

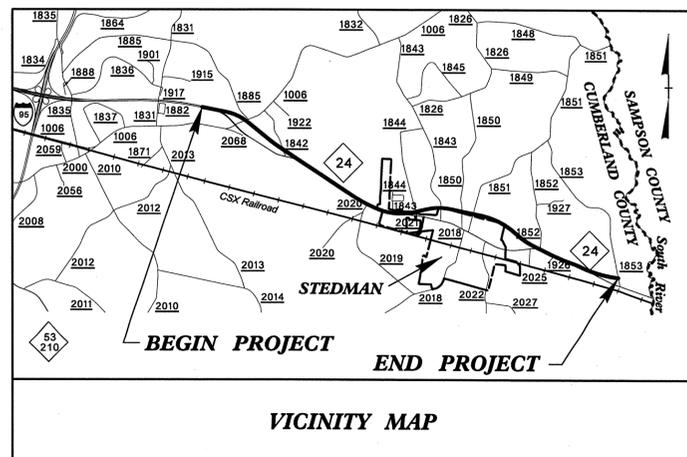
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO. SHEET NO.
R-2303A UC-1

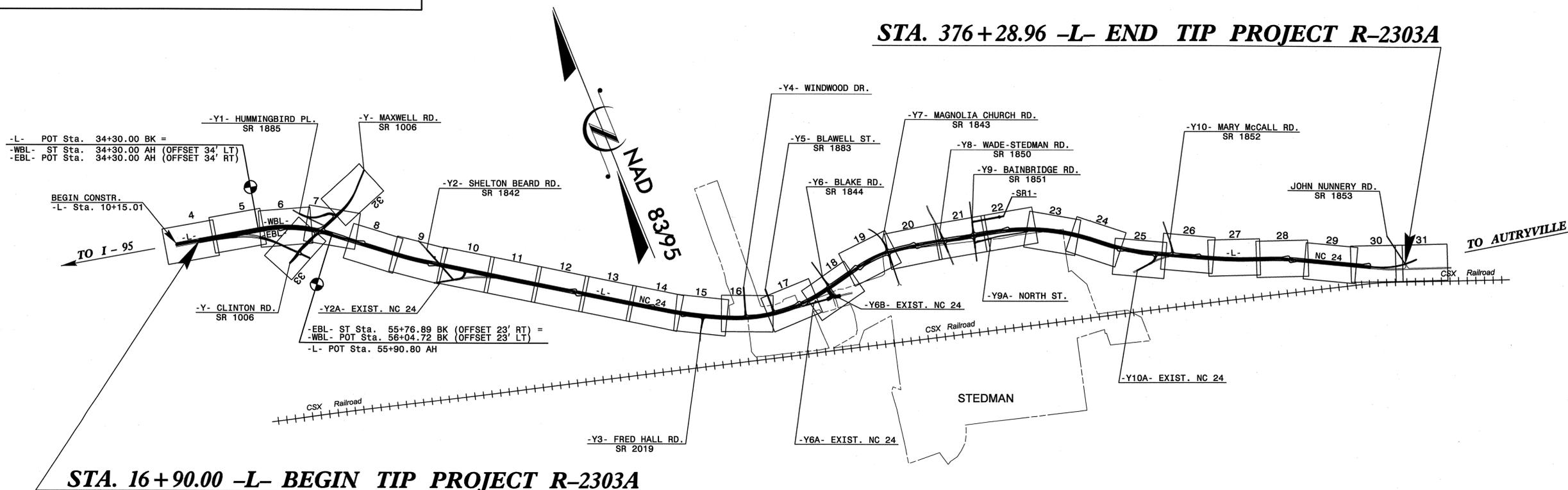
**UTILITY CONSTRUCTION
CUMBERLAND COUNTY**

LOCATION: NC 24 FROM WEST OF SR 1006 (MAXWELL RD./ CLINTON RD.) TO SR 1853 (JOHN NUNNERY RD.)

TYPE OF WORK: UTILITIES RELOCATION



STA. 376+28.96 -L- END TIP PROJECT R-2303A

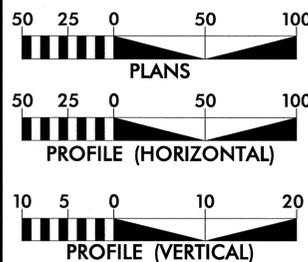


A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF STEDMAN

THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES



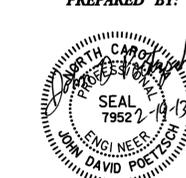
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	LEGEND OF SYMBOLS
UC-3	UTILITY CONSTRUCTION NOTES
UC-3A THRU UC-3I	CONSTRUCTION DETAILS
UC-4 THRU UC-48	UTILITY CONSTRUCTION PLANS AND PROFILE SHEETS
UC-49 THRU UC-51	BOOSTER PUMP STATION

UTILITY OWNERS ON PROJECT

- (1) WATER - FAYETTEVILLE PWC, TOWN OF STEDMAN, TOWN OF AUTRYVILLE
- (2) SEWER - FAYETTEVILLE PWC, TOWN OF STEDMAN

PREPARED BY:



AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)



PREPARED FOR:
DIVISION OF HIGHWAYS
UTILITIES AND ENCROACHMENTS
ENGINEERING UNIT

1555 MAIL SERVICE 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

AECOM Tech. Services UTILITY CONSTRUCTION PROJECT DESIGNER

TIP PROJECT: R-2303A

CONTRACT:

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

04/16/11

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	①②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w.l.b.-
Proposed Wetland Boundary	-w.l.b.-
Existing Endangered Animal Boundary	-e.a.b.-
Existing Endangered Plant Boundary	-e.p.b.-
Known Soil Contamination: Boundary or Site	☠
Potential Soil Contamination: Boundary or Site	?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	⊕
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-j.s.-
Buffer Zone 1	-b.z.1-
Buffer Zone 2	-b.z.2-
Flow Arrow	→
Disappearing Stream	→
Spring	○
Wetland	▭
Proposed Lateral, Tail, Head Ditch	→
False Sump	▭

RAILROADS:

Standard Gauge	_____
RR Signal Milepost	○
Switch	SWITCH
RR Abandoned	_____
RR Dismantled	_____

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	_____
Proposed Right of Way Line	_____
Proposed Right of Way Line with Iron Pin and Cap Marker	_____
Proposed Right of Way Line with Concrete or Granite Marker	_____
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	-e-
Proposed Temporary Construction Easement	-e-
Proposed Temporary Drainage Easement	-t.d.e.-
Proposed Permanent Drainage Easement	-p.d.e.-
Proposed Permanent Drainage / Utility Easement	-d.u.e.-
Proposed Permanent Utility Easement	-p.u.e.-
Proposed Temporary Utility Easement	-t.u.e.-
Proposed Aerial Utility Easement	-a.u.e.-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	-c-
Proposed Slope Stakes Fill	-f-
Proposed Curb Ramp	CR
Curb Cut Future Ramp	CCFR
Existing Metal Guardrail	_____
Proposed Guardrail	_____
Existing Cable Guiderail	_____
Proposed Cable Guiderail	_____
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	_____
Woods Line	_____

Orchard	_____
Vineyard	_____

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	_____
Footbridge	_____
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	_____
Storm Sewer Manhole	⊙
Storm Sewer	-s-

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	_____
H-Frame Pole	●
Recorded U/G Power Line	-p-
Designated U/G Power Line (S.U.E.*)	-p-
TELEPHONE:	
Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Booth	⊙
Telephone Pedestal	⊙
Telephone Cell Tower	⊙
U/G Telephone Cable Hand Hole	_____
Recorded U/G Telephone Cable	-t-
Designated U/G Telephone Cable (S.U.E.*)	-t-
Recorded U/G Telephone Conduit	-tc-
Designated U/G Telephone Conduit (S.U.E.*)	-tc-
Recorded U/G Fiber Optics Cable	-t.fo-
Designated U/G Fiber Optics Cable (S.U.E.*)	-t.fo-

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊙
Recorded U/G Water Line	-w-
Designated U/G Water Line (S.U.E.*)	-w-
Above Ground Water Line	-a/g water-

TV:

TV Satellite Dish	⊙
TV Pedestal	⊙
TV Tower	⊙
U/G TV Cable Hand Hole	_____
Recorded U/G TV Cable	-tv-
Designated U/G TV Cable (S.U.E.*)	-tv-
Recorded U/G Fiber Optic Cable	-tv.fo-
Designated U/G Fiber Optic Cable (S.U.E.*)	-tv.fo-

GAS:

Gas Valve	◇
Gas Meter	⊙
Recorded U/G Gas Line	-g-
Designated U/G Gas Line (S.U.E.*)	-g-
Above Ground Gas Line	-a/g gas-

SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
U/G Sanitary Sewer Line	-ss-
Above Ground Sanitary Sewer	-a/g sanitary sewer-
Recorded SS Forced Main Line	-fss-
Designated SS Forced Main Line (S.U.E.*)	-fss-

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊙
Utility Unknown U/G Line	-util-
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊙
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊙
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



UTILITY CONSTRUCTION NOTES

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 ARE OWNED BY THE TOWN OF STEDMAN, THE TOWN OF AUTRYVILLE, AND THE CITY OF FAYETTEVILLE PWC.
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 ADDITIONAL 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. WATER MAINS OR SEWER FORCE MAINS CROSSING UNDER STORM DRAIN PIPE OR DITCH SHALL HAVE 24" MIN. VERTICAL CLEARANCE OR USE 20 LF JOINT OF D.I. PIPE CENTERED ON S/D OR DITCH.
2. UNLESS OTHERWISE NOTED, 6" DIAMETER AND GREATER WATER LINES AND SEWER FORCE MAINS SHALL BE C-900 PVC. UNLESS OTHERWISE NOTED, SANITARY GRAVITY SEWER SHALL BE SDR 26 PVC.

LIST OF STANDARD DRAWINGS

654.01 PAVEMENT REPAIRS

UTILITY CONSTRUCTION

- CONTRACTOR SHALL REPAIR ALL WATER LATERALS AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT IMMEDIATELY ALL WATER MAIN AND LATERAL BREAKS TO THE PWC PROJECT COORDINATOR. THE CONTRACTOR SHALL INITIATE IMMEDIATE REPAIRS IN ACCORDANCE WITH PWC STANDARDS. CONTRACTOR SHALL NOT OPERATE PWC WATER MAIN VALVES WITHOUT PWC APPROVAL AND SHALL COORDINATE ALL VALVE CLOSINGS WITH PWC.
- THE CONTRACTOR SHALL NOT USE HOUSE HOSE BIBBS OR ANY OTHER METHOD OF BLOW OFF WHICH ALLOWS DOMESTIC WATER CONTAINING SEDIMENTS OR HIGH LEVELS OF CHLORINE TO PASS THRU RESIDENT'S METERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM ALLOWING "DIRTY" WATER TO ENTER RESIDENT'S PLUMBING SYSTEM, SUCH AS WATER HEATERS, STAINED CLOTHING, CLOGGED SCREENS, ETC.
- WATER MAINS AND LATERALS SHALL BE INSTALLED UTILIZING A PWC APPROVED CUT-SHEET INDICATING INSTALLATION DEPTH.
- TRANSFER OF WATER SERVICES SHALL BE ACCOMPLISHED AS FOLLOWS:
 - INSTALL, TEST AND STERILIZE NEW MAIN AND LATERALS. LATERALS SHALL BE INSTALLED 18" INSIDE R/W UNLESS OTHERWISE DIRECTED BY PWC.
 - TRANSFER EXISTING METER TO NEW METER BOX AND TIE NEW WATER LATERAL TO EXISTING DOMESTIC SERVICE UTILIZING BRASS FITTINGS. SAME METER NUMBER SHALL BE INSTALLED ON SAME ADDRESS AND/OR CUSTOMER. BLOW OFF SERVICE AT HOSE BIBB ON HOUSE ONLY AFTER METER HAS BEEN TRANSFERRED.
 - AFTER ALL SERVICES ARE TRANSFERRED TO THE NEW SYSTEM, SHUT OFF VALVE ON EXISTING SYSTEM AND ABANDON EXISTING MAINS IN ACCORDANCE WITH PWC DETAILS.
 - CONTRACTOR SHALL SUPPLY NEW METER BOXES AND DISPOSE OF EXISTING METER BOXES.
- WHEN MAIN IS NOT TO BE ABANDONED, CONTRACTOR SHALL UNCOVER OLD CORPORATION AT MAIN, CLOSE AND PLUG CORPORATION TO ABANDON OLD SERVICE.
- SEPARATION REQUIREMENTS:
 - LATERAL SEPARATION OF SEWERS AND WATER MAINS:** WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWER MAIN/LATERAL, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION - IN WHICH CASE:
 - THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN/LATERAL; OR
 - THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER MAIN/LATERAL WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN/LATERAL.

- WATER OUTAGES: THE CONTRACTOR SHALL SCHEDULE A COORDINATION MEETING WITH THE PROJECT COORDINATOR AND PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO ANY PLANNED WATER OUTAGE. THE COORDINATION MEETING SHALL BE CONDUCTED PRIOR TO ANY NOTICES BEING ISSUED. ADDITIONALLY, THE CONTRACTOR SHALL LOCATE (VERTICALLY AND HORIZONTALLY) ANY UTILITIES WITHIN THE WORK AREA, IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS. THE LOCATIONS OF ALL UTILITIES WITHIN THE WORK AREA SHALL BE DETERMINED PRIOR TO THE COORDINATION MEETING. ANY CONFLICTS WITH THE PENDING WORK AND THE EXISTING UTILITIES SHALL BE IDENTIFIED, AND A PLAN FOR RESOLVING ANY CONFLICTS SHALL BE PRESENTED. THE PURPOSE OF THIS COORDINATION MEETING IS TO ENSURE THAT THE CONTRACTOR HAS A GOOD UNDERSTANDING OF THE REQUIREMENTS RELATED TO THE PENDING OUTAGE, VERIFY THAT THERE ARE NO UTILITY CONFLICTS THAT WILL PREVENT THE WORK FROM BEING COMPLETED, ALL EQUIPMENT IS IN GOOD WORKING ORDER, ALL MATERIALS ARE ON SITE, ALL NECESSARY TOOLS ARE ON SITE, DISCUSS ANY NECESSARY CONTINGENCY PLANS, AND ANY OTHER ITEMS NECESSARY TO ENSURE THAT THE PROJECT COORDINATOR HAS CONFIDENCE THAT THE WORK CAN BE ACCOMPLISHED WITHIN THE GIVEN TIME PERIOD. SHOULD, FOR ANY REASON, THE PROJECT COORDINATOR DEEM THAT THE CONTRACTOR IS NOT PREPARED FOR THE PROPOSED OUTAGE, THE OUTAGE NOTIFICATIONS WILL NOT BE DISTRIBUTED AND THE OUTAGE SHALL BE POSTPONED A MINIMUM OF TWO (2) WEEKS. ONCE THE WATER OUTAGE NOTIFICATIONS HAVE BEEN ISSUED, A FOLLOW-UP COORDINATION MEETING WITH THE PROJECT COORDINATOR AND PROJECT ENGINEER SHALL BE HELD A MINIMUM OF 24 HOURS PRIOR TO THE SCHEDULED OUTAGE. THE PURPOSE OF THIS MEETING IS TO VERIFY THAT THE CONTRACTOR IS PREPARED TO PROCEED WITH THE OUTAGE, AND THAT ALL EQUIPMENT, MATERIALS, TOOLS, AND ALL OTHER INCIDENTALS ARE ON THE PROJECT SITE AND FUNCTIONING. IF FOR ANY REASON THE PROJECT COORDINATOR DEEMS THAT THE CONTRACTOR IS NOT PREPARED, THE OUTAGE SHALL BE POSTPONED AND ALL CUSTOMERS IMMEDIATELY NOTIFIED OF THE CANCELLATION.

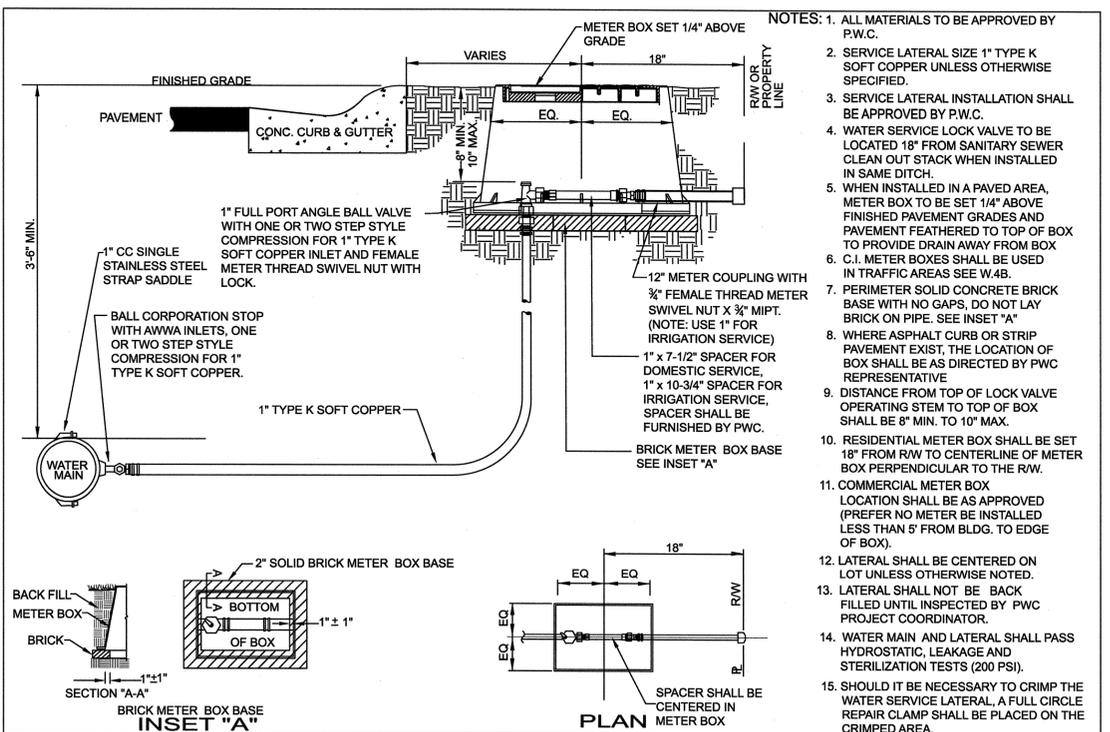
THE CONTRACTOR SHALL COMPLETE THE REQUIRED WORK AND RESTORE WATER SERVICE WITHIN THE GIVEN TIME PERIOD FOR THE OUTAGE.

WATER UTILITY NOTES			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		
SHEET NO. 1 OF 2	DWG. NO. W.1	DWG. BY: PWC		WATER RESOURCES ENGINEERING DEPARTMENT	
	DATE: JULY 01, 2012	APPROVED BY: J.E.G.			
			NO.	DATE	REVISION
			1	JAN 05	REVISED NOTE 5A
			2	JUL 11	REVISED NOTES & ADDED NOTE 6

2012-W1 WATER UTILITY NOTES.dwg

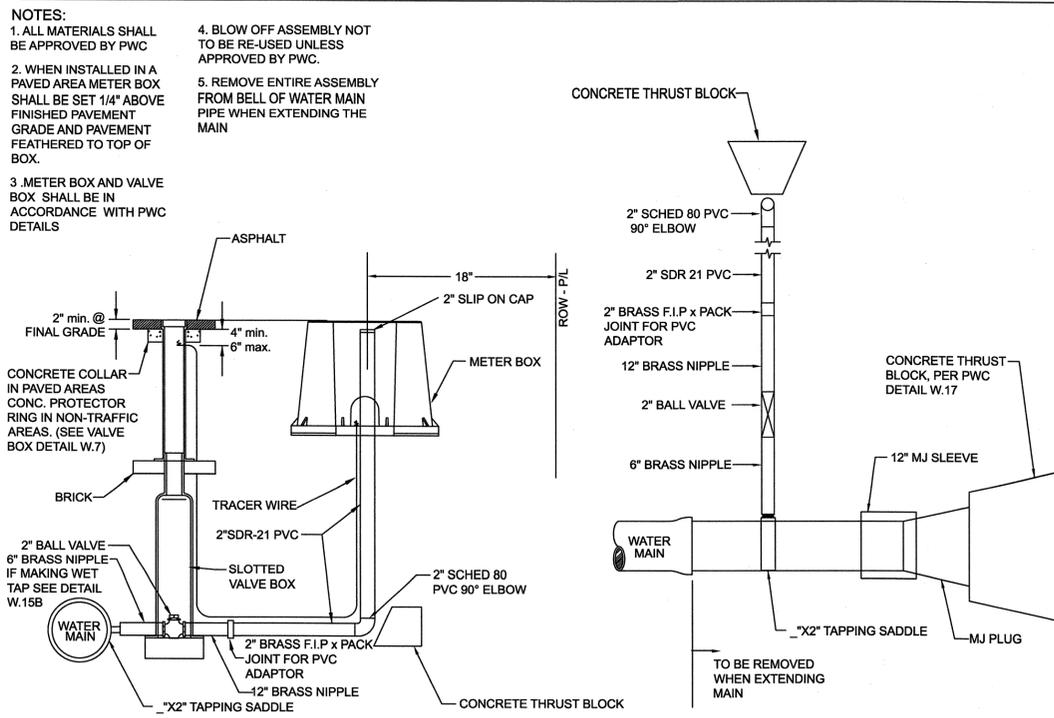
WATER UTILITY NOTES			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		
SHEET NO. 2 OF 2	DWG. NO. W.1	DWG. BY: PWC		WATER RESOURCES ENGINEERING DEPARTMENT	
	DATE: JULY 01, 2012	APPROVED BY: J.E.G.			
			NO.	DATE	REVISION
			1	JAN 05	REVISED NOTE 5A
			2	JUL 11	REVISED NOTES & ADDED NOTE 6

2012-W1 WATER UTILITY NOTES.dwg



1" COPPER WATER SERVICE LATERAL			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		
SHEET NO. 1 OF 1	DWG. NO. W.24	DWG. BY: PWC		WATER RESOURCES ENGINEERING DEPARTMENT	
	DATE: JULY 01, 2012	APPROVED BY: J.E.G.			
			NO.	DATE	REVISION
			1	MAY 05	VALVE CHANGE
			2	SEPT 05	VALVE CHANGE, ADD NOTE 16.
			3	JULY 06	RESIZED METER COUPLING

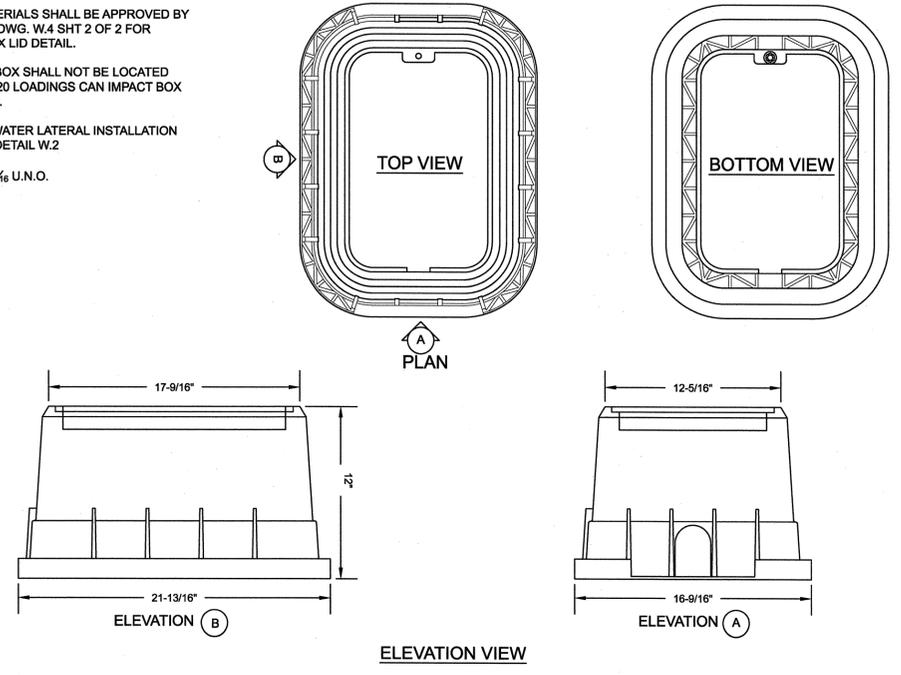
2012-W24 COPPER SERVICE LATERAL.dwg



2" BLOW OFF (N.T.S.)			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		
SHEET NO. 1 OF 1	DWG. NO. W.15	DWG. BY: PWC		WATER RESOURCES ENGINEERING DEPARTMENT	
	DATE: JULY 01, 2012	APPROVED BY: J.E.G.			
			NO.	DATE	REVISION
			1	8/06	CHANGED FITTINGS TO SCHED 80
			2	11/06	REVISED CONFIGURATION

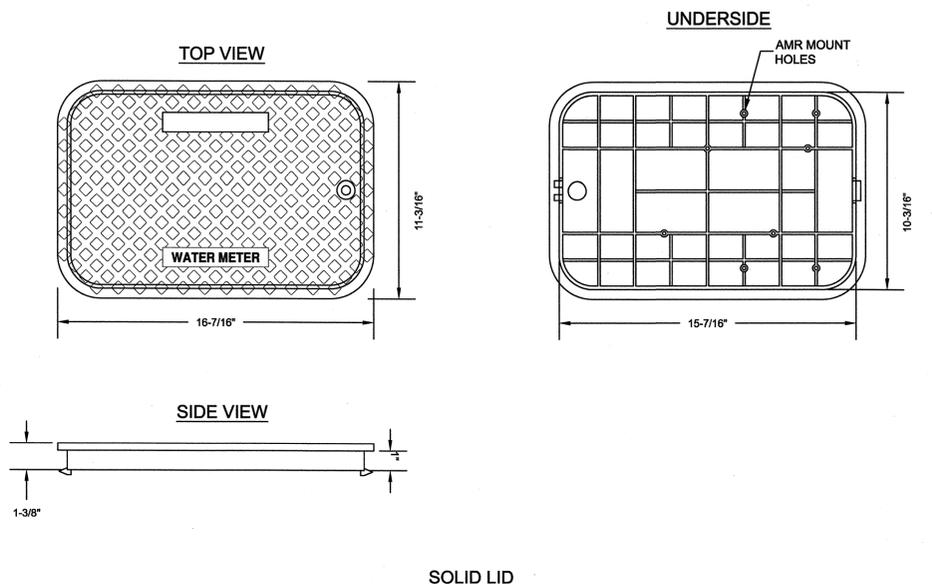
2012-W15 2 BLOWOFF.dwg

NOTES:
 1. ALL MATERIALS SHALL BE APPROVED BY PWC. SEE DWG. W.4 SHT 2 OF 2 FOR METER BOX LID DETAIL.
 2. METER BOX SHALL NOT BE LOCATED WHERE H-20 LOADINGS CAN IMPACT BOX OR COVER.
 3. FOR 1" WATER LATERAL INSTALLATION SEE PWC DETAIL W.2
 4. DIMS ± 1/16 U.N.O.



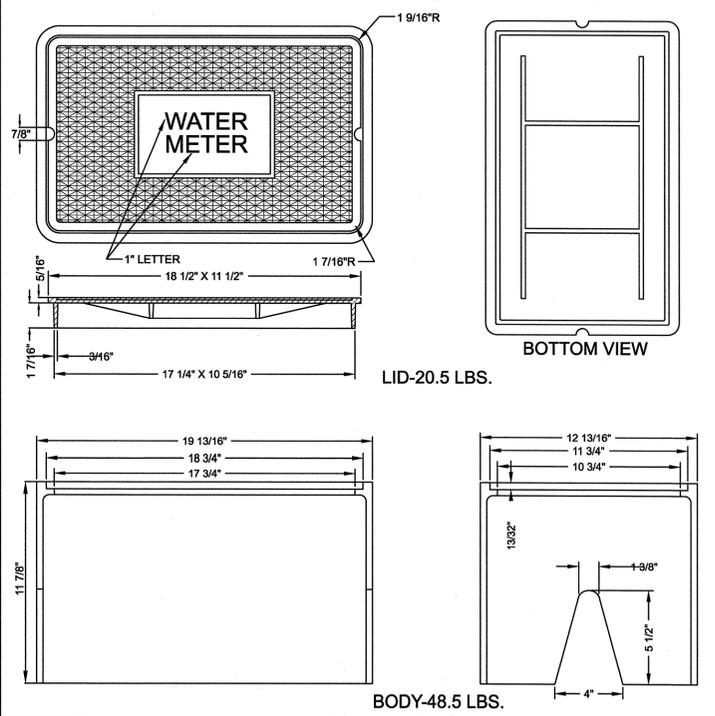
1-INCH METER BOX DETAILS N.T.S.			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO.	DATE	REVISION
SHEET NO. 1 OF 2	DWG. NO. W.4	DWG. BY: PWC	WATER RESOURCES ENGINEERING DEPARTMENT			1	3/10	CHANGED BOX DIMENSIONS
DATE: JULY 01, 2012		APPROVED BY: J.E.G.						

2012-W4 1IN METERBOX.dwg



1-INCH METER BOX LID N.T.S.			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. W.4	DWG. BY: PWC	WATER RESOURCES ENGINEERING DEPARTMENT			1	7/07	REVISED LID
DATE: JULY 01, 2012		APPROVED BY: J.E.G.						

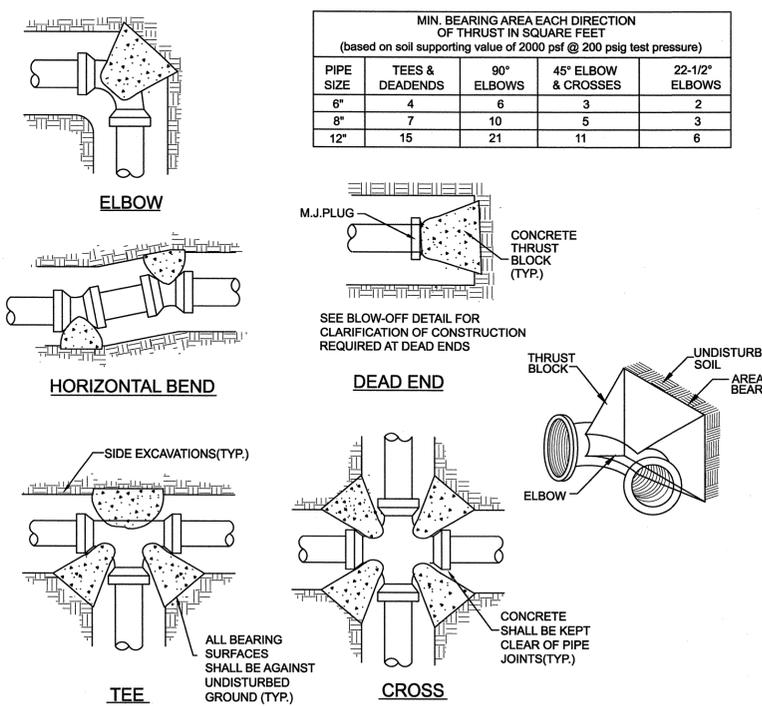
2012-W4 1IN METERBOX.dwg



NOTES:
 1. ALL MATERIALS SHALL BE APPROVED BY PWC.
 2. FOR 1" WATER LATERAL INSTALLATION SEE PWC DETAIL W.2
 3. CAST IRON METER BOX TO BE USED IN TRAFFIC AREAS.

1-INCH CAST IRON METER BOX & COVER N.T.S.			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.4B	DWG. BY: PWC	WATER RESOURCES ENGINEERING DEPARTMENT			1	3/10	CHANGED BOX & LID DIMENSIONS
DATE: JULY 01, 2012		APPROVED BY: J.E.G.						

2012-W4B METERBOX&LID.dwg



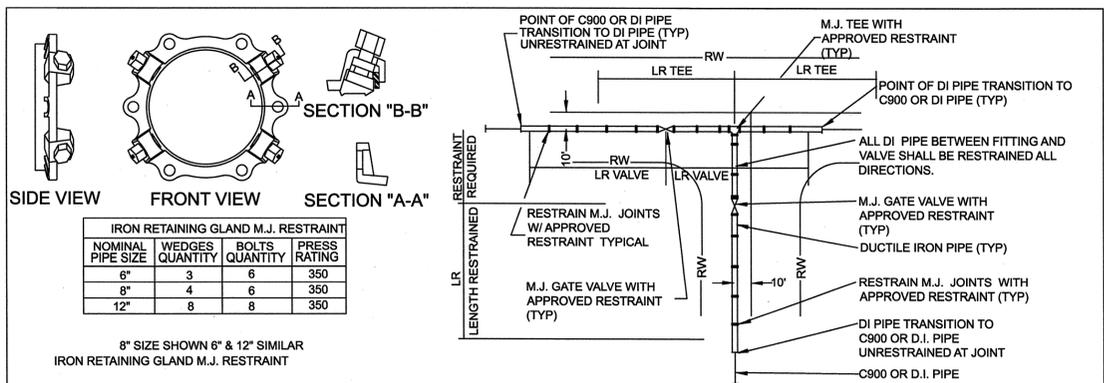
NOTES:
 1.) THRUST BLOCKS SHALL BE INSTALLED ON PVC WATER DISTRIBUTION LINES 8" THRU 12" DIA. IN THE MANNER SHOWN. SEE PWC STANDARD ALT. RESTRAINING DETAIL W.18 FOR ACCEPTABLE ALTERNATE RESTRAINING SYSTEMS.
 2.) PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.
 3.) COMPACT FITTINGS ARE NOT ACCEPTABLE. STANDARD FITTINGS SHALL BE USED WITH CONCRETE THRUST BLOCKING.
 4.) THRUST BLOCKS SHALL BE INSTALLED ON SEWER FORCE MAIN IN THE MANNER SHOWN.
 5.) IF SAC-CRETE IS USED, MIXING MUST BE ON-SITE UTILIZING A MECHANICAL MIXER.
 6.) NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.
 7.) CONCRETE SHALL BE A MINIMUM 3,000 PSI.
 8.) ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL AND SHALL BE APPROVED BY PWC PROJ. COORDINATOR PRIOR TO PLACEMENT OF CONCRETE.
 9.) USE OF RESTRAINED JOINT DUCTILE IRON WILL BE REQUIRED IF SOIL CONDITIONS DO NOT ALLOW THE USE OF THRUST BLOCKS
 10.) ALL VERTICAL BENDS SHALL BE RESTRAINED USING RESTRAINED JOINT DUCTILE IRON PIPE.

CONCRETE THRUST BLOCK DETAIL N.T.S.			PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.17	DWG. BY: PWC	WATER RESOURCES ENGINEERING DEPARTMENT			1	JAN 05	REVISED TABLE, NOTE 1
DATE: JULY 01, 2012		APPROVED BY: J.E.G.						

2012-W17 THRUSTBLOCK.dwg

DATE: 2/19/2013 Dsh: R2303a_uc_pen_38.dgn

UTILITY CONSTRUCTION



IRON RETAINING GLAND M.J. RESTRAINT			
NOMINAL PIPE SIZE	WEDGES QUANTITY	BOLTS QUANTITY	PRESS RATING
6"	3	6	350
8"	4	6	350
12"	8	8	350

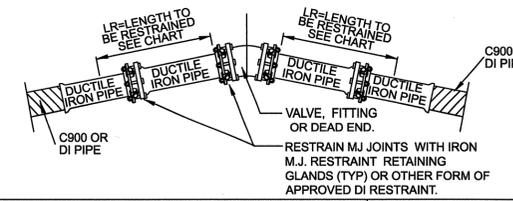
8" SIZE SHOWN 6" & 12" SIMILAR
IRON RETAINING GLAND M.J. RESTRAINT

LR (MIN. LENGTH OF RESTRAINT EACH DIRECTION OF THRUST IN LINEAR FEET)
Based on 200 psig pressure, Safety Factor of 2.0:1, BARE DI PIPE AND ML SOIL, 3.5' COVER
Chart does not apply to pipes wrapped in polyethylene wrap

PIPE SIZE	VALVES DEAD ENDS TEES	90° ELBOWS	45° ELBOW & CROSSES	22-1/2° ELBOWS	REDUCER
6"	55'	31'	13'	7'	8"x2" 6'
8"	72'	40'	17'	8'	8"x6" 30'
12"	102'	57'	24'	12'	12"x8" 64'

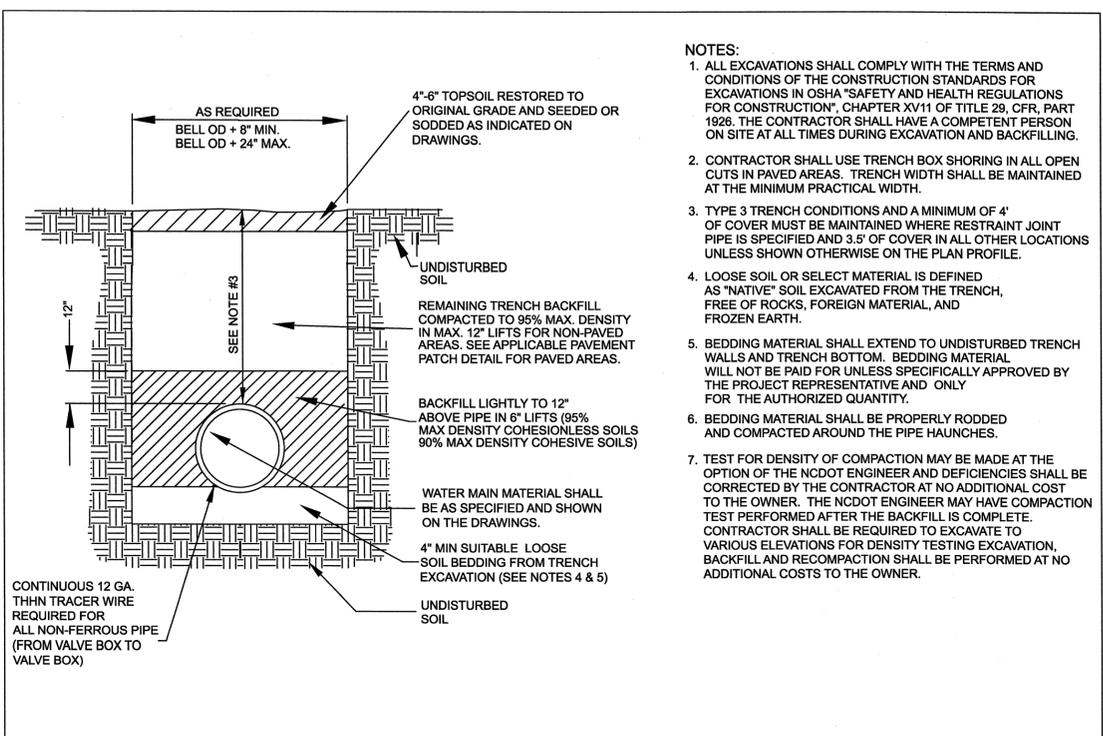
RESTRAINED JOINT DETAIL FOR TYPICAL TEE INTERSECTION
4 WAY INTERSECTION SIMILARLY RESTRAINED

- NOTES:**
- THRUST RESTRAINT SHALL BE INSTALLED ON DUCTILE IRON WATER DISTRIBUTION LINES 6" THRU 12" DIAMETER IN THE MANNER SHOWN. SEE PWC STANDARD THRUST BLOCK DETAIL W:17 FOR PVC RESTRAINT.
 - IRON RETAINING GLAND M.J. RESTRAINT OR OTHER FORMS OF IRON RESTRAINT SHALL NOT BE USED ON PVC PIPE.
 - PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINED JOINT PIPE FOR THE PROPER LENGTH.
 - COMPACT FITTINGS ARE ACCEPTABLE FOR USE WITH IRON RETAINING GLAND M.J. RESTRAINT AND OTHER FORMS OF DI RESTRAINT.
 - THE MINIMUM LENGTH OF RESTRAINT INDICATED SHALL REQUIRE ALL JOINTS WITHIN THE LR DISTANCE TO BE RESTRAINED.
 - RESTRAINT SYSTEM SHALL BE INSPECTED AND APPROVED PWC PRIOR TO BACKFILLING.
 - RESTRAINT SYSTEMS MAY VARY BASED UPON THE ENGINEERS' DESIGN AS SHOWN ON THE PLAN AND PROFILE SHEETS.
 - GRIPPER RING AND FIELD LOK GASKETS ARE AN ACCEPTABLE METHOD OF RESTRAINT ON DUCTILE IRON PIPE ONLY.



ALTERNATE RESTRAINT DETAIL (DUCTILE IRON PIPE ONLY) N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.18	DWG. BY: PWC			1	11/18/2007	REVISED TABLE, ADDED NOTE 8
DATE: JULY 01, 2012	APPROVED BY: J.E.G.					

2012-W18 RESTRAINT DETAIL.dwg

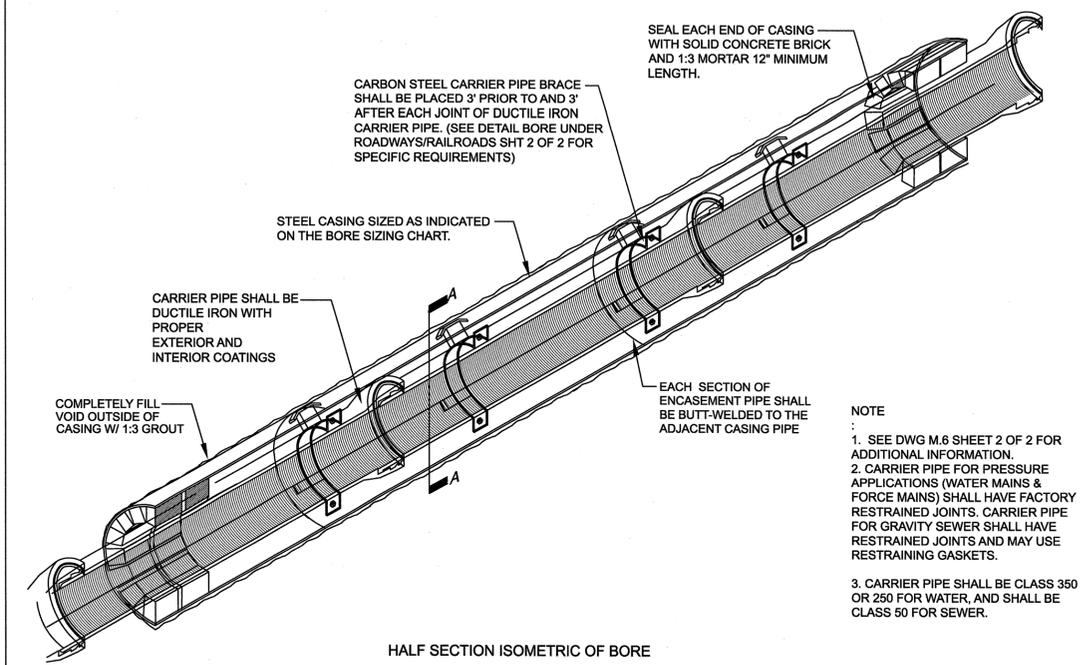


TYPE 3 TRENCH WATER MAIN BEDDING DETAIL N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.19	DWG. BY: PWC					
DATE: JULY 01, 2012	APPROVED BY: J.E.G.					

2012-W19 WATER BEDDING.dwg

- NOTES:**
- ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, CHAPTER XVH1 OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON SITE AT ALL TIMES DURING EXCAVATION AND BACKFILLING.
 - CONTRACTOR SHALL USE TRENCH BOX SHORING IN ALL OPEN CUTS IN PAVED AREAS. TRENCH WIDTH SHALL BE MAINTAINED AT THE MINIMUM PRACTICAL WIDTH.
 - TYPE 3 TRENCH CONDITIONS AND A MINIMUM OF 4' OF COVER MUST BE MAINTAINED WHERE RESTRAINT JOINT PIPE IS SPECIFIED AND 3.5' OF COVER IN ALL OTHER LOCATIONS UNLESS SHOWN OTHERWISE ON THE PLAN PROFILE.
 - LOOSE SOIL OR SELECT MATERIAL IS DEFINED AS "NATIVE" SOIL EXCAVATED FROM THE TRENCH, FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
 - BEDDING MATERIAL SHALL EXTEND TO UNDISTURBED TRENCH WALLS AND TRENCH BOTTOM. BEDDING MATERIAL WILL NOT BE PAID FOR UNLESS SPECIFICALLY APPROVED BY THE PROJECT REPRESENTATIVE AND ONLY FOR THE AUTHORIZED QUANTITY.
 - BEDDING MATERIAL SHALL BE PROPERLY RODDED AND COMPACTED AROUND THE PIPE HAUNCHES.
 - TEST FOR DENSITY OF COMPACTION MAY BE MADE AT THE OPTION OF THE NCDOT ENGINEER AND DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE NCDOT ENGINEER MAY HAVE COMPACTION TEST PERFORMED AFTER THE BACKFILL IS COMPLETE. CONTRACTOR SHALL BE REQUIRED TO EXCAVATE TO VARIOUS ELEVATIONS FOR DENSITY TESTING EXCAVATION, BACKFILL AND RECOMPACTION SHALL BE PERFORMED AT NO ADDITIONAL COSTS TO THE OWNER.

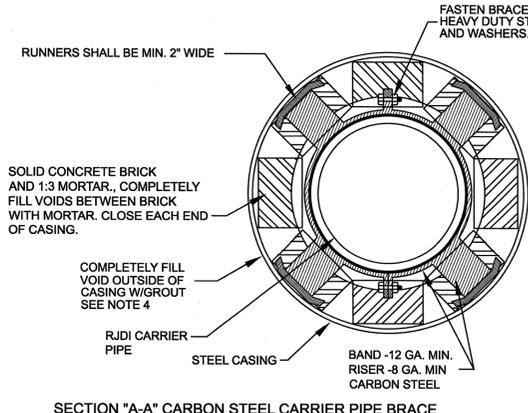
UTILITY CONSTRUCTION



BORE UNDER ROADWAYS/RAILROADS N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
SHEET NO. 1 OF 2		WATER RESOURCES ENGINEERING DEPARTMENT		1.	JAN 05	ADDED NOTES 2 & 3
DWG. NO. M.6	DWG. BY: PWC	PWC		2.	OCT 09	Clarified restraint requirements.
DATE: JULY 01, 2012	APPROVED BY: J.E.G.			2012-M6 BORE_ROAD_RAIL.dwg		

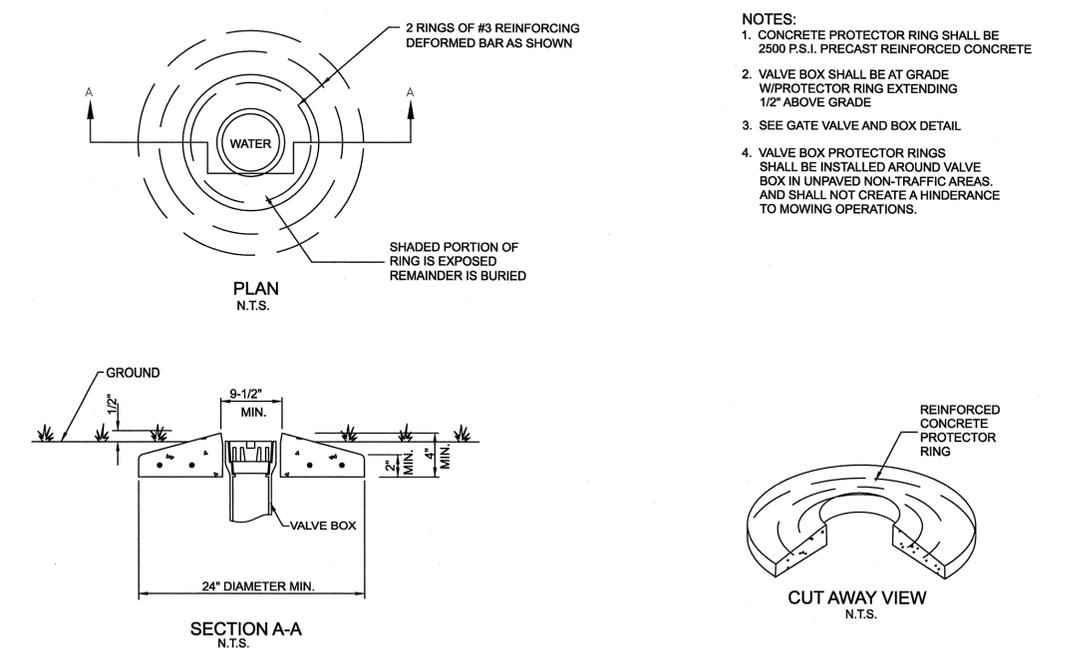
CARRIER PIPE SIZE	MIN. CASING SIZE	ROADWAYS MIN. WALL THICKNESS	RAILROADS MIN. WALL THICKNESS
4"	10"	0.188"	0.188"
6"	12"	0.25"	0.281"
8"	16"	0.25"	0.281"
12"	24"	0.25"	0.375"
16"	30"	0.312"	0.469"
18"	30"	0.312"	0.469"
24"	36"	0.375"	0.532"
30"	42"	0.500"	0.625"
36"	48"	0.500"	0.688"

*CONTRACTOR MAY SUBSTITUTE A LARGER SIZE CASING PIPE HAVING THE MIN. WALL THICKNESS SHOWN FOR SEWER MAINS. ALL ADDITIONAL COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BORING AND JACKING.

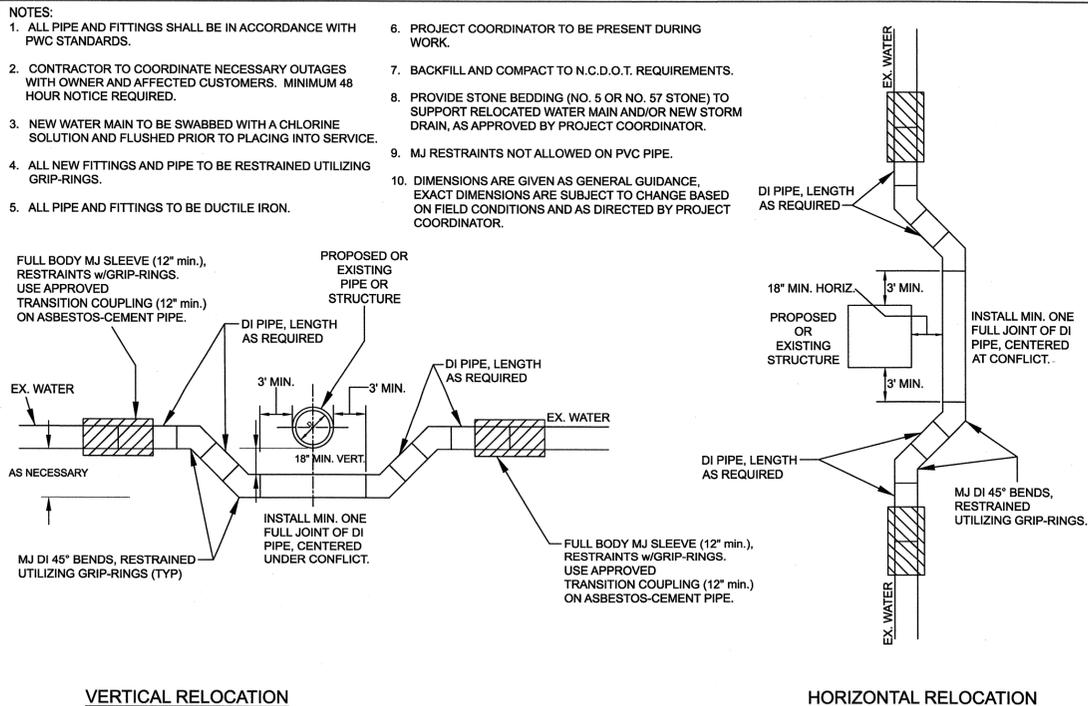


BORE UNDER ROADWAYS/RAILROADS N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
SHEET NO. 2 OF 2		WATER RESOURCES ENGINEERING DEPARTMENT		1.	2/11/04	ADDED 6" CARRIER PIPE TO BORE SIZING CHART
DWG. NO. M.6	DWG. BY: PWC	PWC		2.	JULY 10	REVISED NOTES, SIZING CHART
DATE: JULY 01, 2012	APPROVED BY: J.E.G.			2012-M6 BORE_ROAD_RAIL.dwg		

- NOTES:
- INSTALLATION SHALL BE DRY BORE AND JACKING OF SMOOTH WALL STEEL PIPE. JETTING OR WET BORING WITH WATER SHALL NOT BE ALLOWED.
 - SEE BORE SIZING CHART FOR CARRIER PIPE SIZE AND STEEL CASING SIZE, MIN. DIA. AND WALL THICKNESS.
 - CASING PIPE SHALL BE IN ACCORDANCE WITH ASTM A-53, GRADE B WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI
 - EACH END OF ENCASUREMENT TO BE PLUGGED WITH BRICK. ALL VOIDS OUTSIDE THE CASING PIPE SHALL BE COMPLETELY FILLED WITH 1:3 PORTLAND CEMENT GROUT AT SUFFICIENT PRESSURE TO INSURE NO SETTLEMENT OF ROADWAY/RAILROAD. METHOD OF GROUTING SHALL BE AS APPROVED BY THE PERMITTING AGENCY.
 - IT IS RECOMMENDED THAT THE BORE BE ACCOMPLISHED BEFORE PIPE CONSTRUCTION BEGINS.
 - THE BORING SHALL BE PERFORMED FROM "UPSTREAM" TO "DOWNSTREAM" DIRECTION MAINTAINING THE CRITICAL DOWNSTREAM INVERT ELEVATION. SHOULD THE BORE NOT BE ON GRADE, A REVISED PLAN SHALL BE SUBMITTED TO PWC FOR APPROVAL.
 - THE BORING OPERATION SHALL BE CONDUCTED IN A MANNER THAT THE FLOW OF TRAFFIC IS NOT IMPEDED OR IN SUCH A MANNER SO AS NOT TO CREATE A HAZARD.
 - IF AN OBSTRUCTION IS ENCOUNTERED DURING THE BORING OPERATION, THE AUGER SHALL BE WITHDRAWN THE EXCESS CASING PIPE CUT-OFF, CAPPED AND THE INTERIOR AND EXTERIOR VOIDS SHALL BE COMPLETELY FILLED W/1:3 PORTLAND CEMENT GROUT UNDER PRESSURE.
 - CONTRACTOR SHALL FIELD ADJUST AND INSTALL PROPER PIPE BRACES TO ACCOMPLISH GRADE AND INVERTS AS SHOWN ON THE DRAWINGS.
 - A MANUAL CONTROL STEERING HEAD OR OTHER GUIDANCE SYSTEM IS RECOMMENDED FOR BORES 30" DIAM. AND/OR LARGER AND FOR BORES EXCEEDING 100' IN LENGTH OR AS SPECIFIED.
 - SUBCONTRACTORS SHALL ADHERE TO ALL PERMIT REQUIREMENTS AND SHALL PROVIDE APPROVED INSURANCE CERTIFICATES AS REQUIRED.
 - CONTRACTOR SHALL EXECUTE AND PERFORM ALL REQUIREMENTS AND CONDITIONS STIPULATED BY THE PERMITTING AGENCY.
 - SEE DWG. M.6 SHEET 1 OF 2 FOR ADDITIONAL INFORMATION.
 - CARRIER PIPE FOR PRESSURE APPLICATIONS (WATER MAINS & FORCE MAINS) SHALL HAVE FACTORY RESTRAINED JOINTS. CARRIER PIPE FOR GRAVITY SEWER SHALL HAVE RESTRAINED JOINTS AND MAY USE RESTRAINING GASKETS.



VALVE BOX PROTECTOR RING N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT				
DWG. NO. W.8	DWG. BY: PWC	PWC		2012-W8 CONC PROTECTOR RING.dwg		
DATE: JULY 01, 2012	APPROVED BY: J.E.G.					

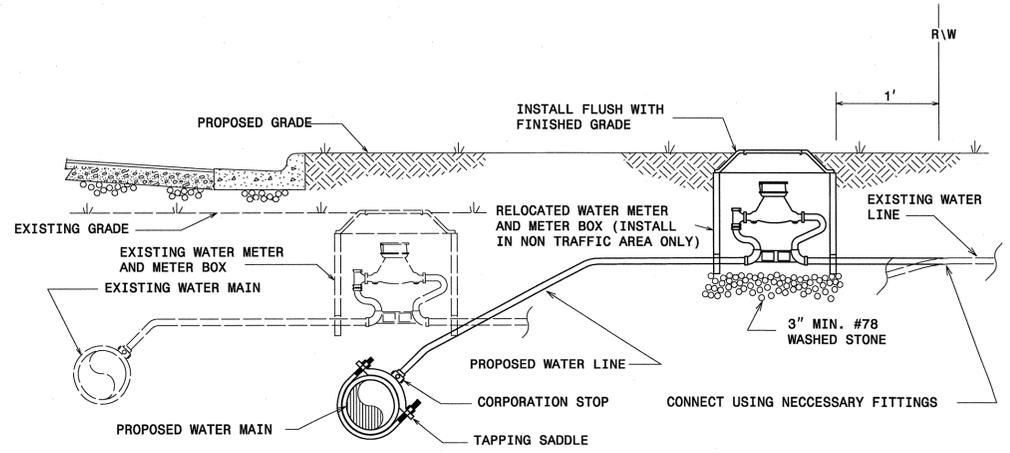


PIPE RELOCATION DETAIL (N.T.S.)		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT		1.	1/12	REVISED NOTES, ADDED HORIZ. RELOCATION
DWG. NO. W.26	DWG. BY: PWC	PWC		2012-W26 PIPE RELOCATION DETAIL.dwg		
DATE: JULY 01, 2012	APPROVED BY: J.E.G.					

DATE: 9/14/2013
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UTILITY CONSTRUCTION



NOTES:

1. RELOCATION SHALL INCLUDE THE REMOVAL AND INSTALLATION AT THE APPROPRIATE LOCATION OF THE WATER METER, METER SETTER AND YOKE, METER VALVES, AND METER BOX WITH LID.
2. 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.
3. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUM OF 3' COVER BELOW FINISHED GRADE.

WATER METER RELOCATION DETAILS

2" SQ.
1-15/16" SQ.
S-NO. & SIZE BOLT HOLES STRADDLE Q (125 LB. ASA)
M (DIA)
L (B.C.)
H (DIA)
J (DIA)
K
T
A
B
C
D
E
F
G
H
J
K
L
M
N
R
S
T
F (BOLT CIRCLE)
E (DIA)
G-NO. & SIZE OF BOLT SLOTS

NOTES:
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH PWC STANDARDS.
2. RAISED MALE FACE SHALL BE REQUIRED TO PROVIDE FOR PROPER ALIGNMENT OF THE TAPPING SLEEVE.
3. ALL VALVES SHALL HAVE 2" SQUARE OPERATING NUT AND SHALL OPEN COUNTERCLOCKWISE.
4. GATE VALVES SHALL BE RESILIENT WEDGE TYPE.
5. VALVE BODY, BONNET AND GATE SHALL BE IN ACCORDANCE WITH AWWA C-509/C-515 AND NSF61.
6. VALVE BODY AND BONNET SHALL BE COATED ON ALL INTERIOR AND EXTERIOR SURFACES WITH A FUSION BONDED EPOXY IN ACCORDANCE WITH AWWA C-550-90.
7. ALL VALVES 24" AND SMALLER SHALL HAVE A SAFE WORKING PRESSURE OF 250 PSI.
8. SEE TAPPING SLEEVE FOR ADDITIONAL INFORMATION.
9. DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. VALVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.
10. ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED PRIOR TO THE TAP BEING ACCOMPLISHED. TEST SHALL BE APPROVED BY PWC PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.

FOR USE WITH STANDARD M.J. PIPE

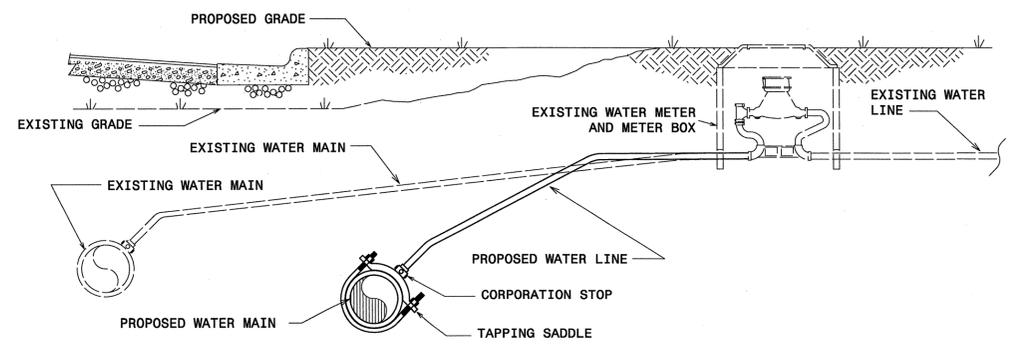
VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	URNS TO OPEN	WEIGHT W/ACC
4	4-3/8	5-7/8	15/16	1-1/2	9	7-1/2	4-7/8	4-63/64	4-29/32	2-1/2	7-1/2	9	14-1/8	9	8-3/4	1/4	14	118
6	6-7/8	6-1/4		1-5/8	11	9-1/2	6-7/8	6-63/64	7	2-1/2	9-1/2	11	17-5/8	11-3/4	8-7/8	1/4	21	175
8	8-1/2	7-1/4	1-1/8	1-3/4	13-1/4	11-3/4	8-7/8	8-63/64	8-5/32	2-1/2	11-3/4	13-1/2	21	14-1/4	8-7/8	1/4	28	274
12	7	8-1/4	1-1/4	1-3/4	17-7/8	16-1/4	8-7/8	12-63/64	13-5/16	2-1/2	17	19	28-1/4	19-1/8	12-1	1/4	39	570
16	8-1/2	9-1/8	1-7/16	2-1/16	23	21	12-7/8	16-15/16	17-35/64	3-1/2	21-1/4	23-1/2	38-5/8	26-1/8	16-1 1/8	1/4	55	1140
24	10-1/2	14-1/4	1-7/8	2-1/2	31-3/4	30	16-7/8	24-15/16	25-15/16	3-1/2	29-1/2	32	54-5/8	37-5/8	20-1 3/8	5/16	79	3225

M.J. TAPPING VALVE (N.T.S.)
PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
1	7/09	ADDED NOTE 10, REVISED 4 & 5

SHEET NO. 1 OF 1
DWG. NO. W.9
DATE: JULY 01, 2012
DWG. BY: PWC
APPROVED BY: J.E.G.

2012-W9 M.J. TAPPING VALVE.dwg



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 3' COVER BELOW FINISHED GRADE.

RECONNECT EXISTING WATER METER DETAIL

3/4" NPT BRONZE SQ. HEAD PIPE PLUG
TAPPING SLEEVE FRONT
TAPPING SLEEVE BACK
5/8" STEEL ZINC PLATED HEX HEAD BOLT & NUT TIGHTEN TO 75-90 FT. LBS.
T-HEAD GLAND BOLT TIGHTEN TO 75-90 FT. LBS.
T-HEAD BOLT TIGHTEN TO 90 FT. LBS.
M.J. RUBBER END GASKET
M.J. RUBBER SIDE GASKET
G (GASKET THICKNESS) SEE NOTE 2

NOTES:
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH PWC STANDARDS. SLEEVE BODY SHALL BE DUCTILE IRON ASTM A536.
2. MECHANICAL JOINT TAPPING SLEEVES SHALL BE FURNISHED WITH SPLIT GLANDS, SPLIT END GASKET, BOLTS, ETC. THE OUTLET FLANGE SHALL BE CL 125 PER ANSI B16.1 COMPATIBLE WITH APPROVED TAPPING VALVES.
3. DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. SLEEVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.
4. PIPE SURFACES SHALL BE CLEANED THOROUGHLY TO PERMIT FOR A GOOD SEAL PRIOR TO INSTALLATION.
5. EXTERIOR OF TAPPING SLEEVE SHALL BE COATED W/2 COATS ASPHALTIC VARNISH MIL-C450.
6. ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED PRIOR TO THE TAP BEING ACCOMPLISHED. TEST SHALL BE APPROVED BY PWC PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.
7. SEE TAPPING VALVE FOR ADDITIONAL INFORMATION.

SLEEVE SIZE PIPE X BRANCH	6X6	8X6	8X8	12X6	12X8	12X12	16X6	16X8	16X12	24X6	24X8	24X12	24X16	24X24	30X6	30X8	30X12	30X16	30X24
A (DIA) +.031-.000	7.016	7.016	9.016	7.016	9.016	13.016	7.016	9.016	13.016	11.00	13.5	19.0	23.5	32.0	11.00	13.5	19.0	23.5	32.0
B	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
C	7-7/8	9-1/16	9	11-5/8	11-7/8	12-7/8	14-1/8	14-1/2	14-7/8	19.5	19.5	19.5	20.5	20.5	23.25	23.25	23.25	23.75	23.75
E	11-3/4	13-7/8	13-7/8	18-1/2	18-1/2	18-1/2	23-1/2	23-1/2	23-1/2	35.5	35.5	35.5	35.5	35.5	43.37	43.37	43.37	43.37	43.37
F	13-1/2	15	15	19-1/2	19-1/2	19-1/2	22-1/2	22-1/2	22-1/2	18.0	18.0	24.0	30.0	36.0	24.0	24.0	24.0	36.0	36.0

DUCTILE IRON M.J. TAPPING SLEEVE
PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
1	7/09	REVISED NOTE 6/REMOVED NOTE 8.

SHEET NO. 1 OF 1
DWG. NO. W.10
DATE: JULY 01, 2012
DWG. BY: PWC
APPROVED BY: J.E.G.

2012-W10 TAPPING SLEEVE.dwg

Prepared by:

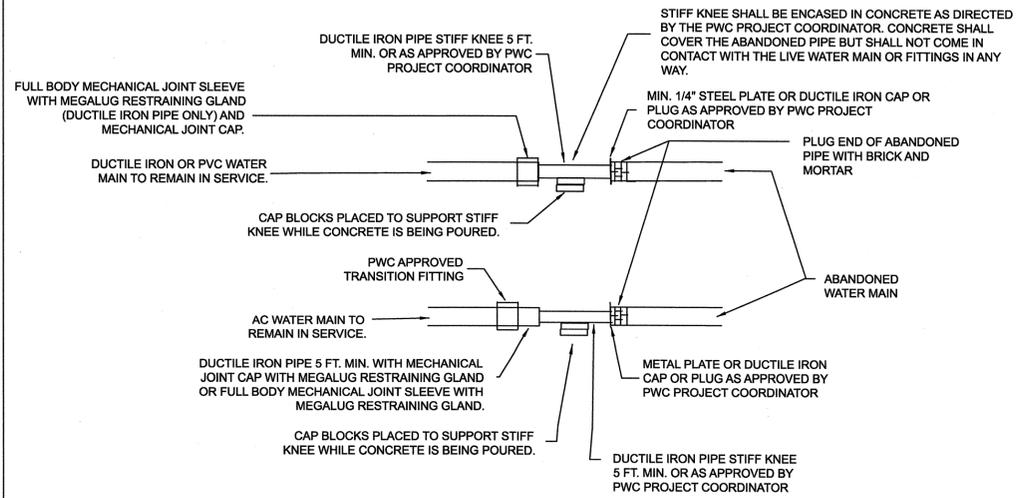


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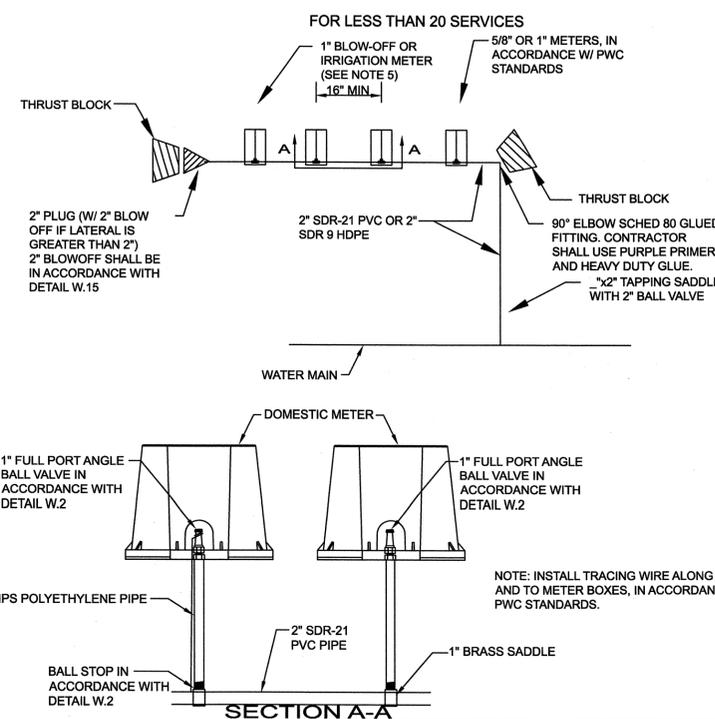
UTILITY CONSTRUCTION

- NOTES:
1. KILL OUT SHALL BE DONE A MIN. OF 5 FT. FROM ANY FITTING ON THE EXISTING WATER MAIN THAT IS TO REMAIN IN SERVICE.
 2. IRON PIPE SHALL BE 4" DIAMETER FOR MAINS 12" OR LESS. UTILIZE 8" PIPE OR LARGER AS DIRECTED BY THE PROJECT COORDINATOR FOR ALL MAINS LARGER THAN 12".
 3. ALLOW CONCRETE TO SET-UP PRIOR TO PLACING BACKFILL.
 4. VOLUME OF CONCRETE FOR THRUST BLOCK SHALL BE IN ACCORDANCE WITH PWC STANDARD DETAIL W.17.
 5. ALL OUTAGES SHALL BE COORDINATED WITH THE PROJECT COORDINATOR.
 6. PIPE SHALL BE GROUT OR REMOVED IN ACCORDANCE WITH NCDOT SPECIFICATIONS WHEN LOCATED IN THE STATE RIGHT OF WAY. ALL OTHER INSTANCES SHALL BE IN ACCORDANCE WITH PWC SPECIFICATIONS.



WATER MAIN KILL-OUT N.T.S.		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		PWC	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.22 DATE: JULY 01, 2012	DWG. BY: PWC APPROVED BY: J.E.G.	WATER RESOURCES ENGINEERING DEPARTMENT				

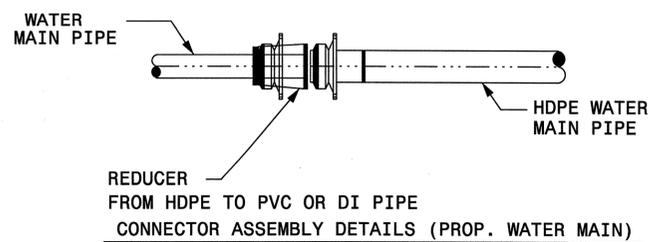
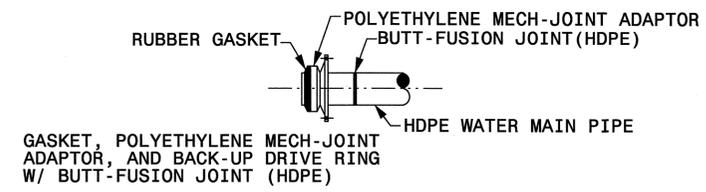
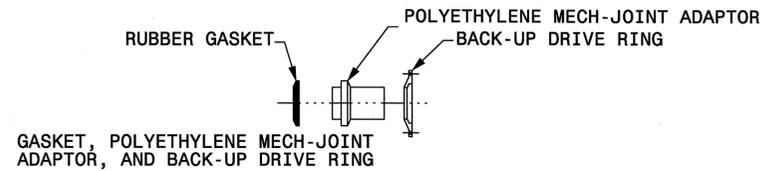
2012-W22 WATERMAIN KILLOUT.dwg



- NOTES:
1. ALL MATERIALS TO BE IN ACCORDANCE WITH PWC STANDARDS.
 2. SERVICE LATERAL SIZE 1" IPS POLYETHYLENE UNLESS OTHERWISE SPECIFIED
 3. SERVICE LATERAL INSTALLATION SHALL BE APPROVED BY ENGINEER.
 4. ALL FITTINGS AND MATERIALS FROM 2" LATERAL TO, AND INTO METER BOX SHALL BE IN ACCORDANCE W/ PWC DETAIL W.2
 5. THE 1" "BLOW-OFF" SHALL BE A STANDARD 1" TAP UP TO AND INCLUDING THE ANGLE BALL VALVE. NO OTHER FITTINGS ARE REQUIRED (IE. SPACER, TAILPIECE). THE METER BOX SHALL BE SET IN ACCORDANCE W/ PWC DETAIL W.2.
 6. SHOULD THERE BE MORE THAN 20 SERVICES, THE 2" LATERAL SHALL BE LOOPED (IE. NO PLUG) TO THE MAIN. IN SUCH INSTANCES, NO 1" BLOW-OFF IS REQUIRED.
 7. WATER MAIN AND LATERAL SHALL PASS HYDROSTATIC, LEAKAGE, AND STERILIZATION TESTS (200 PSI).
 8. METER LOCATIONS SHALL BE AS APPROVED. THE METERS SHALL BE LOCATED AT THE RIGHT OF WAY.
 9. METER BOXES SHALL BE LOCATED OUTSIDE OF PAVED AREAS.
 10. LATERAL SHALL NOT BE BACKFILLED UNTIL INSPECTED BY PROJECT COORDINATOR.
 11. IF LATERAL IS GREATER THAN 2", PROVIDE 2" BLOW-OFF IN LIEU OF 1" BLOW-OFF.
 12. BARB-TYPE FITTINGS ARE NOT ACCEPTABLE
 13. SHOULD IT BE NECESSARY TO CRIMP THE WATER SERVICE LATERAL, A FULL CIRCLE REPAIR CLAMP SHALL BE PLACED ON THE CRIMPED AREA.
 14. SHOULD THE LENGTH OF THE 2" LINE EXCEED 150 FT. OR AS APPROVED BY THE ENGINEER, THE LINE SHALL BE LOOPED.

WATER SERVICE DETAILS FOR MULTI-FAMILY BUILDINGS		PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		PWC	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.23 DATE: JULY 01, 2012	DWG. BY: PWC APPROVED BY: J.E.G.	WATER RESOURCES ENGINEERING DEPARTMENT				

2012-W23 SERVICE FOR MULTI-FAMILY BUILDINGS.dwg



TRENCHLESS INSTALLATION ANCHOR
DETAIL FOR HDPE PIPE

NTS

DATE: 8/14/2013
DWG: 2303A-UC-3G.dwg

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

NOTES:

- ALL EXCAVATIONS SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, CHAPTER XV11 OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON THE JOB AT ALL TIMES AND SHALL EMPLOY A PROFESSIONAL ENGINEER TO ACT UPON ALL PERTINENT MATTERS OF THE WORK.
- BEDDING MATERIAL QUANTITIES ARE CALCULATED BASED ON THE FOLLOWING TRENCH WIDTHS. BEDDING MATERIAL SHALL BE INSTALLED REGARDLESS OF PIPE MATERIAL.
 FOR 48" RCP/DI B=6', D=6'
 FOR 42" RCP/DI B=6', D=5'-6"
 FOR 30" RCP/DI B=4'-6", D=4'-6"
 FOR 24" RCP/DI B=4', D=4'-0"
 FOR 18" PVC/DI B=3', D=3'
 FOR 15" PVC/DI B=3', D=3'
 FOR 12" PVC/DI B=2', D=3'-0"
 FOR 8" PVC/DI B=2', D=3'-0"
- THE BEDDING MATERIAL SHALL BE GRANULAR, CLEAN, COARSE PEA GRAVEL, OR WELL GRADED CRUSHED ROCK PLACED IN LAYERS NOT TO EXCEED 6" LOOSE LIFTS FOR THE FULL WIDTH OF THE TRENCH.
- BEDDING MATERIAL SHALL BE INSTALLED AND PAID FOR IN ACCORDANCE WITH THE FOLLOWING CHART TO PRODUCE CLASS B BEDDING.
 FOR 8" PIPE .067yd3/ft. OF PIPE
 FOR 12" PIPE .09yd3/ft. OF PIPE
 FOR 15" PIPE .11yd3/ft. OF PIPE
 FOR 18" PIPE .13yd3/ft. OF PIPE
 FOR 24" PIPE .15yd3/ft. OF PIPE
 FOR 30" PIPE .19yd3/ft. OF PIPE
 FOR 36" PIPE .25yd3/ft. OF PIPE
 FOR 42" PIPE .32yd3/ft. OF PIPE
 FOR 48" PIPE .36yd3/ft. OF PIPE
- BEDDING MATERIAL SHALL EXTEND TO UNDISTURBED TRENCH WALLS AND TRENCH BOTTOM.
- BEDDING MATERIAL SHALL BE PROPERLY RODDED AROUND THE PIPE HAUNCHES.
- CONTRACTOR SHALL USE TRENCH BOX SHORING IN ALL OPEN CUTS IN PAVED AREAS. TRENCH WIDTH SHALL BE MAINTAINED AT THE MINIMUM PRACTICAL WIDTH.

SEWER BEDDING
N.T.S.

NO.	DATE	REVISION
1	JAN 05	REVISED NOTES

DATE: JULY 01, 2012 APPROVED BY: J.E.G.

2012-S13 SEWER BEDDING.dwg

TO FIND "E" ENTER CHART AT LEFT WITH EFFLUENT PIPE SIZE AND ENTER PIPE AT TOP WITH INFLUENT PIPE SIZE. "E" DISTANCE IS POINT OF CONVERGENCE OF COLUMN AND ROW.

	4"	6"	8"	12"	15"	18"	24"
8	9.00	9.50	10.00	-	-	-	-
12	11.00	11.50	12.00	13.00	-	-	-
15	14.25	14.75	15.25	16.25	17.00	-	-
18	16.50	17.00	17.50	18.50	19.25	20.00	-
24	21.00	21.50	22.00	23.00	23.75	24.50	26.00

WHERE 5' MH IS REQUIRED ADD 1/2' TO "E" DISTANCE TO ACCOUNT FOR THE ADDITIONAL 6" OF SHELF SLOPE.

NOTES:

- SEE STANDARD MANHOLE AND PIPE SLIDE, MORTAR SLIDE AND SHELF DETAILS FOR ADDITIONAL INFORMATION.
- THE "E" DISTANCES INDICATED ARE FOR CONNECTION TO AN EXISTING OUTFALL AND ARE THE MINIMUM DISTANCE ALLOWABLE.
- WHERE SANITARY SEWER OUTFALLS AND MAINS ARE BEING CONSTRUCTED THE TOP OF THE EFFLUENT PIPE AND THE TOP OF THE INFLUENT PIPE SHALL BE AT THE SAME ELEVATION UNLESS CONDITIONS ARE PROHIBITIVE TO THIS PRACTICE.

MAIN OR LATERAL MIN SLOPE
 4" @ 2.00% MIN.
 6" @ 0.67% MIN./MAIN
 6" @ 2.00% MIN./LATERAL
 8" @ 0.40% MIN.
 12" @ 0.22% MIN.
 15" @ 0.15% MIN.
 18" @ 0.12% MIN.

MH CONNECTION DESIGN GUIDE
N.T.S.

NO.	DATE	REVISION

DATE: JULY 01, 2012 APPROVED BY: J.E.G.

2012-S18 PENETRATION DETAIL.dwg

DESCRIPTION

- D.I. FORCE MAIN
- x 2" IP SADDLE
- 2" BRASS NIPPLE
- 2" BRASS BALL VALVE
- 2" x 3/4" BRASS TEE
- ARV - AIR RELEASE VACUUM VALVE
- 3/4" BRASS NIPPLE
- 3/4" BRASS BALL VALVE
- 3/4" FIP x FEMALE QUICK CONNECT #075D

COMBINATION AIR RELEASE VACUUM VALVE (SEWER SERVICE)

NO.	DATE	REVISION
1	JAN 05	ADDED NOTES 7-10
2	JAN 08	UPDATED NOTES, ADDED NOTES 10-12
3	JUL 09	UPDATE DRAWING, ADD DESCRIPTION

DATE: JULY 01, 2012 APPROVED BY: J.E.G.

2012-S14 SEWER AIR RELEASE VALVE.dwg

NOTES:

- COMBINATION AIR VALVES SHALL BE OF THE SINGLE HOUSING STYLE THAT COMBINES THE OPERATING FEATURES OF BOTH AN AIR/VACUUM AND AIR RELEASE VALVE.
- COMBINATION AIR VALVES SHALL RELEASE ACCUMULATIONS OF AIR AT HIGH POINTS WITHIN A PIPELINE BY EXHAUSTING LARGE VOLUMES OF AIR AS THE PIPELINE IS BEING FILLED, AND THEN BY RELEASING ACCUMULATED POCKETS OF AIR WHILE THE PIPELINE IS IN OPERATION AND UNDER PRESSURE. COMBINATION AIR VALVES SHALL ALSO BE DESIGNED TO PERMIT LARGE VOLUMES OF AIR TO ENTER THE PIPE-LINE DURING PIPELINE DRAINAGE.
- THE COMBINATION AIR VALVE SHALL HAVE 2" INLET AND OUTLET CONNECTIONS AND A 3/16" DIAMETER (OR GREATER) ORIFICE FOR A MAX. WORKING PRESSURE OF 200 PSI. ENGINEER SHALL DESIGN VALVE ORIFICE/SIZE TO ACCOMMODATE PARTICULAR CIRCUMSTANCES OF THE MAINLINE.
- ALL MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF FAYETTEVILLE PUBLIC WORKS COMMISSION.
- MANHOLE, FRAME AND COVER SHALL BE IN ACCORDANCE WITH PWC STANDARD DETAIL.
- ALL INTERNAL PARTS SHALL BE 316 STAINLESS STEEL.
- THE VALVE SHALL HAVE A SINGLE FLOAT DESIGN.
- ALL VALVES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS
- ALL AIR AND VACUUM COMBINATION RELEASE VALVES SHALL BE CRISPIN MODEL UX20, ARI D-020, ARI D-025 OR APPROVED EQUAL.
- VALVE SHALL BE CENTERED IN MH. OFFSET THE RING & COVER TO ALLOW ACCESS.
- FM SHALL BE A MIN 4' DEEP AT AIR RELEASE VALVE.
- AIR RELEASE VALVE BODIES SHALL BE MADE OF STAINLESS STEEL OR REINFORCED NYLON.
- THE ENTIRE UNIT MAY HAVE A MAXIMUM HEIGHT OF 26" AND A MAXIMUM WEIGHT OF 37 LBS.
- THE VAULT SHALL BE LINED WITH A COAL TAR EPOXY.

COMBINATION AIR RELEASE VACUUM VALVE (SEWER SERVICE)

NO.	DATE	REVISION
1	JAN 05	ADDED NOTES 7-10
2	JAN 08	UPDATED NOTES, ADDED NOTES 10-12
3	JUL 09	UPDATE NOTES, ADD NOTES 13-14

DATE: JULY 01, 2012 APPROVED BY: J.E.G.

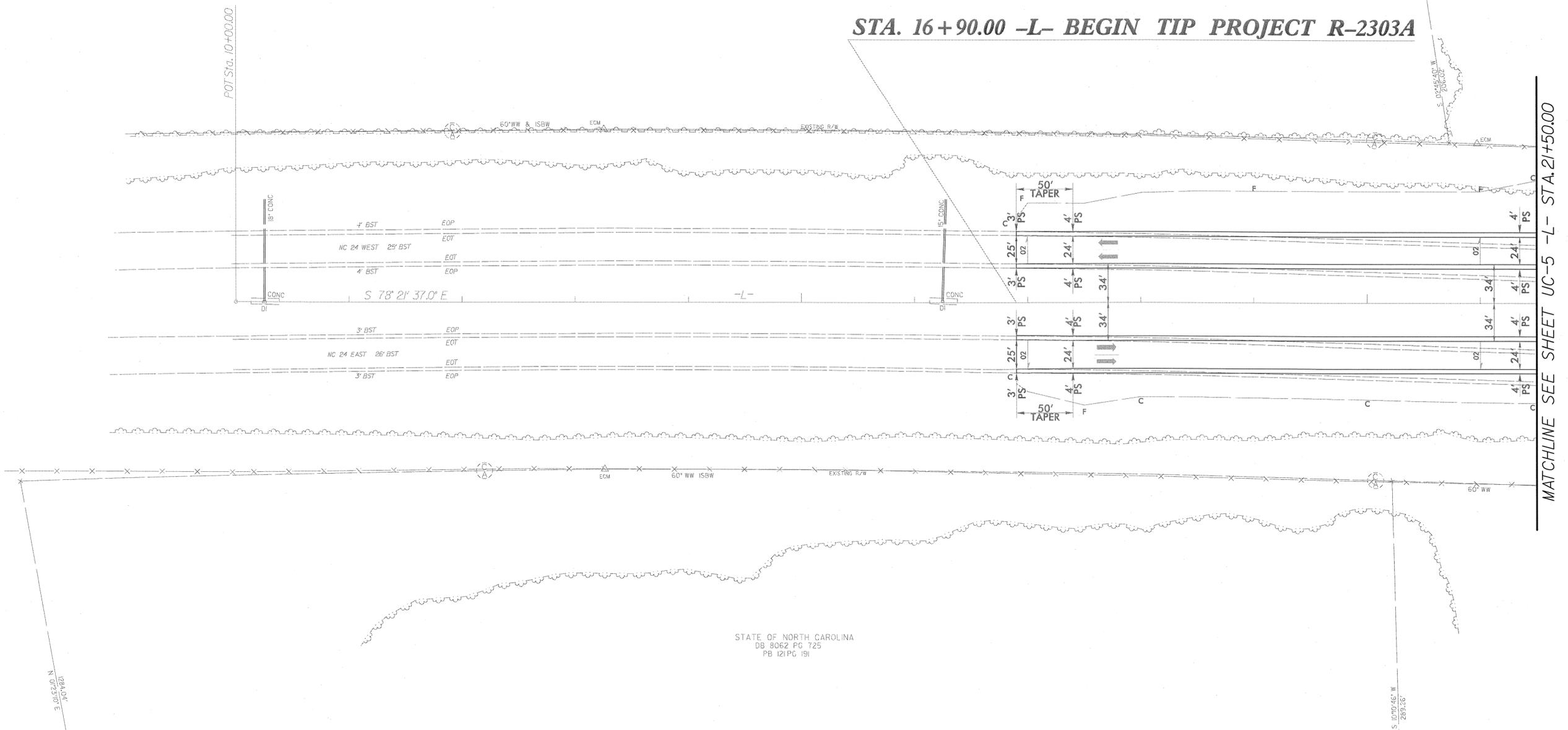
2012-S14 SEWER AIR RELEASE VALVE.dwg

UTILITY CONSTRUCTION



JOSEPHINE WHITTED
DB 6579 PG 150

STA. 16+90.00 -L- BEGIN TIP PROJECT R-2303A



STATE OF NORTH CAROLINA
DB 8062 PG 725
PB 121PG 191

MATCHLINE SEE SHEET UC-5 -L- STA. 21+50.00

NO WATER OR SEWER
CONFLICTS ON THIS SHEET

Prepared by:

 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-8200 919-854-8259 (fax)

UTILITY CONSTRUCTION

JOSEPHINE WHITTED
DB 6579 PG 150

NAD 8395

TROY HALL
DB 4617 PG 457
PB 92 PG 174

JADIE ATKINS
DB 3543 PG 356

COUNTY OF CUMBERLAND
DB 4567 PG 469
PB 93 PG 90

COUNTY OF CUMBERLAND
DB 4567 PG 470
PB 95 PG 14

WILLIAM H. ORR
DB 4469 PG 417
PB 83 PG 125

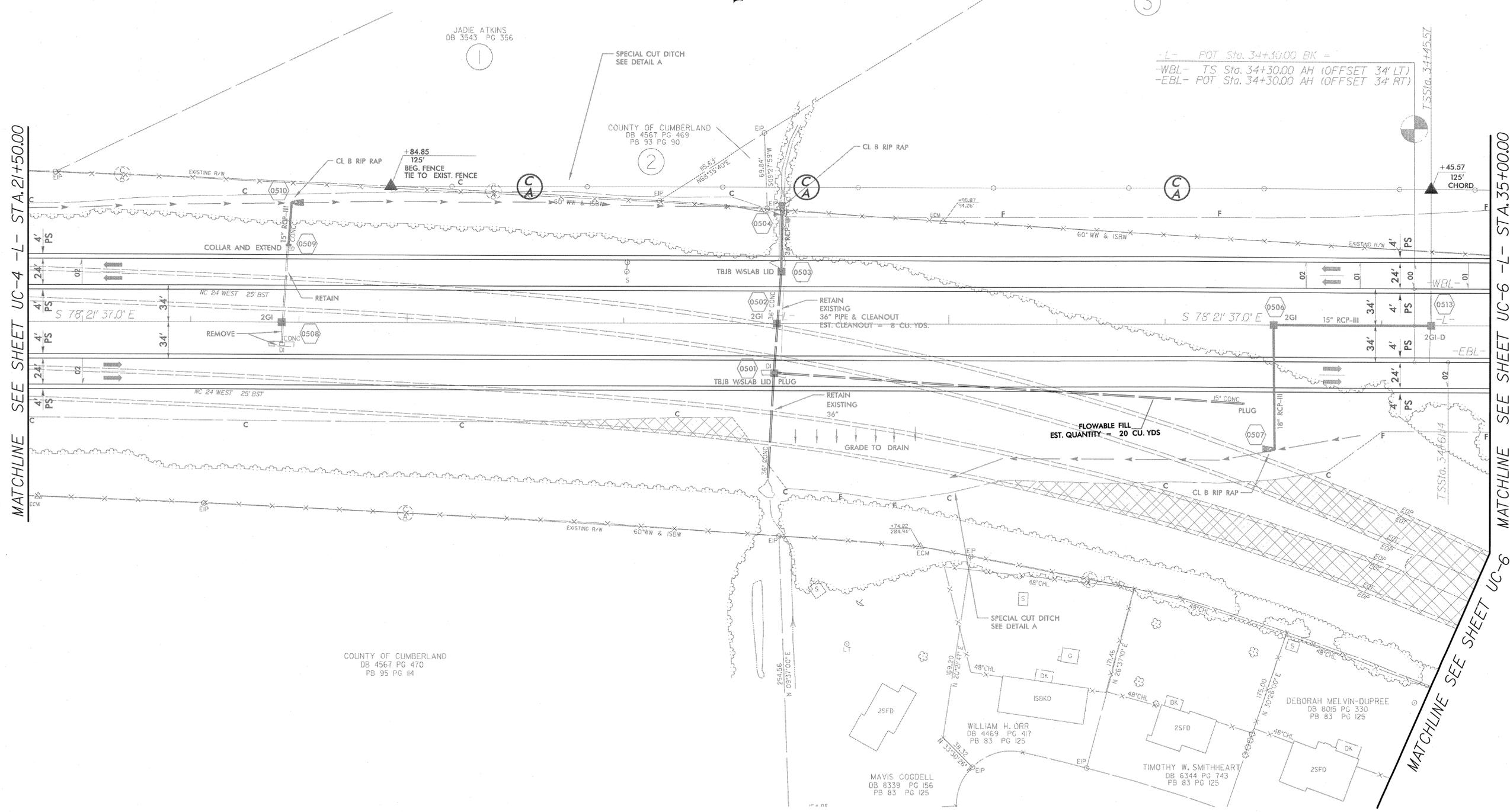
DEBORAH MELVIN-DUPREE
DB 8015 PG 330
PB 83 PG 125

MAVIS COGDELL
DB 8339 PG 156
PB 83 PG 125

TIMOTHY W. SMITHHEART
DB 6344 PG 743
PB 83 PG 125

MATCHLINE SEE SHEET UC-4 -L- STA. 21+50.00

MATCHLINE SEE SHEET UC-6 -L- STA. 35+00.00



NO WATER OR SEWER CONFLICTS ON THIS SHEET

Prepared by:

AECOM

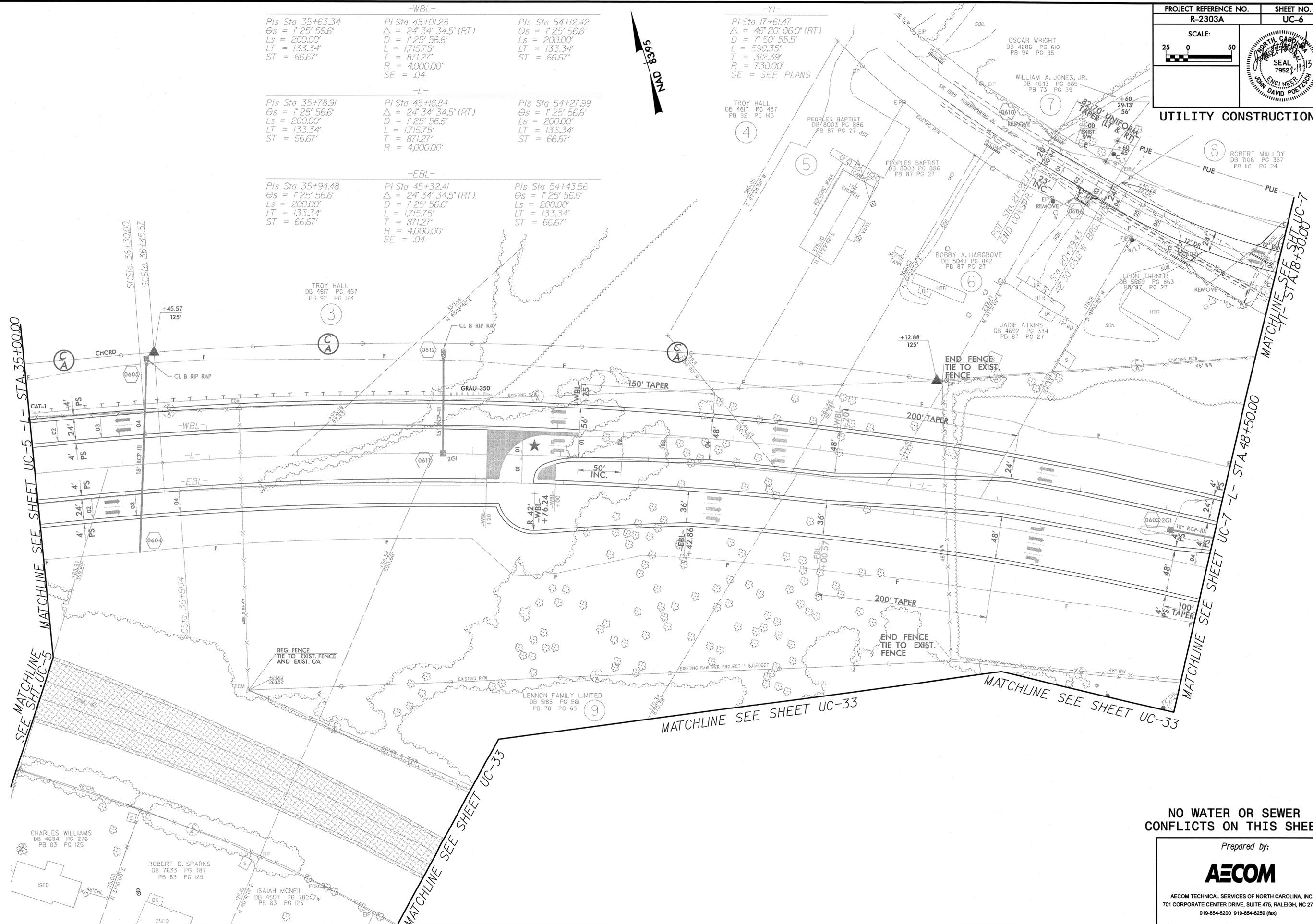
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 2/19/2003
CON: 122036.uc.pdf.dgn

PROJECT REFERENCE NO. R-2303A	SHEET NO. UC-6
SCALE: 25 0 50	

UTILITY CONSTRUCTION

-WBL-		
Pls Sta 35+63.34 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'	PI Sta 45+01.28 Δ = 24'34'34.5" (RT) D = 1'25'56.6" L = 1715.75' T = 871.27' R = 4000.00' SE = .04	Pls Sta 54+12.42 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'
-L-		
Pls Sta 35+78.91 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'	PI Sta 45+16.84 Δ = 24'34'34.5" (RT) D = 1'25'56.6" L = 1715.75' T = 871.27' R = 4000.00'	Pls Sta 54+27.99 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'
-EBL-		
Pls Sta 35+94.48 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'	PI Sta 45+32.41 Δ = 24'34'34.5" (RT) D = 1'25'56.6" L = 1715.75' T = 871.27' R = 4000.00' SE = .04	Pls Sta 54+43.56 Os = 1'25'56.6" Ls = 200.00' LT = 133.34' ST = 66.67'



SEE MATCHLINE SHEET UC-5 - STA 35+00.00

MATCHLINE SEE SHEET UC-5

MATCHLINE SEE SHEET UC-33

MATCHLINE SEE SHEET UC-33

MATCHLINE SEE SHEET UC-7 - STA 48+50.00

MATCHLINE SEE SHEET UC-7

NO WATER OR SEWER CONFLICTS ON THIS SHEET

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 2/19/2003
DWN: R2303A_UC-06.dwg

WILLIAM A. JONES, JR.
DB 4643 PG 885
PB 73 PG 39

ROBERT MALLOY
DB 7106 PG 367
PB 110 PG 24

EDWARD J. DAILY &
SANDRE HUTCHINGS
DB 5321 PG 136

ROBERT MALLOY
DB 7106 PG 367
PB 110 PG 24

WATER LINES AND SEWER LINES
NORTH OF PARCEL 11 OWNED BY
THE FAYETTEVILLE PWC

PROJECT REFERENCE NO. R-2303A	SHEET NO. UC-7
SCALE: 25 0 50	
UTILITY CONSTRUCTION	

NO WATER OR SEWER
CONFLICTS ON THIS SHEET

MATCHLINE SEE SHEET UC-6 -YI- STA. 18+30.00

PI Sta 11+74.64
 $\Delta = 68^{\circ} 12' 08.4''$ (LT)
D = 24' 54' 40.4"
L = 273.78'
T = 155.73'
R = 230.00'
SE = SEE PLANS

PI Sta 17+61.47
 $\Delta = 46^{\circ} 20' 06.0''$ (RT)
D = 7' 50' 55.5"
L = 590.35'
T = 312.39'
R = 730.00'
SE = SEE PLANS

PI Sta 17+61.47
 $\Delta = 46^{\circ} 20' 06.0''$ (RT)
D = 7' 50' 55.5"
L = 590.35'
T = 312.39'
R = 730.00'
SE = SEE PLANS

-WBL- POC Sta. 52+62.58
-Y- POT Sta. 31+92.13

-WBL- POC Sta. 52+33.84 =

EXISTING R/W PER PROJECT * 8.1350007

PROP. 962' - 12" WATER LINE
(WL11)
SEE SHEET UC-48 FOR PROFILE

PROP. 1 - 11.25
DEGREE BEND

PROP. 1 - 22.5
DEGREE BEND

PROP. 185' - 24" ENCASEMENT PIPE (WL11)

PROP. 70' - ABANDON 12"
UTILITY PIPE (DI WATER)

PROP. 1 - 22.5
DEGREE BEND

PROP. 2 - 45
DEGREE BENDS

EXIST. SEWER MH
TOP EL. 147.51
INV. OUT EL. 138.71

PROP. 1 - 12"
VALVE

PROP. 1 -
FIRE HYDRANT

PROP. 185' - 24"
ENCASEMENT PIPE (LINE F)
SEE SHEET UC-48 FOR PROFILE

-WBL-
Pls Sta 35+63.34
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 45+01.28
 $\Delta = 24^{\circ} 34' 34.5''$ (RT)
D = 1' 25' 56.6"
L = 1715.75'
T = 871.27'
R = 4,000.00'
SE = .04

Pls Sta 54+12.42
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-L-
Pls Sta 35+78.91
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 45+16.84
 $\Delta = 24^{\circ} 34' 34.5''$ (RT)
D = 1' 25' 56.6"
L = 1715.75'
T = 871.27'
R = 4,000.00'

Pls Sta 54+27.99
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-EBL-
Pls Sta 35+94.48
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

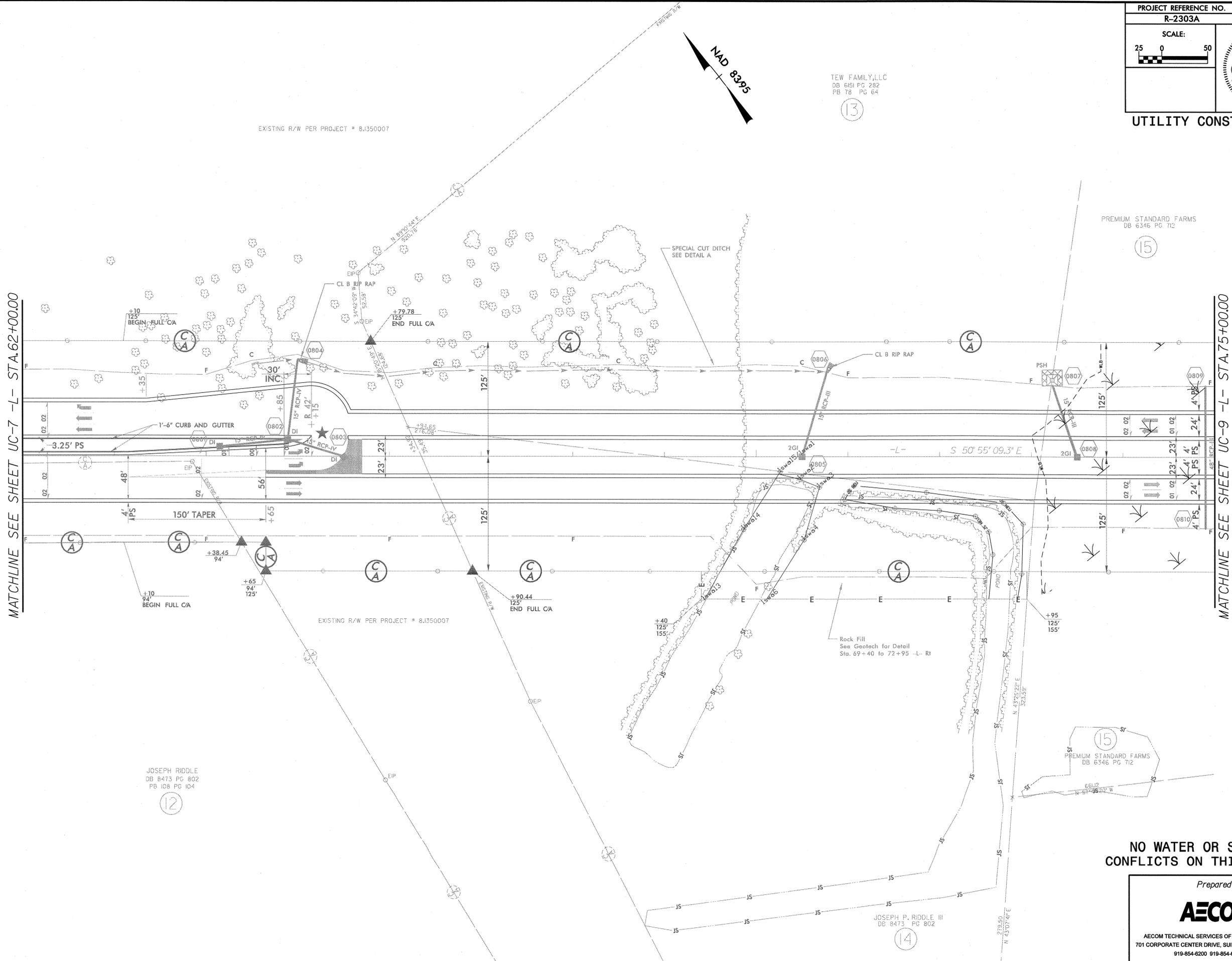
PI Sta 45+32.41
 $\Delta = 24^{\circ} 34' 34.5''$ (RT)
D = 1' 25' 56.6"
L = 1715.75'
T = 871.27'
R = 4,000.00'
SE = .04

Pls Sta 54+43.56
 $\Theta_s = 1^{\circ} 25' 56.6''$
Ls = 200.00'
LT = 133.34'
ST = 66.67'

DATE: 2/10/2013
DRAWN: 12303242 UC-7.dgn

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

UTILITY CONSTRUCTION



MATCHLINE SEE SHEET UC-7 -L- STA.62+00.00

MATCHLINE SEE SHEET UC-9 -L- STA.75+00.00

TEW FAMILY, LLC
DB 6151 PG 282
PB 78 PG 64

13

PREMIUM STANDARD FARMS
DB 6346 PG 712

15

JOSEPH RIDDLE
DB 8473 PG 802
PB 108 PG 104

12

JOSEPH P. RIDDLE III
DB 8473 PG 802

14

**NO WATER OR SEWER
CONFLICTS ON THIS SHEET**

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 2/19/2013
DRAWN: 12305c_lrc_psl_bgp

PREMIUM STANDARD FARMS
DB 6346 PG 712

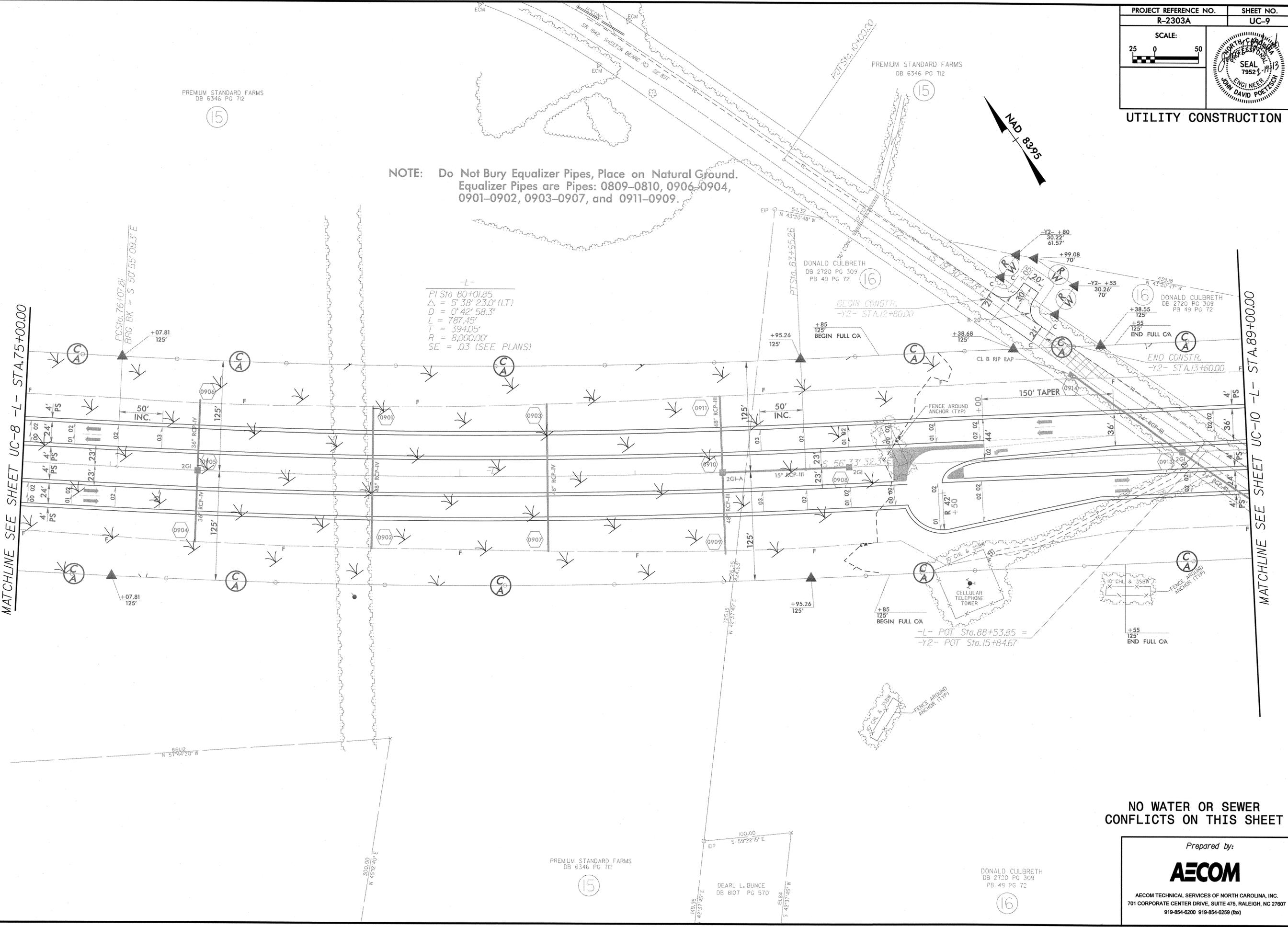
(15)

NOTE: Do Not Bury Equalizer Pipes, Place on Natural Ground.
Equalizer Pipes are Pipes: 0809-0810, 0906-0904,
0901-0902, 0903-0907, and 0911-0909.

-L-
PI Sta 80+01.85
 $\Delta = 5' 38" 23.0" (LT)$
 $D = 0' 42" 58.3"$
 $L = 787.45'$
 $T = 394.05'$
 $R = 8,000.00'$
 $SE = .03 (SEE PLANS)$

MATCHLINE SEE SHEET UC-8 -L- STA.75+00.00

MATCHLINE SEE SHEET UC-10 -L- STA.89+00.00



NO WATER OR SEWER
CONFLICTS ON THIS SHEET

Prepared by:

 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6289 (fax)

DATE: 2/19/2003
 DWN: r2303a_uc_09.dwg

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN

UTILITY CONSTRUCTION

PROP. 1260' - 10" FORCE MAIN SEWER (FM1) - SEE SHEET UC-41 FOR PROFILE

INSTALL 16' DOUBLE GATE. LOCATION TO BE DETERMINED BY THE ENGINEER.

PROP. 142' - ABANDON 12" UTILITY PIPE (PVC WATER)

PROP. 975' - ABANDON 10" UTILITY PIPE (PVC FORCE MAIN SEWER)

TIE TO EXISTING 12" WATER LINE W / 12" x 12" TAPPING VALVE

PROP. 140' - 12" WATER LINE (WL1) 1 - 12" TAPPING VALVE SEE SHEET UC-34 FOR PROFILE

PROP. 1 - 2" AIR RELEASE VALVE 1 - 5' DIA UTILITY MANHOLE

NOTE:
EXISTING FORCE MAIN SEWER SHOWN ON PLANS AS 8" PVC HAS BEEN IDENTIFIED AS 10" PVC PER RECORD DRAWINGS. THIS FORCE MAIN SEWER APPEARS ON SHEETS UC-10 THRU UC-18.

-L- POT Sta. 95+99.89 =
-Y2A- POT Sta. 10+00.00
PROP. 2 - 45 DEGREE BENDS

PROP. 2 - 22.5 DEGREE BENDS
POT Sta. 11+00.02

TIE TO EXISTING 10" FORCE MAIN SEWER W / 10" x 22.5 DEGREE BEND & FULL BODY MJ SLEEVE

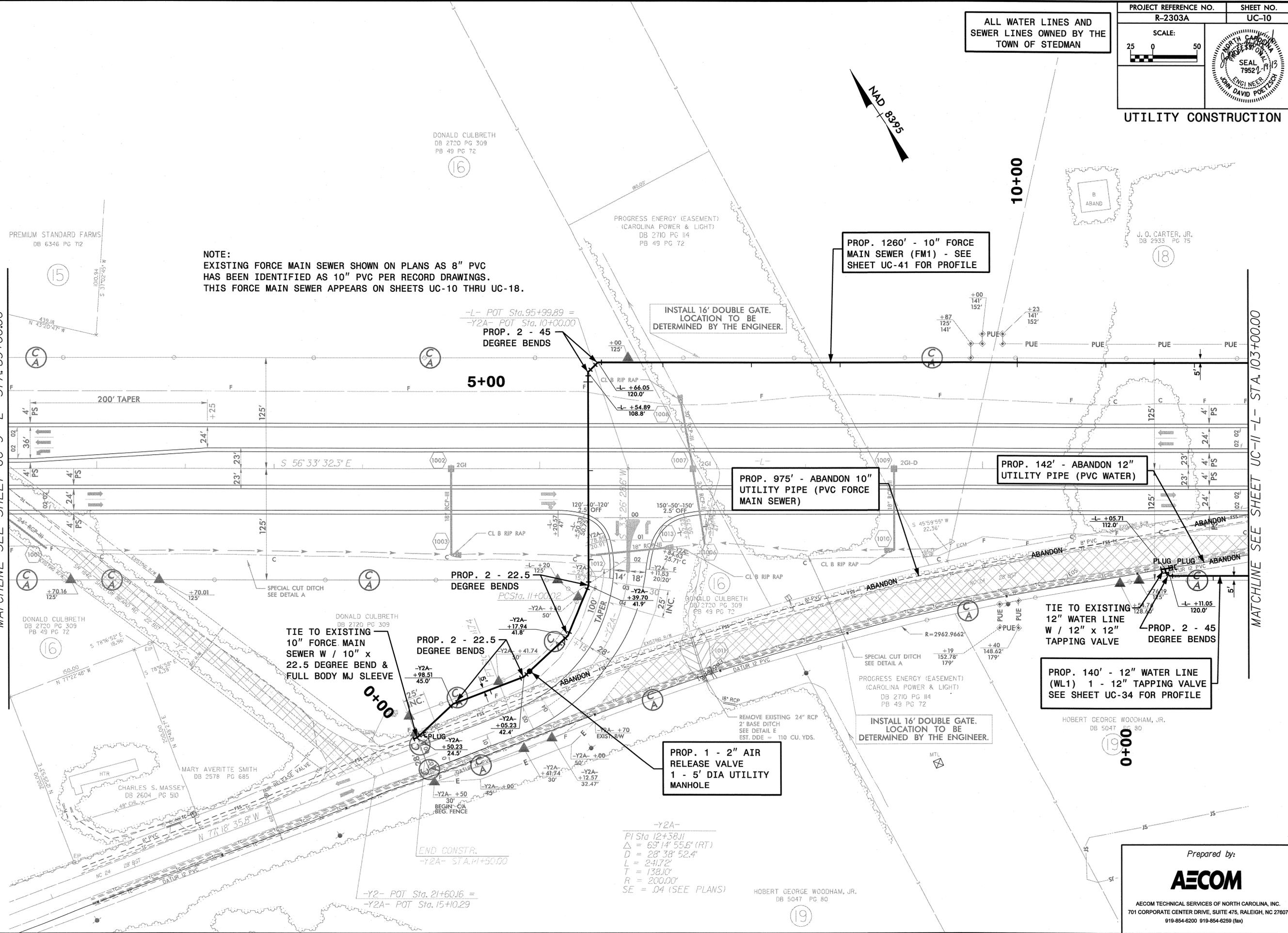
PROP. 2 - 22.5 DEGREE BENDS
-Y2A- +17.94
-Y2A- +41.74

-Y2- POT Sta. 21+60.16 =
-Y2A- POT Sta. 15+10.29

-Y2A-
PI Sta 12+58.11
Δ = 69°14' 55.6" (RT)
D = 28' 38" 52.4"
L = 2-41.72'
T = 138.10'
R = 200.00'
SE = .04 (SEE PLANS)

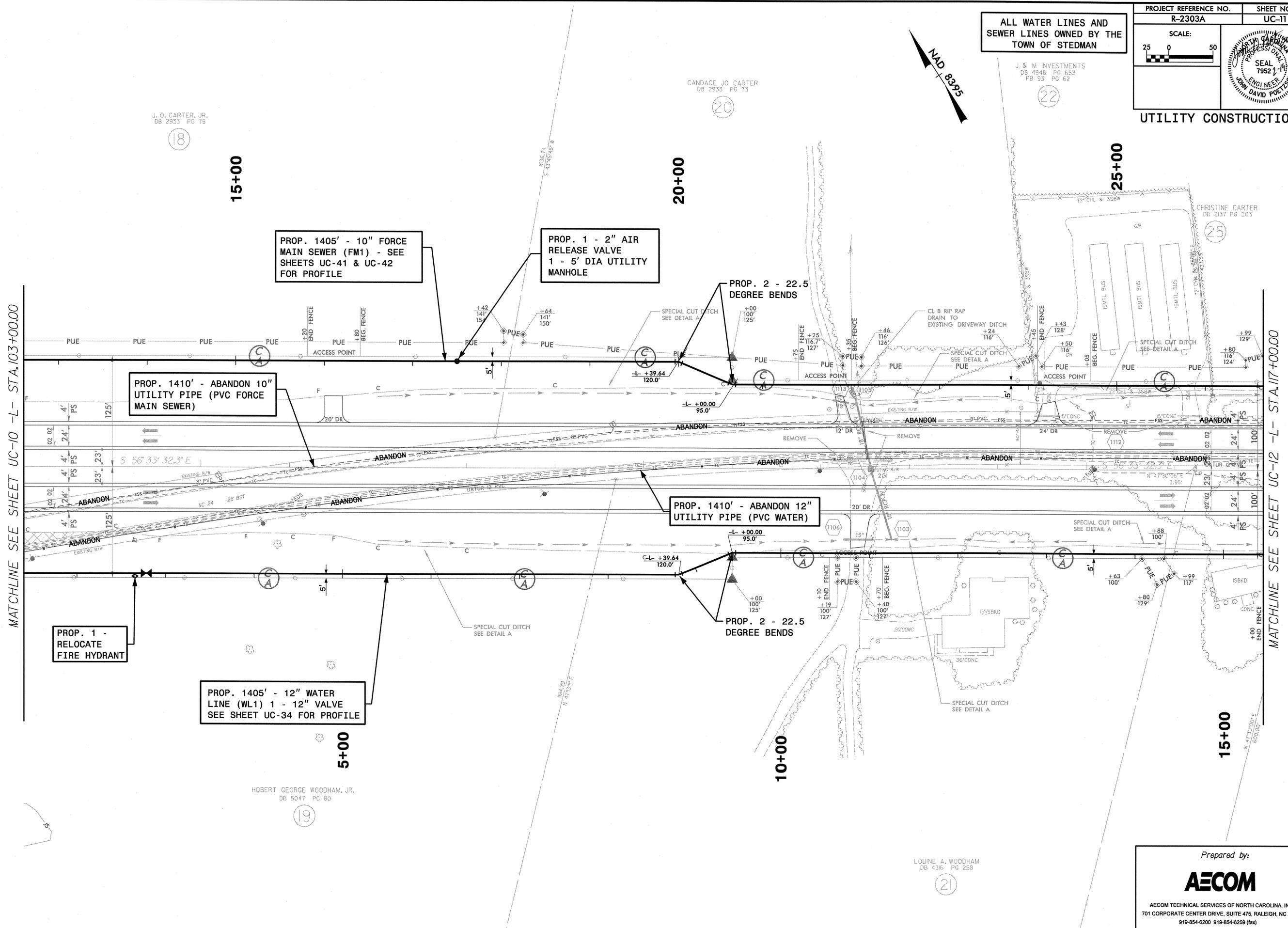
MATCHLINE SEE SHEET UC-9 -L- STA. 89+00.00

MATCHLINE SEE SHEET UC-11 -L- STA. 103+00.00



DATE: 2/19/2013
DRAWN: R2303A_UC-10.dwg

UTILITY CONSTRUCTION



MATCHLINE SEE SHEET UC-10 -L- STA.103+00.00

MATCHLINE SEE SHEET UC-12 -L- STA.117+00.00

J. O. CARTER, JR.
DB 2933 PG 75

CANDACE JO CARTER
DB 2933 PG 73

J & M INVESTMENTS
DB 4948 PG 653
PB 93 PG 62

CHRISTINE CARTER
DB 2137 PG 203

ROBERT GEORGE WOODHAM, JR.
DB 5047 PG 80

LOUINE A. WOODHAM
DB 4316 PG 258

Prepared by:

 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

DATE: 2/19/2003
DRAWN: T2303A_UC-11.dwg

CHRISTINE CARTER
DB 2137 PG 203

25

ALL WATER LINES AND
SEWER LINES OWNED BY THE
TOWN OF STEDMAN

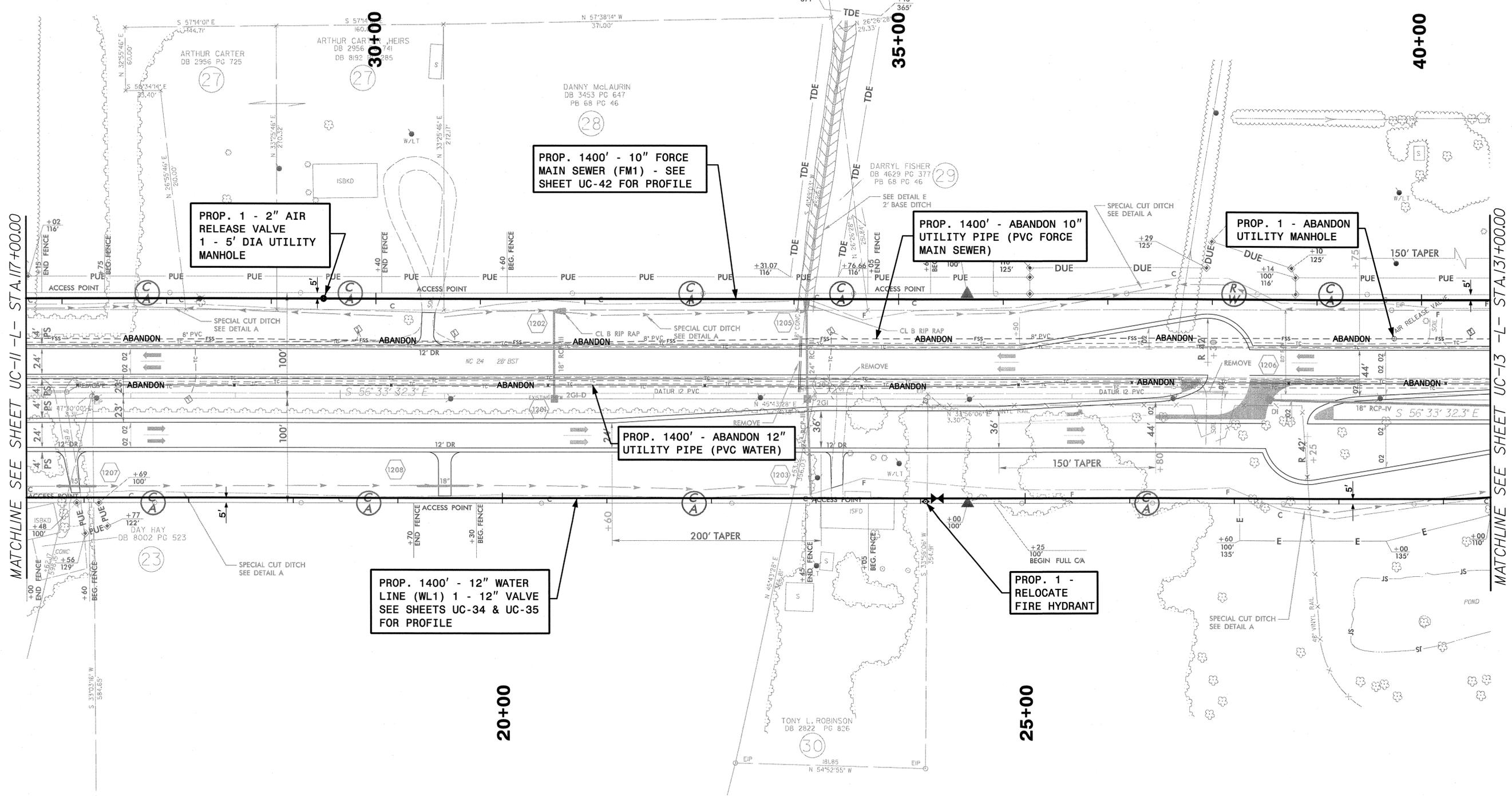
PROJECT REFERENCE NO. R-2303A SHEET NO. UC-12

SCALE:
25 0 50

UTILITY CONSTRUCTION

DARRYL FISHER
DB 4629 PG 377

29



MATCHLINE SEE SHEET UC-11 - L - STA. 17+00.00

MATCHLINE SEE SHEET UC-13 - L - STA. 131+00.00

PROP. 1400' - 10" FORCE
MAIN SEWER (FM1) - SEE
SHEET UC-42 FOR PROFILE

PROP. 1 - 2" AIR
RELEASE VALVE
1 - 5' DIA UTILITY
MANHOLE

PROP. 1400' - ABANDON 10"
UTILITY PIPE (PVC FORCE
MAIN SEWER)

PROP. 1 - ABANDON
UTILITY MANHOLE

PROP. 1400' - ABANDON 12"
UTILITY PIPE (PVC WATER)

PROP. 1400' - 12" WATER
LINE (WL1) 1 - 12" VALVE
SEE SHEETS UC-34 & UC-35
FOR PROFILE

PROP. 1 -
RELOCATE
FIRE HYDRANT

IDA MAE CARTER
DB 471 PG 557

26

RICHARD R. ALLEN JR.
DB 5267 PG 727
PB 87 PG 96

31

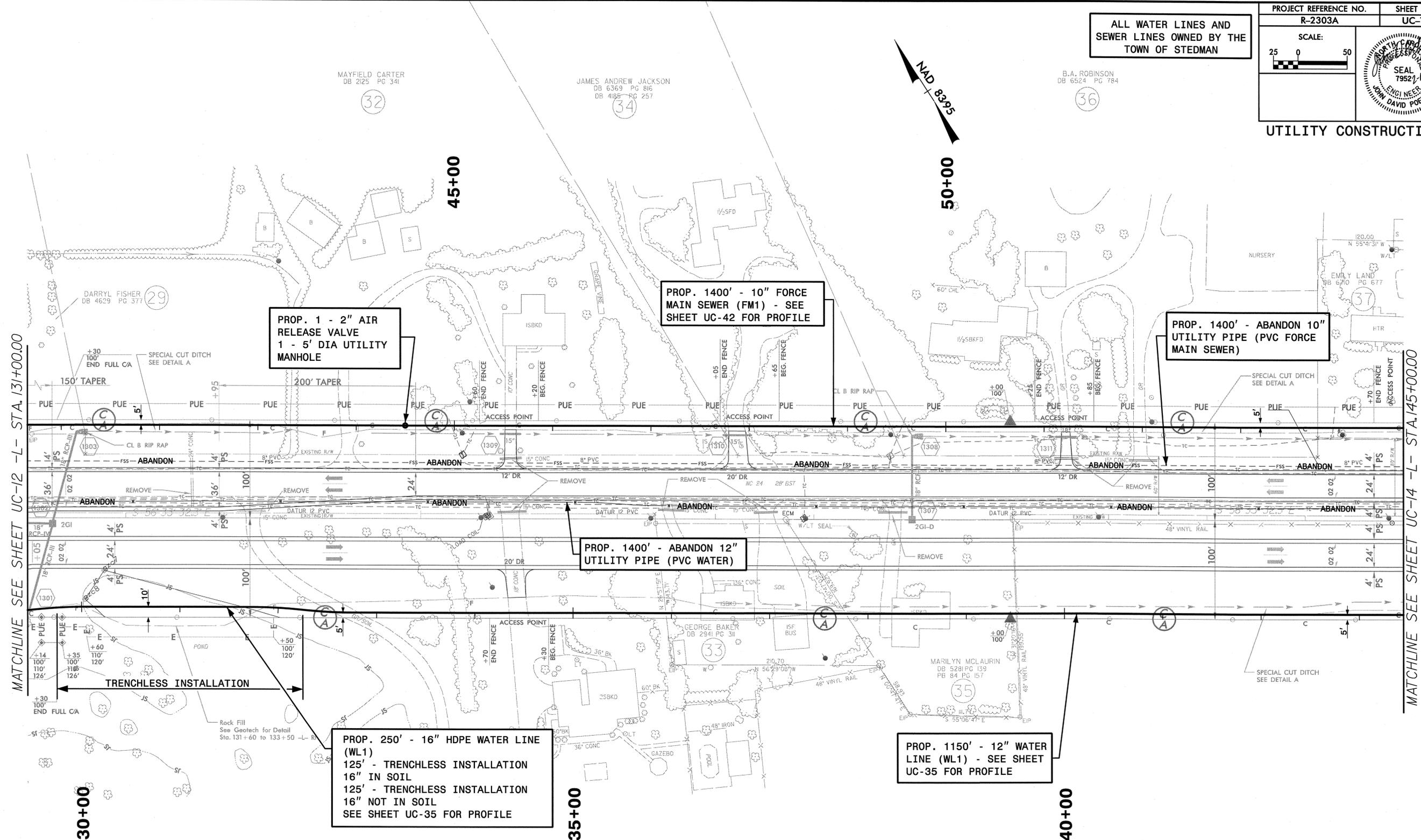
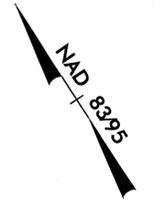
JAMES HAY
DB 4062 PG 170

24

DATE: 2/19/2013
DGN: 123030_uc_dgn_12.dgn

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



PROP. 1 - 2" AIR RELEASE VALVE
1 - 5' DIA UTILITY MANHOLE

PROP. 1400' - 10" FORCE MAIN SEWER (FM1) - SEE SHEET UC-42 FOR PROFILE

PROP. 1400' - ABANDON 10" UTILITY PIPE (PVC FORCE MAIN SEWER)

PROP. 1400' - ABANDON 12" UTILITY PIPE (PVC WATER)

PROP. 250' - 16" HDPE WATER LINE (WL1)
125' - TRENCHLESS INSTALLATION 16" IN SOIL
125' - TRENCHLESS INSTALLATION 16" NOT IN SOIL
SEE SHEET UC-35 FOR PROFILE

PROP. 1150' - 12" WATER LINE (WL1) - SEE SHEET UC-35 FOR PROFILE

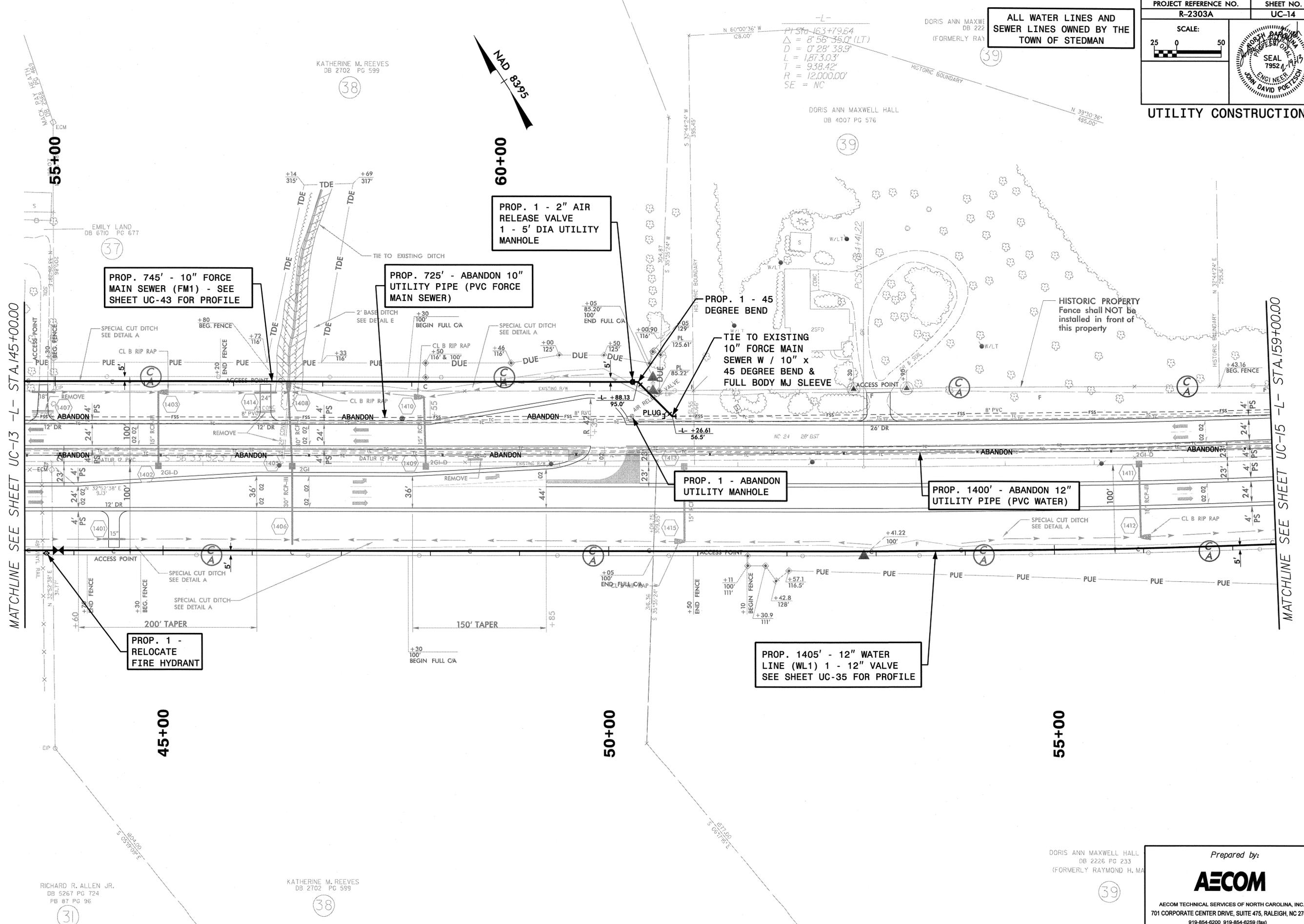
MATCHLINE SEE SHEET UC-12 -L- STA. 131+00.00

MATCHLINE SEE SHEET UC-14 -L- STA. 145+00.00

TRENCHLESS INSTALLATION

UTILITY CONSTRUCTION

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



MATCHLINE SEE SHEET UC-13 - L- STA. 145+00.00

MATCHLINE SEE SHEET UC-15 - L- STA. 159+00.00

DATE: 9/10/2013
DWG: 2303A_UC-14.dgn

RICHARD R. ALLEN JR.
DB 5267 PG 724
PB 87 PG 96

KATHERINE M. REEVES
DB 2702 PG 599

DORIS ANN MAXWELL HALL
DB 2226 PG 233
(FORMERLY RAYMOND H. MA

Prepared by:

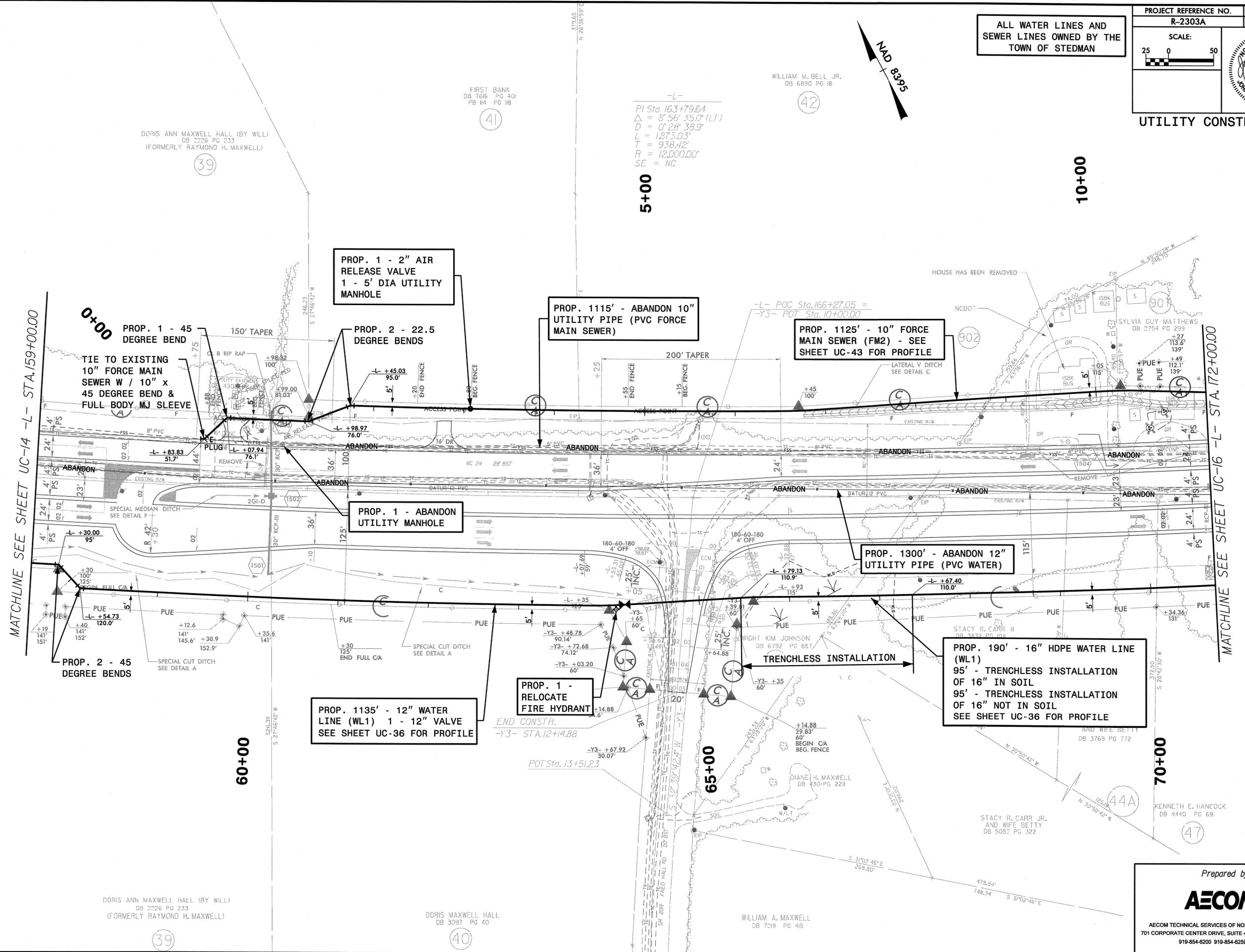
AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND
SEWER LINES OWNED BY THE
TOWN OF STEDMAN



-L-
PI Sta 163+79.64
Δ = 8° 56' 35.0" (LT)
D = 0' 28' 38.9"
L = 1.875.03'
T = 938.42'
R = 12,000.00'
SE = NC



PROP. 1 - 2" AIR
RELEASE VALVE
1 - 5' DIA UTILITY
MANHOLE

PROP. 1115' - ABANDON 10"
UTILITY PIPE (PVC FORCE
MAIN SEWER)

PROP. 1125' - 10" FORCE
MAIN SEWER (FM2) - SEE
SHEET UC-43 FOR PROFILE

PROP. 1 - ABANDON
UTILITY MANHOLE

PROP. 1300' - ABANDON 12"
UTILITY PIPE (PVC WATER)

PROP. 190' - 16" HDPE WATER LINE
(WL1)
95' - TRENCHLESS INSTALLATION
OF 16" IN SOIL
95' - TRENCHLESS INSTALLATION
OF 16" NOT IN SOIL
SEE SHEET UC-36 FOR PROFILE

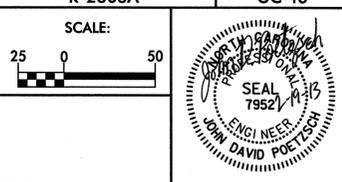
PROP. 1 -
RELOCATE
FIRE HYDRANT

PROP. 1135' - 12" WATER
LINE (WL1) 1 - 12" VALVE
SEE SHEET UC-36 FOR PROFILE

MATCHLINE SEE SHEET UC-14 -L- STA. 159+00.00

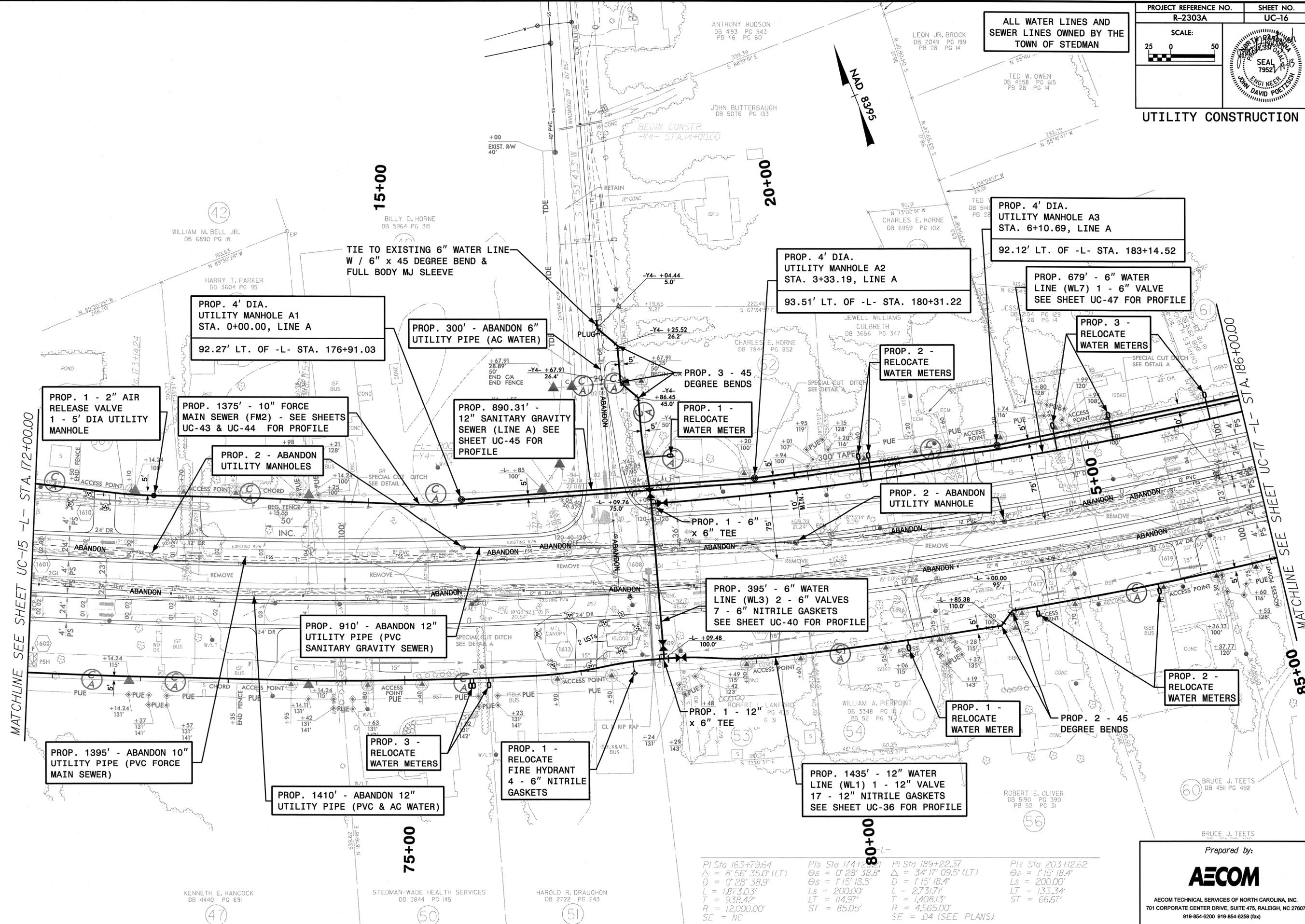
MATCHLINE SEE SHEET UC-16 -L- STA. 172+00.00

DATE: 2/19/2003
DWG: R2303A-UC-15.dwg



UTILITY CONSTRUCTION

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



MATCHLINE SEE SHEET UC-15 -L- STA. 172+00.00

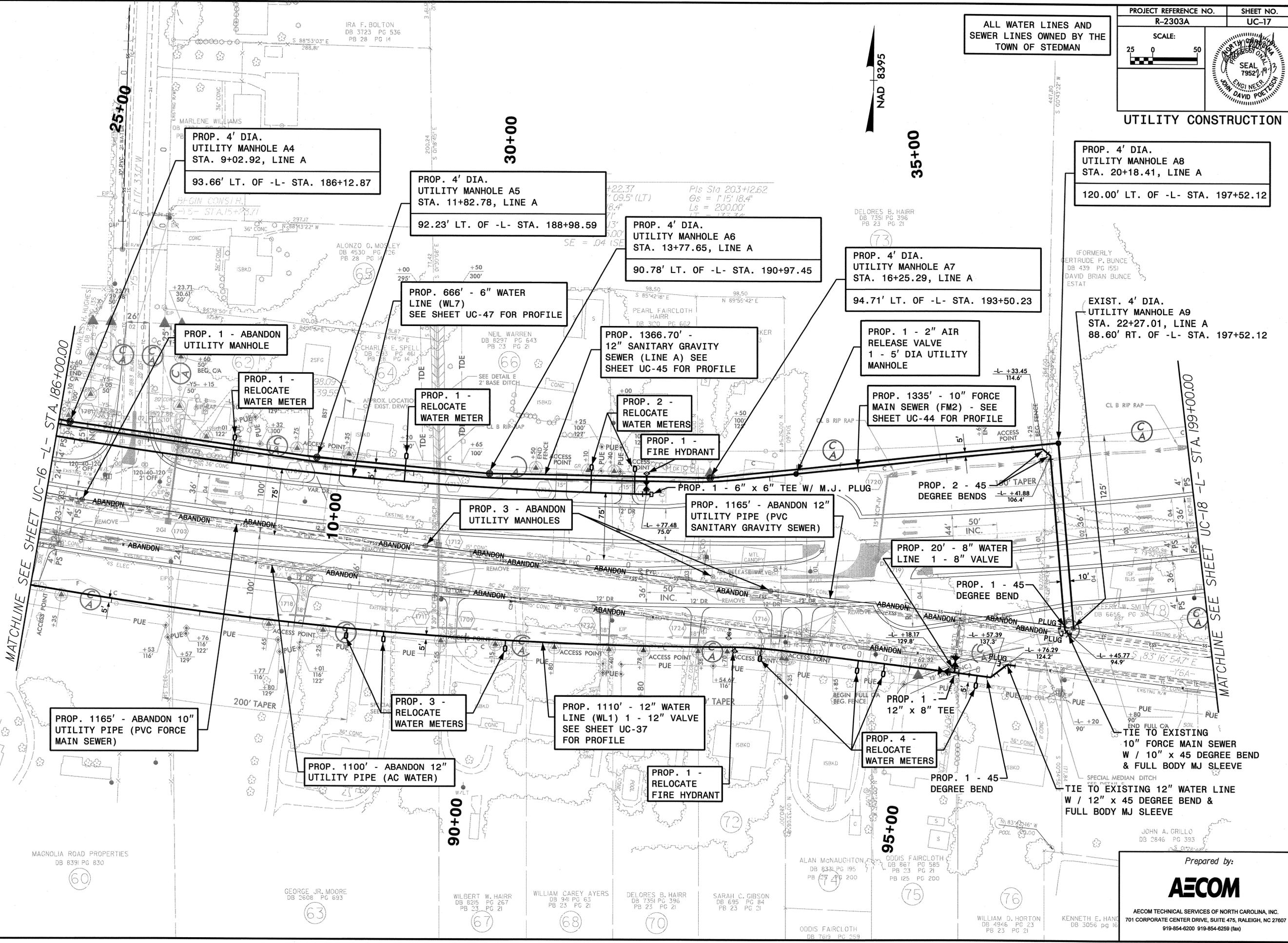
MATCHLINE SEE SHEET UC-17 -L- STA. 186+00.00

<p>PI Sta 163+79.64 $\Delta = 8' 58'' 35.0''$ (LT) $\Theta_s = 0' 28'' 38.8''$ $D = 1' 15'' 18.4''$ $L = 1.873.03'$ $T = 938.42'$ $R = 12,000.00'$ $SE = NC$</p>	<p>PI Sta 174+23.21 $\Theta_s = 0' 28'' 38.8''$ $D = 1' 15'' 18.4''$ $L = 200.00'$ $LT = 114.97'$ $ST = 85.05'$</p>	<p>PI Sta 189+22.37 $\Delta = 34' 17'' 09.5''$ (LT) $D = 1' 15'' 18.4''$ $L = 2.7317'$ $T = 1,408.13'$ $R = 4,565.00'$ $SE = .04$ (SEE PLANS)</p>	<p>PI Sta 203+12.62 $\Theta_s = 1' 15'' 18.4''$ $L_s = 200.00'$ $LT = 135.34'$ $ST = 66.67'$</p>
--	---	---	--

DATE: 02/10/2017
 DRAWN: 2233/uc_per/ab/gm

Prepared by:
AECOM
 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



PROP. 4' DIA. UTILITY MANHOLE A4 STA. 9+02.92, LINE A
93.66' LT. OF -L- STA. 186+12.87

PROP. 4' DIA. UTILITY MANHOLE A5 STA. 11+82.78, LINE A
92.23' LT. OF -L- STA. 188+98.59

PROP. 4' DIA. UTILITY MANHOLE A6 STA. 13+77.65, LINE A
90.78' LT. OF -L- STA. 190+97.45

PROP. 4' DIA. UTILITY MANHOLE A7 STA. 16+25.29, LINE A
94.71' LT. OF -L- STA. 193+50.23

PROP. 4' DIA. UTILITY MANHOLE A8 STA. 20+18.41, LINE A
120.00' LT. OF -L- STA. 197+52.12

EXIST. 4' DIA. UTILITY MANHOLE A9 STA. 22+27.01, LINE A
88.60' RT. OF -L- STA. 197+52.12

PROP. 666' - 6" WATER LINE (WL7)
SEE SHEET UC-47 FOR PROFILE

PROP. 1366.70' - 12" SANITARY GRAVITY SEWER (LINE A) SEE SHEET UC-45 FOR PROFILE

PROP. 1 - 2" AIR RELEASE VALVE 1 - 5' DIA UTILITY MANHOLE

PROP. 1335' - 10" FORCE MAIN SEWER (FM2) - SEE SHEET UC-44 FOR PROFILE

PROP. 1 - ABANDON UTILITY MANHOLE

PROP. 1 - RELOCATE WATER METER

PROP. 1 - RELOCATE WATER METER

PROP. 2 - RELOCATE WATER METERS

PROP. 1 - FIRE HYDRANT

PROP. 3 - ABANDON UTILITY MANHOLES

PROP. 1165' - ABANDON 12" UTILITY PIPE (PVC SANITARY GRAVITY SEWER)

PROP. 20' - 8" WATER LINE 1 - 8" VALVE

PROP. 1 - 45 DEGREE BEND

PROP. 1165' - ABANDON 10" UTILITY PIPE (PVC FORCE MAIN SEWER)

PROP. 3 - RELOCATE WATER METERS

PROP. 1110' - 12" WATER LINE (WL1) 1 - 12" VALVE SEE SHEET UC-37 FOR PROFILE

PROP. 1100' - ABANDON 12" UTILITY PIPE (AC WATER)

PROP. 1 - RELOCATE FIRE HYDRANT

PROP. 4 - RELOCATE WATER METERS

PROP. 1 - 45 DEGREE BEND

TIE TO EXISTING 10" FORCE MAIN SEWER W / 10" x 45 DEGREE BEND & FULL BODY MJ SLEEVE

TIE TO EXISTING 12" WATER LINE W / 12" x 45 DEGREE BEND & FULL BODY MJ SLEEVE

MAGNOLIA ROAD PROPERTIES
DB 8391 PG 830

GEORGE JR. MOORE
DB 2608 PG 693

WILBERT W. HAIR
DB 8215 PG 267

WILLIAM CAREY AYERS
DB 941 PG 63

DELORES B. HAIR
DB 7351 PG 396

SARAH C. GIBSON
DB 695 PG 84

ALAN McNAUGHTON
DB 8331 PG 195

ODDIS FAIRCLOTH
DB 887 PG 585

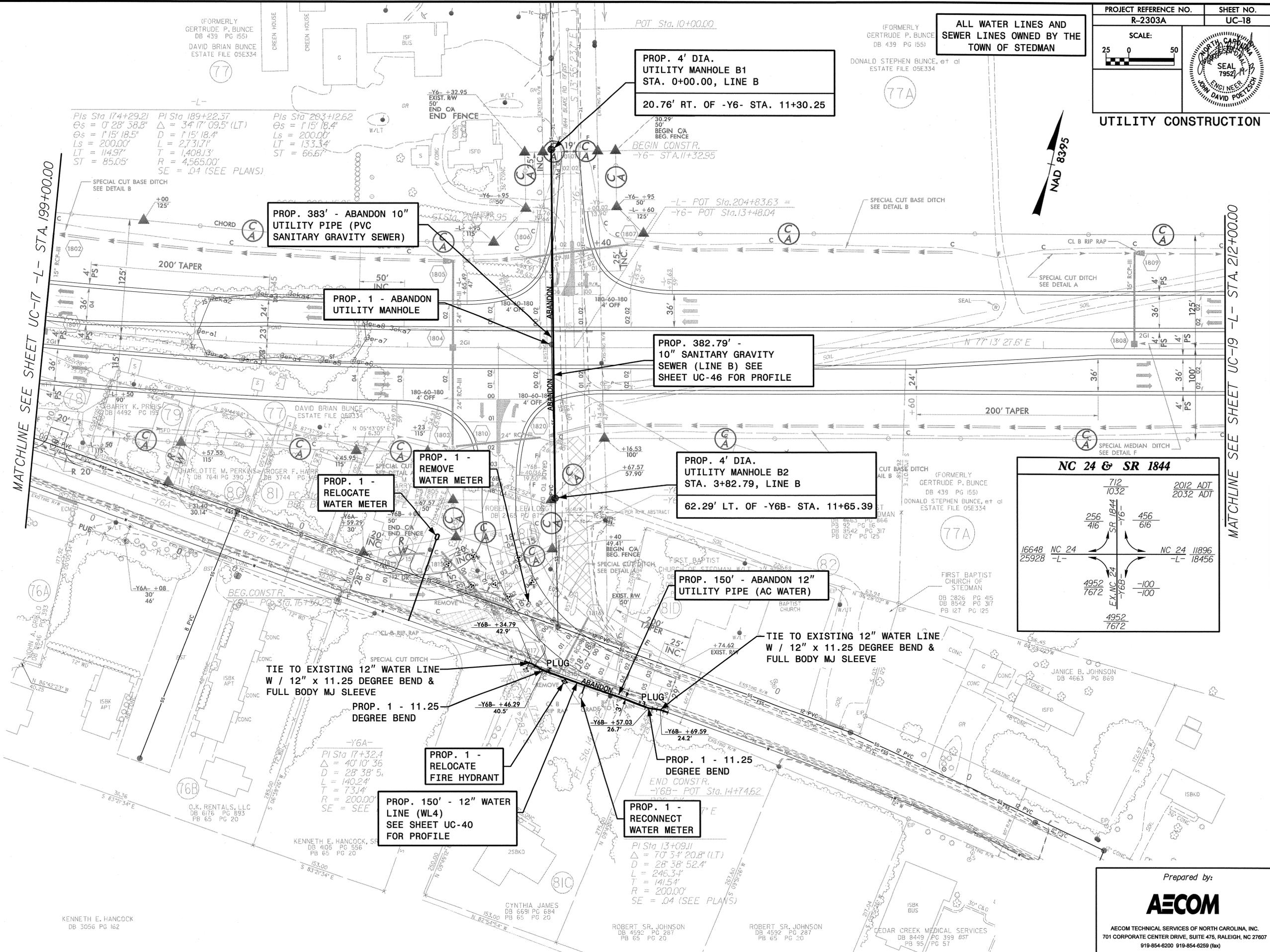
WILLIAM D. HORTON
DB 4946 PG 23

KENNETH E. HANG
DB 3056 PG 18

DATE: 2/19/2003
DRAWN: R2303A_UC_PSH-TJ.dgn

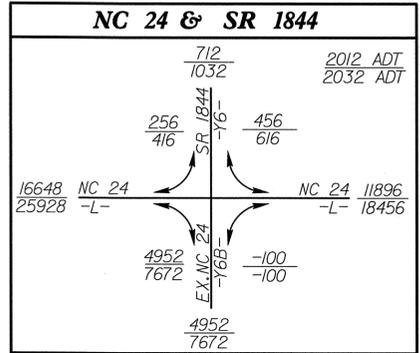
ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN

UTILITY CONSTRUCTION



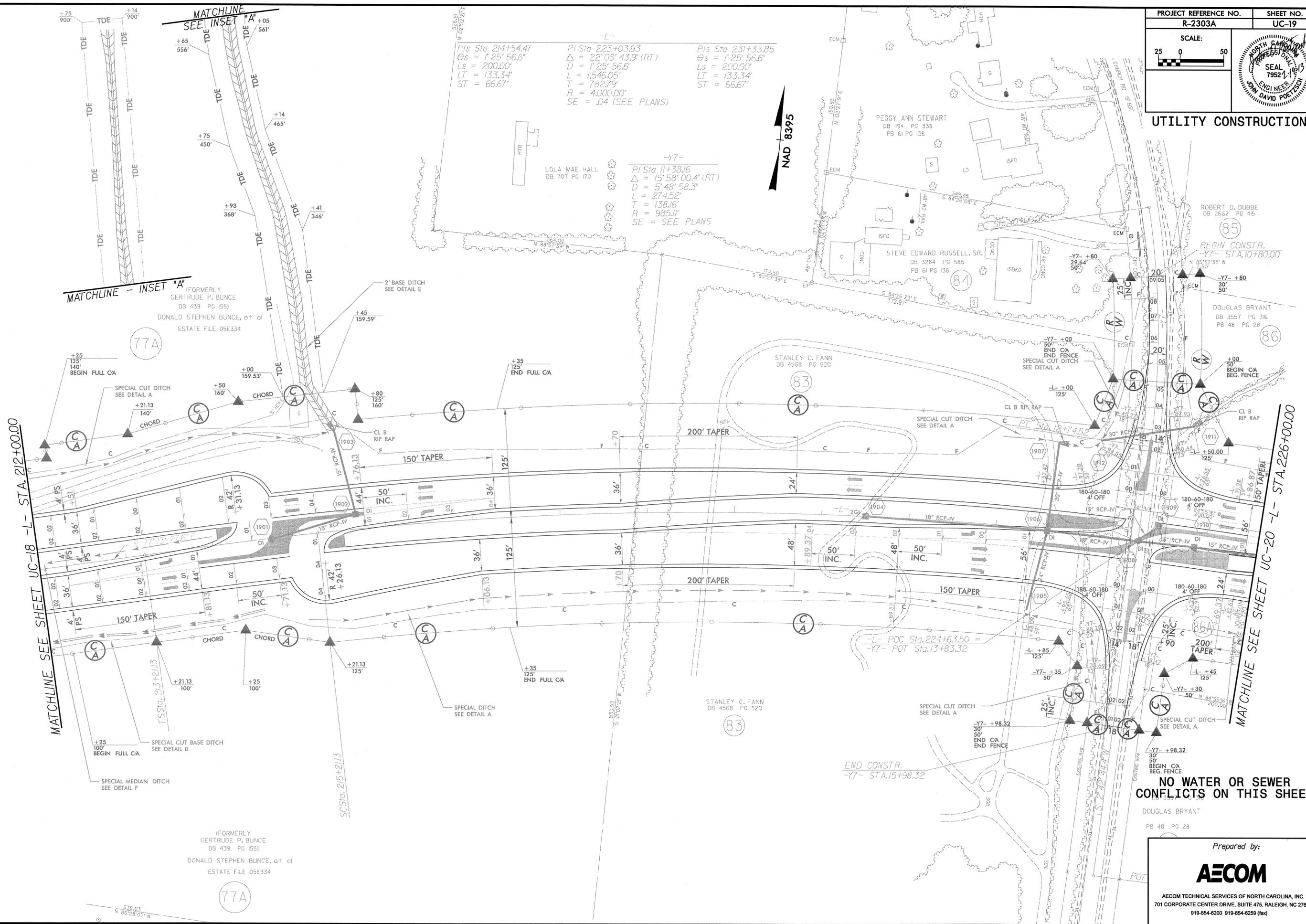
MATCHLINE SEE SHEET UC-17 -L- STA. 199+00.00

MATCHLINE SEE SHEET UC-19 -L- STA. 212+00.00



DATE: 2/19/2013
 DESK: T2303a_uc-18.dwg

UTILITY CONSTRUCTION



-L-
 PIs Sta 214+54.47 PI Sta 225+03.93 PIs Sta 231+35.85
 Δs = 1' 25' 56.6" Δ = 22' 08' 43.9" (RT) Δs = 1' 25' 56.6"
 Ls = 200.00' D = 1' 25' 56.6" Ls = 200.00'
 LT = 133.34' L = 1,546.05' LT = 133.34'
 ST = 66.67' T = 782.79' ST = 66.67'
 R = 4,000.00'
 SE = .04 (SEE PLANS)

-Y7-
 PI Sta 11+38.16
 Δ = 15' 58' 00.4" (RT)
 D = 5' 48' 58.3"
 L = 274.52'
 T = 138.16'
 R = 985.11'
 SE = SEE PLANS

NAD 8395

MATCHLINE SEE SHEET UC-18 -L- STA. 212+00.00

MATCHLINE SEE SHEET UC-20 -L- STA. 226+00.00

MATCHLINE - INSET "A"
 (FORMERLY GERTRUDE P. BUNCE
 DB 439 PG 155)
 DONALD STEPHEN BUNCE, et al
 ESTATE FILE 05E334

(FORMERLY GERTRUDE P. BUNCE
 DB 439 PG 155)
 DONALD STEPHEN BUNCE, et al
 ESTATE FILE 05E334

END CONSTR.
 -Y7- STA. 15+98.32
 NO WATER OR SEWER CONFLICTS ON THIS SHEET

DOUGLAS BRYANT
PB 48 PG 28

Prepared by:
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 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
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 919-854-6200 919-854-6259 (fax)

UTILITY CONSTRUCTION

-L-

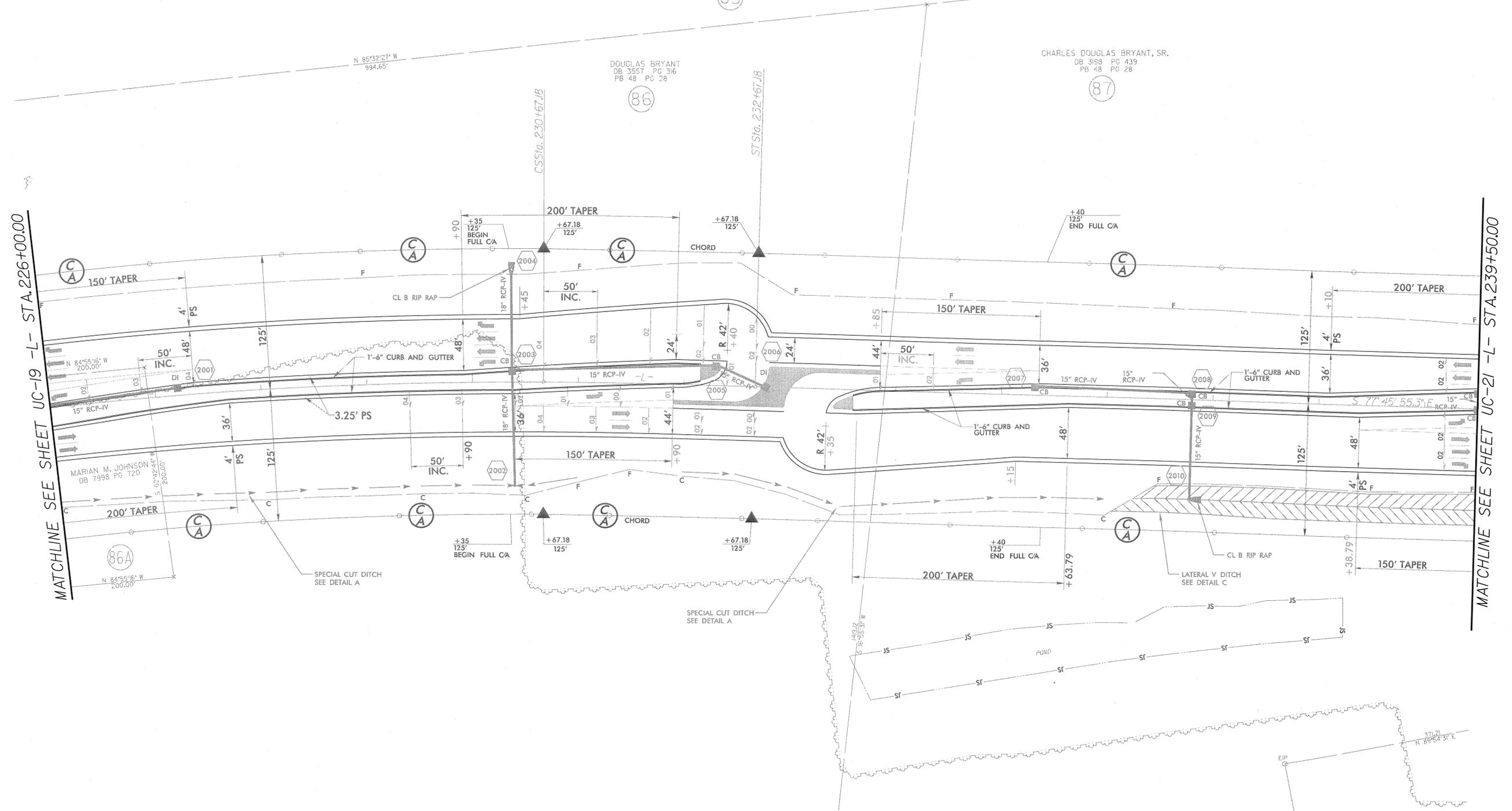
Pls Sta 214+54.47 Cs = 1' 25' 56.6" Ls = 200.00' LT = 133.34' ST = 66.67'	Pl Sta 223+03.93 Δ = 22' 08' 43.9" (RT) D = 1' 25' 56.6" L = 1546.05' T = 782.79' R = 4000.00' SE = .04 (SEE PLANS)	Pls Sta 231+33.85 Cs = 1' 25' 56.6" Ls = 200.00' LT = 133.34' ST = 66.67'
---	---	---

ROBERT D. DUBBE
DB 2662 PG 415

NAD 8395

MATCHLINE SEE SHEET UC-19 -L- STA. 226+00.00

MATCHLINE SEE SHEET UC-21 -L- STA. 239+50.00



MARIAN M. JOHNSON
DB 7998 PG 720

DOUGLAS BRYANT
DB 3557 PG 316
PB 48 PG 28

CHARLES DOUGLAS BRYANT, SR.
DB 3198 PG 439
PB 48 PG 28

DOUGLAS BRYANT
DB 3557 PG 316
PB 48 PG 28

CHARLES DOUGLAS BRYANT, SR.
DB 3198 PG 439
PB 48 PG 28

NO WATER OR SEWER
CONFLICTS ON THIS SHEET

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

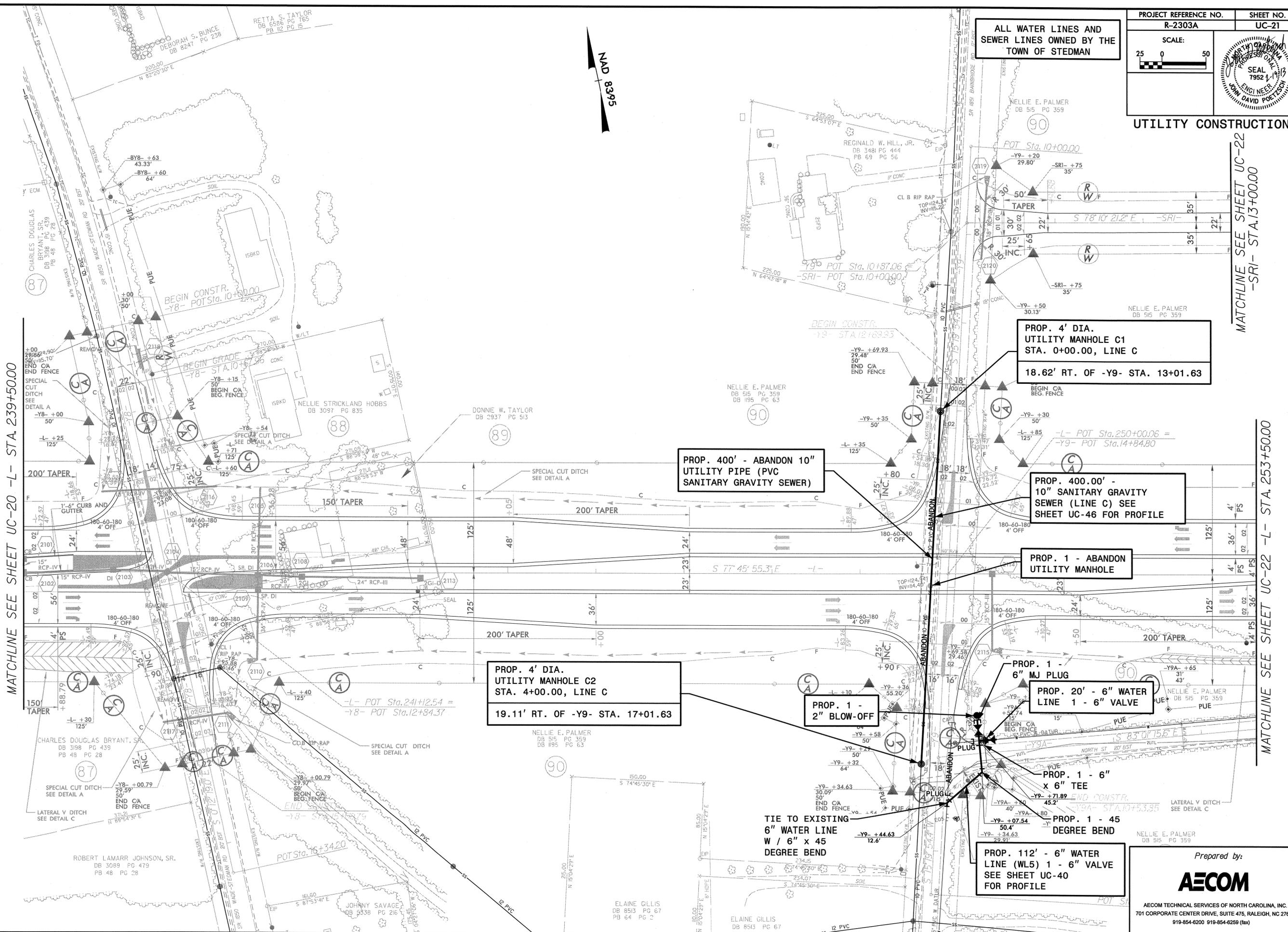
DATE: 2/19/2013
DWN: 2303a_uc_psh_20.dgn



MATCHLINE SEE SHEET UC-20 -L- STA. 239+50.00

MATCHLINE SEE SHEET UC-22 -SRI- STA.13+00.00

MATCHLINE SEE SHEET UC-22 -L- STA. 253+50.00



ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN

PROP. 4' DIA. UTILITY MANHOLE C1 STA. 0+00.00, LINE C
18.62' RT. OF -Y9- STA. 13+01.63

PROP. 400' - ABANDON 10" UTILITY PIPE (PVC SANITARY GRAVITY SEWER)

PROP. 400.00' - 10" SANITARY GRAVITY SEWER (LINE C) SEE SHEET UC-46 FOR PROFILE

PROP. 1 - ABANDON UTILITY MANHOLE

PROP. 4' DIA. UTILITY MANHOLE C2 STA. 4+00.00, LINE C
19.11' RT. OF -Y9- STA. 17+01.63

PROP. 1 - 2" BLOW-OFF

PROP. 1 - 6" MJ PLUG
PROP. 20' - 6" WATER LINE 1 - 6" VALVE

TIE TO EXISTING 6" WATER LINE W / 6" x 45 DEGREE BEND

PROP. 1 - 6" x 6" TEE
PROP. 1 - 45 DEGREE BEND
PROP. 112' - 6" WATER LINE (WL5) 1 - 6" VALVE SEE SHEET UC-40 FOR PROFILE

MATCHLINE SEE SHEET UC-21 -SRI- STA. 13+00.00

MATCHLINE SEE SHEET UC-21 -L- STA. 253+50.00

MATCHLINE SEE SHEET UC-23 -L- STA. 267+00.00

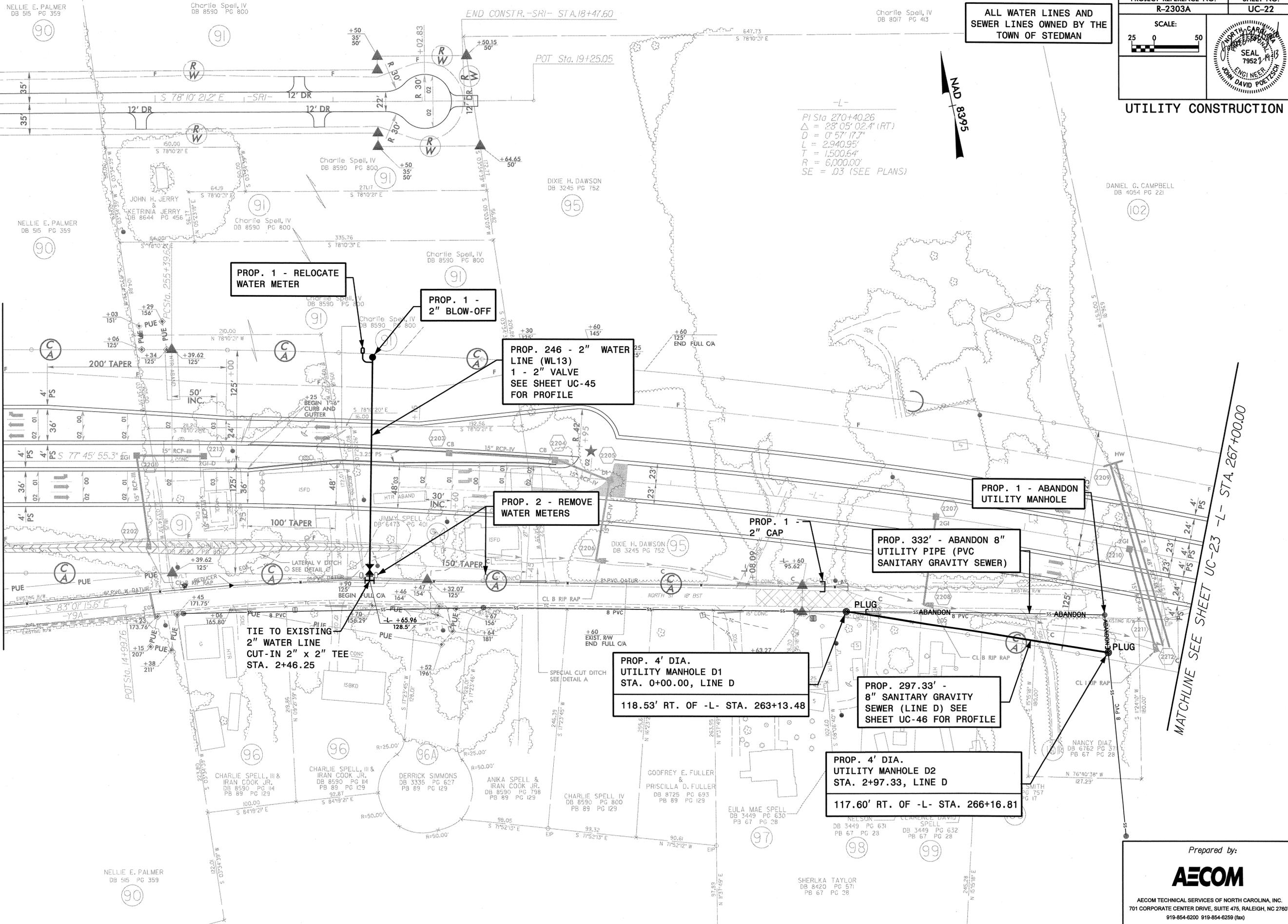
PROJECT REFERENCE NO. R-2303A	SHEET NO. UC-22
SCALE: 25 0 50	

UTILITY CONSTRUCTION

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



-L-
 PI Sta 270+40.26
 $\Delta = 28^{\circ}05'02.4''$ (RT)
 $D = 0'57'17.7''$
 $L = 2,940.95'$
 $T = 1,500.64'$
 $R = 6,000.00'$
 $SE = .03$ (SEE PLANS)



PROP. 1 - RELOCATE WATER METER

PROP. 1 - 2" BLOW-OFF

PROP. 246 - 2" WATER LINE (WL13)
1 - 2" VALVE
SEE SHEET UC-45 FOR PROFILE

PROP. 2 - REMOVE WATER METERS

PROP. 1 - 2" CAP

PROP. 332' - ABANDON 8" UTILITY PIPE (PVC SANITARY GRAVITY SEWER)

PROP. 1 - ABANDON UTILITY MANHOLE

TIE TO EXISTING 2" WATER LINE
CUT-IN 2" x 2" TEE CONC
STA. 2+46.25

PROP. 4' DIA. UTILITY MANHOLE D1
STA. 0+00.00, LINE D
118.53' RT. OF -L- STA. 263+13.48

PROP. 297.33' - 8" SANITARY GRAVITY SEWER (LINE D) SEE SHEET UC-46 FOR PROFILE

PROP. 4' DIA. UTILITY MANHOLE D2
STA. 2+97.33, LINE D
117.60' RT. OF -L- STA. 266+16.81

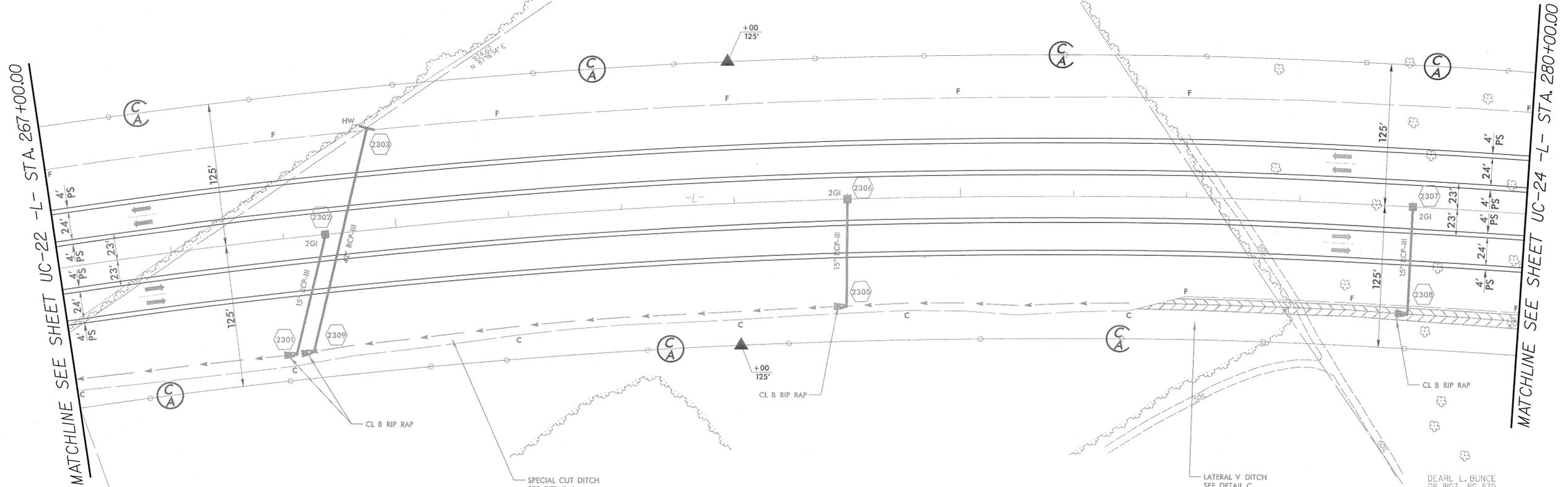
DATE: 12/15/2013
DRAWN: 123043000_000_22200

Prepared by:

 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-8200 919-854-6259 (fax)

PROJECT REFERENCE NO. R-2303A	SHEET NO. UC-23
SCALE: 25 0 50	

UTILITY CONSTRUCTION



-L-
 PI Sta 270+40.26
 $\Delta = 28^{\circ} 05' 02.4" (RT)$
 $D = 0' 57' 17.7"$
 $L = 2,940.95'$
 $T = 1,500.64'$
 $R = 6,000.00'$
 $SE = .03 (SEE PLANS)$

NO WATER OR SEWER
 CONFLICTS ON THIS SHEET

Prepared by:
AECOM
 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

DATE: 2/19/2003
 DSN: R2303A_UC_Plan_23.dgn

DANIEL G. CAMPBELL
 DB 4054 PG 221

102

NELLIE EARLE PALMER
 DB 567 PG 174

103

DEARL L. BUNCE
 DB 8107 PG 570

104

DONALD E. SMITH
 DB 4872 PG 482
 PB 96 PG 17

100

NELLIE EARLE PALMER
 DB 567 PG 174

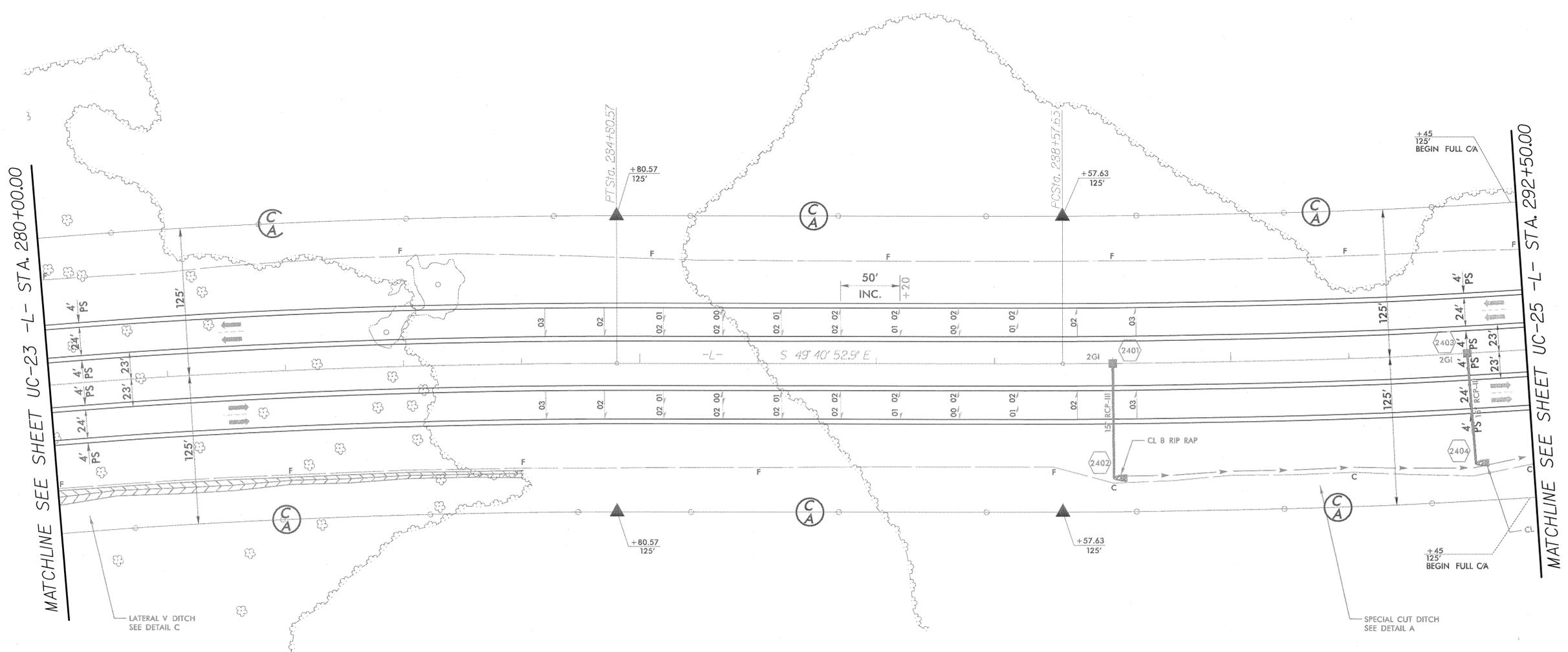
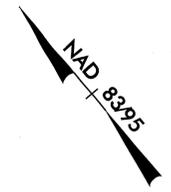
103

APPROXIMATE
 LOCATION
 OF CREEK

UTILITY CONSTRUCTION

DEARL L. BUNCE
 DB 8107 PG 570

(104)



-L-

PI Sta 270+40.26	PI Sta 295+56.68
$\Delta = 28^{\circ} 05' 02.4''$ (RT)	$\Delta = 13^{\circ} 17' 26.8''$ (LT)
$D = 0' 57' 17.7''$	$D = 0' 57' 17.7''$
$L = 2,940.95'$	$L = 1,391.81'$
$T = 1,500.64'$	$T = 699.04'$
$R = 6,000.00'$	$R = 6,000.00'$
$SE = .03$ (SEE PLANS)	$SE = .03$ (SEE PLANS)

NO WATER OR SEWER
 CONFLICTS ON THIS SHEET

DEARL L. BUNCE
 DB 8107 PG 570

(104)

NELLIE EARLE PALMER
 DB 567 PG 174

(103)

DATE: 2/12/2013
 DSN: 2303a_uc_24.dgn

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



MATCHLINE SEE SHEET UC-24 -L- STA. 292+50.00

MATCHLINE SEE SHEET UC-26 -L- STA. 306+00.00

$L =$
 PI Sta 295+56.68
 $\Delta = 13^{\circ} 17' 26.8''$ (LT)
 $D = 0^{\circ} 57' 17.7''$
 $L = 1,391.81'$
 $T = 699.04'$
 $R = 6,000.00'$
 $SE = .03$ (SEE PLANS)

PROP. 676' - 8" WATER LINE (WL2) - SEE SHEET UC-37 FOR PROFILE

PROP. 2 - 45 DEGREE BENDS

EXIST. 4' DIA. UTILITY MANHOLE E0 STA. 0+00.00, LINE E
39.32' LT. OF -Y10A- STA. 11+61.89

PROP. 230' - ABANDON 12" UTILITY PIPE (PVC SANITARY GRAVITY SEWER)

PROP. 1 - 11.25 DEGREE BEND
PROP. 1 - 45 DEGREE BEND

TIE TO EXISTING 8" WATER LINE W / 8" x 8" TAPPING VALVE STA. 0+34.00

PROP. 1 - 8" TAPPING VALVE

PROP. 390' - ABANDON 8" UTILITY PIPE (PVC WATER)

PROP. 80.13' - 12" SANITARY GRAVITY SEWER (LINE E) SEE SHEET UC-46 FOR PROFILE

EXIST. 4' DIA. UTILITY MANHOLE E1 STA. 1+48.83, LINE E
93.35' RT. OF -L- STA. 305+20.85

PROP. 148.83' - 12" SANITARY GRAVITY SEWER (LINE E) SEE SHEET UC-46 FOR PROFILE

END CONSTR.
-Y10A- STA. 13+85.00
JOHN WESLEY MCMILLAN, III
DB 914 PG 177
TRACT 2

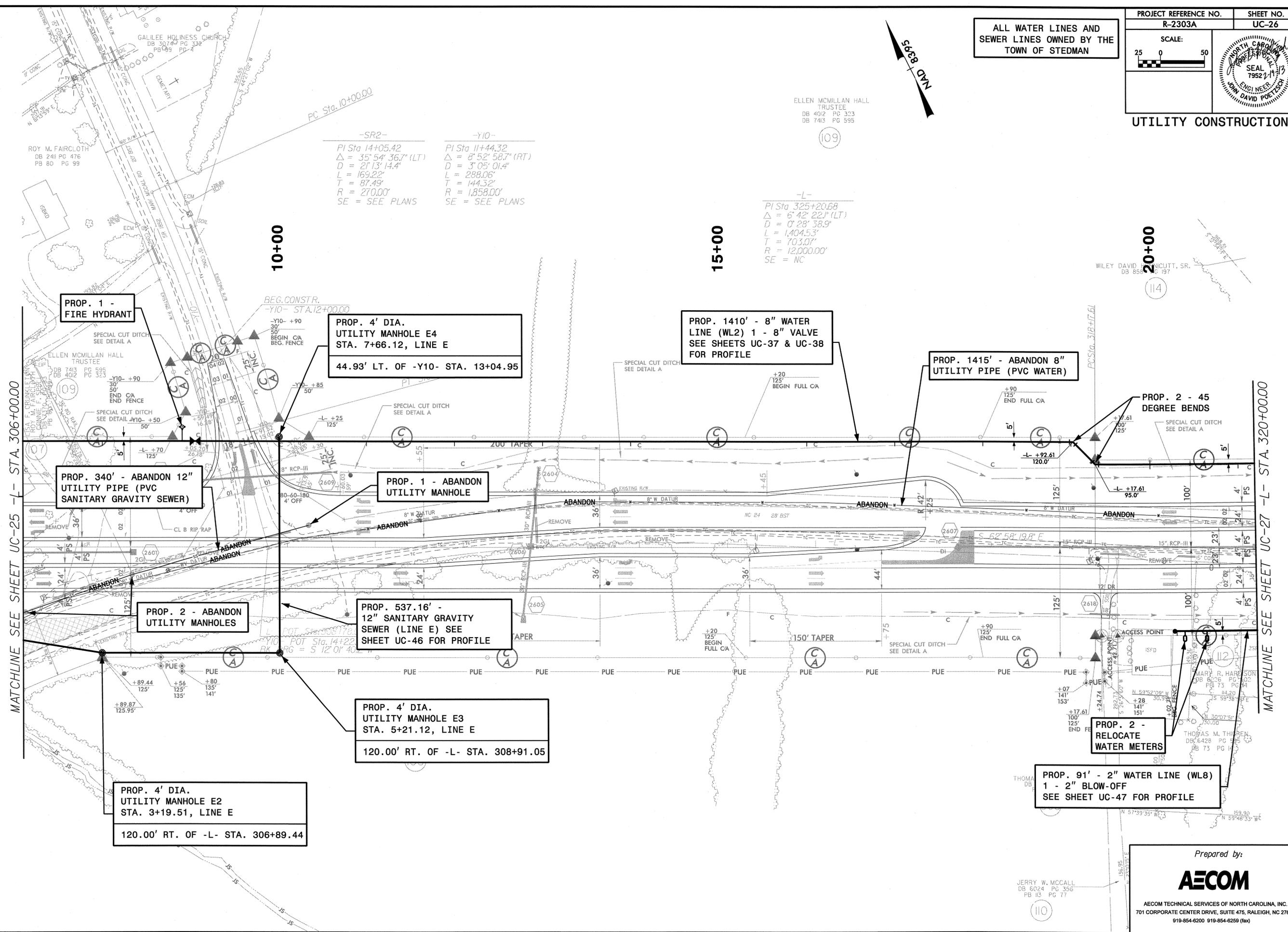
DATE: 8/10/2017
DRAWN: 2303A.LJL.pcn.25.dgn

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



PROP. 1 - FIRE HYDRANT

PROP. 4' DIA. UTILITY MANHOLE E4 STA. 7+66.12, LINE E
44.93' LT. OF -Y10- STA. 13+04.95

PROP. 1410' - 8" WATER LINE (WL2) 1 - 8" VALVE SEE SHEETS UC-37 & UC-38 FOR PROFILE

PROP. 1415' - ABANDON 8" UTILITY PIPE (PVC WATER)

PROP. 2 - 45 DEGREE BENDS

PROP. 340' - ABANDON 12" UTILITY PIPE (PVC SANITARY GRAVITY SEWER)

PROP. 1 - ABANDON UTILITY MANHOLE

PROP. 537.16' - 12" SANITARY GRAVITY SEWER (LINE E) SEE SHEET UC-46 FOR PROFILE

PROP. 2 - ABANDON UTILITY MANHOLES

PROP. 4' DIA. UTILITY MANHOLE E3 STA. 5+21.12, LINE E
120.00' RT. OF -L- STA. 308+91.05

PROP. 4' DIA. UTILITY MANHOLE E2 STA. 3+19.51, LINE E
120.00' RT. OF -L- STA. 306+89.44

PROP. 2 - RELOCATE WATER METERS

PROP. 91' - 2" WATER LINE (WL8) 1 - 2" BLOW-OFF SEE SHEET UC-47 FOR PROFILE

-SR2-
PI Sta 14+05.42
Δ = 35° 54' 36.7" (LT)
D = 21' 13" 14.4"
L = 169.22'
T = 87.49'
R = 270.00'
SE = SEE PLANS

-Y10-
PI Sta 11+44.32
Δ = 8° 52' 58.7" (RT)
D = 3' 05" 01.4"
L = 288.06'
T = 144.52'
R = 1,858.00'
SE = SEE PLANS

-L-
PI Sta 325+20.68
Δ = 6° 42' 22.1" (LT)
D = 0' 28' 38.9"
L = 1,404.53'
T = 703.01'
R = 12,000.00'
SE = NC

MATCHLINE SEE SHEET UC-25 -L- STA. 306+00.00

MATCHLINE SEE SHEET UC-27 -L- STA. 320+00.00

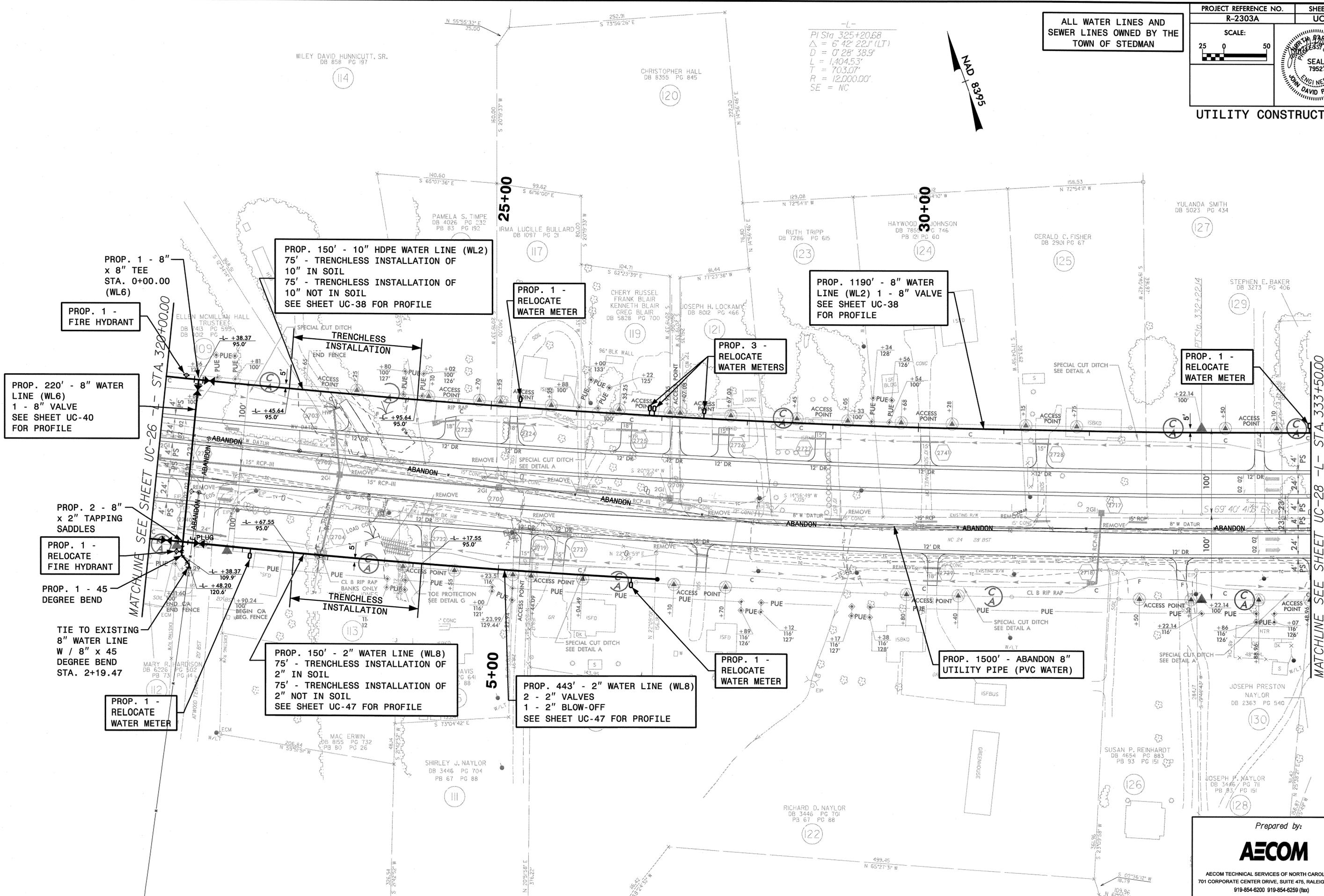
DATE: 2/19/2013
DWN: F23030_UC_001_26.dgn

JERRY W. MCCALL
DB 6024 PG 356
PB 113 PG 77

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN

-L-
PI Sta 325+20.68
Δ = 6° 42' 22" (LT)
D = 0' 28' 38.9"
L = 1,404.53'
T = 703.07'
R = 12,000.00'
SE = NC



PROP. 1 - 8" x 8" TEE
STA. 0+00.00 (WL6)

PROP. 150' - 10" HDPE WATER LINE (WL2)
75' - TRENCHLESS INSTALLATION OF 10" IN SOIL
75' - TRENCHLESS INSTALLATION OF 10" NOT IN SOIL
SEE SHEET UC-38 FOR PROFILE

PROP. 1 - RELOCATE WATER METER

PROP. 1190' - 8" WATER LINE (WL2) 1 - 8" VALVE
SEE SHEET UC-38 FOR PROFILE

PROP. 220' - 8" WATER LINE (WL6)
1 - 8" VALVE
SEE SHEET UC-40 FOR PROFILE

PROP. 3 - RELOCATE WATER METERS

PROP. 1 - RELOCATE WATER METER

PROP. 2 - 8" x 2" TAPPING SADDLES
PROP. 1 - RELOCATE FIRE HYDRANT

TRENCHLESS INSTALLATION

PROP. 1 - 45 DEGREE BEND

TIE TO EXISTING 8" WATER LINE W / 8" x 45 DEGREE BEND STA. 2+19.47

PROP. 150' - 2" WATER LINE (WL8)
75' - TRENCHLESS INSTALLATION OF 2" IN SOIL
75' - TRENCHLESS INSTALLATION OF 2" NOT IN SOIL
SEE SHEET UC-47 FOR PROFILE

PROP. 443' - 2" WATER LINE (WL8)
2 - 2" VALVES
1 - 2" BLOW-OFF
SEE SHEET UC-47 FOR PROFILE

PROP. 1 - RELOCATE WATER METER

PROP. 1500' - ABANDON 8" UTILITY PIPE (PVC WATER)

PROP. 1 - RELOCATE WATER METER

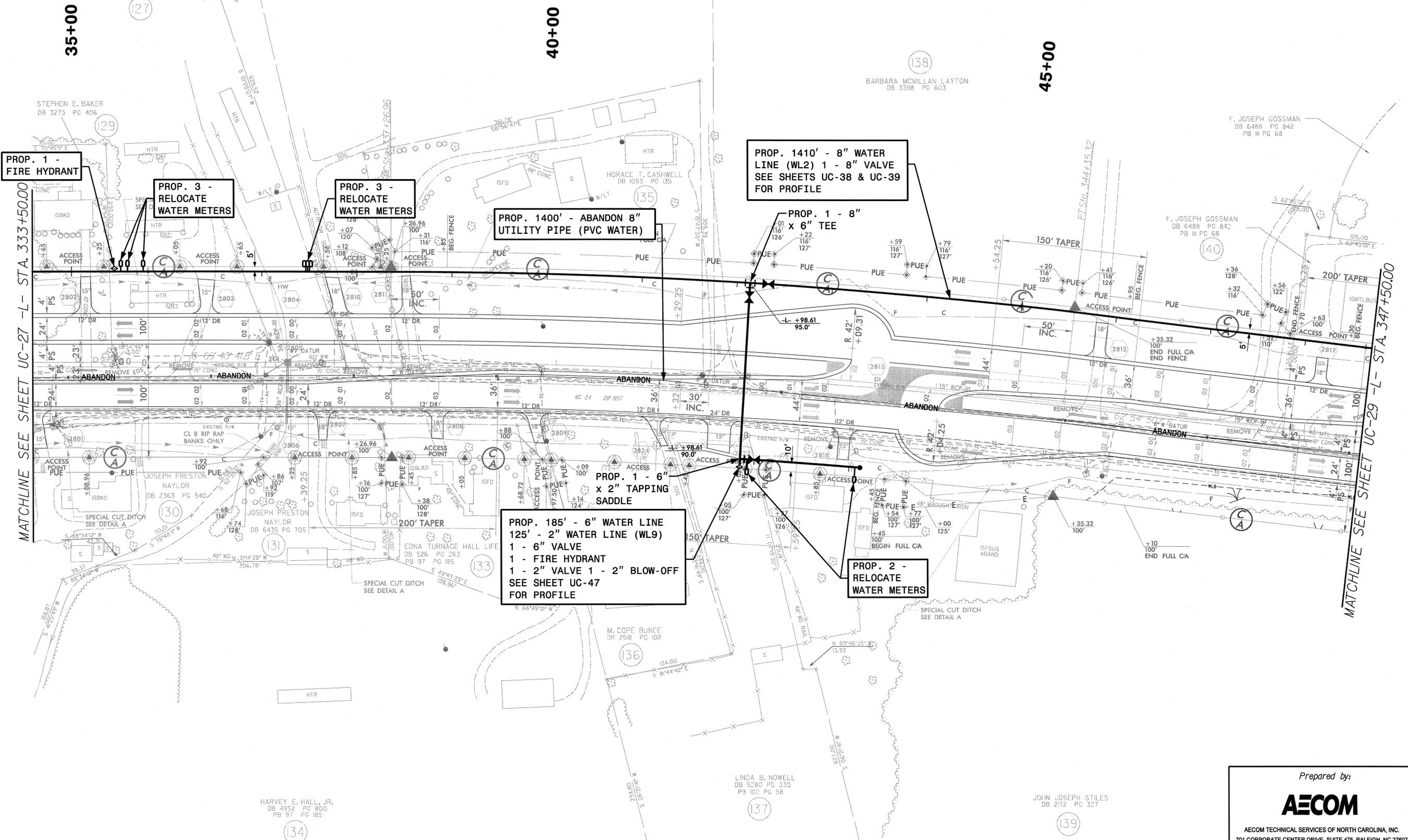
DATE: 2/19/2013
DWG: 12303A-UC-27.dgn

UTILITY CONSTRUCTION

ALL WATER LINES AND SEWER LINES OWNED BY THE TOWN OF STEDMAN



-L-
PI Sta 340+81.55
Δ = 6' 15" 51.7" (RT)
D = 0' 57" 17.7"
L = 708.36'
T = 354.59'
R = 6,000.00'
SE = .03

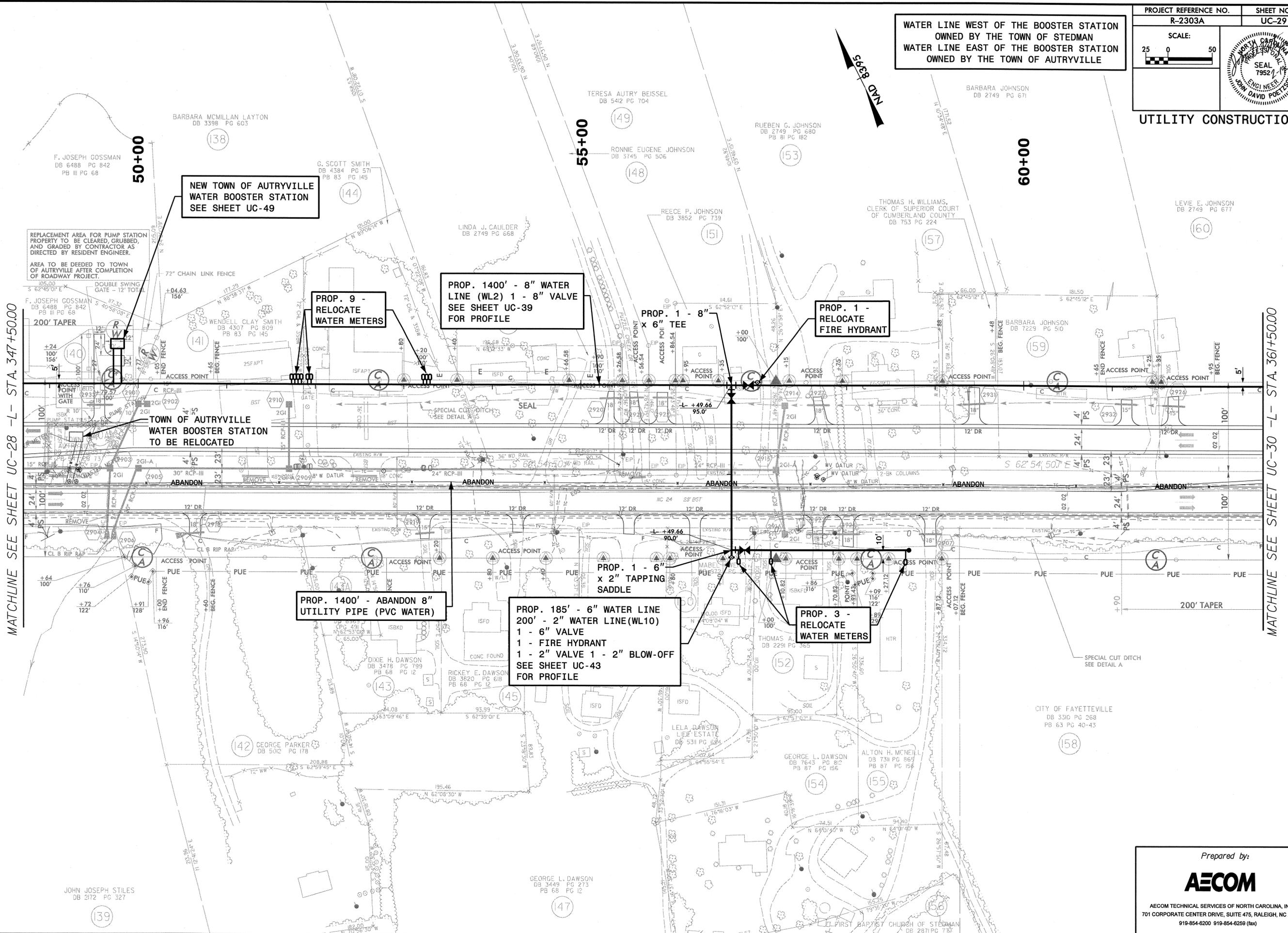


MATCHLINE SEE SHEET UC-27 - L- STA. 333+50.00

MATCHLINE SEE SHEET UC-29 - L- STA. 347+50.00

DATE: 2/19/2013
DWG: R2303A-UC-28.dwg

WATER LINE WEST OF THE BOOSTER STATION
OWNED BY THE TOWN OF STEDMAN
WATER LINE EAST OF THE BOOSTER STATION
OWNED BY THE TOWN OF AUTRYVILLE



NEW TOWN OF AUTRYVILLE
WATER BOOSTER STATION
SEE SHEET UC-49

REPLACEMENT AREA FOR PUMP STATION
PROPERTY TO BE CLEARED, GRUBBED,
AND GRADED BY CONTRACTOR AS
DIRECTED BY RESIDENT ENGINEER.
AREA TO BE DEEDED TO TOWN OF
AUTRYVILLE AFTER COMPLETION
OF ROADWAY PROJECT.

PROP. 1400' - 8" WATER
LINE (WL2) 1 - 8" VALVE
SEE SHEET UC-39
FOR PROFILE

PROP. 9 -
RELOCATE
WATER METERS

PROP. 1 -
RELOCATE
FIRE HYDRANT

TOWN OF AUTRYVILLE
WATER BOOSTER STATION
TO BE RELOCATED

PROP. 1400' - ABANDON 8"
UTILITY PIPE (PVC WATER)

PROP. 185' - 6" WATER LINE
200' - 2" WATER LINE (WL10)
1 - 6" VALVE
1 - FIRE HYDRANT
1 - 2" VALVE 1 - 2" BLOW-OFF
SEE SHEET UC-43
FOR PROFILE

PROP. 3 -
RELOCATE
WATER METERS

MATCHLINE SEE SHEET UC-28 -L- STA. 347+50.00

MATCHLINE SEE SHEET UC-30 -L- STA. 361+50.00

JOHN JOSEPH STILES
DB 2172 PG 327

GEORGE L. DAWSON
DB 3449 PG 273
PB 68 PG 12

CITY OF FAYETTEVILLE
DB 3310 PG 268
PB 63 PG 40-43

DATE: 2/19/2013
DWG: 12303a_uc_29.dwg

UTILITY CONSTRUCTION

**EXISTING WATER LINE
OWNED BY THE
TOWN OF AUTRYVILLE**

-L-
 PIs Sta 367+74.22 PI Sta 374+26.38 PIs Sta 380+55.82
 Δs = 2°59'21.6" Δ = 27°56'26.1" (LT) Δs = 2°59'21.6"
 Ls = 240.00' D = 2°29'28.0" Ls = 240.00'
 LT = 160.02' T = 1121.61' LT = 160.02'
 ST = 80.02' R = 572.19' ST = 80.02'
 R = 2,300.00'

-DET-
 PI Sta 12+55.85 PI Sta 17+20.87
 Δ = 4°35'22.8" (RT) Δ = 11°05'49.1" (LT)
 D = 1°41'24.5" D = 1°41'24.5"
 L = 271.56' L = 656.57'
 T = 135.85' T = 529.32'
 R = 3,390.00' R = 3,390.00'
 SE = SEE PLANS SE = SEE PLANS

**PROP. 1225' - 8" WATER
LINE (WL2) SEE SHEETS
UC-39 & UC-40 FOR PROFILE**

**PROP. 1 -
RELOCATE
WATER METER**

**PROP. 2 -
RELOCATE
WATER METERS**

**PROP. 1265' - ABANDON 8"
UTILITY PIPE (PVC WATER)**

MATCHLINE SEE SHEET UC-29 -L- STA. 361+50.00

MATCHLINE SEE SHEET UC-31 -L- STA. 374+00.00

DATE: 2/19/2013
DRAWN: R2303A.dwg, 30.dwg

DB 953 PG 258
DB 6054 PG 897
PB 19 PG 48
PB 94 PG 153

JOHN P. NUNNERY
DB 6620 PG 218
PB 19 PG 48

ROBERT L. NUNNERY
DB 2481 PG 831
PB 19 PG 48

THELMA NUNNERY
DB 463 PG 179
PB 19 PG 48

JAMES ANTHONY NUNNERY
DB 4794 PG 223
PB 96 PG 68

ALL WATER LINES
OWNED BY THE
TOWN OF AUTRYVILLE

PROJECT REFERENCE NO.
R-2303A

SHEET NO.
UC-31

SCALE:
25 0 50



UTILITY CONSTRUCTION

STA. 376+28.96 -L- END TIP PROJECT R-2303A

-L-		
Pls Sta 367+74.22	Pls Sta 374+26.38	Pls Sta 380+55.82
$\Theta_s = 2^\circ 59' 21.6''$	$\Delta = 27^\circ 56' 26.1''$ (LT)	$\Theta_s = 2^\circ 59' 21.6''$
$L_s = 240.00'$	$D = 2^\circ 29' 28.0''$	$L_s = 240.00'$
$LT = 160.02'$	$L = 1121.6'$	$LT = 160.02'$
$ST = 80.02'$	$T = 572.19'$	$ST = 80.02'$
	$R = 2,300.00'$	

PROP. 1 - 22.5
DEGREE BEND

PROP. 1 - 6" CAP

PROP. 72' - 6" WATER
LINE 1 - 6" VALVE

PROP. 1 -
RELOCATE
FIRE HYDRANT

PROP. 1 - 11.25
DEGREE BEND

PROP. 2 - 45
DEGREE BENDS

PROP. 495' - 8" WATER
LINE (WL2) 1 - 8" VALVE
SEE SHEET UC-40
FOR PROFILE

PROP. 1 -
REMOVE
WATER METER

PROP. 1 - 22.5
DEGREE BEND

TIE TO EXISTING
8" WATER LINE
W / 8" x 22.5 DEGREE BEND
& FULL BODY MJ SLEEVE
STA. 79+84.59

PROP. 340' - ABANDON 8"
UTILITY PIPE (PVC WATER)

MATCHLINE SEE SHEET UC-30 -L- STA. 374+00.00



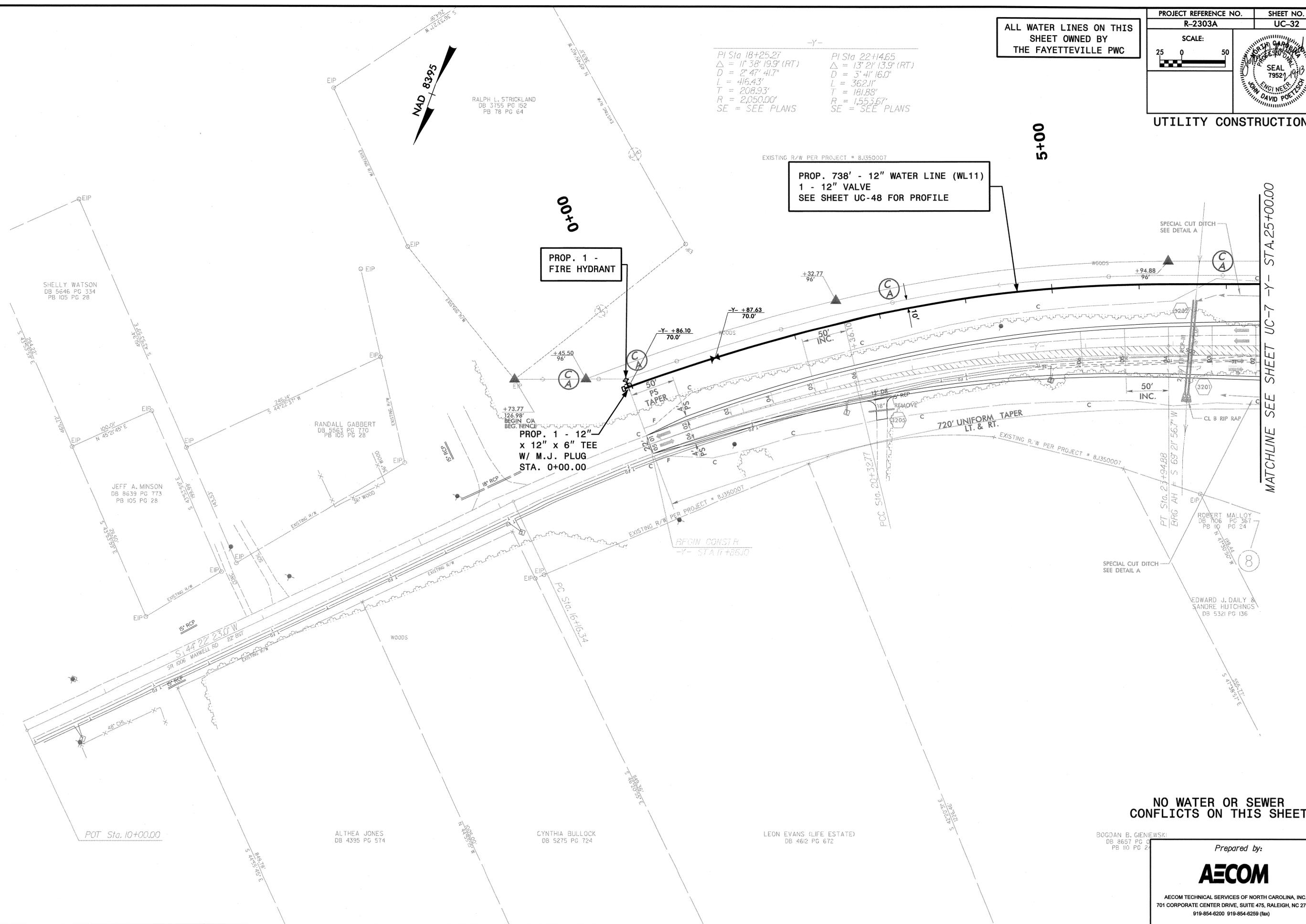
DATE: 2/19/2013
DWG: R-2303A-UC-31.dgn

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

ALL WATER LINES ON THIS SHEET OWNED BY THE FAYETTEVILLE PWC

PI Sta 18+25.27 Δ = 11° 38' 19.9" (RT) D = 2' 47' 41.7" L = 416.43' T = 208.93' R = 2,050.00' SE = SEE PLANS	PI Sta 22+14.65 Δ = 13° 21' 13.9" (RT) D = 3' 41' 16.0" L = 362.11' T = 181.88' R = 1,553.67' SE = SEE PLANS
--	--

UTILITY CONSTRUCTION



PROP. 738' - 12" WATER LINE (WL11)
1 - 12" VALVE
SEE SHEET UC-48 FOR PROFILE

PROP. 1 - FIRE HYDRANT

PROP. 1 - 12" x 12" x 6" TEE W/ M.J. PLUG
STA. 0+00.00

MATCHLINE SEE SHEET UC-7 -Y- STA. 25+00.00

NO WATER OR SEWER CONFLICTS ON THIS SHEET

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DATE: 9/19/07
DWN: R2303A.dwg

VANDER CENTER LLC.
DB 6012 PG 734
PB 108 PG 104

JOSEPH RIDDLE
DB 6585 PG 712
PB 108 PG 104

JOSEPH RIDDLE
DB 8473 PG 802
PB 108 PG 104

PETRS D. BUMBLIS
DB 6194 PG 746
PB 83 PG 132

WATER LINES AND SEWER LINES
ON THIS SHEET OWNED BY
THE FAYETTEVILLE PWC

PROJECT REFERENCE NO.
R-2303A

SHEET NO.
UC-33

SCALE:
25 0 50



UTILITY CONSTRUCTION

PROP. 106' - 24" ENCASEMENT PIPE (WL12)
53' - TRENCHLESS INSTALLATION
OF 24" IN SOIL
53' - TRENCHLESS INSTALLATION OF
24" NOT IN SOIL
SEE SHEET UC-48 FOR PROFILE

PROP. 356' - 12" WATER LINE
(WL12)
SEE SHEET UC-48 FOR PROFILE

PROP. 1 - 45
DEGREE BEND
PI Sta 43+30.97
Δ = 9° 02' 46.5" (RT)
D = 2' 34' 09.5"
L = 352.09'
T = 176.41'
R = 2,230.00'
SE = EXIST.

PROP. 1 - 11.25
DEGREE BEND
RESURFACE EXISTING PAVEMENT WITH 3" S9.5B
-Y- STA. 35+00.00 TO 35+06.63

-Y- +64.63
89.7'

-Y- +38.71
39.7'

-Y- +99.08
41.6'

REMOVE EXIST 12" PLUG
TIE TO EXISTING
12" WATER LINE
STA. 0+00.00

TIE TO EXISTING
12" WATER LINE
W / 12" x 45 DEGREE BEND
& FULL BODY MJ SLEEVE
STA. 3+56.46

MATCHLINE SEE SHEET UC-7
-Y- STA. 36+00.00

MATCHLINE SEE SHEET UC-6

MATCHLINE SEE SHEET UC-6

MATCHLINE SEE SHEET UC-6

NO WATER OR SEWER
CONFLICTS ON THIS SHEET

Prepared by:

AECOM

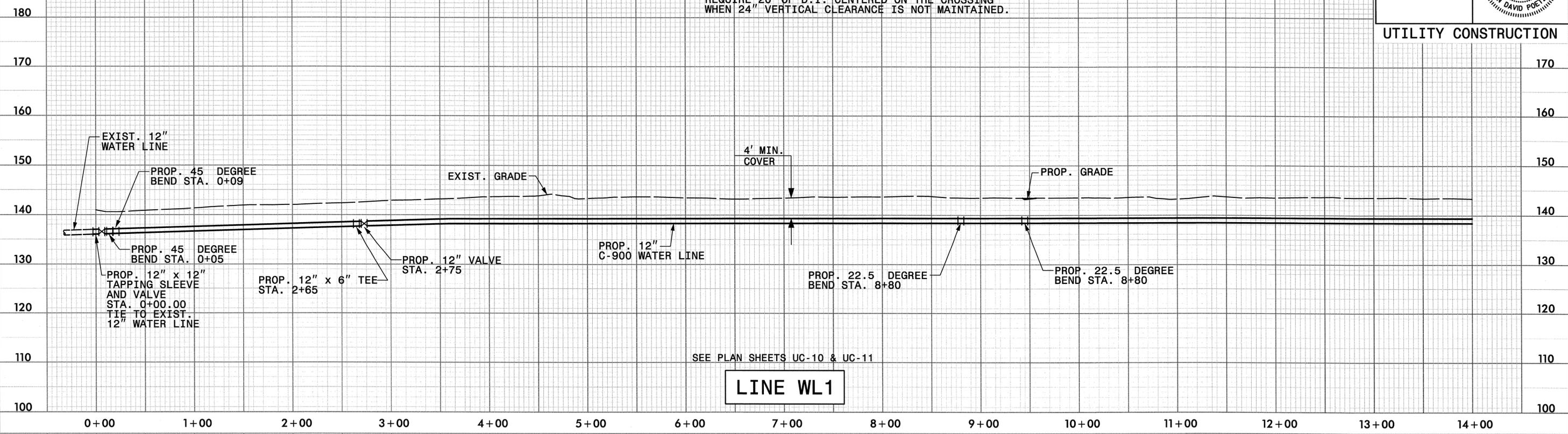
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 2/19/2013
DWG: 12303a_uc_psh-33.dgn

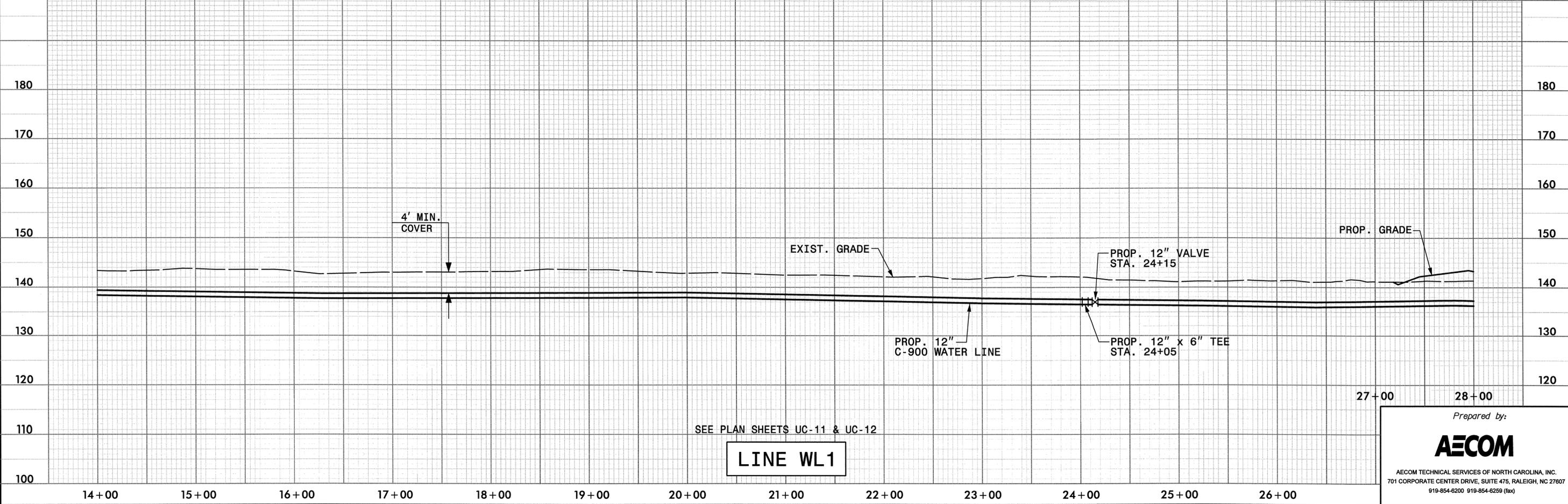


NOTE:
ALL STORM DRAIN AND DITCH CROSSINGS
REQUIRE 20' OF D.I. CENTERED ON THE CROSSING
WHEN 24" VERTICAL CLEARANCE IS NOT MAINTAINED.

UTILITY CONSTRUCTION



LINE WL1

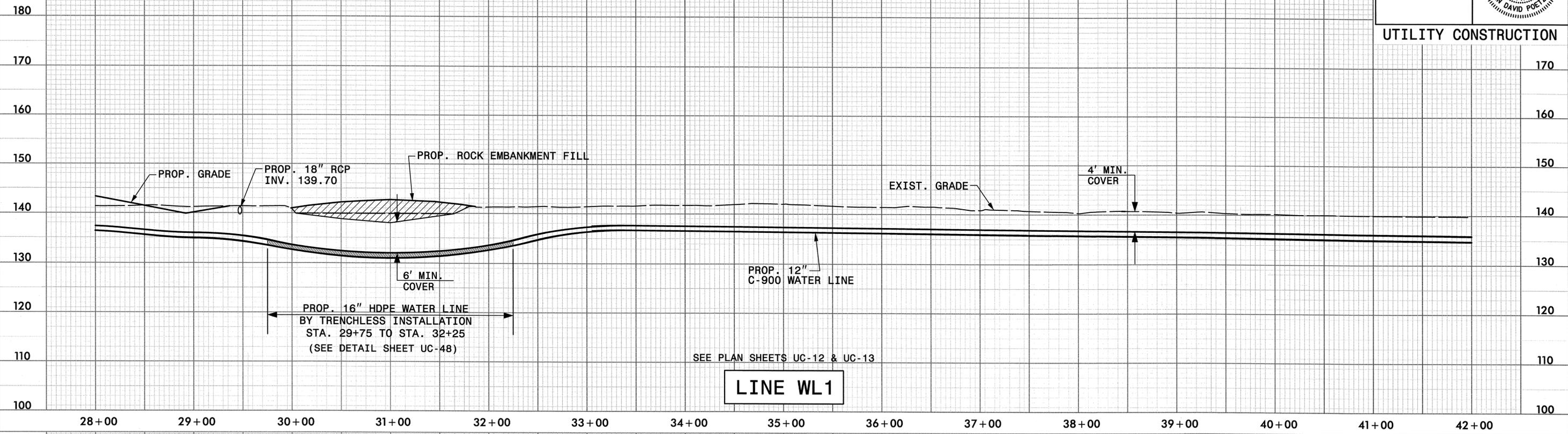


LINE WL1

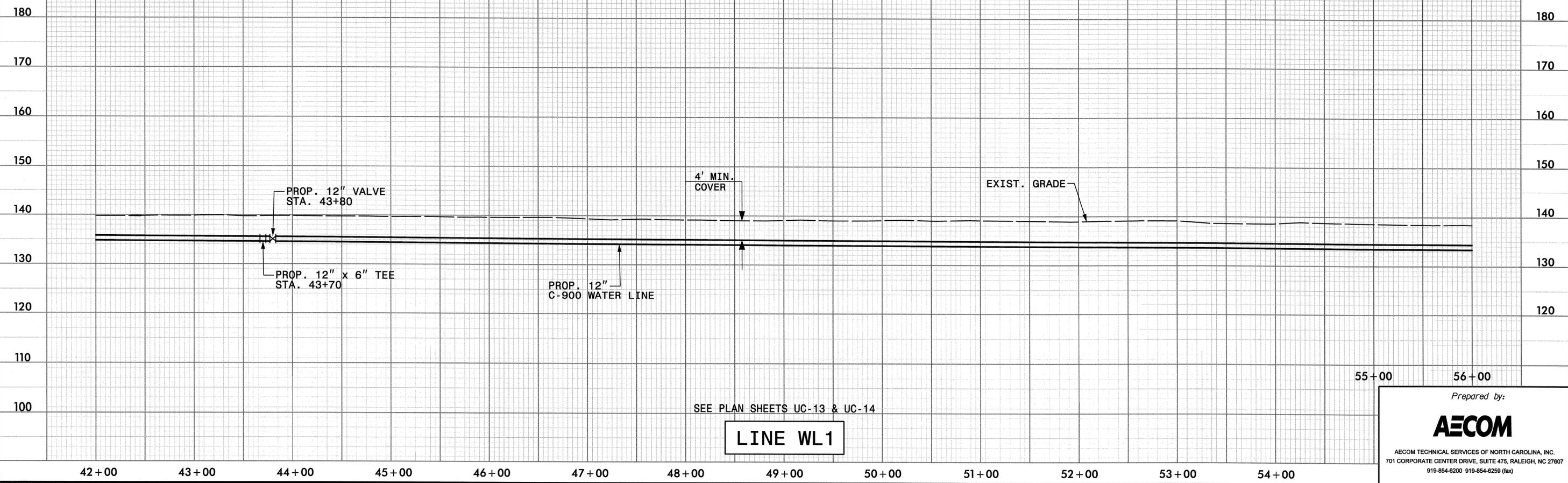
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DATE: 12/16/2013
DRAWN: R2303A-UC-34.dgn

UTILITY CONSTRUCTION



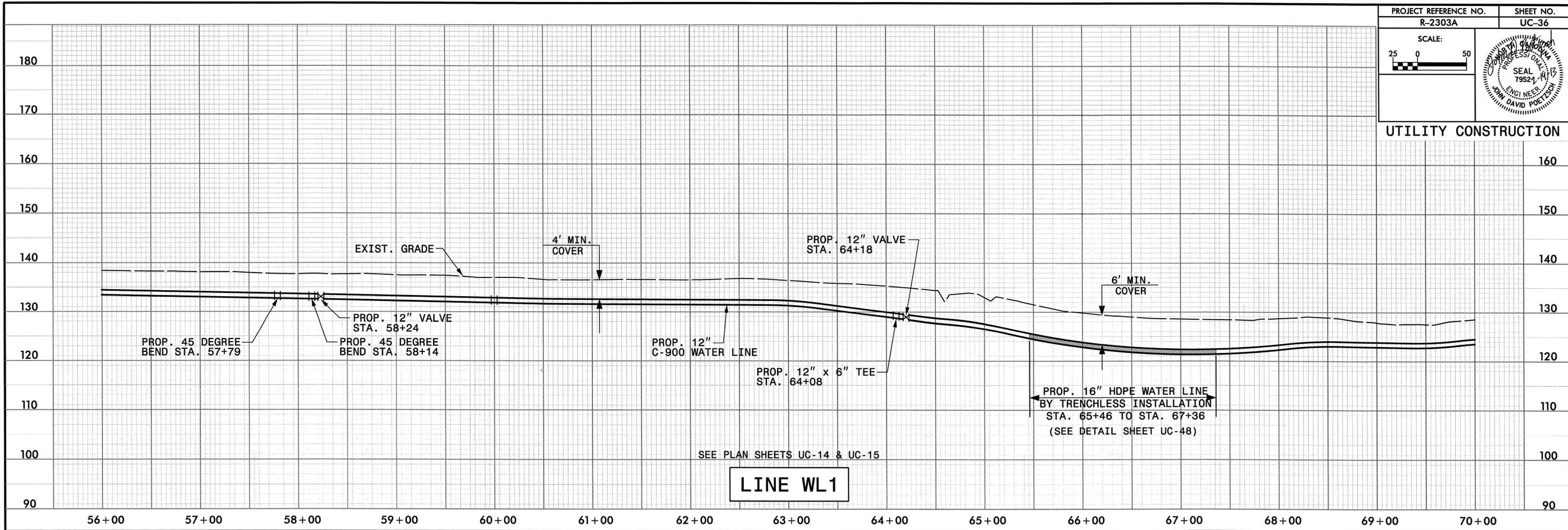
LINE WL1



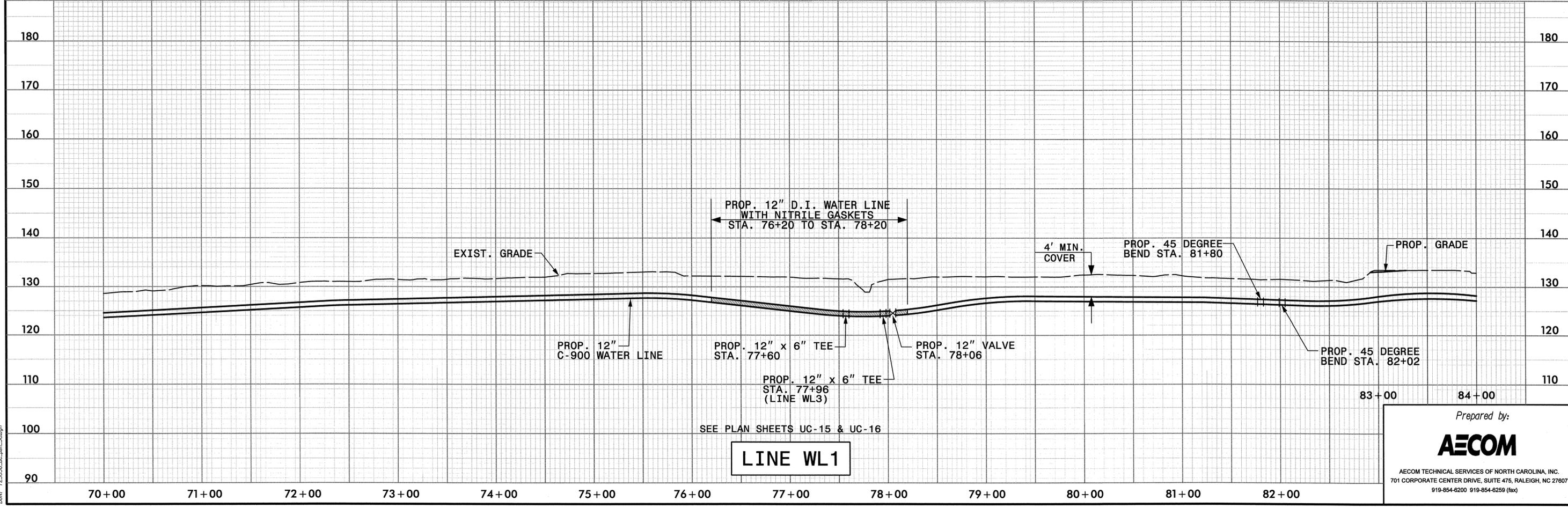
LINE WL1

DATE: 8/19/2013
 DSN: 230303A_UC-35.dgn

UTILITY CONSTRUCTION

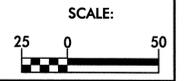


LINE WL1

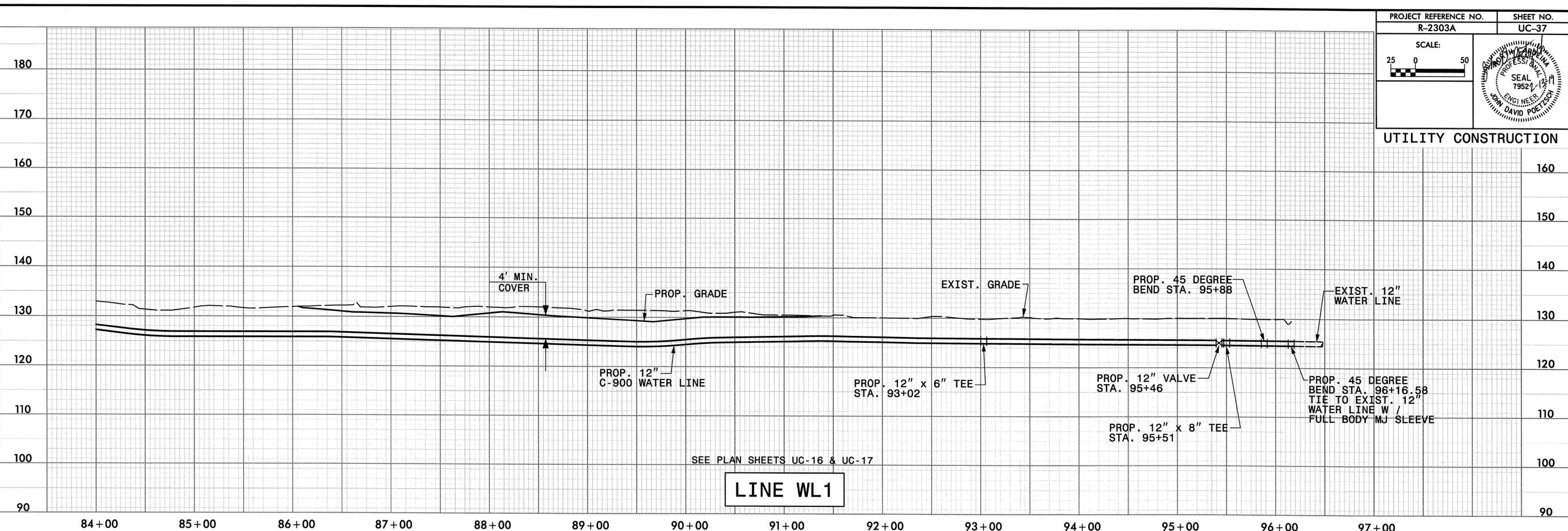


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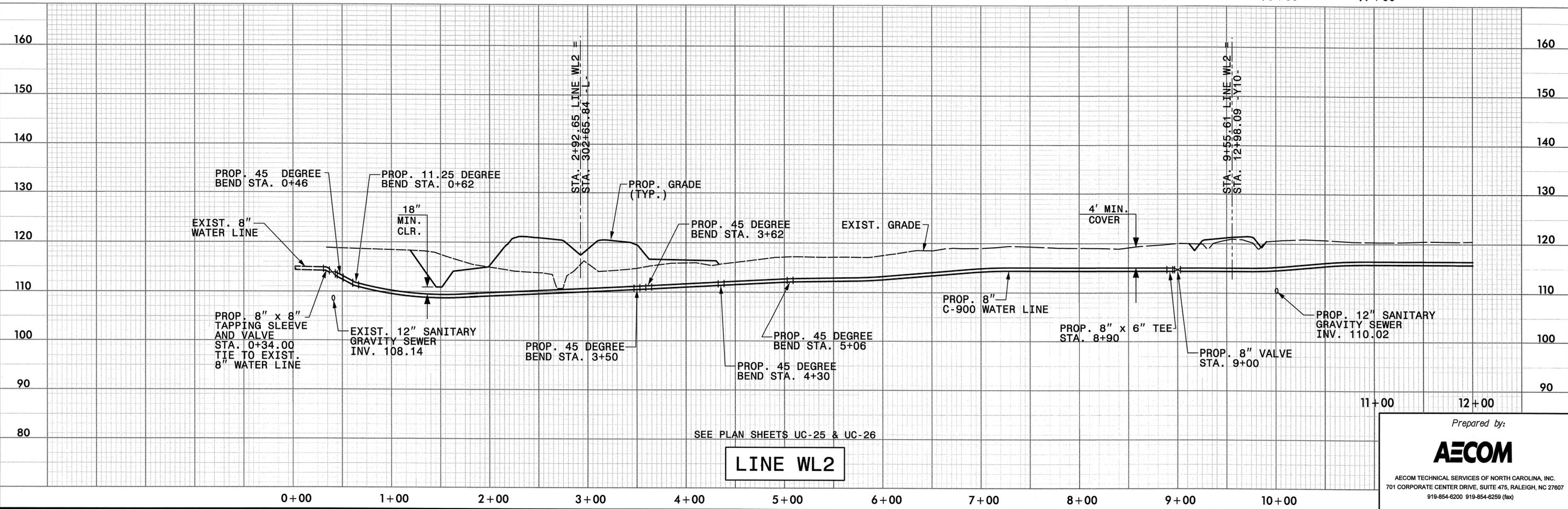
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UTILITY CONSTRUCTION



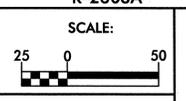
LINE WL1



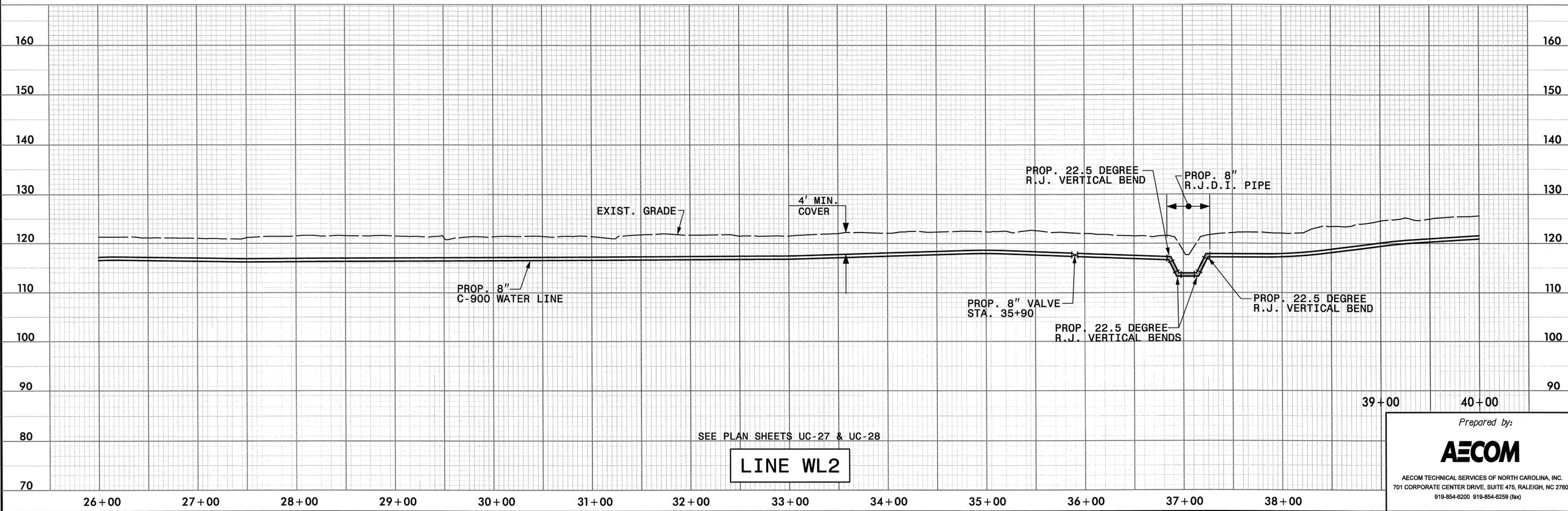
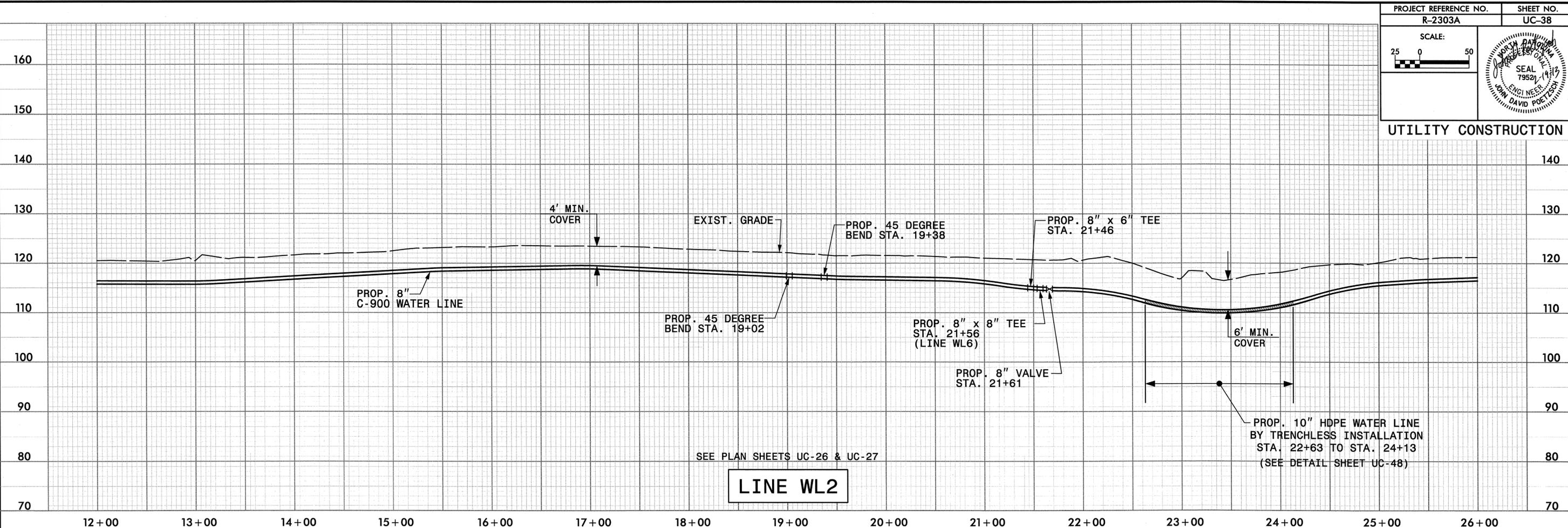
LINE WL2

DATE: 2/19/2013
DRAWN: 2303A-UC-37.dwg

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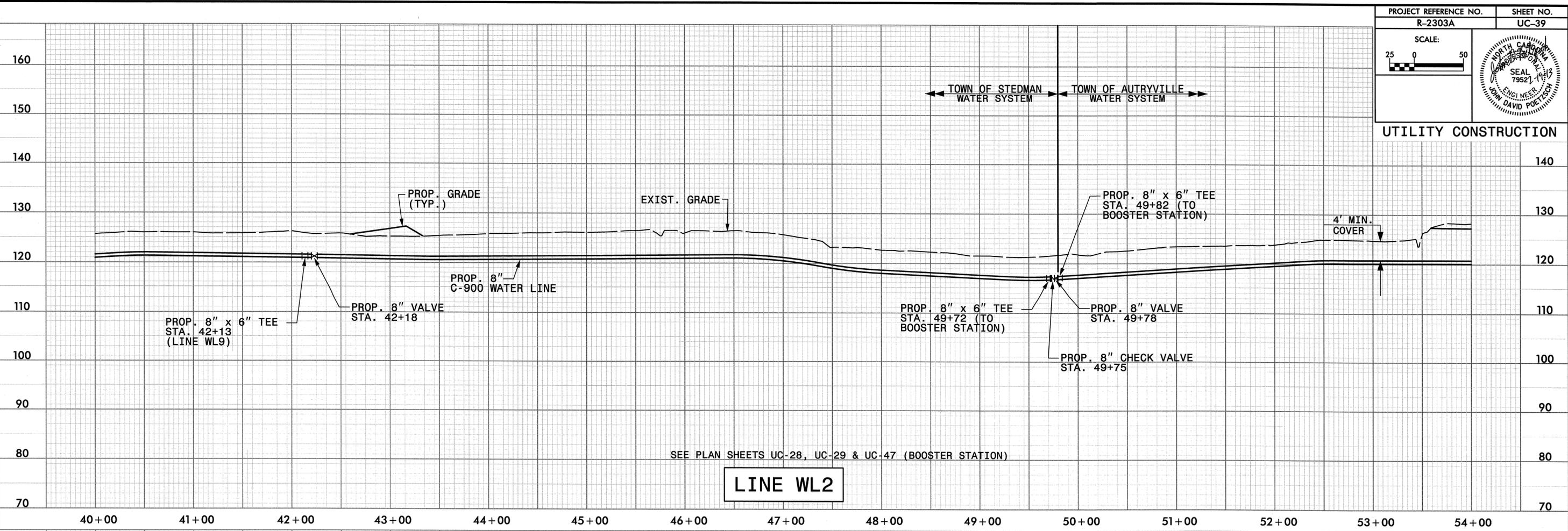
UTILITY CONSTRUCTION



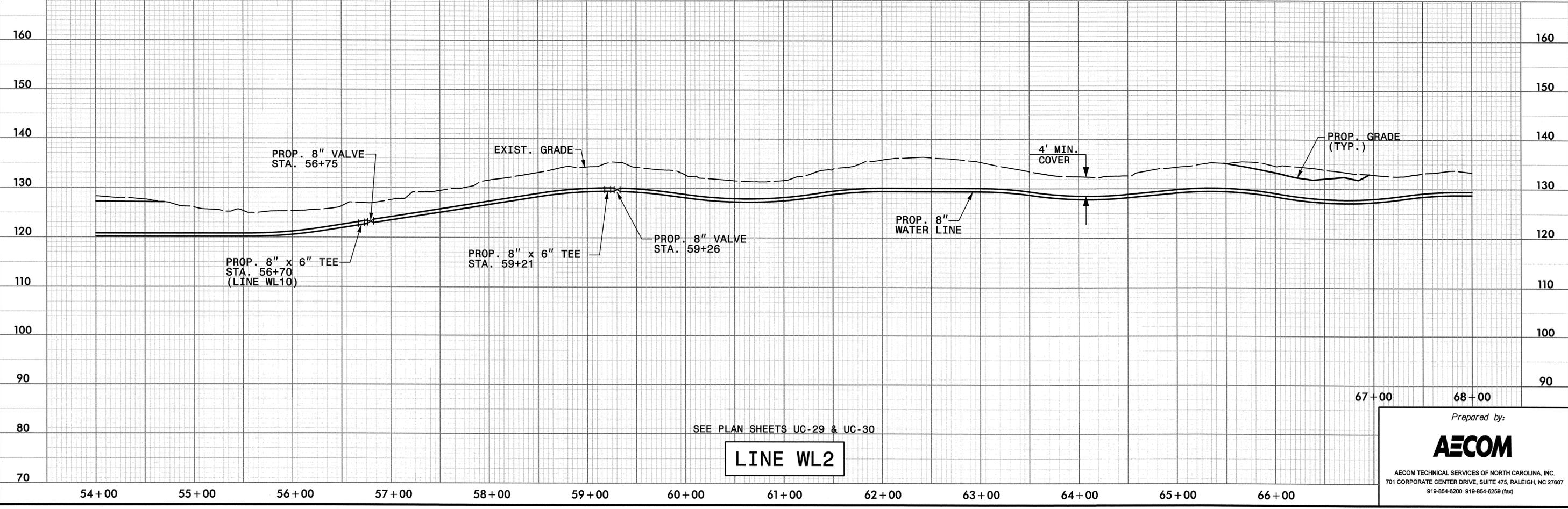
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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DATE: 2/19/2003
DWN: T230303UC038.dwg

UTILITY CONSTRUCTION

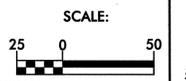


LINE WL2

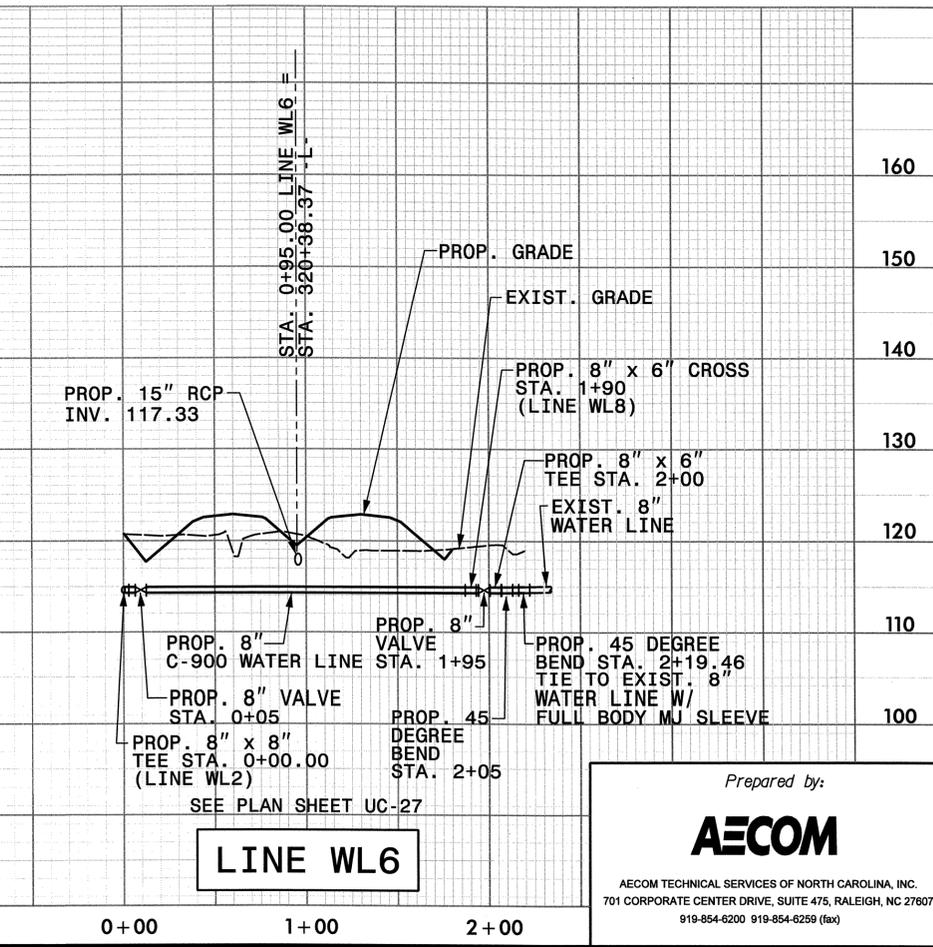
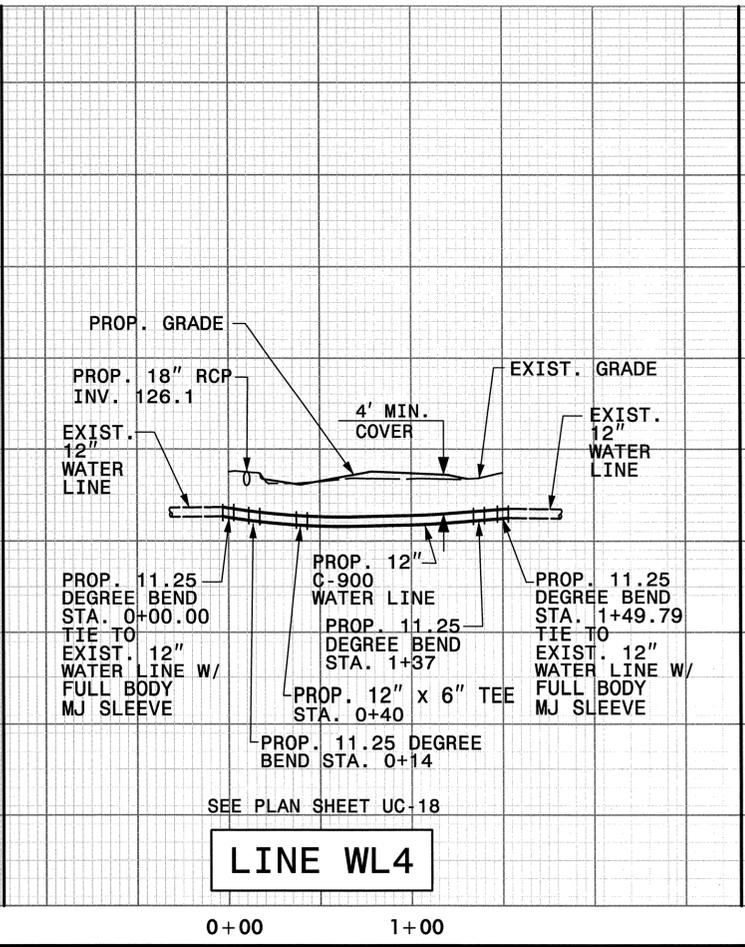
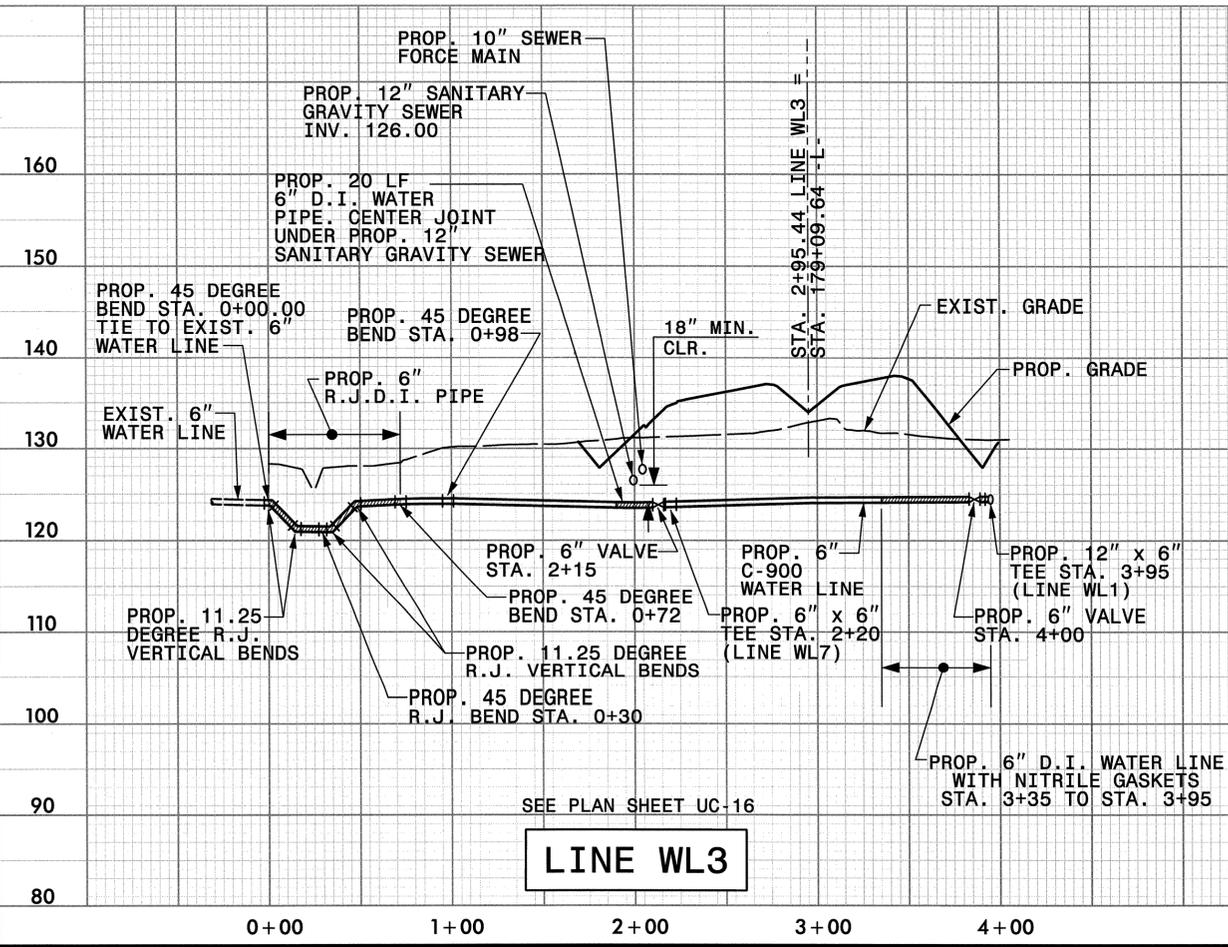
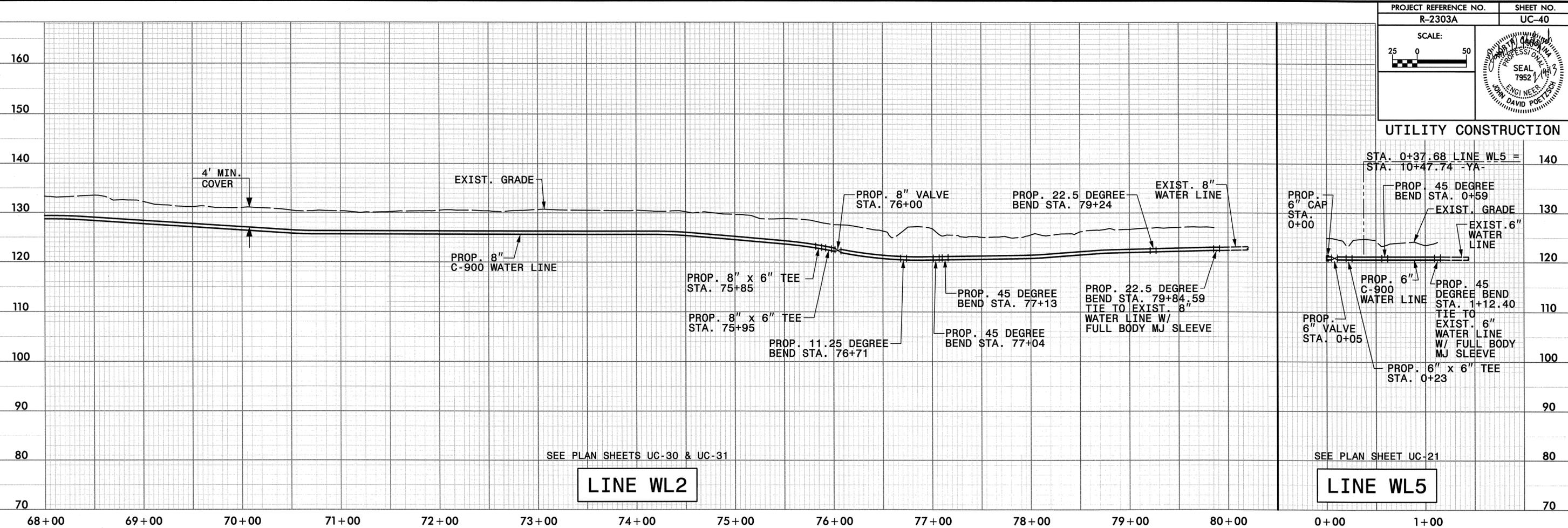


LINE WL2

DATE: 2/19/2013
 DGN: 230303_UC_39.dgn

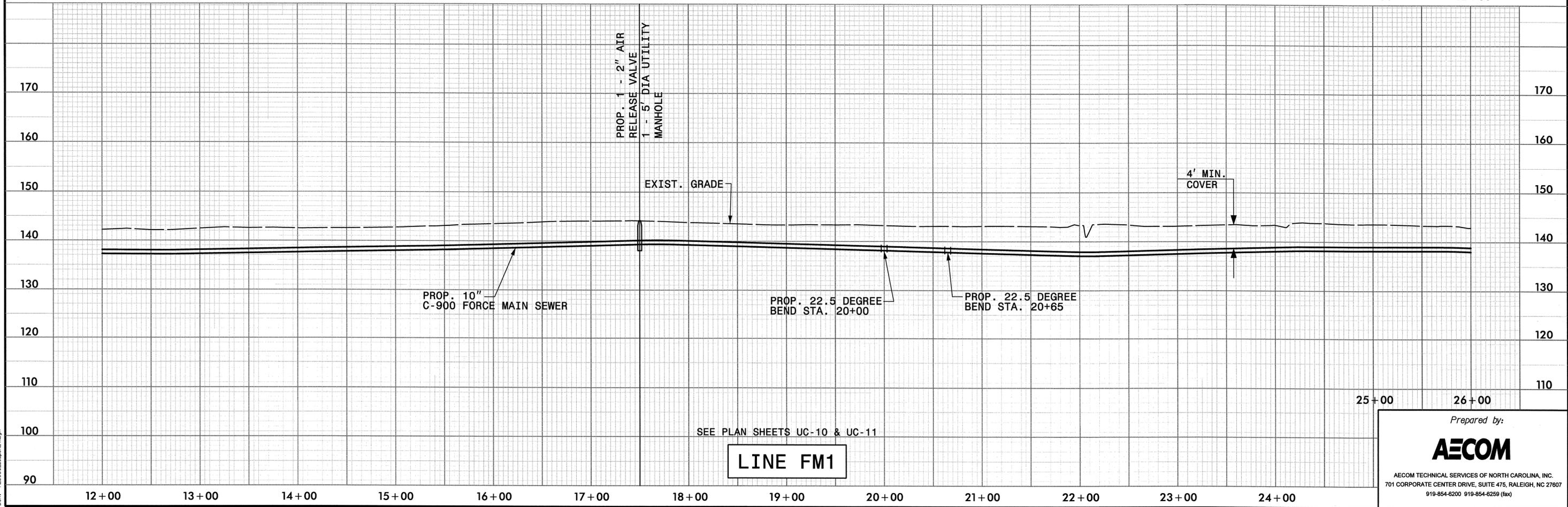
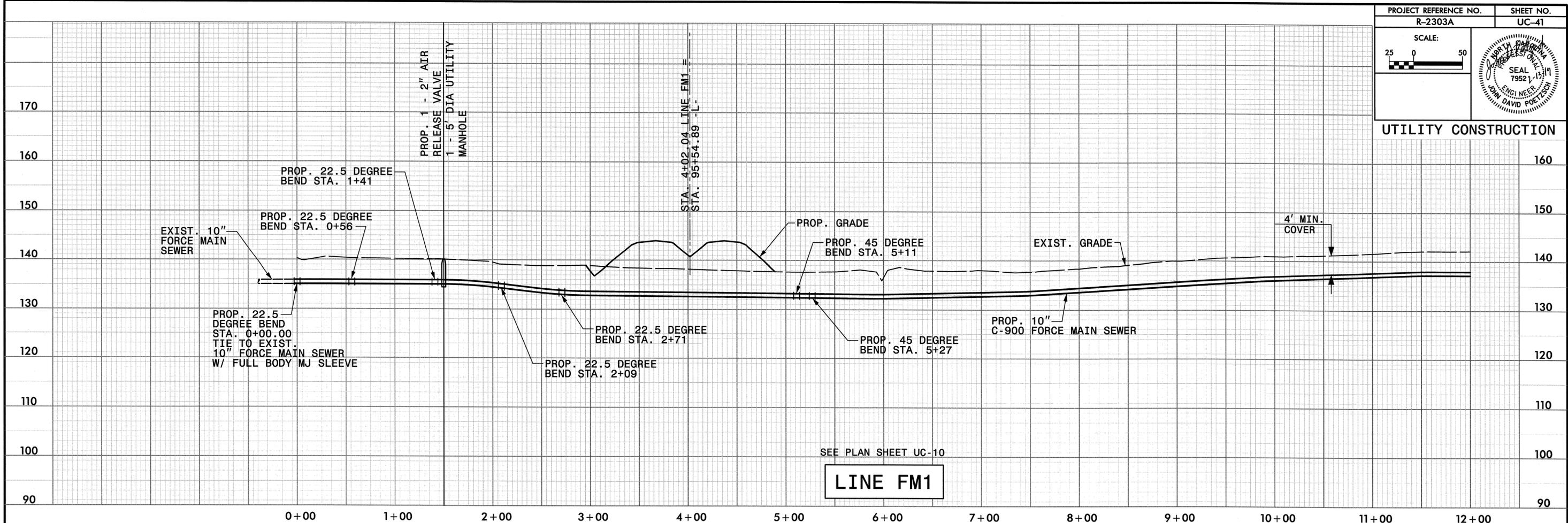


UTILITY CONSTRUCTION

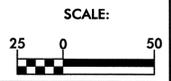


DATE: 2/19/2013 DSK 12303A_UC-40.dgn

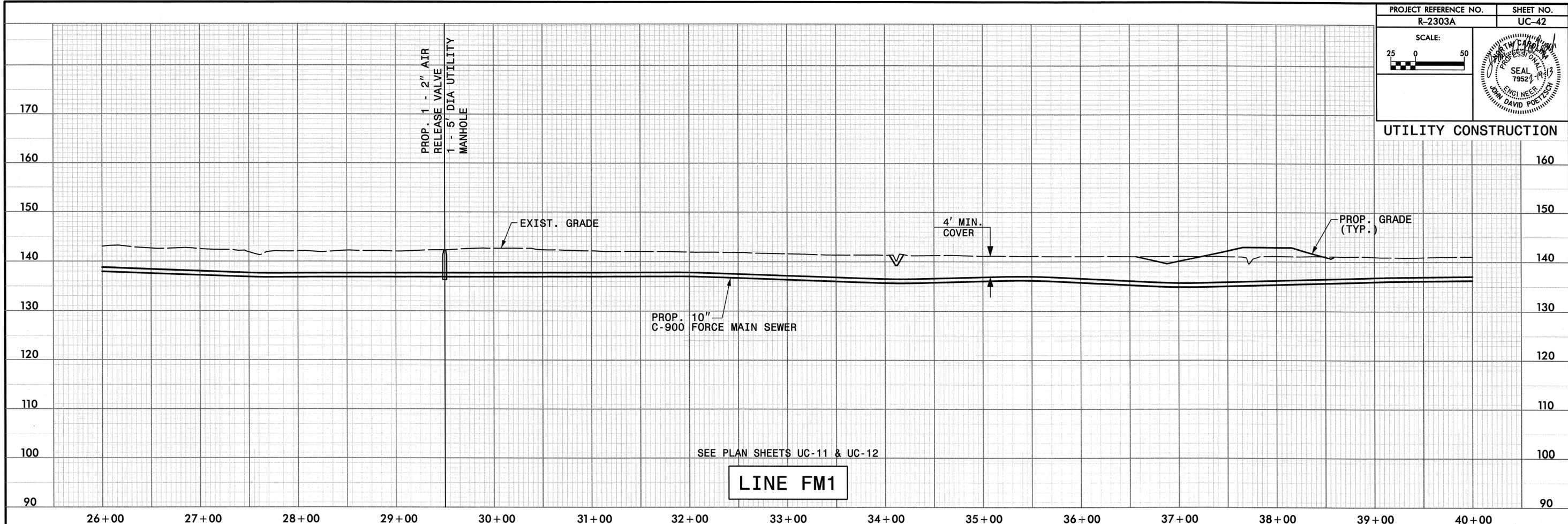
UTILITY CONSTRUCTION



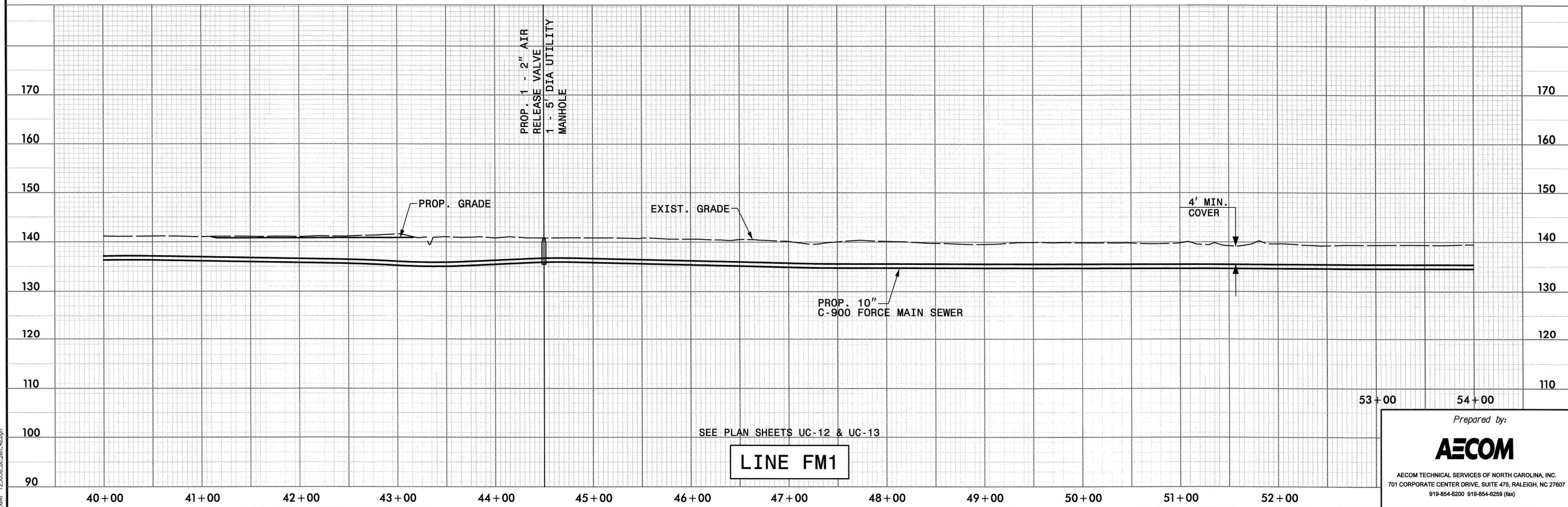
DATE: 2/19/2003
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UTILITY CONSTRUCTION



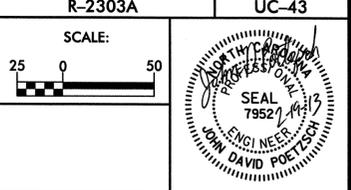
LINE FM1



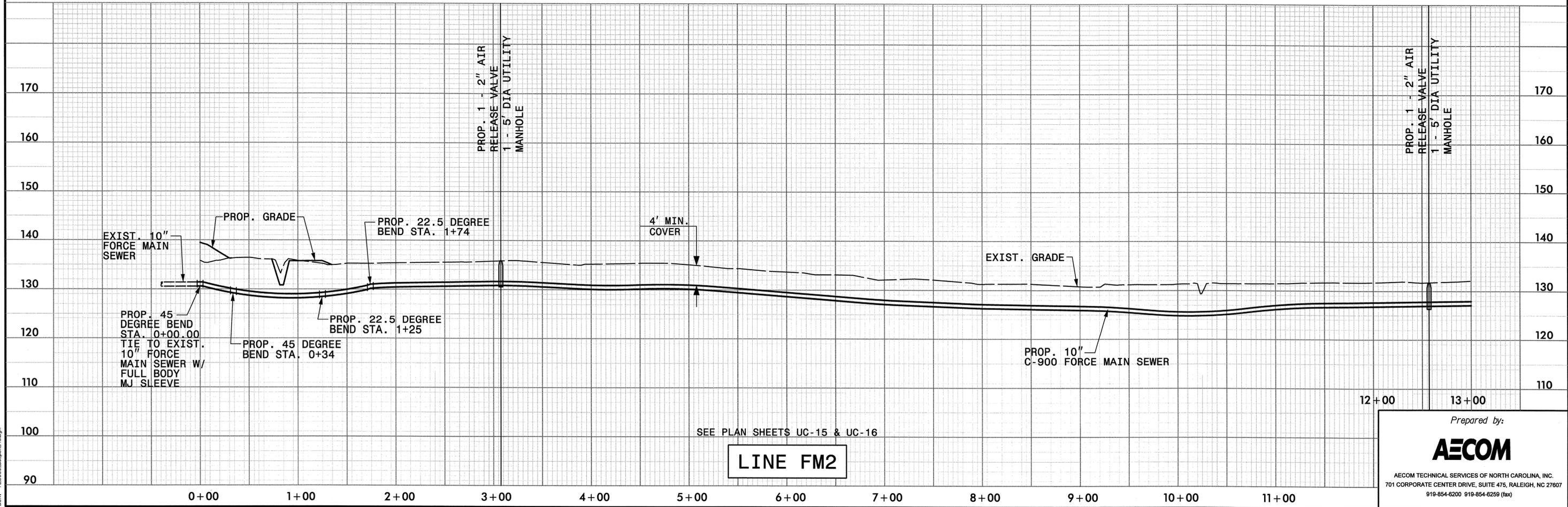
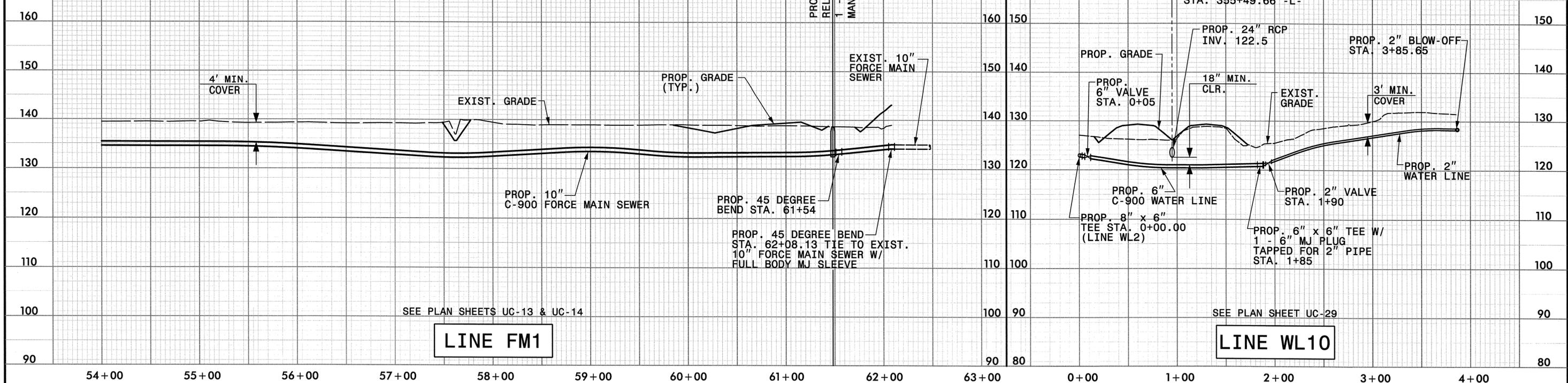
LINE FM1

DATE: 9/19/2013
DWG: R-2303A_UC-42.dwg

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UTILITY CONSTRUCTION



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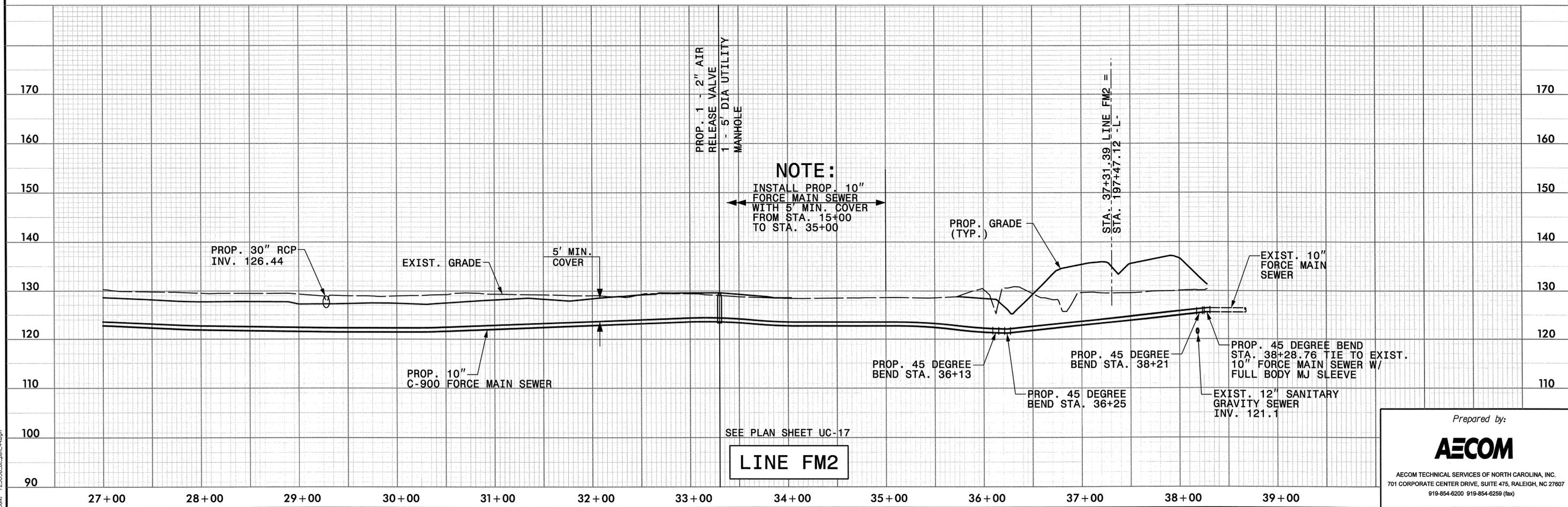
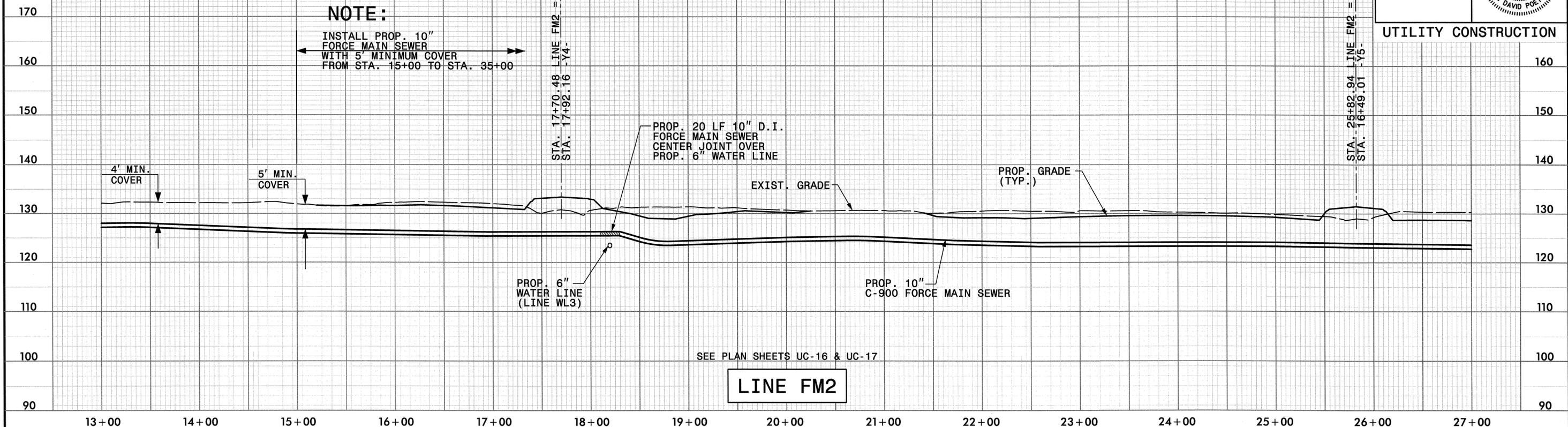
AECOM

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 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

DATE: 2/19/2003
DRAWN: 1230302 uc_rpl-43.dgn

SCALE: 25 0 50

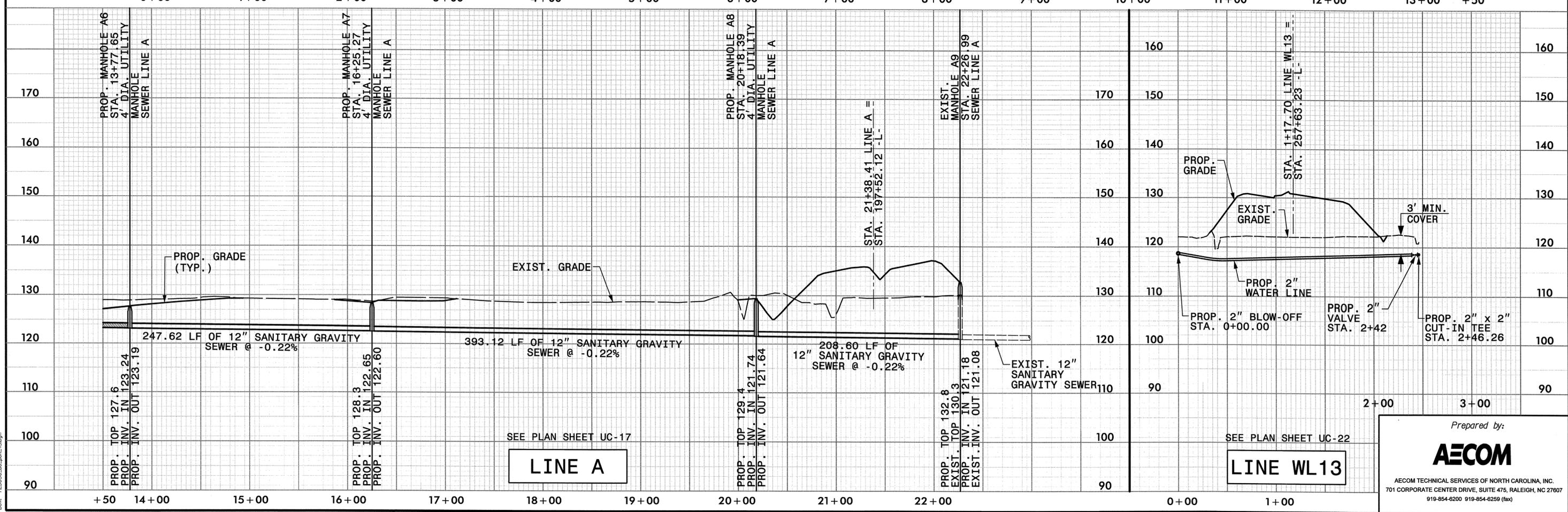
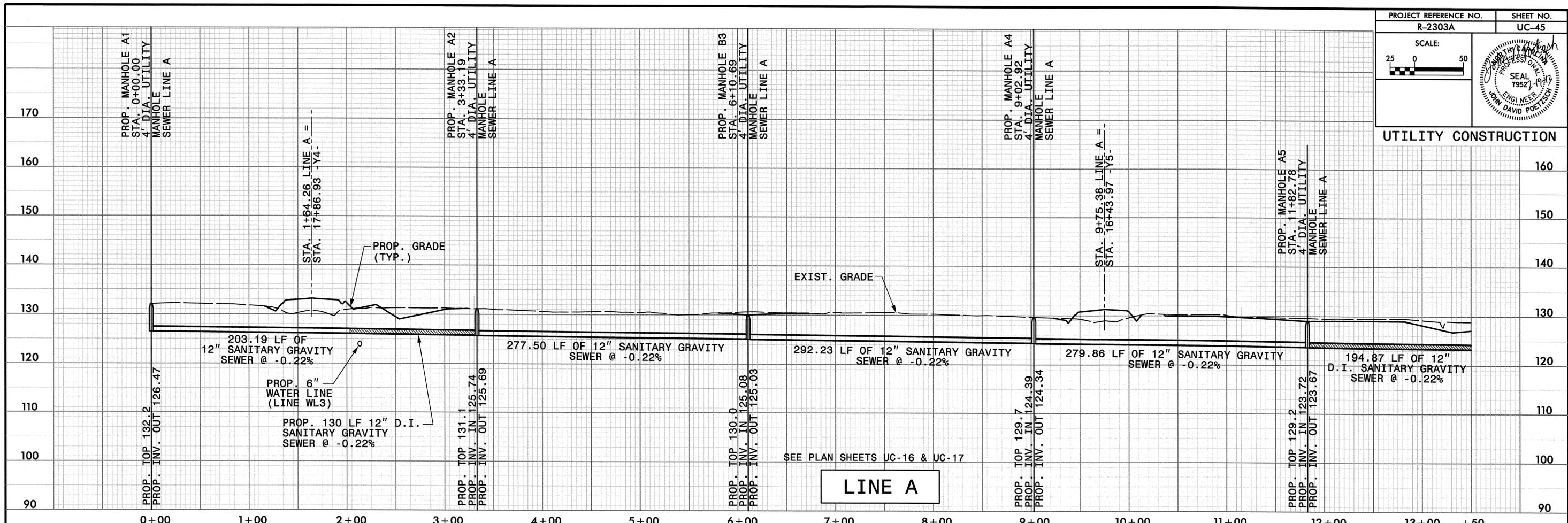
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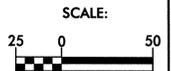
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DATE: 2/19/2013
 DGN: R2303A_UC.dgn

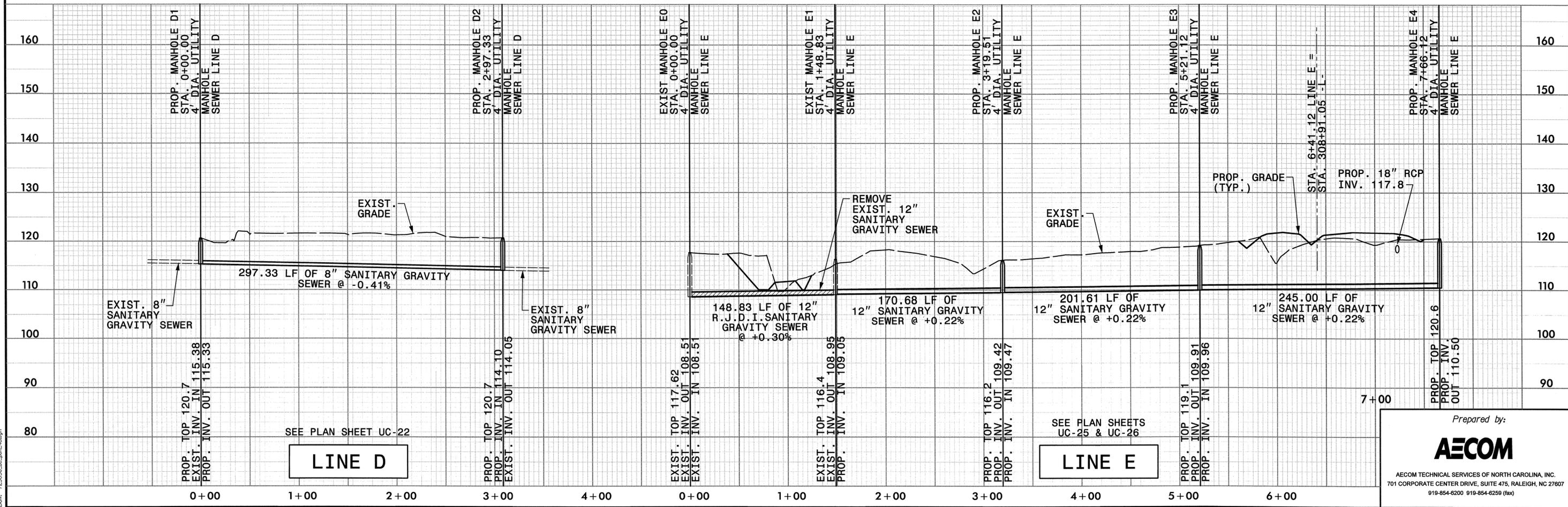
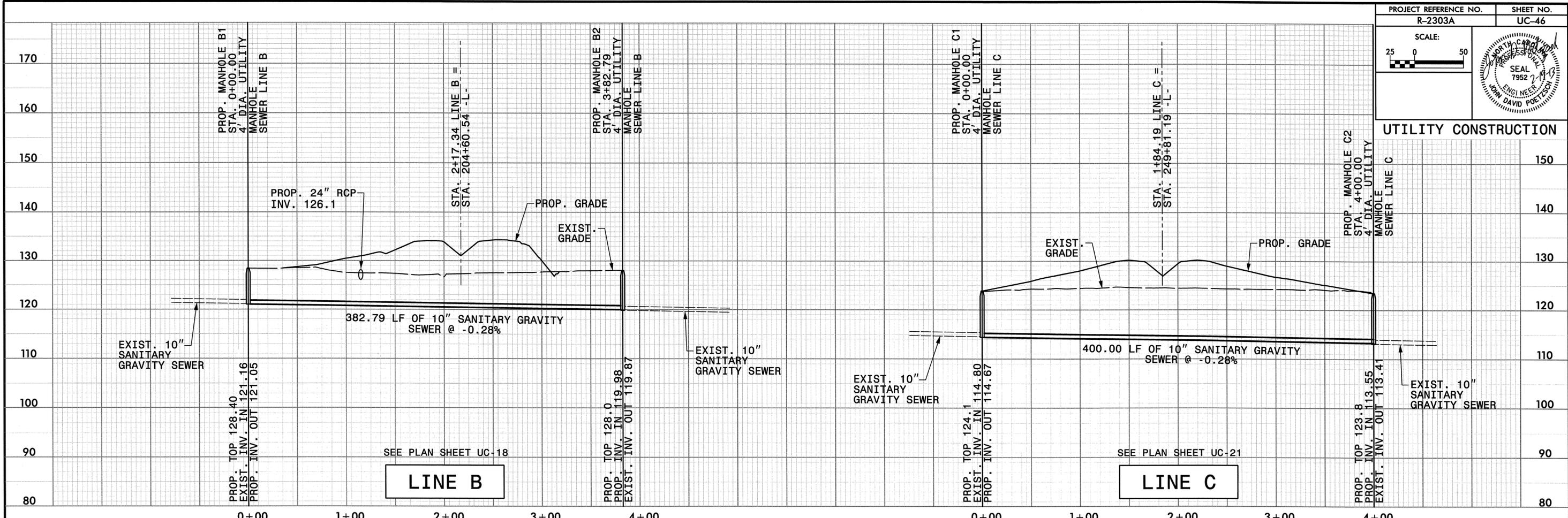
UTILITY CONSTRUCTION



DATE: 2/19/2013
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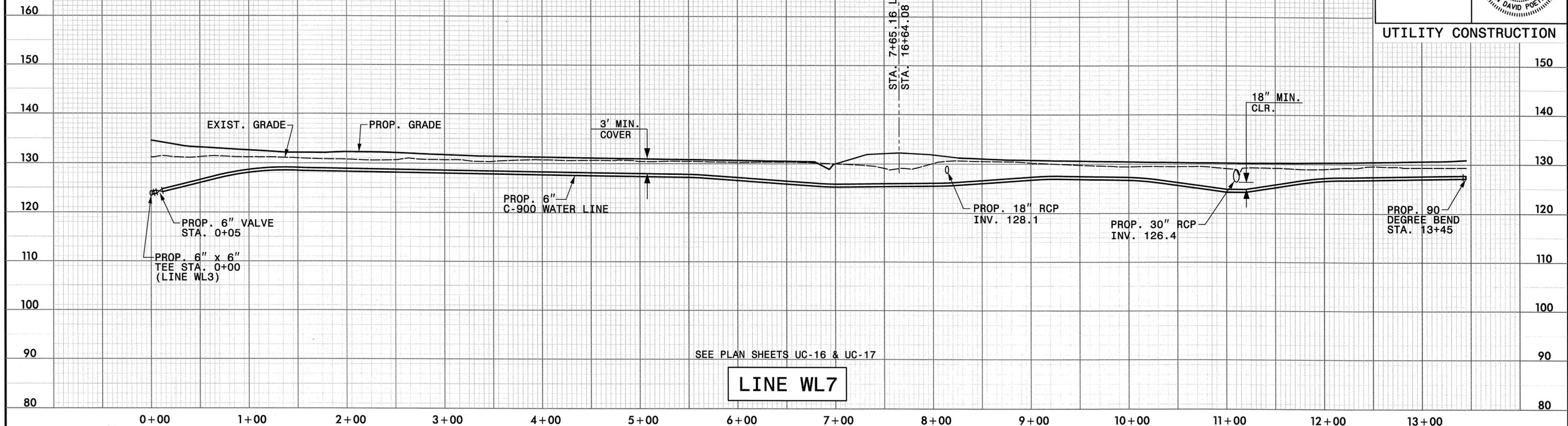
UTILITY CONSTRUCTION



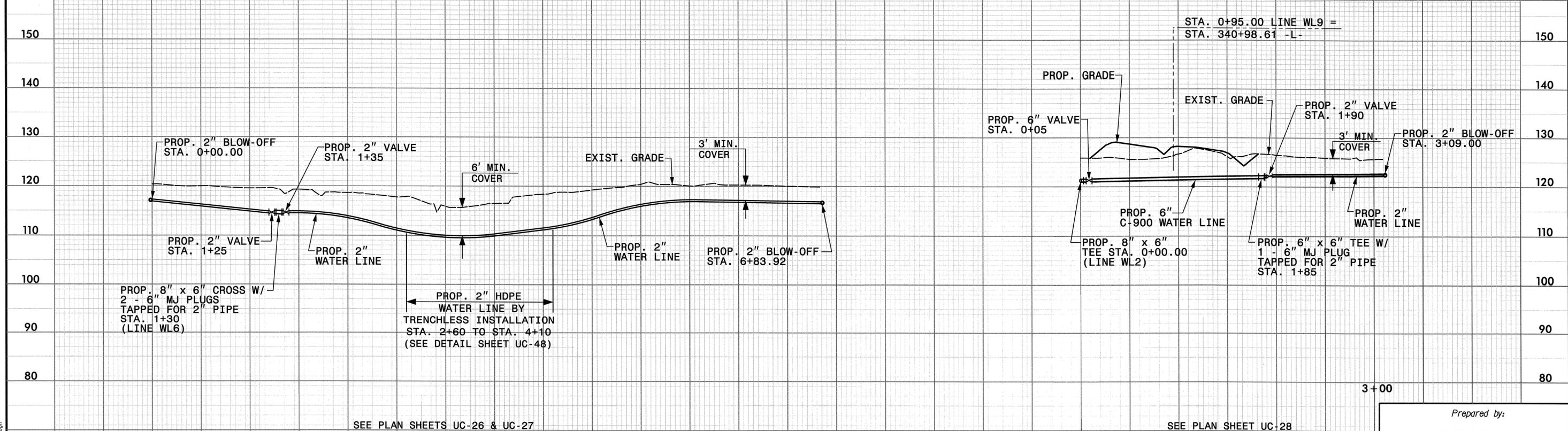
DATE: 2/19/2013
DWG: 2303a_uc_post-46.dgn

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UTILITY CONSTRUCTION



LINE WL7

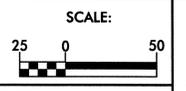


LINE WL8

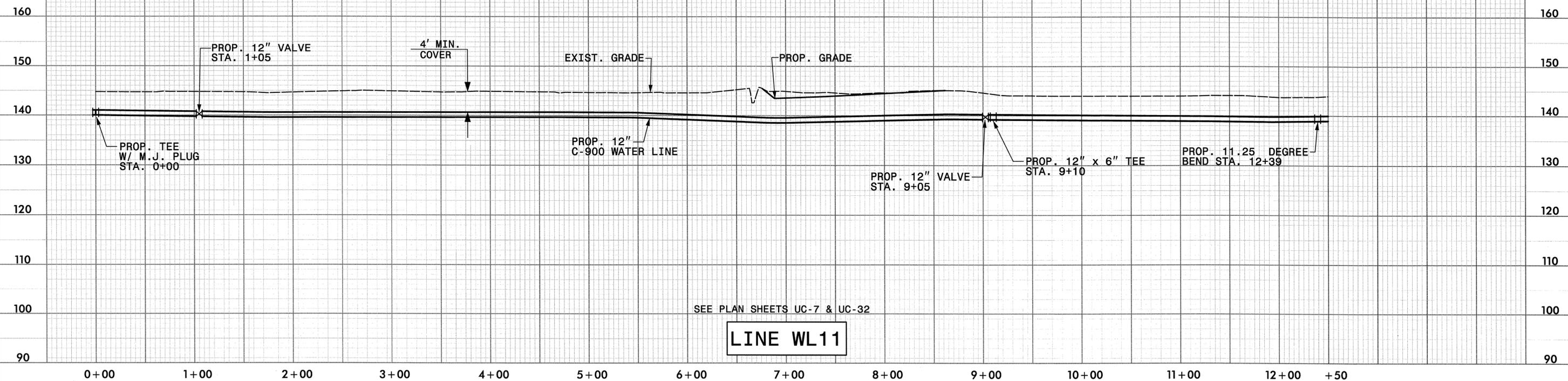
LINE WL9

DATE: 2/19/2013
 DSN: 2303a_uc_47.dgn

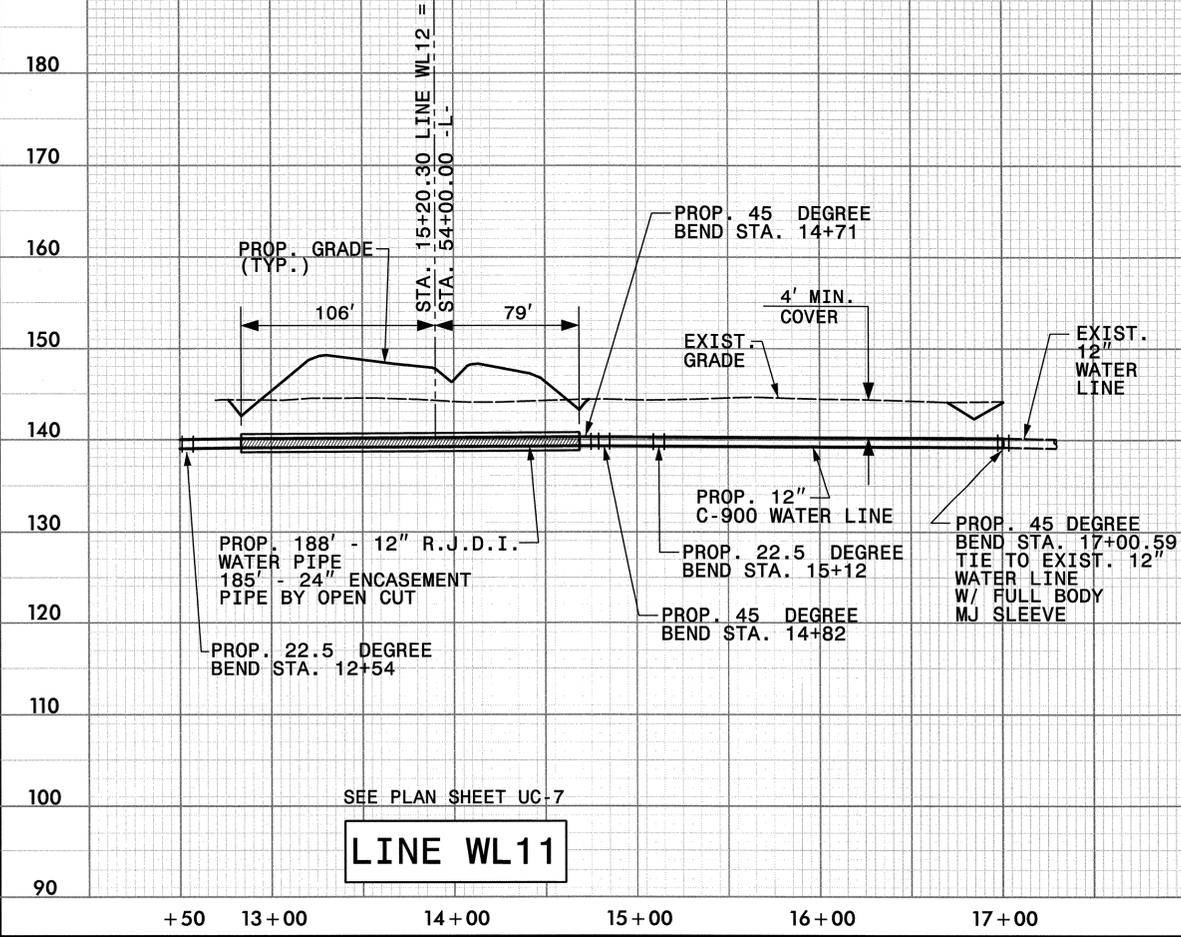
ALL WATER LINES AND SEWER LINES ON THIS SHEET OWNED BY THE FAYETTEVILLE PWC



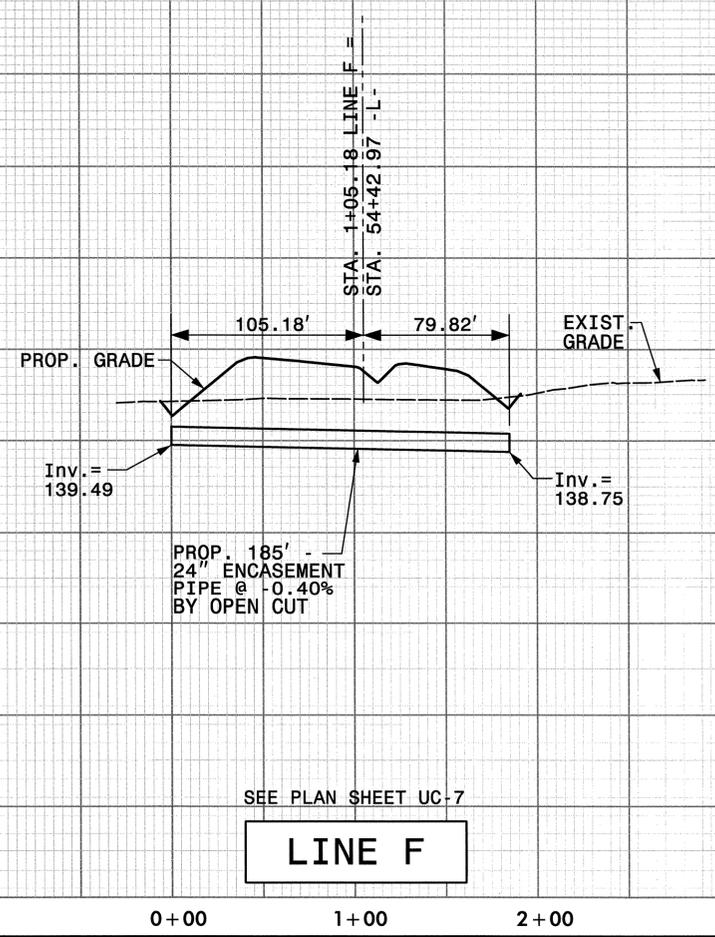
UTILITY CONSTRUCTION



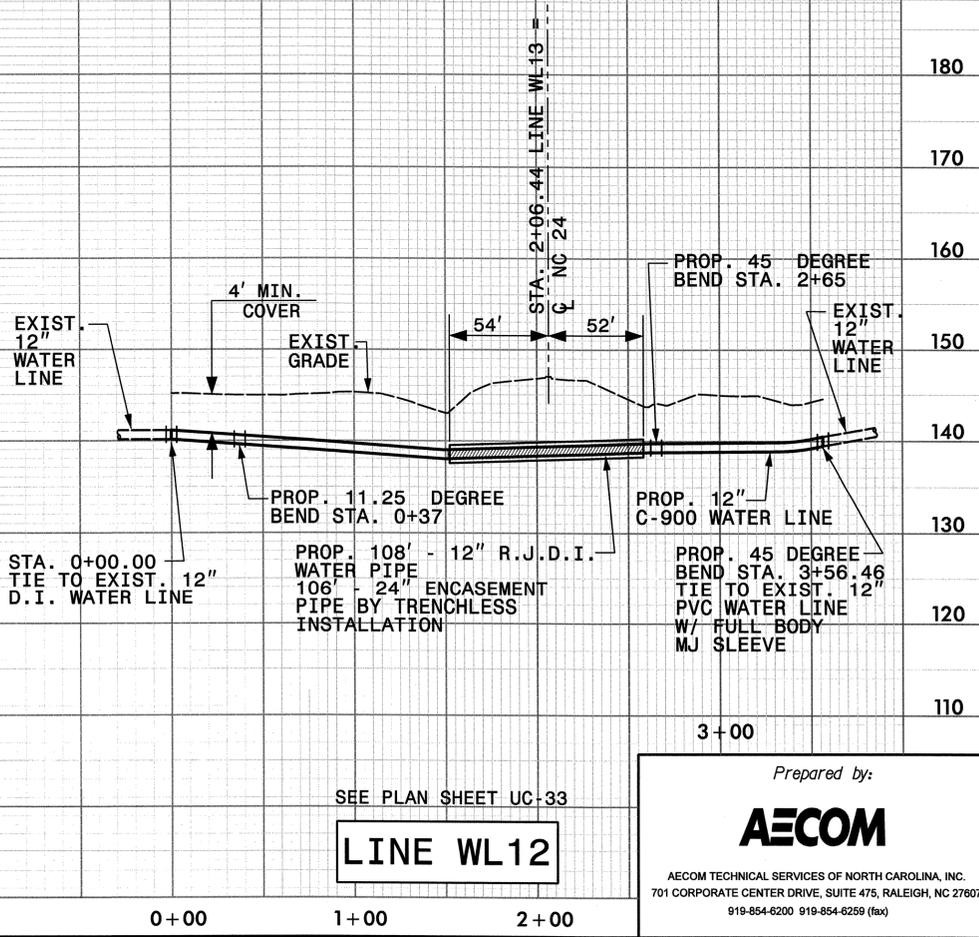
LINE WL11



LINE WL11



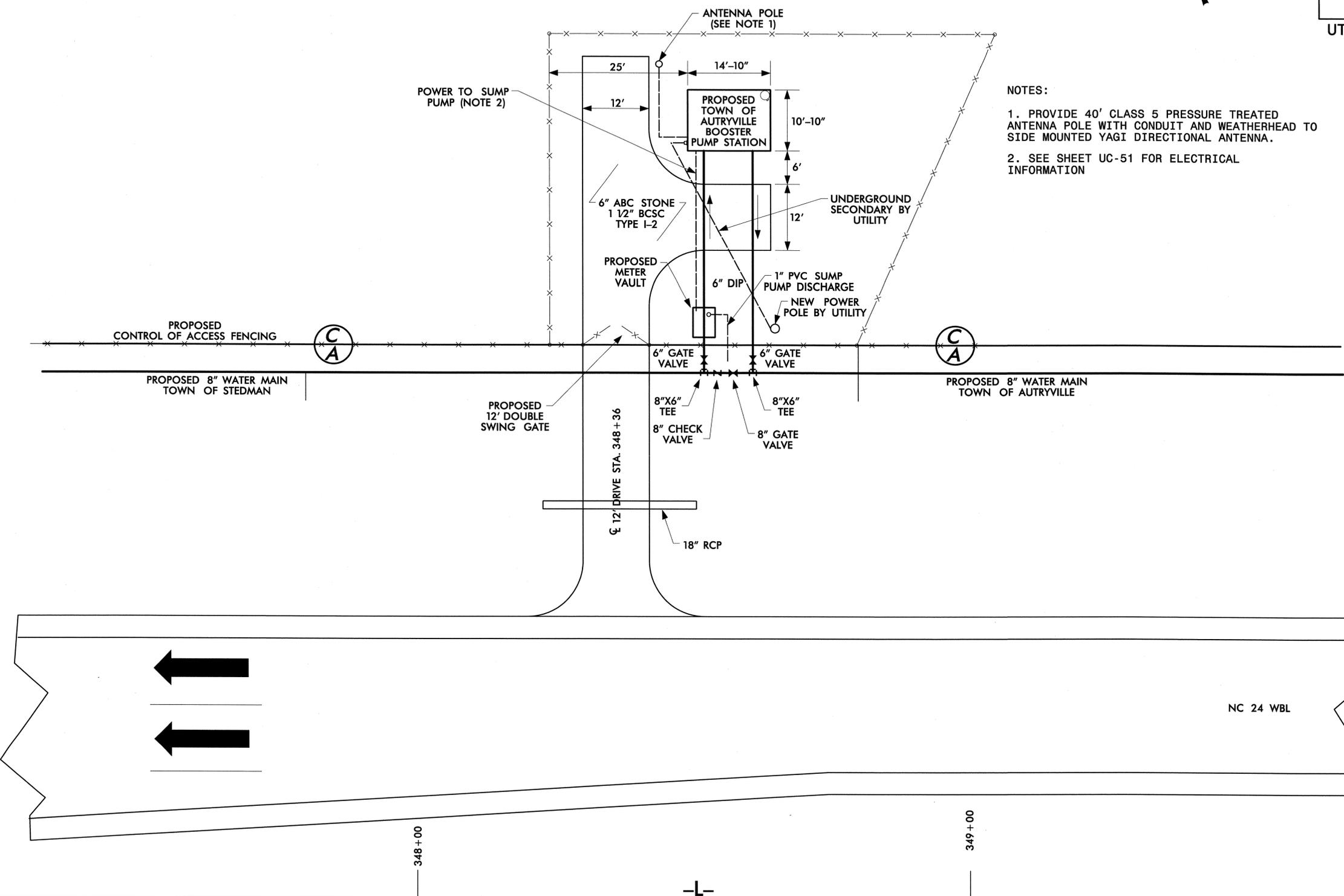
LINE F



LINE WL12

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 919-854-6200 919-854-6259 (fax)

DATE: 12/15/03
 DRAWN: R2303A-UC-48.dwg



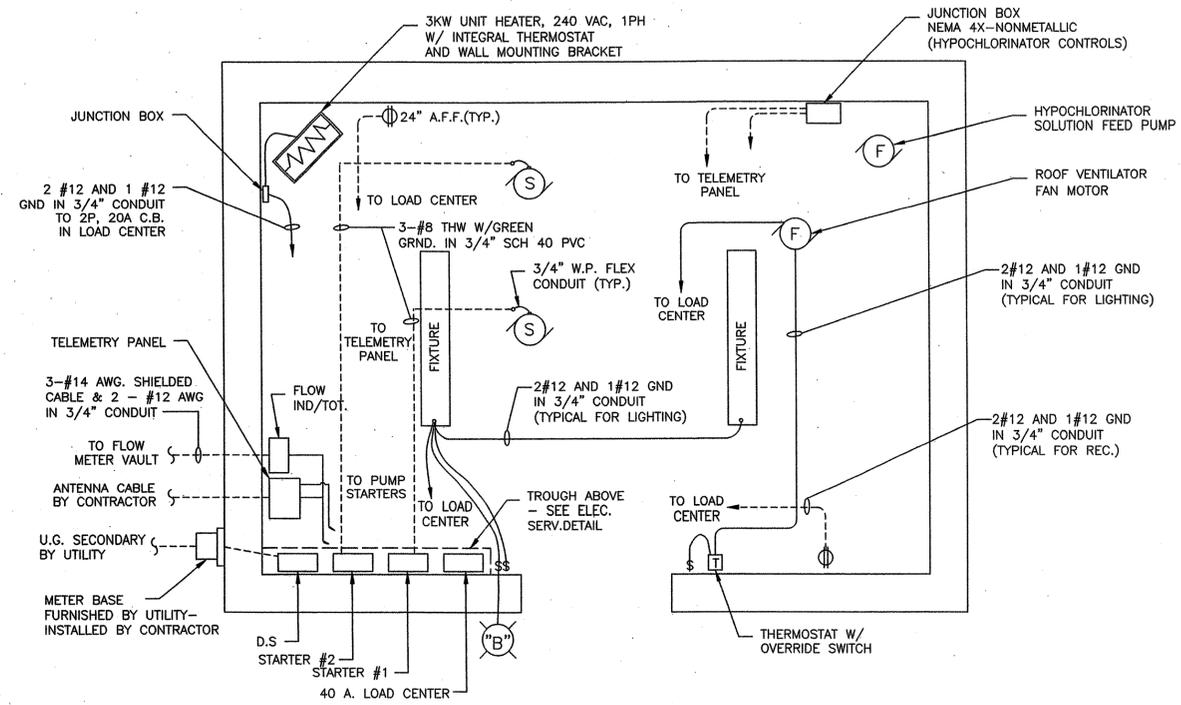
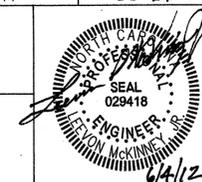
- NOTES:
1. PROVIDE 40' CLASS 5 PRESSURE TREATED ANTENNA POLE WITH CONDUIT AND WEATHERHEAD TO SIDE MOUNTED YAGI DIRECTIONAL ANTENNA.
 2. SEE SHEET UC-51 FOR ELECTRICAL INFORMATION

TOWN OF AUTRYVILLE
PROPOSED BOOSTER PUMP STATION

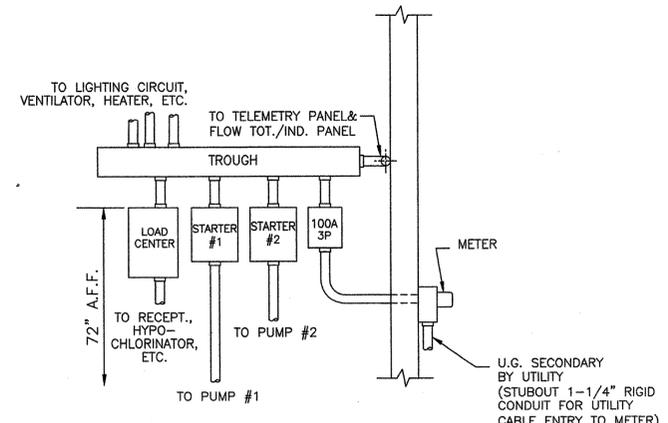
1" = 10'

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AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-8259 (fax)

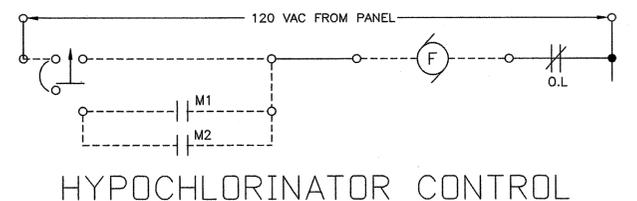
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 DSN: r2303a_uc_booster.dgn



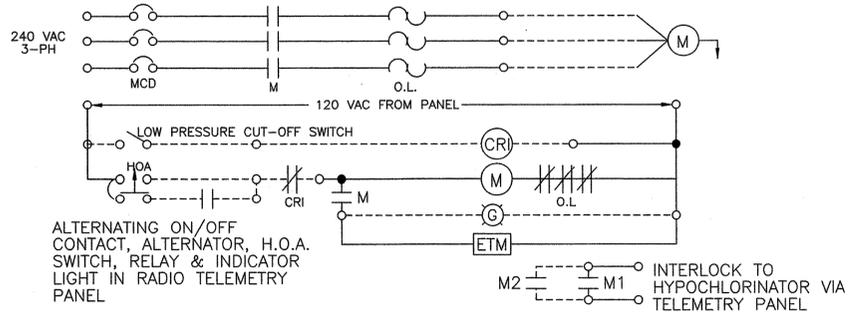
ELECTRICAL PLAN



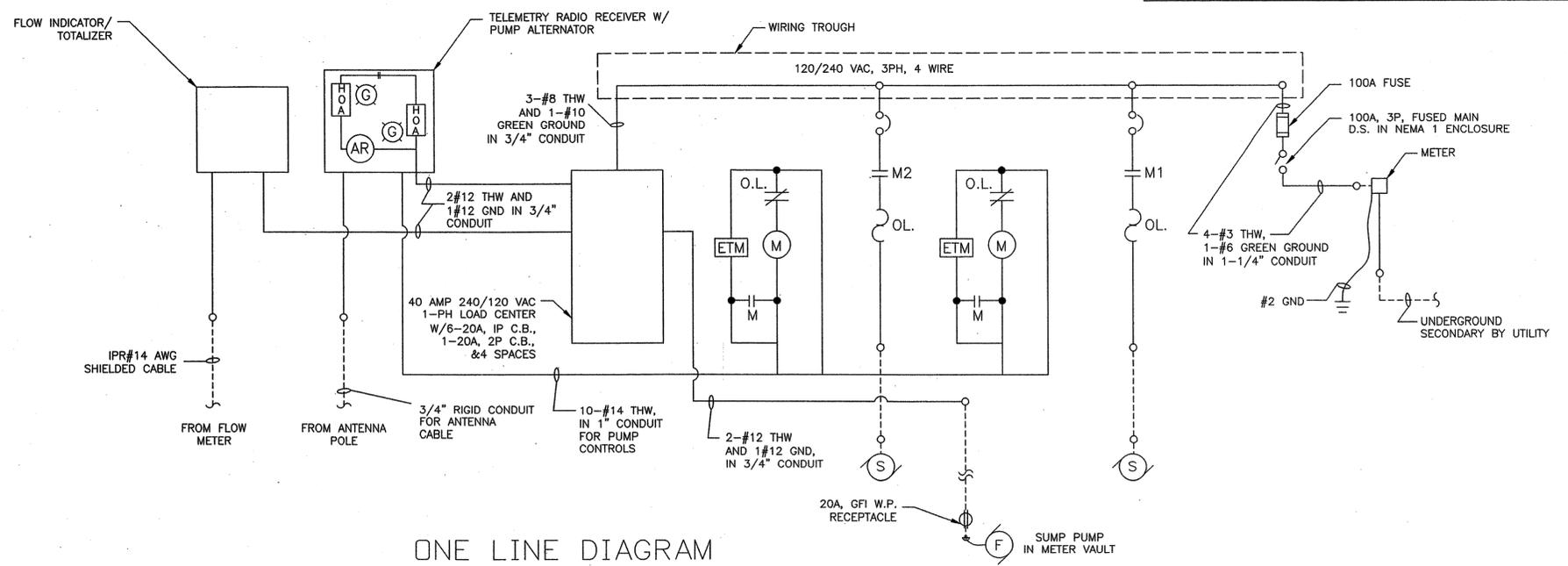
ELECTRICAL SERVICE ENTRANCE DETAIL



HYPOCHLORINATOR CONTROL



BOOSTER PUMP STARTER CONTROL (2 REQ'D.)



ONE LINE DIAGRAM

ELECTRICAL NOTES

1. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRIC SERVICE AS TO EXACT LOCATION, REQUIREMENTS, ETC. WITH SERVING UTILITY TO THE METERING POINT.
2. ALL BRAND CIRCUIT WIRE SHALL BE THE TYPE THW COPPER, SOLID IN RIGID CONDUIT WHERE EXPOSED.
3. THE SERVICE AND ALL ELECTRICAL EQUIPMENT, INCLUDING THE EQUIPMENT STRUCTURE SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
4. THE CONTRACTOR SHALL MAKE ALL BRANCH CIRCUIT CONNECTIONS TO THE EQUIPMENT ITEMS SHOWN.
5. THE PANEL SHALL INCLUDE A RADIO RECEIVER/TRANSMITTER FOR OPERATION AT 120 VAC AND SHALL PROVIDE PUMP ON/OFF CONTACTS TO THE PUMP ALTERNATOR WHICH SHALL PROVIDE ALTERNATE OPERATION OF THE PUMPS WHEN CALLED FOR.

ELECTRICAL LEGEND

- MCP MOTOR CIRCUIT PROTECTOR
- HOA HAND-OFF-AUTOMATIC SWITCH
- M MOTOR CONTACTOR
- D.S. DISCONNECT SWITCH
- OL OVERLOAD
- Ⓞ GREEN RUN LIGHT
- C.B. CIRCUIT BREAKER
- ETM ELAPSED TIME METER
- Ⓣ FRACTIONAL H.P. MOTOR
- B.C BARE COPPER
- W.P. WATERPROOF
- Ⓢ STARTER
- Ⓟ BLUE INDICATOR LIGHT
- A.F.F. ABOVE FINISHED FLOOR
- GND GROUND
- GFI GROUND FAULT INTERRUPTER

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 6/20/12
DWN: 6/20/12

TIP PROJECT: R-2303A

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

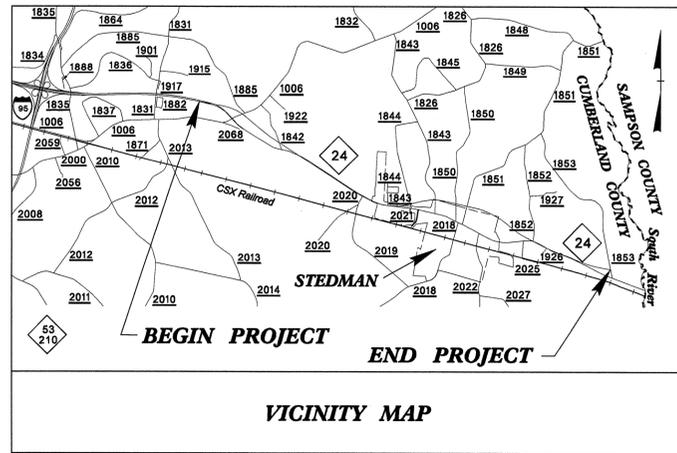
T.I.P. NO.	SHEET NO.
R-2303A	UO-1



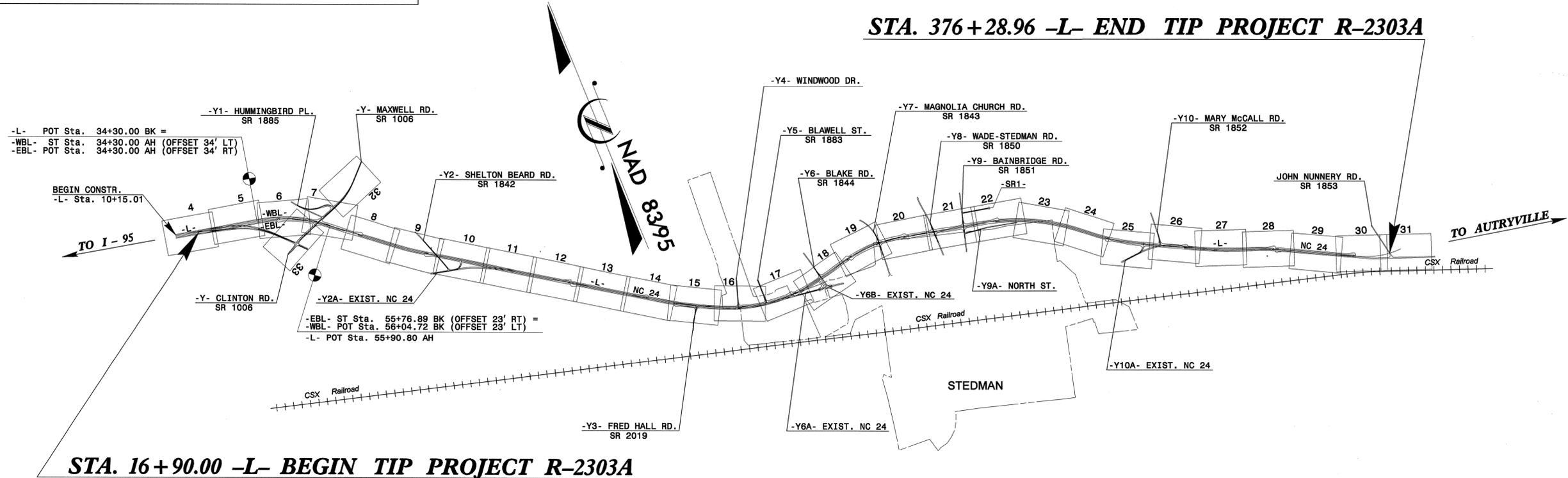
UTILITIES BY OTHERS CUMBERLAND COUNTY

LOCATION: NC 24 FROM WEST OF SR 1006 (MAXWELL RD./ CLINTON RD.) TO SR 1853 (JOHN NUNNERY RD.)

TYPE OF WORK: UTILITIES RELOCATION

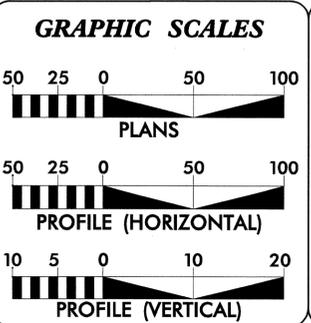


STA. 376+28.96 -L- END TIP PROJECT R-2303A



THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	LEGEND OF SYMBOLS
UO-3	OMITTED
UO-4 THRU UO-33	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

- POWER DISTRIBUTION - SOUTH RIVER EMC & PROGRESS ENERGY
- POWER TRANSMISSION - SOUTH RIVER EMC & PROGRESS ENERGY
- TELECOMMUNICATIONS - CENTURYLINK
- CABLE TELEVISION - TIME WARNER CABLE

PREPARED BY:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

PREPARED FOR:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS
UTILITIES AND ENCROACHMENTS
ENGINEERING UNIT

1555 MAIL SERVICE 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
AECOM Tech. Services UTILITIES BY OTHERS PROJECT DESIGNER

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	○ R/W
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite Marker	○ R/W ▲
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	○ WCR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
Recorded U/G Power Line	-P-
Designated U/G Power Line (S.U.E.*)	-P-

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-T-
Designated U/G Telephone Cable (S.U.E.*)	-T-
Recorded U/G Telephone Conduit	-TC-
Designated U/G Telephone Conduit (S.U.E.*)	-TC-
Recorded U/G Fiber Optics Cable	-T FO-
Designated U/G Fiber Optics Cable (S.U.E.*)	-T FO-

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-W-
Designated U/G Water Line (S.U.E.*)	-W-
Above Ground Water Line	-A/G Water-

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-TV-
Designated U/G TV Cable (S.U.E.*)	-TV-
Recorded U/G Fiber Optic Cable	-TV FO-
Designated U/G Fiber Optic Cable (S.U.E.*)	-TV FO-

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-G-
Designated U/G Gas Line (S.U.E.*)	-G-
Above Ground Gas Line	-A/G Gas-

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-SS-
Above Ground Sanitary Sewer	-A/G Sanitary Sewer-
Recorded SS Forced Main Line	-FSS-
Designated SS Forced Main Line (S.U.E.*)	-FSS-

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-UTUL-
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-4
SCALE: 25 0 50	



UTILITIES BY OTHERS

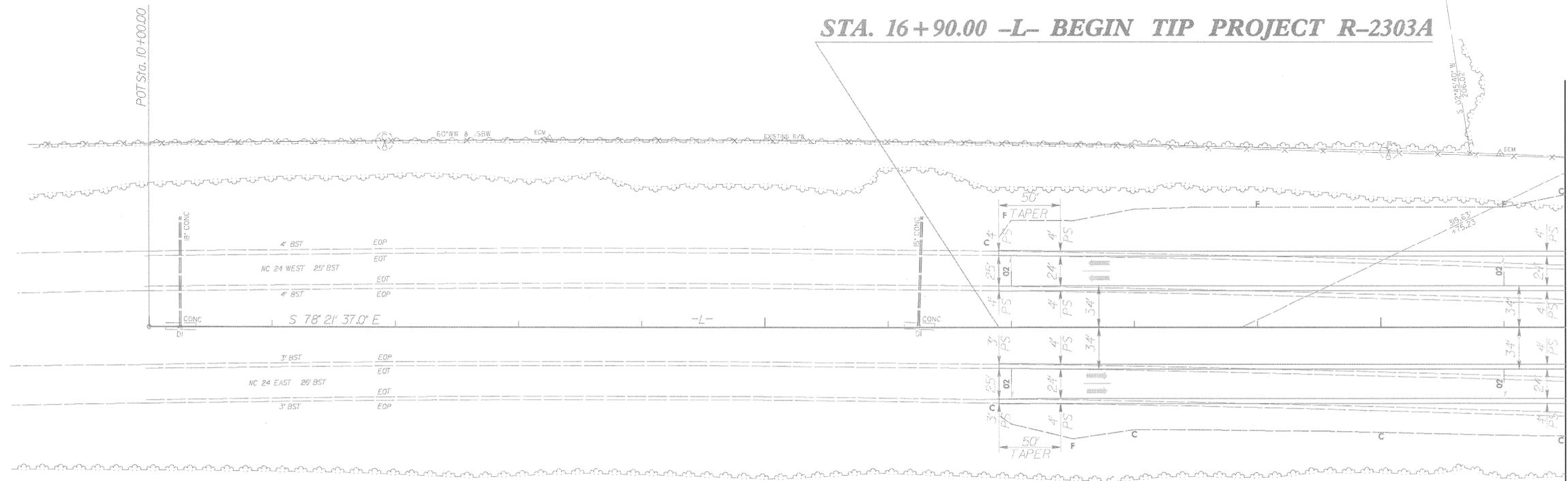
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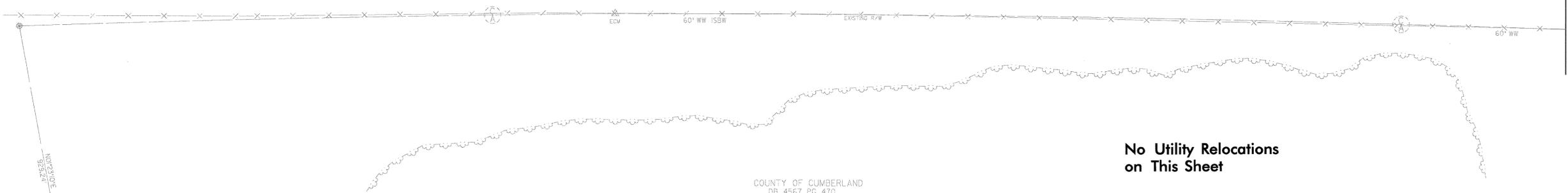
20

STA. 16+90.00 -L- BEGIN TIP PROJECT R-2303A

JOSEPHINE WHITTED
DB 6579 PG 150



MATCHLINE SEE SHEET UO-5 -L- STA. 21+50.00



No Utility Relocations
on This Sheet

COUNTY OF CUMBERLAND
DB 4967 PG 470
PB 93 PG 90

DATE: 7/5/09
DWG: 12303A_UO-4.dwg

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

-WBL-		
Pls Sta 35+63.34	PI Sta 45+01.28	Pls Sta 54+12.42
$\Delta s = 1' 25" 56.6"$	$\Delta = 24' 34" 34.5" (RT)$	$\Delta s = 1' 25" 56.6"$
$Ls = 200.00'$	$D = 1' 25" 56.6"$	$Ls = 200.00'$
$LT = 133.34'$	$L = 1715.75'$	$LT = 133.34'$
$ST = 66.67'$	$T = 871.27'$	$ST = 66.67'$
	$R = 4,000.00'$	
	$SE = .04$	

-L-		
Pls Sta 35+78.91	PI Sta 45+16.84	Pls Sta 54+27.99
$\Delta s = 1' 25" 56.6"$	$\Delta = 24' 34" 34.5" (RT)$	$\Delta s = 1' 25" 56.6"$
$Ls = 200.00'$	$D = 1' 25" 56.6"$	$Ls = 200.00'$
$LT = 133.34'$	$L = 1715.75'$	$LT = 133.34'$
$ST = 66.67'$	$T = 871.27'$	$ST = 66.67'$
	$R = 4,000.00'$	

-EBL-		
Pls Sta 35+94.48	PI Sta 45+32.41	Pls Sta 54+43.56
$\Delta s = 1' 25" 56.6"$	$\Delta = 24' 34" 34.5" (RT)$	$\Delta s = 1' 25" 56.6"$
$Ls = 200.00'$	$D = 1' 25" 56.6"$	$Ls = 200.00'$
$LT = 133.34'$	$L = 1715.75'$	$LT = 133.34'$
$ST = 66.67'$	$T = 871.27'$	$ST = 66.67'$
	$R = 4,000.00'$	
	$SE = .04$	

-Y1-	
PI Sta 17+61.47	$\Delta = 46' 20" 06.0" (RT)$
$D = 1' 50" 55.5"$	$L = 590.35'$
$L = 312.39'$	$R = 730.00'$
$SE = SEE PLANS$	

UTILITIES BY OTHERS

PROPOSED SOUTH RIVER EMC O/H POWER AND TWC CATV

ABANDON EXISTING CENTURYLINK U/G CABLE

PROPOSED CENTURYLINK U/G CABLE

35

40

45

SEE MATCHLINE SEE SHEET UO-5 -L- STA. 35+00.00

SEE MATCHLINE SHT. UO-5

MATCHLINE SEE SHEET UO-33

MATCHLINE SEE SHEET UO-33

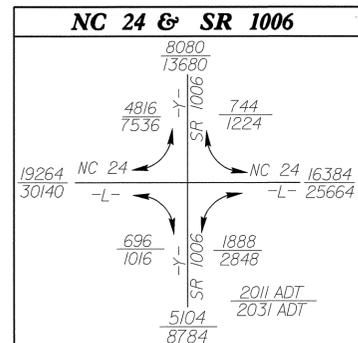
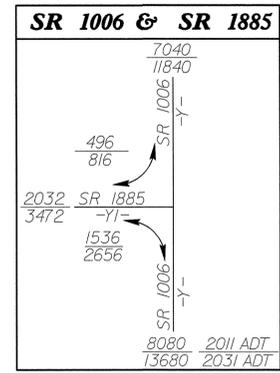
MATCHLINE SEE SHEET UO-7 -L- STA. 48+50.00

MATCHLINE SEE SHEET UO-7

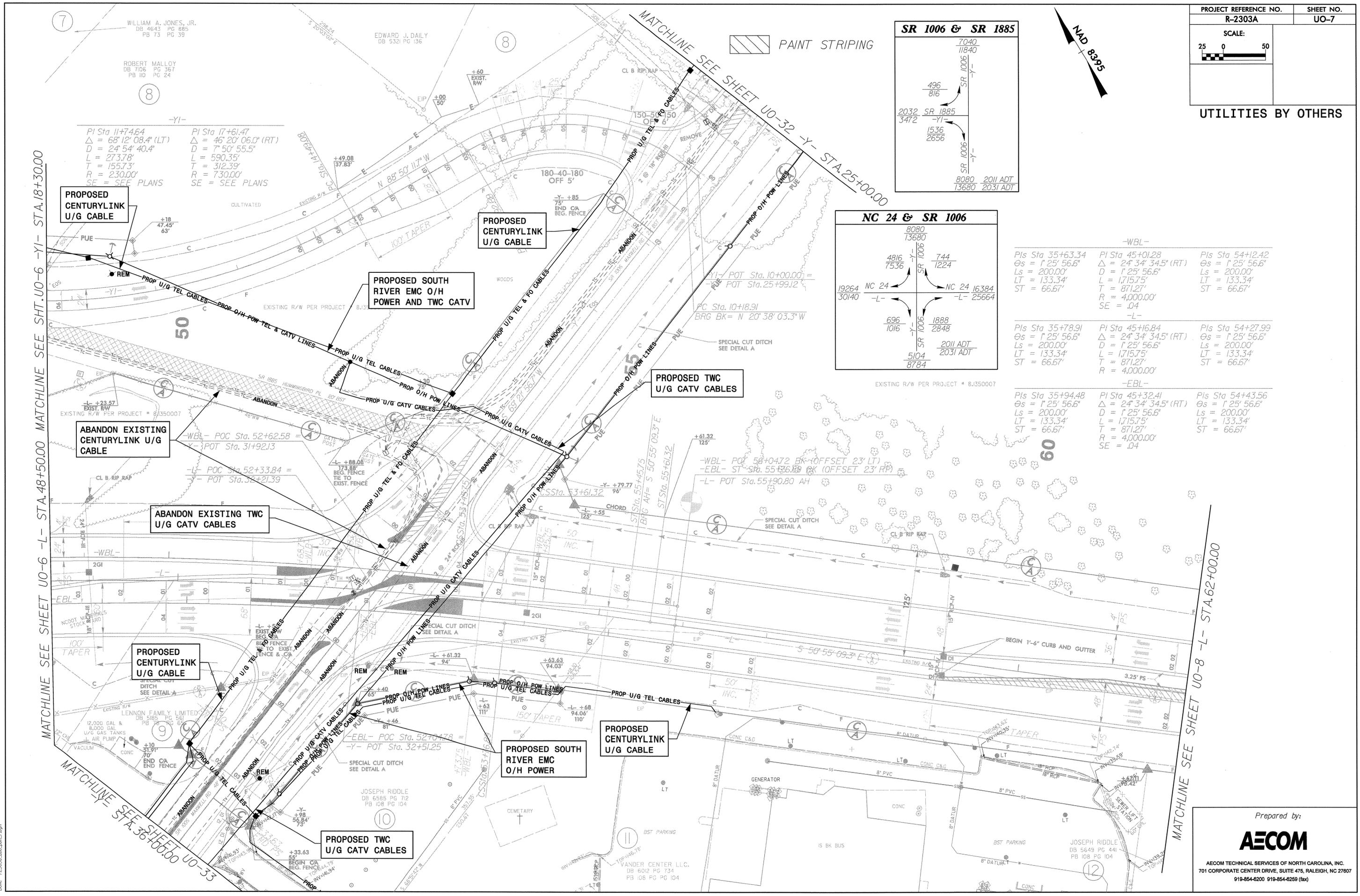
DATE: 7/15/2012
DRAWN: R-2303A_uo-6.dgn

PAINT STRIPING

UTILITIES BY OTHERS



-WBL-		
Pis Sta 35+63.34	Pi Sta 45+01.28	Pis Sta 54+12.42
$\Delta = 1^{\circ}25'56.6''$	$\Delta = 2^{\circ}34'34.5''$ (RT)	$\Delta = 1^{\circ}25'56.6''$
Ls = 200.00'	Ls = 200.00'	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	
-L-		
Pis Sta 35+78.91	Pi Sta 45+16.84	Pis Sta 54+27.99
$\Delta = 1^{\circ}25'56.6''$	$\Delta = 2^{\circ}34'34.5''$ (RT)	$\Delta = 1^{\circ}25'56.6''$
Ls = 200.00'	Ls = 200.00'	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
-EBL-		
Pis Sta 35+94.48	Pi Sta 45+32.41	Pis Sta 54+43.56
$\Delta = 1^{\circ}25'56.6''$	$\Delta = 2^{\circ}34'34.5''$ (RT)	$\Delta = 1^{\circ}25'56.6''$
Ls = 200.00'	Ls = 200.00'	Ls = 200.00'
LT = 133.34'	L = 1,715.75'	LT = 133.34'
ST = 66.67'	T = 871.27'	ST = 66.67'
	R = 4,000.00'	
	SE = .04	



WILLIAM A. JONES, JR.
DB 4643 PG 855
PB 73 PG 39

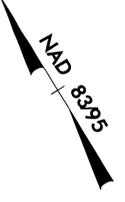
ROBERT MALLOY
DB 7106 PG 367
PB 10 PG 24

EDWARD J. DAILY
DB 5321 PG 136

PI Sta 11+74.64
 $\Delta = 68^{\circ}12'08.4''$ (LT)
D = 24'54'40.4"
L = 273.78'
T = 155.73'
R = 230.00'
SE = SEE PLANS

PI Sta 17+61.47
 $\Delta = 46^{\circ}20'06.0''$ (RT)
D = 7'50'55.5"
L = 590.35'
T = 312.39'
R = 730.00'
SE = SEE PLANS

PAINT STRIPING



DATE: 7/15/2012
DRAWN: 12303a_uo_nsh_7.dwg

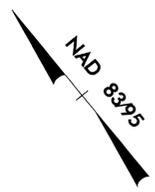
MATCHLINE SEE SHEET UO-8 -L- STA.62+00.00

MATCHLINE SEE SHEET UO-6 -YI- STA.18+30.00

MATCHLINE SEE SHEET STA.36+55.00 UO-33

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-8
SCALE: 25 0 50	

UTILITIES BY OTHERS



TEW FAMILY, LLC
DB 6151 PG 282
PB 78 PG 64

13

EXISTING R/W PER PROJECT * 8.350007

65

70

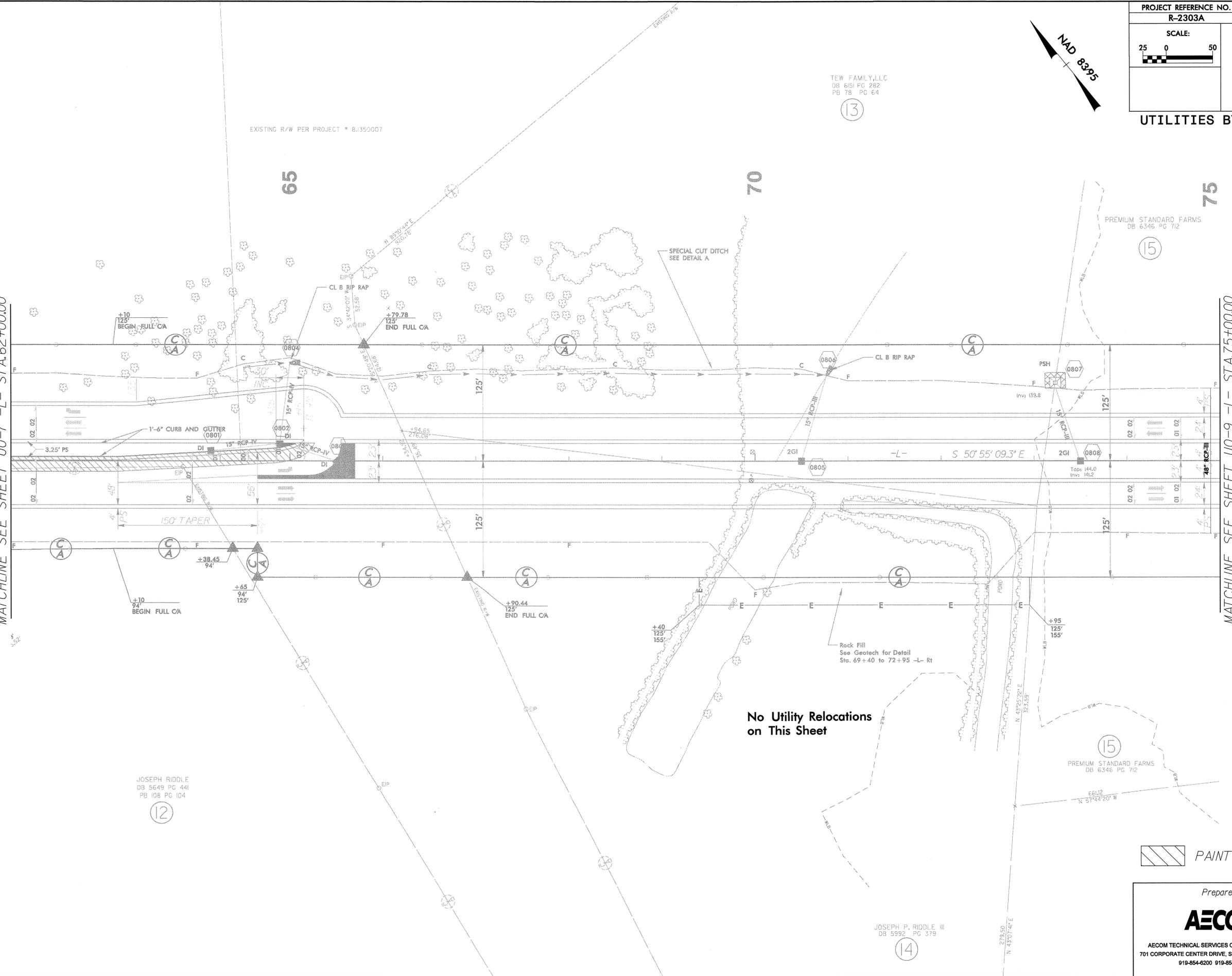
75

PREMIUM STANDARD FARMS
DB 6346 PG 712

15

MATCHLINE SEE SHEET UO-7 -L- STA.62+00.00

MATCHLINE SEE SHEET UO-9 -L- STA.75+00.00



SPECIAL CUT DITCH
SEE DETAIL A

-L- S 50° 55' 09.3" E

No Utility Relocations
on This Sheet

Rock Fill
See Geotech for Detail
Sta. 69+40 to 72+95 -L- Rt

JOSEPH RIDDLE
DB 5649 PG 441
PB 108 PG 104

12

JOSEPH P. RIDDLE III
DB 5992 PG 379

14

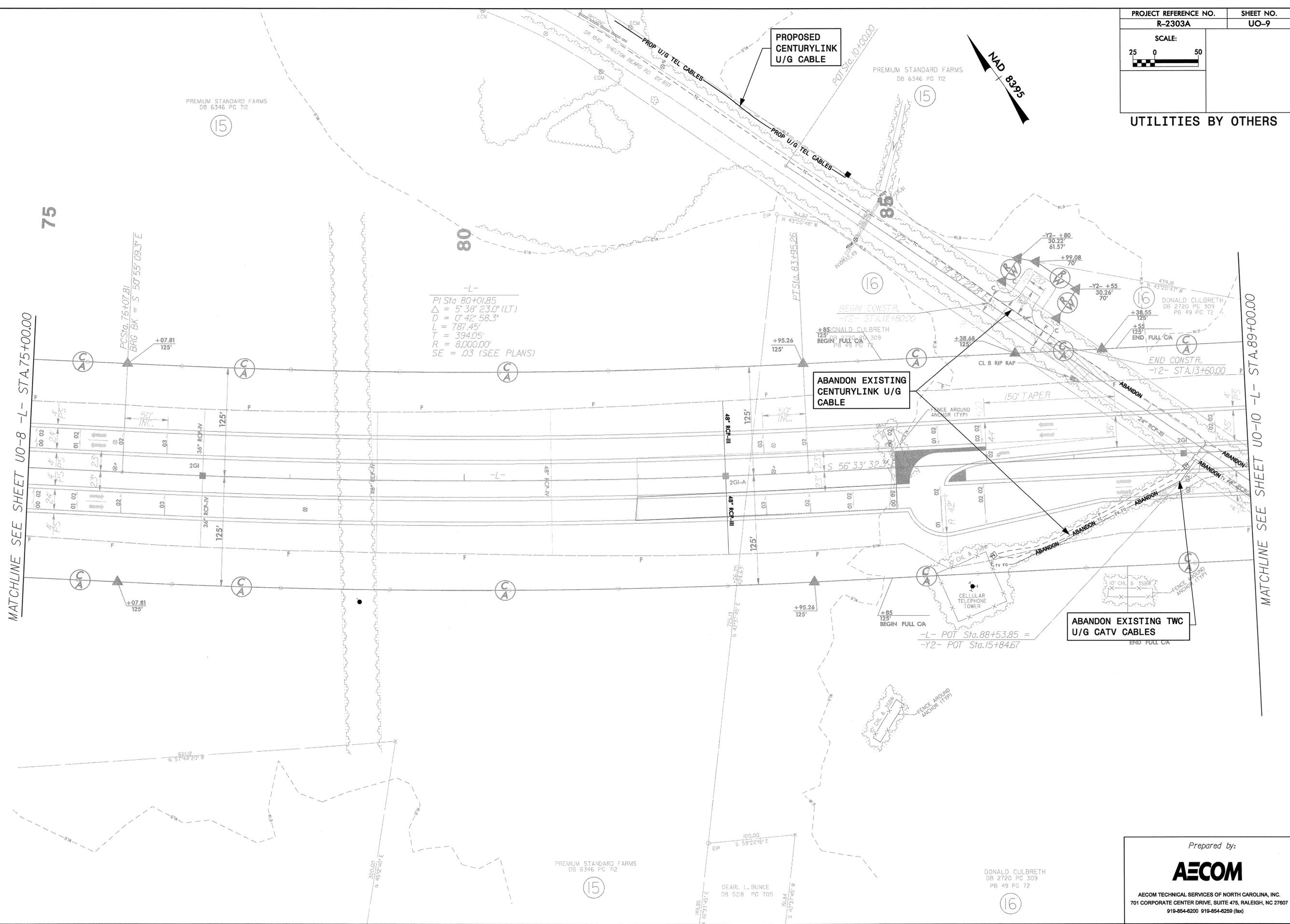
PAINT STRIPING

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 7/5/2012
DRAWN: r2303a_jrlo_ash_b.dgn



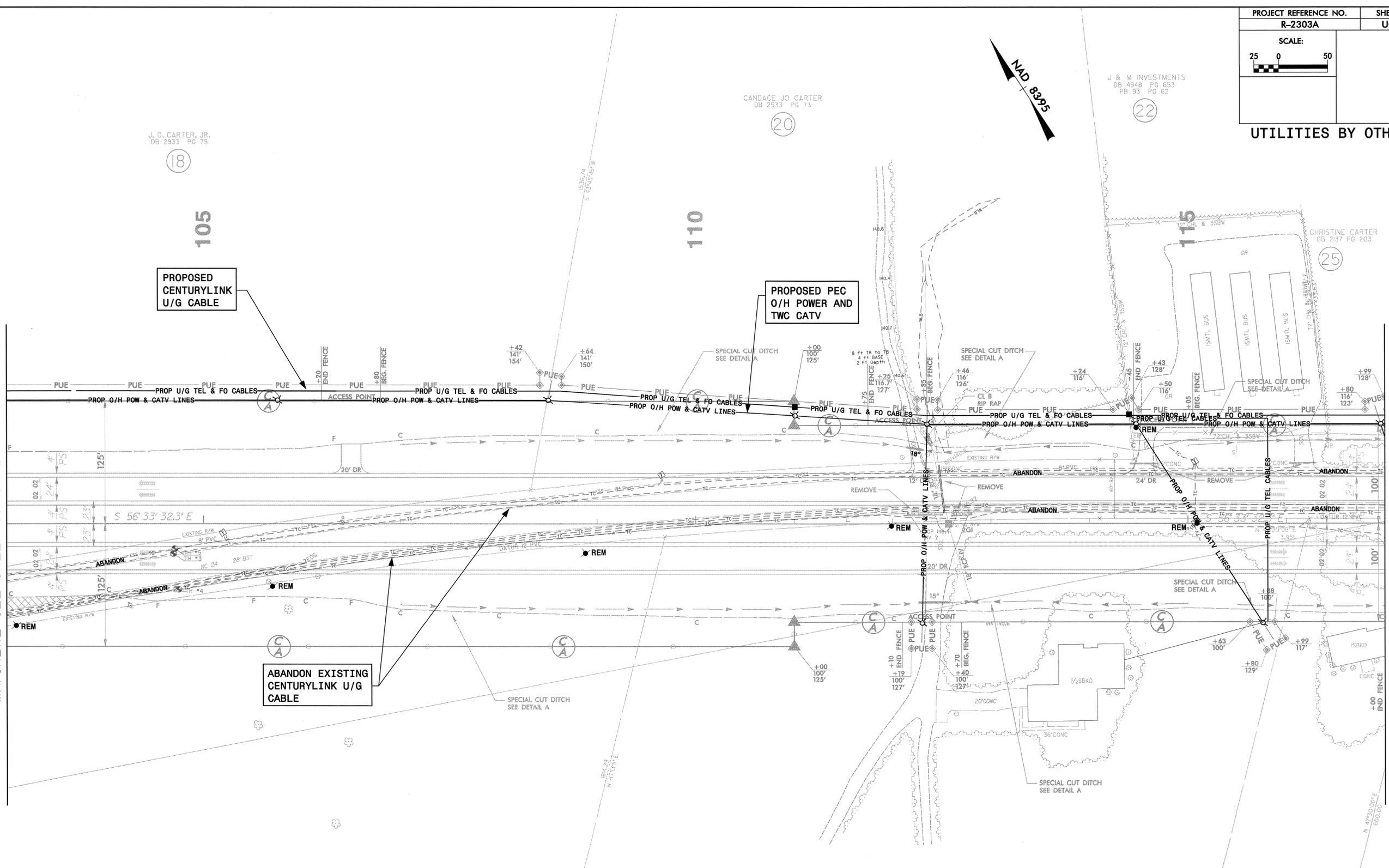
DATE: 7/5/2012
 DOW: r2303a_uo_9.dgn

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-11
SCALE: 25 0 50	

UTILITIES BY OTHERS

MATCHLINE SEE SHEET UO-10 -L- STA.103+00.00

MATCHLINE SEE SHEET UO-12 -L- STA.117+00.00



PROPOSED CENTURYLINK U/G CABLE

PROPOSED PEC O/H POWER AND TWC CATV

ABANDON EXISTING CENTURYLINK U/G CABLE

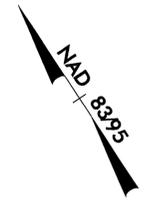
DATE: 7/5/2012
DRAWN: r2303c_luo_ast_ll.dgn

Prepared by:

AECOM

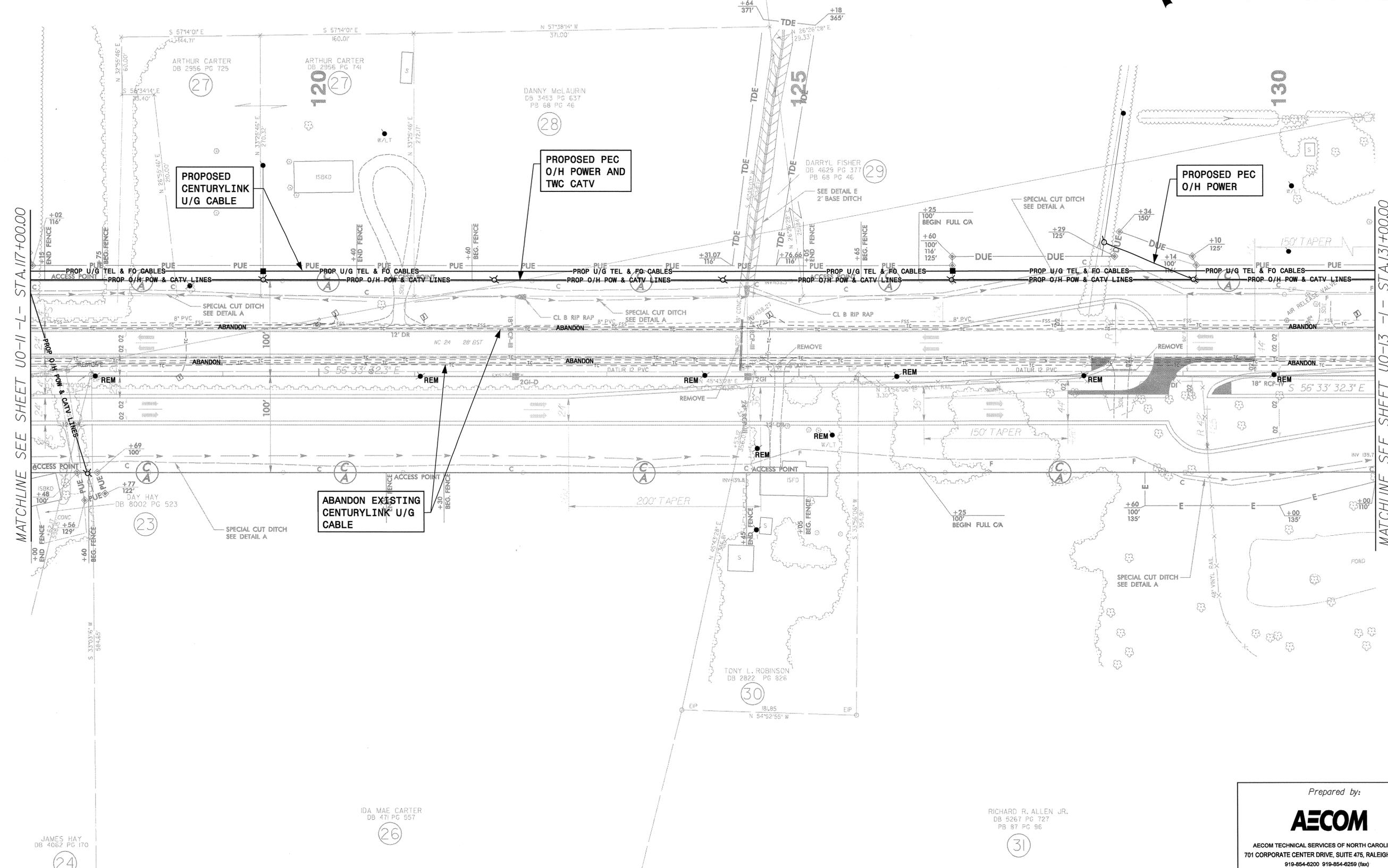
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 476, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DARRYL FISHER
DB 4629 PG 377
29



MATCHLINE SEE SHEET UO-11 -L- STA.117+00.00

MATCHLINE SEE SHEET UO-13 -L- STA.131+00.00



CHRISTINE CARTER
DB 2137 PG 203
25

ARTHUR CARTER
DB 2956 PG 725
27

ARTHUR CARTER
DB 2956 PG 741
120 27

DANNY McLAURIN
DB 3453 PG 637
PB 68 PG 46
28

DARRYL FISHER
DB 4629 PG 377
PB 68 PG 46
29

DAY HAY
DB 8002 PG 523
23

JAMES HAY
DB 4062 PG 170
24

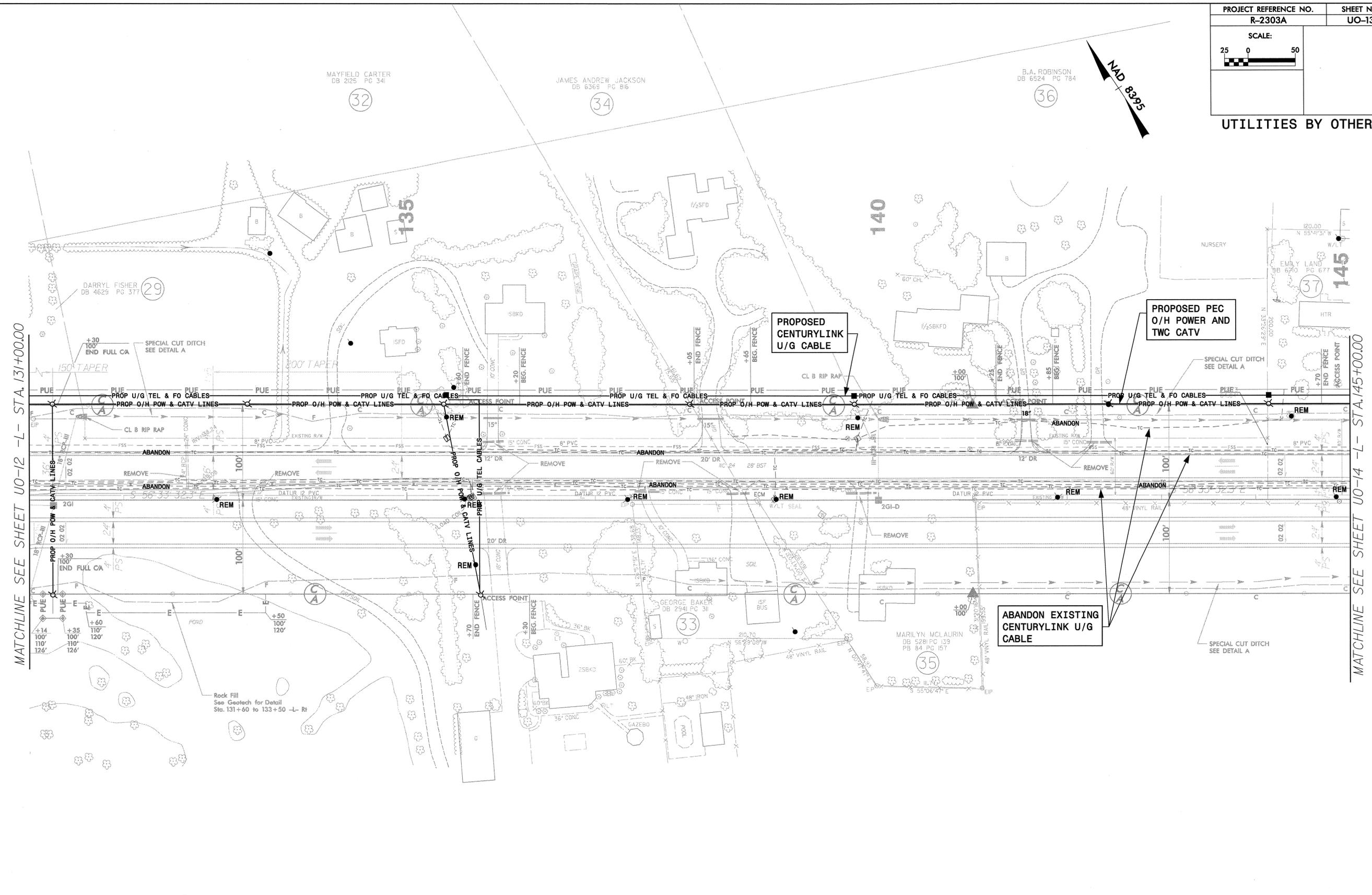
IDA MAE CARTER
DB 471 PG 557
26

TONY L. ROBINSON
DB 2822 PG 826
30

RICHARD R. ALLEN JR.
DB 5267 PG 727
PB 87 PG 96
31

DATE: 7/15/2012
DRAWN: P23036_110a_msh_12.dgn

UTILITIES BY OTHERS



MATCHLINE SEE SHEET UO-12 -L- STA. 131+00.00

MATCHLINE SEE SHEET UO-14 -L- STA. 145+00.00

31

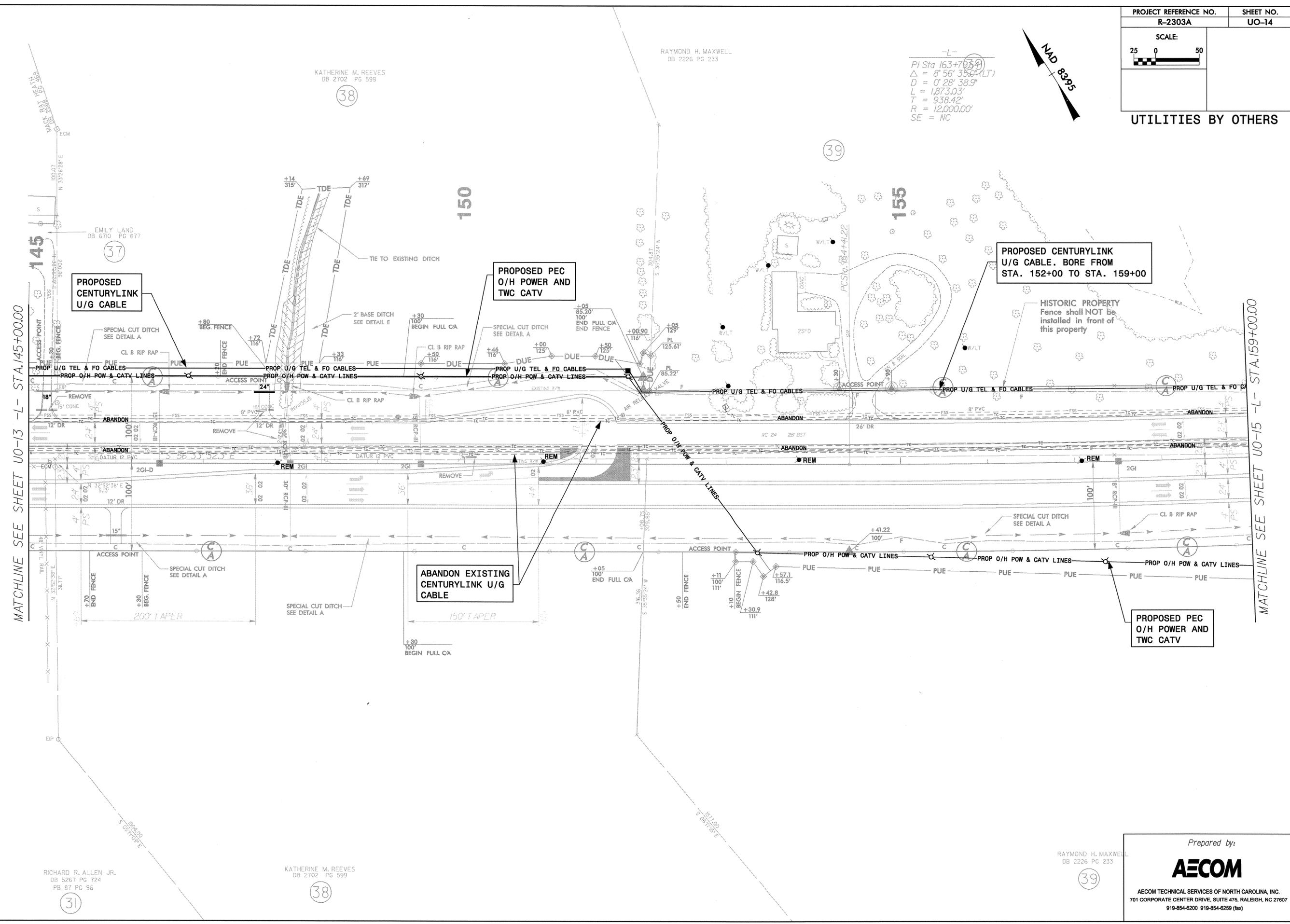
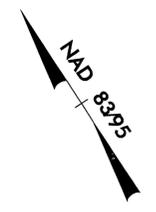
RICHARD R. ALLEN JR.
DB 5267 PG 127
PB 87 PG 96

Prepared by:
AECOM
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

DATE: 7/15/2012
DWG: 12303A_UO-13.dgn

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-14
SCALE: 25 0 50	
UTILITIES BY OTHERS	

-L-
 PI Sta 163+70.54
 $\Delta = 8^\circ 56' 35.9" (LT)$
 $D = 0' 28' 38.9"$
 $L = 1,873.03'$
 $T = 938.42'$
 $R = 12,000.00'$
 $SE = NC$



MATCHLINE SEE SHEET UO-13 -L- STA. 145+00.00

MATCHLINE SEE SHEET UO-15 -L- STA. 159+00.00

RICHARD R. ALLEN JR.
DB 5267 PG 724
PB 87 PG 96

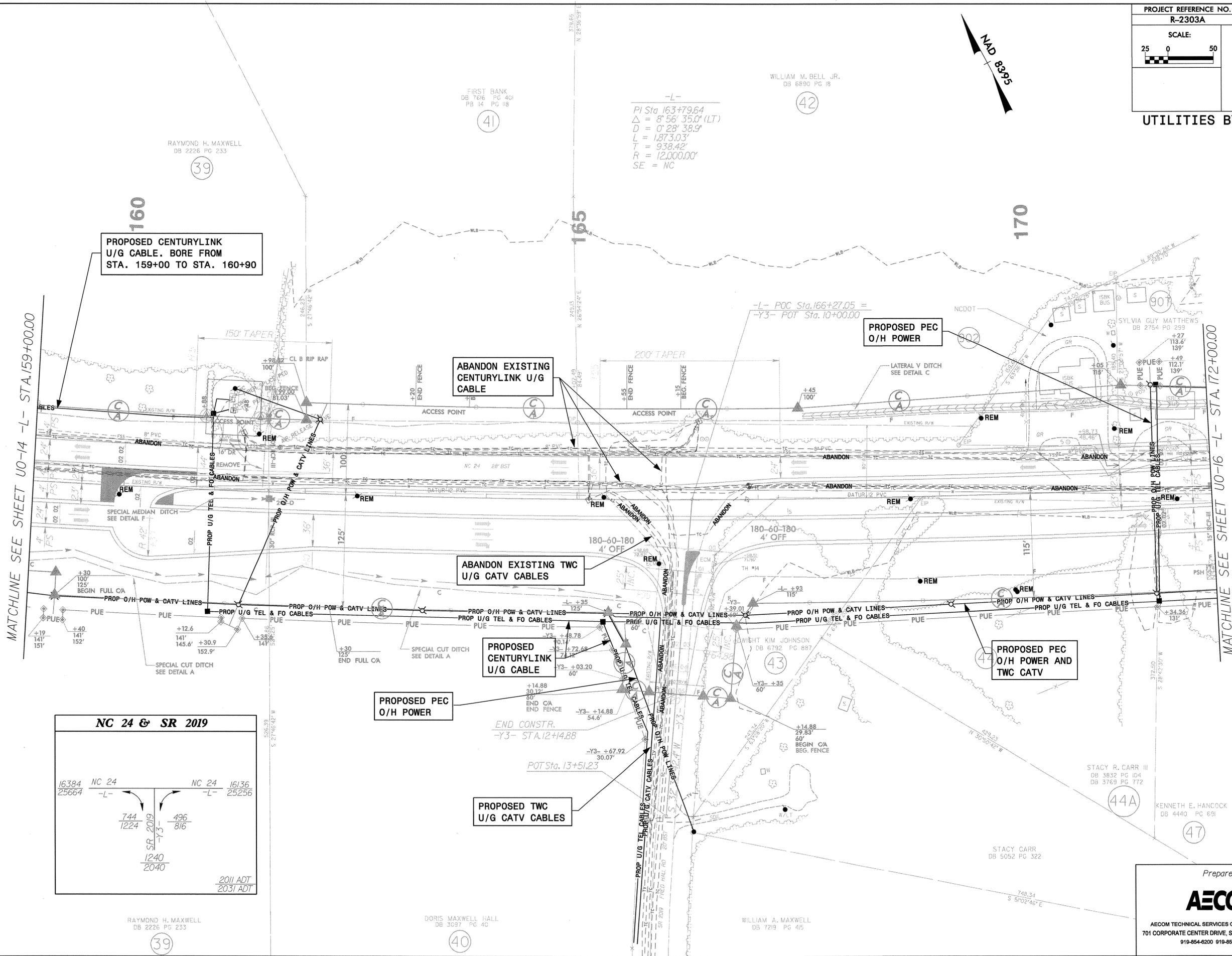
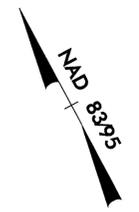
KATHERINE M. REEVES
DB 2702 PG 599

RAYMOND H. MAXWELL
DB 2226 PG 233

Prepared by:
AECOM
 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-8200 919-854-6259 (fax)

DATE: 7/5/2012
 DSN: r2303a_uo_14.dgn

UTILITIES BY OTHERS



PROPOSED CENTURYLINK U/G CABLE. BORE FROM STA. 159+00 TO STA. 160+90

ABANDON EXISTING CENTURYLINK U/G CABLE

PROPOSED PEC O/H POWER

ABANDON EXISTING TWC U/G CATV CABLES

PROPOSED CENTURYLINK U/G CABLE

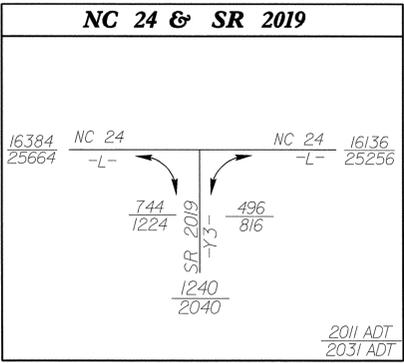
PROPOSED PEC O/H POWER

PROPOSED PEC O/H POWER AND TWC CATV

PROPOSED TWC U/G CATV CABLES

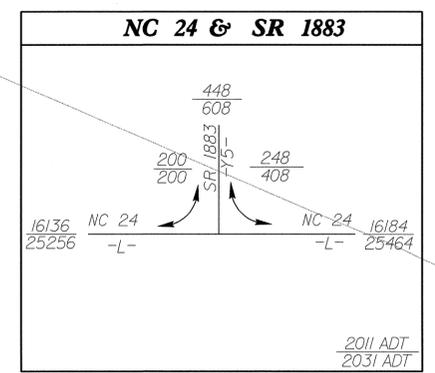
MATCHLINE SEE SHEET UO-14 -L- STA. 159+00.00

MATCHLINE SEE SHEET UO-16 -L- STA. 172+00.00



DATE: 7/5/2012
DOW: 12303a_uo_15.dgn

UTILITIES BY OTHERS

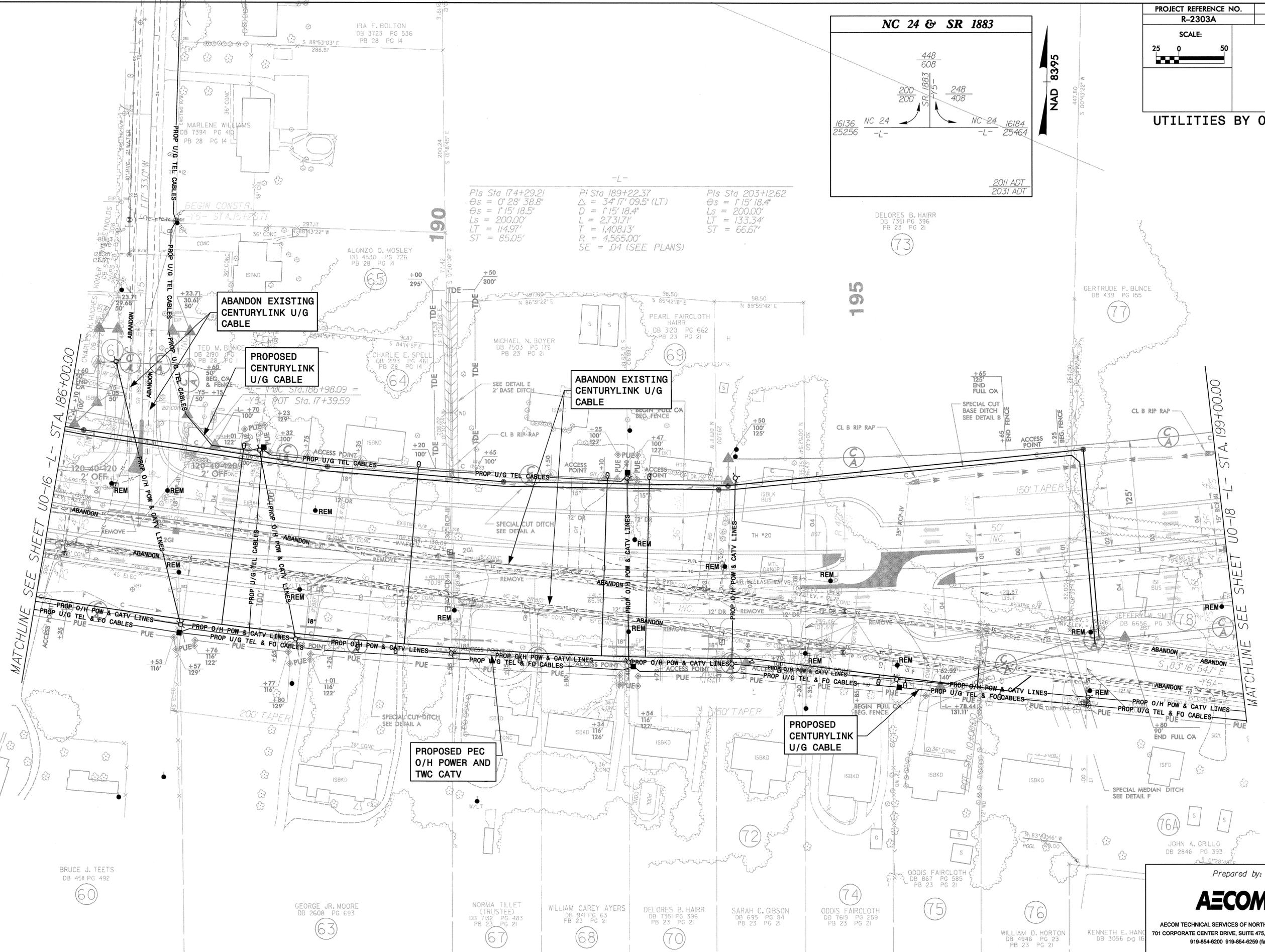


Pls Sta 174+29.21
 $\theta_s = 0^\circ 28' 38.8''$
 $\Delta = 3.47' 09.5''$ (LT)
 $D = 1' 15' 18.5''$
 $L_s = 200.00'$
 $LT = 114.97'$
 $ST = 85.05'$

Pls Sta 189+22.37
 $\Delta = 3.47' 09.5''$ (LT)
 $D = 1' 15' 18.5''$
 $L_s = 200.00'$
 $LT = 114.97'$
 $ST = 85.05'$

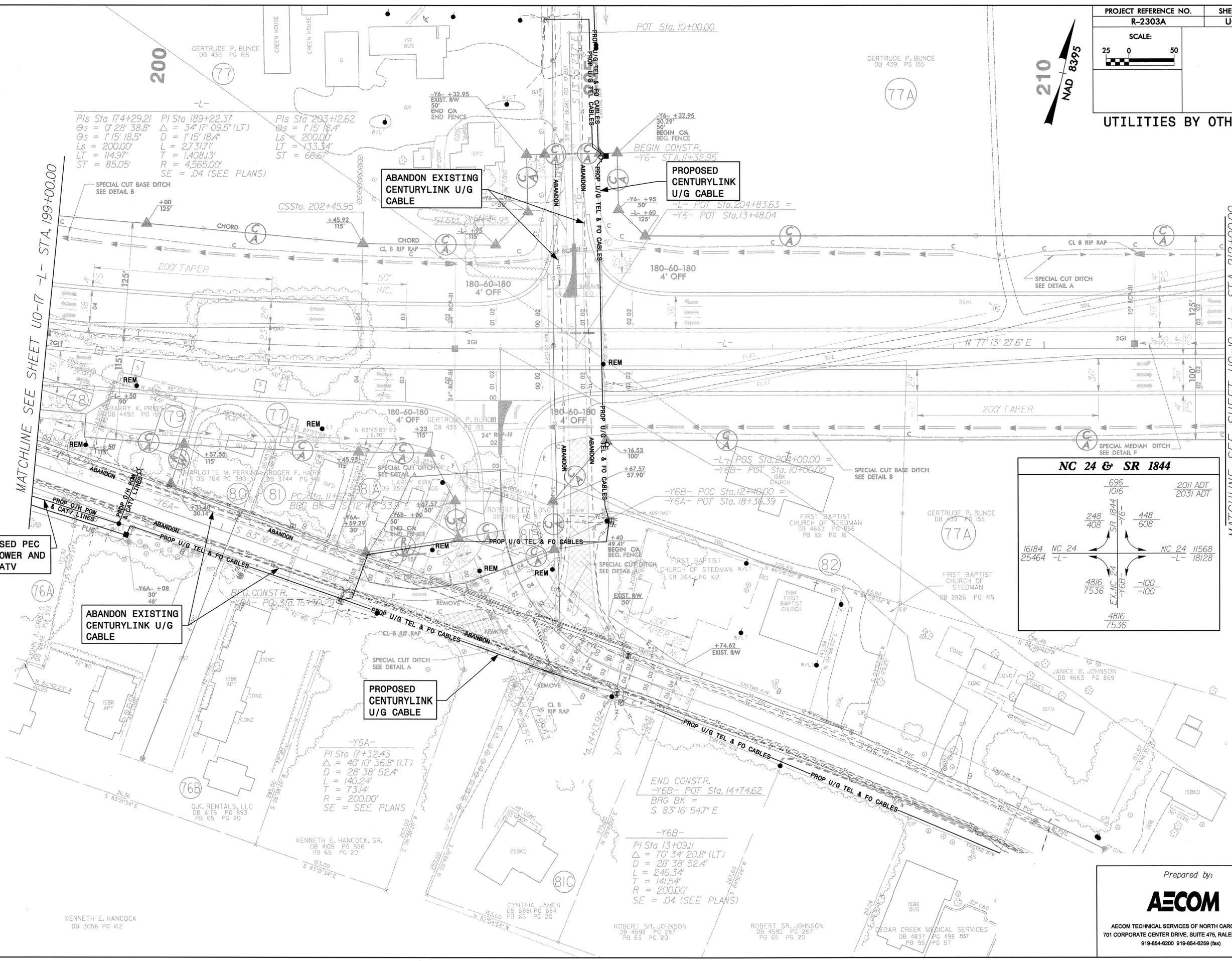
Pls Sta 203+12.62
 $\theta_s = 1' 15' 18.4''$
 $L_s = 200.00'$
 $LT = 133.34'$
 $ST = 66.67'$

DELORES B. HAIR
 DB 7351 PG 396
 PB 23 PG 21



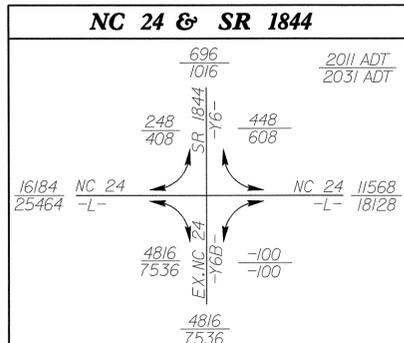
DATE: 7/5/2012
 DGN: R-2303a_uo-17.dgn

UTILITIES BY OTHERS



MATCHLINE SEE SHEET UO-7 -L- STA. 199+00.00

MATCHLINE SEE SHEET UO-9 -L- STA. 212+00.00



PROPOSED PEC O/H POWER AND TWC CATV

ABANDON EXISTING CENTURYLINK U/G CABLE

PROPOSED CENTURYLINK U/G CABLE

DATE: 7/5/2012
 DWN: r2303a_jlba_srh_jb.dgn

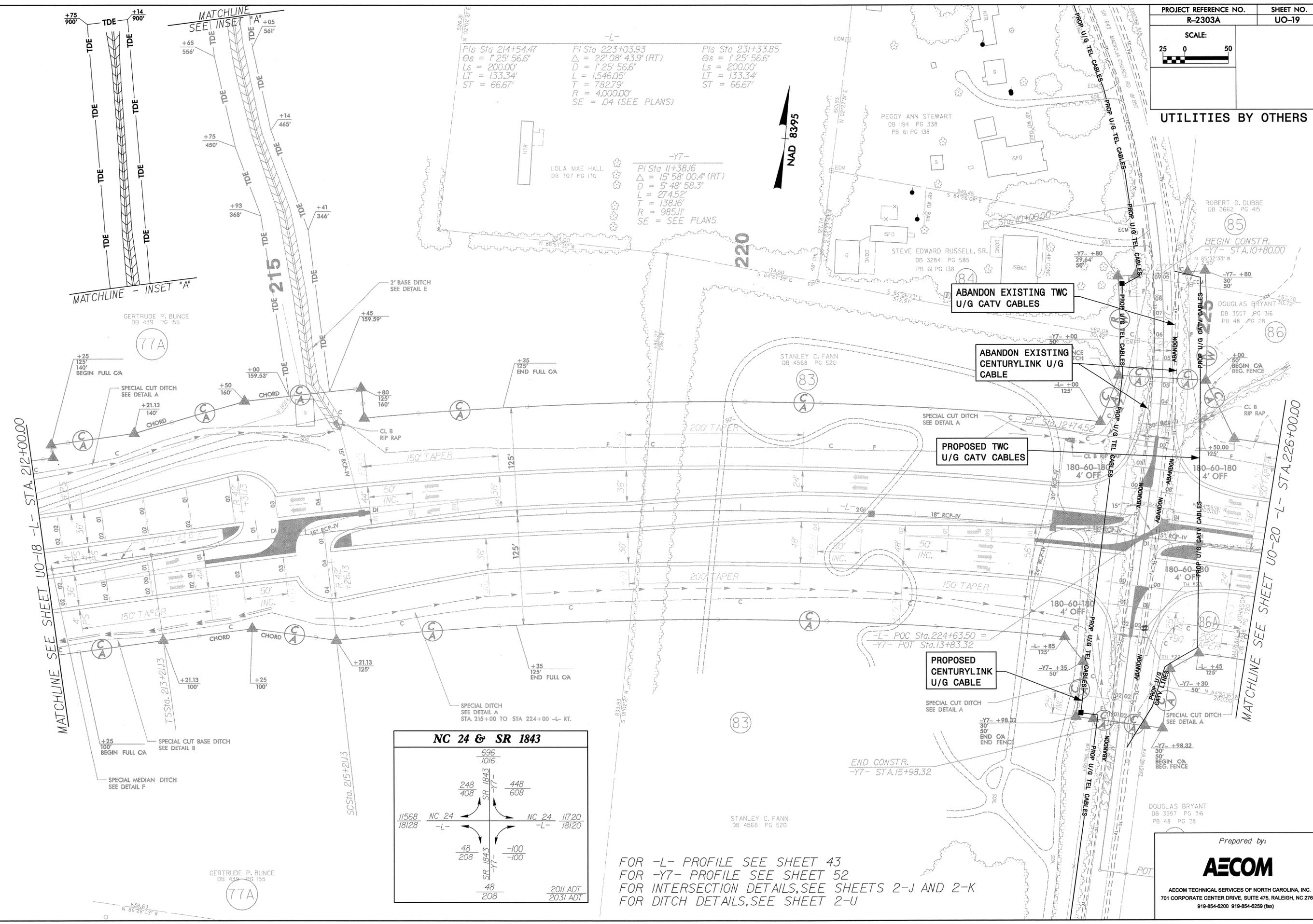
UTILITIES BY OTHERS

-L-
 Pls Sta 214+54.47
 $\Delta = 22' 08" 43.9"$ (RT)
 $\theta_s = 1' 25" 56.6"$
 $D = 1' 25" 56.6"$
 $L = 133.34'$
 $ST = 66.67'$

-Y7-
 Pls Sta 11+38.16
 $\Delta = 15' 58" 00.4"$ (RT)
 $\theta_s = 5' 48" 58.3"$
 $D = 274.52'$
 $L = 138.16'$
 $R = 985.11'$
 $SE = .04$ (SEE PLANS)

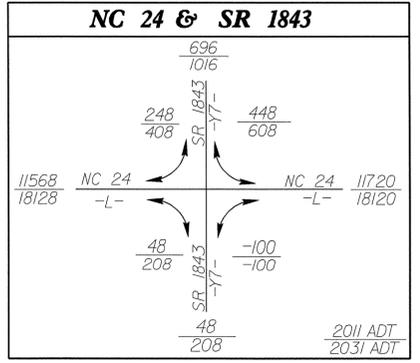
Pls Sta 231+33.85
 $\Delta = 1' 25" 56.6"$
 $D = 200.00'$
 $L = 133.34'$
 $ST = 66.67'$

NAD 8395



MATCHLINE SEE SHEET UO-18 -L- STA. 212+00.00

MATCHLINE SEE SHEET UO-20 -L- STA. 226+00.00



FOR -L- PROFILE SEE SHEET 43
 FOR -Y7- PROFILE SEE SHEET 52
 FOR INTERSECTION DETAILS, SEE SHEETS 2-J AND 2-K
 FOR DITCH DETAILS, SEE SHEET 2-U

DATE: 7/5/2012
 DRAWN: 12303a_uo19a_jst_bjg

UTILITIES BY OTHERS

-L-

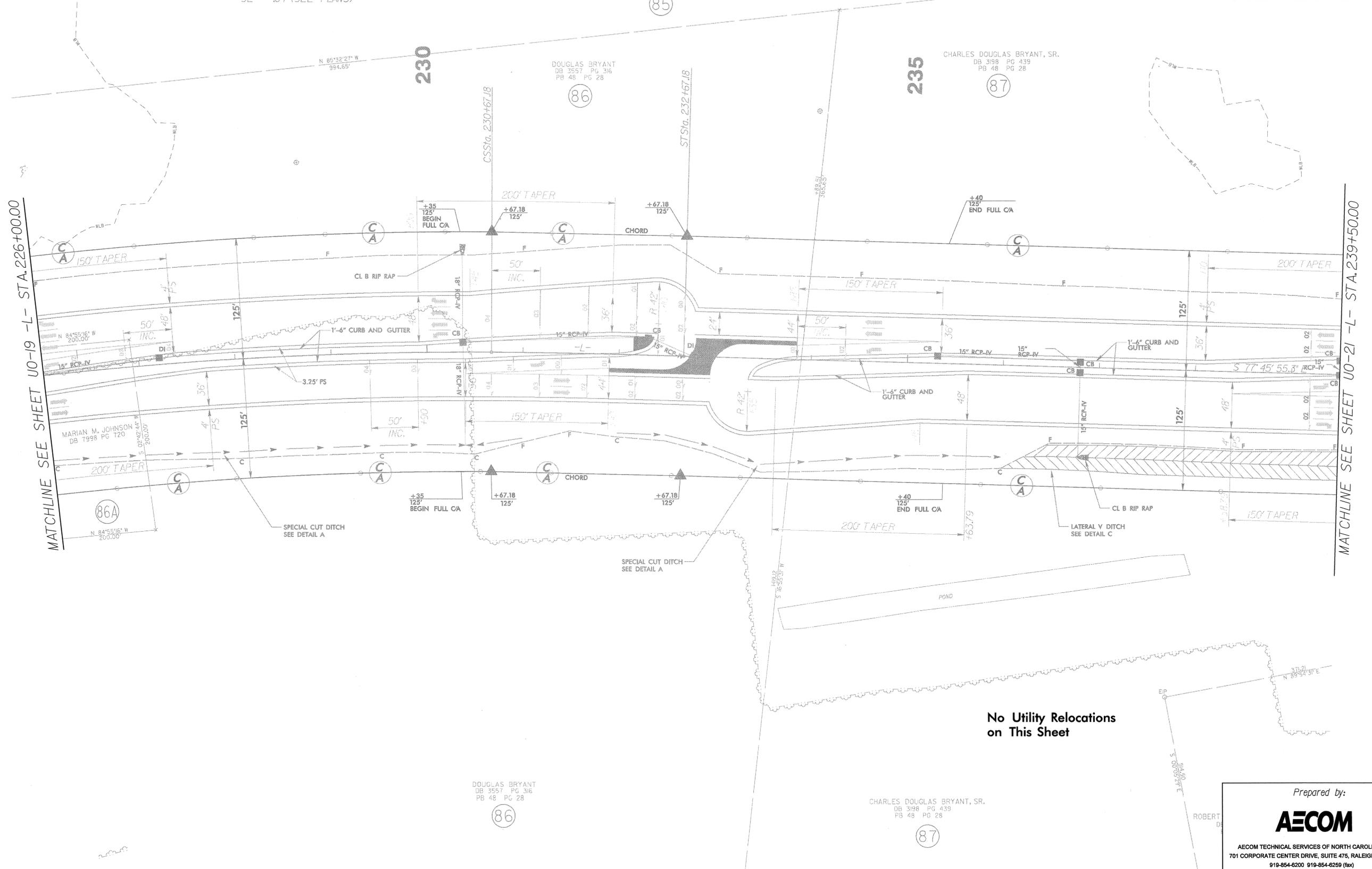
Pls Sta 214+54.47 Cs = 1' 25' 56.6" Ls = 200.00' LT = 133.34' ST = 66.67'	Pls Sta 223+03.93 Δ = 22° 08' 43.9" (RT) D = 1' 25' 56.6" L = 1,546.05' T = 782.79' R = 4,000.00' SE = .04 (SEE PLANS)	Pls Sta 231+33.85 Cs = 1' 25' 56.6" Ls = 200.00' LT = 133.34' ST = 66.67'
---	--	---

ROBERT D. DUBBE
DB 2662 PG 415

NAD 8395

MATCHLINE SEE SHEET UO-19 -L- STA. 226+00.00

MATCHLINE SEE SHEET UO-21 -L- STA. 239+50.00



No Utility Relocations
on This Sheet

DOUGLAS BRYANT
DB 3557 PG 316
PB 48 PG 28

CHARLES DOUGLAS BRYANT, SR.
DB 3198 PG 439
PB 48 PG 28

Prepared by:

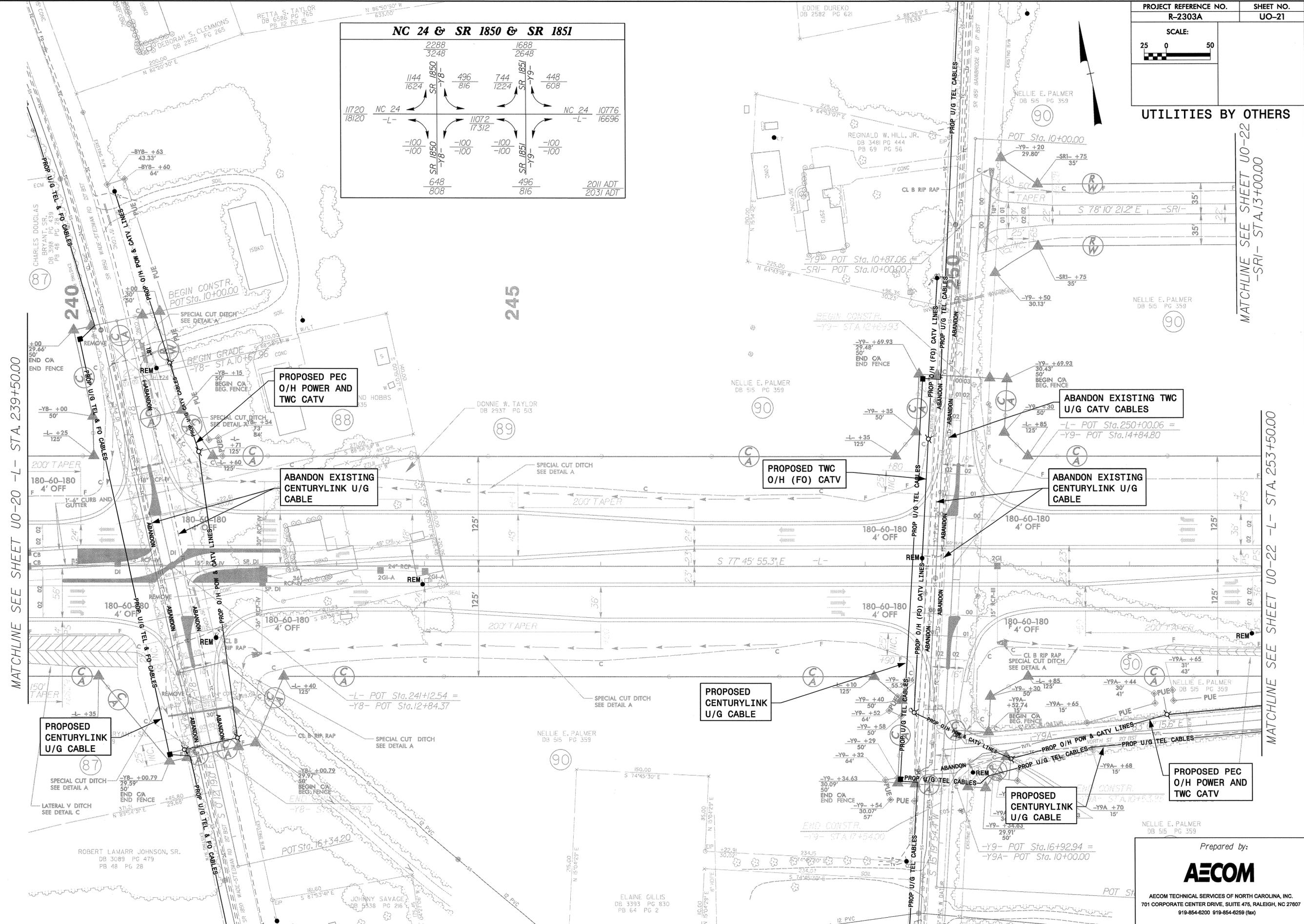
AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 476, RALEIGH, NC 27607
919-854-6200 919-854-6269 (fax)

DATE: 7/14/2010
DWG: 12303A_UO_20.dwg

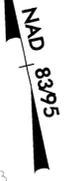
UTILITIES BY OTHERS

NC 24 @ SR 1850 @ SR 1851					
	2288 3248		1688 2648		
	1144 1624	496 816	744 1224	448 608	
11720 18120	NC 24		NC 24		10776 16696
	-100 -100	-100 -100	-100 -100	-100 -100	
	648 808		496 816		
					2011 ADT 2031 ADT



DATE: 7/5/2012
DWG: R2303a_uho_21.dwg

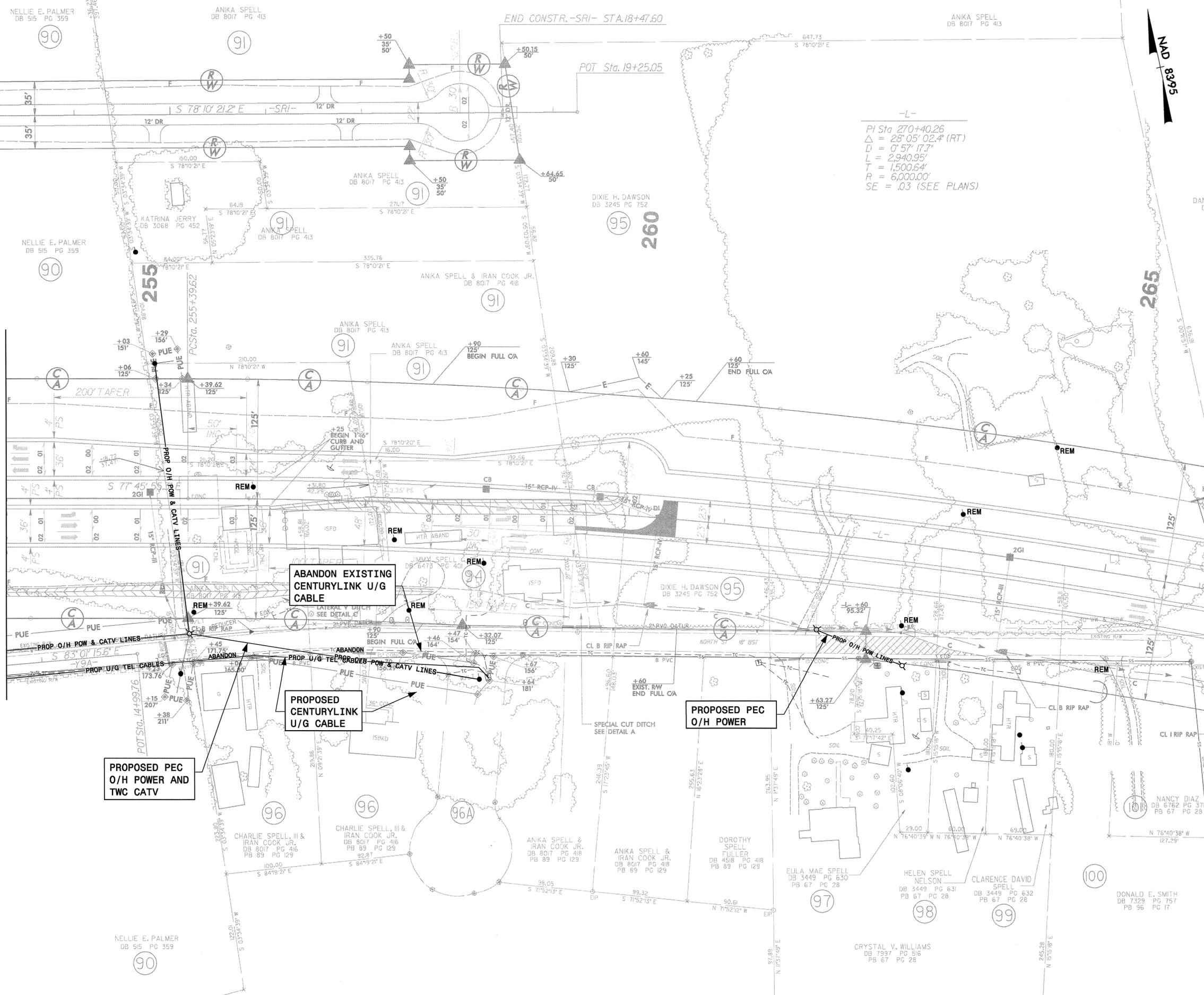
UTILITIES BY OTHERS



MATCHLINE SEE SHEET UO-21 -SRI- STA. 13+00.00

MATCHLINE SEE SHEET UO-21 -L- STA. 253+50.00

MATCHLINE SEE SHEET UO-23 -L- STA. 267+00.00



PROPOSED PEC
O/H POWER AND
TWC CATV

PROPOSED CENTURYLINK
U/G CABLE

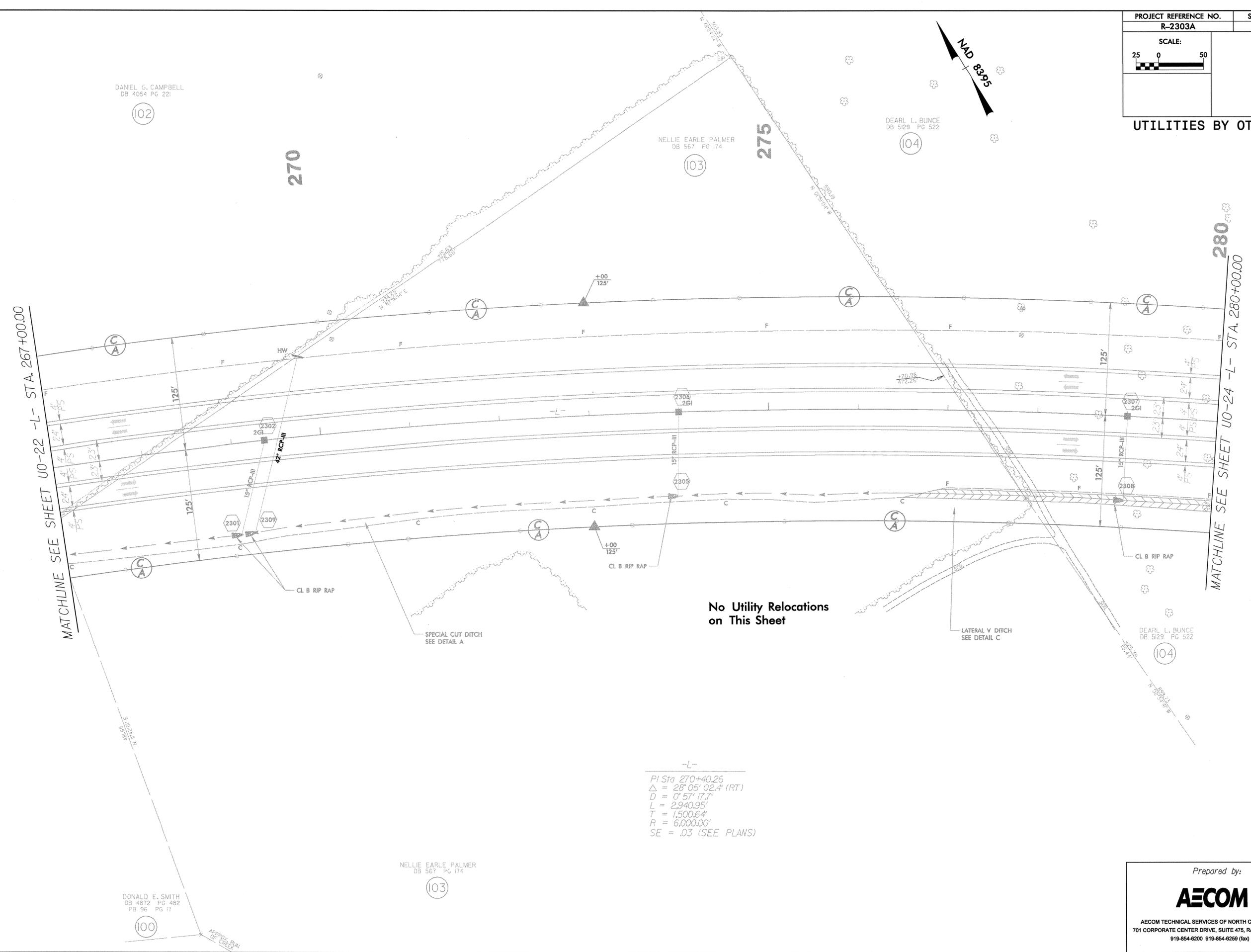
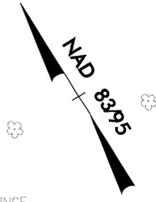
ABANDON EXISTING
CENTURYLINK U/G
CABLE

PROPOSED PEC
O/H POWER

PAINT STRIPING

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-23
SCALE: 25 0 50	

UTILITIES BY OTHERS



No Utility Relocations on This Sheet

-L-
 PI Sta 270+40.26
 $\Delta = 28^{\circ} 05' 02.4''$ (RT)
 $D = 0' 57' 17.7''$
 $L = 2,940.95'$
 $T = 1,500.64'$
 $R = 6,000.00'$
 $SE = .03$ (SEE PLANS)

MATCHLINE SEE SHEET UO-22 -L- STA. 267+00.00

MATCHLINE SEE SHEET UO-24 -L- STA. 280+00.00

DANIEL G. CAMPBELL
DB 4054 PG 221

NELLIE EARLE PALMER
DB 567 PG 174

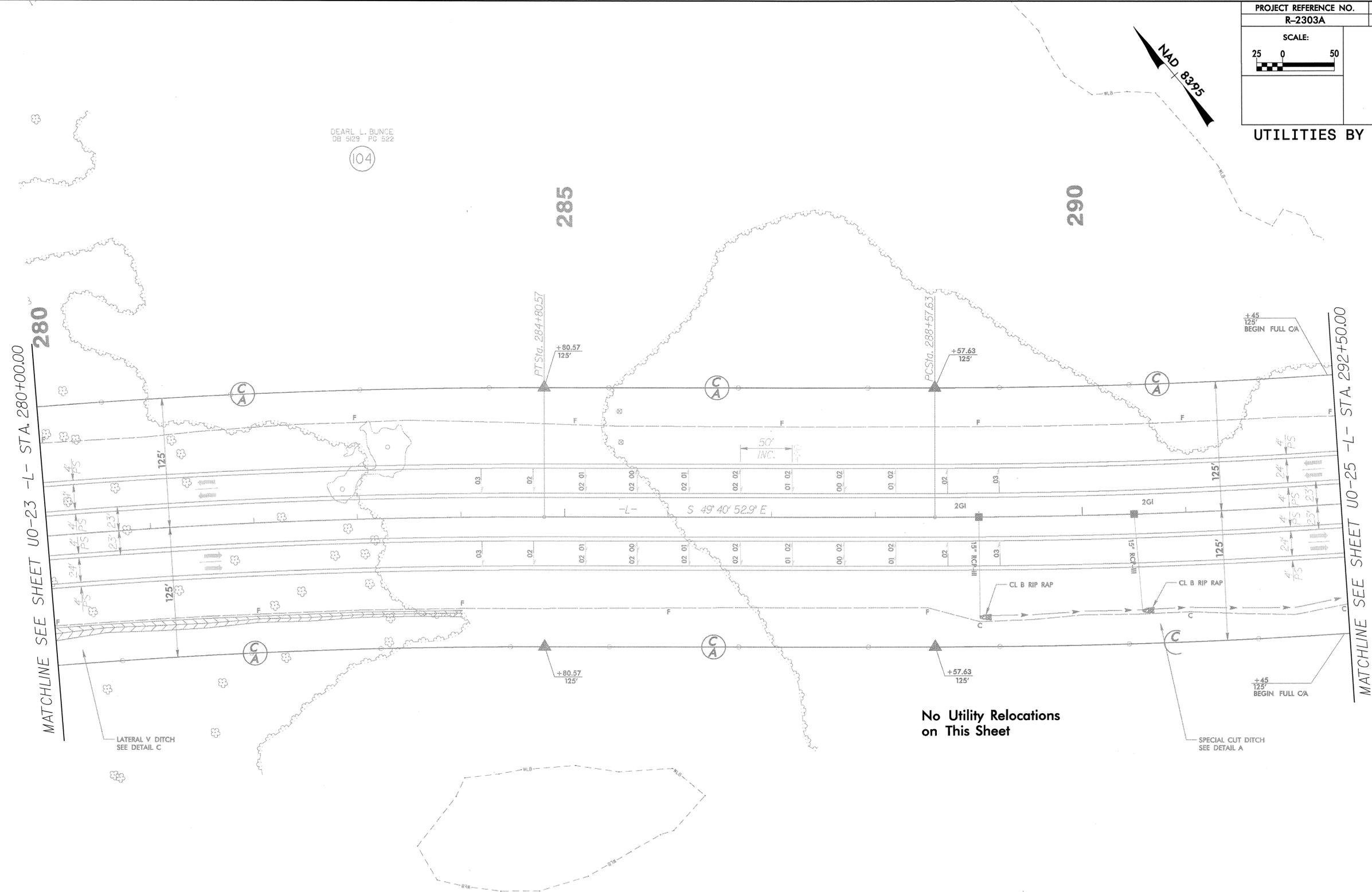
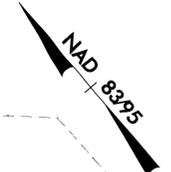
DEARL L. BUNCE
DB 5129 PG 522

DONALD E. SMITH
DB 4812 PG 482
PB 96 PG 17

NELLIE EARLE PALMER
DB 567 PG 174

Prepared by:
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 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

DATE: 7/15/2012
 DGN: r2303a_uo_ash_23.dgn



No Utility Relocations
on This Sheet

-L-

PI Sta 270+40.26	PI Sta 295+56.68
$\Delta = 28^{\circ} 05' 02.4''$ (RT)	$\Delta = 13^{\circ} 17' 26.8''$ (LT)
D = 0' 57' 17.7"	D = 0' 57' 17.7"
L = 2,940.95'	L = 1,391.81'
T = 1,500.64'	T = 699.04'
R = 6,000.00'	R = 6,000.00'
SE = .03 (SEE PLANS)	SE = .03 (SEE PLANS)

DEARL L. BUNCE
DB 5129 PG 522
(104)

DEARL L. BUNCE
DB 5129 PG 522
(104)

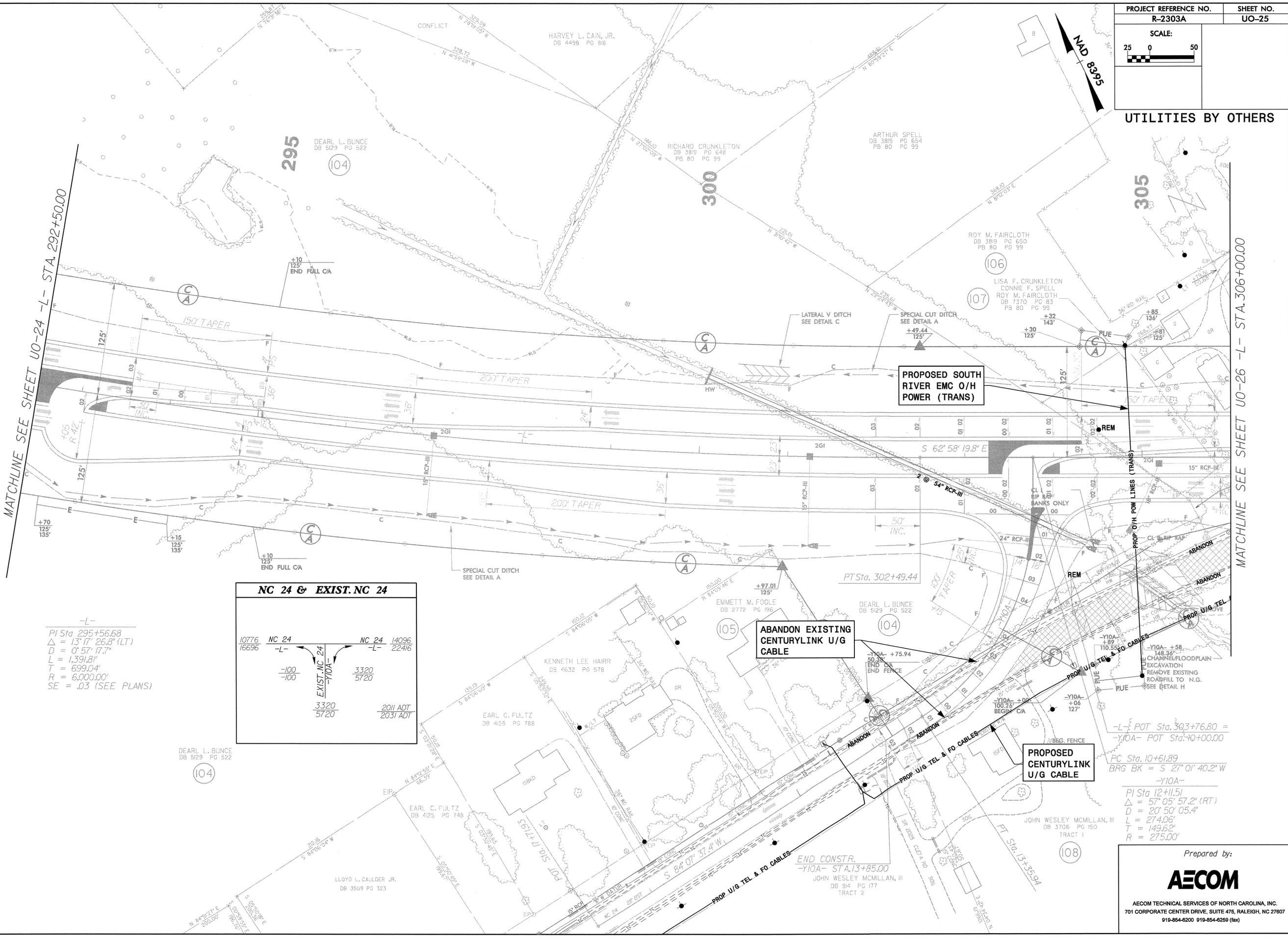
NELLIE EARLE PALMER
DB 567 PG 174
(103)

DATE: 7/5/2012
DWG: r2303a_uo_24.dgn

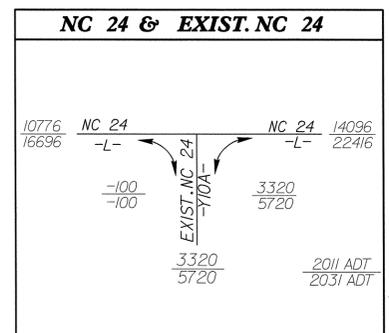
UTILITIES BY OTHERS

MATCHLINE SEE SHEET UO-24 -L- STA. 292+50.00

MATCHLINE SEE SHEET UO-26 -L- STA. 306+00.00



-L-
 PI Sta 295+56.68
 $\Delta = 13' 17'' 26.8''$ (LT)
 $D = 0' 57'' 17.7''$
 $L = 1,391.81'$
 $T = 699.04'$
 $R = 6,000.00'$
 $SE = .03$ (SEE PLANS)

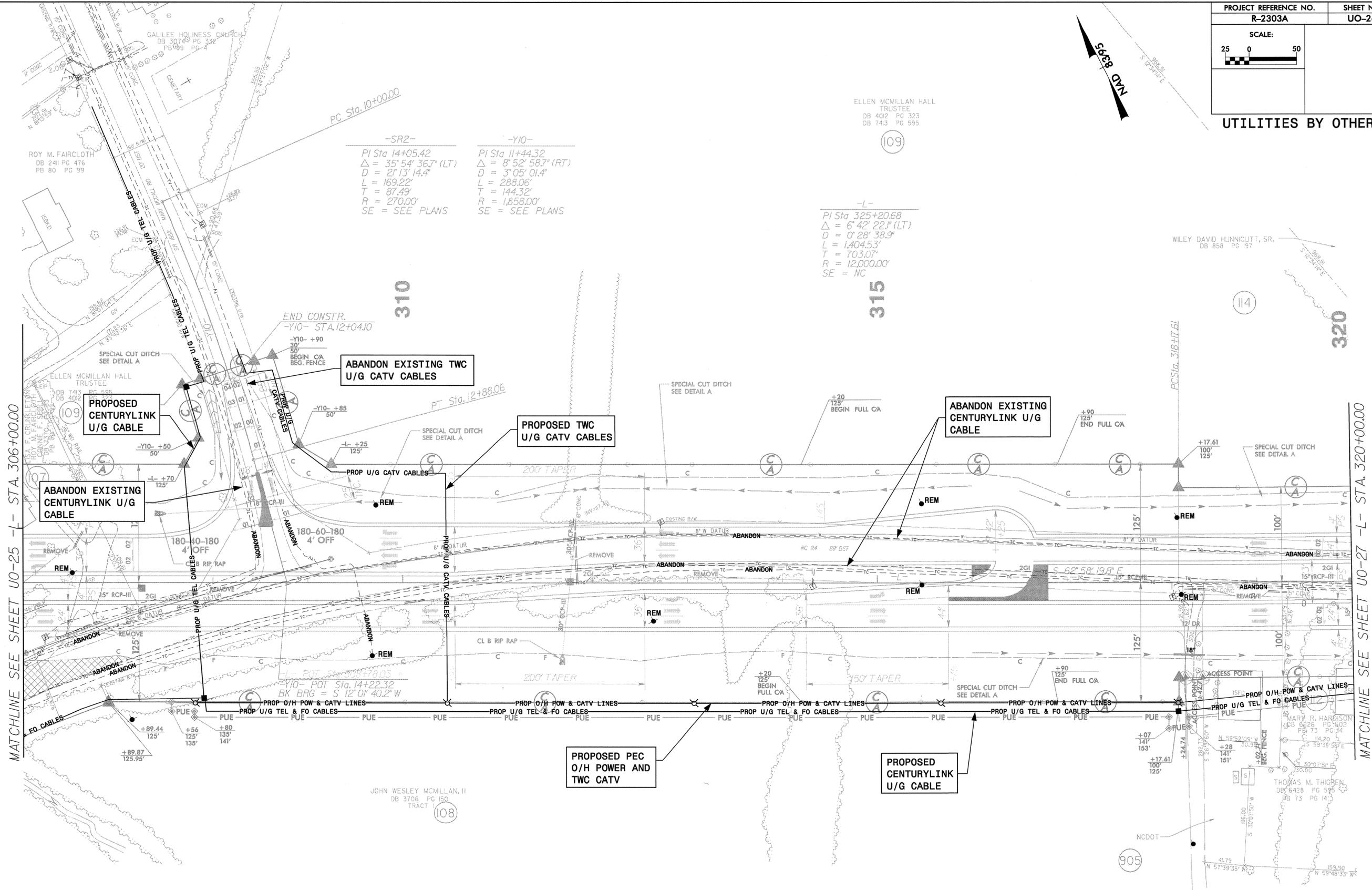


-L- POT Sta. 303+76.80 =
 -Y10A- POT Sta. 10+00.00

PC Sta. 10+61.89
 BRG BK = S 27° 01' 40.2" W

-Y10A-
 PI Sta 12+11.51
 $\Delta = 57' 05'' 57.2''$ (RT)
 $D = 20' 50'' 05.4''$
 $L = 274.06'$
 $T = 149.62'$
 $R = 275.00'$

DATE: 7/5/2012
 DOW: 123036_100_wsh_25.dgn



-SR2-
 PI Sta 14+05.42
 $\Delta = 35^{\circ} 54' 36.7''$ (LT)
 $D = 21' 13' 14.4''$
 $L = 169.22'$
 $T = 87.49'$
 $R = 270.00'$
 SE = SEE PLANS

-Y10-
 PI Sta 11+44.32
 $\Delta = 8^{\circ} 52' 58.7''$ (RT)
 $D = 3' 05' 01.4''$
 $L = 288.06'$
 $T = 144.32'$
 $R = 1,858.00'$
 SE = SEE PLANS

-L-
 PI Sta 325+20.68
 $\Delta = 6^{\circ} 42' 22.1''$ (LT)
 $D = 0' 28' 38.9''$
 $L = 1,404.53'$
 $T = 703.07'$
 $R = 12,000.00'$
 SE = NC

MATCHLINE SEE SHEET UO-25 -L- STA. 306+00.00

MATCHLINE SEE SHEET UO-27 -L- STA. 320+00.00

DATE: 7/5/2012
 DSK: 12303a_uo_26.dgn

JERRY W. MCCALL
 DB 6024 PG 356
 PB 113 PG 77

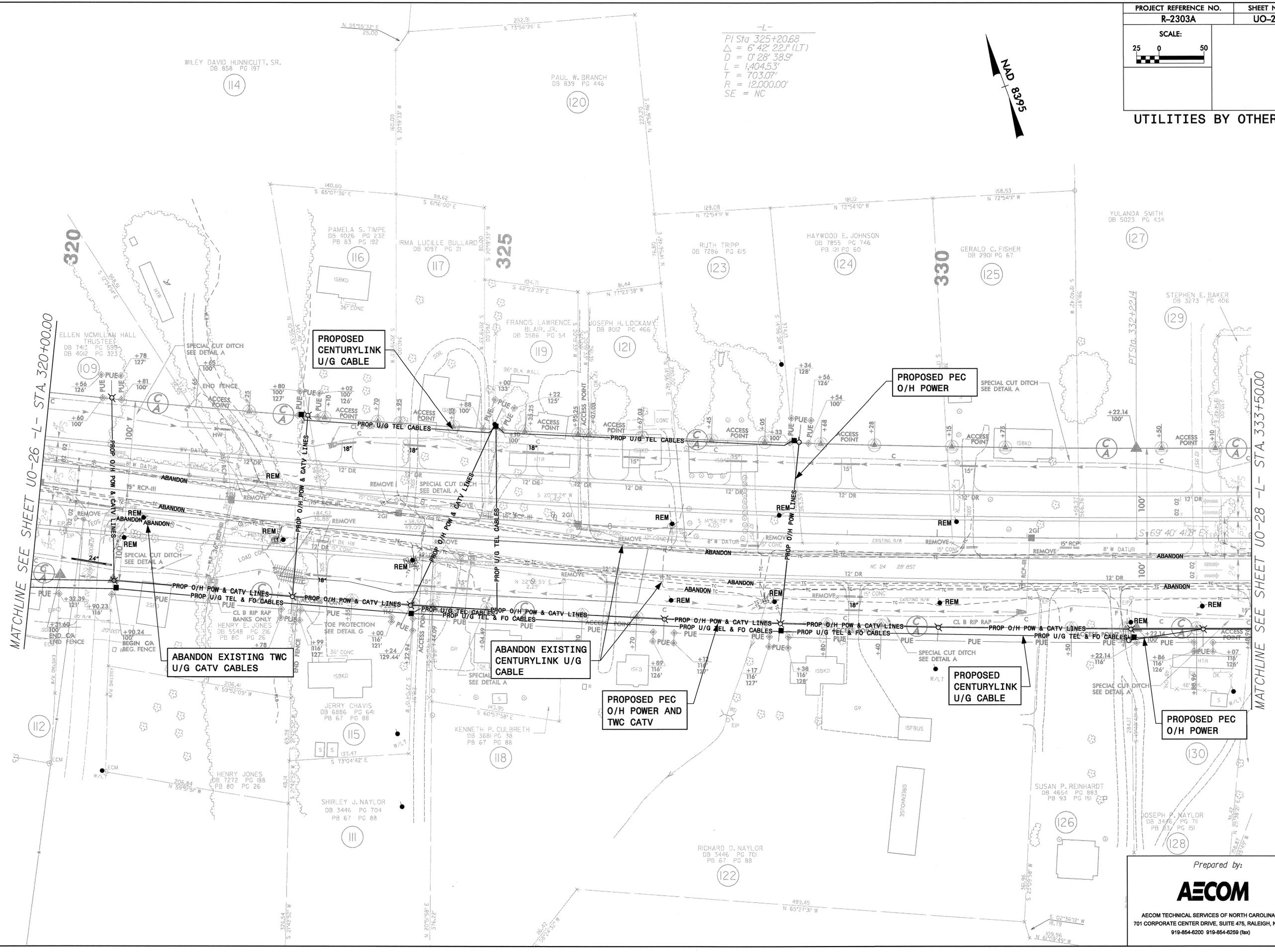
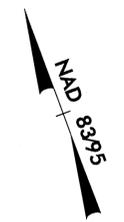
Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 476, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

UTILITIES BY OTHERS

-L-
 PI Sta 325+20.68
 $\Delta = 6' 42" 22.1" (LT)$
 $D = 0' 28" 38.9"$
 $L = 1,404.53'$
 $T = 703.07'$
 $R = 12,000.00'$
 SE = NC



DATE: 7/6/2012
 DOW: 123030_uo_27.dwg

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-28
SCALE: 25 0 50	
UTILITIES BY OTHERS	



-L-
 PI Sta 340+81.55
 $\Delta = 6' 45" 51.7" (RT)$
 $D = 0' 57" 17.7"$
 $L = 708.36'$
 $T = 354.59'$
 $R = 6,000.00'$
 $SE = .03$



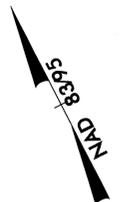
MATCHLINE SEE SHEET UO-27 -L- STA. 333+50.00

MATCHLINE SEE SHEET UO-29 -L- STA. 347+50.00

DATE: 7/15/2012
 DWG: R2303A_UO-28.dgn

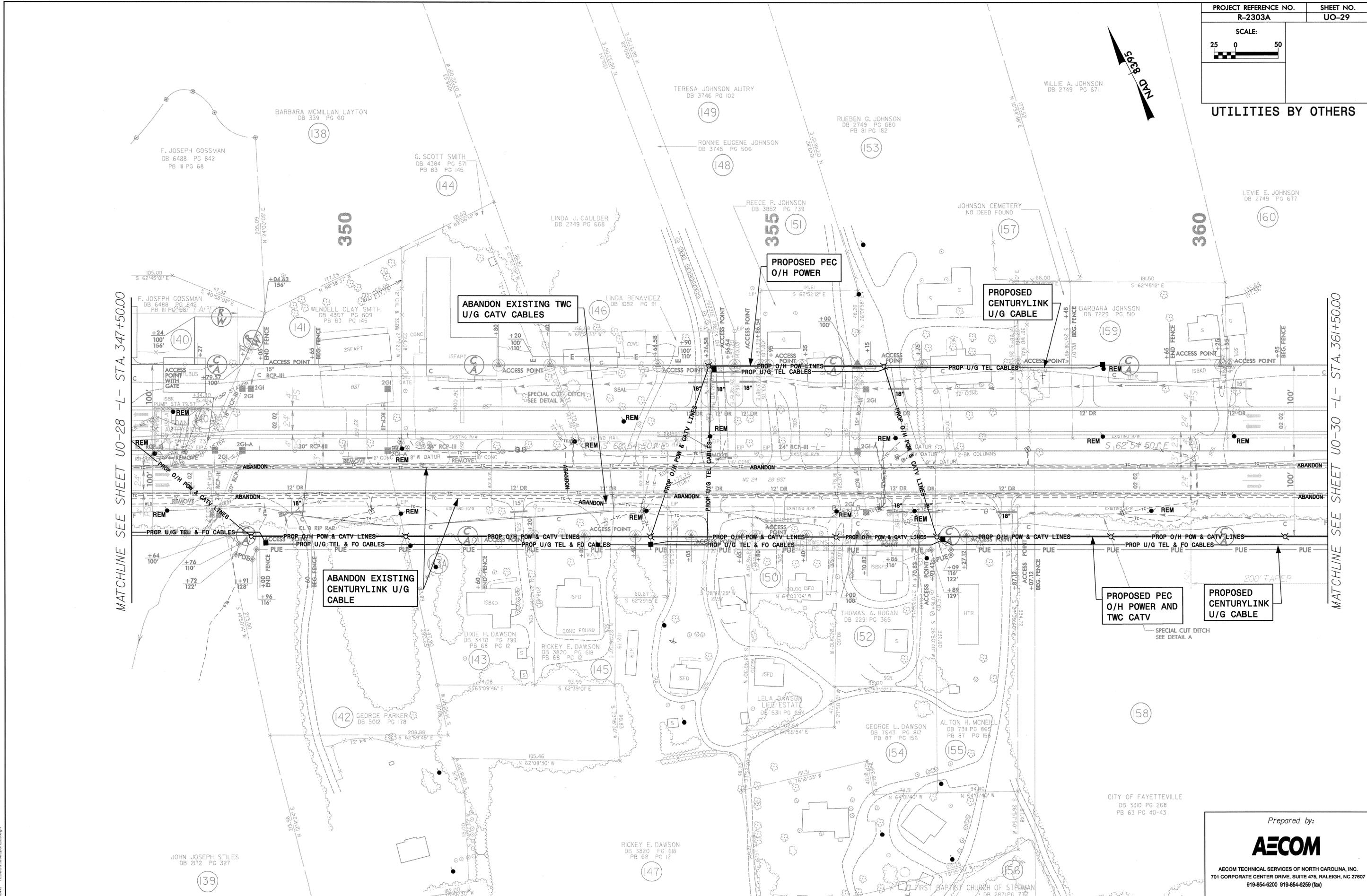
Prepared by:
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 AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-29
SCALE: 0 25 50	
UTILITIES BY OTHERS	



MATCHLINE SEE SHEET UO-28 -L- STA. 347+50.00

MATCHLINE SEE SHEET UO-30 -L- STA. 361+50.00

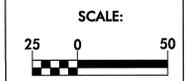


DATE: 7/5/2012
DWG: 12303a_uo_29.dgn

Prepared by:

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)



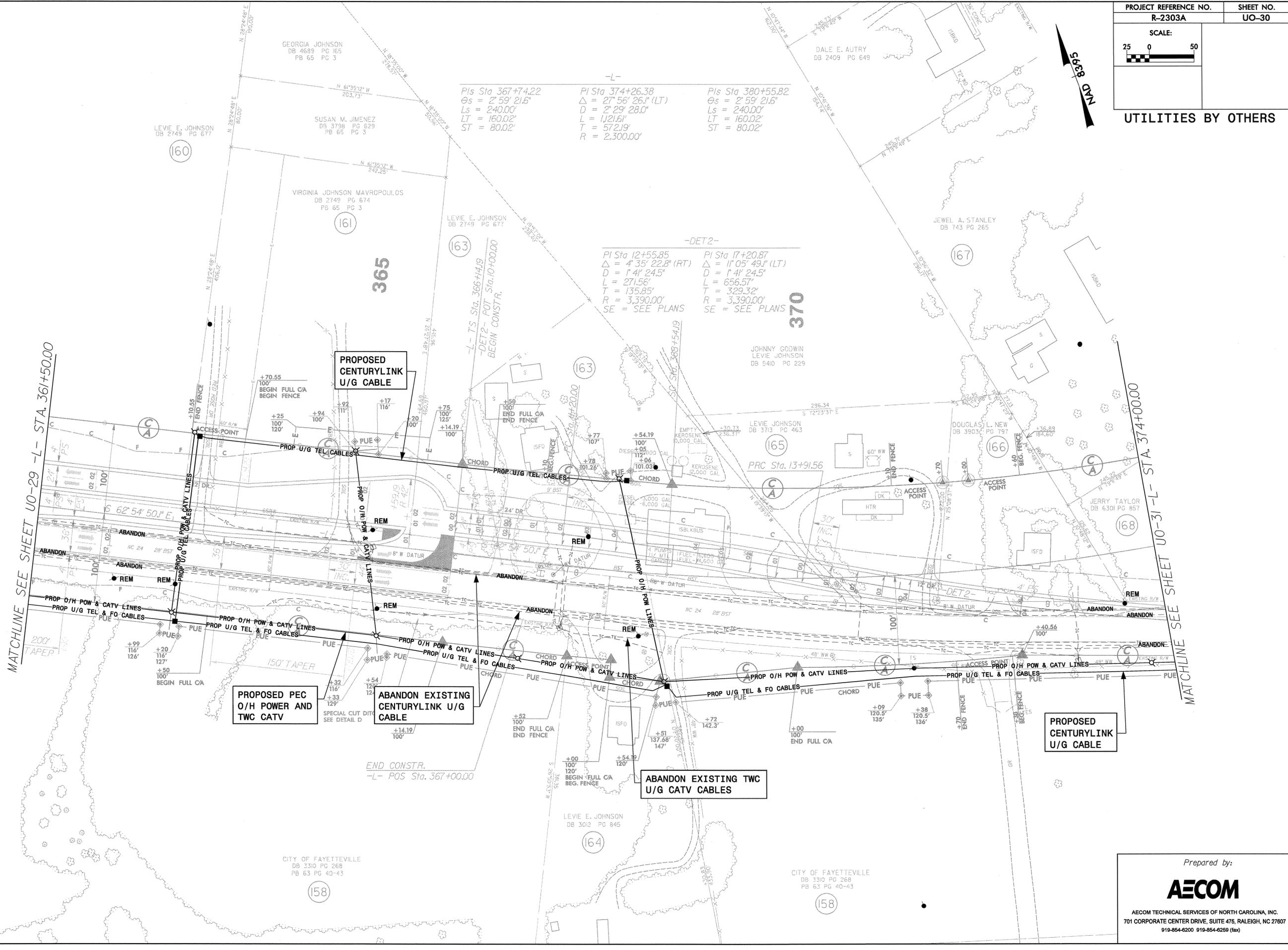
UTILITIES BY OTHERS

MATCHLINE SEE SHEET UO-29 -L- STA. 361+50.00

MATCHLINE SEE SHEET UO-31 -L- STA. 374+00.00

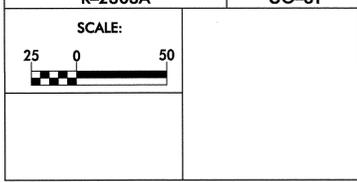
-L-
 Pls Sta 367+74.22 PI Sta 374+26.38 Pls Sta 380+55.82
 $\Delta s = 2' 59' 21.6"$ $\Delta = 27' 56' 26.1"$ (LT) $\Delta s = 2' 59' 21.6"$
 $Ls = 240.00'$ $D = 2' 29' 28.0"$ $Ls = 240.00'$
 $LT = 160.02'$ $L = 1,121.6'$ $LT = 160.02'$
 $ST = 80.02'$ $T = 572.19'$ $ST = 80.02'$
 $R = 2,300.00'$

-DET2-
 PI Sta 12+55.85 PI Sta 17+20.87
 $\Delta = 4' 35' 22.8"$ (RT) $\Delta = 11' 05' 49.1"$ (LT)
 $D = 1' 41' 24.5"$ $L = 1' 41' 24.5"$
 $L = 271.56'$ $L = 656.57'$
 $T = 135.85'$ $T = 329.32'$
 $R = 3,390.00'$ $R = 3,390.00'$
 SE = SEE PLANS SE = SEE PLANS



DATE: 7/15/2018
 DGN: r2303a_uo_30.dgn

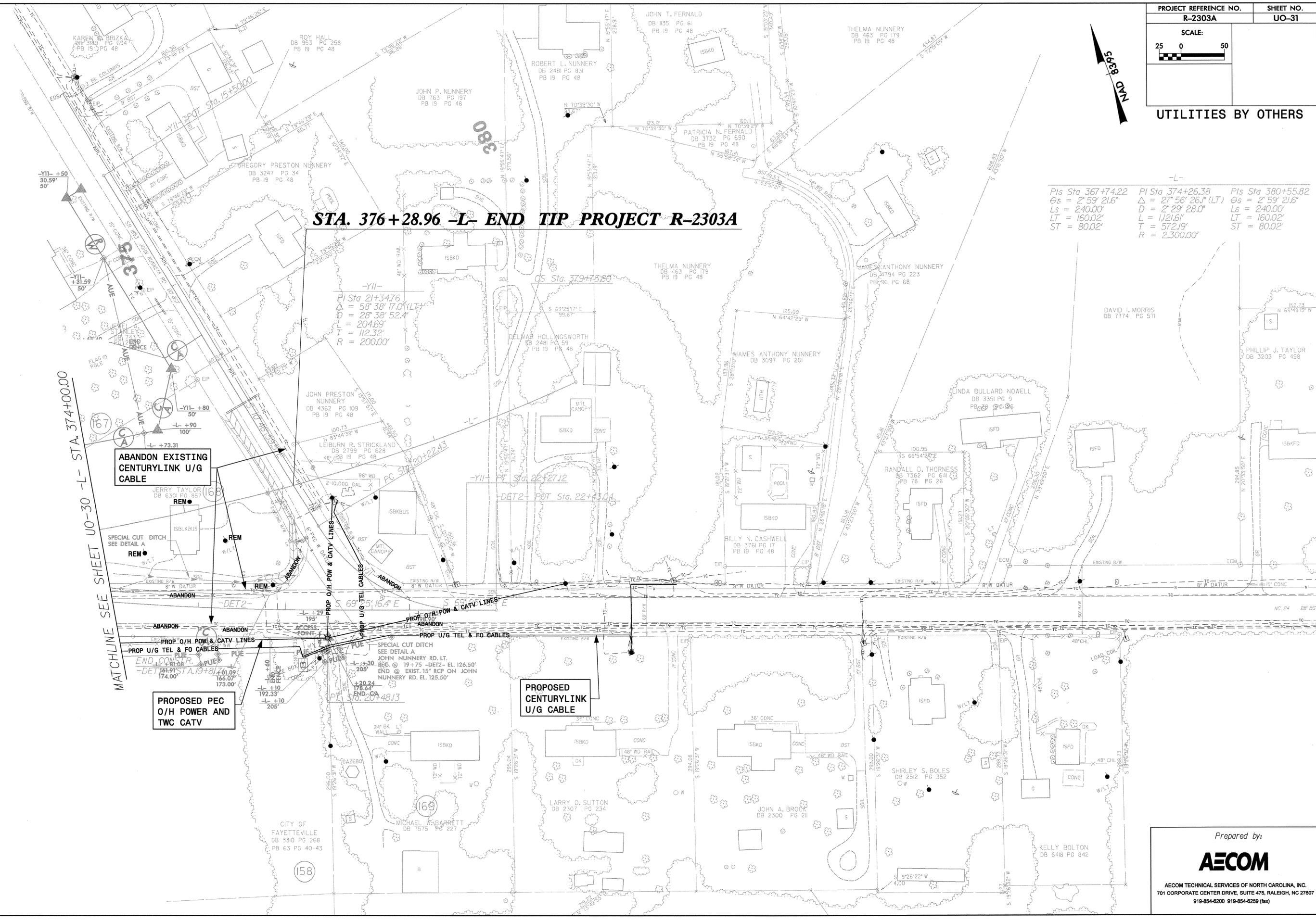
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 701 CORPORATE CENTER DRIVE, SUITE 476, RALEIGH, NC 27607
 919-854-6200 919-854-6259 (fax)



UTILITIES BY OTHERS

Station	PI	Δ	θs	D	L	T	R
Sta 367+74.22	374+26.38	380+55.82	2° 59' 21.6"	27° 56' 26.1" (LT)	2° 59' 21.6"	240.00'	2.300.00'
240.00'	2° 29' 28.0"	160.02'	112.32'	572.19'	80.02'		

STA. 376+28.96 -L- END TIP PROJECT R-2303A



ABANDON EXISTING CENTURYLINK U/G CABLE

PROPOSED PEC O/H POWER AND TWC CATV

PROPOSED CENTURYLINK U/G CABLE

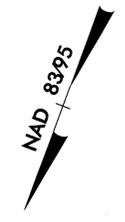
MATCHLINE SEE SHEET UO-30 -L- STA. 374+00.00

PROJECT REFERENCE NO. R-2303A	SHEET NO. UO-32
SCALE: 25 0 50	

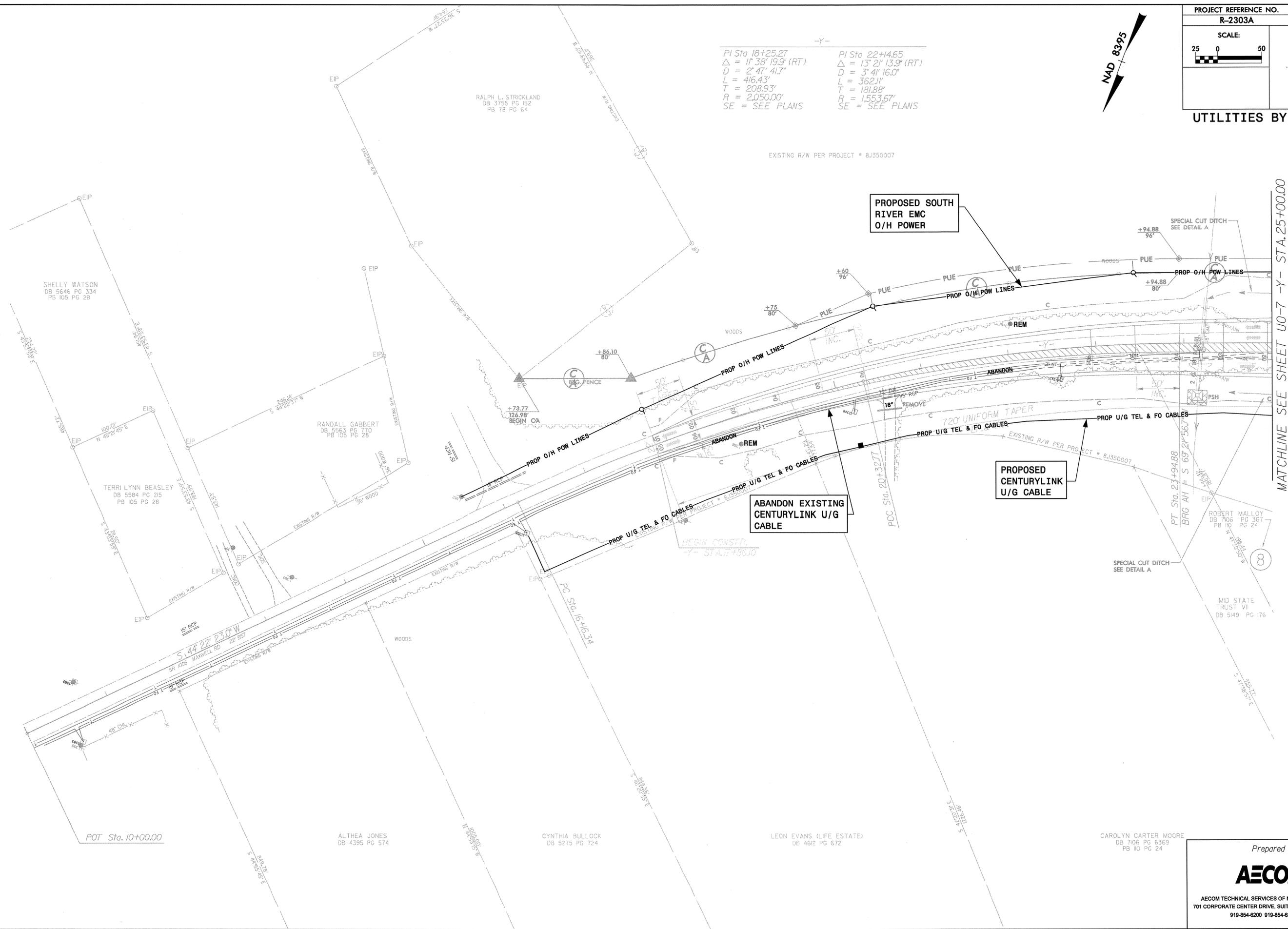
UTILITIES BY OTHERS

-Y-

PI Sta 18+25.27	PI Sta 22+4.65
$\Delta = 11^{\circ} 38' 19.9" (RT)$	$\Delta = 13^{\circ} 21' 13.9" (RT)$
$D = 2' 47' 41.7"$	$D = 3' 41' 16.0"$
$L = 416.43'$	$L = 362.11'$
$T = 208.93'$	$T = 181.88'$
$R = 2,050.00'$	$R = 1,553.67'$
SE = SEE PLANS	SE = SEE PLANS



EXISTING R/W PER PROJECT # 8.J350007



MATCHLINE SEE SHEET UO-7 -Y- STA.25+00.00

DATE: 7/21/2012
DWG: 12303a_uo_32.dgn

Prepared by:

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
919-854-6200 919-854-6259 (fax)

UTILITIES BY OTHERS

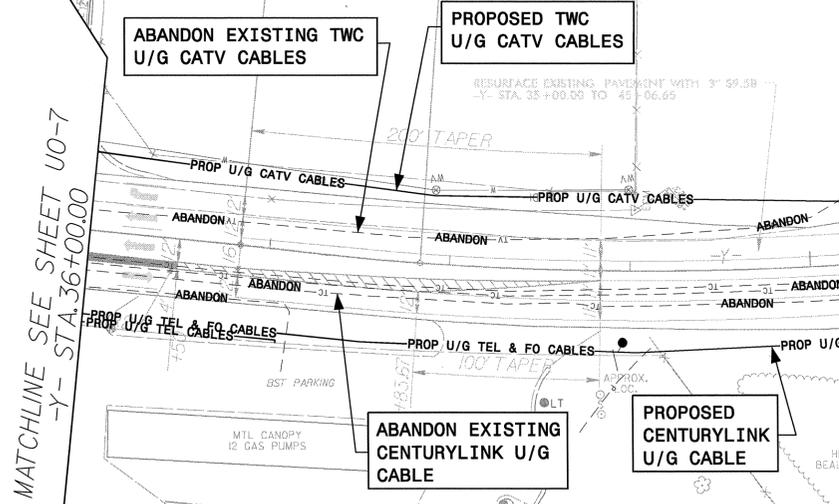


$Pis Sta 37+50.34$
 $\Theta_s = 1^{\circ}38'47''$
 $L_s = 100.00'$
 $LT = 66.67'$
 $ST = 33.34'$

$Pi Sta 39+06.00$
 $\Delta = 8^{\circ}02'34.5'' (LT)$
 $D = 3^{\circ}17'34.3''$
 $L = 244.25'$
 $T = 122.33'$
 $R = 1,740.00'$
 $SE = EXIST.$

$Pis Sta 40+61.26$
 $\Theta_s = 1^{\circ}38'47''$
 $L_s = 100.00'$
 $LT = 66.67'$
 $ST = 33.34'$

$Pi Sta 43+30.97$
 $\Delta = 9^{\circ}02'46.5'' (RT)$
 $D = 2^{\circ}34'09.5''$
 $L = 352.09'$
 $T = 176.41'$
 $R = 2,230.00'$
 $SE = EXIST.$



DATE: 7/5/2012
DGN: 12303a_uo_33.dgn