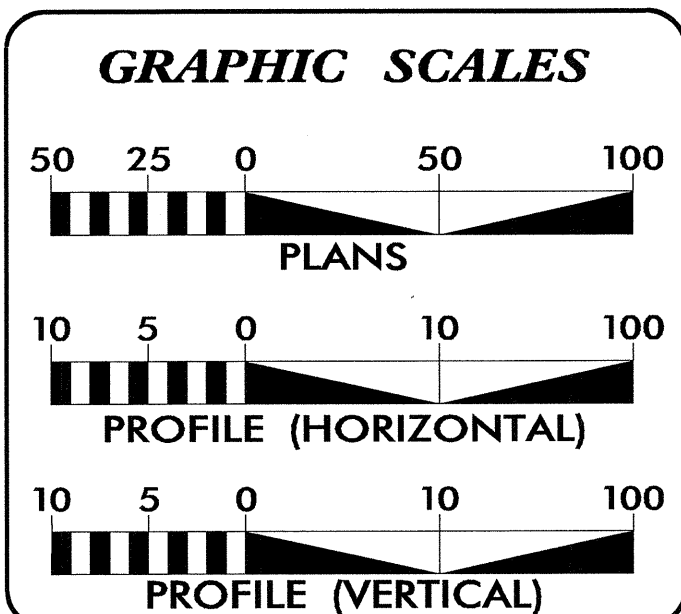
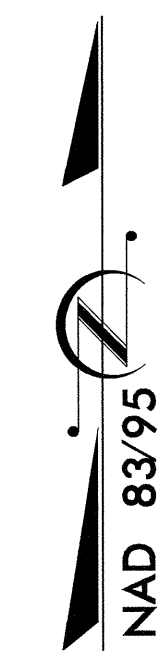
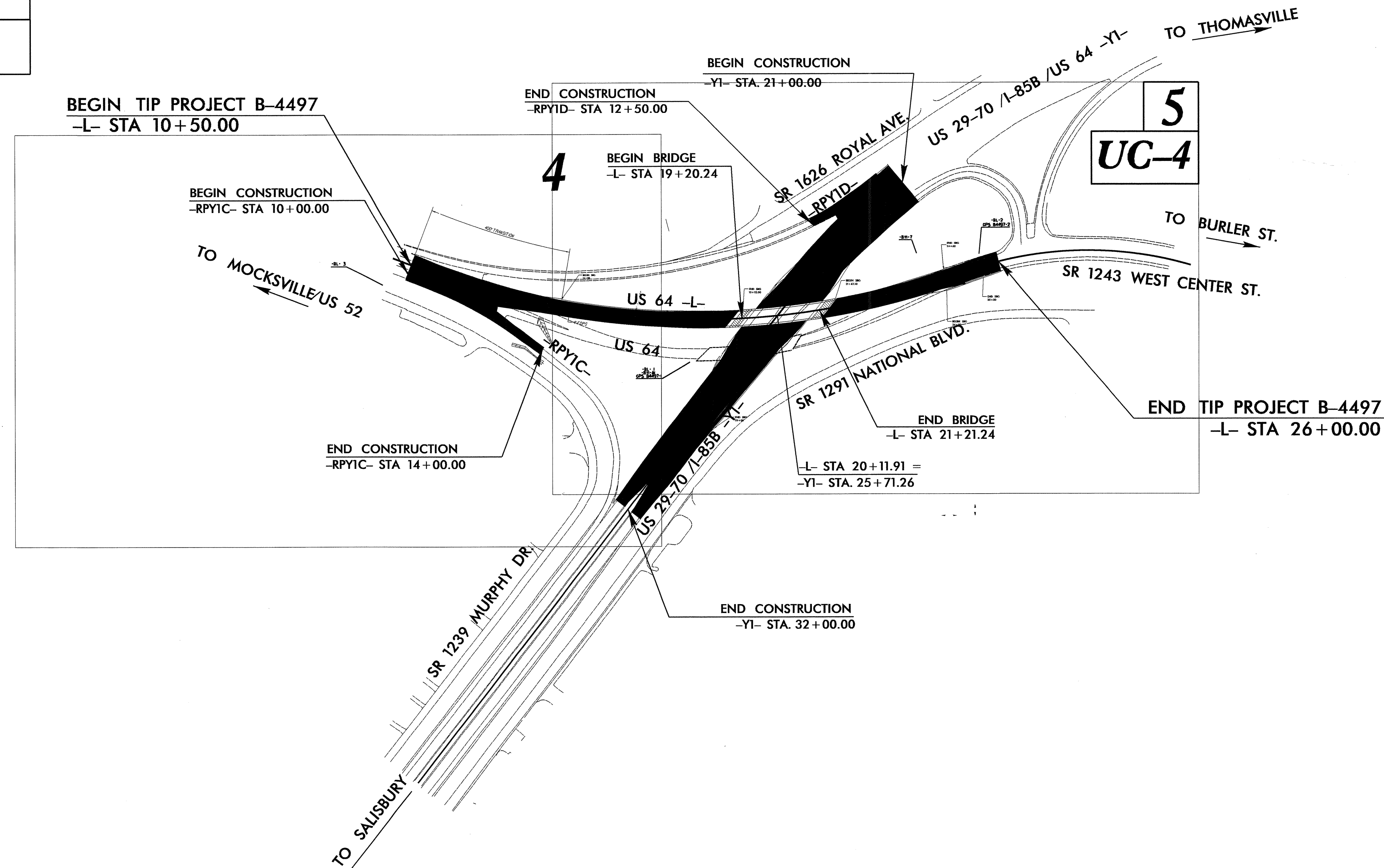
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS  
DAVIDSON COUNTY**

LOCATION: REPLACE BRIDGE 39 OVER US 29-70/1-85 BUS ON US 64  
TYPE OF WORK: UTILITIES



TIP PROJECT: B-4497

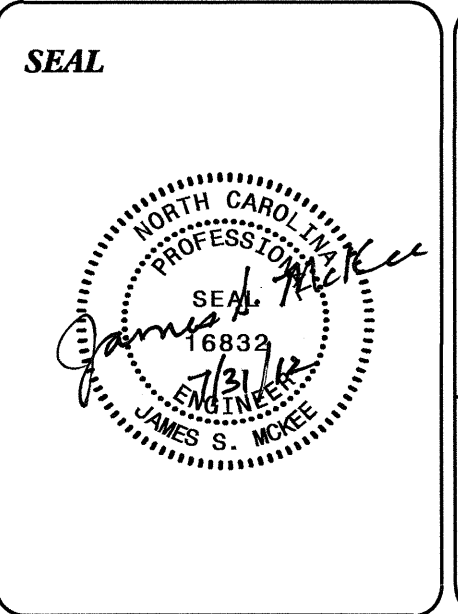


**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-5	PROFILE SHEET

**WATER AND SEWER OWNERS ON PROJECT**

(1) SANITARY SEWER City of Lexington



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

1591 MAIL SERVICES CENTER  
RALEIGH, NC 27699-1591  
PHONE (919) 707-6600  
FAX (919) 250-4151

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

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UTILITIES PLAN SHEET SYMBOLS

### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

### PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	PS(SS)

### PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE

PAY ITEM

### EXISTING UTILITIES SYMBOLS

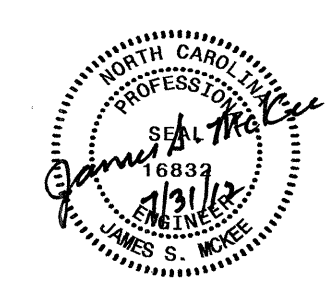
Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

\*For Existing Utilities

Utility Line Drawn from Record (Type as Shown)	
Designated Utility Line (Type as Shown)	

5/14/99

30-JUL-2012 13:38  
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 REV: 2/1/2012

PROJECT REFERENCE NO.	SHEET NO.
<b>B-4497</b>	<b>UC-3</b>
DESIGNED BY: <b>JH</b>	
DRAWN BY: <b>JH</b>	
CHECKED BY: <b>JSM</b>	
APPROVED BY: <b>JSM</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION  
PLANS ONLY

# UTILITY CONSTRUCTION

## GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING UTILITIES BELONG TO CITY OF LEXINGTON .
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

## PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
2. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.

## LIST OF STANDARD DRAWINGS

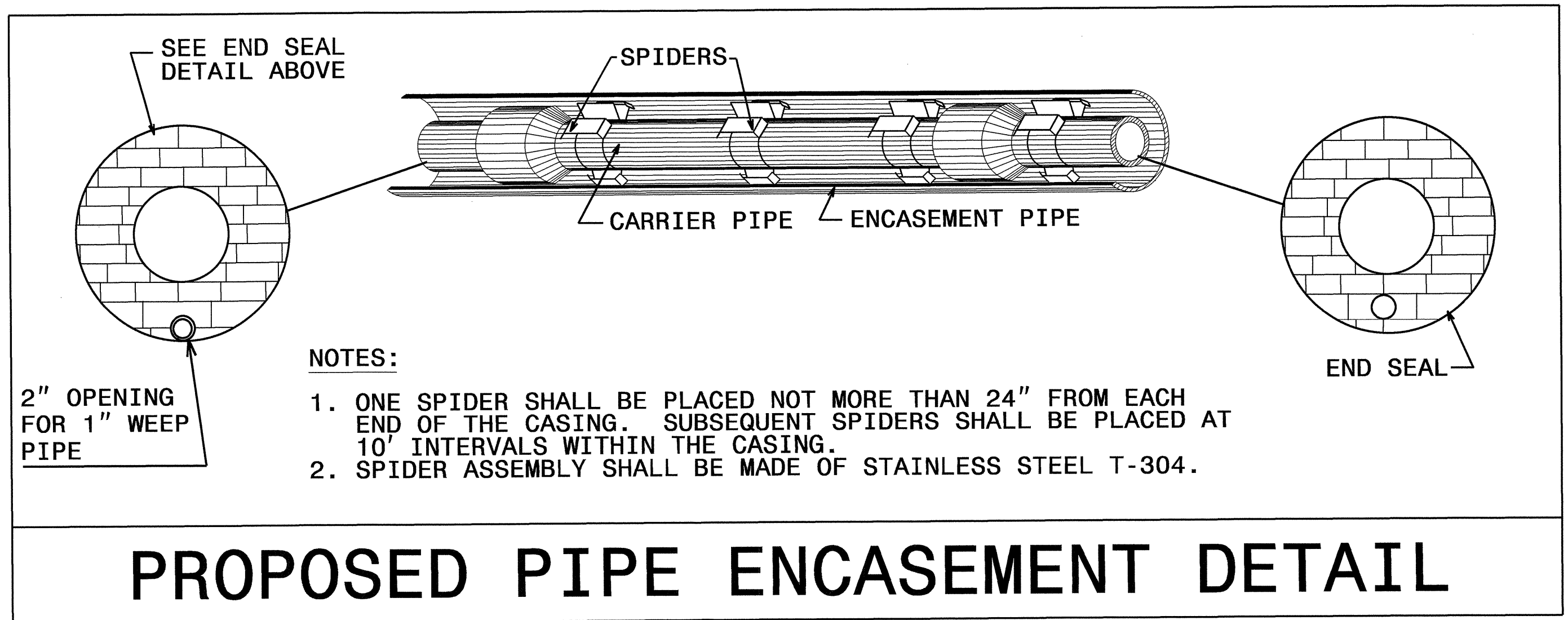
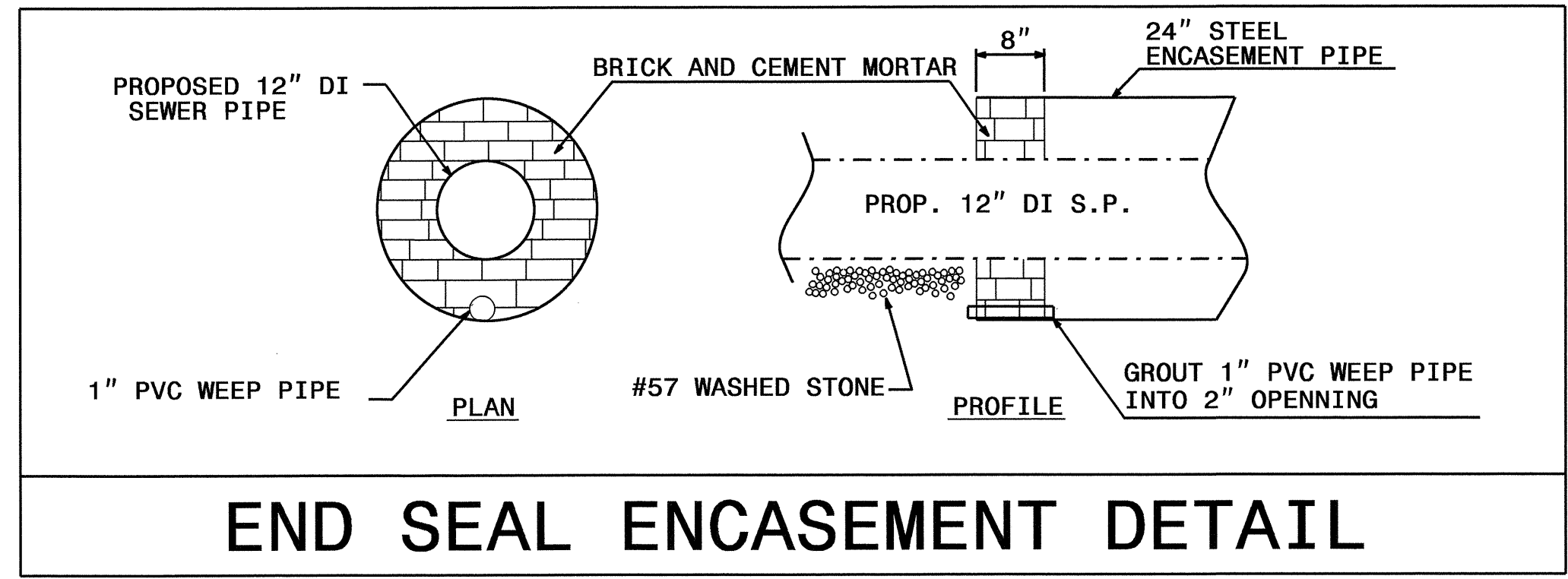
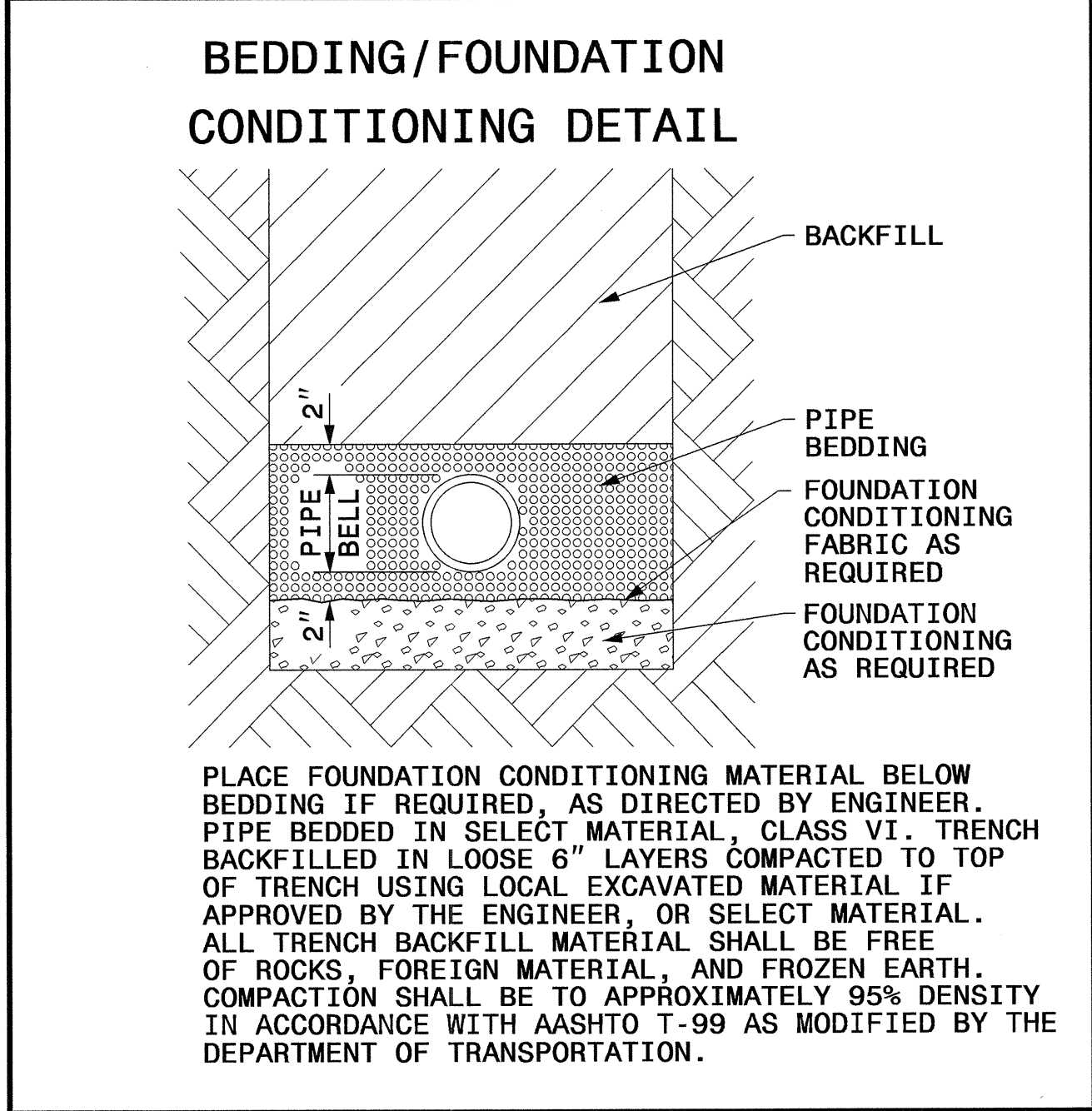
- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT
- 1520.01 SEWER CLEAN OUT
- 1525.06 PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

## UTILITY CONSTRUCTION

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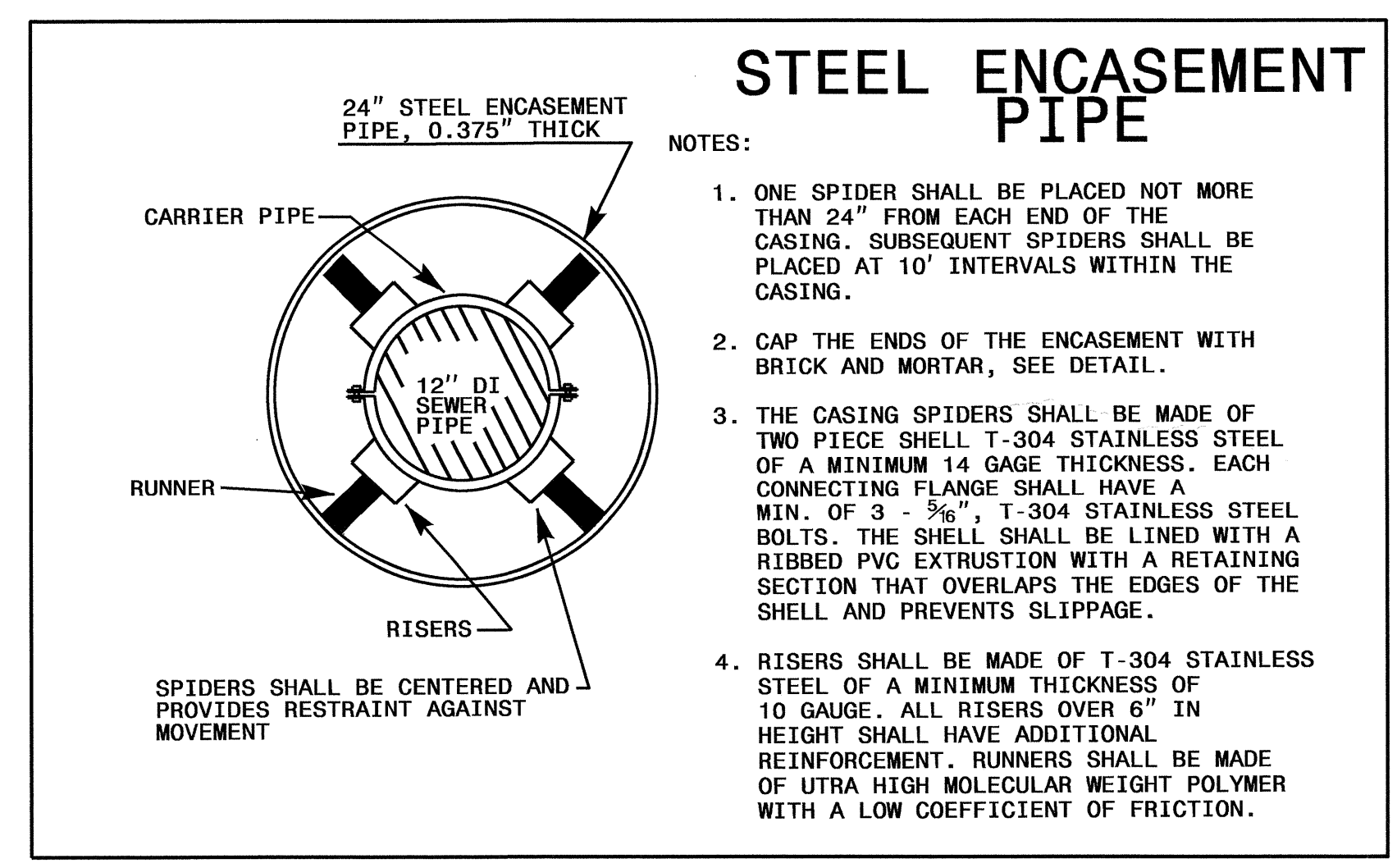
# PROJECT TYPICAL DETAILS

**UTILITY CONSTRUCTION**



**MAXIMUM TRENCH WIDTH AT TOP OF PIPE**

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



PROJECT REFERENCE NO.	SHEET NO.
B-4497	UC-4
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: JSM	
APPROVED BY: JSM	
REVISED:	UTILITY CONSTRUCTION PLANS ONLY
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

**UTILITY CONSTRUCTION**

Note:  
The owner of the existing Sewer line is the City of Lexington.  
The Contractor will be required to limit interruption of service to a one time maximum 8 hours period at night.  
All sewer lines shall be DI pipe class 51.

PROP. MH "C"  
STA. 2+64  
-Y1- STA. 25+46  
109.45' RT

PROP. MH "D"  
STA. 3+00  
-Y1- STA. 25+66  
143.57' RT

PROP. MH "B"  
STA. 0+40  
-Y1- STA. 26+71  
81.69' LT.

EXIST. MH "A"  
STA. 0+00  
-Y1- STA. 27+03  
106.50' LEFT

ABANDON 184' OF 42" ENCASEMENT PIPE.  
ABANDON 24' OF 12" UTILITY PIPE.

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.

PROP. 300' OF 12" SANITARY GRAVITY SEWER (FROM MH A TO MH D).  
PROP. 90' TRENCHLESS INSTALLATION OF 24" IN SOIL.  
PROP. 90' TRENCHLESS INSTALLATION OF 24" NOT IN SOIL.  
PROP. 190' OF 24" STEEL ENCASEMENT PIPE.

NOTE:  
The Contractor shall install proposed 12" sanitary gravity sewer line after removal of sheet piles along -Y1- between station 25+00 and station 26+50.

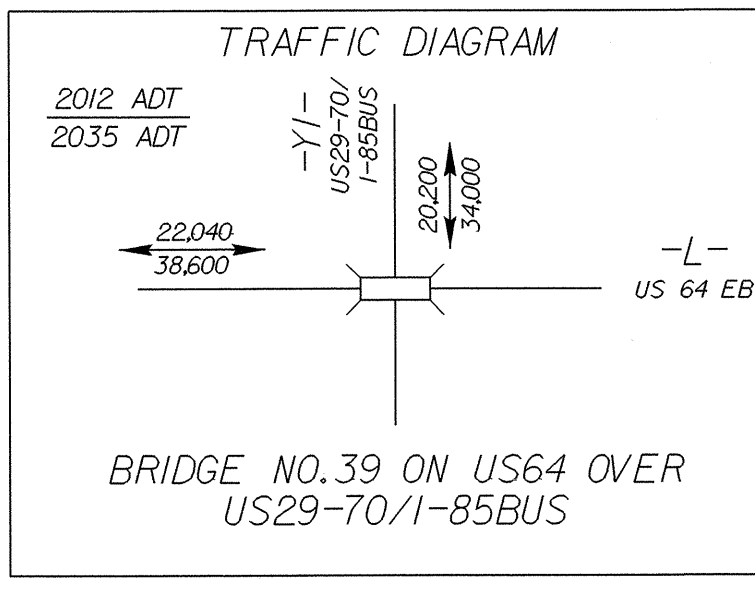
-L- POC STA. 15+50.00  
MATCHLINE SHEET 4

ABANDON UTILITY MANHOLE

REGRADE DITCH APPROX. 100' ALONG RAMP APPROX. 50' ALONG -Y1- REMOVE & REPLACE TB 2GI (0524)

SPECIAL MEDIAN DITCH SEE DETAIL 1

NATIONAL INDUSTRIES OF LEXINGTON, INC.  
DB 604 PG 394  
DB 529 PG 973



FOR BRIDGE SKETCH, SEE SHEET 2-C

BRIDGE APPROACH SLAB

PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET NO. 6

FOR -Y1-RT PROFILE, SEE SHEET NO. 7

FOR -Y1-LT PROFILE, SEE SHEET NO. 7

FOR -RPYID- PROFILE, SEE SHEET NO. 6

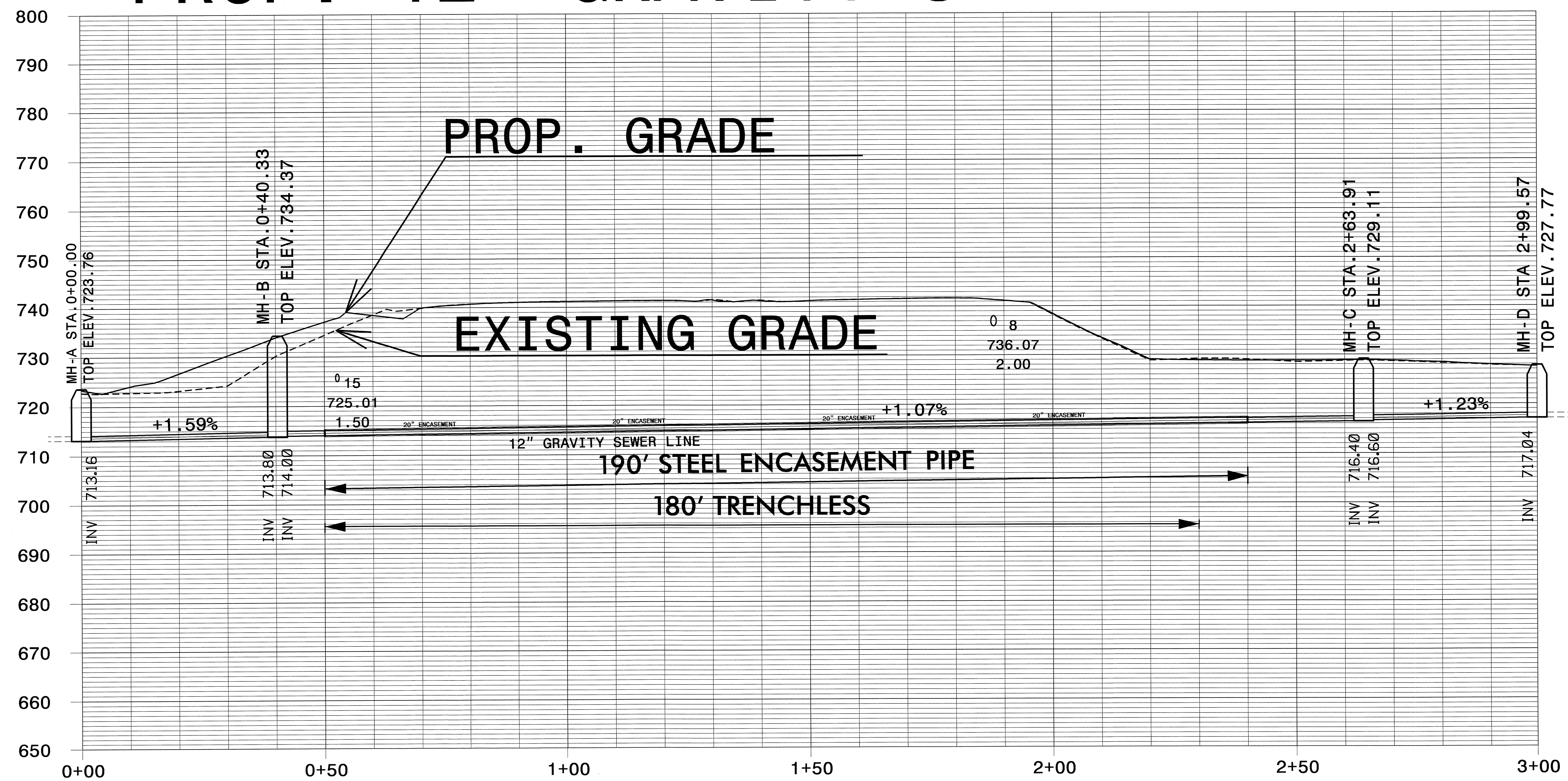
FOR STRUCTURE PLANS, SEE SHEET S-? THRU S-??

5/14/09 5/14/09 NAD 83/NSRS 2007

PROJECT REFERENCE NO.	SHEET NO.
<b>B-4497</b>	<b>UC-5</b>
DESIGNED BY: <b>JH</b>	
DRAWN BY: <b>JH</b>	
CHECKED BY: <b>JSM</b>	
APPROVED BY: <b>JSM</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

# PROP. 12" GRAVITY SEWER LINE



5/14/99

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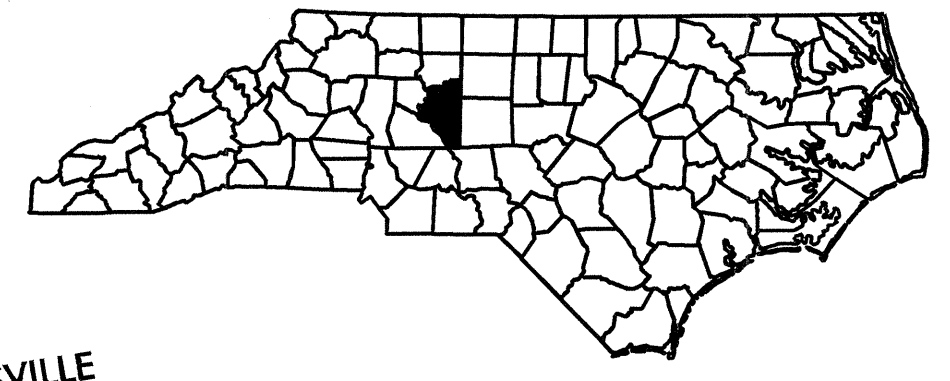
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B-4497	UO-1

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

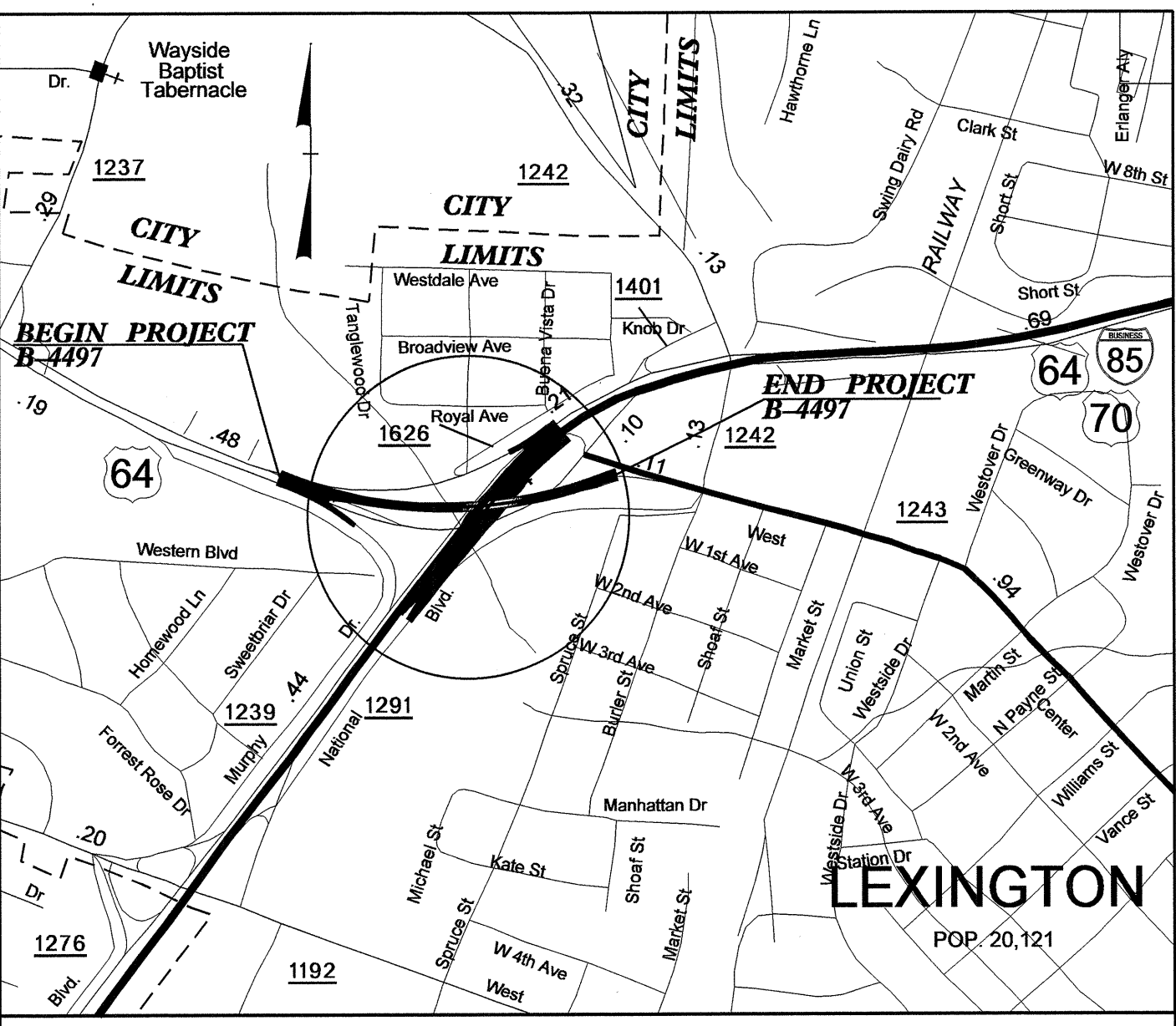
**UTILITIES BY OTHERS PLANS  
DAVIDSON COUNTY**

**LOCATION: REPLACE BRIDGE 39 OVER US 29-70 /I-85BUS  
ON US 64**

**TYPE OF WORK: UTILITY WORK**

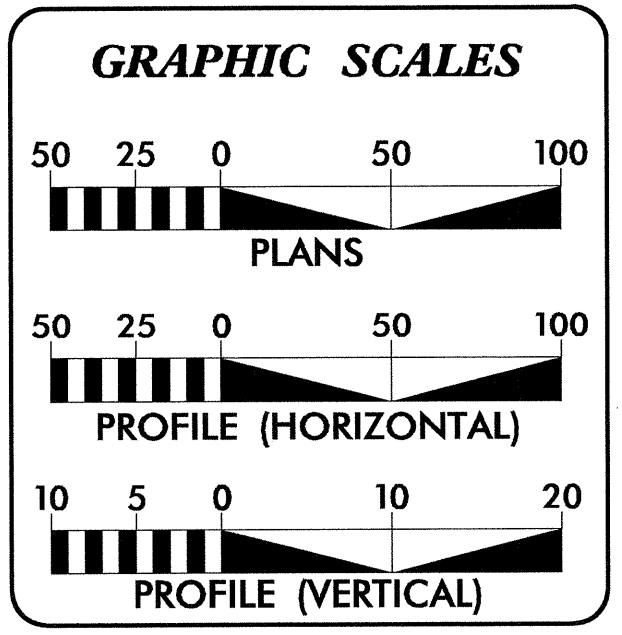
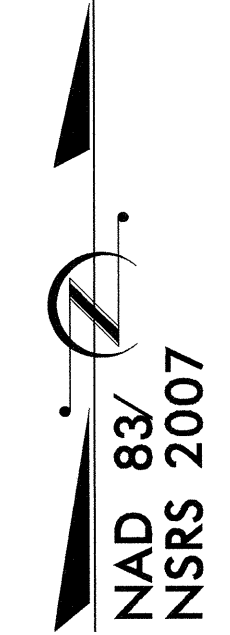
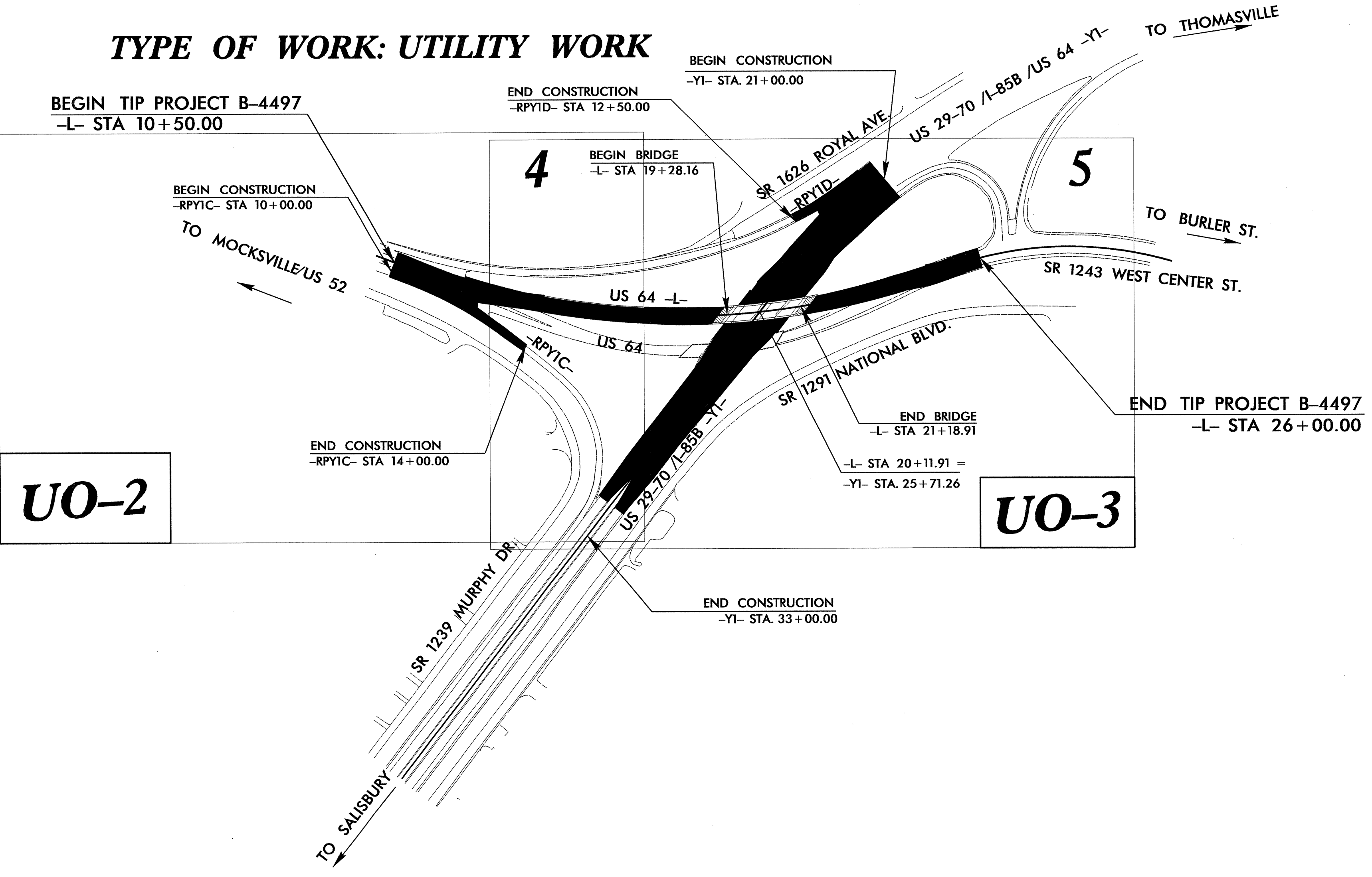


**TIP PROJECT: B-4497**



**VICINITY MAP**

SEE SHEETS 2-J & 2-K FOR OFF-SITE DETOURS



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

UTILITY OWNERS ON PROJECT
(1) City of Lexington - POWER

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

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

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

31-JUL-2012 12:14 R:\UTILITIES\NGCY\UT\Proj\B4497\_UT\_Title\_UO1.psh.dgn \$\$\$USERNAME\$\$\$

### UTILITIES BY OTHERS

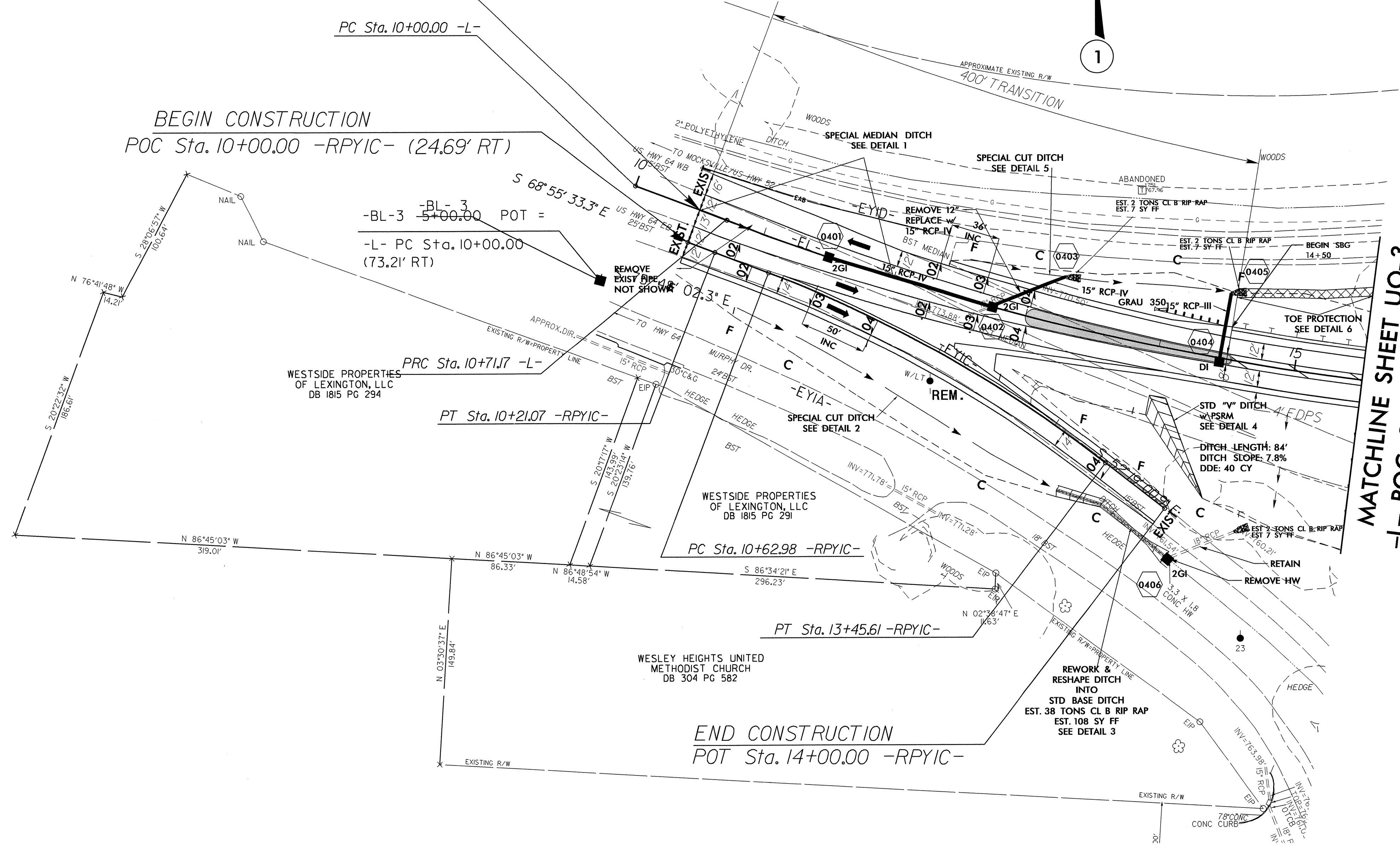
**NOTE:**  
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

BM 1  
FROM -BL-3  
N 1° 32' 00.7" E 332.92'  
ELEV = 778.96'

NC GRID  
NAD 83/NSRS 2007

BEGIN PROJECT B-4497  
POC Sta. 10+50.00 -L-

BEGIN CONSTRUCTION  
POC Sta. 10+00.00 -RPYIC- (24.69' RT)



-L-

-RPYIC-

PI Sta 10+35.59 Δ = 0° 48' 56.1" (RT) D = 1° 08' 45.3" L = 71.17' T = 35.59' R = 5,000.00'	PI Sta 18+18.41 Δ = 40° 58' 23.5" (LT) D = 2° 51' 53.2" L = 1,430.23' T = 747.24' R = 2,000.00' SE = 04 INC = 36'	PI Sta 10+10.53 Δ = 0° 14' 33.4" (RT) D = 1° 09' 05.8" L = 21.07' T = 10.53' R = 4,975.31' SE = 04 INC = 50'	PI Sta 12+05.29 Δ = 16° 36' 32.5" (RT) D = 5° 52' 35.4" L = 282.64' T = 142.32' R = 975.00'
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FOR DIMENSIONS, SEE SHEET 2-H  
FOR DITCH DETAILS, SEE SHEET 2-E

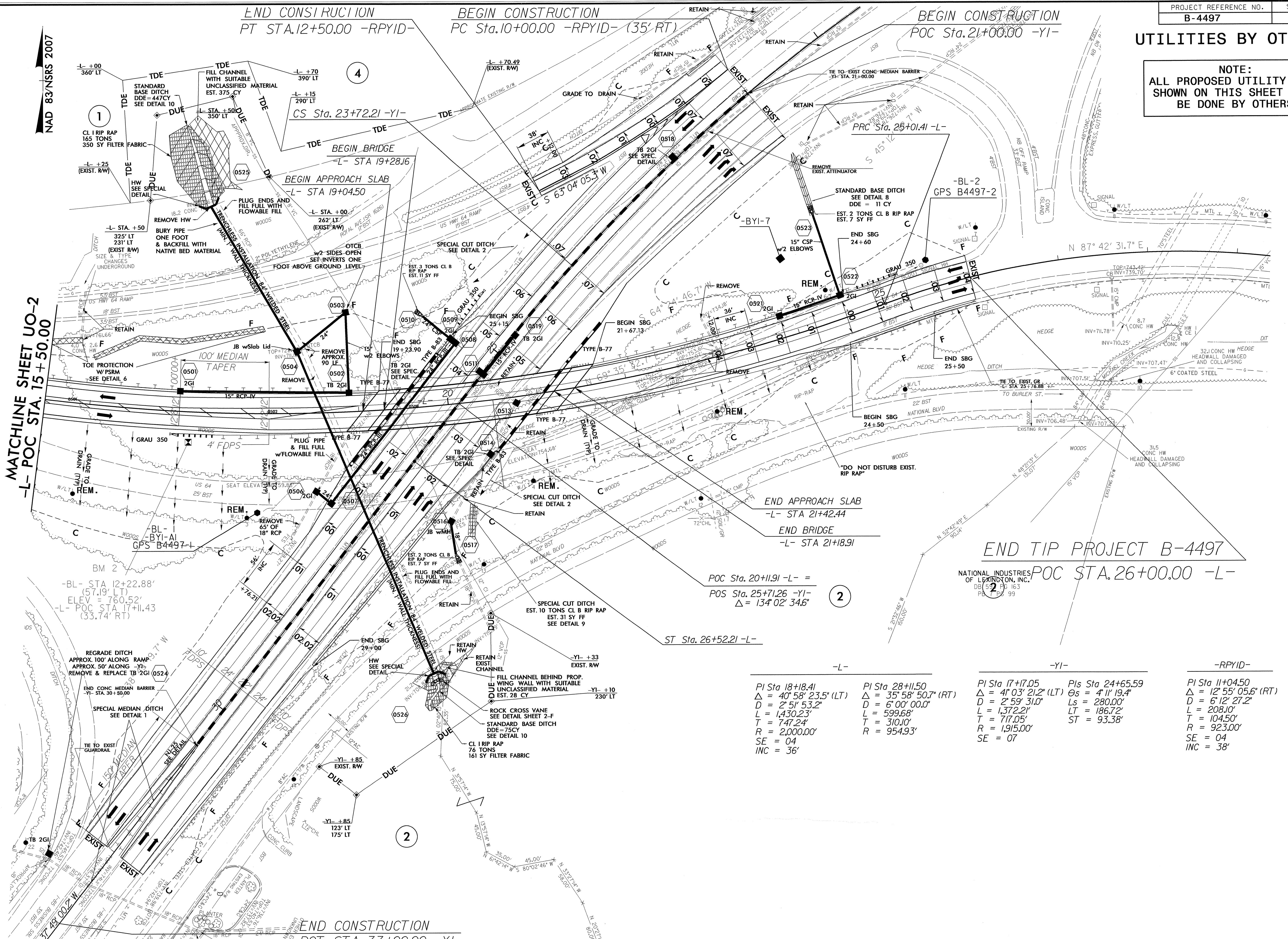
EROSION CONTROL PSRM MATTING
FOR -L- PROFILE, SEE SHEET NO. 6
FOR -RPYIC- PROFILE, SEE SHEET NO. 6
FOR STRUCTURE PLANS, SEE SHEET S-? THRU S-??

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UTILITIES BY OTHERS

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



MATCHLINE SHEET U0-2  
-L- POC STA. 15+50.00

END TIP PROJECT B-4497

NATIONAL INDUSTRIES OF LEONINGTON, INC.  
POC STA. 26+00.00 -L-

-L-	-YI-	-RPYID-
PI Sta 18+18.41 $\Delta = 40' 58" 23.5" (LT)$ $D = 2' 51" 53.2"$ $L = 1,430.23'$ $T = 747.24'$ $R = 2,000.00'$ $SE = 04'$ $INC = 36'$	PI Sta 28+11.50 $\Delta = 35' 58" 50.7" (RT)$ $D = 6' 00" 00.0"$ $L = 599.68'$ $T = 310.10'$ $R = 954.93'$	PI Sta 17+17.05 $\Delta = 41' 03" 21.2" (LT)$ $D = 2' 59" 31.0"$ $L = 1,372.21'$ $T = 717.05'$ $R = 1,915.00'$ $SE = 07'$
		PIs Sta 24+65.59 $\Theta_s = 4' 11" 19.4"$ $L_s = 280.00'$ $LT = 186.72'$ $ST = 93.38'$
		PI Sta 11+04.50 $\Delta = 12' 55" 05.6" (RT)$ $D = 6' 12" 27.2"$ $L = 208.10'$ $T = 104.50'$ $R = 923.00'$ $SE = 04'$ $INC = 38'$

5/14/99

NAD 83/NRS 2007

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 31 JUL 2019 09:11:00