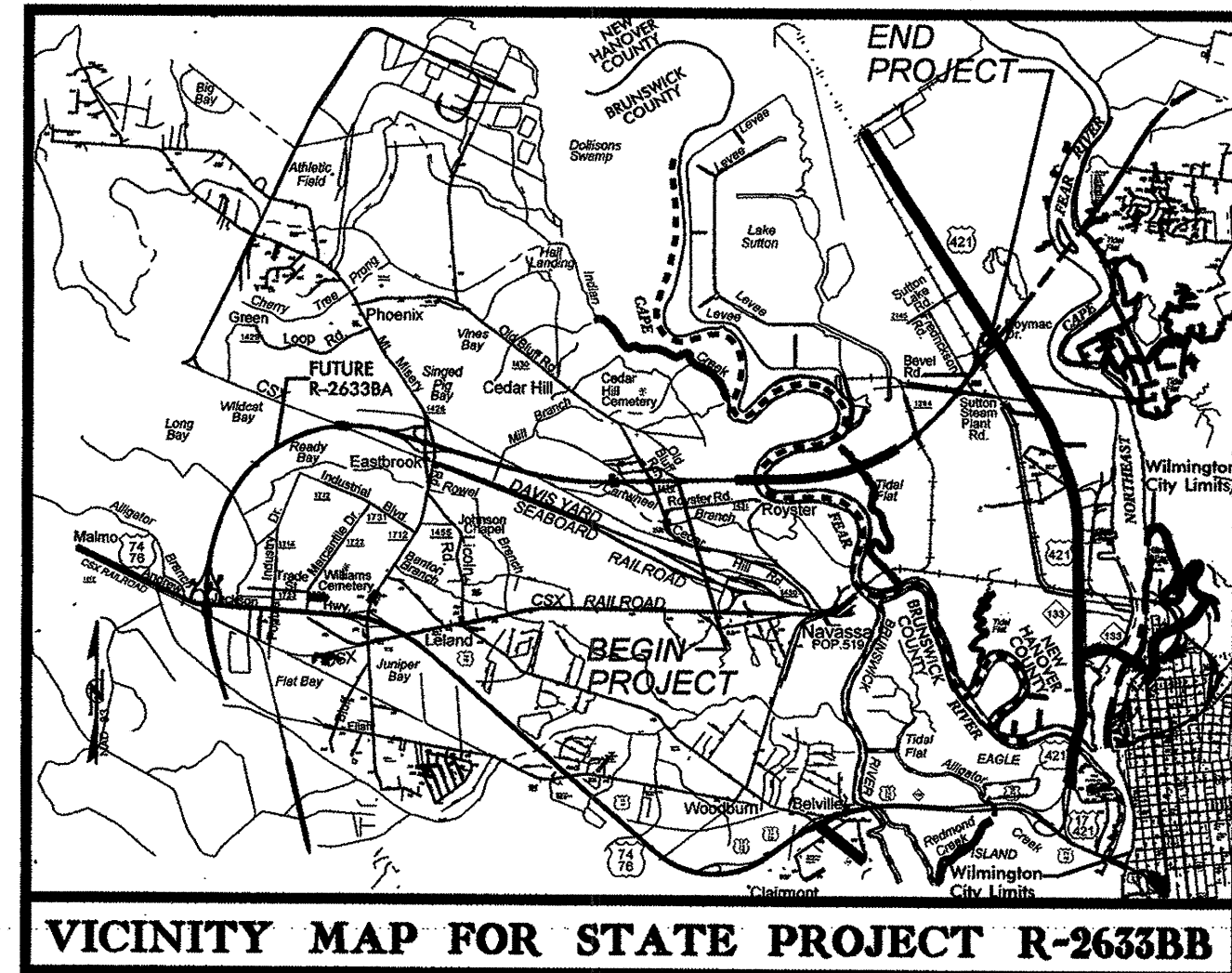


TIP PROJECT: R-2633BB



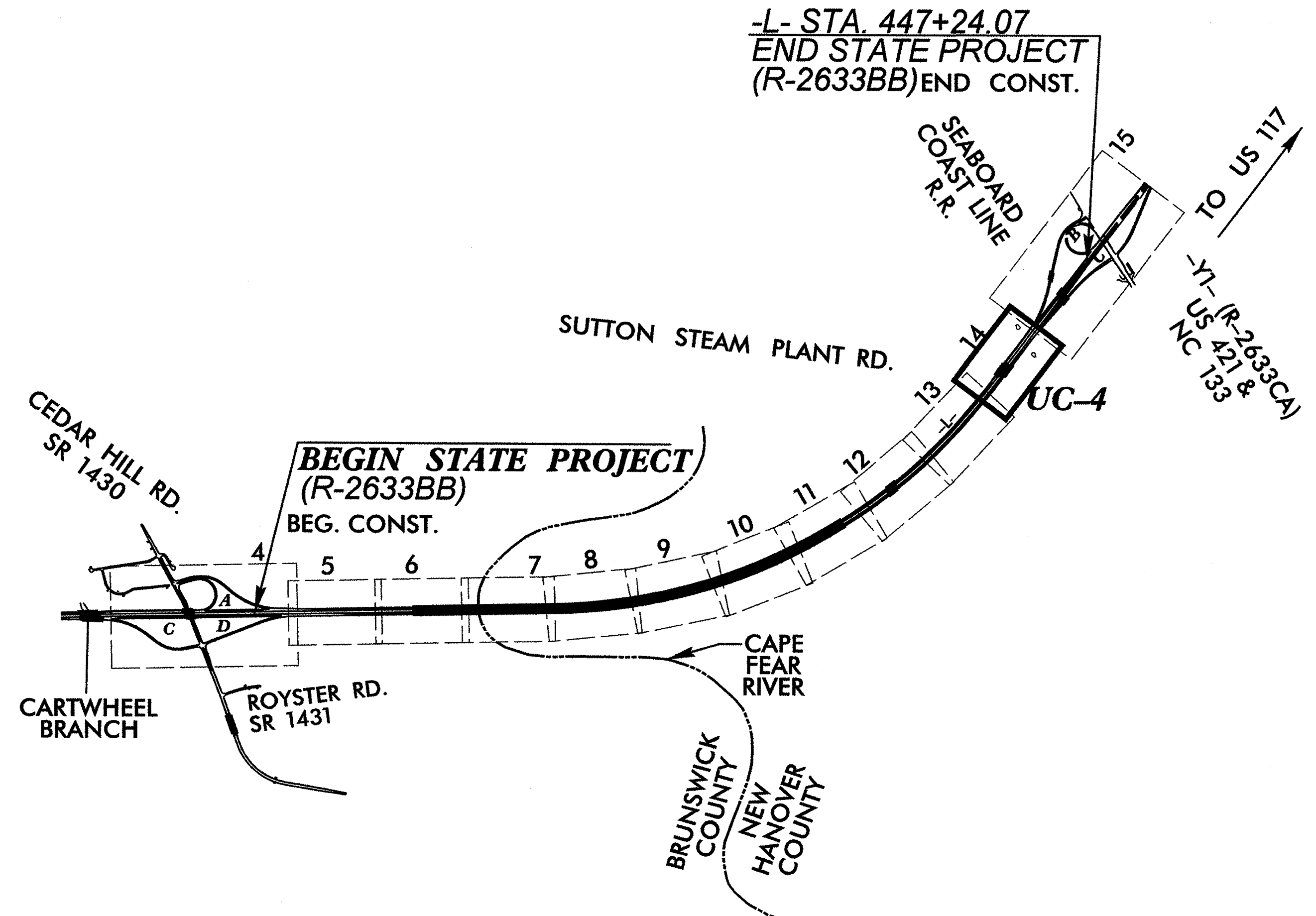
VICINITY MAP FOR STATE PROJECT R-2633BB

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

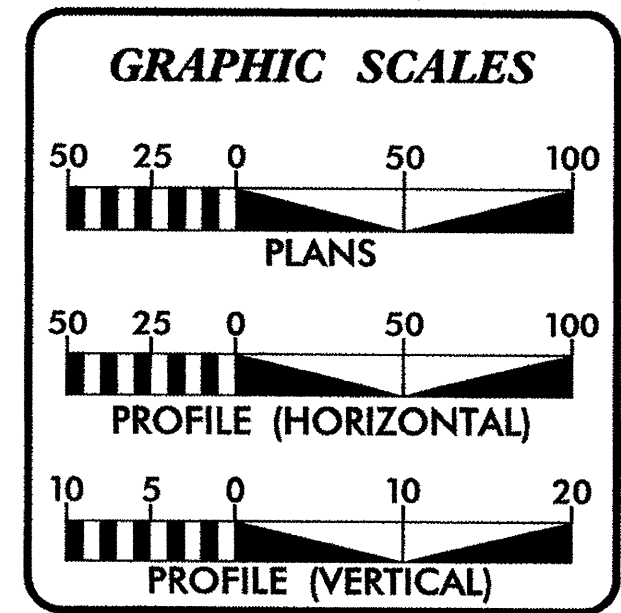
**UTILITY CONSTRUCTION  
BRUNSWICK &  
NEW HANOVER COUNTY**

LOCATION: US 17 (WILMINGTON BYPASS) FROM SR 1430  
(CEDAR HILL ROAD) TO US 421 NORTH OF WILMINGTON  
TYPE OF WORK: UTILITY RELOCATIONS

T.I.P. NO.	SHEET NO.
R-2633BB	UC-1



PREPARED IN THE OFFICE OF:  
  
**Kimley-Horn  
and Associates, Inc.**  
P.O. BOX 33068  
RALEIGH, NORTH CAROLINA 27636-3068  
PHONE: (919) 677-2000  
FAX: (919) 677-2050  
PE NO. F-0102

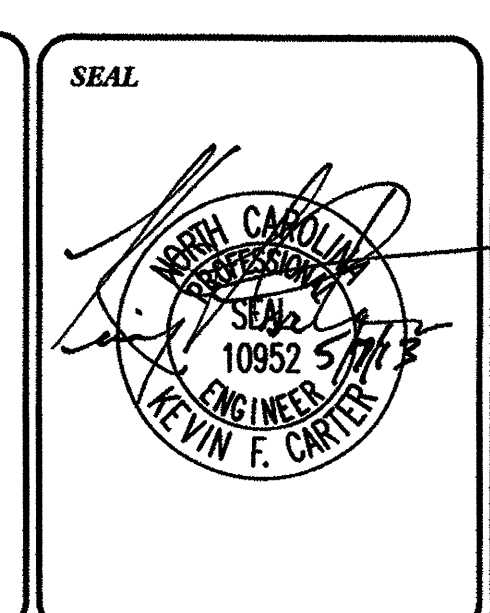


**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY PLAN SHEET SYMBOLOGY
UC-3	PROJECT NOTES AND STANDARD DETAILS
UC-4	PLAN SHEET
UC-5	PROFILE

**UTILITY OWNERS ON PROJECT**

CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER)



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

ISSS MAIL SERVICES CENTER  
RALEIGH, NC 27699-1555  
PHONE: (919) 707-6590  
FAX: (919) 250-4151

**Roger Worthington, P.E.** UTILITIES SECTION ENGINEER  
**R.B. Wilkins, P.E.** UTILITIES SQUAD LEADER PROJECT ENGINEER  
**Jong-Tae Yoon** UTILITIES PROJECT DESIGNER

\$\$\$\$\$SYTIME\$\$\$\$\$DCN\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	—————
11¼ Degree Bend	⋈
22½ Degree Bend	⋈*
45 Degree Bend	⋈*
90 Degree Bend	⋈
Plug	⋈
Tee	⋈
Cross	⋈
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	REH
Remove Fire Hydrant	REM FH
Water Meter	WPM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	RPZ
DCV Backflow Preventer	DCV
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RDCV

## 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	TELE
Utility Line by Others (Type as Shown)	—————
Trenchless Installation	—————
Encasement by Open Cut	—————
Encasement	—————

Thrust Block	⊥
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	—————
Pay Item Note	—————

NOTE  
PAY ITEM

## EXISTING UTILITIES SYMBOLS

Power Pole	◊
Telephone Pole	◊
Joint Use Pole	◊
Utility Pole	•
Utility Pole with Base	◻
H-Frame Pole	◊
Power Transmission Line Tower	⊠
Water Manhole	◊
Power Manhole	◊
Telephone Manhole	◊
Sanitary Sewer Manhole	◊
Hand Hole for Cable	⊠
Power Transformer	⊠
Telephone Pedestal	⊠
CATV Pedestal	⊠
Gas Valve	◊
Gas Meter	◊
Located Miscellaneous Utility Object	◊
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

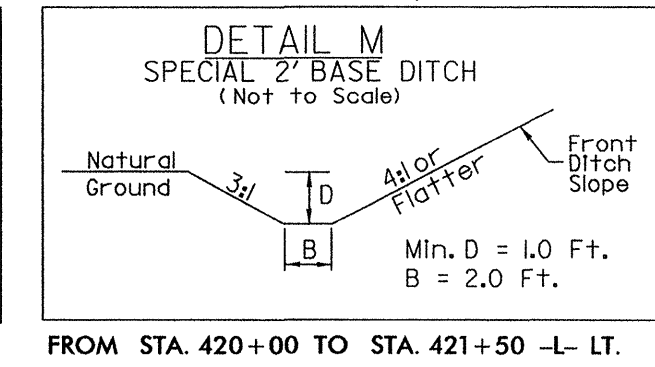
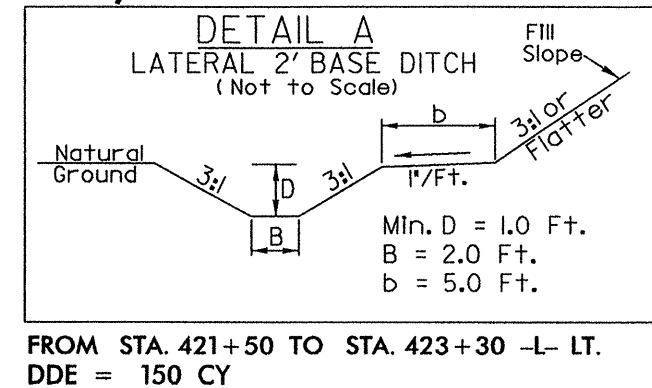
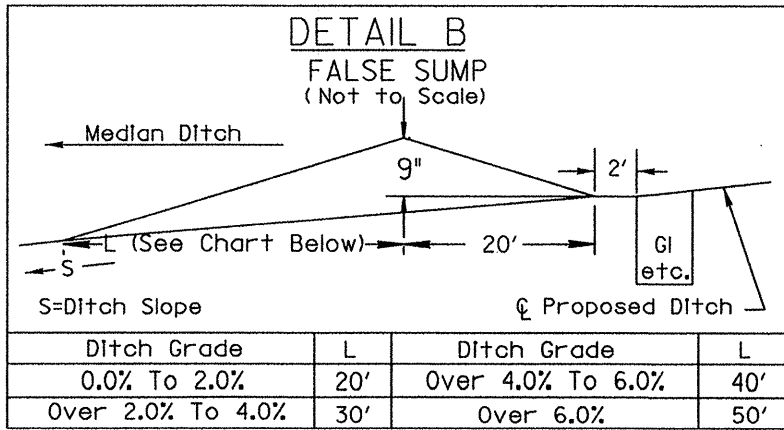
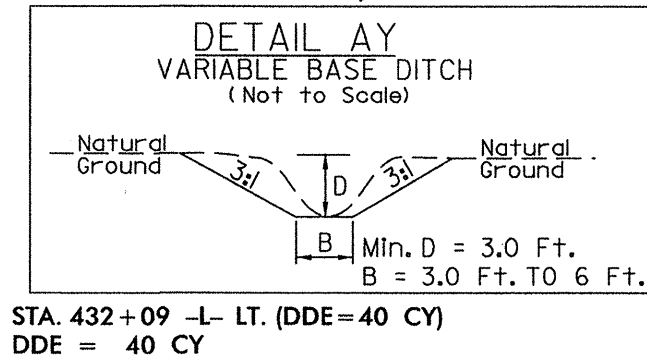
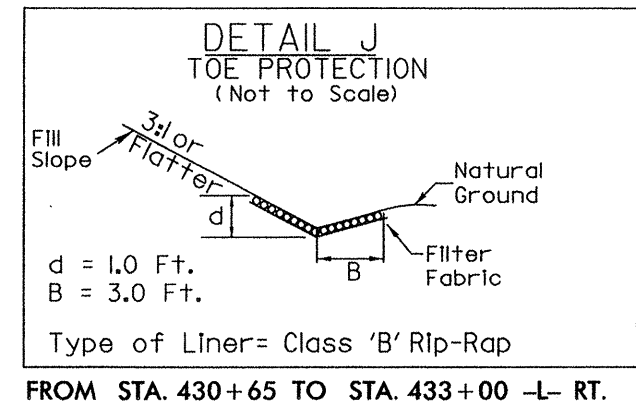
*Underground Power Line	—————
*Underground Telephone Cable	—————
*Underground Telephone Conduit	—————
*Underground Fiber Optics Telephone Cable	—————
*Underground TV Cable	—————
*Underground Fiber Optics TV Cable	—————
*Underground Gas Pipeline	—————
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	—————
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	—————
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	—————
Underground Unknown Utility Line	—————
SUE Test Hole	◊
Water Meter	◊
Water Valve	◊
Fire Hydrant	◊
Sanitary Sewer Cleanout	◊

\*For Existing Utilities  
Utility Line Drawn from Record (Type as Shown) —————  
Designated Utility Line (Type as Shown) - - - - -

5/14/99  
SYMBOLS  
REV: 2/1/2012



5/14/99



PROJECT REFERENCE NO. R-2633BB SHEET NO. UC-4

DESIGNED BY: JJW  
 DRAWN BY: JGB  
 CHECKED BY: KFC  
 APPROVED BY: KFC  
 REVISIONS: 6/13/2013

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

Kimley-Horn and Associates, Inc.  
 P.O. BOX 33068 RALEIGH, NORTH CAROLINA 27636-3068  
 PHONE: (919) 877-7200 FAX: (919) 617-2050  
 PE NO. F-0102

PI Sta 383+94.77  
 $\Delta = 51' 49'' 22.8''$  (LT)  
 $D = 0' 38'' 11.8''$   
 $L = 8140.34'$   
 $T = 4372.40'$   
 $R = 90000.00'$   
 $e = 2.5\%$   
 $RUNOFF = 113'$

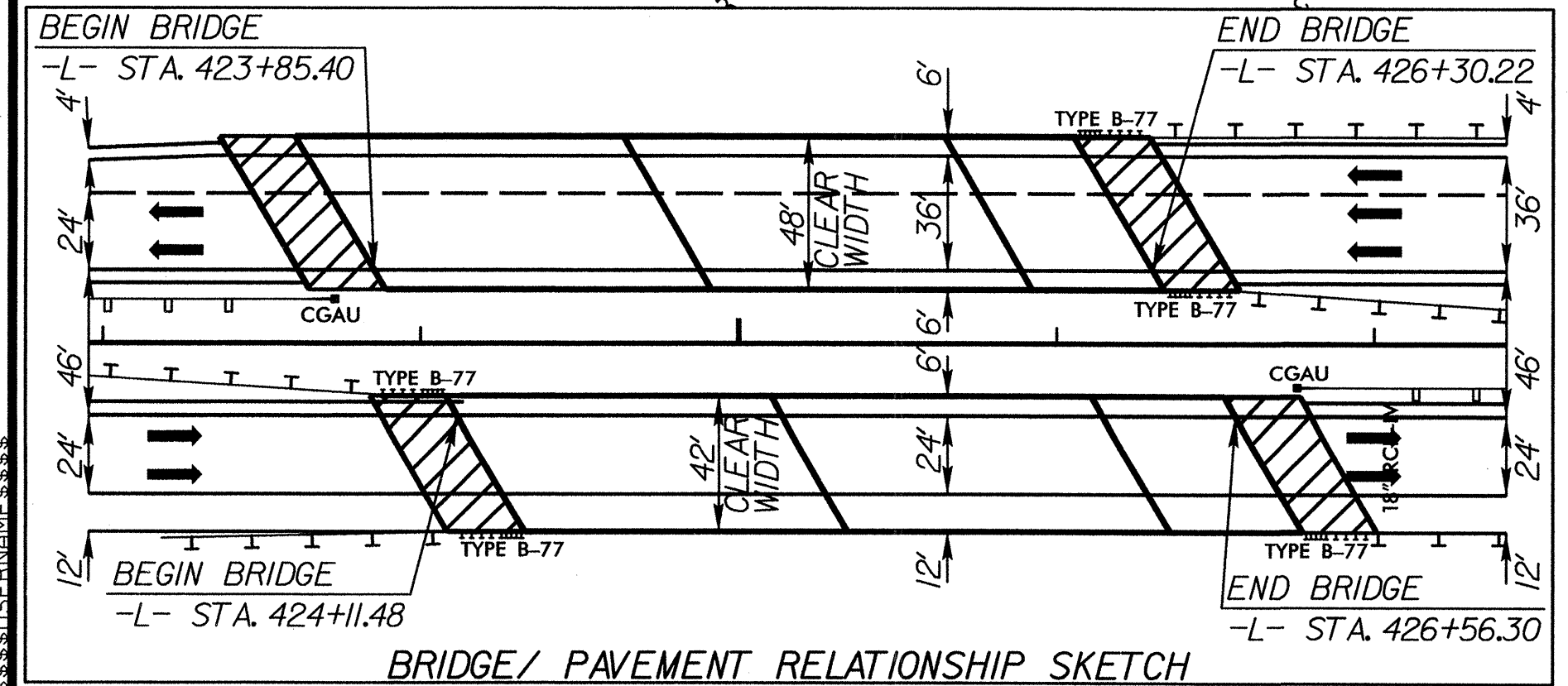
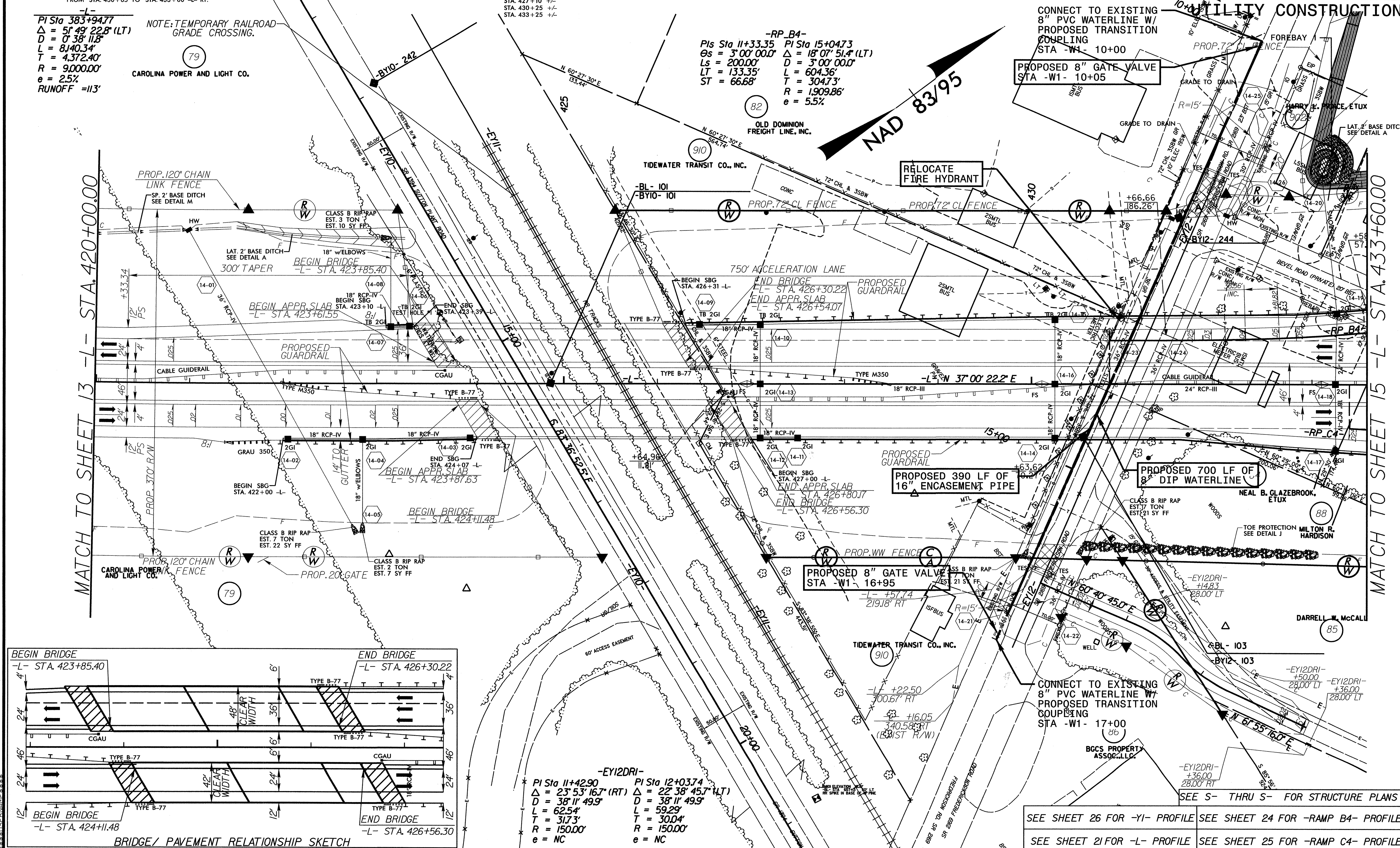
NOTE: TEMPORARY RAILROAD GRADE CROSSING.

CAROLINA POWER AND LIGHT CO.

-RP\_B4-  
 PIs Sta 11+33.35 PI Sta 15+04.73  
 $\Theta_s = 3' 00'' 00.0''$   $\Delta = 18' 07'' 51.4''$  (LT)  
 $L_s = 200.00'$   $D = 3' 00'' 00.0''$   
 $LT = 133.35'$   $L = 604.36'$   
 $ST = 66.68'$   $T = 304.73'$   
 $R = 1909.86'$   
 $e = 5.5\%$

CONNECT TO EXISTING 8" PVC WATERLINE W/ PROPOSED TRANSITION COUPLING STA -W1- 10+00

PROPOSED 8" GATE VALVE STA -W1- 10+05



-EY12DRI-  
 PI Sta 11+42.90 PI Sta 12+03.74  
 $\Delta = 23' 53'' 16.7''$  (RT)  $\Delta = 22' 38'' 45.7''$  (LT)  
 $D = 38' 11'' 49.9''$   $L = 58' 11'' 49.9''$   
 $L = 62.54'$   $T = 59.29'$   
 $R = 317.3'$   $T = 30.04'$   
 $R = 150.00'$   $R = 150.00'$   
 $e = NC$   $e = NC$

SEE SHEET 26 FOR -YI- PROFILE SEE SHEET 24 FOR -RAMP B4- PROFILE  
 SEE SHEET 21 FOR -L- PROFILE SEE SHEET 25 FOR -RAMP C4- PROFILE

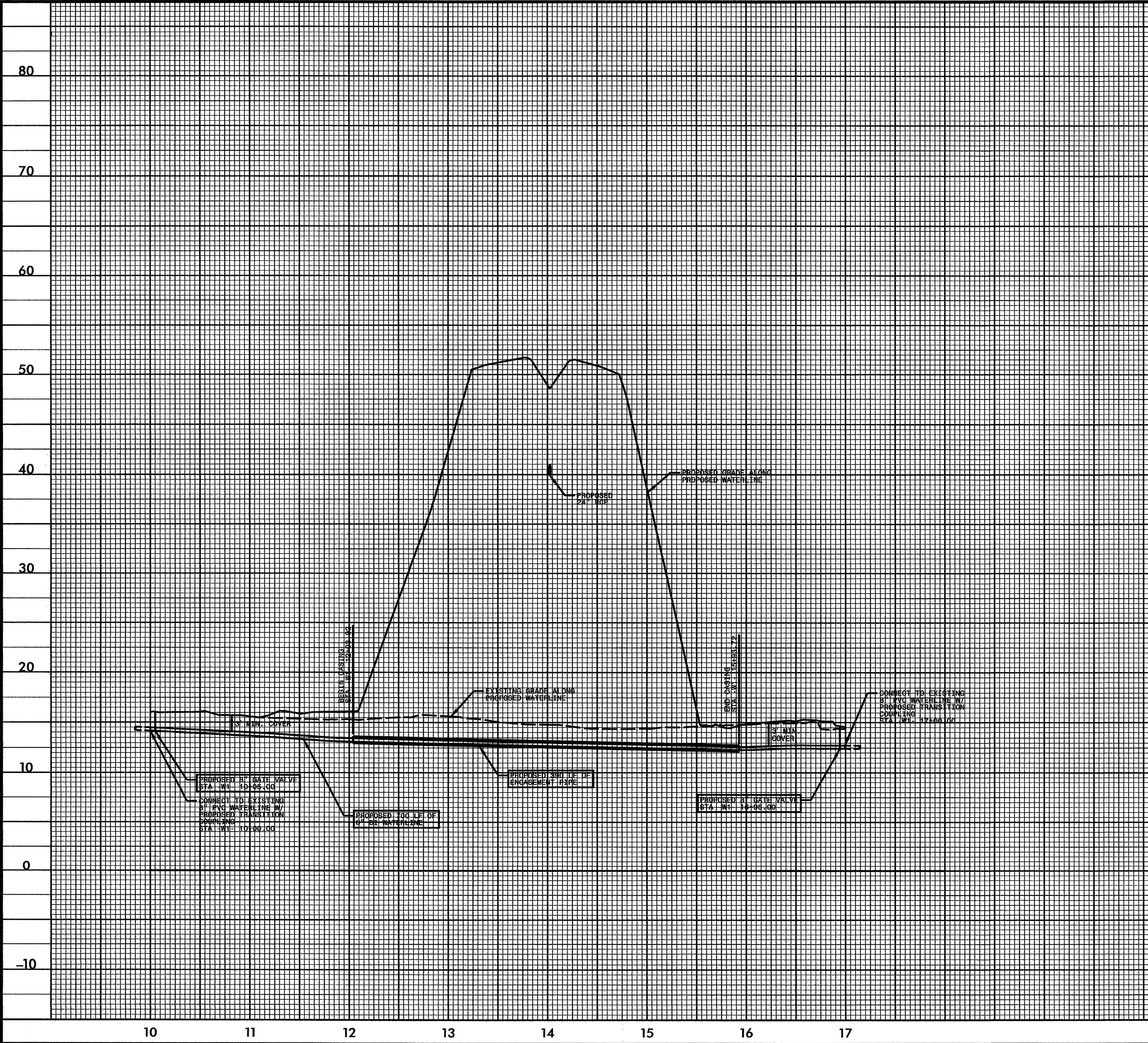
MATCH TO SHEET 13 -L- STA. 420+00.00

MATCH TO SHEET 15 -L- STA. 433+60.00

5/14/99  
SYSTEMS DIVISION

 <b>Kimley-Horn and Associates, Inc.</b> <small>P.O. BOX 33068 RALEIGH, NORTH CAROLINA 27636-3068 PHONE: (919) 677-2000 FAX: (919) 677-2050 PE NO. P-0102</small>	PROJECT REFERENCE NO. <b>R-2633BB</b>	SHEET NO. <b>UC-5</b>
	DESIGNED BY: <b>JJW</b>	
	DRAWN BY: <b>JGB</b>	
	CHECKED BY: <b>KFC</b>	
	APPROVED BY: <b>KFC</b>	
REVISED:		
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION



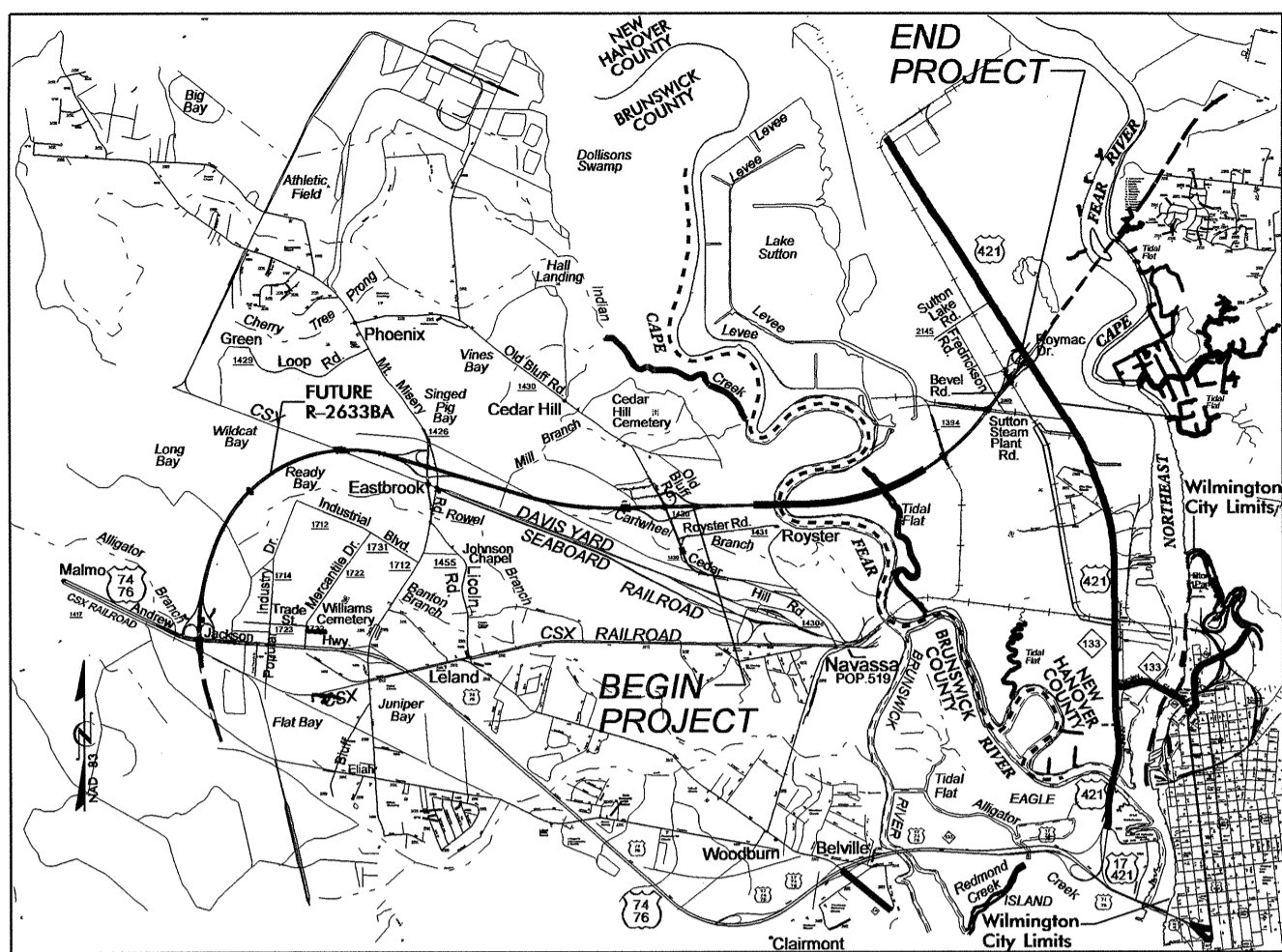
09/08/99

TIP PROJECT: R-2633BB

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS  
BRUNSWICK &  
NEW HANOVER COUNTY

T.I.P. NO.	SHEET NO.
R-2633BB	UO-1

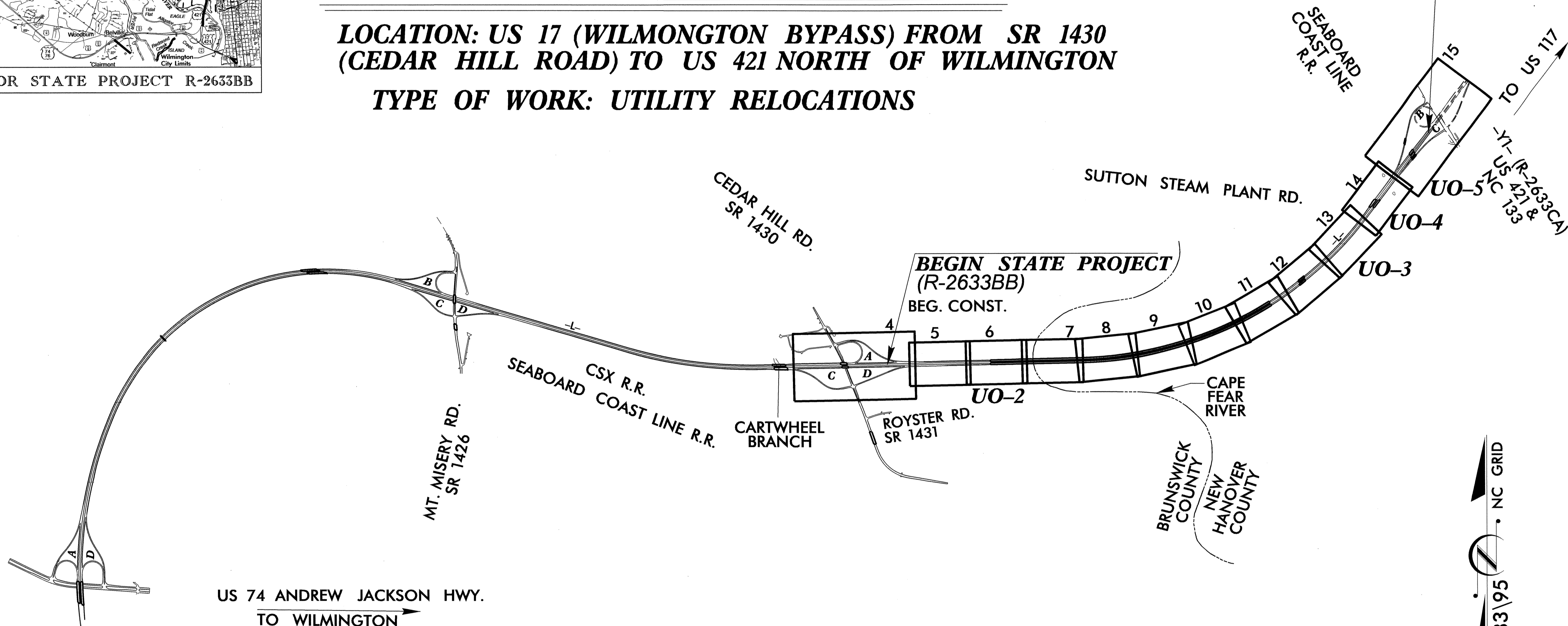


VICINITY MAP FOR STATE PROJECT R-2633BB

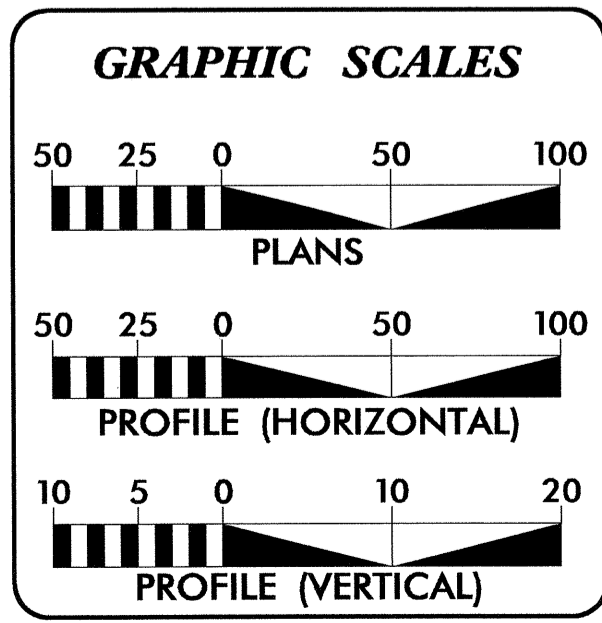
LOCATION: US 17 (WILMINGTON BYPASS) FROM SR 1430  
(CEDAR HILL ROAD) TO US 421 NORTH OF WILMINGTON

TYPE OF WORK: UTILITY RELOCATIONS

-L- STA. 447+24.07  
END STATE PROJECT  
(R-2633BB) END CONST.

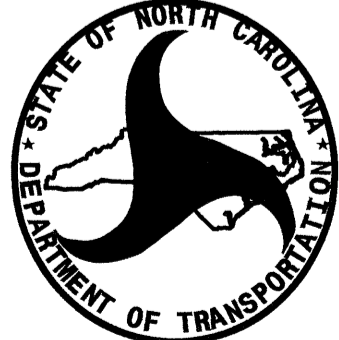


07-MAY-2013 13:27  
R:\Utilities\Draw\U01\Proj\NR2633BB\_U01\_Title\_U01\_psh.dgn  
USER:RNAME



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-5	UTILITY BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT
(A) POWER: PROGRESS ENERGY
(B) TELEPHONE: AT&T
(C) GAS: PIEDMONT NATURAL GAS


 PREPARED IN THE OFFICE OF:  
**DIVISION OF HIGHWAYS**  
**UTILITIES UNIT**  
**UTILITIES ENGINEERING**  
 1555 MAIL SERVICES CENTER  
 RALEIGH NC 27699-1555  
 PHONE (919) 707-6690  
 FAX (919) 250-4151

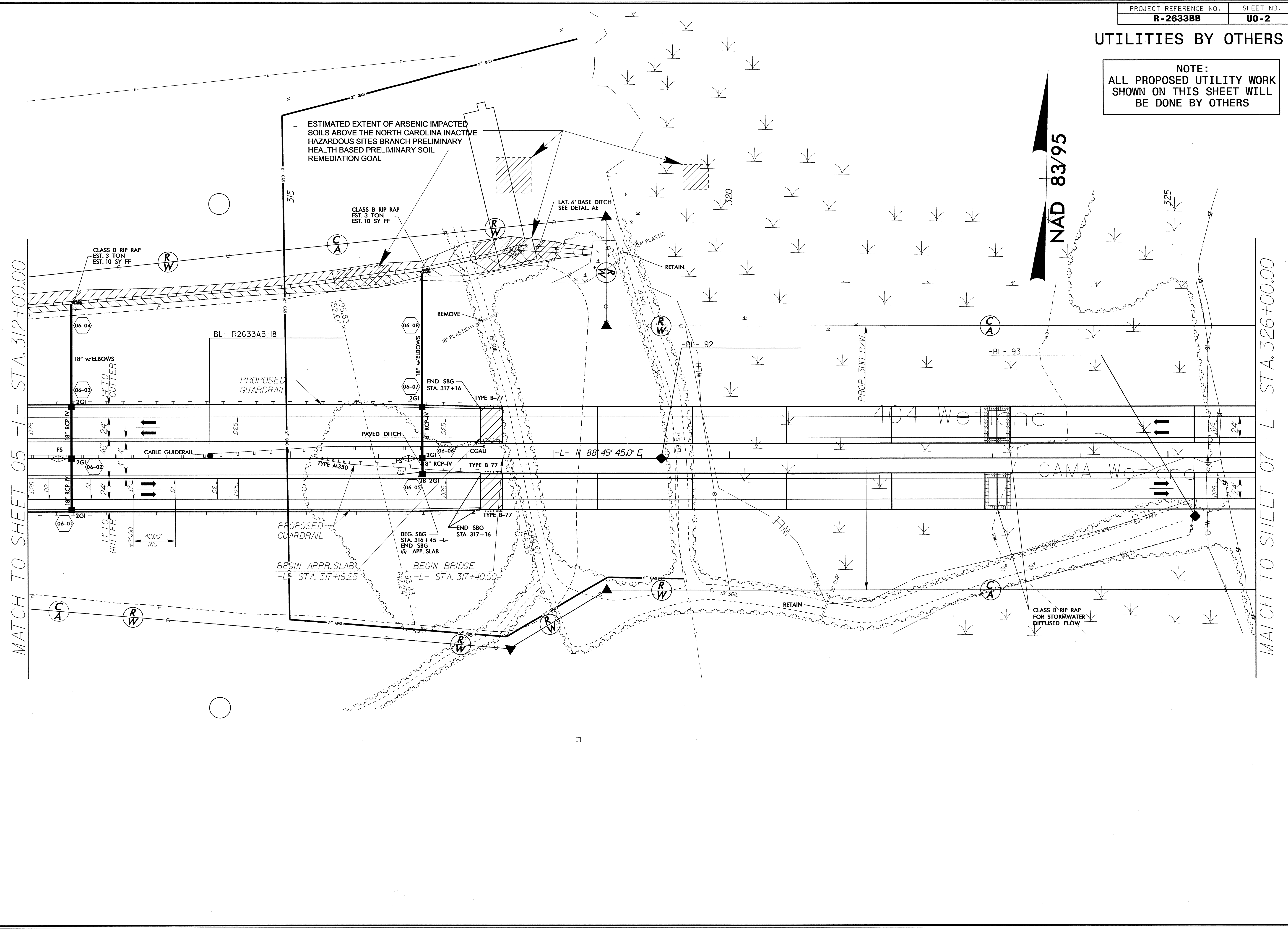
**Roger Worthington, P.E.** UTILITIES SECTION ENGINEER  
**R.B. Wilkins, P.E.** UTILITIES SQUAD LEADER PROJECT ENGINEER  
**Jong-Tae Yoon** UTILITIES PROJECT DESIGNER

### UTILITIES BY OTHERS

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

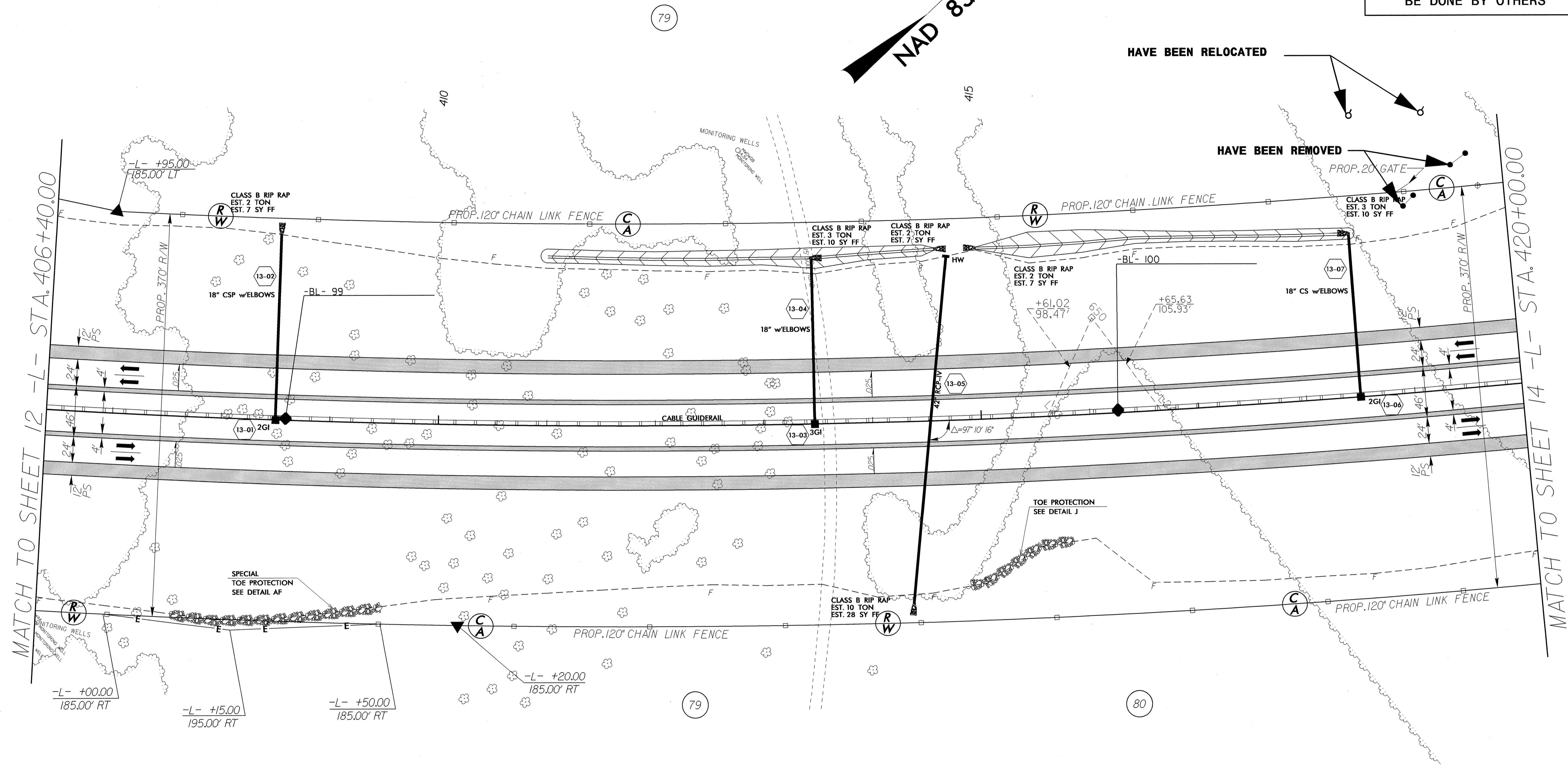
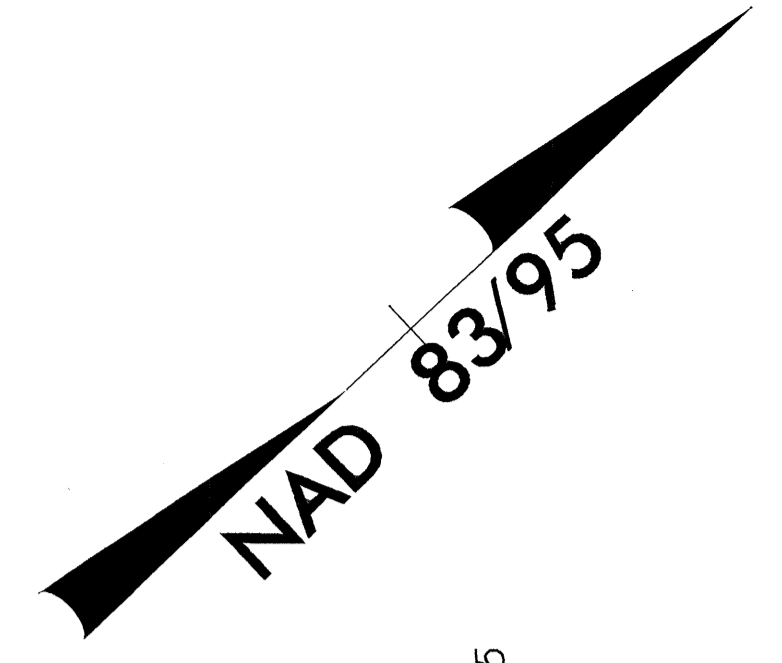
MATCH TO SHEET 05 -L- STA. 312+00.00

MATCH TO SHEET 07 -L- STA. 326+00.00



### UTILITIES BY OTHERS

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



MATCH TO SHEET 12 -L- STA. 406+40.00

MATCH TO SHEET 14 -L- STA. 420+00.00

HAVE BEEN RELOCATED

HAVE BEEN REMOVED

PROP. 20' GATE

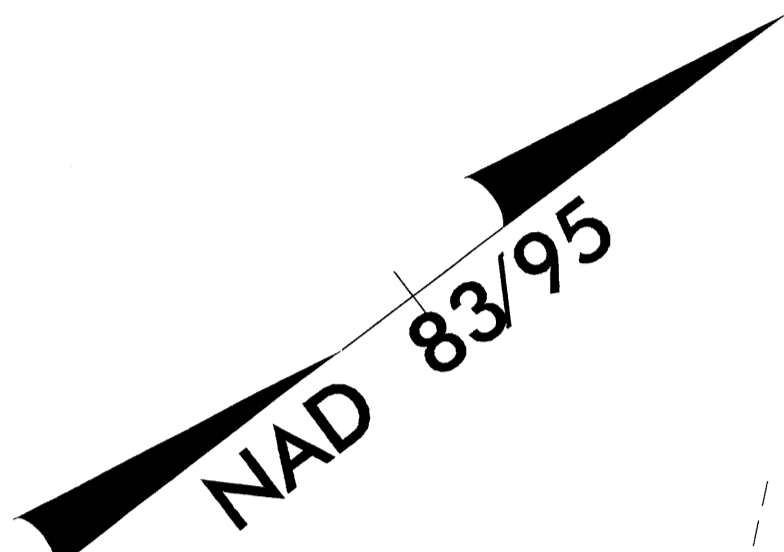
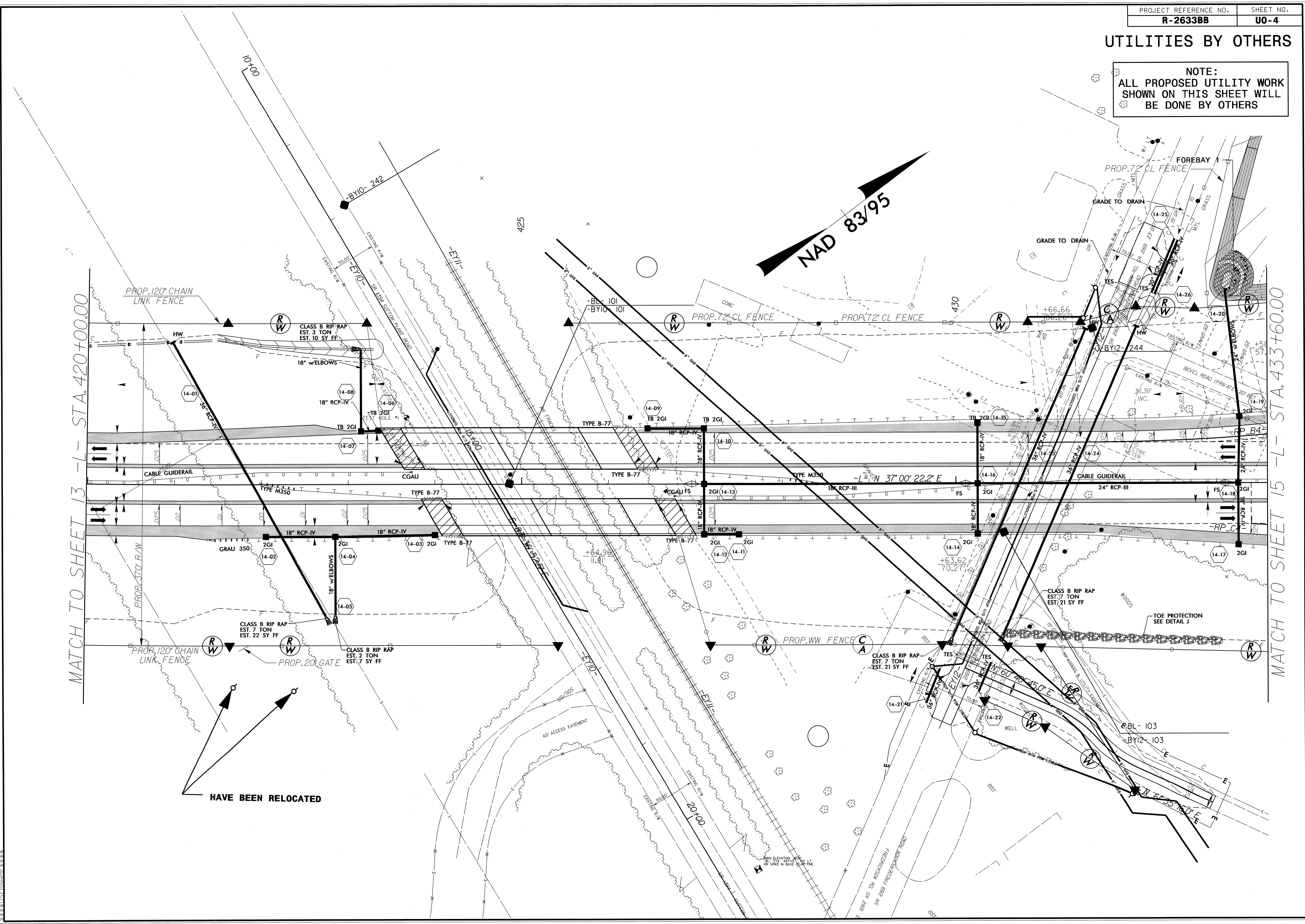
07-MAY-2013 12:50 R:\U11\Drawings\UTILITY\2633BB\_Ut\_13\_U03\_psh.dgn



**UTILITIES BY OTHERS**

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

5/14/99



MATCH TO SHEET 13 - L - STA. 420+00.00

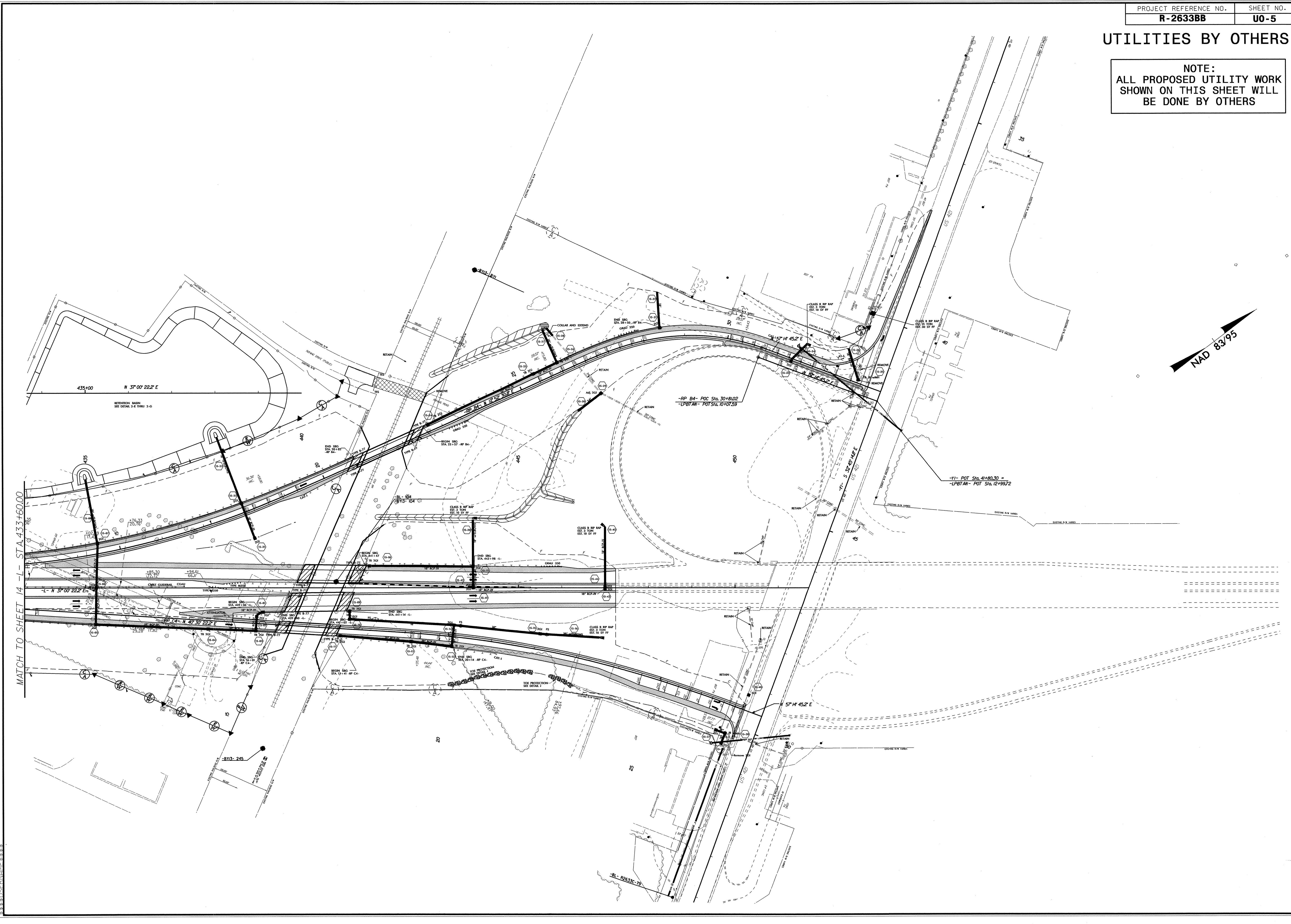
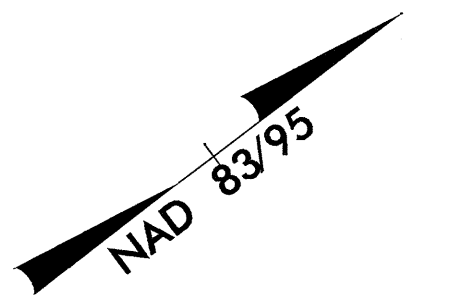
MATCH TO SHEET 15 - L - STA. 433+60.00

HAVE BEEN RELOCATED

07-MAY-2013 12:51  
 R:\2633BB\_U0-4.psh.dgn  
 R:\2633BB\_U0-4.psh.dgn

### UTILITIES BY OTHERS

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



MATCH TO SHEET 14 - L - STA 433+60.00

5/14/99

07-MAY-2013 12:52  
R:\U+Utilities\Road\U0-5\2633BB-Ut\_15\_U05\_psh.dgn