

09/08/09

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols

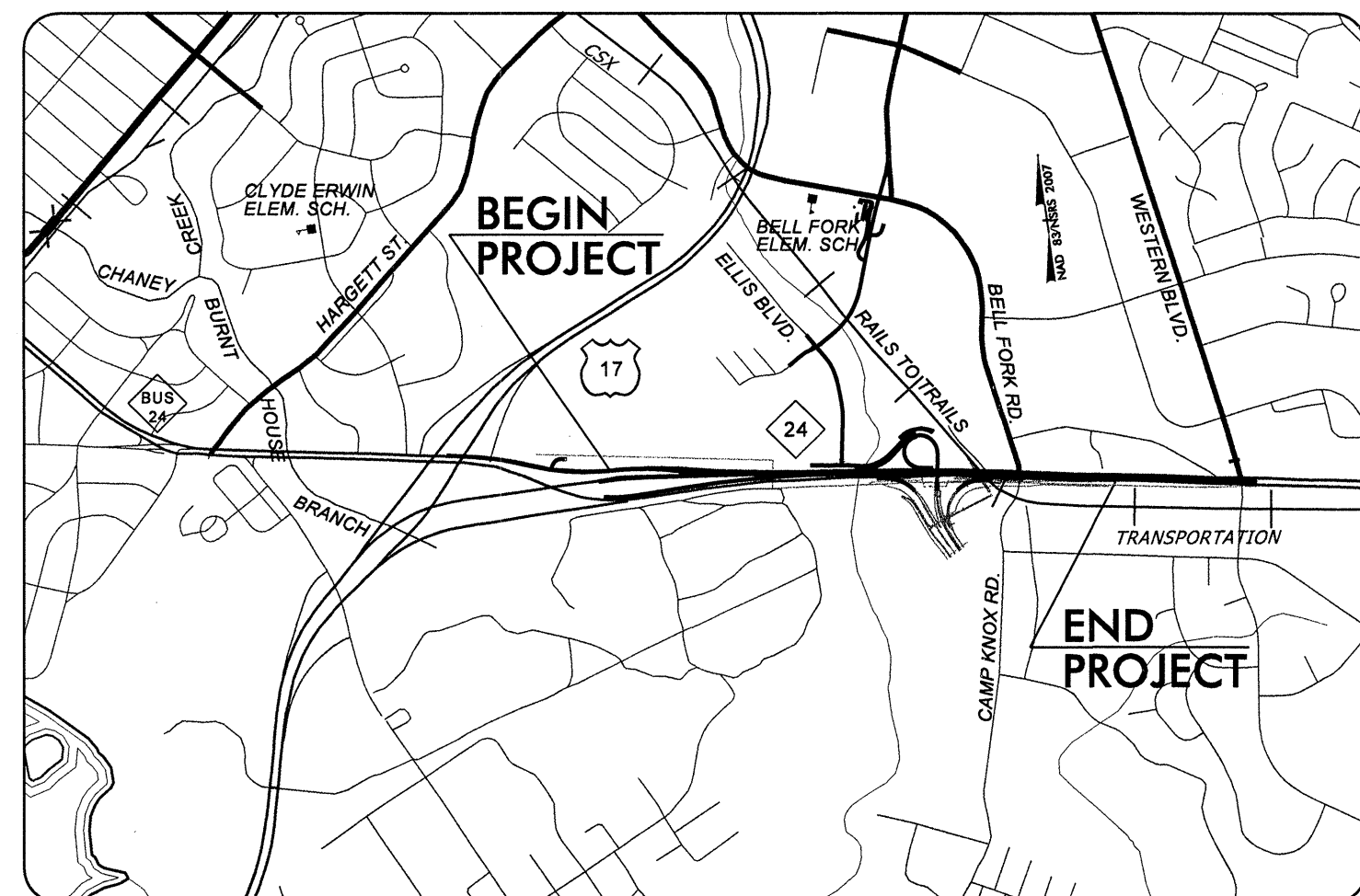
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**ONslow COUNTY
UTILITY CONSTRUCTION PLANS**

**LOCATION: NEW NC 24 ACCESS AND NEW BASE ENTRY ROAD
FOR CAMP LEJEUNE MARINE CORPS BASE**

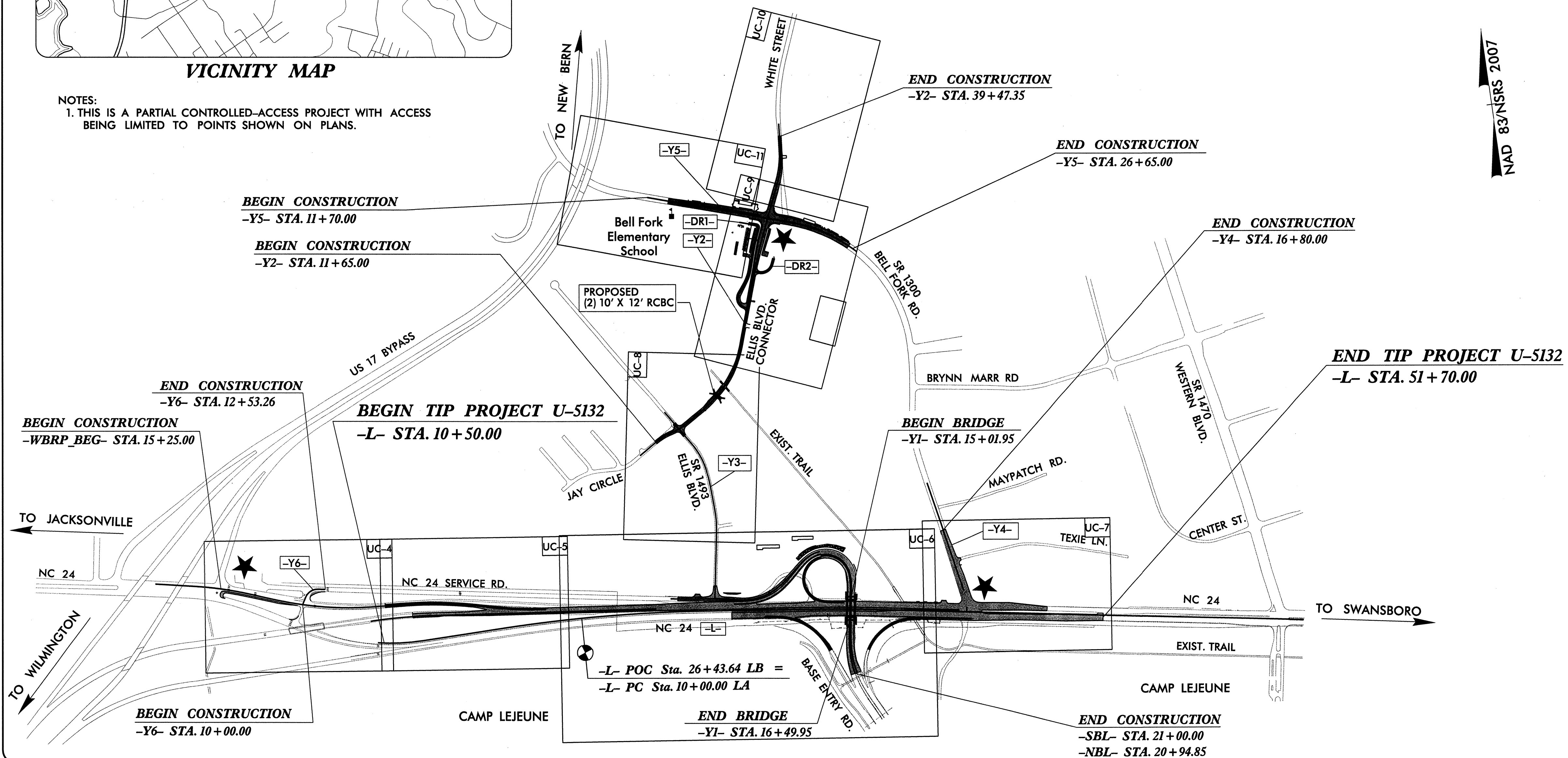
TYPE OF WORK: WATER AND SANITARY SEWER

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5132	UC-1	17
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45155.1.1	DOD-0024(39)	P.E.	
45155.2.1	DOD-0024(44)	UTILITIES	
45155.2.1	DOD-0024(44)	R /W	
45155.3.1	DOD-0024(44)	CONST.	



VICINITY MAP

NOTES:
1. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS SHOWN ON PLANS.

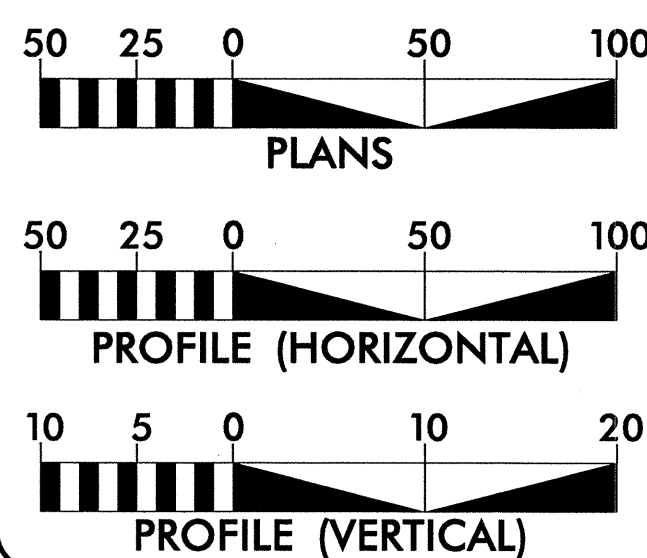


NAD 83/NRS 2007

TIP PROJECT: U-5132

CONTRACT: C202816

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 70,950
 ADT 2035 = 83,650
 DHV = 8.7 %
 D = 60 %
 *T = 8 %
 V = 50 MPH
 *TTST = 5% DUAL 3%
 FUNC CLASS =
 URBAN ARTERIAL

SHEET INDEX

UC-1 TITLE SHEET
 UC-4 THRU 11 UTILITY PLAN SHEETS
 UC-12 THRU 14 UTILITY PROFILE SHEETS
 UC-15 THRU 17 UTILITY DETAIL SHEETS

NCDOT CONTACT

CHRIS HAIRE, PE
 PROJECT ENGINEER - ROADWAY DESIGN

PLANS PREPARED BY :

RK&K RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE, SUITE 350
 RALEIGH, NORTH CAROLINA 27609
 NC LICENSE NO. F-0112

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 JANUARY 31, 2011

LETTING DATE:
 APRIL 17, 2012

J. T. Peacock, Jr., P.E.
 PROJECT ENGINEER

Michael T. Merritt, P.E.
 PROJECT DESIGN ENGINEER

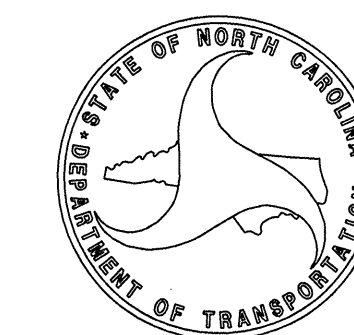
WATER AND SANITARY
 SEWER OWNER:
 CITY OF JACKSONVILLE

UTILITY ENGINEER

Professional Engineer Seal for J. T. Peacock, Jr., P.E., License No. 32633.

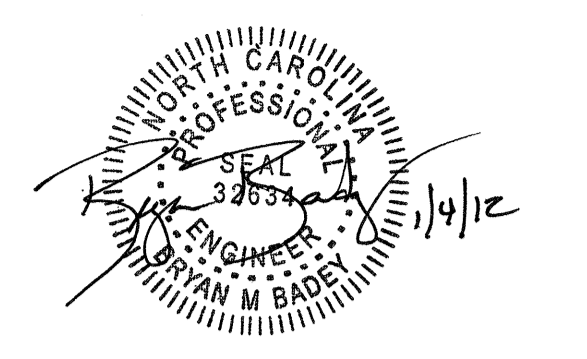
SIGNATURE:

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

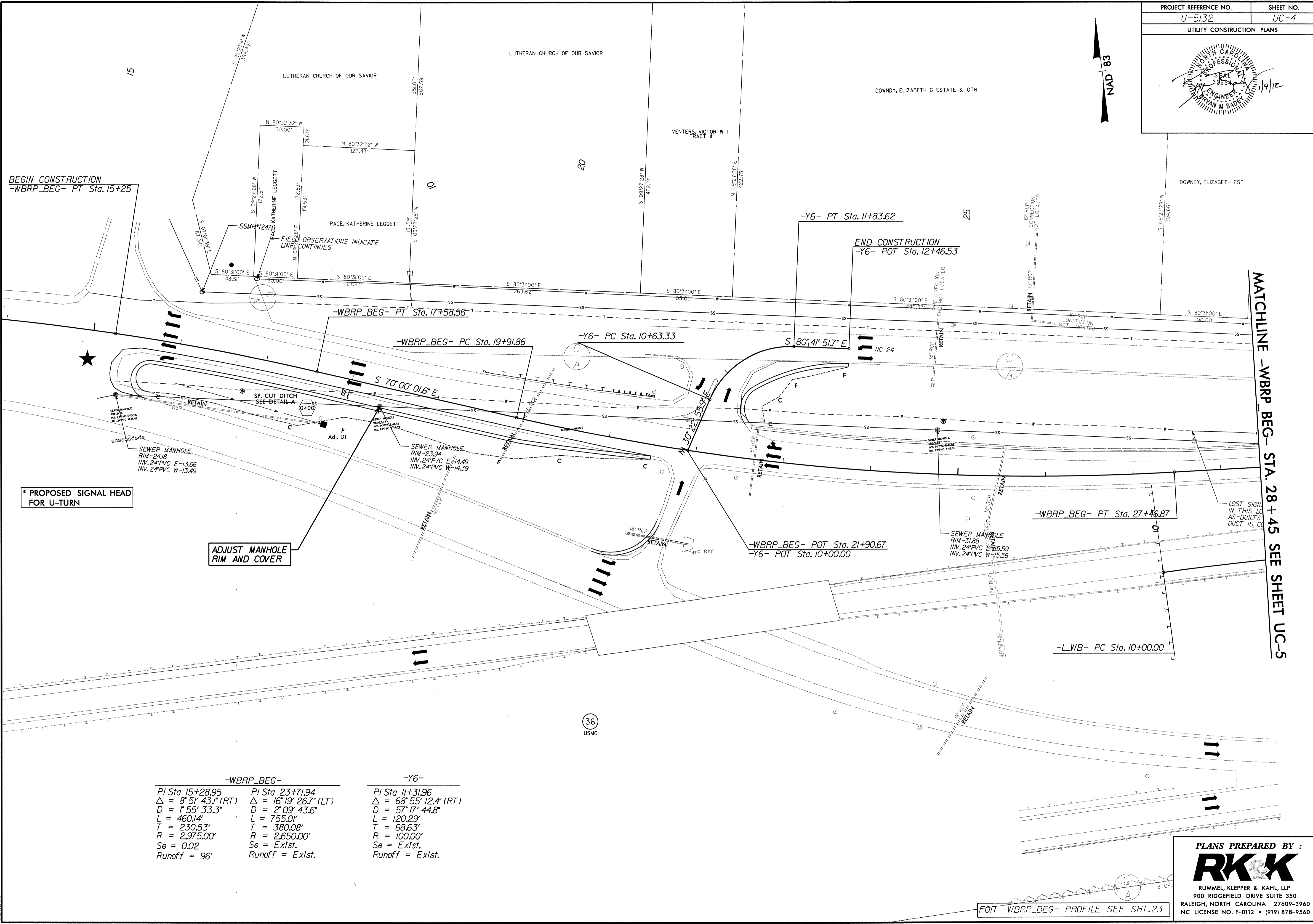


STATE HIGHWAY DESIGN ENGINEER

3/7/2012
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D:\Utilities\Rdy_Ut\Proj\U5132-ut1.tsh.dgn



8/17/99
 1/4/2012
 R:\Utilities\Redy-Ut\Proj\U5132\utl_psh04.dgn
 bader



BEGIN CONSTRUCTION
 -WBRP_BEG- PT Sta. 15+25

END CONSTRUCTION
 -Y6- POT Sta. 12+46.53

* PROPOSED SIGNAL HEAD
 FOR U-TURN

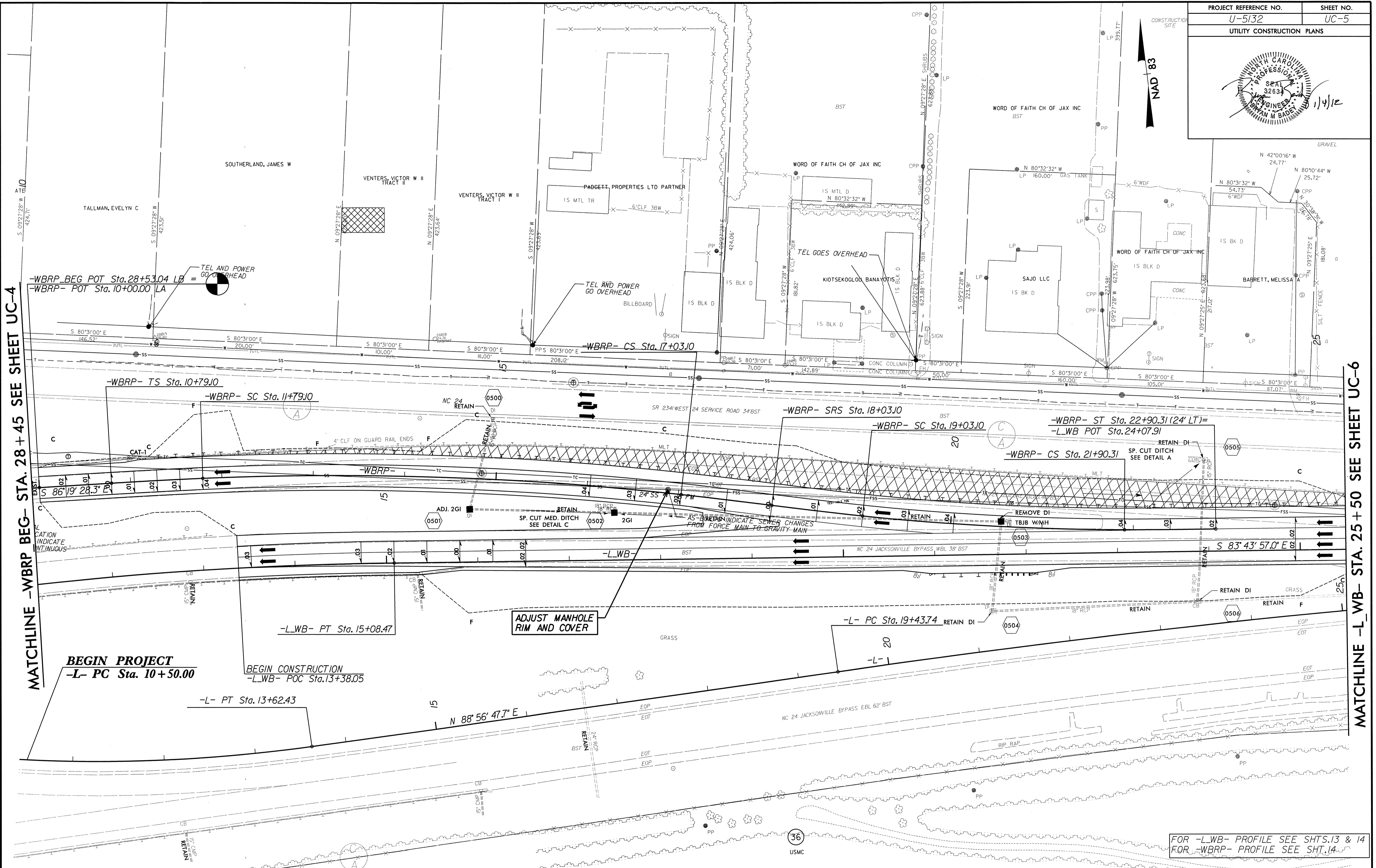
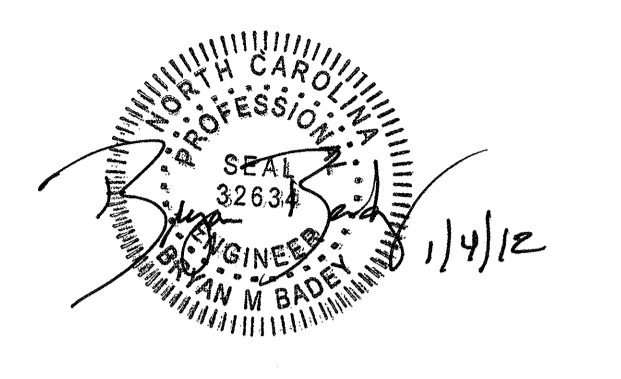
ADJUST MANHOLE
 RIM AND COVER

MATCHLINE -WBRP_BEG- STA. 28+45 SEE SHEET UC-5

-WBRP_BEG-		-Y6-
PI Sta 15+28.95	PI Sta 23+71.94	PI Sta 11+31.96
Δ = 8° 51' 43J" (RT)	Δ = 16° 19' 26.7" (LT)	Δ = 68° 55' 12.4" (RT)
D = 1° 55' 33.3"	D = 2° 09' 43.6"	D = 57° 17' 44.8"
L = 460.14'	L = 755.01'	L = 120.29'
T = 230.53'	T = 380.08'	T = 68.63'
R = 2,975.00'	R = 2,650.00'	R = 100.00'
Se = 0.02	Se = Exlst.	Se = Exlst.
Runoff = 96'	Runoff = Exlst.	Runoff = Exlst.

PLANS PREPARED BY :
RK&K
 RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE SUITE 350
 RALEIGH, NORTH CAROLINA 27609-3960
 NC LICENSE NO. F-0112 • (919) 878-9560

FOR -WBRP_BEG- PROFILE SEE SHT. 23



MATCHLINE -WBWP- STA. 28 + 45 SEE SHEET UC-4

MATCHLINE -L-WB- STA. 25 + 50 SEE SHEET UC-6

BEGIN PROJECT
 -L- PC Sta. 10+50.00

BEGIN CONSTRUCTION
 -L-WB- POC Sta. 13+38.05

ADJUST MANHOLE RIM AND COVER

FOR -L-WB- PROFILE SEE SHTS. 13 & 14
 FOR -WBWP- PROFILE SEE SHT. 14

-L-		-L-WB-		-WBWP-		-WBWP-BEG-			
PI Sta 11+81.93	PI Sta 22+93.79	PI Sta 12+54.55	PIs Sta 11+45.77	PI Sta 14+41.62	PIs Sta 17+36.43	PIs Sta 18+69.77	PI Sta 20+46.83	PIs Sta 22+23.65	PI Sta 23+71.94
$\Delta = 12' 26" 04.0" (LT)$	$\Delta = 3' 19" 35.4" (RT)$	$\Delta = 7' 02" 13.0" (RT)$	$\Delta s = 0' 50" 33.3"$	$\Delta = 8' 49' 49.1" (RT)$	$\Delta s = 0' 50" 33.3"$	$\Delta s = 1' 01" 23.3"$	$\Delta = 5' 52' 37.8" (LT)$	$\Delta s = 1' 01" 23.3"$	$\Delta = 16' 19' 26.7" (LT)$
D = 3' 25' 51.2"	D = 0' 28' 31.0"	D = 1' 23' 02.2"	Ls = 100.00'	D = 1' 41' 06.6"	Ls = 100.00'	Ls = 100.00'	D = 2' 02' 46.6"	Ls = 100.00'	D = 2' 09' 43.6"
L = 362.43'	L = 699.90'	L = 508.47'	LT = 66.67'	L = 524.00'	LT = 66.67'	LT = 66.67'	L = 287.21'	LT = 66.67'	L = 755.01'
T = 181.93'	T = 350.05'	T = 254.55'	ST = 33.33'	T = 262.52'	ST = 33.33'	ST = 33.33'	T = 143.73'	ST = 33.33'	T = 380.08'
R = 1,670.00'	R = 12,055.00'	R = 4,140.00'		R = 3,400.00'			R = 2,800.00'		R = 2,650.00'
SE = EXIST.	SE = EXIST.	SE = 0.03		Se = 0.04			Se = 0.04		Se = EXIST.
Runoff = EXIST.	Runoff = EXIST.	Runoff = 108'		Runoff = 96'			Runoff = 96'		Runoff = EXIST.

PLANS PREPARED BY :

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1/4/2012 R:\Utilities\Relay-Utility\Proj\U5132-utility-ps05.dgn

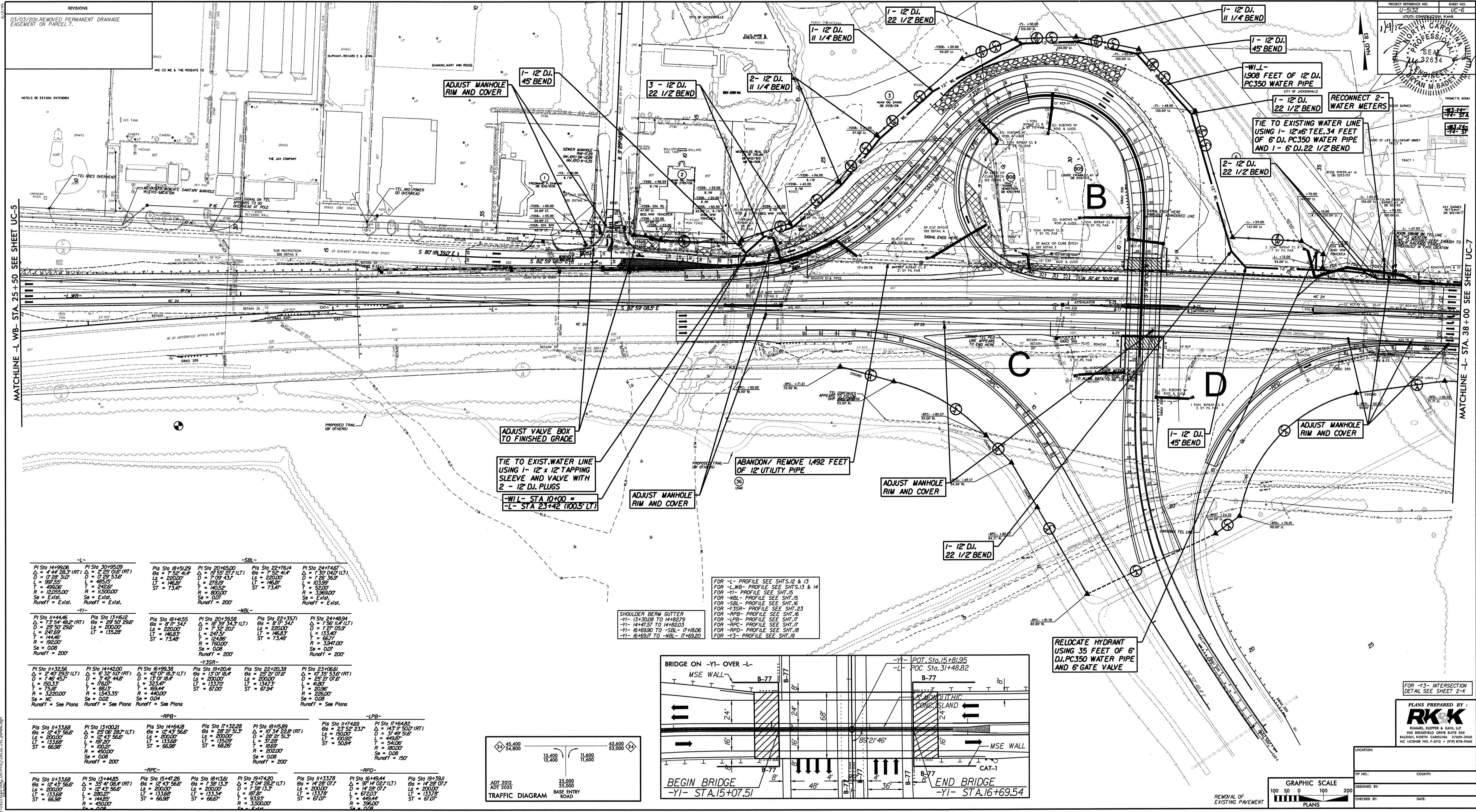
REVISIONS

03/03/2011 REMOVED PERMANENT DRAINAGE EASEMENT ON PARCEL 7.

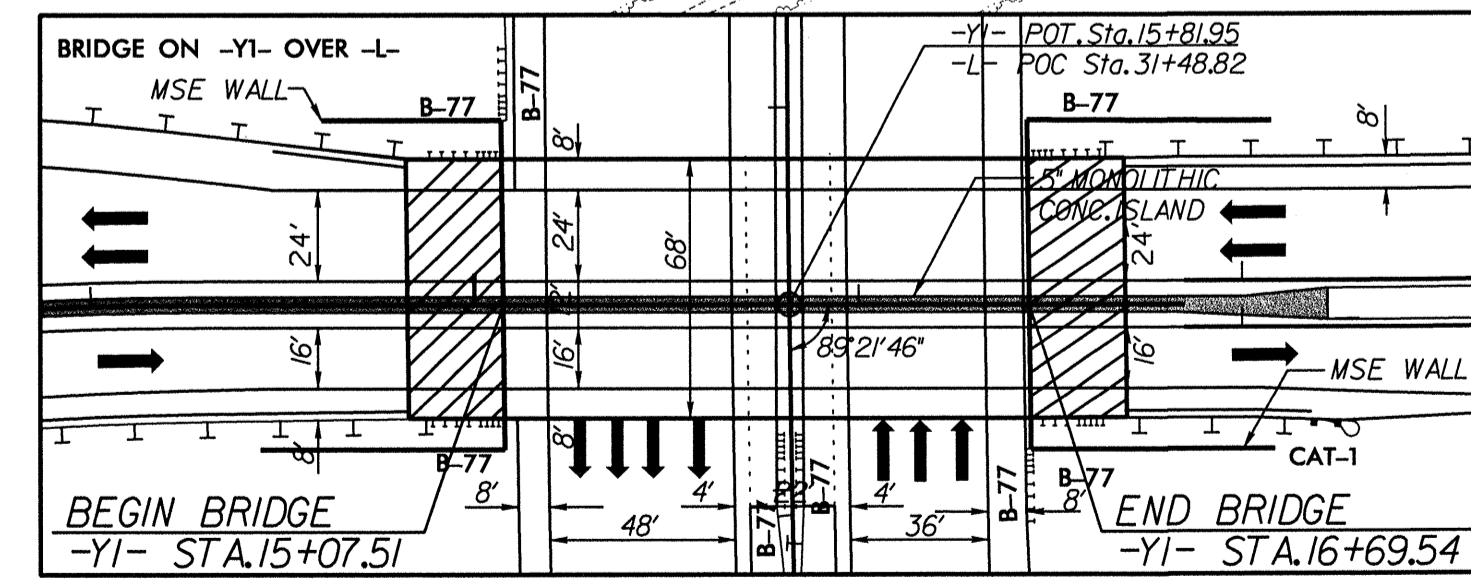
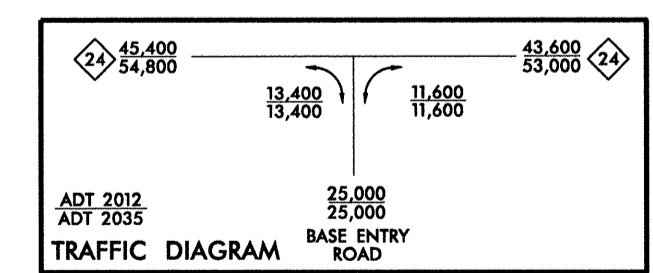
PROJECT REFERENCE NO. U-5132
SHEET NO. UC-6

UTILITY CONNECTIONS

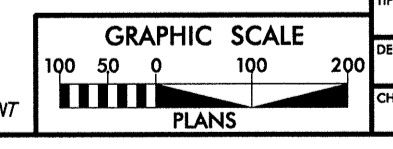
PROFESSIONAL SEAL
NO. 32634
M. B. BIRD



<p>PI Sta 14+99.06 Δ = 4'4" 28.3' (RT) D = 0'28' 3.0" L = 587.56' T = 495.06' R = 12255.00' Se = Exist. Runoff = Exist.</p>	<p>PI Sta 30+95.00 Δ = 2'25' 0.6" (RT) D = 0'28' 3.0" L = 587.56' T = 495.06' R = 12255.00' Se = Exist. Runoff = Exist.</p>	<p>PI Sta 18+51.29 Δ = 7'35' 31.4" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.07 Runoff = 200'</p>	<p>PI Sta 30+45.00 Δ = 17'35' 27.1" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.07 Runoff = 200'</p>	<p>PI Sta 22+76.14 Δ = 1'55' 41.4" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.07 Runoff = 200'</p>	<p>PI Sta 24+74.67 Δ = 1'30' 04.2" (LT) D = 128' 36.5" L = 103.95' T = 50.00' R = 3205.00' Se = Exist. Runoff = Exist.</p>
<p>PI Sta 11+44.46 Δ = 7'34' 46.2" (RT) D = 29' 59' 29.6" L = 241.69' T = 144.46' R = 162.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 13+16.12 Δ = 2'59' 0.6" (RT) D = 29' 59' 29.6" L = 241.69' T = 144.46' R = 162.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 18+41.55 Δ = 8'17' 34.7" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 20+33.59 Δ = 16'35' 34.3" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 22+35.71 Δ = 8'17' 34.7" (LT) D = 220.00' L = 146.51' T = 140.52' R = 3205.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 24+48.94 Δ = 1'56' 11.4" (LT) D = 1'17' 05.9" L = 131.47' T = 66.37' R = 3205.00' Se = 0.07 Runoff = 200'</p>
<p>PI Sta 11+32.56 Δ = 2'40' 28.3" (LT) D = 29' 59' 29.6" L = 160.33' T = 73.28' R = 12255.00' Se = NC Runoff = See Plans</p>	<p>PI Sta 14+42.00 Δ = 6'32' 10.7" (RT) D = 13' 01' 16.4" L = 176.07' T = 88.00' R = 12255.00' Se = 0.02 Runoff = See Plans</p>	<p>PI Sta 16+49.38 Δ = 42' 07' 18.3" (LT) D = 220.00' L = 133.70' T = 133.70' R = 67.00' Se = 0.04 Runoff = See Plans</p>	<p>PI Sta 19+20.41 Δ = 13' 01' 16.4" (LT) D = 220.00' L = 133.70' T = 133.70' R = 67.00' Se = 0.04 Runoff = See Plans</p>	<p>PI Sta 22+20.38 Δ = 25' 57' 07.5" (LT) D = 220.00' L = 133.70' T = 133.70' R = 67.00' Se = 0.04 Runoff = See Plans</p>	<p>PI Sta 23+06.61 Δ = 17' 35' 53.5" (RT) D = 25' 57' 07.5" L = 41.80' T = 20.96' R = 160.00' Se = 0.08 Runoff = See Plans</p>
<p>PI Sta 11+33.68 Δ = 12' 43' 56.2" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 13+00.21 Δ = 25' 08' 28.7" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 14+16.18 Δ = 12' 43' 56.2" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 17+32.28 Δ = 26' 57' 51.3" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 18+15.89 Δ = 10' 34' 22.8" (RT) D = 220.00' L = 37.28' T = 33.53' R = 202.00' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 11+74.69 Δ = 23' 52' 23.7" (LT) D = 150.00' L = 140.92' T = 54.06' R = 160.00' Se = 0.08 Runoff = 150'</p>
<p>PI Sta 11+33.68 Δ = 12' 43' 56.2" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 13+44.85 Δ = 34' 08.4" (RT) D = 220.00' L = 280.27' T = 144.85' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 15+47.26 Δ = 12' 43' 56.2" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 18+13.61 Δ = 13' 01' 16.4" (LT) D = 220.00' L = 133.68' T = 66.38' Se = 0.08 Runoff = 200'</p>	<p>PI Sta 19+74.20 Δ = 3'04' 28.2" (LT) D = 14' 28' 07.1" L = 87.81' T = 33.53' R = 350.00' Se = Exist.</p>	<p>PI Sta 15+49.44 Δ = 14' 28' 07.1" (LT) D = 14' 28' 07.1" L = 67.20' T = 44.44' R = 356.00' Se = 0.08</p>



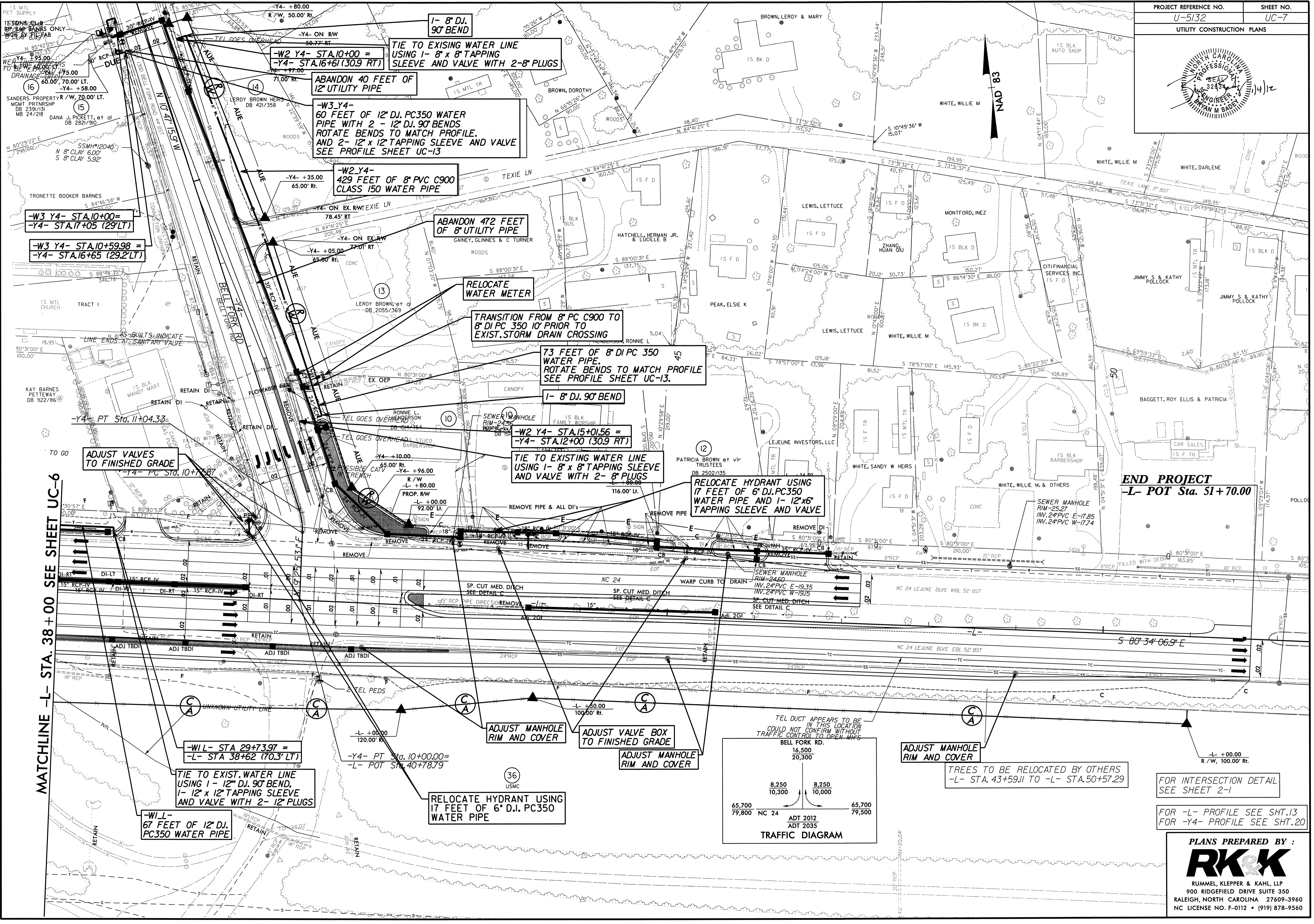
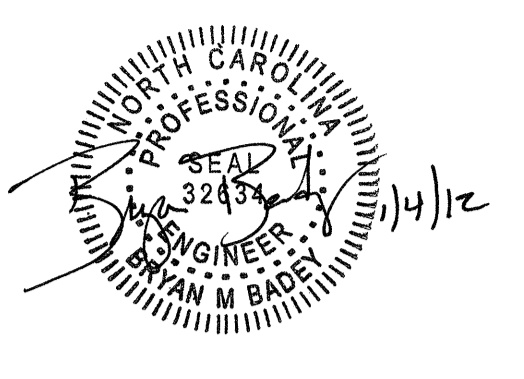
RELOCATE HYDRANT USING 35 FEET OF 6" D.I. PC350 WATER PIPE AND 6" GATE VALVE



FOR -Y3- INTERSECTION DETAIL SEE SHEET 2-K

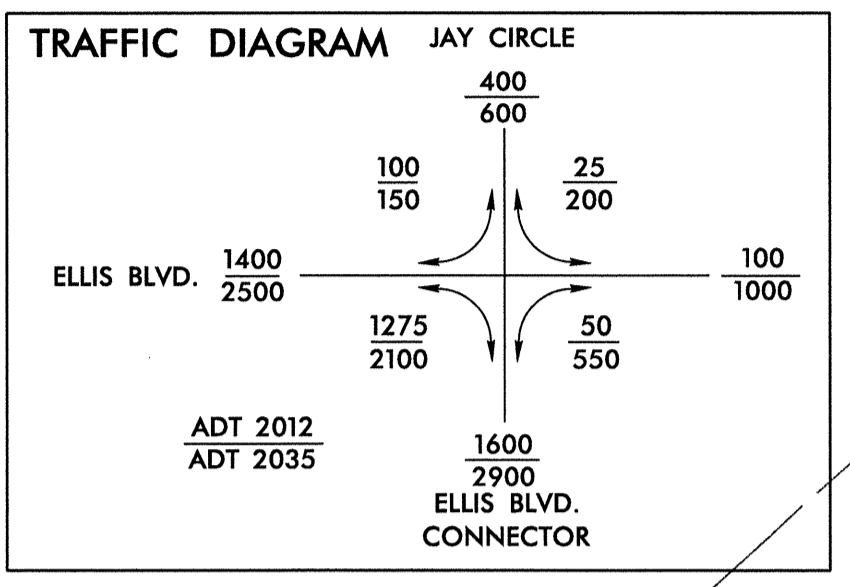
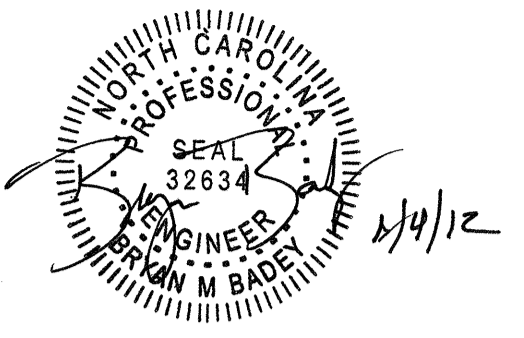
PLANS PREPARED BY
RK&K
RUMBLE, KLEPPER & KALL, L.P.
400 HIGHLAND DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. P-0112 - (919) 878-9560

LOCATION:
SHEET NO.:
COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

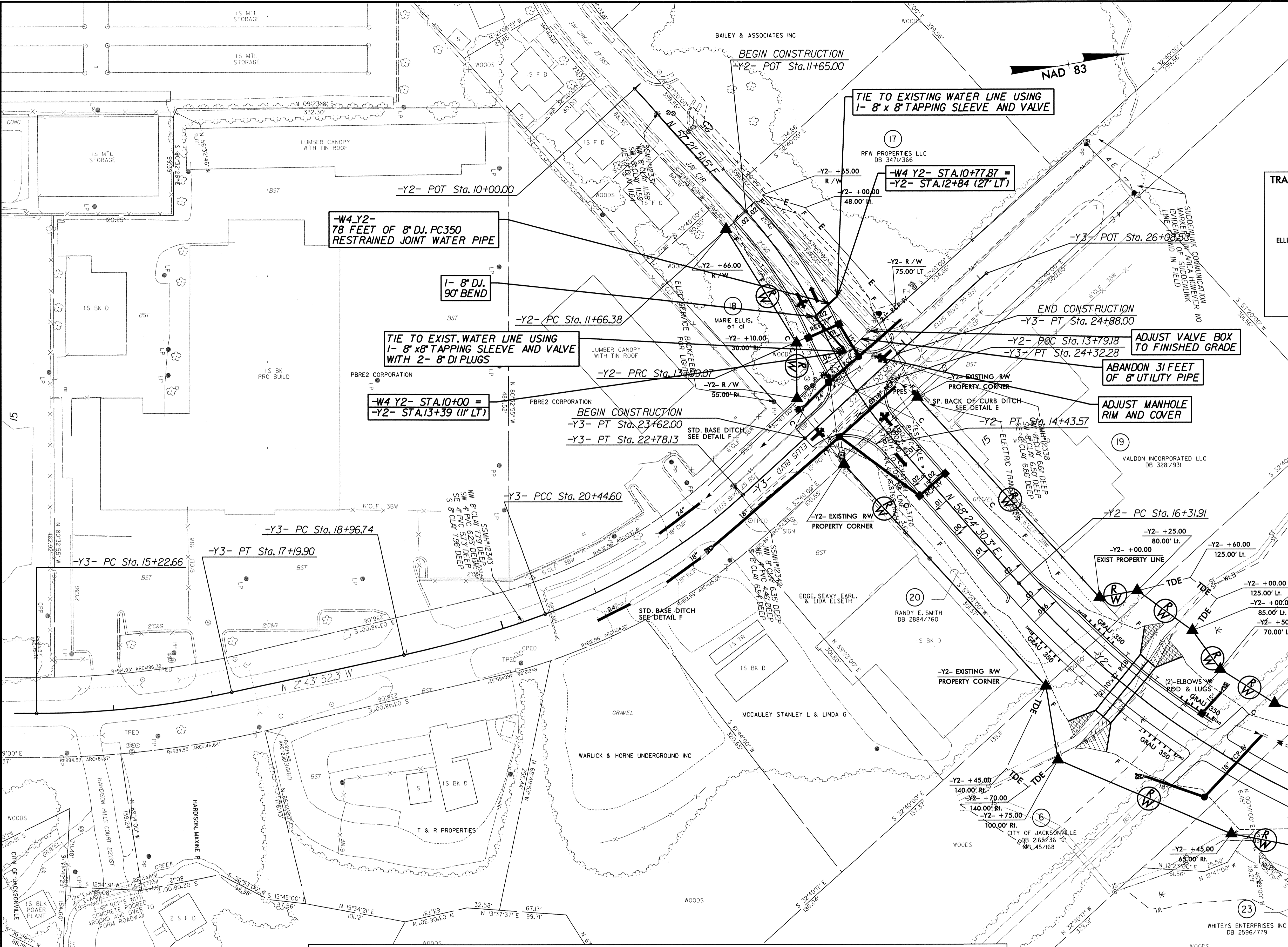


MATCHLINE -L- STA. 38+00 SEE SHEET UC-6

1/4/2012 R:\Utilities\RDy-U\Proj\U5132\util_psh07.dgn



8/17/99
 15
 14/2012
 R:\Utilities\Proj\U-5132-utl-ps08.dgn



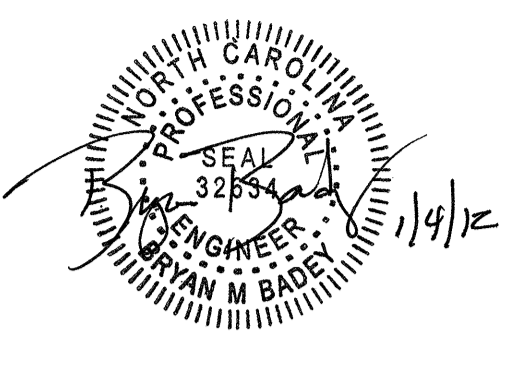
-Y3-			-Y2-		
PI Sta 16+21.66	PI Sta 19+70.78	PI Sta 21+62.86	PI Sta 12+38.33	PI Sta 13+76.83	PI Sta 19+45.11
$\Delta = 12' 13" 02.9" (LT)$	$\Delta = 7' 42" 07.3" (LT)$	$\Delta = 22' 17" 59.2" (LT)$	$\Delta = 18' 10" 06.1" (RT)$	$\Delta = 17' 07" 27.4" (LT)$	$\Delta = 39' 48" 32.7" (LT)$
D = 6' 11" 38.9"	D = 5' 12" 31.3"	D = 9' 32" 57.5"	D = 6' 11" 38.9"	D = 12' 43" 56.6"	D = 6' 37" 25.6"
L = 197.24'	L = 147.87'	L = 233.52'	L = 142.69'	L = 134.49'	L = 601.00'
T = 99.00'	T = 74.05'	T = 118.26'	T = 71.95'	T = 67.75'	T = 313.20'
R = 925.00'	R = 1,100.00'	R = 600.00'	R = 450.00'	R = 450.00'	R = 865.00'
Se = Exlst.	Se = Exlst.	Se = Exlst.	Se = 0.02	Se = 0.02	Se = 0.36
Runoff = Exlst.	Runoff = Exlst.	Runoff = Exlst.	Runoff = See Plans	Runoff = 120'	Runoff = See Plans

FOR INTERSECTION DETAIL SEE SHEET 2-K
 FOR -Y2- PROFILE SEE SHT. V8
 FOR -Y3- PROFILE SEE SHT. I9

PLANS PREPARED BY :

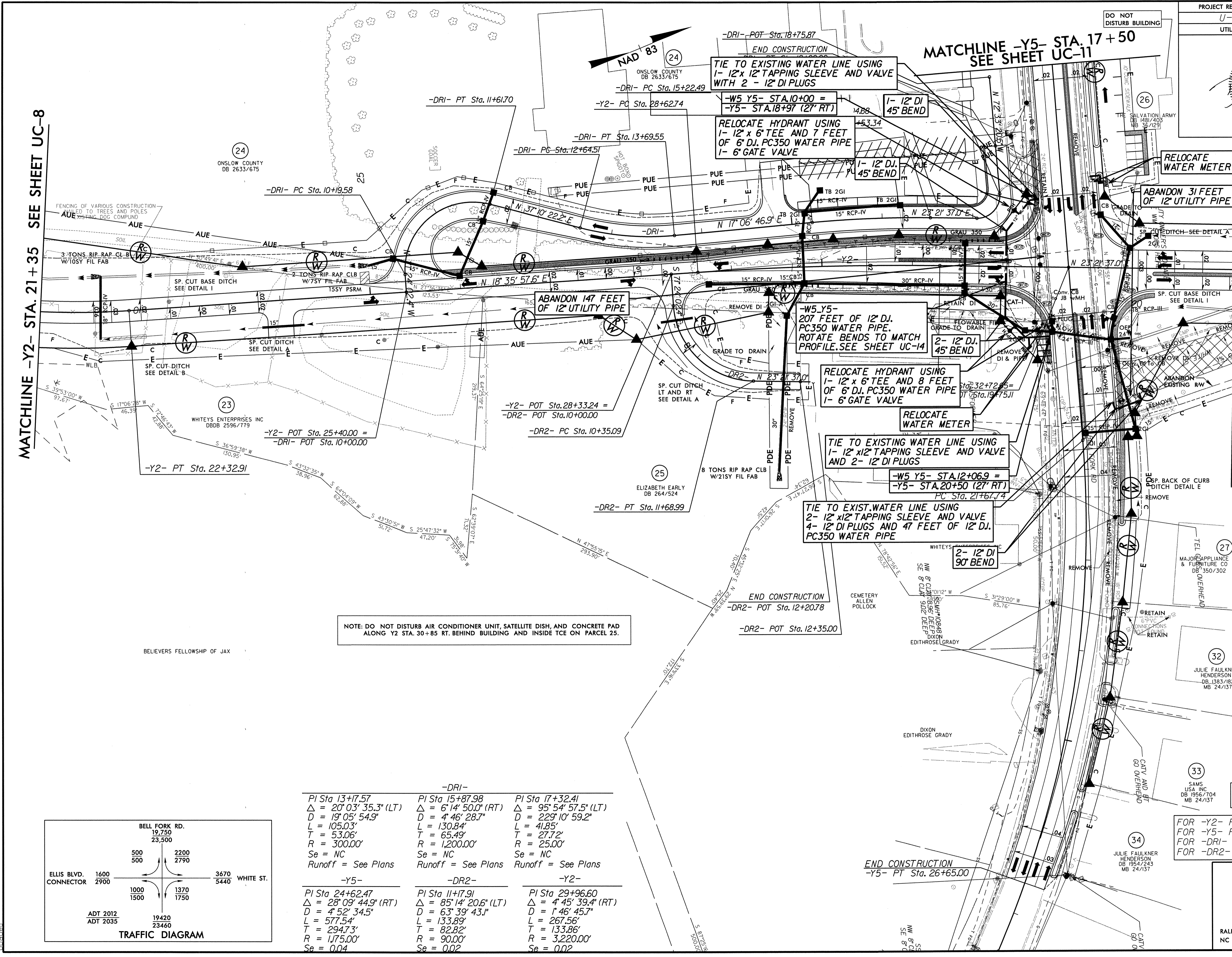
RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE SUITE 350
 RALEIGH, NORTH CAROLINA 27609-3960
 NC LICENSE NO. F-0112 • (919) 878-9560

MATCHLINE -Y2- STA. 21+35
 SEE SHEET UC-9

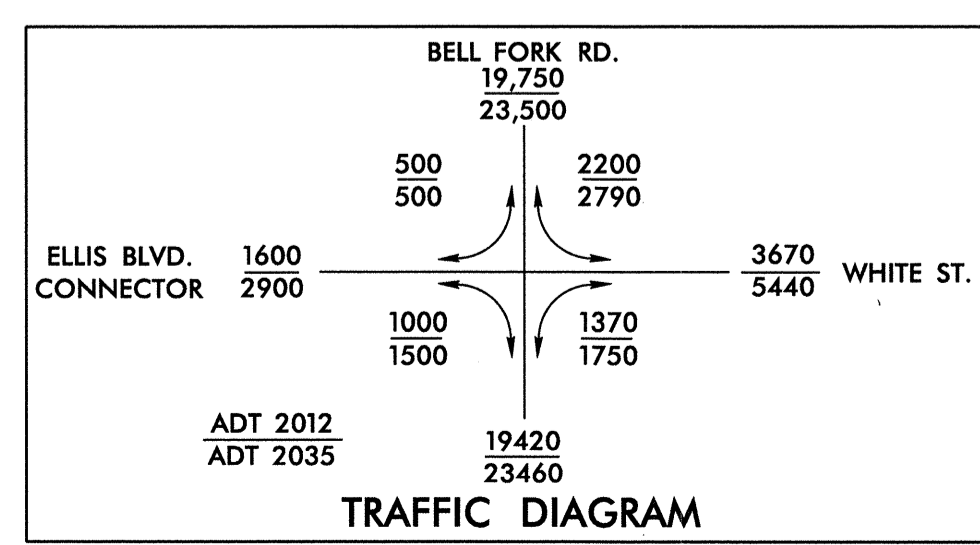


MATCHLINE -Y2- STA. 21 + 35 SEE SHEET UC-8

MATCHLINE -Y2- STA. 34 + 55 SEE SHEET UC-10



NOTE: DO NOT DISTURB AIR CONDITIONER UNIT, SATELLITE DISH, AND CONCRETE PAD ALONG Y2 STA. 30+85 RT. BEHIND BUILDING AND INSIDE TCE ON PARCEL 25.



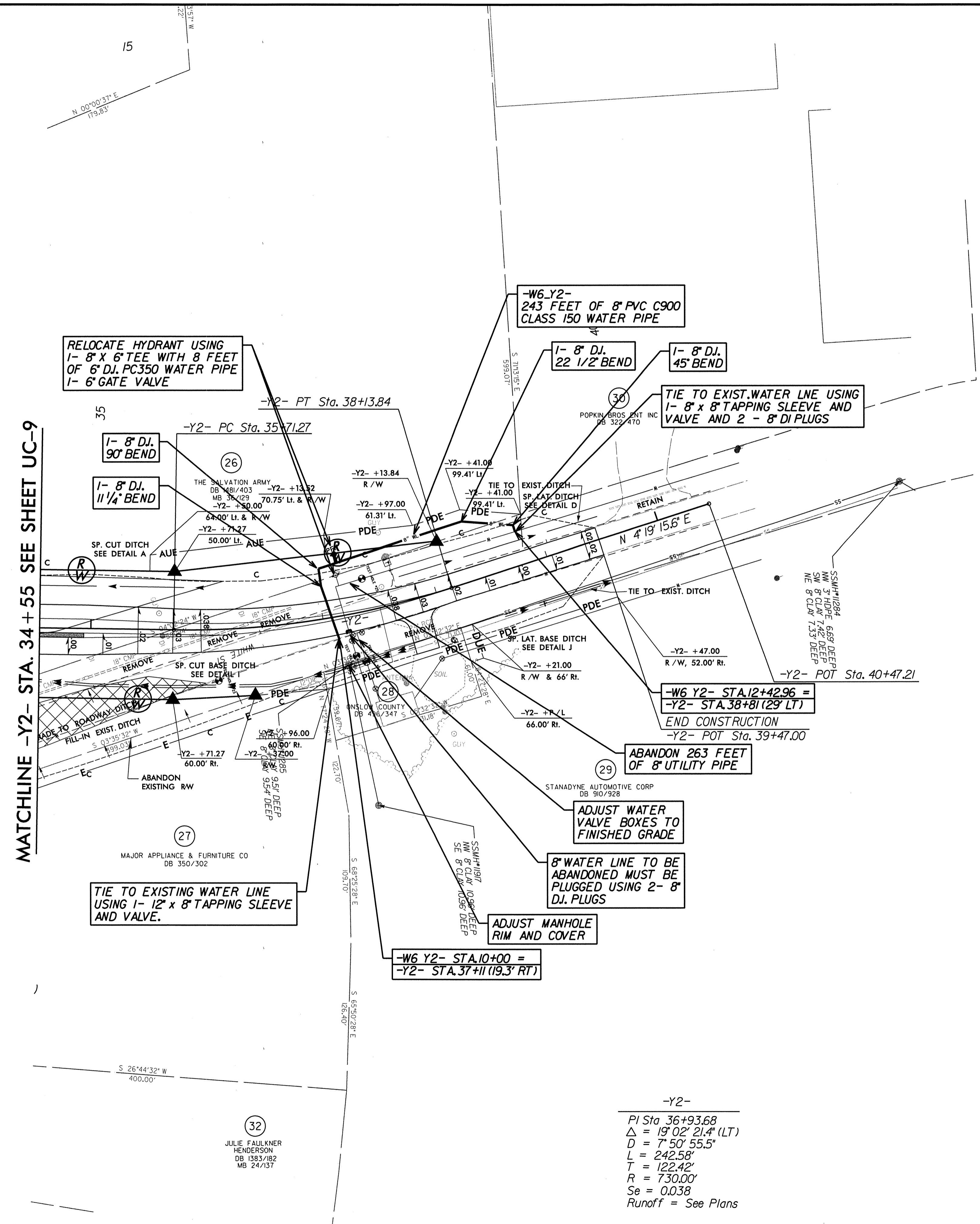
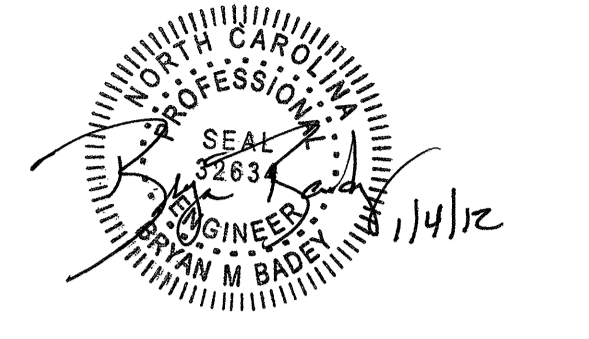
-DRI-		
PI Sta 13+17.57 Δ = 20° 03' 35.3" (LT) D = 19' 05' 54.9" L = 105.03' T = 53.06' R = 300.00' Se = NC Runoff = See Plans	PI Sta 15+87.98 Δ = 6° 14' 50.0" (RT) D = 4' 46' 28.7" L = 130.84' T = 65.49' R = 1,200.00' Se = NC Runoff = See Plans	PI Sta 17+32.41 Δ = 95° 54' 57.5" (LT) D = 229' 10' 59.2" L = 41.85' T = 27.72' R = 25.00' Se = NC Runoff = See Plans
-Y5-		
PI Sta 24+62.47 Δ = 28° 09' 44.9" (RT) D = 4' 52' 34.5" L = 577.54' T = 294.73' R = 1,775.00' Se = 0.04	-DR2-	
PI Sta 11+17.91 Δ = 85° 14' 20.6" (LT) D = 63' 39' 43.1" L = 133.89' T = 82.82' R = 90.00' Se = 0.02	-Y2-	
PI Sta 29+96.60 Δ = 4° 45' 39.4" (RT) D = 1' 46' 45.7" L = 267.56' T = 133.86' R = 3,220.00' Se = 0.02		

FOR INTERSECTION DETAIL SEE SHEET 2-J

FOR -Y2- PROFILE SEE SHTS. 18 & 19
 FOR -Y5- PROFILE SEE SHT. 20
 FOR -DRI- PROFILE SEE SHT. 21
 FOR -DR2- PROFILE SEE SHT. 23

PLANS PREPARED BY:
RK&K
 RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE SUITE 350
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8/17/09
 1/4/2012
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MATCHLINE -Y2- STA. 34+55 SEE SHEET UC-9

RELOCATE HYDRANT USING
1- 8" X 6" TEE WITH 8 FEET
OF 6" DJ. PC350 WATER PIPE
1- 6" GATE VALVE

-W6 Y2-
243 FEET OF 8" PVC C900
CLASS 150 WATER PIPE

1- 8" DJ.
22 1/2' BEND

1- 8" DJ.
45' BEND

TIE TO EXIST. WATER LINE USING
1- 8" X 8" TAPPING SLEEVE AND
VALVE AND 2 - 8" DI PLUGS

-W6 Y2- STA. 12+42.96 =
-Y2- STA. 38+81 (29' LT)
END CONSTRUCTION
-Y2- POT Sta. 39+47.00

ABANDON 263 FEET
OF 8" UTILITY PIPE

ADJUST WATER
VALVE BOXES TO
FINISHED GRADE

8" WATER LINE TO BE
ABANDONED MUST BE
PLUGGED USING 2- 8"
DJ. PLUGS

ADJUST MANHOLE
RIM AND COVER

-W6 Y2- STA. 10+00 =
-Y2- STA. 37+11 (19.3' RT)

TIE TO EXISTING WATER LINE
USING 1- 12" X 8" TAPPING SLEEVE
AND VALVE.

-Y2-
PI Sta 36+93.68
 $\Delta = 19^{\circ} 02' 21.4" (LT)$
 $D = 7^{\circ} 50' 55.5"$
 $L = 242.58'$
 $T = 122.42'$
 $R = 730.00'$
 $Se = 0.038$
Runoff = See Plans

32
JULIE FAULKNER
HENDERSON
DB 1383/182
MB 24/137

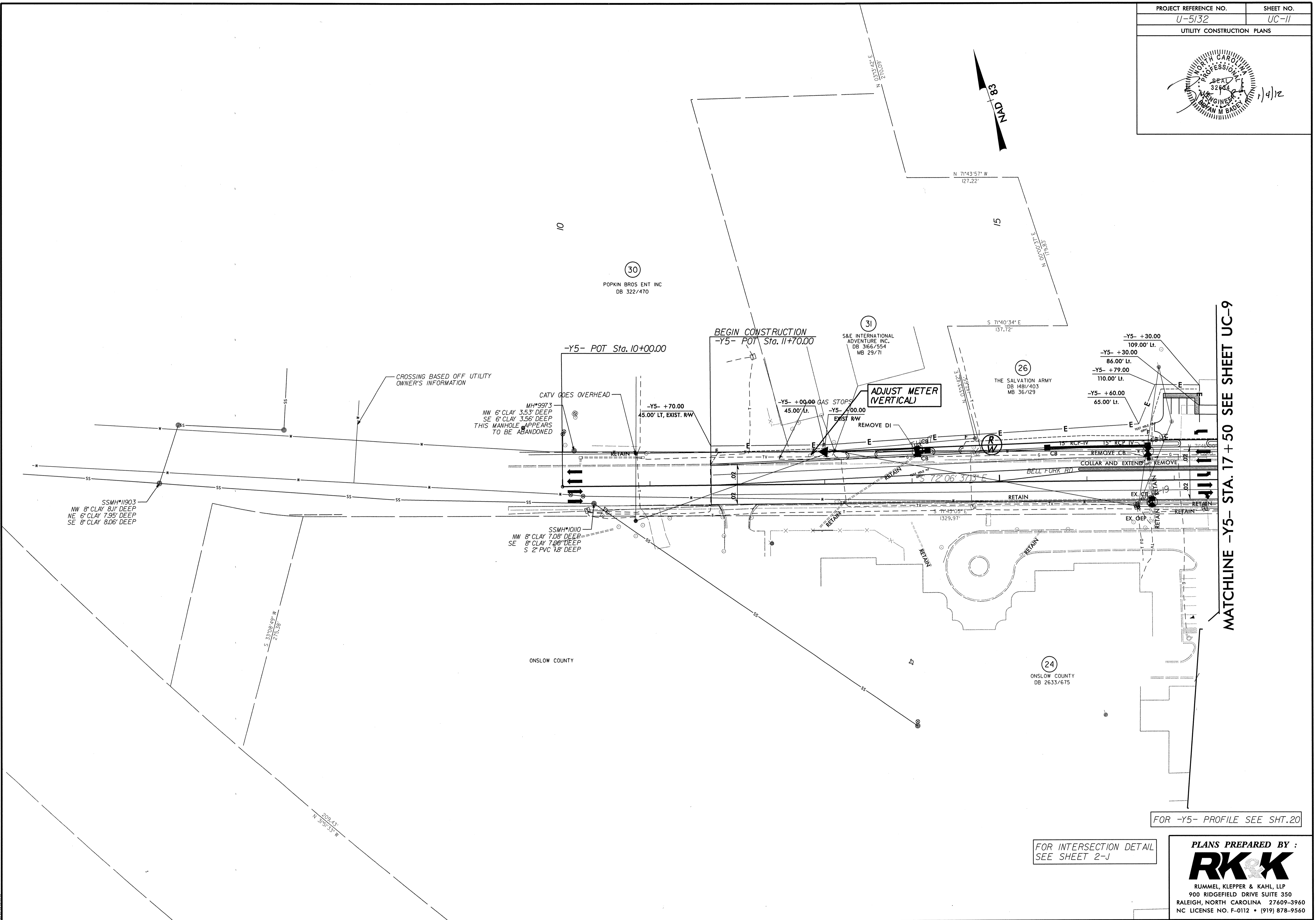
FOR -Y2- PROFILE SEE SHTS. 18 & 19

PLANS PREPARED BY:
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RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
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8/17/09
15
1/4/2012
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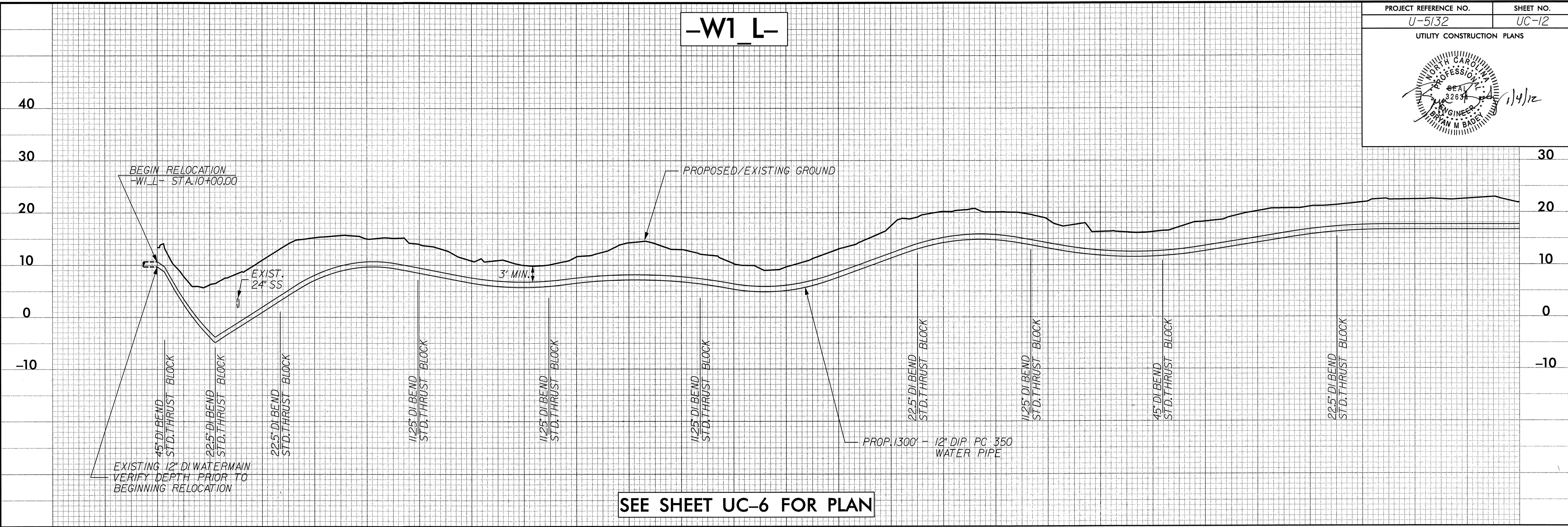
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shadi



PLANS PREPARED BY :
RK&K
 RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE SUITE 350
 RALEIGH, NORTH CAROLINA 27609-3960
 NC LICENSE NO. F-0112 • (919) 878-9560

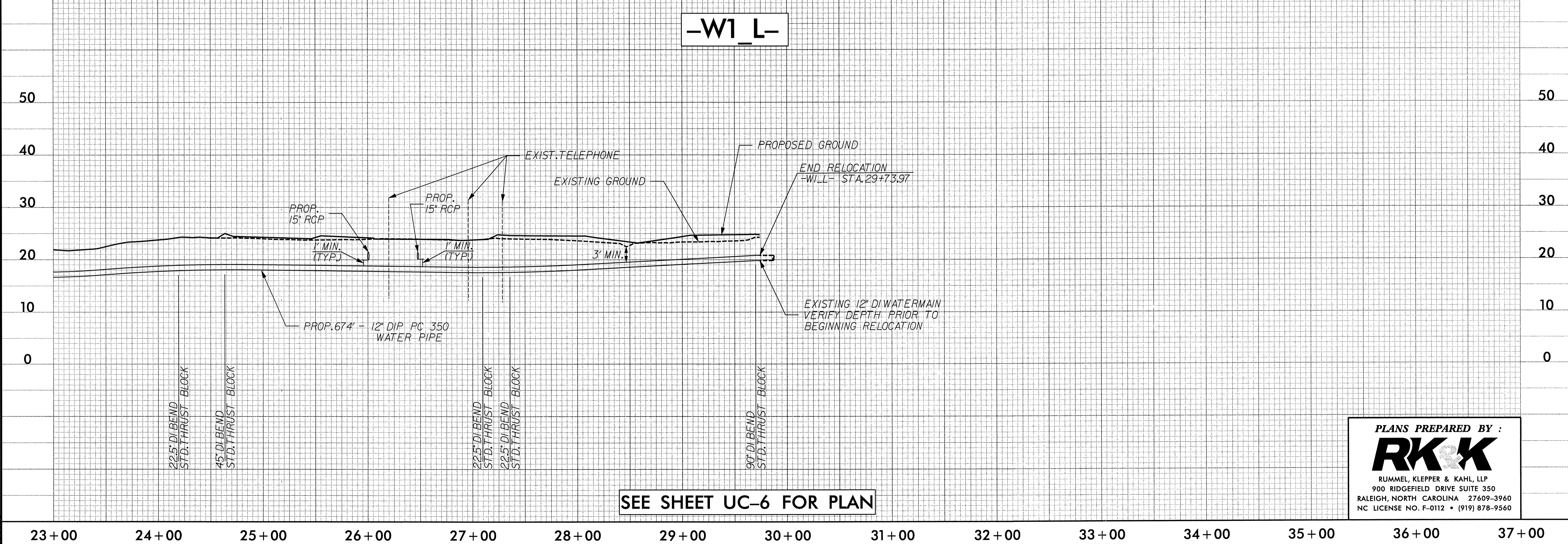
5/28/99

PROJECT REFERENCE NO. U-5132	SHEET NO. UC-12
UTILITY CONSTRUCTION PLANS	



SEE SHEET UC-6 FOR PLAN

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00



SEE SHEET UC-6 FOR PLAN

23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00

PLANS PREPARED BY :

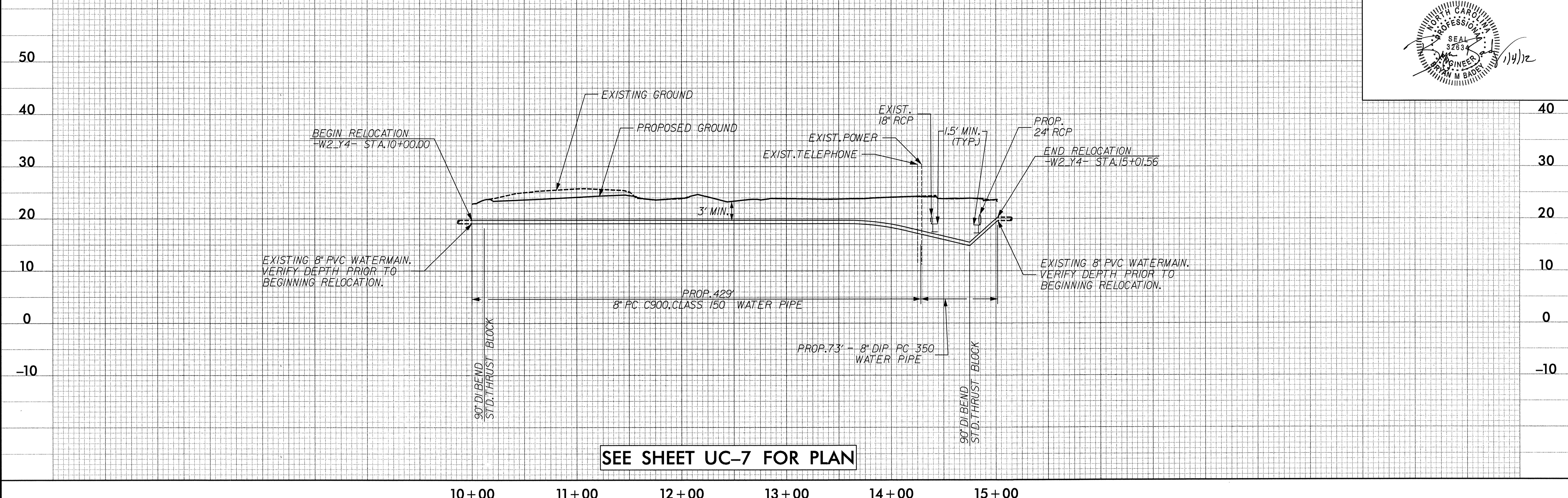
RUMMEL, KLEPPER & KAHL, LLP
 900 RIDGEFIELD DRIVE SUITE 350
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5/28/99

-W2_Y4-

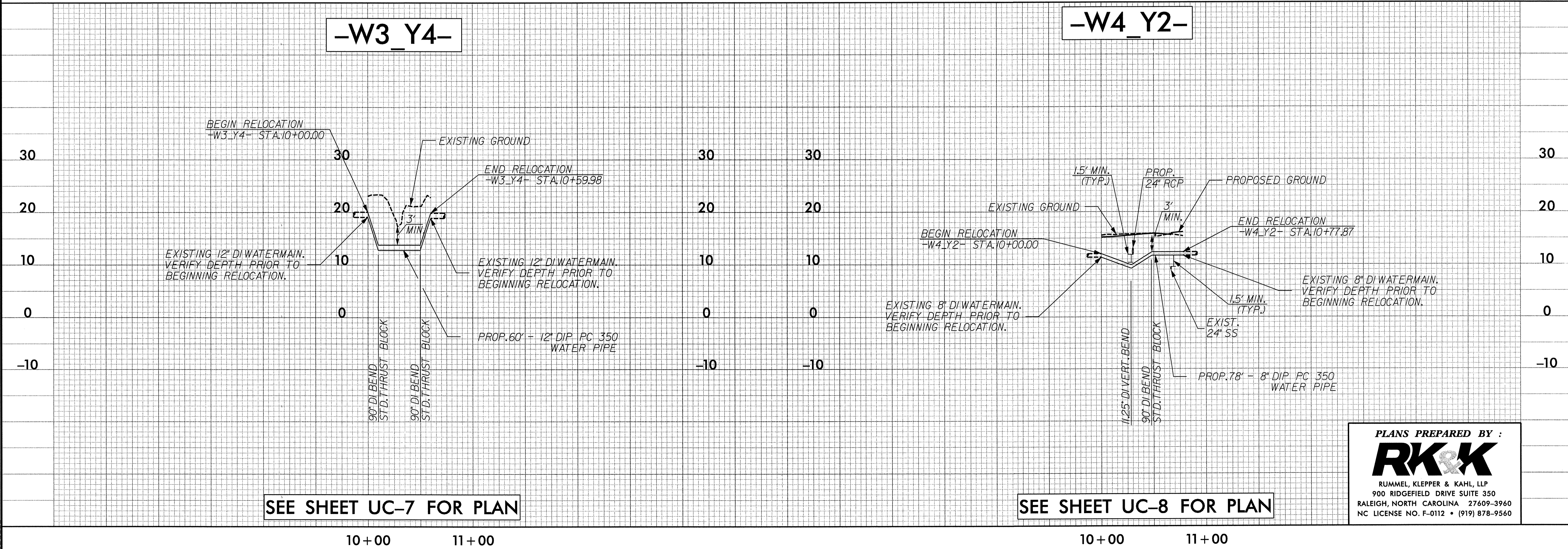
PROJECT REFERENCE NO. U-5132	SHEET NO. UC-13
UTILITY CONSTRUCTION PLANS	



SEE SHEET UC-7 FOR PLAN

-W3_Y4-

-W4_Y2-



SEE SHEET UC-7 FOR PLAN

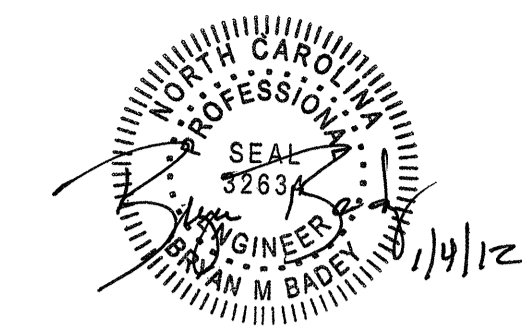
SEE SHEET UC-8 FOR PLAN

PLANS PREPARED BY :

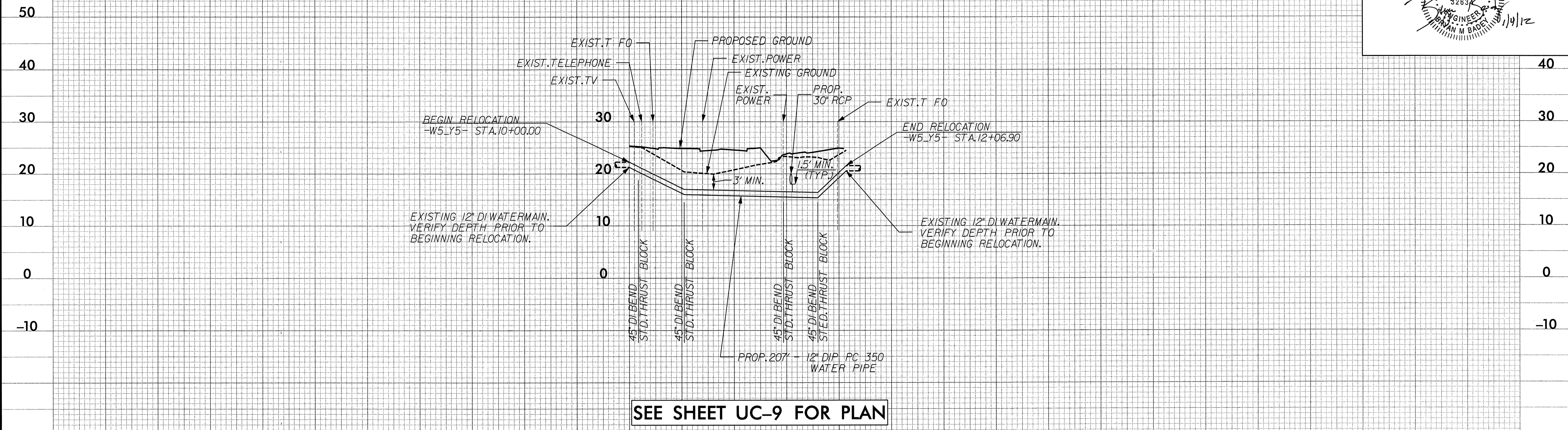
RUMMEL, KLEPPER & KAHL, LLP
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5/28/99



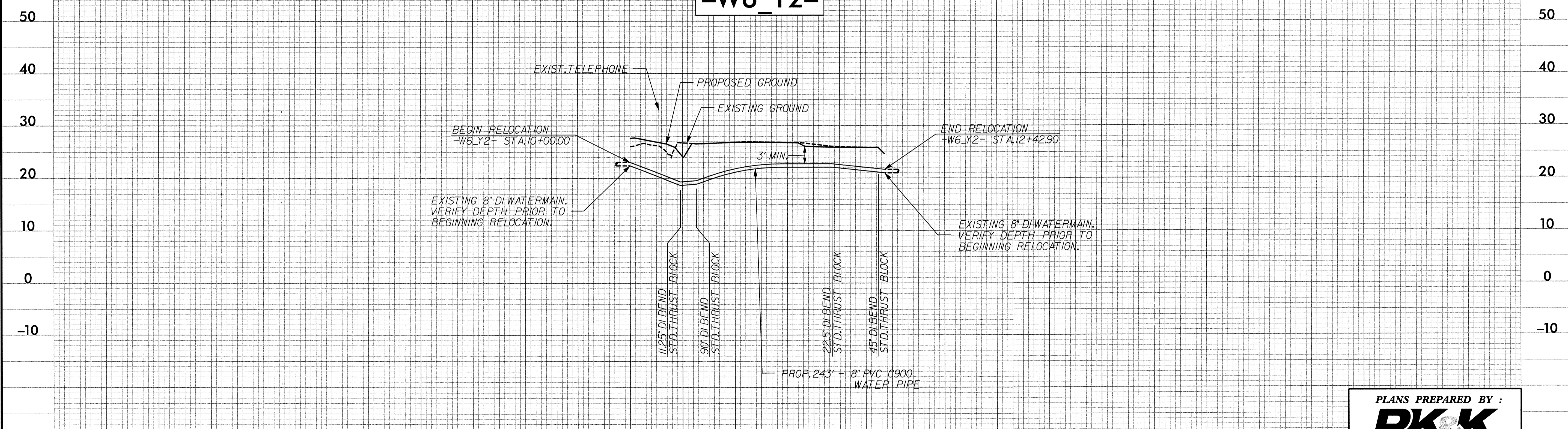
-W5_Y5-



SEE SHEET UC-9 FOR PLAN

10+00 11+00 12+00 13+00

-W6_Y2-



SEE SHEET UC-10 FOR PLAN

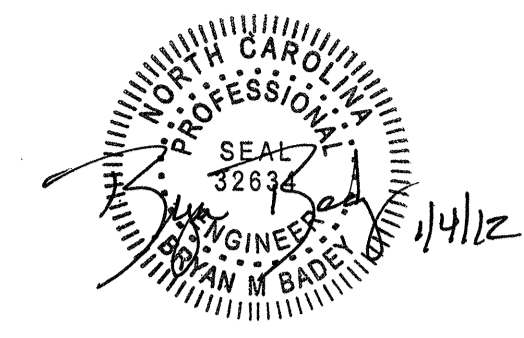
10+00 11+00 12+00 13+00

PLANS PREPARED BY :

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Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:24:34 PM

NOTES:

- Backfill and compact in 6" layers.
- Place restraint flange on one full joint of pipe.

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SCALE: Not To Scale	DETAIL # 512.02	
REVISION DATE: June, 2006	SHEET # 1 of 1	

Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:24:43 PM

NOTES:

- If 36" bury depth is not maintained or if the line is located in high pressure zone, a minimum of (2) 3/4" dia. rods to be used for pipe thru 24" dia. per joint - a minimum of (2) 1" dia. rods to be used for pipe 30" & 36" dia. per joint - a minimum of (2) 1 1/4" dia. rods to be used for pipe 42" & 48" dia. per joint. (See detail 512.07)
- Use of grip rings in lieu of restraint flange system shall be permitted on a case by case basis by the Public Services Director.

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SCALE: Not To Scale	DETAIL # 512.03	
REVISION DATE: June, 2006	SHEET # 1 of 1	

Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:24:52 PM

NOTES:

- A minimum of (2) 3/4" dia. rods to be used for pipe thru 24" dia. per joint. A minimum of (2) 1" dia. rods to be used for pipe 30" & 36" dia. per joint. A minimum of (2) 1 1/4" dia. rods to be used for pipe 42" & 48" dia. per joint. Coat all exposed metal and rods with 2 coats of field applied coal tar epoxy.
- The bypass is to be assembled above ground first.
- Record all as-built lengths using the center lines of the pipes or bends as reference points.
- Adapters vary in type according to the material of the existing water main.
- Use of grip rings in lieu of restraint flange system shall be permitted on a case by case basis by the Public Services Director.

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SCALE: Not To Scale	DETAIL # 512.04	
REVISION DATE: June, 2006	SHEET # 1 of 1	

Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:22:35 PM

NOTES:

- Use heavy duty traffic lid marked "WATER" (or "SEWER" if applicable).
- Valve box finish: Asphalt coated

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SCALE: Not To Scale	DETAIL # 513.01	
REVISION DATE: June, 2006	SHEET # 1 of 1	

Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:22:45 PM

NOTES:

- Concrete blocking is to be formed to ensure accessibility to fittings and poured against undisturbed earth.
- Fittings are to be completely wrapped with plastic, prior to pouring concrete.
- Concrete to be minimum 3,000 psi, @ 28 days.

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SCALE: Not To Scale	DETAIL # 513.02	
REVISION DATE: June, 2006	SHEET # 1 of 1	

Details Provided by APPIAN Consulting Engineers 08/02/2006 - 12:22:53 PM

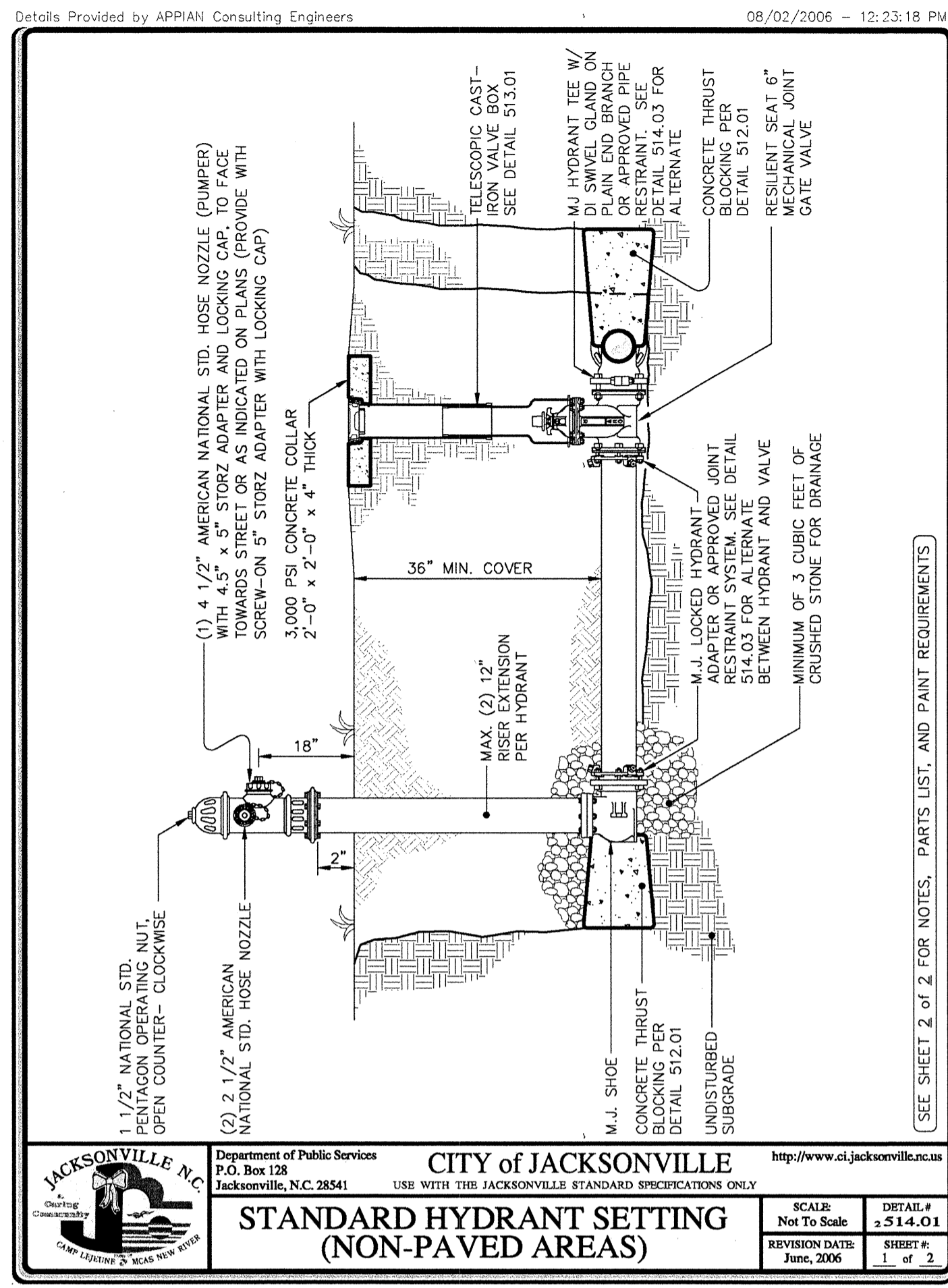
PART	MANUFACTURER MODEL / Cat. No.
SADDLE	FORD / 101B SERIES FORD / S-90 SERIES (C900 PVC ONLY) MUELLER / BR1B SERIES MUELLER / H1800 SERIES (C900 PVC ONLY)
CORP. STOP	FORD / F600 SERIES MUELLER / H-15000 SERIES

NOTES:

- All bronze saddles to be single strap for 1".
- If 2 taps are made on each side of the main there shall be a minimum of 24" horizontal separation. Multiple taps on the same side shall have a minimum 24" horizontal separation and staggered a minimum of 1" vertically to prevent damage to the main.

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SCALE: Not To Scale	DETAIL # 513.03	
REVISION DATE: June, 2006	SHEET # 1 of 1	

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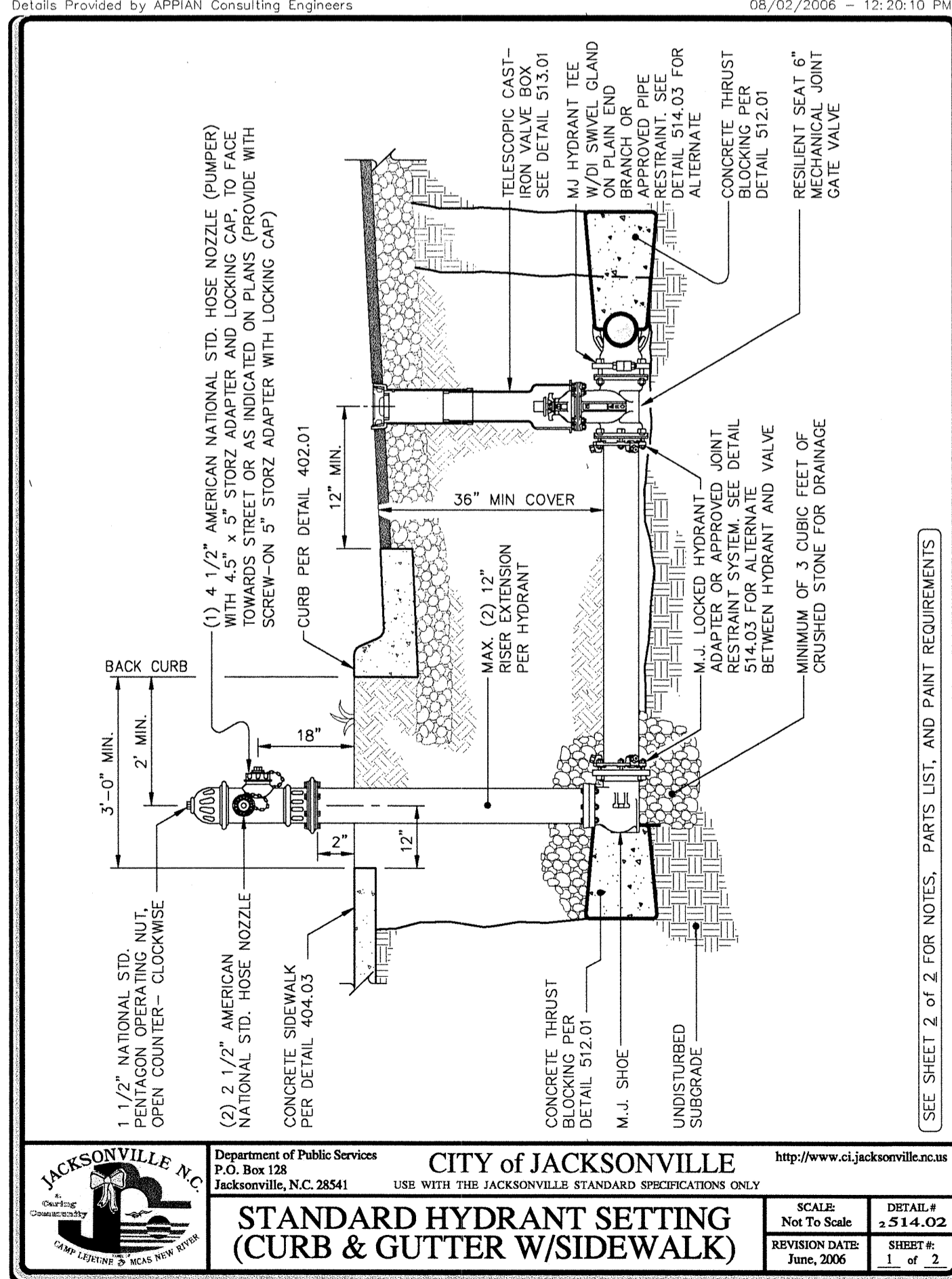
HYDRANT MAKE	MUELLER	CLOW (M&H)	DARLING
CAT No.	A-423 SUPER CENTURION 250	F-2500	B84B

PAINING REQUIREMENTS	COLOR
BONNET, CAPS	FEDERAL SAFETY RED
BARREL	FEDERAL SAFETY RED
SHERWIN WILLIAMS OR APPROVED EQUAL	(2 COATS)

- NOTES:**
1. Fire hydrant to be oiled & greased and cap to be sprayed (non-petroleum based) after installation.
 2. Do not locate hydrants in sidewalks or block pedestrian flow.
 3. Wedge action restraint gland joint restraints are preferred, and may be used with tie rods. Minimum of (2) 3/4" diameter stainless steel or cold dipped galvanized rods.
 4. Fire hydrant to be a minimum of 5' from all driveway entrances or as approved by Public Services Director.
 5. Fire hydrant pumper outlet to be provided with 4.5"x5" StorZ adapter, with locking cap.

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 P.O. Box 128 Jacksonville, N.C. 28541
 USE WITH THE JACKSONVILLE STANDARD SPECIFICATIONS ONLY
 SCALE: Not To Scale DETAIL # 2514.01
 REVISION DATE: June, 2006 SHEET # 1 of 2

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 P.O. Box 128 Jacksonville, N.C. 28541
 USE WITH THE JACKSONVILLE STANDARD SPECIFICATIONS ONLY
 SCALE: Not To Scale DETAIL # 2514.01
 REVISION DATE: June, 2006 SHEET # 2 of 2



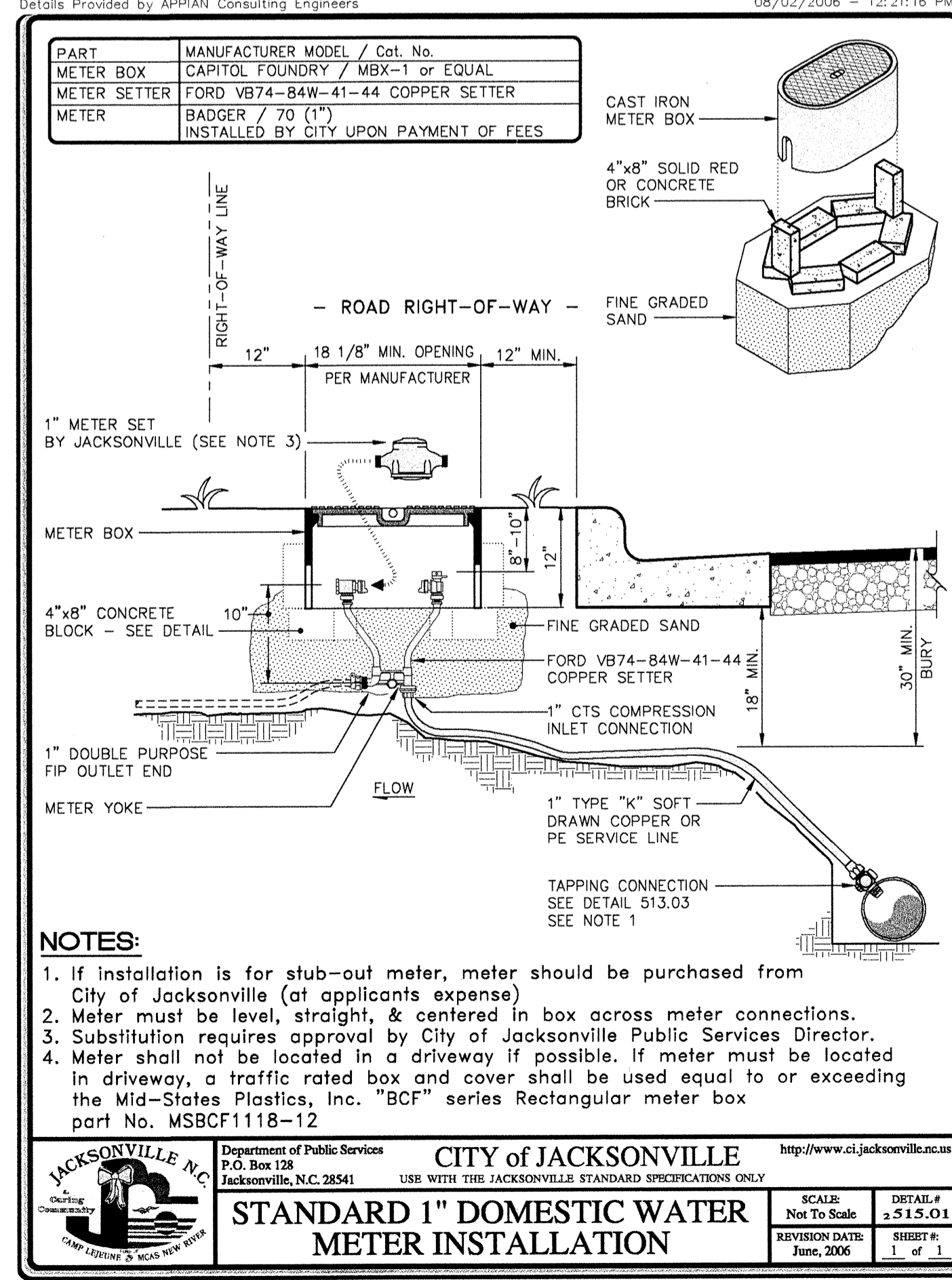
HYDRANT MAKE	MUELLER	CLOW (M&H)	DARLING
CAT No.	A-423 SUPER CENTURION 250	F-2500	B84B

PAINING REQUIREMENTS	COLOR
BONNET, CAPS	FEDERAL SAFETY RED
BARREL	FEDERAL SAFETY RED
SHERWIN WILLIAMS OR APPROVED EQUAL	(2 COATS)

- NOTES:**
1. Where hydrant is set behind guardrail, centerline of pumper nozzle to be a minimum of 12" and a maximum of 18" above top of guardrail. Center of hydrant to be a minimum of 3 feet from guardrail.
 2. Fire hydrant to be oiled & greased and cap to be sprayed (non-petroleum based) after installation.
 3. Do not locate hydrants in sidewalks or block pedestrian flow.
 4. Wedge action restraint gland joint restraints are preferred, and may be used with tie rods. Minimum of (2) 3/4" diameter stainless steel or cold dipped galvanized rods.
 5. Fire hydrant to be a minimum of 5' from all driveway entrances or as approved by the Public Services Director.
 6. Fire hydrant pumper outlet to be provided with 4.5"x5" StorZ adapter, with locking cap.

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 P.O. Box 128 Jacksonville, N.C. 28541
 USE WITH THE JACKSONVILLE STANDARD SPECIFICATIONS ONLY
 SCALE: Not To Scale DETAIL # 2514.02
 REVISION DATE: June, 2006 SHEET # 1 of 2

JACKSONVILLE, N.C. Department of Public Services CITY of JACKSONVILLE
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 USE WITH THE JACKSONVILLE STANDARD SPECIFICATIONS ONLY
 SCALE: Not To Scale DETAIL # 2514.02
 REVISION DATE: June, 2006 SHEET # 2 of 2



- NOTES:**
1. If installation is for stub-out meter, meter should be purchased from City of Jacksonville (at applicants expense).
 2. Meter must be level, straight, & centered in box across meter connections.
 3. Substitution requires approval by City of Jacksonville Public Services Director.
 4. Meter shall not be located in a driveway if possible. If meter must be located in driveway, a traffic rated box and cover shall be used equal to or exceeding the Mid-States Plastics, Inc. "BCF" series Rectangular meter box part No. MSBCF1118-12

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 SCALE: Not To Scale DETAIL # 2515.01
 REVISION DATE: June, 2006 SHEET # 1 of 1

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 1/1/2012

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5132	UO-1	9
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

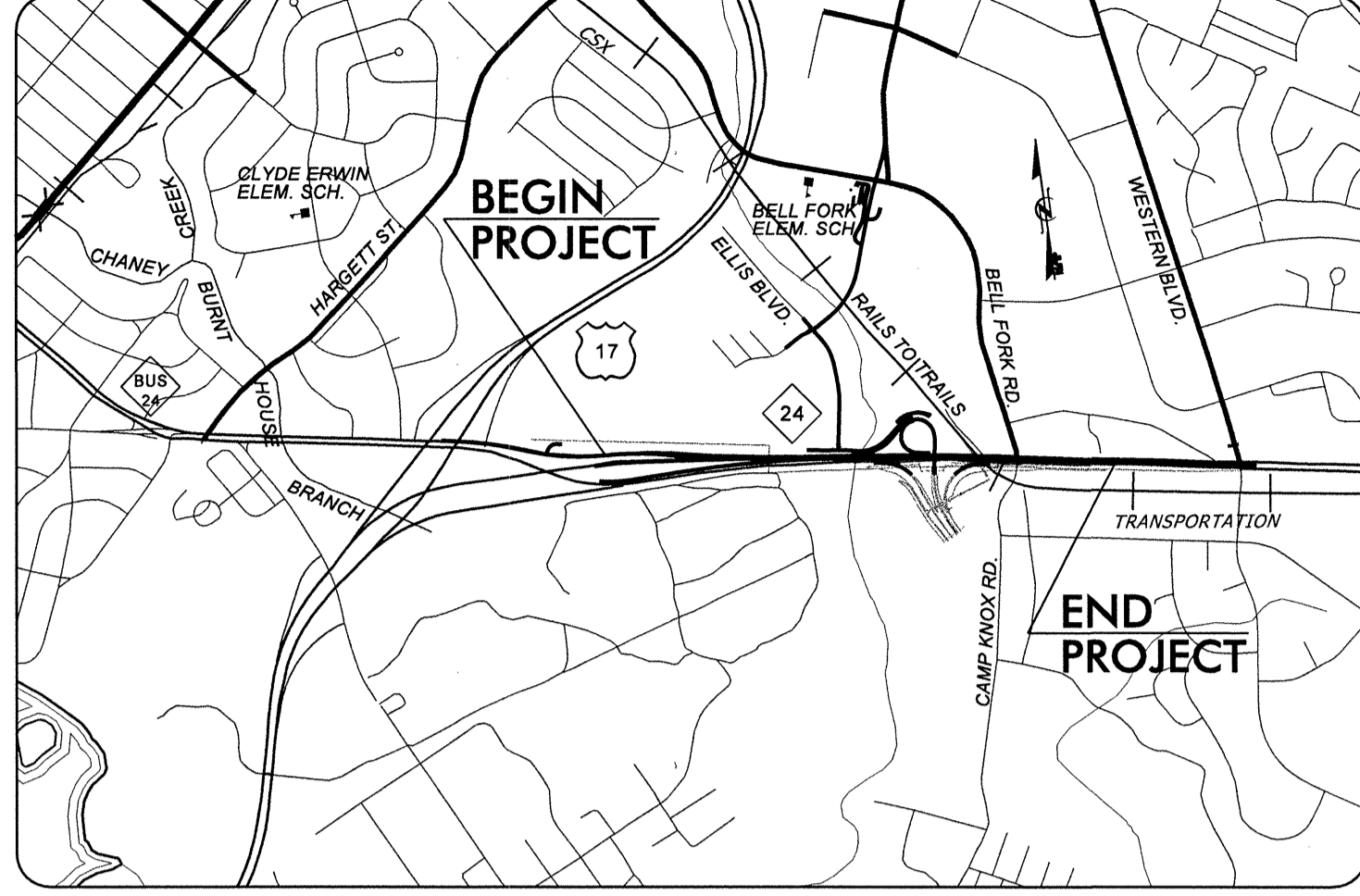
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**ONslow COUNTY
UTILITY BY OTHERS PLANS**

**LOCATION: NEW NC 24 ACCESS AND NEW BASE ENTRY ROAD
FOR CAMP LEJEUNE MARINE CORPS BASE**

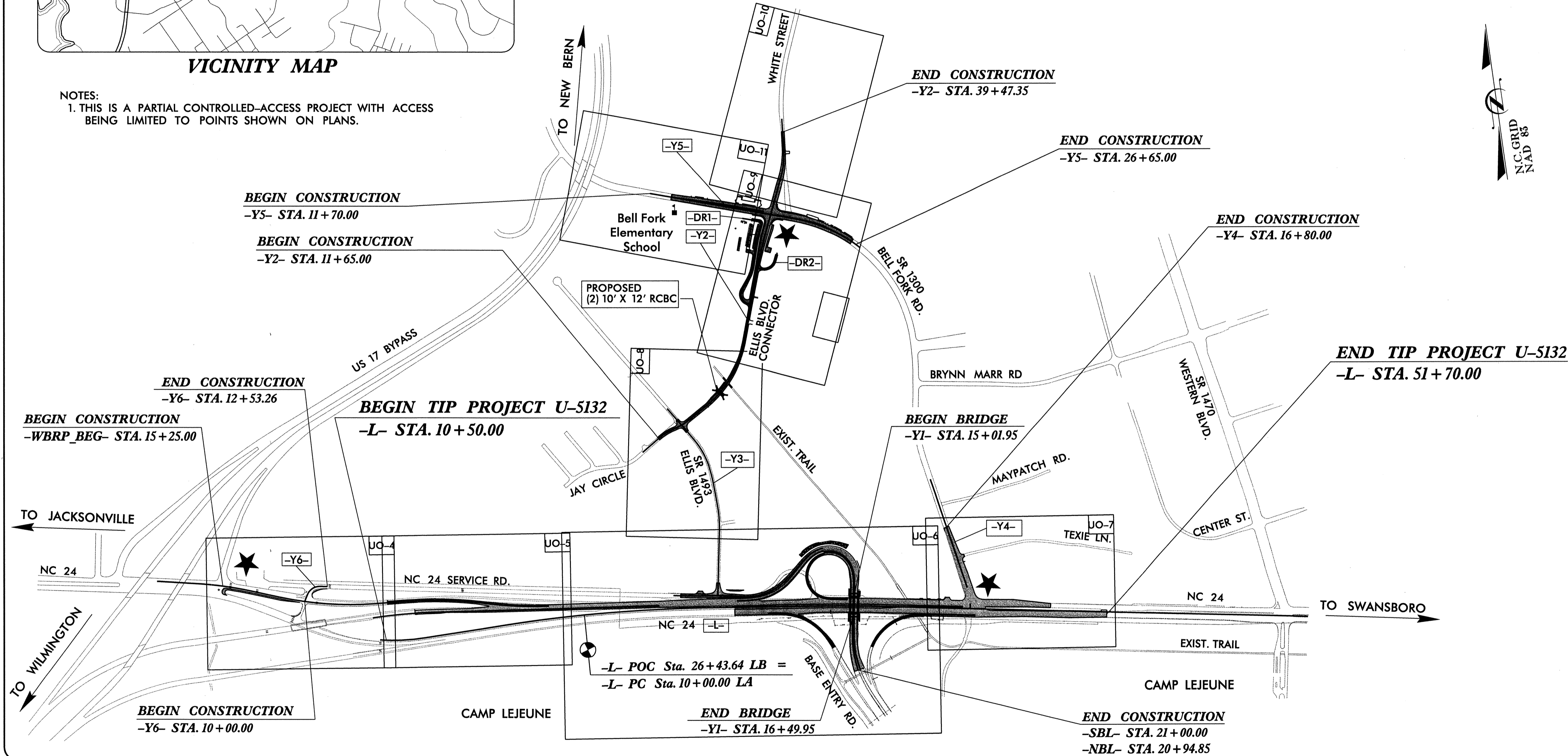
TYPE OF WORK: GAS, POWER, TELEPHONE, CATV

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols



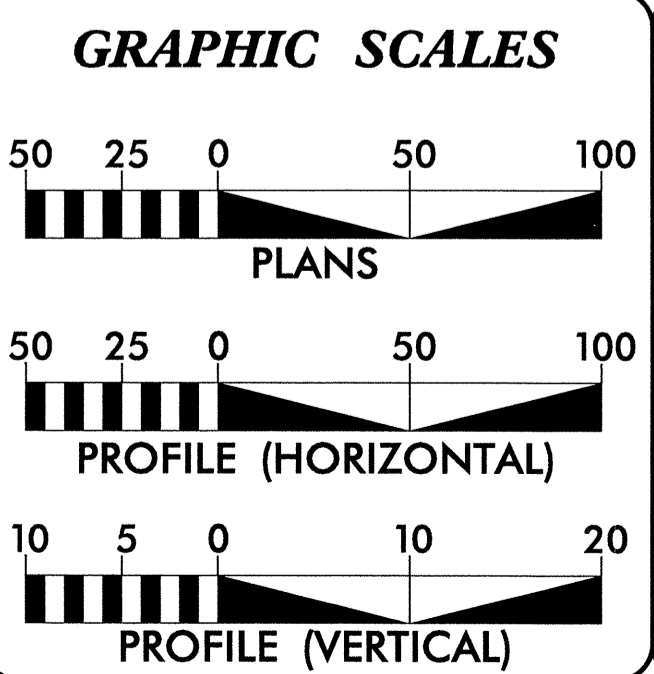
VICINITY MAP

NOTES:
1. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS SHOWN ON PLANS.



TIP PROJECT: U-5132

CONTRACT: C202816



DESIGN DATA

ADT 2012 =	70,950
ADT 2035 =	83,650
DHV =	8.7 %
D =	60 %
*T =	8 %
V =	50 MPH
*TTST =	5% DUAL 3%
FUNC CLASS =	URBAN ARTERIAL

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2-9	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

- (1) JONES-ONslow EMC - POWER
- (2) PROGRESS ENERGY - POWER
- (3) CENTURY LINK - TELEPHONE
- (4) TIME WARNER - CATV
- (3) PIEDMONT NATURAL GAS - GAS

PLANS PREPARED BY:

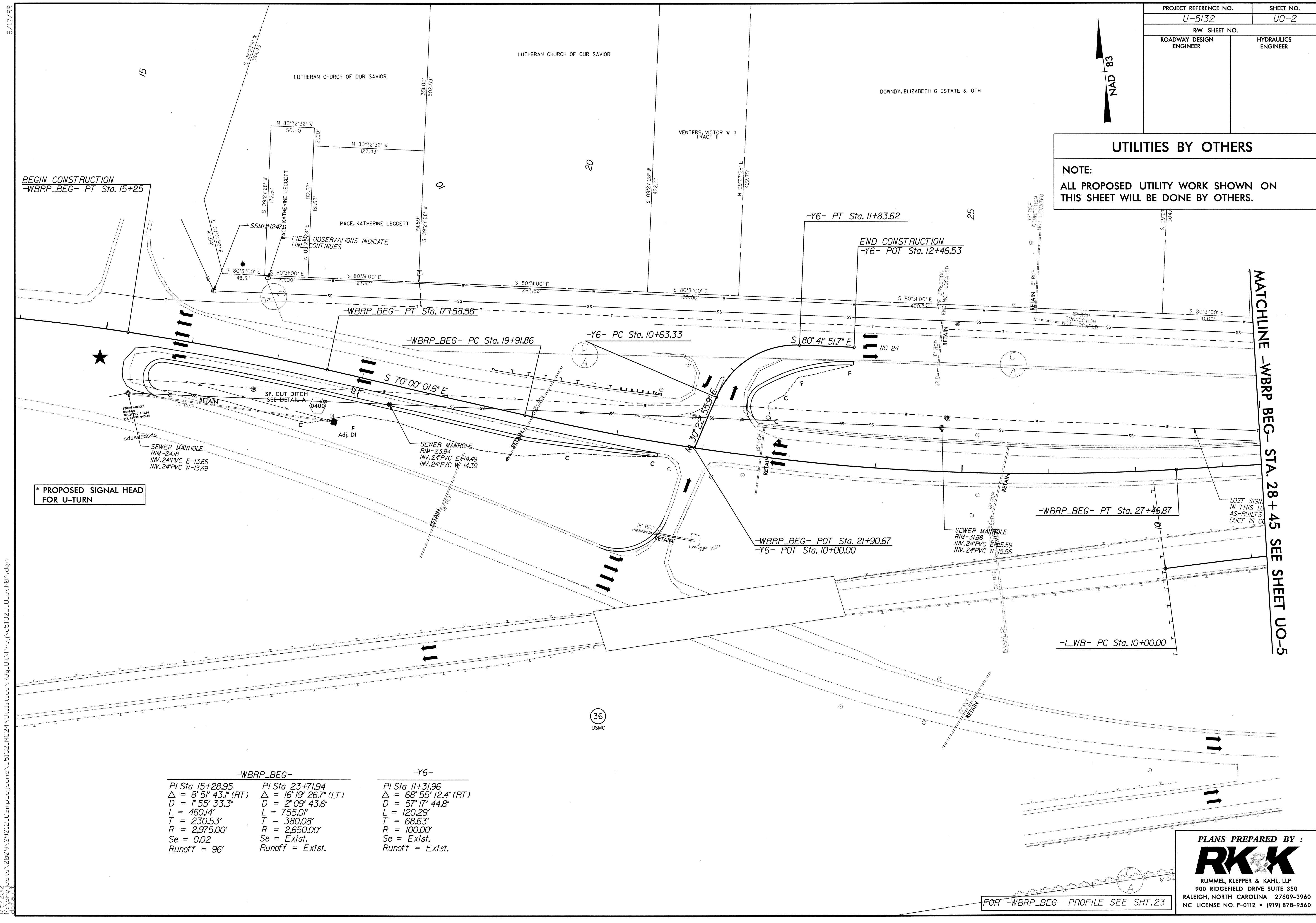
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560

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UTILITIES BY OTHERS

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



BEGIN CONSTRUCTION
-WBRP_BEG- PT Sta. 15+25

END CONSTRUCTION
-Y6- POT Sta. 12+46.53

* PROPOSED SIGNAL HEAD FOR U-TURN

MATCHLINE -WBRP_BEG- STA. 28 + 45 SEE SHEET UO-5

-WBRP_BEG-		-Y6-
PI Sta 15+28.95	PI Sta 23+71.94	PI Sta 11+31.96
$\Delta = 8^{\circ} 51' 43.1''$ (RT)	$\Delta = 16^{\circ} 19' 26.7''$ (LT)	$\Delta = 68^{\circ} 55' 12.4''$ (RT)
D = 1' 55' 33.3"	D = 2' 09' 43.6"	D = 57' 17' 44.8"
L = 460.14'	L = 755.01'	L = 120.29'
T = 230.53'	T = 380.08'	T = 68.63'
R = 2,975.00'	R = 2,650.00'	R = 100.00'
Se = 0.02	Se = Exlst.	Se = Exlst.
Runoff = 96'	Runoff = Exlst.	Runoff = Exlst.

PLANS PREPARED BY :

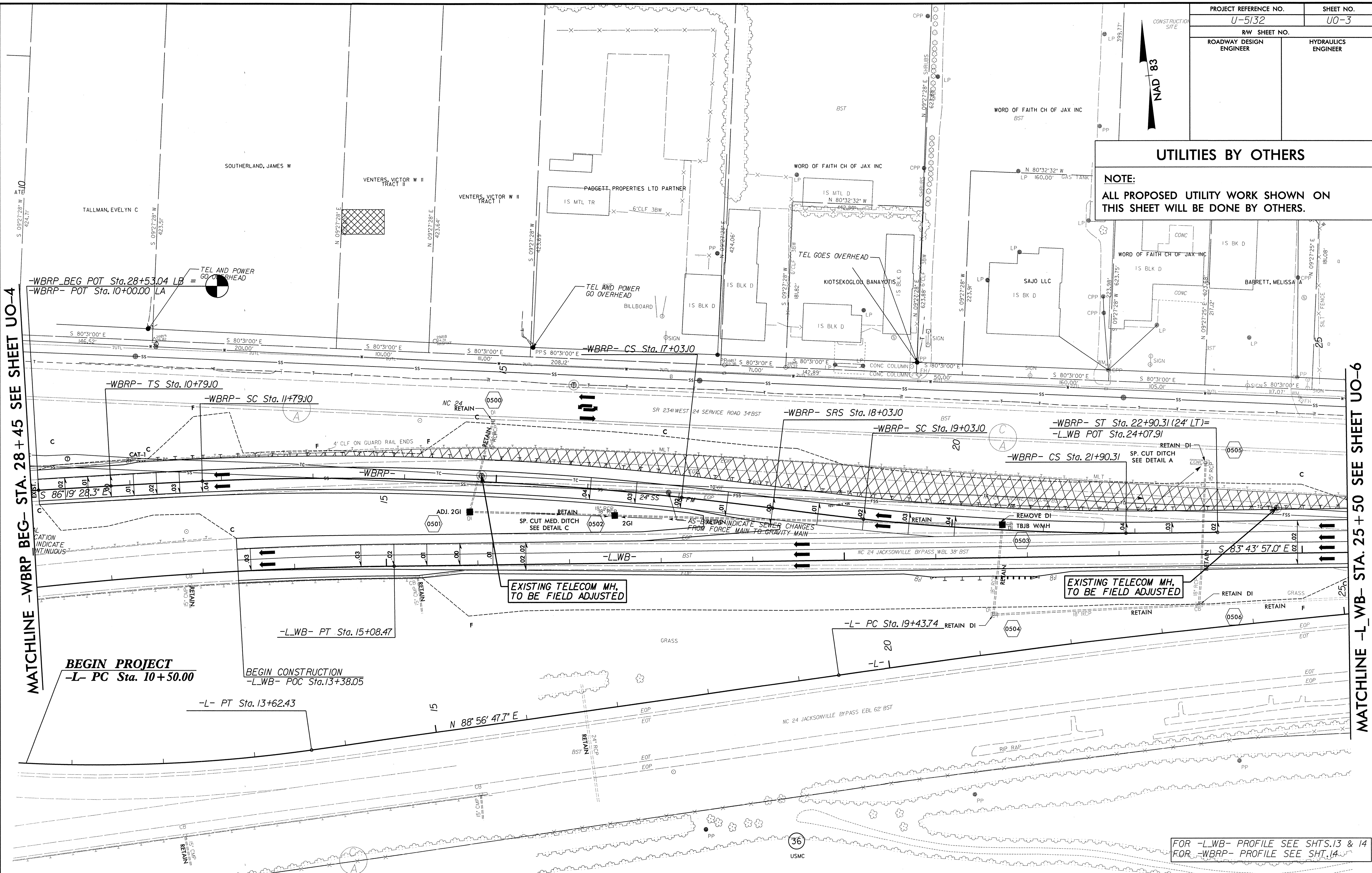
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FOR -WBRP_BEG- PROFILE SEE SHT. 23

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1/5/2012
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UTILITIES BY OTHERS

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



MATCHLINE -WBRP- STA. 28 + 45 SEE SHEET UO-4

MATCHLINE -L-WB- STA. 25 + 50 SEE SHEET UO-6

BEGIN PROJECT
-L- PC Sta. 10+50.00

BEGIN CONSTRUCTION
-L-WB- POC Sta.13+38.05

EXISTING TELECOM MH.
TO BE FIELD ADJUSTED

EXISTING TELECOM MH.
TO BE FIELD ADJUSTED

FOR -L-WB- PROFILE SEE SHTS.13 & 14
FOR -WBRP- PROFILE SEE SHT.14

-L-		-L-WB-		-WBRP-			-WBRP-BEG-		
PI Sta 11+81.93	PI Sta 22+93.79	PI Sta 12+54.55	PIs Sta 11+45.77	PI Sta 14+41.62	PIs Sta 17+36.43	PIs Sta 18+69.77	PI Sta 20+46.83	PIs Sta 22+23.65	PI Sta 23+71.94
$\Delta = 12' 26" 04.0" (LT)$	$\Delta = 3' 19" 35.4" (RT)$	$\Delta = 7' 02" 13.0" (RT)$	$\Delta = 8' 49" 49.1" (RT)$	$\Delta = 5' 52" 37.8" (LT)$	$\Delta = 1' 01" 23.3"$	$\Delta = 1' 01" 23.3"$	$\Delta = 5' 52" 37.8" (LT)$	$\Delta = 1' 01" 23.3"$	$\Delta = 16' 19" 26.7" (LT)$
$D = 3' 25' 51.2"$	$D = 0' 28' 31.0"$	$D = 1' 23' 02.2"$	$D = 1' 41' 06.6"$	$D = 100.00'$	$D = 100.00'$	$D = 100.00'$	$D = 2' 02' 46.6"$	$D = 100.00'$	$D = 2' 09' 43.6"$
$L = 362.43'$	$L = 699.90'$	$L = 508.47'$	$L = 524.00'$	$L = 287.21'$	$L = 287.21'$	$L = 287.21'$	$L = 287.21'$	$L = 66.67'$	$L = 755.01'$
$T = 181.93'$	$T = 350.05'$	$T = 254.55'$	$T = 262.52'$	$T = 143.73'$	$T = 143.73'$	$T = 143.73'$	$T = 143.73'$	$T = 66.67'$	$T = 380.08'$
$R = 1,670.00'$	$R = 12,055.00'$	$R = 4,140.00'$	$R = 3,400.00'$	$R = 2,800.00'$	$R = 2,800.00'$	$R = 2,800.00'$	$R = 2,800.00'$	$R = 2,800.00'$	$R = 2,650.00'$
$SE = EXIST.$	$SE = EXIST.$	$SE = 0.03$	$Se = 0.04$	$Se = 0.04$	$Se = 0.04$	$Se = 0.04$	$Se = 0.04$	$Se = EXIST.$	$Se = EXIST.$
$Runoff = EXIST.$	$Runoff = EXIST.$	$Runoff = 108'$	$Runoff = 96'$	$Runoff = 96'$	$Runoff = 96'$	$Runoff = 96'$	$Runoff = 96'$	$Runoff = 96'$	$Runoff = EXIST.$

PLANS PREPARED BY :

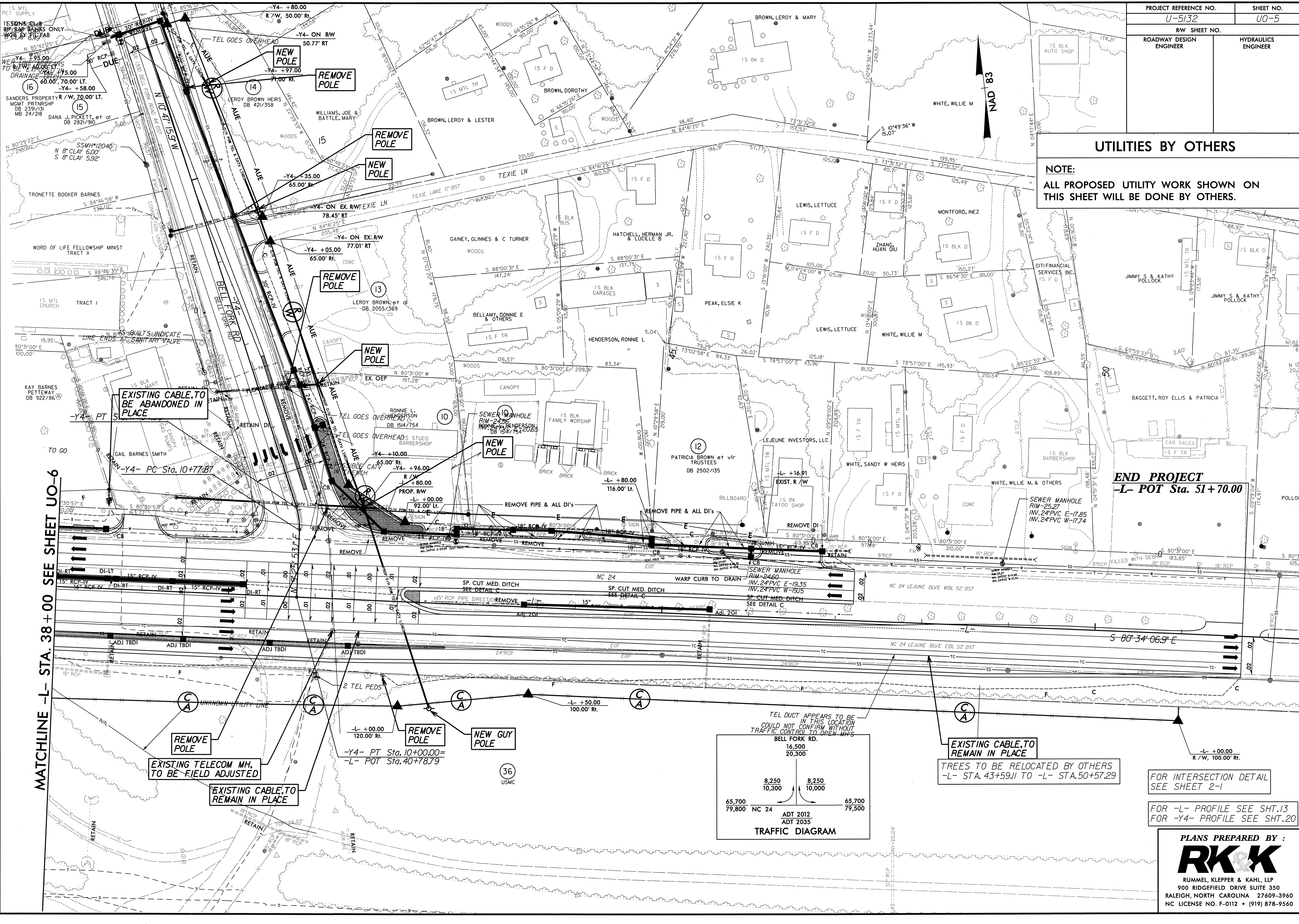
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1/5/2012
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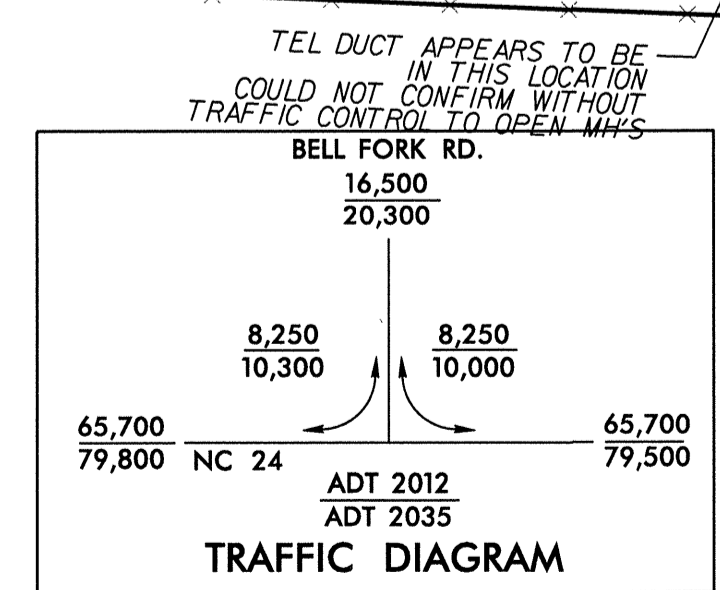
UTILITIES BY OTHERS

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

END PROJECT
-L- POT Sta. 51+70.00



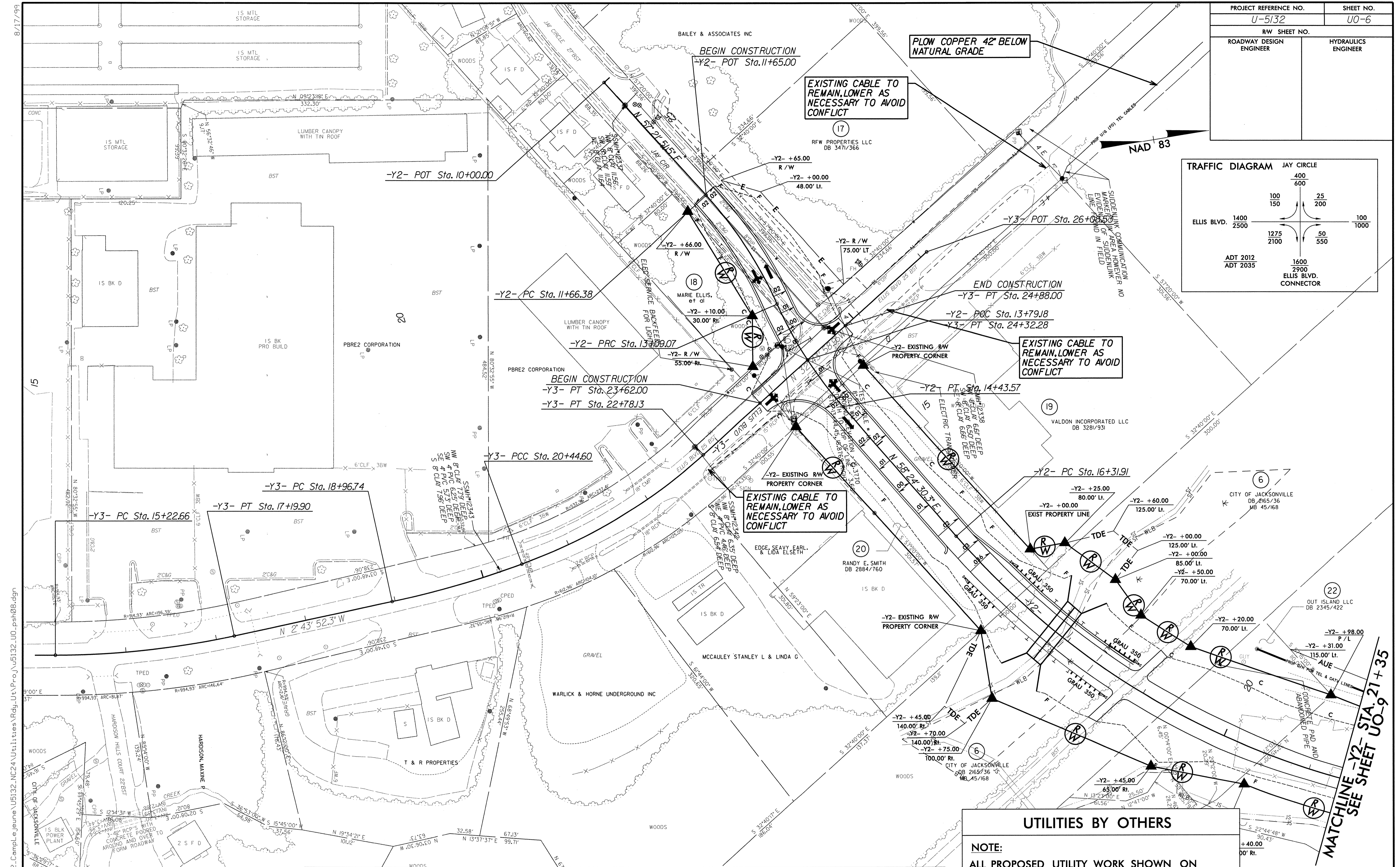
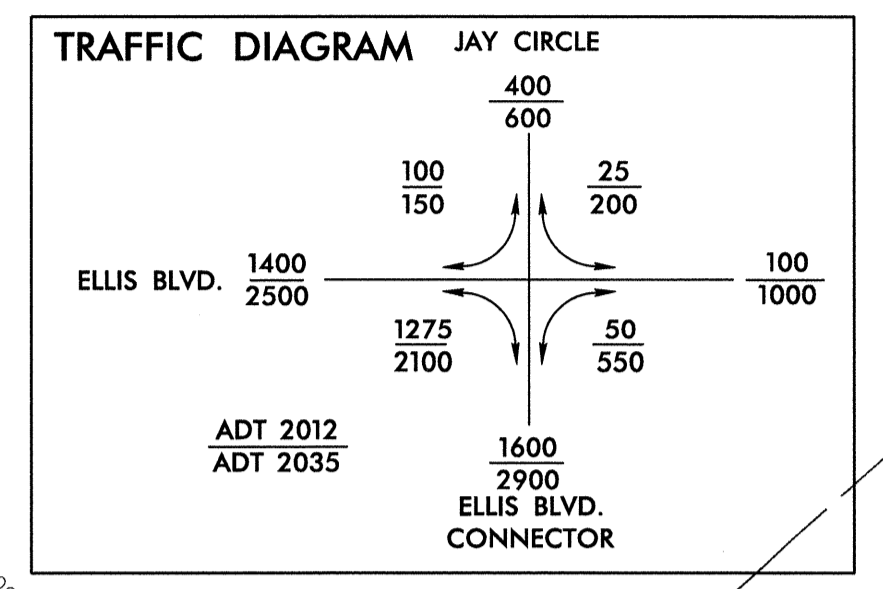
MATCHLINE -L- STA. 38+00 SEE SHEET UO-6



FOR INTERSECTION DETAIL SEE SHEET 2-1

FOR -L- PROFILE SEE SHT.13
FOR -Y4- PROFILE SEE SHT.20

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-Y3-			-Y2-		
PI Sta 16+21.66	PI Sta 19+70.78	PI Sta 21+62.86	PI Sta 12+38.33	PI Sta 13+76.83	PI Sta 19+45.11
$\Delta = 12'13'' 02.9''$ (LT)	$\Delta = 7'42'' 07.3''$ (LT)	$\Delta = 22'17'' 59.2''$ (LT)	$\Delta = 18'10'' 06.1''$ (RT)	$\Delta = 17'07'' 27.4''$ (LT)	$\Delta = 39'48'' 32.7''$ (LT)
D = 6'11' 38.9"	D = 5'12' 31.3"	D = 9'32' 57.5"	D = 12'43' 56.6"	D = 12'43' 56.6"	D = 6'37' 25.6"
L = 197.24'	L = 147.87'	L = 233.52'	L = 142.69'	L = 134.49'	L = 601.00'
T = 99.00'	T = 74.05'	T = 118.26'	T = 71.95'	T = 67.75'	T = 313.20'
R = 925.00'	R = 1,100.00'	R = 600.00'	R = 450.00'	R = 450.00'	R = 865.00'
Se = Exlst.	Se = Exlst.	Se = Exlst.	Se = 0.02	Se = 0.02	Se = 0.36
Runoff = Exlst.	Runoff = Exlst.	Runoff = Exlst.	Runoff = See Plans	Runoff = 120'	Runoff = See Plans

UTILITIES BY OTHERS

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

FOR INTERSECTION DETAIL
SEE SHEET 2-K

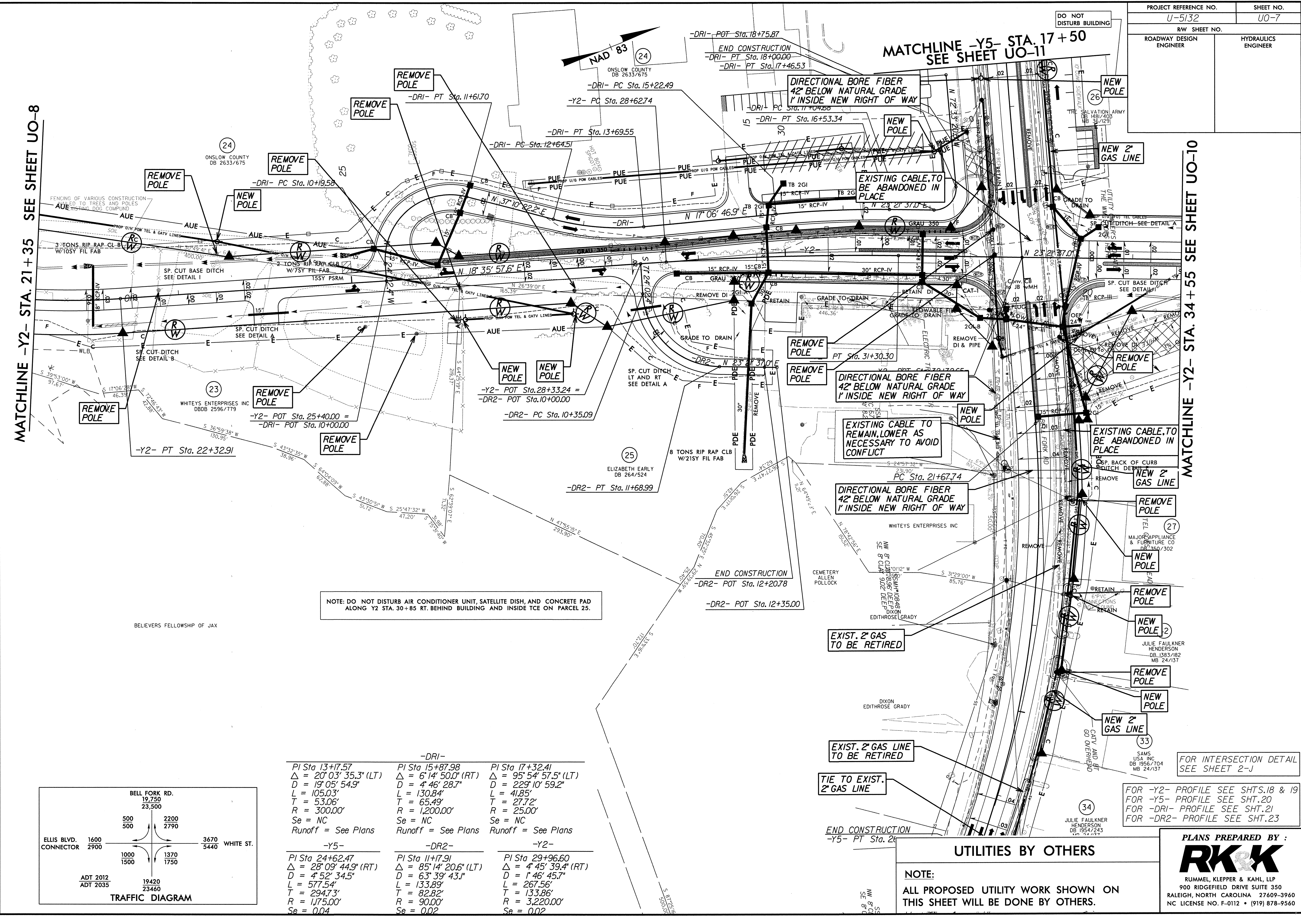
FOR -Y2- PROFILE SEE SHT. 18
FOR -Y3- PROFILE SEE SHT. 19

PLANS PREPARED BY :

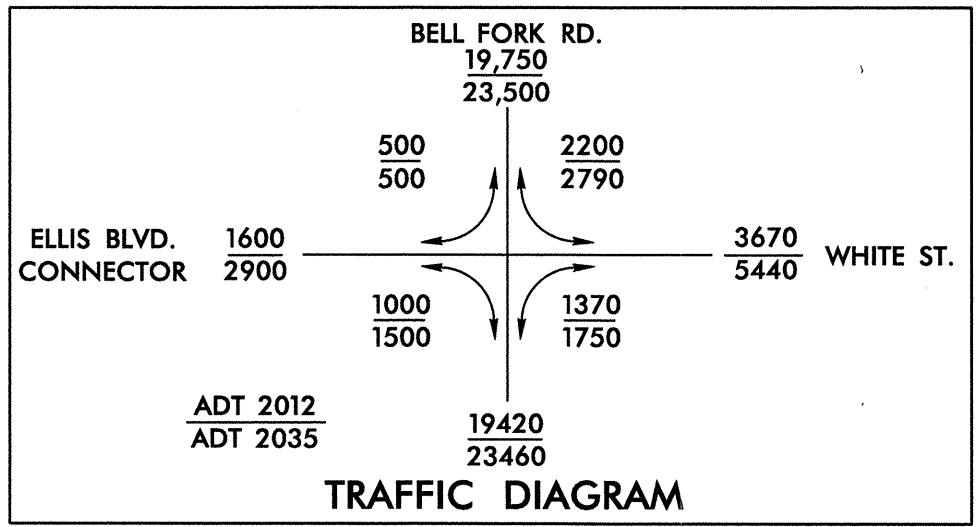
RK&K

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900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

MATCHLINE -Y2- STA. 21+35
SEE SHEET UO-9



NOTE: DO NOT DISTURB AIR CONDITIONER UNIT, SATELLITE DISH, AND CONCRETE PAD ALONG Y2 STA. 30+85 RT. BEHIND BUILDING AND INSIDE TCE ON PARCEL 25.



-DRI-		
PI Sta 13+17.57	PI Sta 15+87.98	PI Sta 17+32.41
$\Delta = 20^{\circ} 03' 35.3"$ (LT)	$\Delta = 6^{\circ} 14' 50.0"$ (RT)	$\Delta = 95^{\circ} 54' 57.5"$ (LT)
D = 19' 05' 54.9"	D = 4' 46' 28.7"	D = 229' 10' 59.2"
L = 105.03'	L = 130.84'	L = 41.85'
T = 53.06'	T = 65.49'	T = 27.72'
R = 300.00'	R = 1,200.00'	R = 25.00'
Se = NC	Se = NC	Se = NC
Runoff = See Plans	Runoff = See Plans	Runoff = See Plans
-Y5-		
PI Sta 24+62.47	PI Sta 11+17.91	PI Sta 29+96.60
$\Delta = 28^{\circ} 09' 44.9"$ (RT)	$\Delta = 85^{\circ} 14' 20.6"$ (LT)	$\Delta = 4^{\circ} 45' 39.4"$ (RT)
D = 4' 52' 34.5"	D = 63' 39' 43.1"	D = 1' 46' 45.7"
L = 577.54'	L = 133.89'	L = 267.56'
T = 294.73'	T = 82.82'	T = 133.86'
R = 1,175.00'	R = 90.00'	R = 3,220.00'
Se = 0.04	Se = 0.02	Se = 0.02

UTILITIES BY OTHERS

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

FOR INTERSECTION DETAIL SEE SHEET 2-J

FOR -Y2- PROFILE SEE SHTS.18 & 19
FOR -Y5- PROFILE SEE SHT.20
FOR -DRI- PROFILE SEE SHT.21
FOR -DR2- PROFILE SEE SHT.23

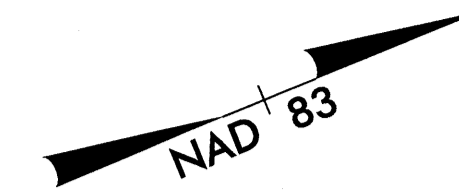
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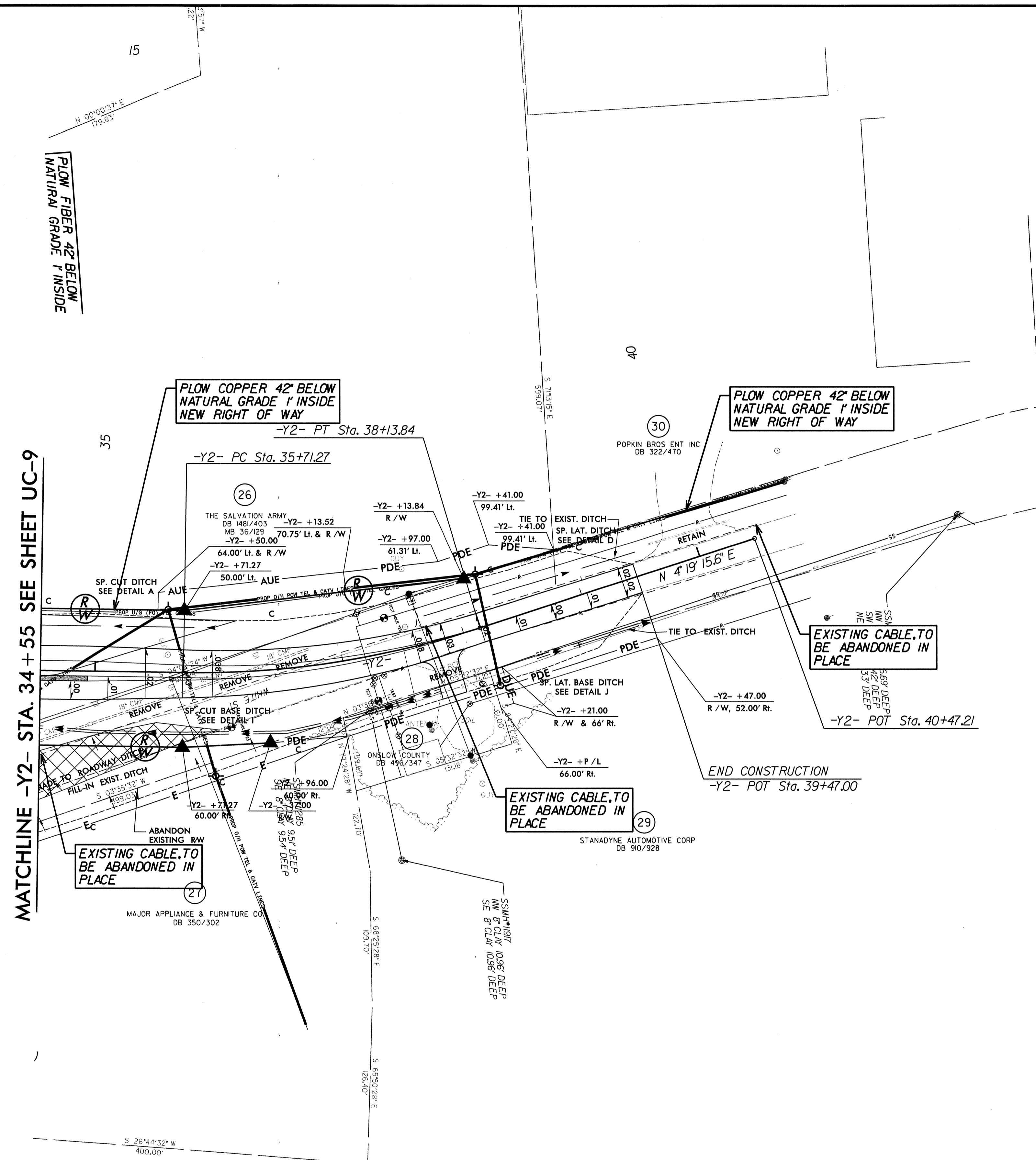
8/17/09
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PROJECT REFERENCE NO. U-5132	SHEET NO. U0-8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



UTILITIES BY OTHERS

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



MATCHLINE -Y2- STA. 34 + 55 SEE SHEET UC-9

-Y2-
 PI Sta 36+93.68
 $\Delta = 19^{\circ} 02' 21.4"$ (LT)
 $D = 7' 50' 55.5"$
 $L = 242.58'$
 $T = 122.42'$
 $R = 730.00'$
 $Se = 0.038$
 Runoff = See Plans

EXISTING CABLE, TO BE ABANDONED IN PLACE

EXISTING CABLE, TO BE ABANDONED IN PLACE

EXISTING CABLE, TO BE ABANDONED IN PLACE

FLOW FIBER 42" BELOW NATURAL GRADE 1' INSIDE

FLOW COPPER 42" BELOW NATURAL GRADE 1' INSIDE NEW RIGHT OF WAY

FLOW COPPER 42" BELOW NATURAL GRADE 1' INSIDE NEW RIGHT OF WAY

8/17/99
 I:\5\202\Projects\2009\09012_CompLeJeune\U5132_NC24\Utilities\Rdy_Ut\Proj\U5132_U0_psh10.dgn

PLANS PREPARED BY :

RK&K

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 RALEIGH, NORTH CAROLINA 27609-3960
 NC LICENSE NO. F-0112 • (919) 878-9560

FOR -Y2- PROFILE SEE SHTS. 18 & 19

PROJECT REFERENCE NO. U-5132	SHEET NO. UO-9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

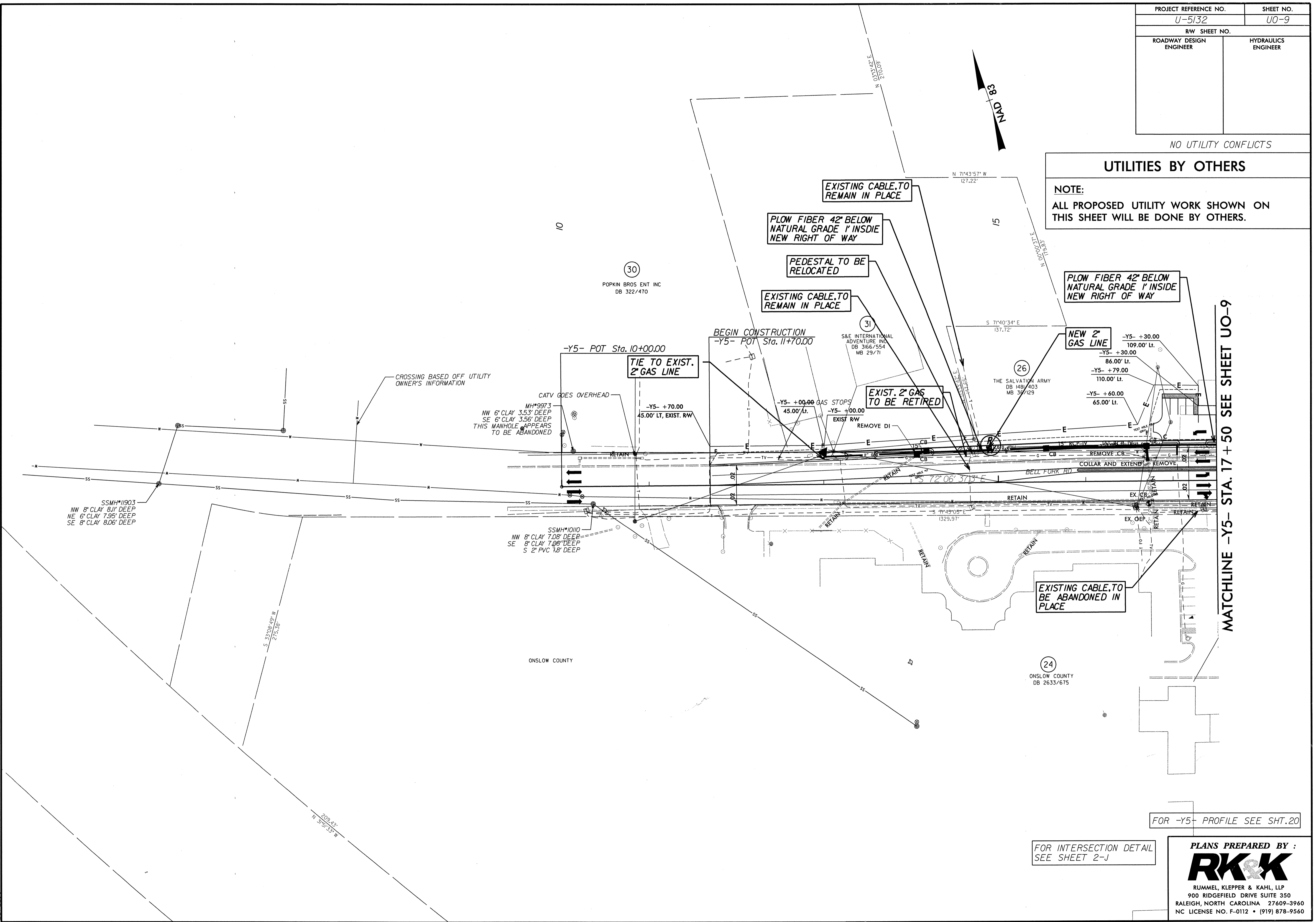
NO UTILITY CONFLICTS

UTILITIES BY OTHERS

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

8/17/99

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MATCHLINE -Y5- STA. 17 + 50 SEE SHEET UO-9

FOR -Y5- PROFILE SEE SHT. 20

FOR INTERSECTION DETAIL SEE SHEET 2-J

PLANS PREPARED BY :

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