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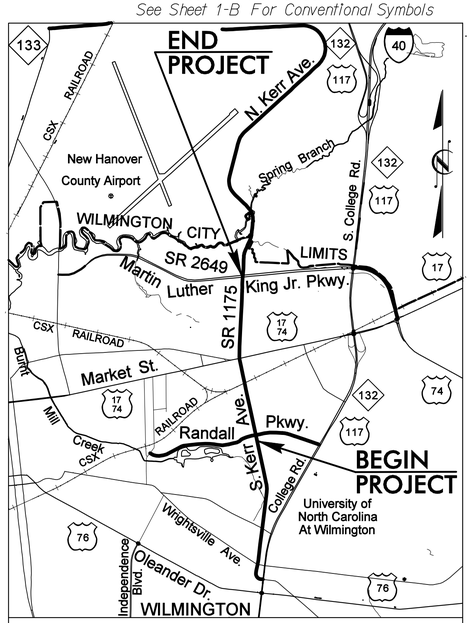
TIP PROJECT: U-3338B

CONTRACT:

$$$$$$CYSTIME$$$$$$
$$$$$$DSENME$$$$$$DON$$$$$$

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




VICINITY MAP

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

# NEW HANOVER COUNTY

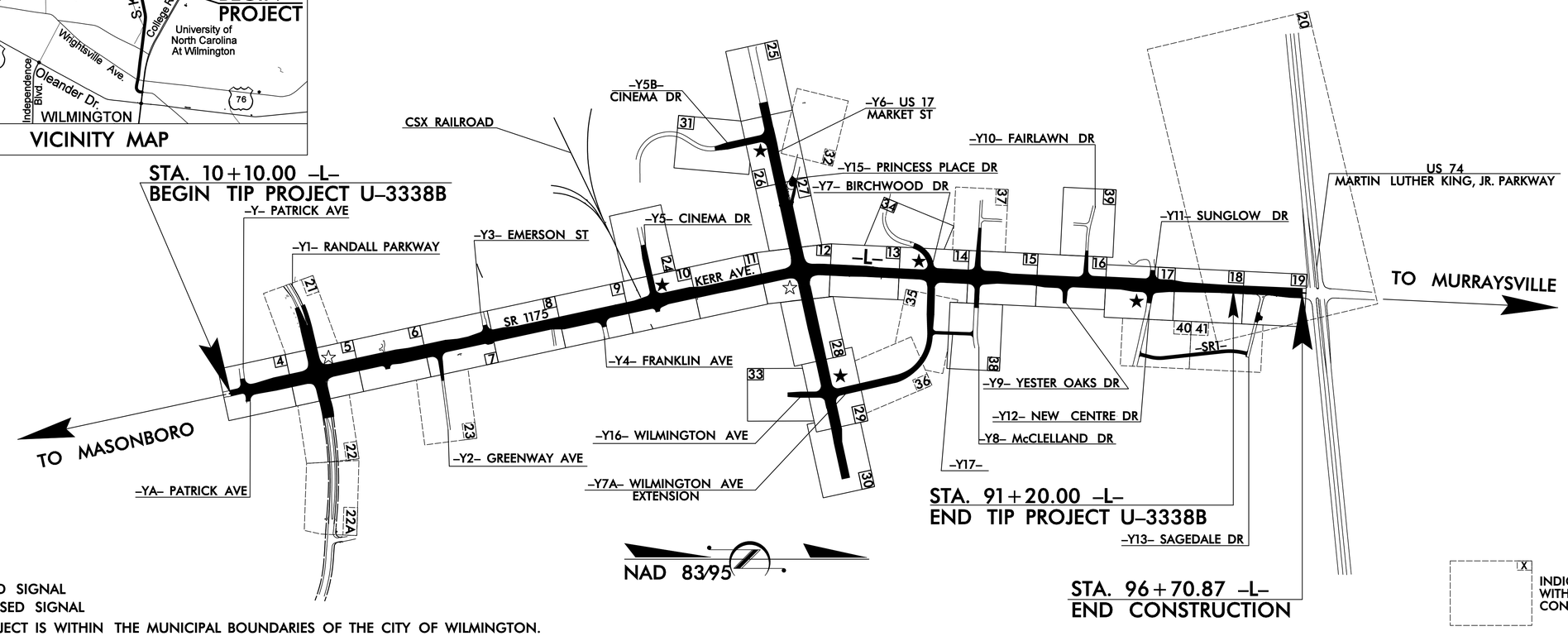
**LOCATION: WILMINGTON – SR 1175 (KERR AVE) FROM RANDALL PARKWAY TO SR 2649 (MARTIN LUTHER KING, JR. PARKWAY)**

**TYPE OF WORK: UTILITY CONSTRUCTION**

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING
DocuSigned by: JULIE DAVID POETASCH
EA0970...
6/8/2015

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | U-3338B | UC-1 | |

| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 34932.1.1 | STP-1175(8) | P.E. |
| 34932.2.2 | STP-1175(10) | R/W & UTILITIES |




STA. 10+10.00 -L-
BEGIN TIP PROJECT U-3338B

☆ REVISED SIGNAL
★ PROPOSED SIGNAL

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WILMINGTON.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

## GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

## INDEX OF SHEETS


| SHEET NO. | DESCRIPTION |
|---|---|
| UC-1 | TITLE SHEET |
| UC-2 | LEGEND OF SYMBOLS |
| UC-3 | GENERAL NOTES |
| UC-4 thru UC-41 | UTILITY CONSTRUCTION PLAN SHEETS |
| UC-42 thru UC-43 | UTILITY CONSTRUCTION PROFILE SHEETS |
| UC-44 thru UC-45 | CONSTRUCTION DETAILS |



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919-854-6200 919-854-6259 (fax)
F-0342


RIGHT OF WAY DATE:
JUNE 29, 2012

LETTING DATE:
AUGUST 18, 2015

## UTILITY OWNERS ON PROJECT

(1) WATER – CAPE FEAR PUBLIC UTILITY AUTHORITY

(2) SEWER – CAPE FEAR PUBLIC UTILITY AUTHORITY


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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, PE | UTILITIES SECTION ENGINEER |
| Bo Hemphill, PE | UTILITIES SQUAD LEADER |
| AECOM Technical Services | UTILITY CONSTRUCTION PROJECT DESIGNER |

5/14/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-2 |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

# UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

## PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

## PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

## EXISTING UTILITIES SYMBOLS

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

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — ?UTL
- Designated Utility Line (Type as Shown) — ?UTL

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| PROJECT REFERENCE NO. | SHEET NO. |
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| U-3338B | UC-3 |

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POE, P.E.
DocuSigned by: EA0970B9F9C4B4... 6/10/2015

UTILITY CONSTRUCTION

# 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 CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA).

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 OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. COORDINATE WITH THE NCDOT RESIDENT ENGINEER TO 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.

10. ALL PROPOSED DUCTILE IRON SANITARY SEWER PIPES AND FITTINGS SHALL HAVE INTERIOR SURFACES LINED WITH A CERAMIC EPOXY COATING AS PER CAPE FEAR PUBLIC UTILITY AUTHORITY GRAVITY SANITARY SEWER SPECIFICATION 2.02.

11. ALL PROPOSED STEEL ENCASEMENT PIPES SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY BORING AND JACKING SPECIFICATION 1.04.1.

## PROJECT SPECIFIC NOTES:

1. WATER MAINS OR SEWER FORCE MAINS CROSSING UNDER STORM DRAIN PIPE OR DITCH SHALL HAVE 18" MIN. VERTICAL CLEARANCE OR USE 20 LF JOINT OF D.I. PIPE CENTERED ON STORM DRAIN OR DITCH.

2. ALL SANITARY SEWER SERVICE LATERALS TO BE ABANDONED SHALL BE PLUGGED AT THE EXISTING SEWER MAIN.

3. TERRA COTTA SEWER SERVICE LINES SHALL BE ABANDONED AND A NEW SERVICE SHALL BE INSTALLED FROM THE MAIN TO THE CLEANOUT.

4. COPPER WATER SERVICES MAY BE SPLICED. ALL OTHER WATER SERVICES THAT MUST BE EXTENDED SHALL BE RELAID FROM THE MAIN TO THE RIGHT OF WAY.

5. ALL ABANDONED WATER SERVICES AND HYDRANT LEGS SHALL BE CUT AND CAPPED AT THE MAIN.

6. RISER SECTIONS SHALL BE ADDED TO EXISTING MANHOLES TO BRING THE MANHOLETO GRADE.

7. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED PLANS FOR SANITARY SEWER "PUMP AROUND" PROCEDURE FOR ALL LOCATIONS WHERE SANITARY SEWER MAINS ARE RELOCATED OR REPLACED.

8. NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP.

9. WATER METERS SHALL BE INSTALLED ADJACENT TO THE ROW LINE WHERE EXISTING WATER SERVICE LINES ARE CURRENTLY LOCATED.

## LIST OF CFPUA STANDARD DETAILS

THE FOLLOWING CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD DETAILS ARE ANTICIPATED TO BE USED ON THIS PROJECT;

PRECAST CONCRETE OFFSET MANHOLE TYPICAL
MANHOLE FLOOR PLAN
STANDARD SERVICE CONNECTION TO SANITARY SEWER
DEEP SERVICE LATERAL
STANDARD SERVICE LATERAL
SERVICE CONNECTION & CLEAN-OUT
SINGLE SERVICE CONNECTION
PIPE CASING SUPPORT DETAIL
VALVE DETAIL

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| PROJECT REFERENCE NO. | SHEET NO. |
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| U-3338B | UC-4 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POE

DocuSigned by: DAVID POE 6/8/2019

# UTILITY CONSTRUCTION

NAD 83/95

STA. 10+10.00 -L- BEGIN TIP PROJECT U-3338B

MATCHLINE -L- STA.15+00 SEE SHEET 5

PROP. 40' - ABANDON - 12" UTILITY PIPE (D.I. WATER)

PROP. 45' - 12" D.I. WATER LINE W/ 4 - 45 DEGREE BENDS

PROP. - SANITARY SEWER CLEAN-OUT

PROP. RELOCATE WATER METER

OFFSET CB SEE SPECIAL DETAIL

NO CLAIM

1 SAMUEL J. WINKLER, ET UX DB 1344 PG 987 DB 1588 PG 587

2 DONALD K. BREWINGTON, ET UX DB 983 PG 42 DB 1588 PG 1040

JEFFERY McDOWELL DB 5352 PG 652 DB 4393 PG 720 DB 598 PG 601 DB 1592 PG 799 DB 1328 PG 596

5 G&I IV MILL CREEK LP DB 2202 PG 234 DB 1970 PG 708 DB 2963 PG 170 DB 2963 PG 184 DB 2963 PG 191 DB 2591 PG 955 DB 2429 PG 845 DB 2351 PG 267 DB 2112 PG 472 MB 27 PG 11 MB 27 PG 12 MB 41 PG 73 MB 13 PG 33 MB 5 PG 92 MB 6 PG 55 MB 10 PG 5 DB 5287 PG 2857 DB 5287 PG 2869

6 KERR CROSSING UOA DB 4931 PG 2281 DB 4931 PG 2286 DB 5546 PG 2776 DB 5307 PG 717 DB 5535 PG 636

155 CAROL D. YOUNG DB 1220 PG 1019 PB 598 PG 350½

7 INEZ S. RICHARDSON DB 858 PG 763 DB 854 PG 521 PB 598 PG 350½

8 GERALDINE ARMSTRONG DB 3870 PG 416

9 ROBERT HAWES DB 4898 PG 105

10 CUONG NGUYEN DB 5298 PG 1819 DB 4890 PG 703 DB 4623 PG 499

Prepared by:

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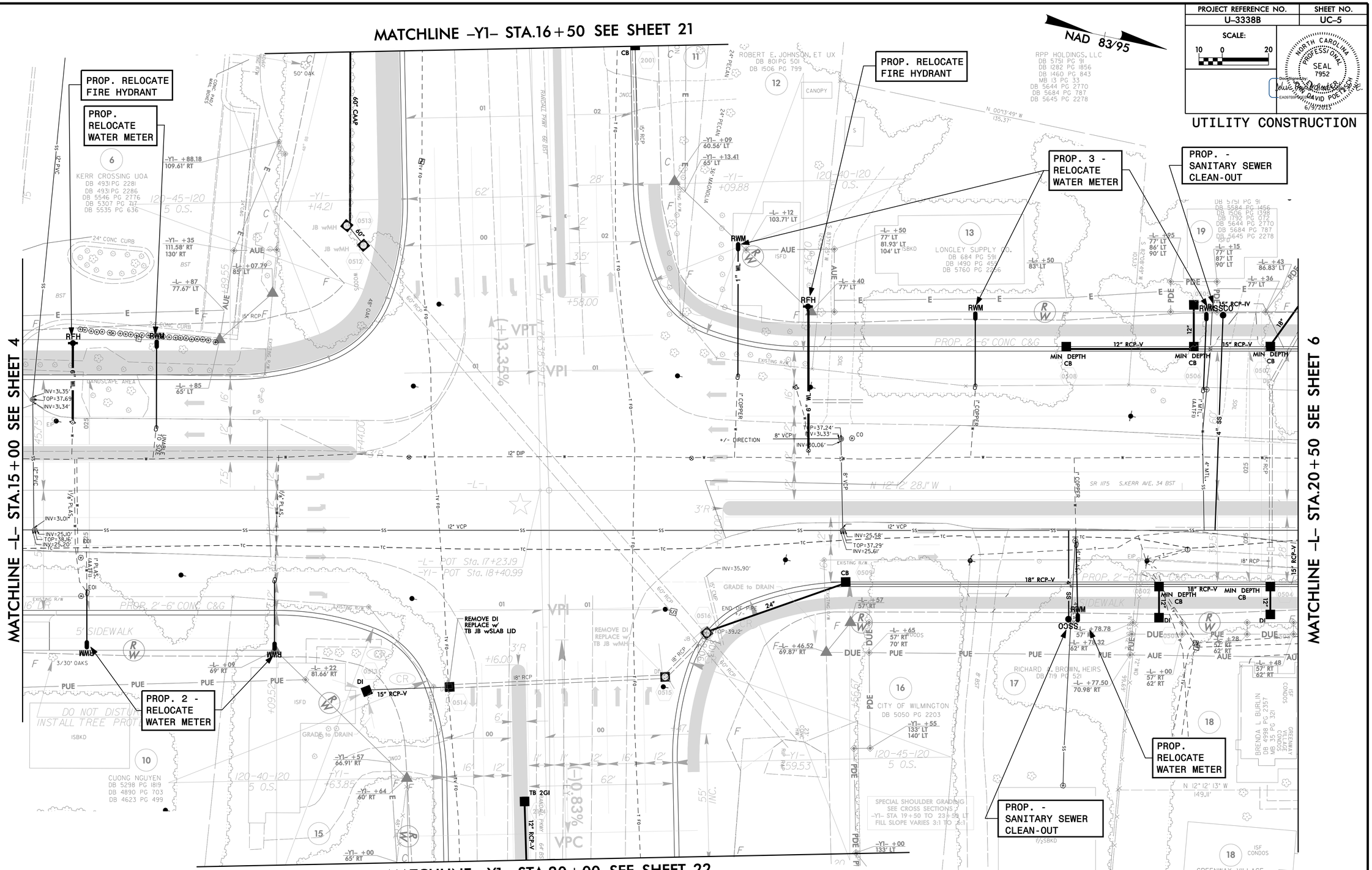
| U-3338B | UC-5 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POERSCH

6/9/2015

# UTILITY CONSTRUCTION

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| U-3338B | UC-6 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEHLSCH

DocuSigned by: EA097D5F9F7D4A0... 6/8/2023

# UTILITY CONSTRUCTION

NAD 83/95

PROP. 3 - RELOCATE WATER METERS

PROP. - 1 SANITARY SEWER CLEAN-OUT

PROP. - 1 SANITARY SEWER CLEAN-OUT

PROP. RELOCATE FIRE HYDRANT

NOTE: CB #0507 LOCATED 3.8 FT NORTH OF SAG ON -L-

NOTE: CB #0504 LOCATED 3.8 FT NORTH OF SAG ON -L-

PROP. 1 - RELOCATE WATER METER

PROP. 1 - RELOCATE WATER METER

PROP. - SANITARY SEWER CLEAN-OUT

PROP. 45' - 4" D.I. WATER LINE 1 - 4" VALVE W/ 4- 45 DEGREE BENDS

MATCHLINE -L- STA.20+50 SEE SHEET 5

MATCHLINE -L- STA.26+00 SEE SHEET 7

200' LT AND RT LANE TAPER

REMOVE ALL CONSTRUCTION DEBRIS AND BACKFILL MEDIAN WITH TOPSOIL

PROP. 2'-6" CONC C&G

PROP. 2'-6" CONC C&G

PROP. 2'-6" CONC C&G

5' SIDEWALK

15" RCP-V

12" RCP-V

12" DIP

12" VCP

MIN DEPTH CB

SMH RIM ELEV. = 36.37' INV. IN (N) = 26.1' INV. OUT (S) = 26.1'

INV=26.62' TOP=37.90' INV=26.61'

-L- N 12° 12' 28.1" W

SR 1175 S.KERR AVE. 34 BST

RPP HOLDINGS, LLC DB 5751 PG 91 DB 1282 PG 1856 DB 1460 PG 843 MB 13 PG 33 DB 5644 PG 2770 DB 5684 PG 787 DB 5645 PG 2278

GREENWAY VILLAGE CONDOS

ISF CONDOS

BAILEY R. ETHRIDGE DB 5328 PG 2892 MB 35 PG 321

S & D FOSTER FAMILY, LLC. DB 2399 PG 756 MB 35 PG 321

WILLIAM R. JONES, ET UX DB 3031 PG 665 MB 35 PG 321

WILLIAM M. STOCKS, ET UX DB 3080 PG 031 MB 35 PG 321

PATRICIA C. WILLIAMS DB 2113 PG 404 MB 35 PG 321

THOMAS P. WHITE DB 4836 PG 301 MB 35 PG 321

CHARLES WHITE, ET UX DB 5014 PG 1694 MB 35 PG 321

GREENWAY VILLAGE HOMEOWNERS ASSOC. INC. DB 2621 PG 553 DB 2378 PG 054 MB 25 PG 56 MB 67 PG 59½ MB 35 PG 320 MB 35 PG 321 MB 35 PG 369 MB 36 PG 189 MB 36 PG 91 MB 36 PG 283

LINDA F. ALSTON, ET VIR DB 1236 PG 1881 MB 67 PG 59½

LETHIA S. HANKINS DB 1282 PG 1807 MB 67 PG 59½

CARL O. SANDERS, ET UX DB 713 PG 267 MB 67 PG 59½ MB 35 PG 320

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| PROJECT REFERENCE NO. | SHEET NO. |
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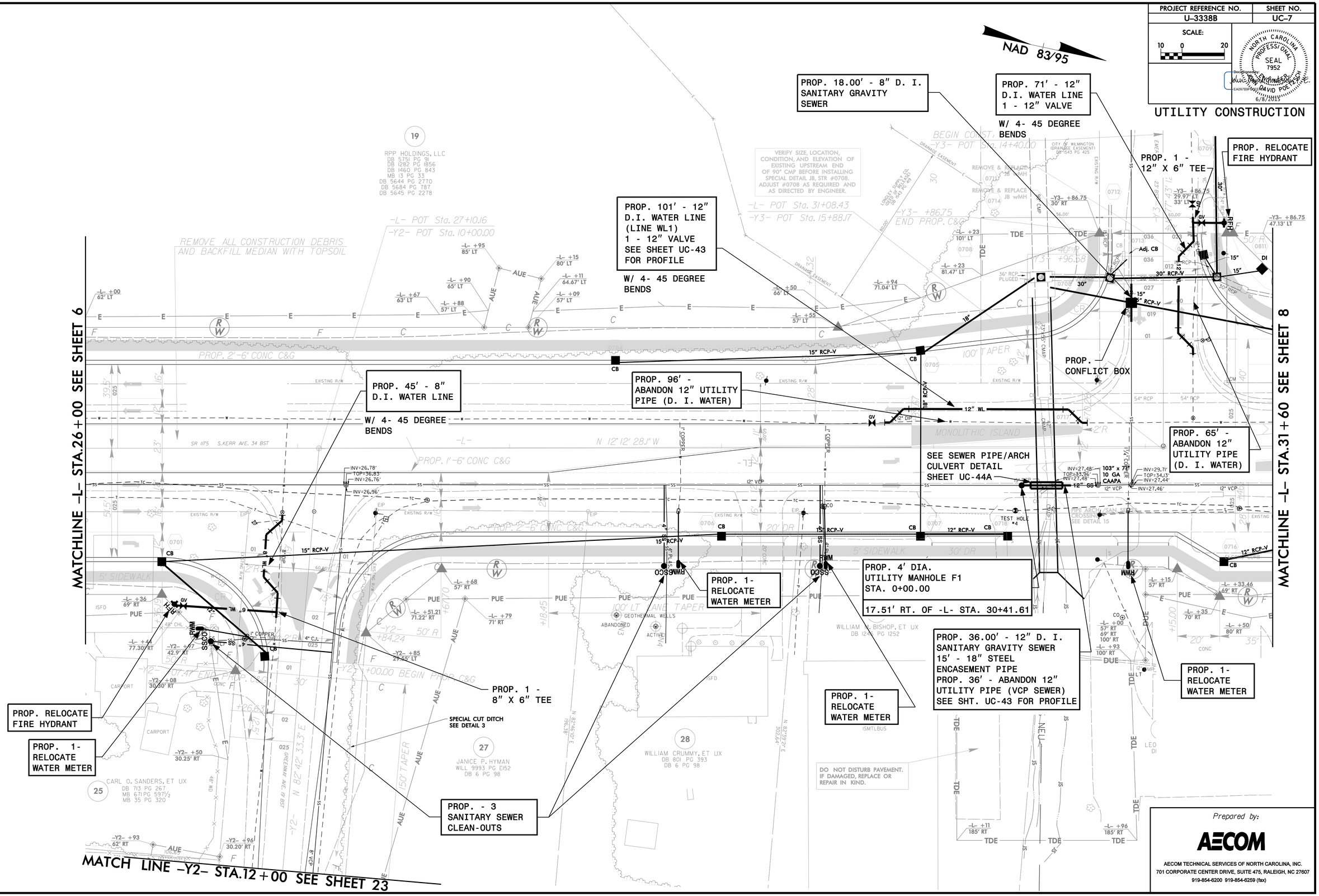
| U-3338B | UC-7 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POLESKI

DocuSigned by: EA0706F5C5F4F4... 6/8/2015

# UTILITY CONSTRUCTION

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| U-3338B | UC-8 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEDESH

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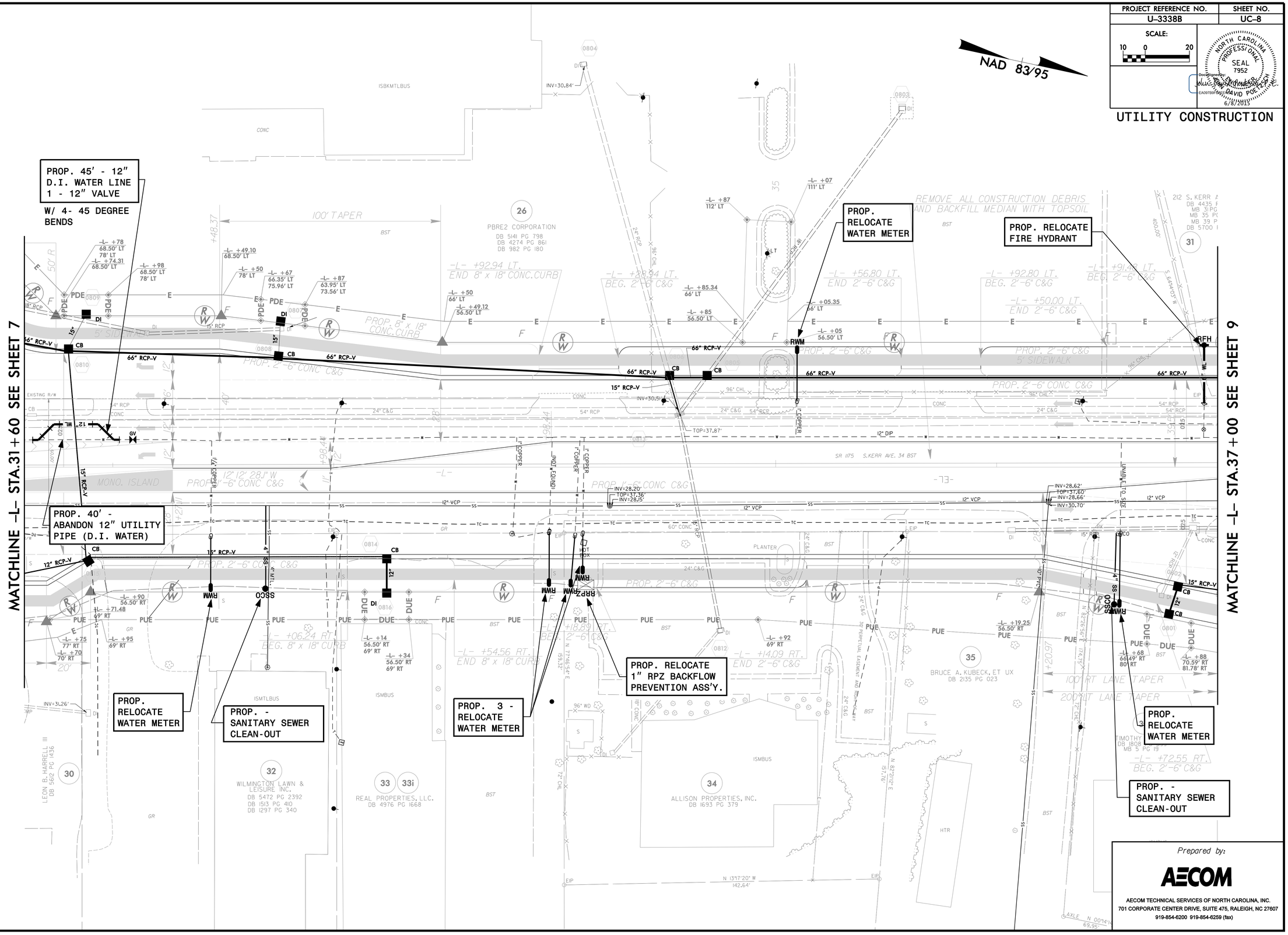
6/8/2015

# UTILITY CONSTRUCTION

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| U-3338B | UC-9 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POLESTICO

DocuSigned by: 6/9/2015

# UTILITY CONSTRUCTION

NAD 83/95

NOTE:
CB #0912 LOCATED 12 FT SOUTH OF SAG ON -L-

CB #0918 LOCATED 37.6 FT SOUTH OF SAG ON -L-

CB #0916 LOCATED 23.4 FT NORTH OF SAG ON -L-

PROP. 45' - 12" D.I. WATER LINE
1 - 12" VALVE
W/ 4- 45 DEGREE BENDS

PROP. RELOCATE WATER METER

PROP. - SANITARY SEWER CLEAN-OUT

PROP. 18.00' - 6" D. I. GRAVITY SANITARY SEWER

PROP. 18.00' - 8" D. I. GRAVITY SANITARY SEWER

PROP. CONFLICT BOX

PROP. 45' - 8" D.I. WATER LINE
W/ 4- 45 DEGREE BENDS

PROP. - SANITARY SEWER CLEAN-OUT

PROP. - 2 RELOCATE WATER METER

PROP. CONFLICT BOX

CUT OUT TEE SLEEVE 6" PIPE REMOVE 6" GATE VALVE RELOCATE HYDRANT AS SHOWN

PROP. RELOCATE FIRE HYDRANT

PROP. 40' - ABANDON 12" UTILITY PIPE (D.I. WATER)

PROP. 8" X 6" TEE

PROP. RELOCATE FIRE HYDRANT

PROP. RELOCATE FIRE HYDRANT 1 - 6" VALVE

PROP. 45' - 8" D.I. WATER LINE
1 - 8" VALVE
W/ 4- 45 DEGREE BENDS

PROP. - SANITARY SEWER CLEAN-OUT

PROP. RELOCATE WATER METER
PROP. RELOCATE 1" RPZ BACKFLOW PREVENTION ASS'Y.

PROP. 2 SANITARY SEWER CLEAN-OUT

PROP. 53' - 6" FORCE MAIN SEWER (PRIVATE)(LINE C) SEE SHEET UC-42 FOR PROFILE
W/ 4- 45 DEGREE BENDS

PROP. RELOCATE WATER METER

MATCHLINE -L- STA. 37+00 SEE SHEET 8

MATCHLINE -L- STA.42+50 SEE SHEET 10

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| U-3338B | UC-10 |

SCALE: 10 0 20

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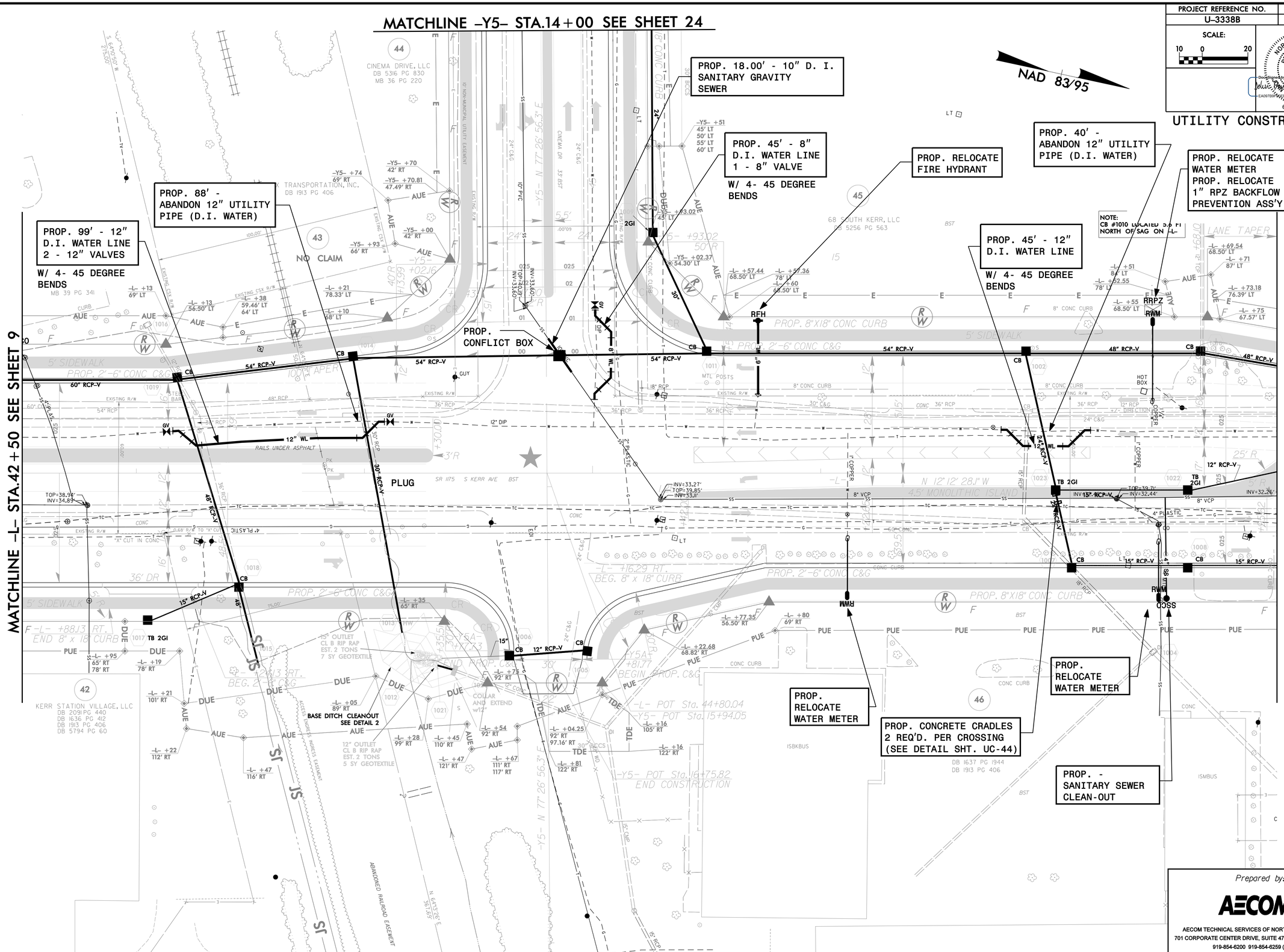
6/8/2015

# UTILITY CONSTRUCTION

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| U-3338B | UC-11 |

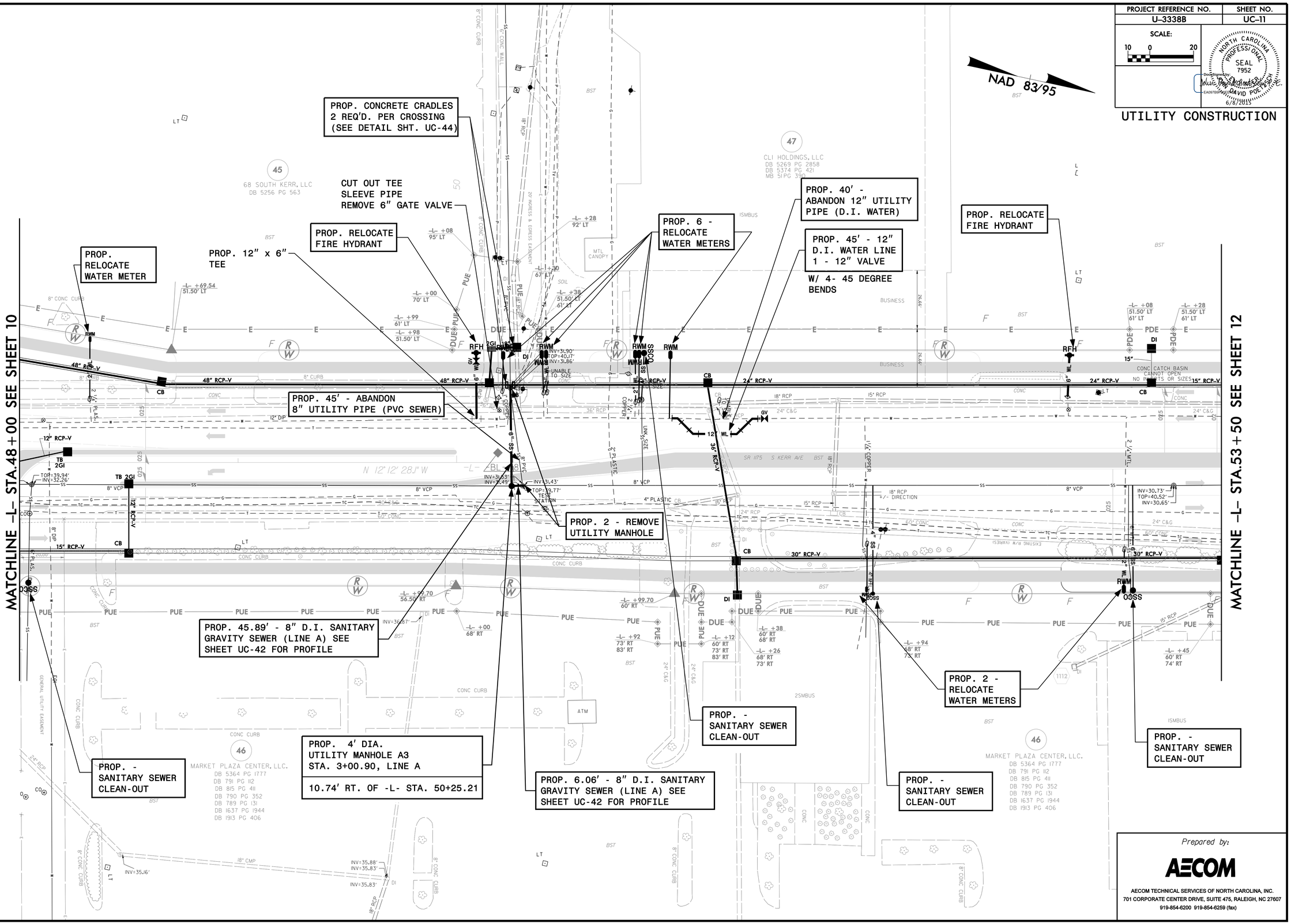
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POE PE/PLS

DocuSigned by: DAVID POE PE/PLS EA0705F9C0B4B4

6/8/2015

# UTILITY CONSTRUCTION




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: 6/6/2015
DGN: u3338b_uc_pdn_sl.dgn

DocuSign Envelope ID: 87BBBDB0-C4FC-4671-BA42-65D10AA8287E

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-12 |

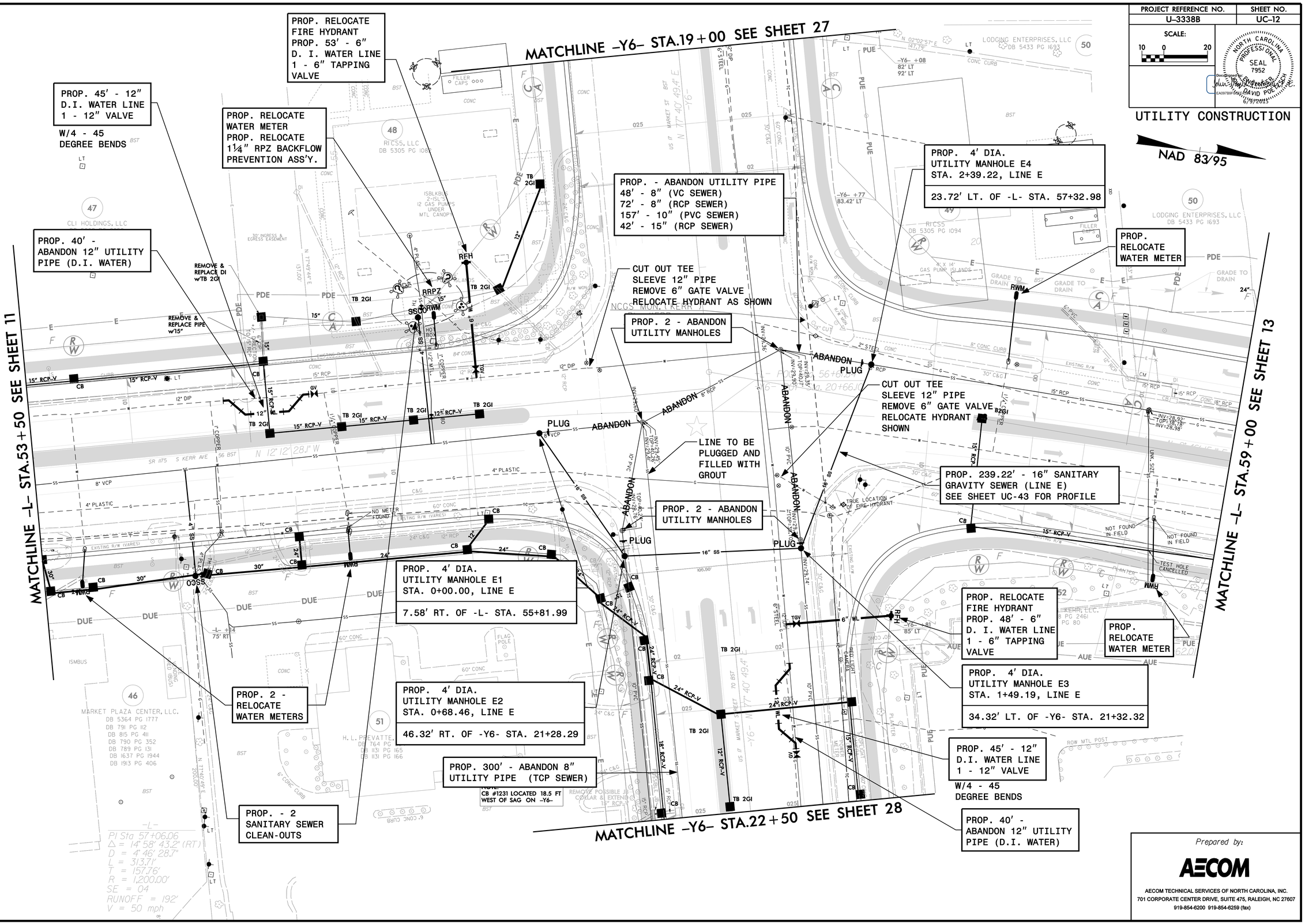
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, JR.

DocuSigned by: EASTSIDE 6/9/2025

# UTILITY CONSTRUCTION

NAD 83/95

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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)

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-13 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEDZSKI

DocuSigned by: EA07D7BF8BD4B4... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

PROP. 2 - RELOCATE WATER METER

PROP. - 2 SANITARY SEWER CLEAN-OUTS

PROP. 18' - 10" D.I. WATER LINE CENTER ON STORM SEWER

PROP. CONCRETE CRADLE 2 REQ'D. PER CROSSING (SEE DETAIL SHT. UC-44)

PROP. - REMOVE UTILITY MANHOLE

PROP. 10.43' - 8" D.I. SANITARY GRAVITY SEWER (LINE B) SEE SHEET UC-42 FOR PROFILE

PROP. 45' - 6" D.I. WATER LINE
1 - 6" VALVE

W/4 - 45 DEGREE BENDS

PROP. 2 - RELOCATE WATER METER

PROP. - SANITARY SEWER CLEAN-OUT

PROP. 45' - 8" D.I. WATER LINE

W/4 - 45 DEGREE BENDS

PROP. - SANITARY SEWER CLEAN-OUT

EXIST. UTILITY MANHOLE B1
STA. 0+00.00, LINE B
49.43' RT. OF -L- STA. 63+21.12

PROP. 4' DIA.
UTILITY MANHOLE B2
STA. 1+24.41, LINE B

48.40' RT. OF -L- STA. 64+45.62

PROP.
124.41' 8" D.I. SANITARY GRAVITY SEWER (LINE B) SEE SHEET UC-42 FOR PROFILE

PROP. 126' REMOVE 8" UTILITY PIPE (PVC SEWER)

MATCHLINE -L- STA.59+00 SEE SHEET 12

MATCHLINE -L- STA.64+50 SEE SHEET 14

Prepared by:

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

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DocuSign Envelope ID: 673A5FCA-55B0-4348-A25C-CFE5ADF1264D

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-14 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

FOR -L- PROFILE SEE SHEET 47
FOR -Y7- PROFILE SEE SHEET 58
FOR -Y7A- PROFILE SEE SHEET 58

MATCHLINE -Y7- STA.12+50 SEE SHEET 34

MATCHLINE -L- STA.64+50 SEE SHEET 13

MATCHLINE -L- STA.70+00 SEE SHEET 15

MATCHLINE -Y7A- STA.12+00 SEE SHEET 35

PROP. - SANITARY SEWER CLEAN-OUT

PROP. 45' - 12" D.I. WATER LINE 1 - 12" VALVE W/4 - 45 DEGREE BENDS

ABANDON SERVICE AT MAIN

PROP. 40' - ABANDON 12" UTILITY PIPE (D.I. WATER)

PROP. REMOVE WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. 3 - RELOCATE WATER METERS

PROP. - SANITARY SEWER CLEAN-OUT

PROP. - SANITARY SEWER CLEAN-OUT

PROP. 2 - RELOCATE WATER METERS

PROP. - SANITARY SEWER CLEAN-OUT

Prepared by:

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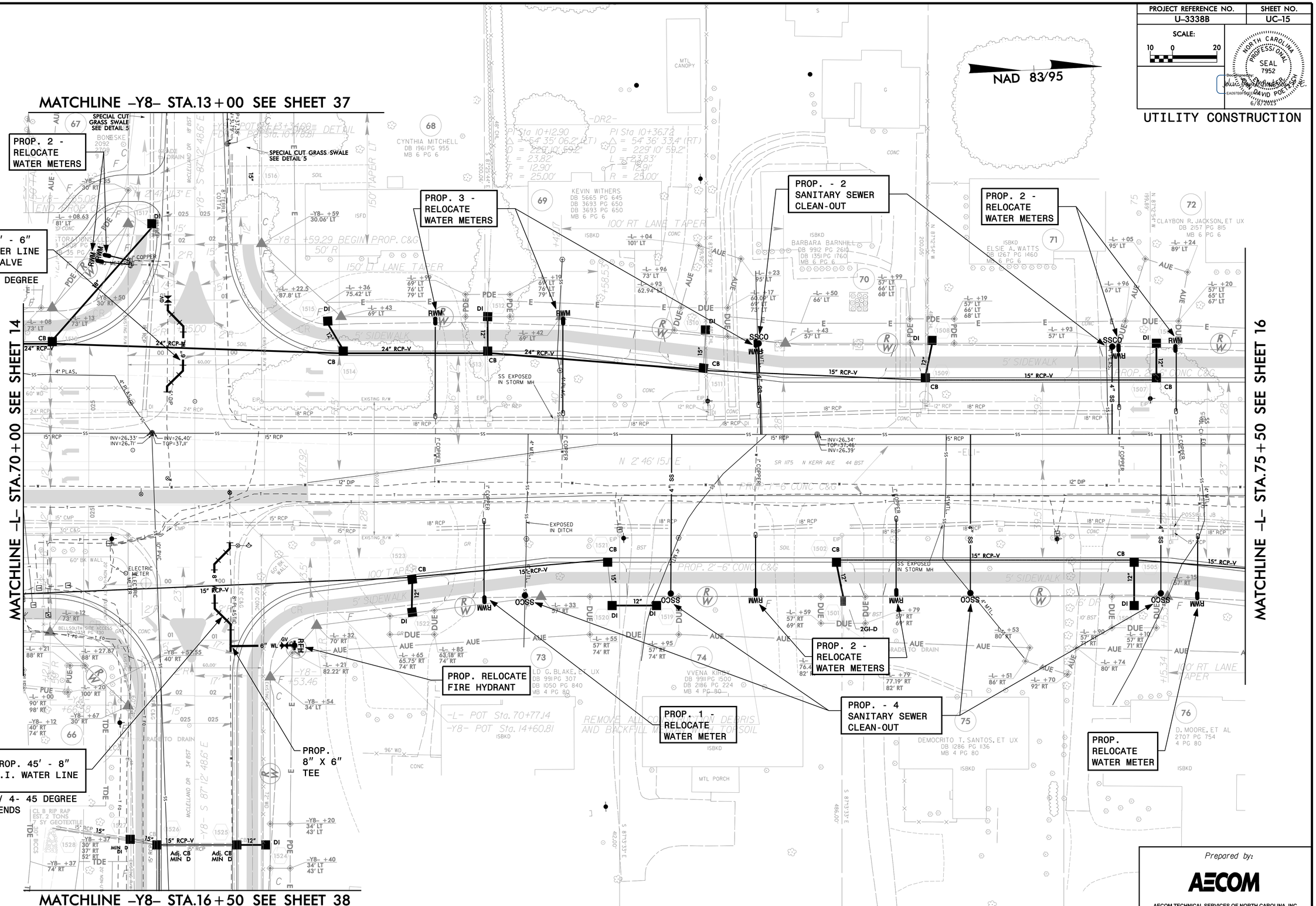
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-15 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEZYN

DocuSigned by: EA0706F6B0F4B4... 6/8/2015

# UTILITY CONSTRUCTION

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DATE: 6/6/2015
DGN: u3338b_uc_psh_sh5.dgn

DocuSign Envelope ID: 62AD9B9A-482D-45BD-A98E-BF812B0FB8B9

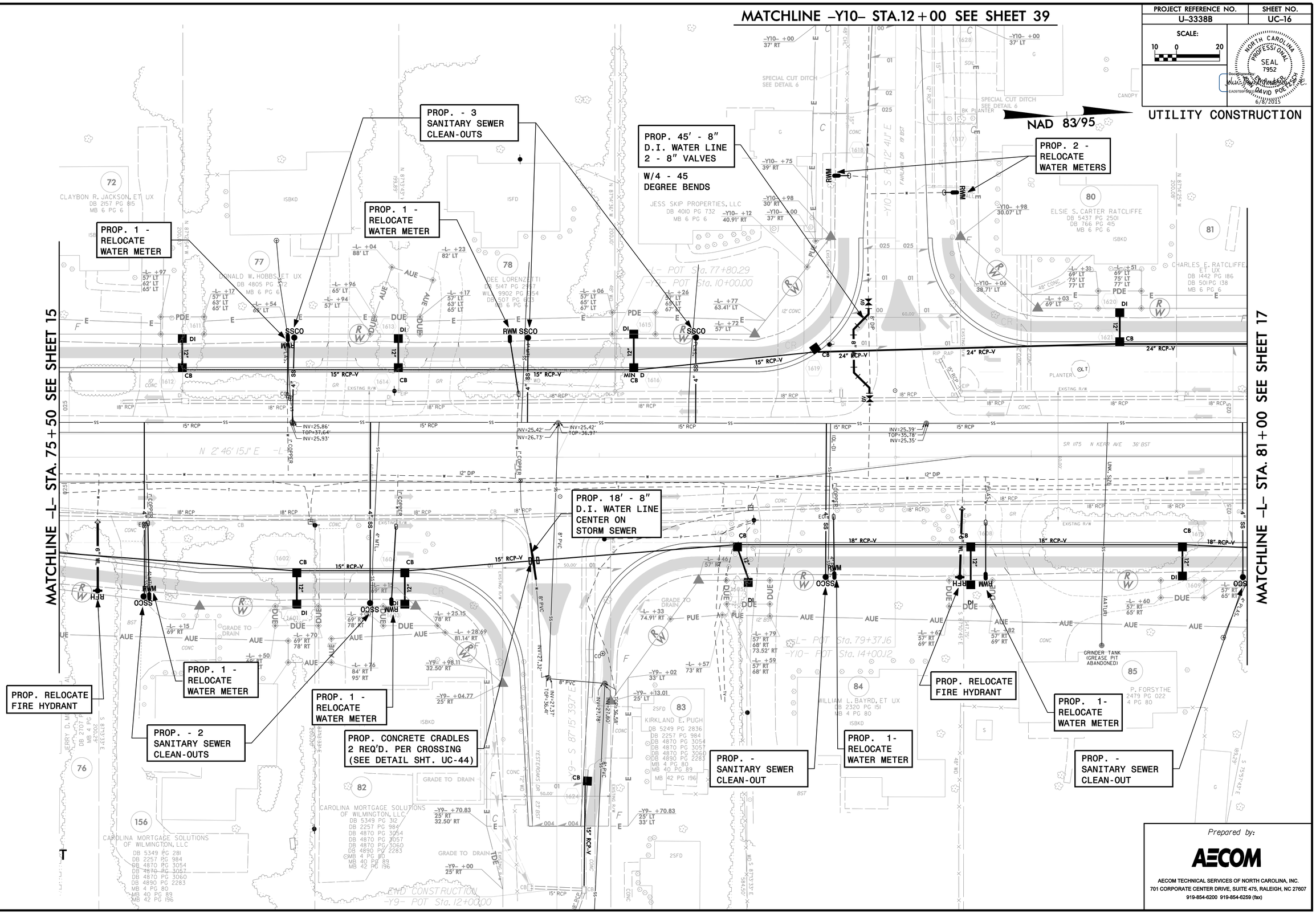
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-16 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: EA0970F8C7B8B4... 6/8/2015

# UTILITY CONSTRUCTION




Prepared by:

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

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DGN: u3338b_uc_psh_sht6.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-17 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POLESKOVSKY 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

PROP. 1- RELOCATE WATER METER

PROP. 2 - RELOCATE WATER METERS

PROP. - 2 SANITARY SEWER CLEAN-OUT

PROP. RELOCATE FIRE HYDRANT

PROP. 1- RELOCATE WATER METER

PROP. 1- RELOCATE WATER METER

MATCHLINE -L- STA.81+00 SEE SHEET 16

MATCHLINE -L- STA.86+50 SEE SHEET 18

MATCHLINE -Y12- STA.12+50 SEE SHEET 40

-Y11- PI Sta 12+36.25
D = 23° 03' 45.9" (RT)
D = 28° 38' 52.4"
L = 80.50'
T = 40.80'
R = 200.00'
SE = 02

-Y12- PI Sta 11+28.96
D = 7° 08' 32.0" (RT)
D = 4° 05' 33.2"
L = 174.52'
T = 87.37'
R = 1,400.00'
SE = 02

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)

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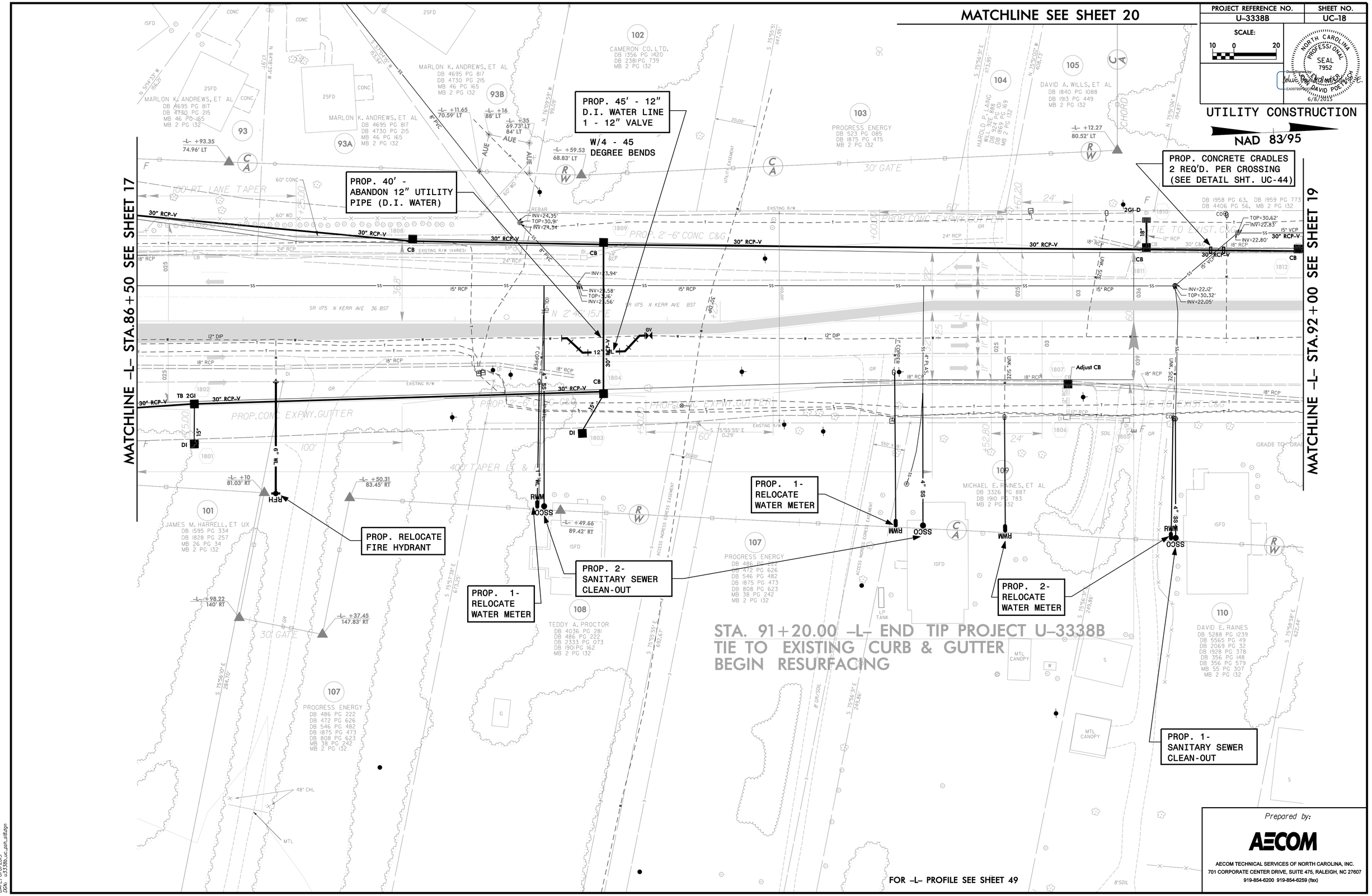
DGN: u3338b_uc_psh_sif.dgn

DocuSign Envelope ID: 7A047BFF-7C18-4C16-A3FD-26742A810986



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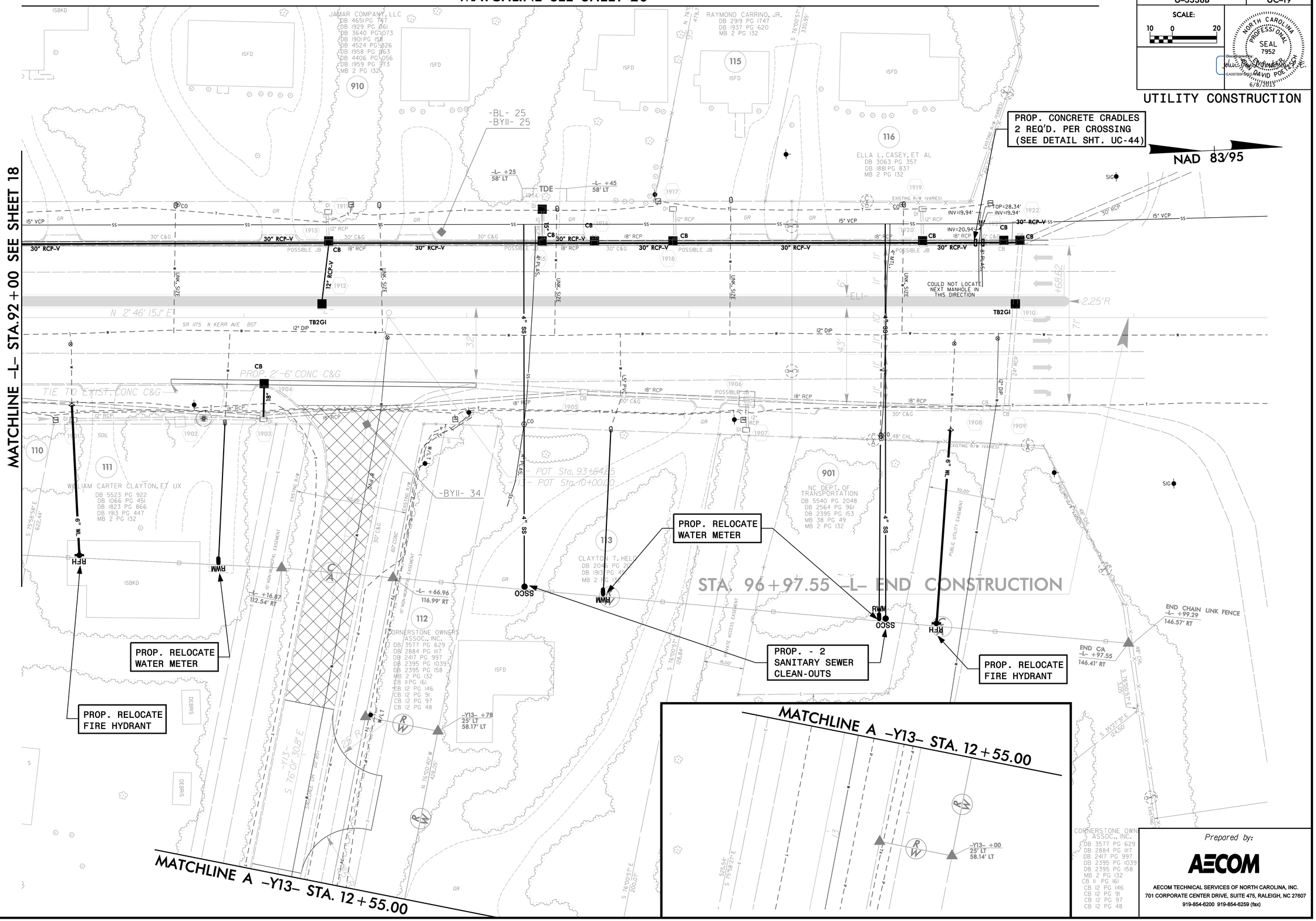
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-19 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: EA0970BF8C5F4D... 6/8/2015

# UTILITY CONSTRUCTION




Prepared by:

AECOM

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

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DGN: u3338b_uc_psh_sht9.dgn

DocuSign Envelope ID: 32F7980B-AC61-45AA-9424-BC8449B92CD8

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-20 |

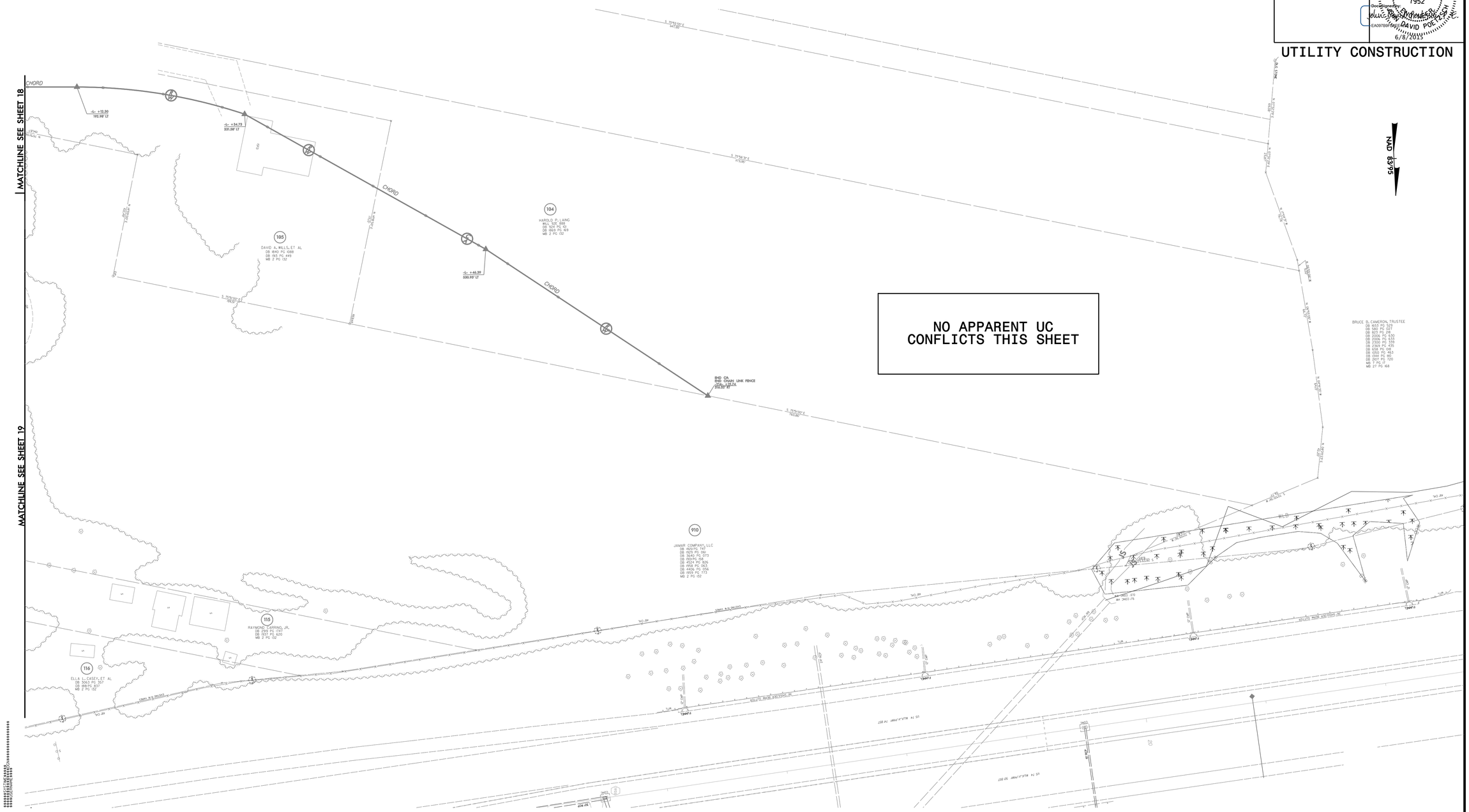
SCALE: 20 0 40

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEDESH

DocuSigned by: DAVID POEDESH EA0706F8A0F4B4...

6/8/2015

# UTILITY CONSTRUCTION

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

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DocuSign Envelope ID: D75A9612-D85F-46C9-9243-085D916692B1

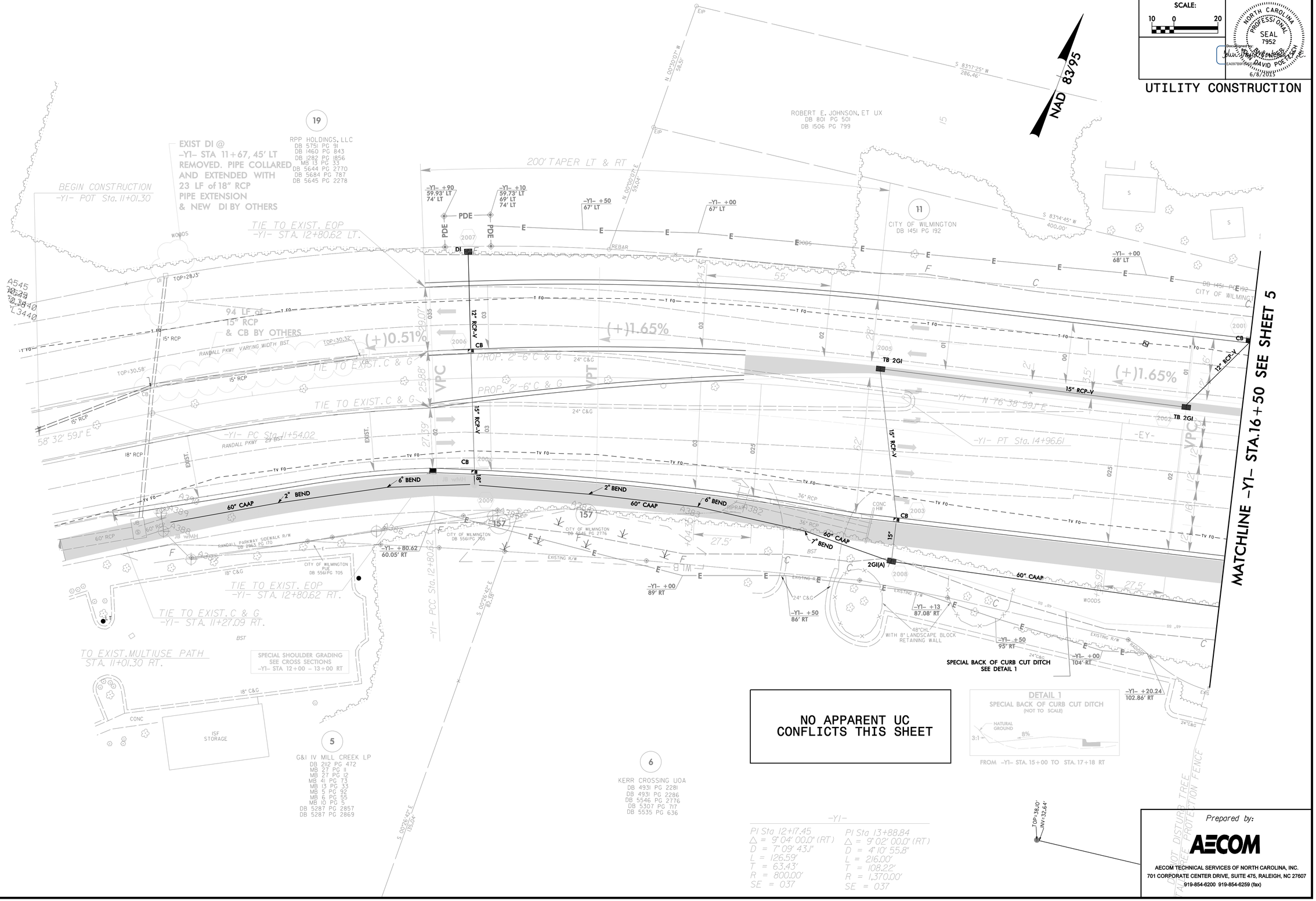
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-21 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POEDTCSH

DocuSigned by: David Poedtcsh 6/8/2015

# UTILITY CONSTRUCTION




Prepared by:

**AECOM**

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

DATE: 6/6/2015
DGN: u3338b_uc_psh_s2.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-22 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POETKER

DocuSigned by: A097B0F0D0A4... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

RICHARD A. BROWN, HEIRS
DB 719 PG 521

N 83°01'46" E
593.82'

16
CITY OF WILMINGTON
DB 5050 PG 2203

WOODS

-Y1- +00
133' LT

-Y1- +50
134' LT

-Y1- +00
132' LT

-Y1- +60
124.91' LT

PDE

EXISTING R/W

SPECIAL SHOULDER GRADING
SEE CROSS SECTIONS
-Y1- STA 19+54 TO 24+00 LT

CL I RIP RAP
EST. 3 TONS
7 SY GEOTEXTILE

282.32' TAPER LT.

150' TRANSITION LT. & RT.

55'
INC.

TIE TO EXISTING ISLAND
-Y1- STA. 22+00.00

TIE EOP 41' LT.
-Y1- STA. 23+27.32

PROP. 2'-6" CONC C&G

+45.00
+35.00
+27.32

VPC (+)0.31%

-Y1- PC Sta. 20+53.59

TIE EOP 41' RT.
-Y1- STA. 21+95.00

MATCHLINE -Y1- STA.20+00 SEE SHEET 5

MATCHLINE -Y1- STA.25+50 SEE SHEET 22A

15" RCP-V
12" RCP-V
12" RCP-IV
TB 2GI
CB
DI
15" RCP
24" C&G
EXIST.
TV FO
T FO
48" SS

-Y1- +53.59
60' RT

-Y1- +00
67' RT

-Y1- +50
65' RT

-Y1- +95
50.67' RT
60' RT

ABRAHAM CRUMMY
DB 1536 PG 536
DB 1562 PG 762
DB 1494 PG 1784
DB 908 PG 701
DB 5567 PG 479

15
ABRAHAM CRUMMY
DB 1536 PG 536
DB 1562 PG 762
DB 1494 PG 1784
DB 908 PG 701
DB 5567 PG 479

ROBERT W. STEMKE, ET UX
DB 4856 PG 860
DB 4856 PG 879
DB 4856 PG 898
DB 5522 PG 2748
MB 25 PG 56

N 00°23'29" W
6.14' CITY OF WILMINGTON PUE

N 00°29'11" W
6.86'

N 00°23'29" W
39.44'

N 55°23'43" E
133.53'

N 00°42'24" W
33.71'

N 00°28'07" W
6.66'

INV=32.48'
RIP RAP
CONC

"DLC" STONE

42" RCP

Conv. JB To 2GI TOP=38.90'
INV=32.70' INV=32.72'

GRADE to DRAIN

Existing Drainage Swale
DTM Elev 37.9'

EIP

REBAR

N 79°42'32" E
2.60'

S 49°42'21" E
82.72'

S 49°50'21" E
28.96'

N 82°49'09" E
3.94'

HC STONE

RBD STONE

N 11°06'17" W
7.44'

SPECIAL CUT DITCH
BEHIND SIDEWALK BERM
SEE DETAIL 7

NO APPARENT UC
CONFLICTS THIS SHEET

DETAIL 7
SPECIAL CUT DITCH
BEHIND SIDEWALK BERM
( Not to Scale)

No Special Profile For This Ditch

60'
4'
Shoulder Point
Natural Ground
4:1
Front Ditch Slope
D
Min. D = 1 Ft.

FROM -Y1- STA. 22+00 TO STA. 29+00 RT

-Y1-
PI Sta 24+79.64
Δ = 17° 36' 47.8" (RT)
D = 2° 05' 00.5"
L = 845.38'
T = 426.05'
R = 2,750.00'
SE = 025

B. J.'S CONSTRUCTION CO.
DB 4073 PG 784
DB 2109 PG 560
DB 1540 PG 815
DB 1558 PG 1126
DB 2756 PG 508
DB 5503 PG 1266

S 83°43'11" W
558.71'

THIEN NGUYEN
DB 4623 PG 499
DB 4890 PG 703

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)

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-22A |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: DAVID POE, P.E. 6/8/2015

# UTILITY CONSTRUCTION

NO APPARENT UC CONFLICTS 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: 6/6/2015
CKN: u3338b_uc_psh_s22Adgn

DocuSign Envelope ID: 6E3095AC-10C3-4A0E-A522-A7E6F27037A8

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-23 |

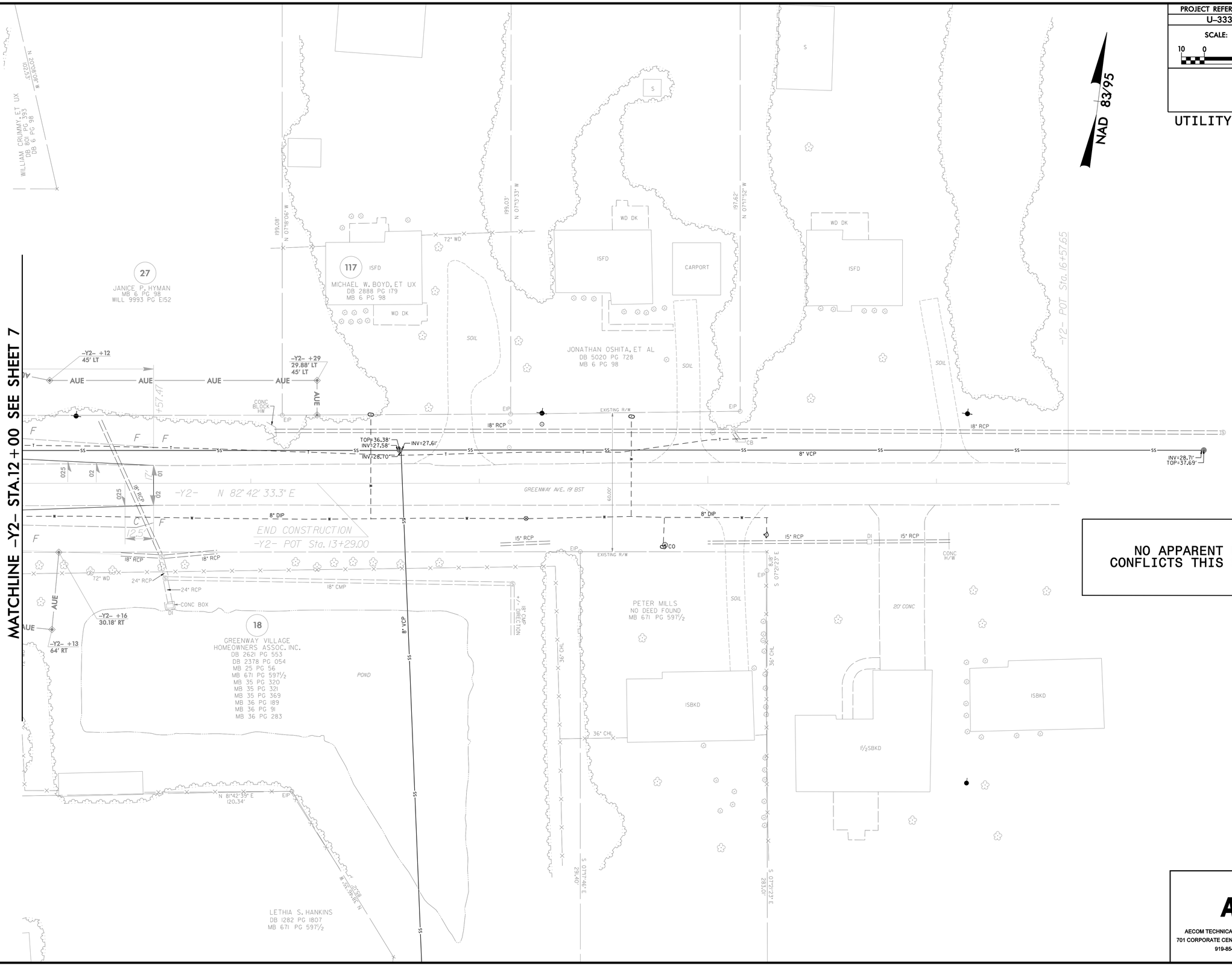
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POEDOSH

DocuSigned by: EA0978DF8A4... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95




NO APPARENT UC CONFLICTS THIS SHEET

Prepared by:

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AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
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DATE: 6/6/2015
DGN: u3338b_uc_sht_23.dgn

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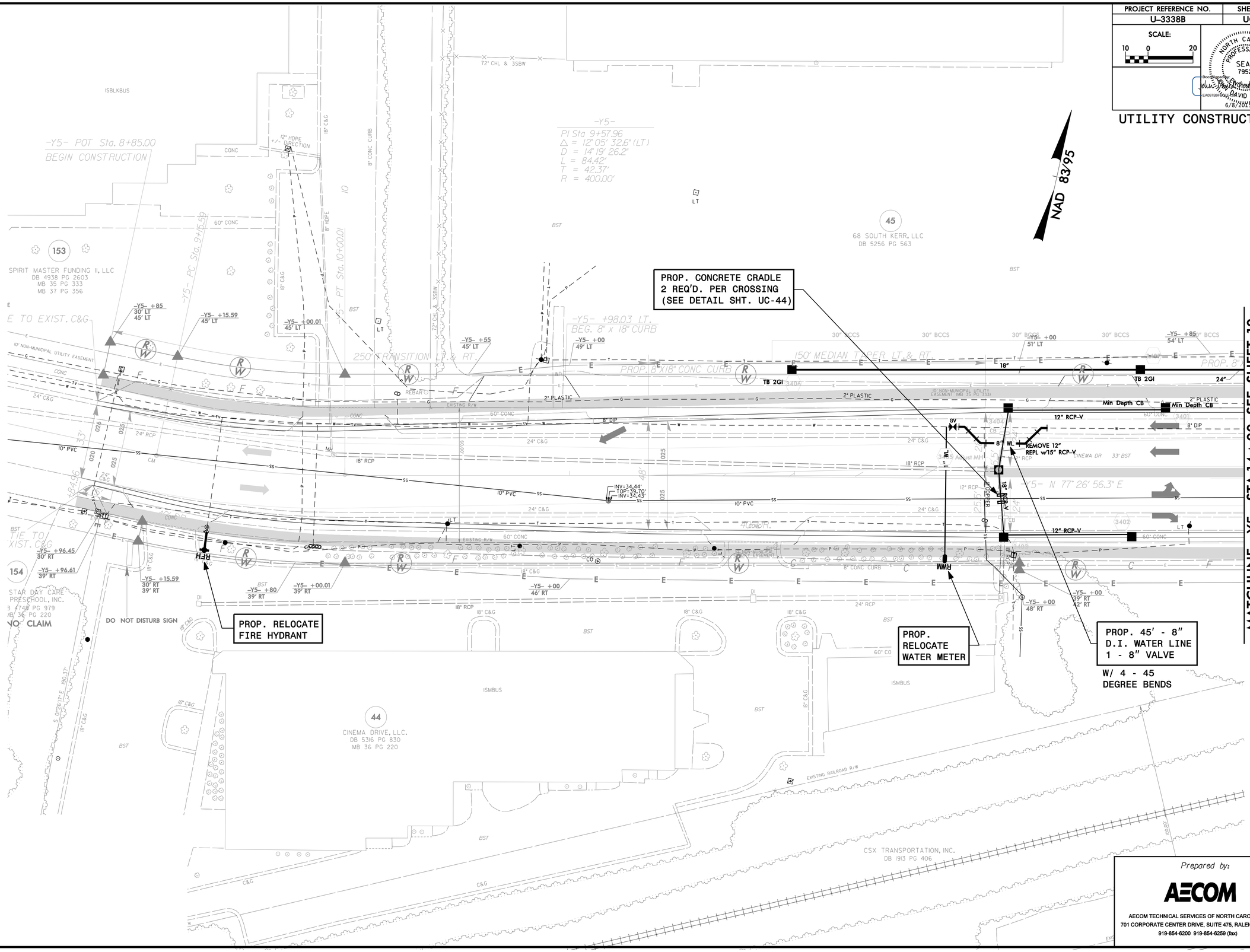
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-24 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POE

DocuSigned by: DAVID POE
EA0705F8D0F4B0...
6/8/2015

# UTILITY CONSTRUCTION

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-25 |

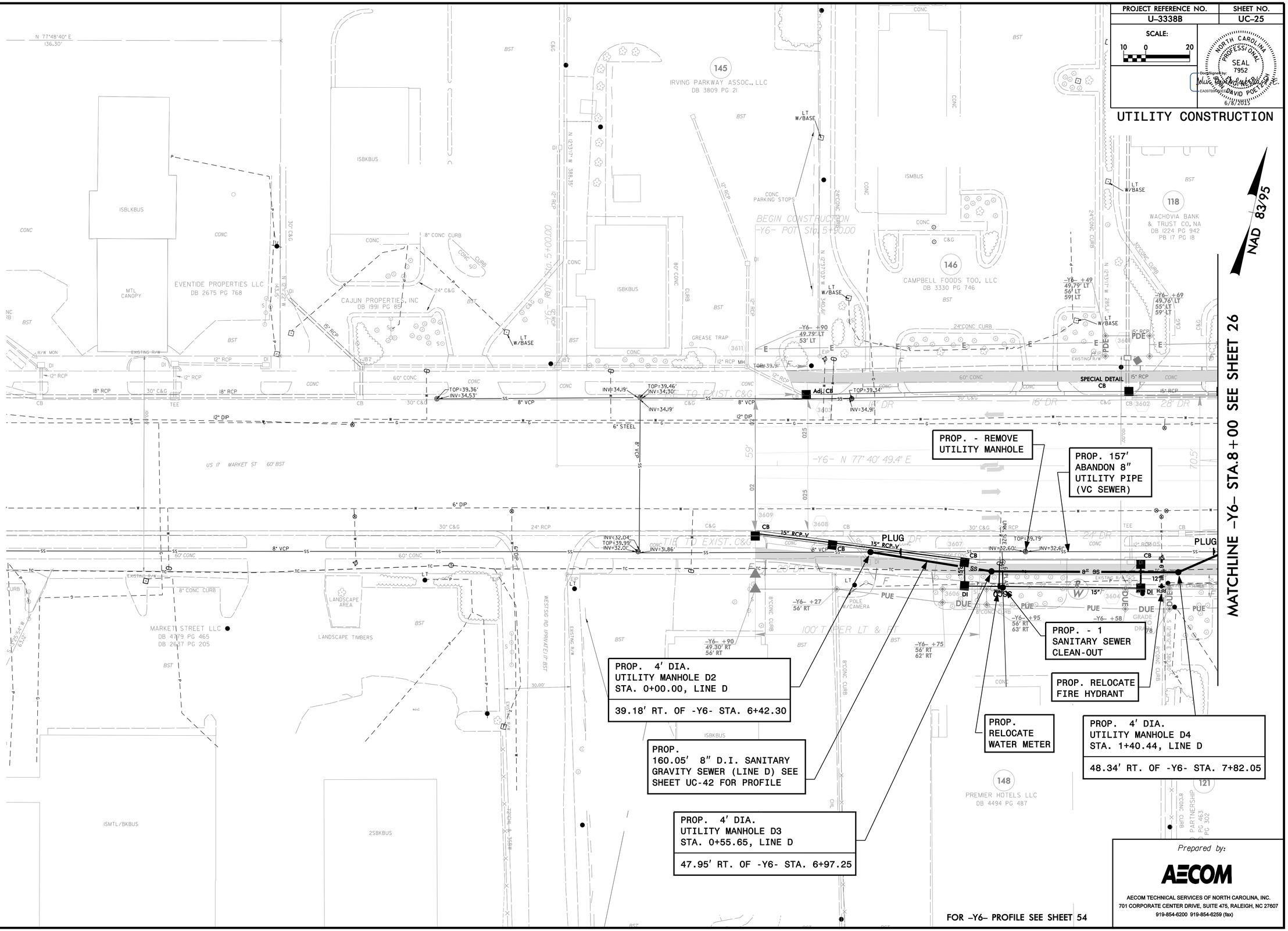
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POETZSCH

DocuSigned by: EA07C0F6F3B3B4...

6/8/2015

# UTILITY CONSTRUCTION

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DGN: u3338b_uc_psh_sht25.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-26 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POE

DocuSign Envelope ID: 9AF459D4-D3A7-46D4-A4D2-F7E941CA0CD5

6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

MATCHLINE SEE SHEET 32

MATCHLINE SEE SHEET 32

MATCHLINE -Y15- STA. 12+00 SEE SHEET 27 & 32

MATCHLINE -Y6- STA. 8+00 SEE SHEET 25

MATCHLINE -Y6- STA.13+50 SEE SHEET 27

MATCHLINE -Y5B- STA. 12+00 SEE SHEET 31

PROP. 2 - RELOCATE WATER METERS

PROP. 1- RELOCATE WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. RELOCATE FIRE HYDRANT

PROP. RELOCATE FIRE HYDRANT

PROP. 1- RELOCATE WATER METER

PROP. 1- RELOCATE WATER METER

PROP. 1- SANITARY SEWER CLEAN-OUT

PROP. 2 - RELOCATE WATER METERS

PROP. 45' - 6" D.I. WATER LINE 1 - 6" VALVE W/ 4 - 45 DEGREE BENDS

PROP. 45' - 8" D.I. WATER LINE W/ 4 - 45 DEGREE BENDS

PROP. 4' DIA. UTILITY MANHOLE D5 STA. 1+63.55, LINE D

39.08' RT. OF -Y6- STA. 8+03.21

PROP. 3.51' - 8" D.I. SANITARY GRAVITY SEWER (LINE D) SEE SHEET UC-42 FOR PROFILE

MIN DEPTH CB

SPECIAL DETAIL CB

Adjust CB

ABANDONED SYSTEM ??

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)

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DocuSign Envelope ID: 95DEE217-A896-480C-8EC3-1C5D03DA8EFD

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-27 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING

DocuSigned by: DAVID POE, P.E. 6/9/2015

# UTILITY CONSTRUCTION

NAD 83/95

PROP. CONCRETE CRADLES 2 REQ'D. PER CROSSING (SEE DETAIL SHT. UC-44)

PROP. RELOCATE FIRE HYDRANT

PROP. 1- RELOCATE WATER METER

PROP. RELOCATE WATER METER -1
PROP. RELOCATE 1" RPZ BACKFLOW PREVENTION ASS'Y.

PROP. 2- SANITARY SEWER CLEAN-OUT

PROP. RELOCATE WATER METER -1
PROP. RELOCATE 1" RPZ BACKFLOW PREVENTION ASS'Y.

PROP. RELOCATE WATER METER -1
PROP. RELOCATE 2" RPZ BACKFLOW PREVENTION ASS'Y.
1 - 2" VALVE

PROP. RELOCATE 6" RPZ BACKFLOW PREVENTION ASS'Y
1 - 6" TAPPING VALVE
72' - 6" D.I. WATER PIPE

W/2 - 45 DEGREE BENDS

PROP. RELOCATE FIRE HYDRANT

PROP. 1- RELOCATE WATER METER

MATCHLINE -Y15- STA. 14+00 SEE SHEET 32

MATCHLINE -Y6- STA. 13+50 SEE SHEET 26

MATCHLINE -Y6- STA. 19+00 SEE SHEET 12

CUT OUT TEE SLEEVE 12" PIPE REMOVE 6" GATE VALVE

PROP. 2" SADDLE

PROP. CONCRETE CRADLES 2 REQ'D. PER CROSSING (SEE DETAIL SHT. UC-44)

PROP. CONCRETE CRADLES 2 REQ'D. PER CROSSING (SEE DETAIL SHT. UC-44)

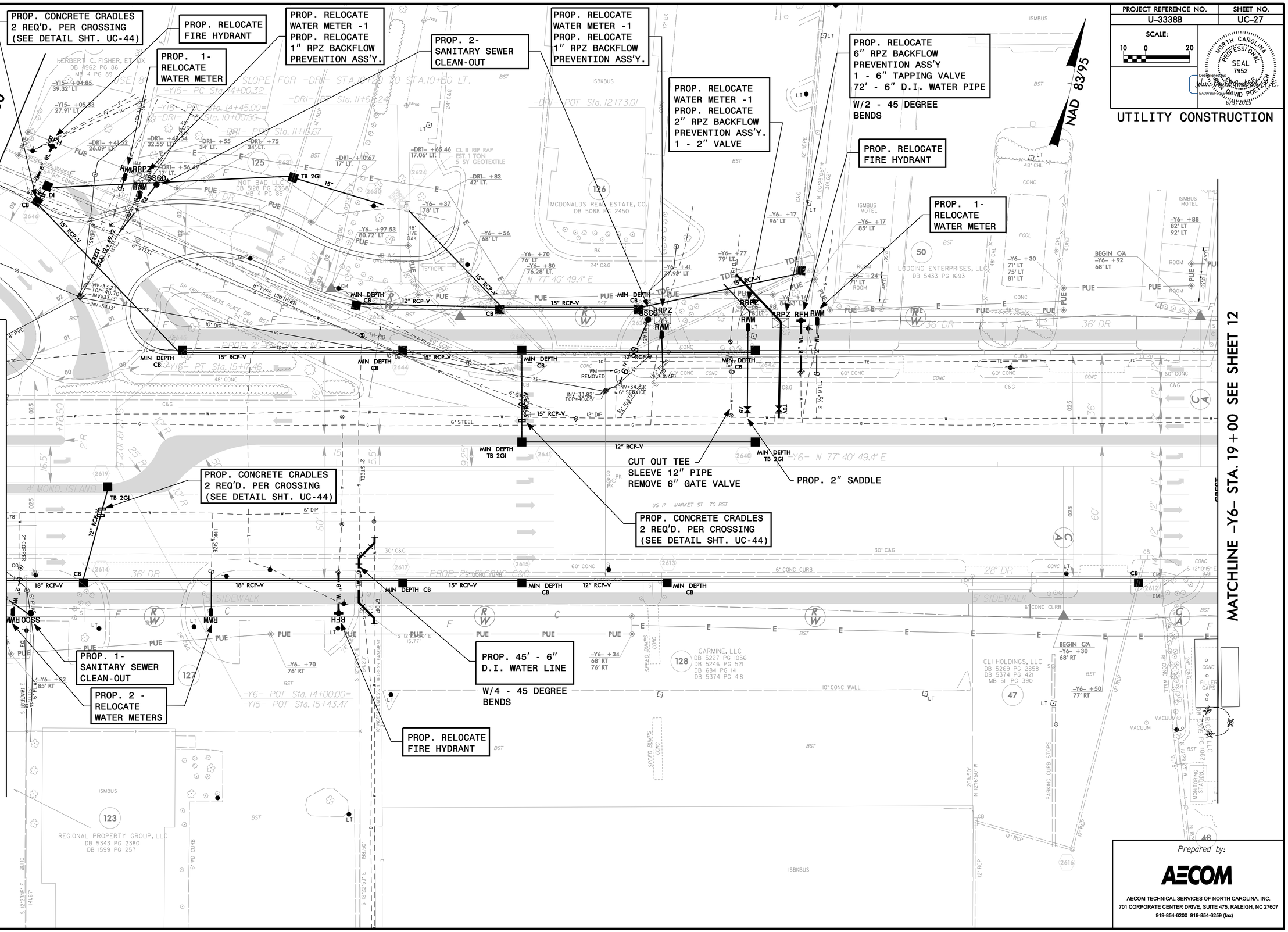
PROP. 1- SANITARY SEWER CLEAN-OUT

PROP. 2 - RELOCATE WATER METERS

PROP. 45' - 6" D.I. WATER LINE

W/4 - 45 DEGREE BENDS

PROP. RELOCATE FIRE HYDRANT




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: 6/9/2015
DGN: u3338b_uc_psh_s27.dgn

DocuSign Envelope ID: EDFF1306-0BB3-4B87-87DD-583BCC5DF398

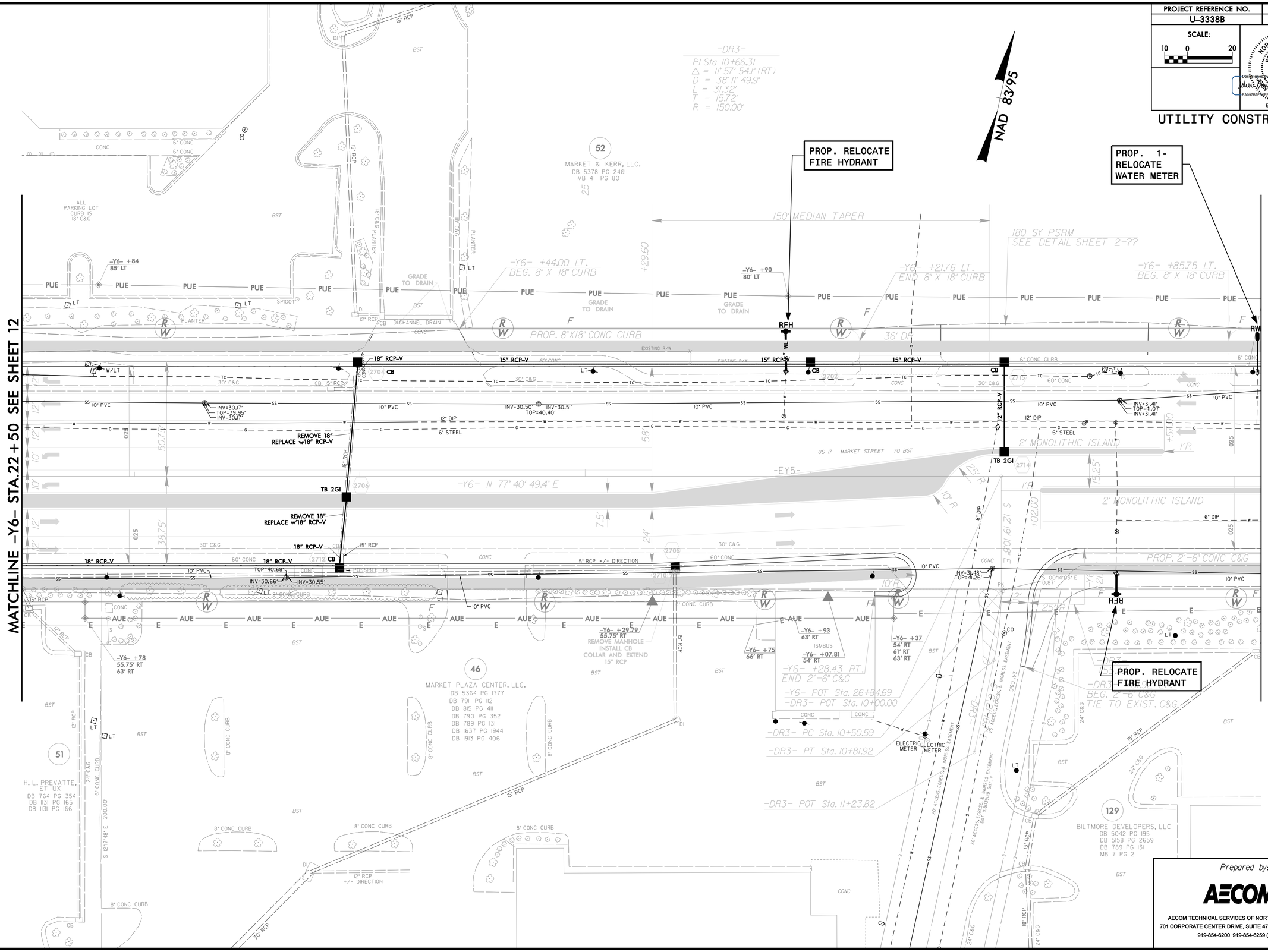
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-28 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: John David Poe, P.E. EA0970BF5ACE4F6... 6/8/2015

# UTILITY CONSTRUCTION

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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)

DATE: 6/6/2015
DGN: u3338b_uc_psh_s28.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-29 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: EA0970BF5C4E4E6... 6/9/2015

# UTILITY CONSTRUCTION

NAD 83/95

FOR -Y6- PROFILE SEE SHEET 57
FOR -Y7A- PROFILE SEE SHEET 59
FOR -Y16- PROFILE SEE SHEET 62

MATCHLINE -Y7A- STA.22+50 SEE SHEET 36

MATCHLINE -Y6- STA.28+00 SEE SHEET 28

MATCHLINE -Y6- STA.33+25 SEE SHEET 30

MATCHLINE -Y16- STA.16+50 SEE SHEET 33

PROP. REMOVE WATER METER

PROP. 1- RELOCATE WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. 3 - RELOCATE WATER METERS

PROP. 45' - 12" D.I. WATER LINE 2 - 12" VALVES W/ 4 - 45 DEGREE BENDS

ABANDON SERVICE AT MAIN

PROP. CONCRETE CRADLES 2 REQ'D. PER CROSSING (SEE DETAIL SHT. UC-44)

PROP. 45' - 6" D.I. WATER LINE W/ 4 - 45 DEGREE BENDS 1 - 6" TEE

CUT OUT TEE SLEEVE 8" PIPE REMOVE 6" GATE VALVE RELOCATE HYDRANT AS SHOWN

PROP. 45' - 6" D.I. WATER LINE W/ 4 - 45 DEGREE BENDS

PROP. 40' - ABANDON 12" UTILITY PIPE (D.I. WATER)

PROP. 1- RELOCATE WATER METER PROP. RELOCATE 1" RPZ BACKFLOW PREVENTION ASS'Y.

PROP. RELOCATE FIRE HYDRANT 42' - 6" D.I WATER PIPE 1 - 6" VALVE

PROP. 45' - 8" D.I. WATER LINE 1 - 8" VALVE W/ 4 - 45 DEGREE BENDS

PROP. 1- SANITARY SEWER CLEAN-OUT

PROP. 1- RELOCATE WATER METER

52 MARKET & KERR, LLC. DB 5378 PG 2461 MB 4 PG 80

130 PREVATTE PROPERTIES, LLC DB 5695 PG 594 MB 4 PG 80

130A MARKET STREET VENTURES, LLC DB 5695 PG 588 MB 4 PG 80

131 HOSPITALITY DB 4129 PG 332 DB 4129 PG 57 DB 3095 PG 280 MB 45 PG 104

129 BILTMORE DEVELOPERS, LLC DB 5042 PG 195 DB 5158 PG 2659 DB 789 PG 131 MB 7 PG 2

132 OCEAN TOWERS 2 LL DB 5527 PG 268

133 CHARLES RAY FOENS DB 2148 PG 77 DB 2148 PG 74 DB 2006 PG 370

134 SAM BASS HEIRS 9996 E 418 DB 2148 PG 77 DB 2148 PG 74 DB 722 PG 522 DB 721 PG 435

Prepared by:

AECOM

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DGN: u3338b_uc_sph_sdp.dgn

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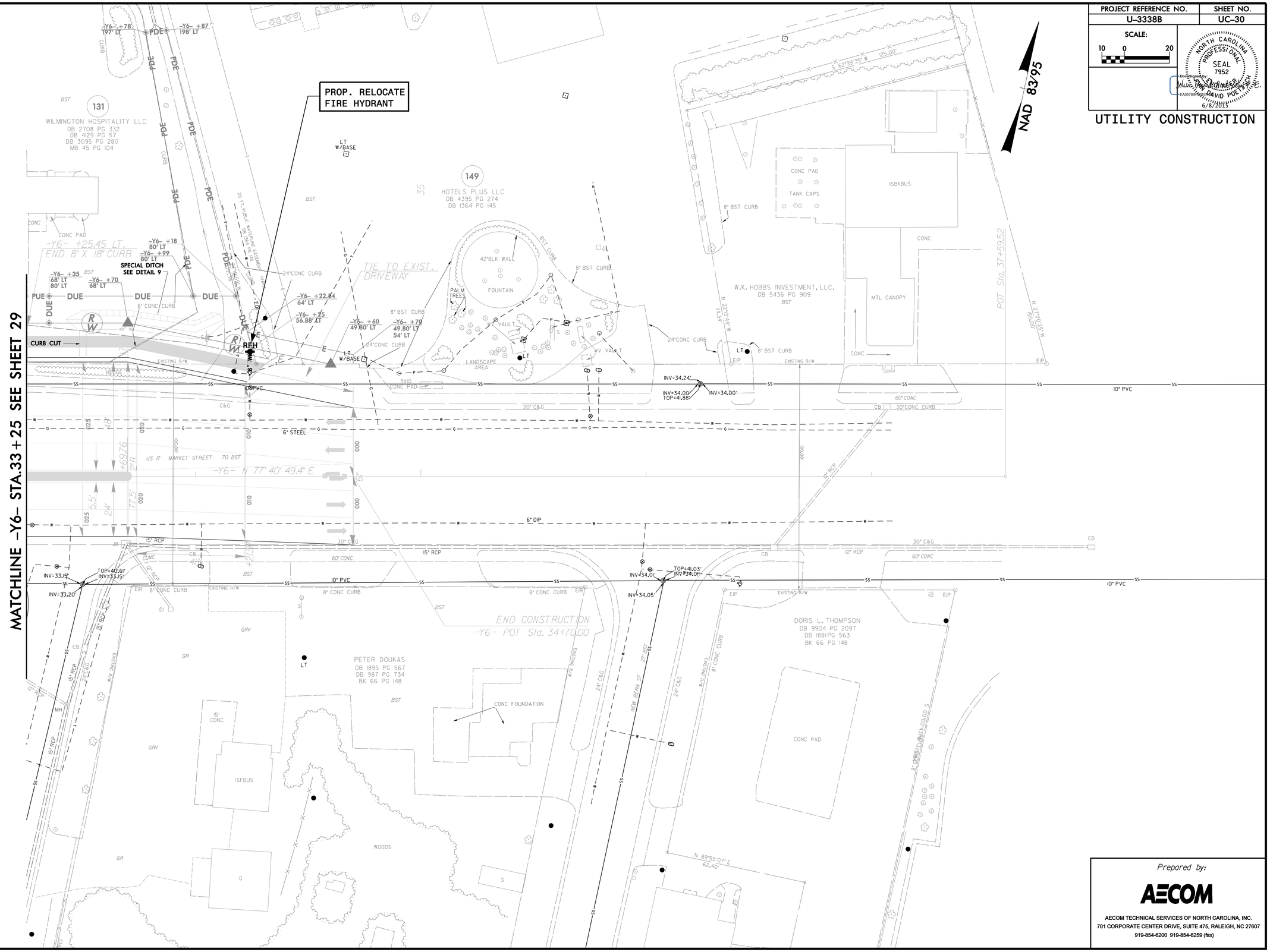
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-30 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POE, P.E.

DocuSigned by: DAVID POE, P.E. EA0709FD9F0F4E6... 6/8/2015

# UTILITY CONSTRUCTION

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DGN: u3338b_uc_psh_s30.dgn

DocuSign Envelope ID: 1EF3044B-E34D-48BF-96F6-92D6258681D7

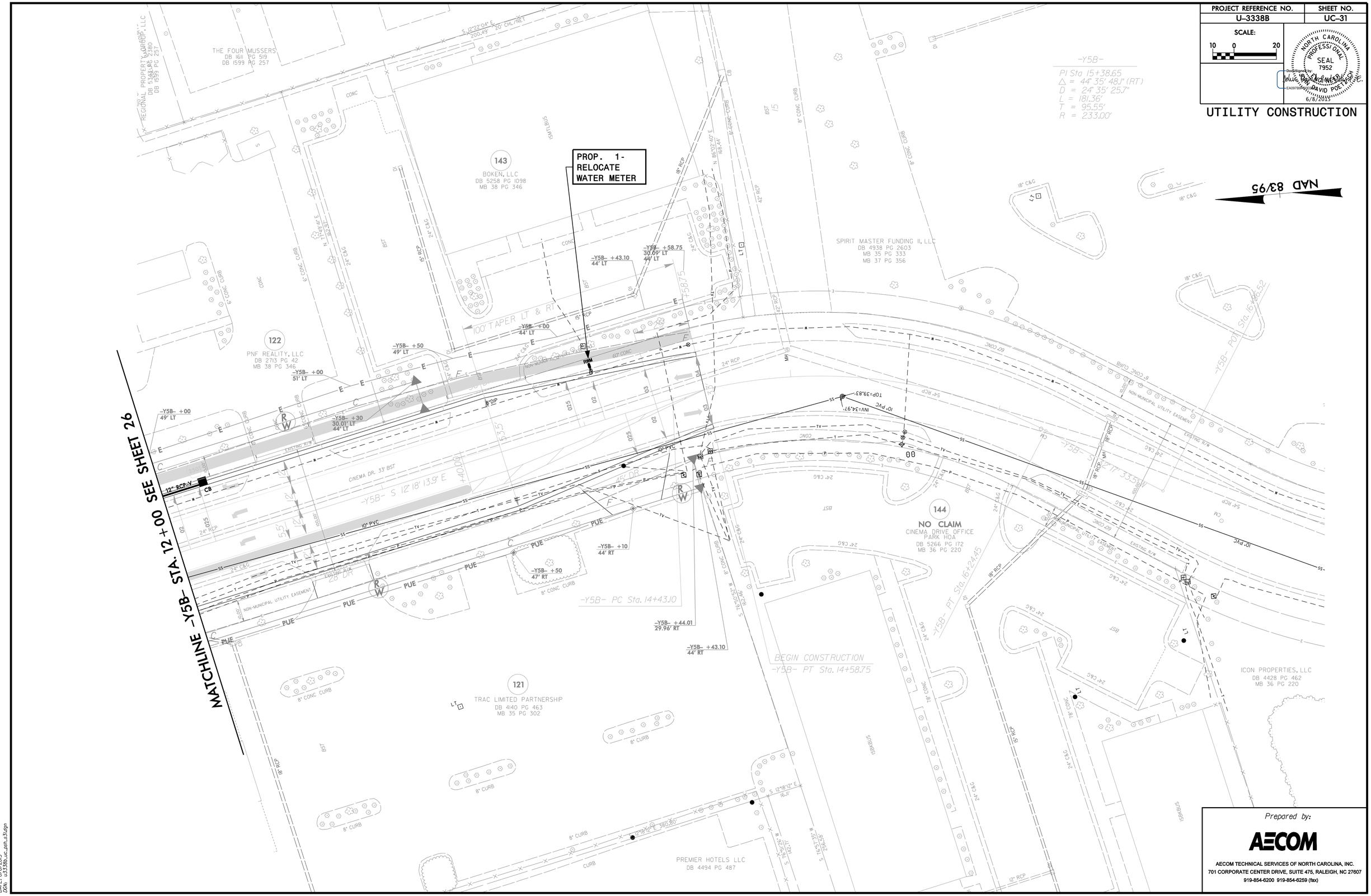
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-31 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POETZSCH

DocuSigned by: David Poetzsch 6/8/2015

# UTILITY CONSTRUCTION




Prepared by:

AECOM

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DGN: u3338b_uc_psh_s31.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-32 |

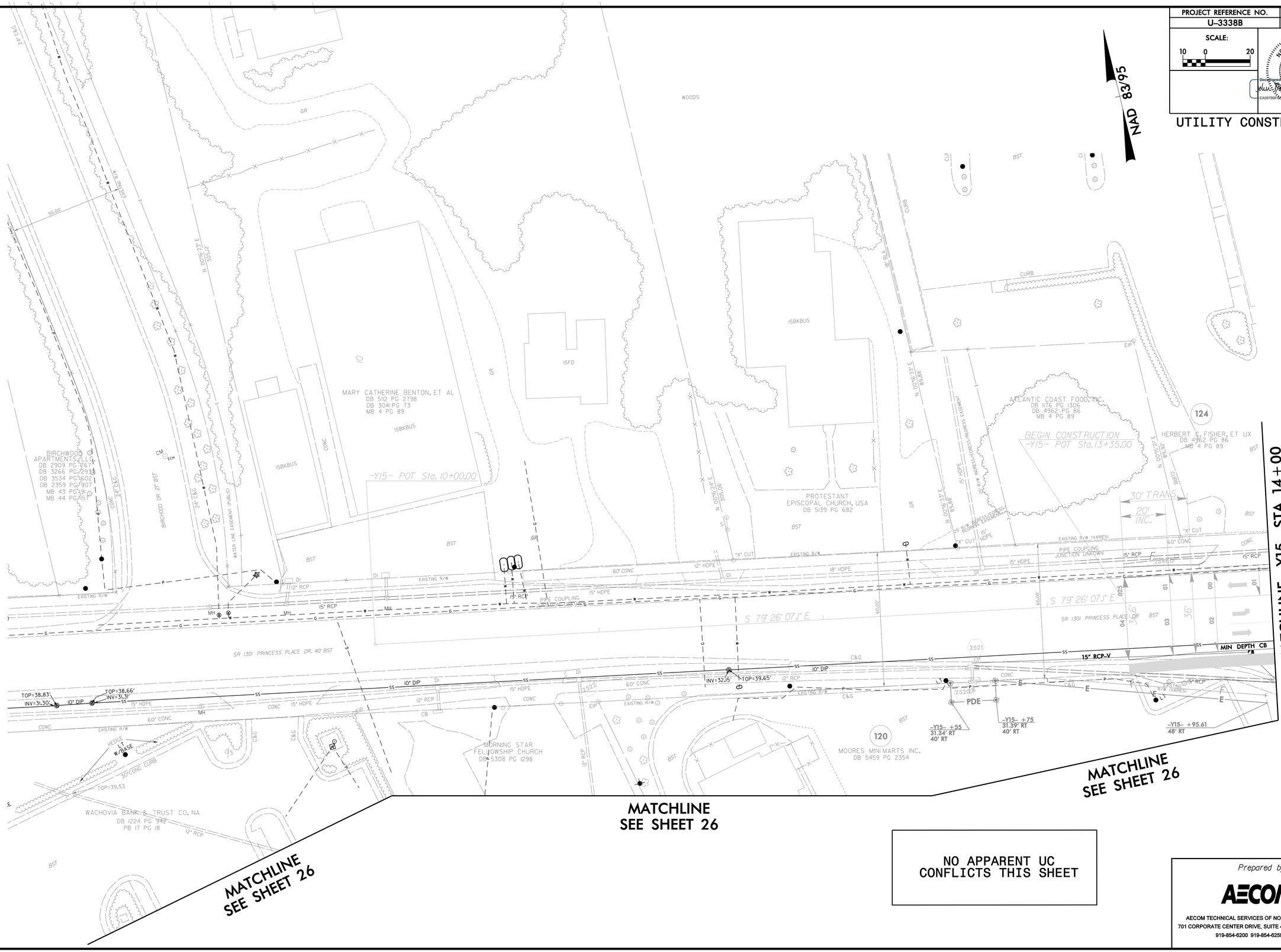
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: EA0970BF8B5F4F0... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95




NO APPARENT UC CONFLICTS 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: 6/6/2015
DGN: u3338b_uc_sph_32.dgn

DocuSign Envelope ID: 0121B321-7212-4DC8-A201-51470997D3A0

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-33 |

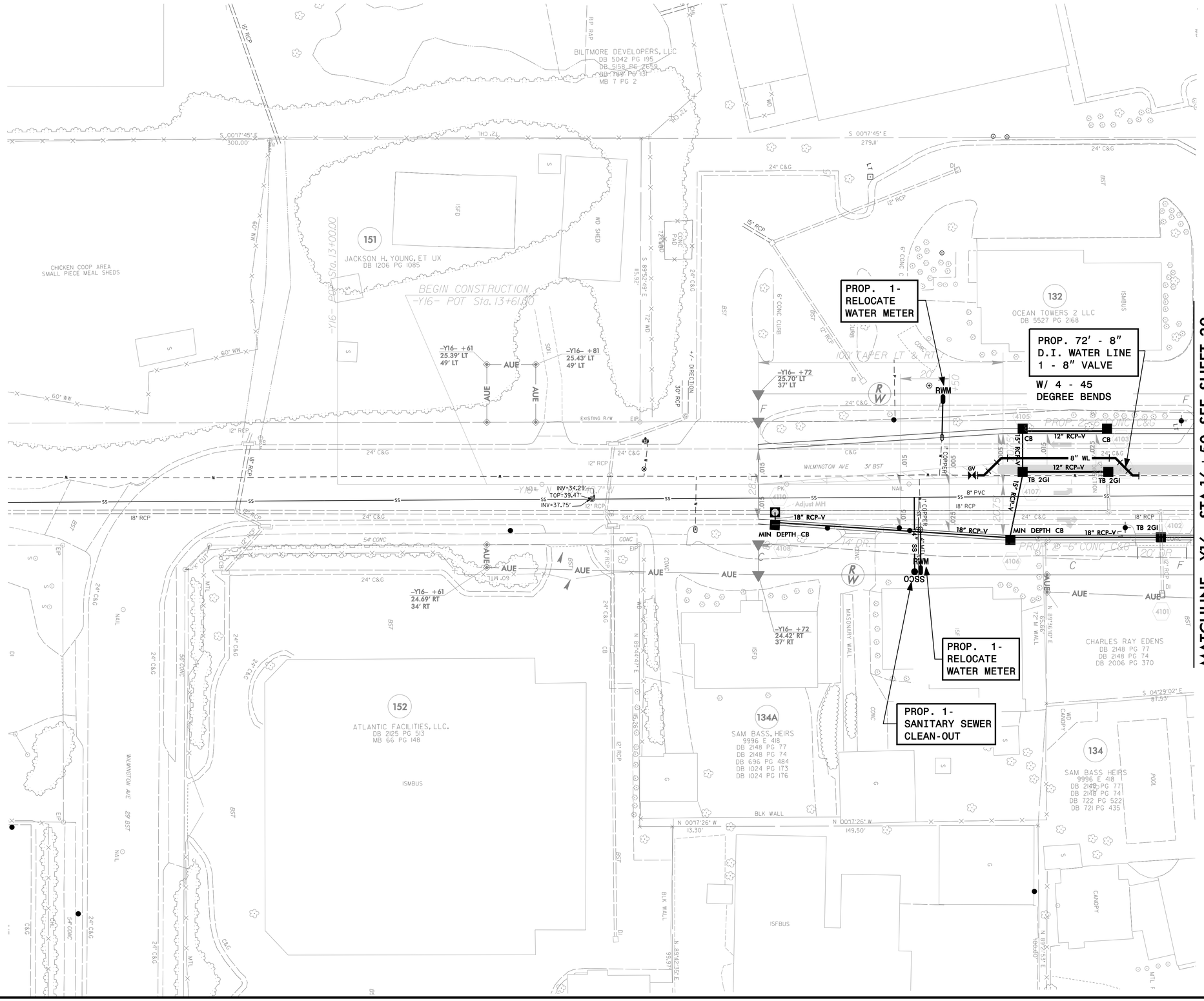
SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POEDCSH

DocuSigned by: EA0978BF8BC4... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95




DATE: 6/6/2015
DGN: u3338b_uc_psh_s33.dgn

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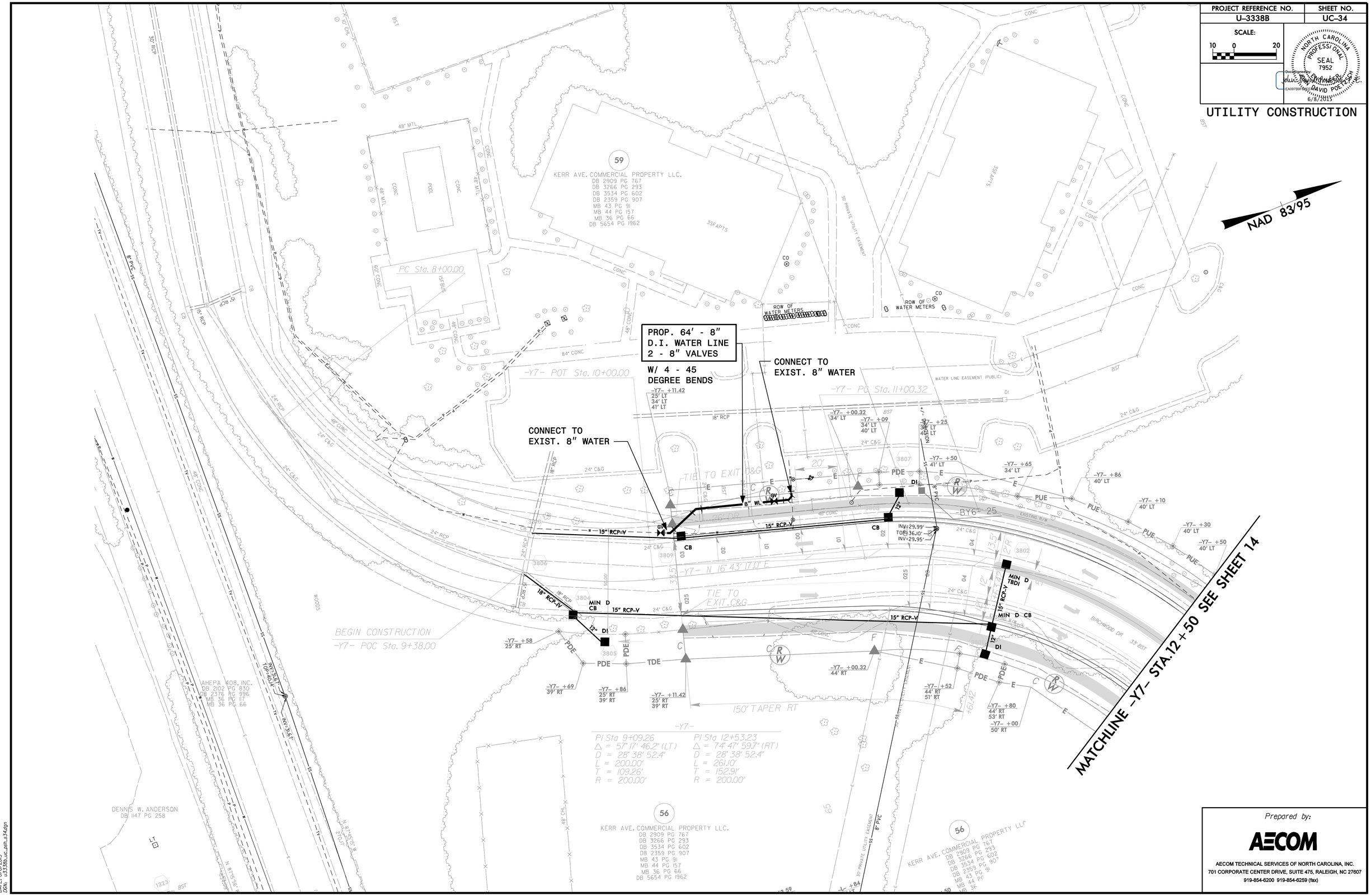
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-34 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POEDESH

DocuSigned by: 6/8/2015

# UTILITY CONSTRUCTION




Prepared by:

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

DATE: 6/6/2015
DGN: u3338b_uc_psh_s34.dgn

DocuSign Envelope ID: 0D5E12A7-87D0-409E-8C14-6428AFE17FAE

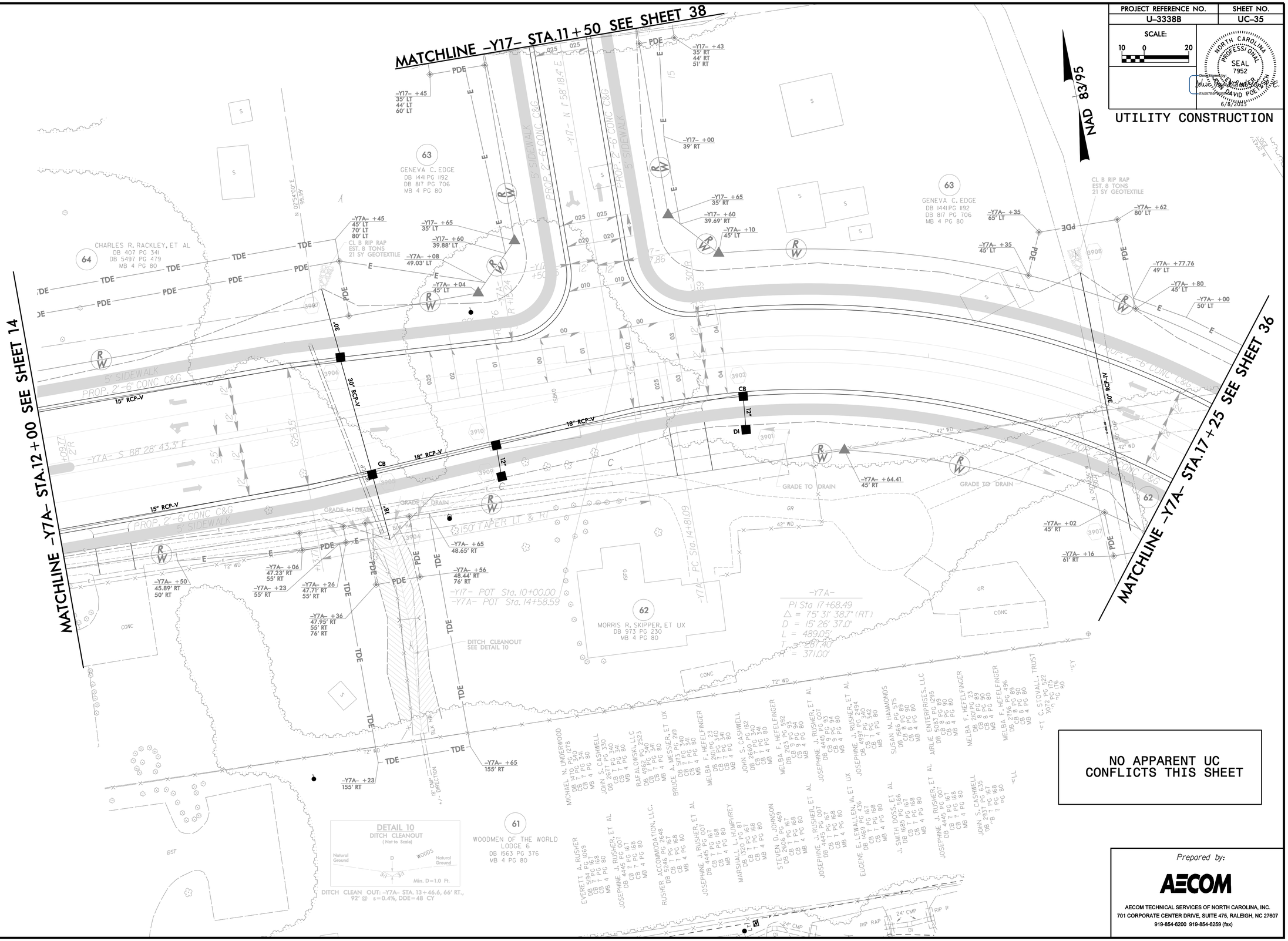
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-35 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POERSCH

DocuSigned by: EA097D5F9F4E4D1... 6/8/2015

# UTILITY CONSTRUCTION




NO APPARENT UC CONFLICTS THIS SHEET

Prepared by:

AECOM

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DATE: 6/6/2015
DGN: u3338b_uc_psh_s35.dgn

DocuSign Envelope ID: 432350C2-2AE9-4DC4-84E4-25050BD88987

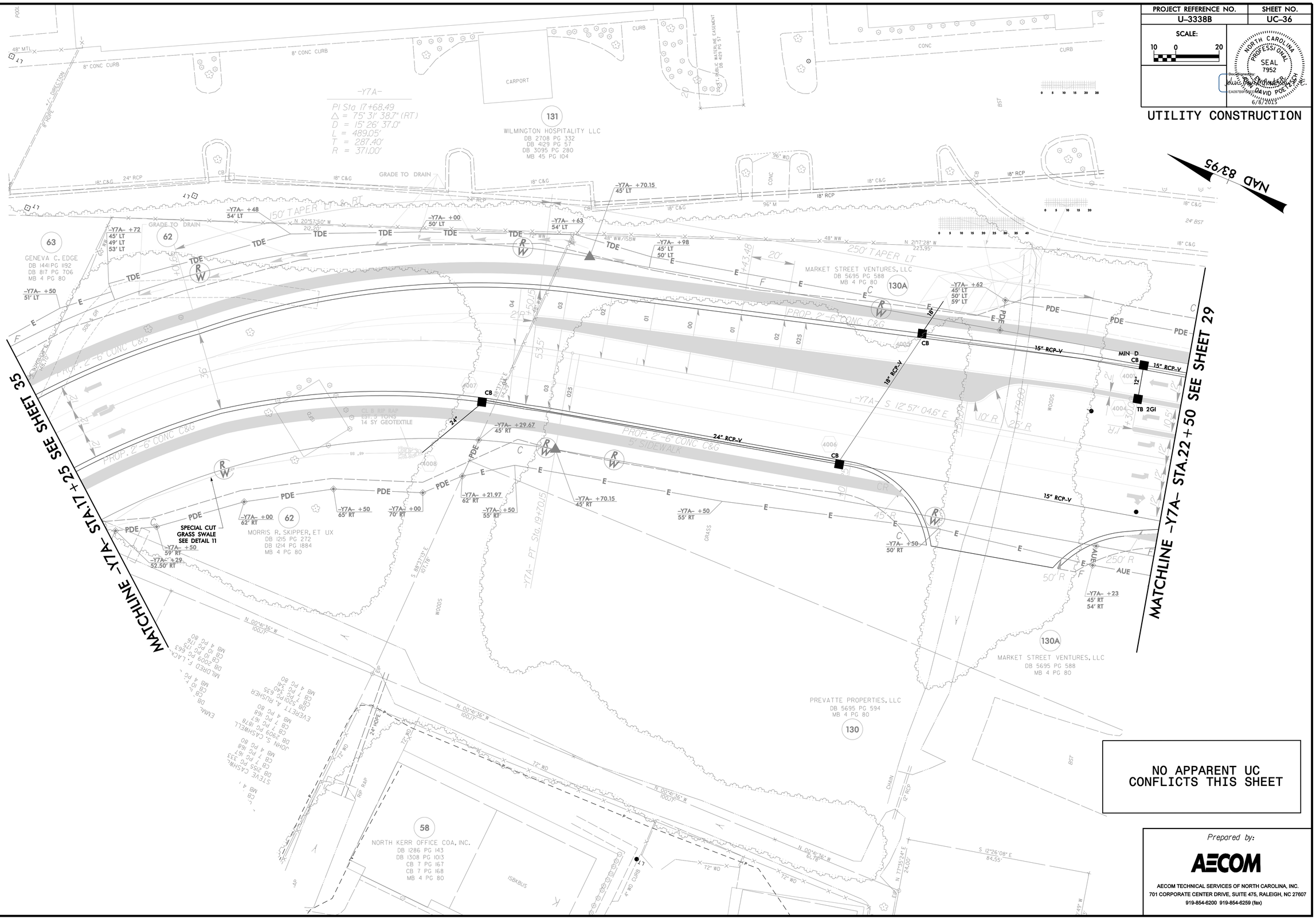
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-36 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POETZSCH, INC.

DocuSigned by: DAVID POETZSCH EA0706F6A9F4B4... 6/8/2023

# UTILITY CONSTRUCTION




NO APPARENT UC CONFLICTS 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: 6/6/2015
DGN: u3338b_uc_sph_s36.dgn

DocuSign Envelope ID: 6BD52DE7-BECD-4FBD-AD34-ACE370DF4419

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-37 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POESCHL

DocuSigned by: 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

MATCHLINE -Y8- STA.13+00 SEE SHEET 15

ISFD
2SFD
CONC
LEROY LEE, JR., ET UX
DB 1154 PG 1547
MB 6 PG 6
N 02°46'30" E 199.98'
CLOVER RD 18' BST
-Y8- POT Sta. 10+00.00
8" VCP
EXISTING R/W
60.00'
-BY7- 26
POT 5+00.00
15" RCP
6" DIP
INV=30.46'
INV=30.57'
TOP=36.66'
8" VCP
McCLELLAND DR 18' BST
18" RCP
EIP
SOIL
G
S
RICHARD W. HAMMONDS, JR.
DB 1236 PG 1817
MB 6 PG 6
N 02°47'07" E 199.96'
48" CHL
BEGIN CONSTRUCTION
-Y8- POT Sta. 12+00.00
ISBKD
136
E. M. WALLACE, ET UX
DB 655 PG 071
MB 6 PG 6
FLAGPOLE
68
CYNTHIA MITCHELL
DB 1961 PG 955
MB 6 PG 6
N 02°46'48" E 100.00'
150' TAPER LT
-Y8- +00
30.04' LT
44' LT
-Y8- +35
59' LT
-Y8- +26.20
44' LT
-Y8- +52
48' LT
-Y8- +51.56
44' LT
-Y8- +50
30' LT
SPECIAL CUT GRASS SWALE SEE DETAIL 5
-Y8- +18
30.04' LT
12" RCP
8" VCP
2' PS
-Y8- S 87° 12' 48.6" E
6" DIP
2903
-Y8- +52
30' RT
-Y8- +06
30' RT
50' SHLD. TRANS. LT. & RT.
20' CONC
-Y8- +66
52' RT
-Y8- +60
64' RT
-Y8- +78
71' RT
-Y8- +84
30' RT
61' RT
-DR2- PC
-DR2- Sta. 10+23.82
-DR2- PT Sta. 10+47.61
150' TAPER RT
139
67
STEVEN WILL
DB 5553
PG 2092
DB 5492
PG 2709
MB 35 PG 2
RICHARDSON INVEST. GROUP, LLC
DB 4440 PG 513
MB 35 PG 239
JOHN A. IVEY
DB 2811 PG 250
MB 35 PG 239
R & M RESTORATIONS, LLC
DB 5336 PG 2722
MB 35 PG 239
DAVID A. GOLDRUP
DB 5272 PG 196
MB 35 PG 239
S 02°47'11" W 200.00'
S 02°46'27" W 200.00'
S 02°47'07" W 200.00'
S 02°46'27" W 200.00'
2SF G W/APT

PROP. 4 - RECONNECT WATER METER

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: 6/6/2015
DGN: u3338b_uc_pph_37.dgn

DocuSign Envelope ID: A0569D6A-7646-41D7-8CF3-053BE51D9782

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-38 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POE, P.E.

DocuSigned by: EA0570BF8C0F4... 6/10/2015

# UTILITY CONSTRUCTION

NAD 83/95

MATCHLINE –Y8– STA.16+50 SEE SHEET 15

MATCHLINE –Y17– STA.11+50 SEE SHEET 35

SPECIAL BACK OF CURB CUT GRASS SWALE SEE DETAIL 11

PROP. 45' - 8" D.I. WATER LINE
2 - 8" VALVES
W/ 4 - 45 DEGREE BENDS

DITCH CLEANOUT SEE DETAIL 2

TIE TO EXIST. C&G END CONSTRUCTION –Y8– POT Sta. 17+02.29

–Y8– +02.29 30' LT 34' LT 43' LT

–Y8– +87 34' LT 43' LT

15" RCP-V MIN D CB

8" PLASTIC

10" PVC

INV=27.89' TOP=35.68' INV=27.70'

INV=28.42' INV=28.41' INV=28.29' TOP=36.56'

TOP=35.89' INV=28.87'

SERVICE TIE TO EXIST.

24" RCP-V CB 24"

30" RCP-IV

PROP. 22'-6" CONC C&G 5' SIDEWALK

REMOVE SUFFIENT NUMBER OF PIPE JOINTS TO ALLOW INSTALLATION OF RIP RAP. DO NOT INSTALL RIP RAP WITHIN JS STREAM BOUNDARIES.

–Y8– PI Sta 19+88.10
Δ = 24° 31' 02.5" (LT)
D = 11° 41' 34.9"
L = 209.68'
T = 106.47'
R = 490.00'

DONALD G. BLAKE, ET UX DB 991 PG 307 DB 1050 PG 840 MB 4 PG 80

HOLTON PROPERTIES, LLC. DB 4074 PG 775 DB 958 PG 820 MB 2 PG 132 MB 4 PG 80 MB 42 PG 124 MB 39 PG 195 MB 38 PG 281 CB II PG 258 CB II PG 234

TON PROPERTIES, LLC. DB 4074 PG 775 DB 958 PG 820 MB 2 PG 132 MB 4 PG 80 MB 42 PG 124 MB 39 PG 195 MB 38 PG 281 CB II PG 258 CB II PG 234

WILLIAM J. BUCK, ET UX DB 2860 PG 368 MB 4 PG 80

McCLELLAND DR 34' BST

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DATE: 6/10/2015
DGN: u3338b_uc_pch_s38.dgn

DocuSign Envelope ID: 98A64CD9-26F6-410D-B7AB-88884DB79BF6

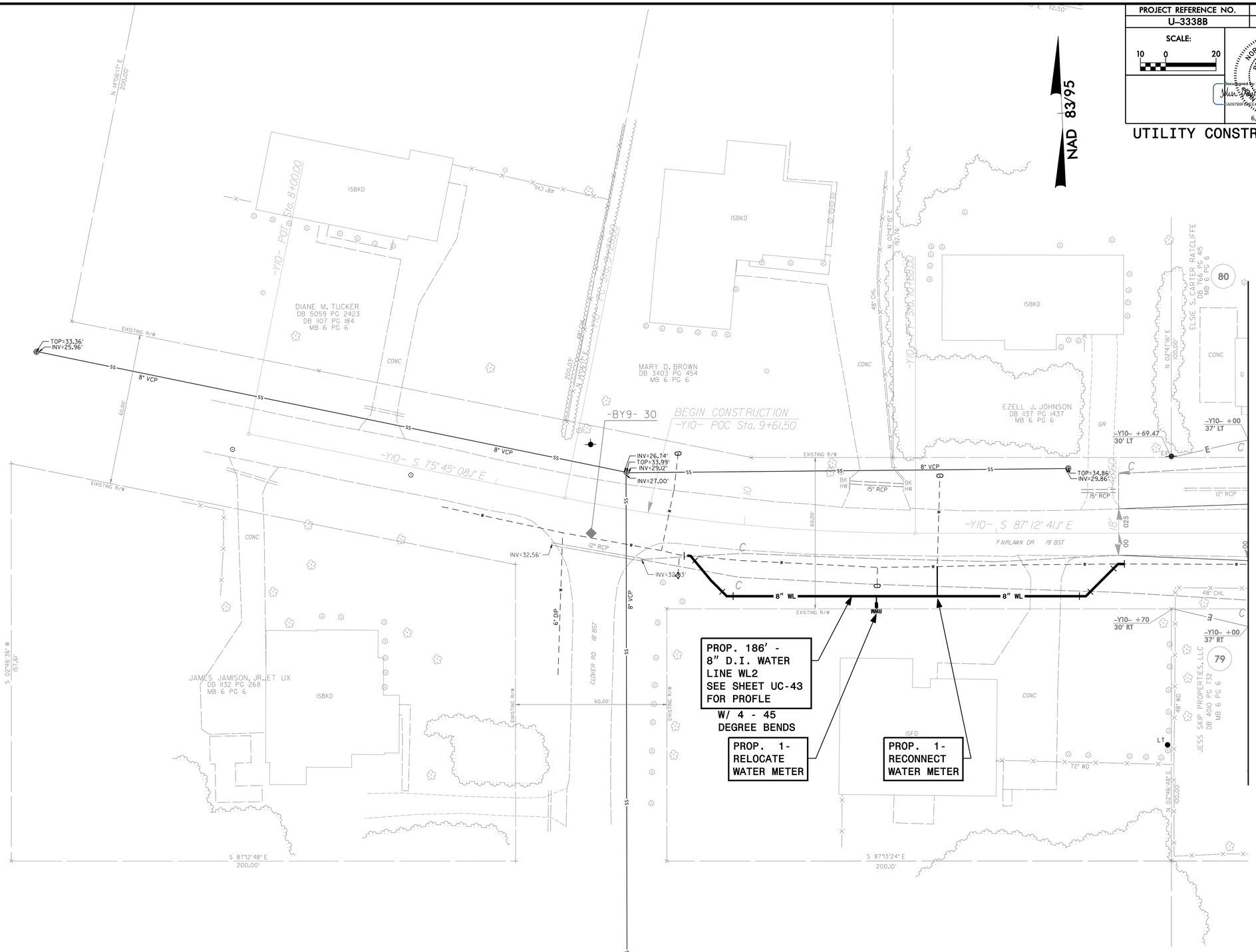
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-39 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POETTGEN

DocuSigned by: 6/8/2015

# UTILITY CONSTRUCTION

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701 CORPORATE CENTER DRIVE, SUITE 475, RALEIGH, NC 27607
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DATE: 6/6/2015
DGN: u3338b_uc_psh_039.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-40 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POE, JR.

DocuSigned by: EA097B0F8B6F... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

MATCHLINE -Y12- STA.12+50 SEE SHEET 17

MATCHLINE -SR1- STA.14+00 SEE SHEET 41

NO APPARENT UC CONFLICTS THIS SHEET

MAINTAIN 24 HOUR ACCESS FOR PROGRESS ENERGY TO SUBSTATION

SMITH CREEK VILLAGE TOWNHOME ASSOC., INC.
DB 4777 PG 681
DB 4760 PG 805
MB 47 PG 324
MB 47 PG 325
MB 47 PG 326
MB 47 PG 327
MB 47 PG 363
MB 47 PG 364
MB 47 PG 365
MB 2 PG 132

JAMES M. HARRELL, ET UX
DB 1595 PG 334
DB 1828 PG 257
MB 26 PG 34
MB 2 PG 132

PROGRESS ENERGY
DB 486 PG 222
DB 472 PG 626
DB 546 PG 482
DB 1875 PG 473
DB 808 PG 623
MB 38 PG 242
MB 2 PG 132

TEDDY A. PROCTOR
DB 4036 PG 281
DB 486 PG 222
DB 2333 PG 073
DB 1901 PG 162
MB 2 PG 132

-BY10- 33

-Y12- +15
30.22' LT
60' LT

-Y12- +65
30.18' LT
60' LT

-Y12- +05
30' LT

-SR1- +45
35' LT
46' LT

-SR1- +65
30' LT
35' LT
46' LT

-SR1- +04.31
30' LT

-SR1- +00
33' LT

-SR1- +50
30' LT

-SR1- +09.93
30' LT

-SR1- +28
30' LT
38' LT
47' LT

-SR1- +50
34' LT

-SR1- +00
34' LT

-SR1- +85
30' LT
39' LT
52' LT

-SR1- +44
30' LT
36' LT

-SR1- +64
30' LT
36' LT

-SR1- +00
32' LT

-SR1- +50
30' RT

-SR1- +09.93
30' RT

-SR1- +80
30' RT

-SR1- +60
30' RT
42' RT
49' RT

-SR1- +44
34.50' RT
50' RT

-SR1- +64
30' RT
50' RT

-SR1- +04.31
30' RT

-SR1- +06
30' RT
41' RT

-SR1- +29
30' RT
41' RT

-SR1- +46
30' RT
41' RT
49' RT

-Y12- +00
30' LT

CL B RIP RAP
EST. 3 TONS
10 SY GEOTEXTILE

CL B RIP RAP
EST. 2 TONS
7 SY GEOTEXTILE

RIP RAP

18" RCP-V

15" RCP

18" RCP

24" RCP

48" RCP

8" PVC

48" SS

CITY LIMITS

WOODS

POOL

ISBKD

ANGELFISH LANE BST

NEW CENTRE DR BST

POE ZOLT BRANCH

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)

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-41 |

SCALE: 10 0 20

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POETICH, PE

DocuSigned by: EA076DF6B5B5B4... 6/8/2015

# UTILITY CONSTRUCTION

NAD 83/95

NO APPARENT UC CONFLICTS THIS SHEET

MATCHLINE -SR1- STA.14+00 SEE SHEET 40

108 TEDDY A. PROCTOR
DB 4036 PG 281
DB 486 PG 222
DB 2333 PG 073
DB 1901 PG 162
MB 2 PG 132

107 PROGRESS ENERGY
DB 486 PG 222
DB 472 PG 626
DB 546 PG 482
DB 1875 PG 473
DB 808 PG 623
MB 38 PG 242
MB 2 PG 132

MICHAEL E. RAINES, ET AL
DB 3326 PG 887
DB 1980 PG 783
MB 2 PG 132

110 DAVID E. RAINES
DB 5288 PG 1239
DB 5565 PG 49
DB 2069 PG 32
DB 1928 PG 378
DB 356 PG 148
DB 356 PG 579
MB 55 PG 307
MB 2 PG 132

111 WILLIAM CARTER CLAYTON, ET UX
DB 5523 PG 922
DB 1066 PG 451
DB 1823 PG 866
DB 1913 PG 447
MB 2 PG 132

112 CORNERSTONE OWNERS ASSOC., INC.
DB 3577 PG 629
DB 2884 PG 117
DB 2417 PG 997
DB 2395 PG 1039
DB 2395 PG 158
MB 2 PG 132
CB 11 PG 161
CB 12 PG 146
CB 12 PG 91
CB 12 PG 97
CB 12 PG 48

-Y13- POT Sta. 15+16.28
-SR1- POT Sta. 18+90.48
BRG BK N 13° 58' 29.2" E

-SR1- PT Sta. 18+68.80

-SR1- +00 32' LT
-SR1- +50 39' LT
-SR1- +00 40' LT
-SR1- +90 35' LT
-SR1- +84.98 30' LT
-SR1- +11 30' LT
-SR1- +85 51' LT
-SR1- +08 48' LT
-SR1- +19 50' LT
-SR1- +19.97 45.02' LT
-SR1- +23 30' LT
-SR1- +10 39' LT
-SR1- +65.48 37' LT
-SR1- +65.48 30' LT
-SR1- +60.80 30' LT
-SR1- +00 44' RT
-SR1- +50 35' RT
-SR1- +00 36' RT
-SR1- +50 30' RT
-SR1- +84.98 30' RT
-SR1- +38 30' RT
-SR1- +13 30' RT
-SR1- +14.08 34' RT
-SR1- +18 48' RT
-SR1- +51 30' RT 43' RT
CL B RIP RAP EST. 5 TONS 14 SY GEOTEXTILE
-SR1- +39 62' RT
-SR1- +32 63' RT
-SR1- +60.80 30' RT
-SR1- +65.48 30' RT

24" RCP-Y
STANDARD BASE DITCH SEE DETAIL 14
48" POPLAR
TIE TO EXIST. C&G
WOODS
CITY LIMITS
POEZOLT BRANCH
GENERAL UTILITY EASEMENT 7 DB 2333 PG 767
CAPE FEAR PUBLIC UTILITY EASEMENT DB 5288 PG 1239 MB 55 PG 307
PROGRESS ENERGY EASEMENT
10' NON-MUNICIPAL EASEMENT
SAGEDALE DR. 21' BST
24" C&G
60' CONC
18" RCP
BST PA
N36°10' 22.0" W
S 75°55' 35" E 692.67'
S 75°58' 27" E 525.54'
S 35°56' 15" E 52.00'
S 19°56' 39" E 677.89'
50.00'

DATE: 6/6/2015
DGN: u3338b_uc_psh_s41.dgn

Prepared by:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
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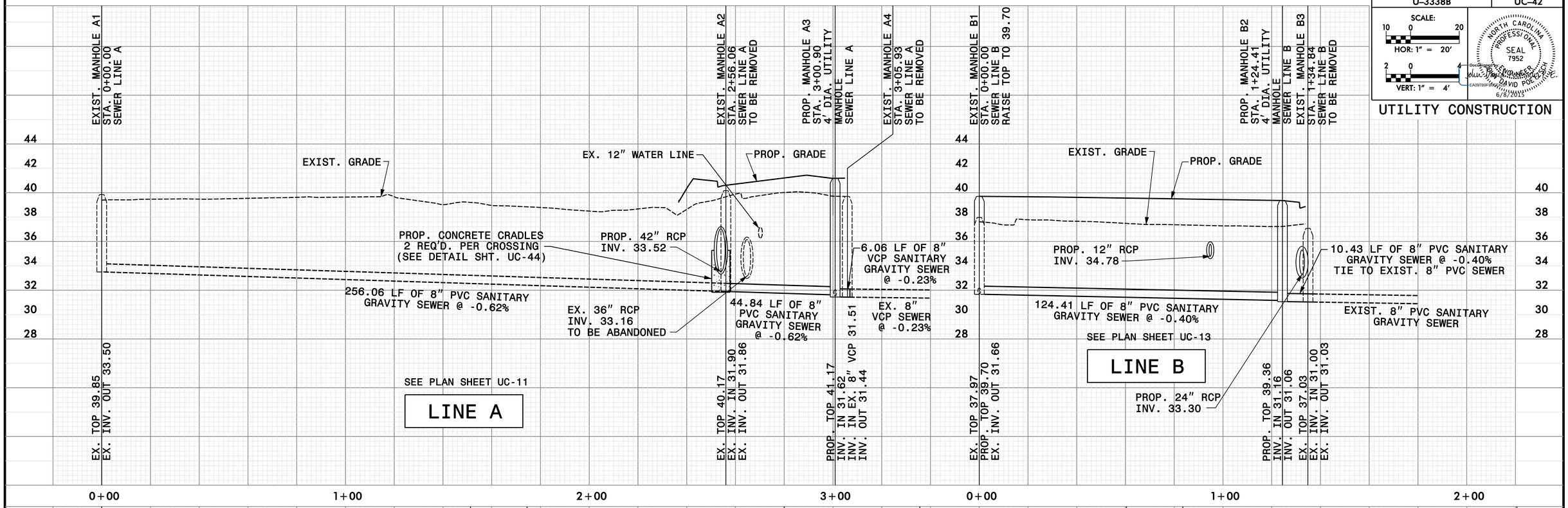
|---|---|
| U-3338B | UC-42 |

SCALE:
HOR: 1" = 20'
VERT: 1" = 4'

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POLOSKY

6/8/2015

# UTILITY CONSTRUCTION

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F-0342

DATE: 6/6/2015
DGN: u3338b_uc_pdn_s42.dgn

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-43 |

SCALE:
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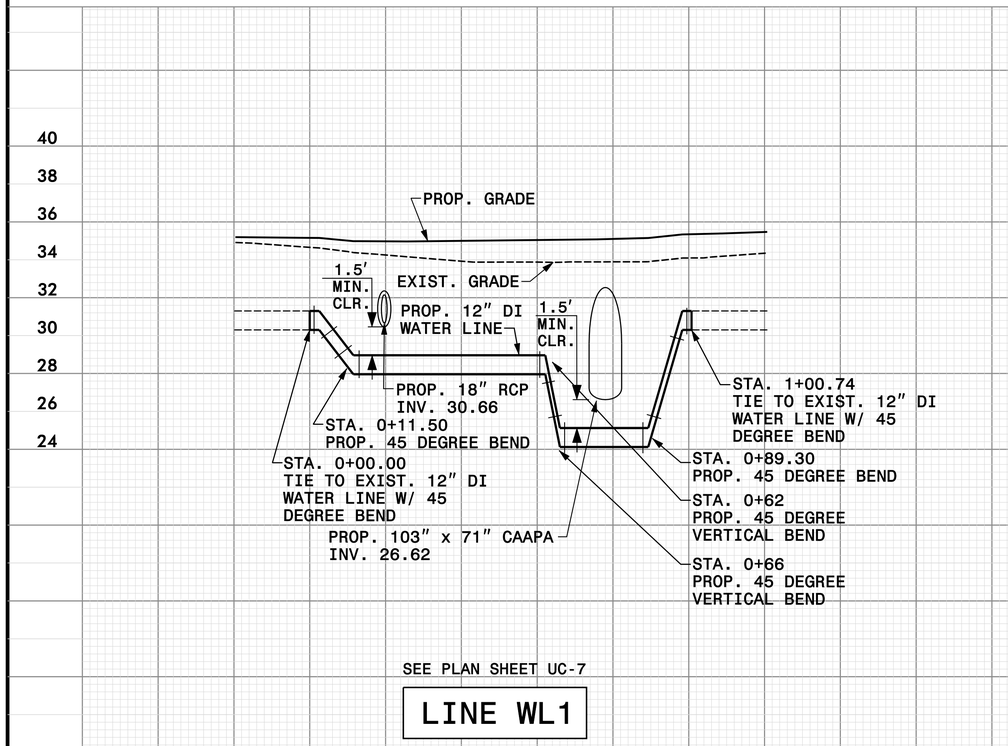
HOR: 1" = 20'
2 0
VERT: 1" = 4'

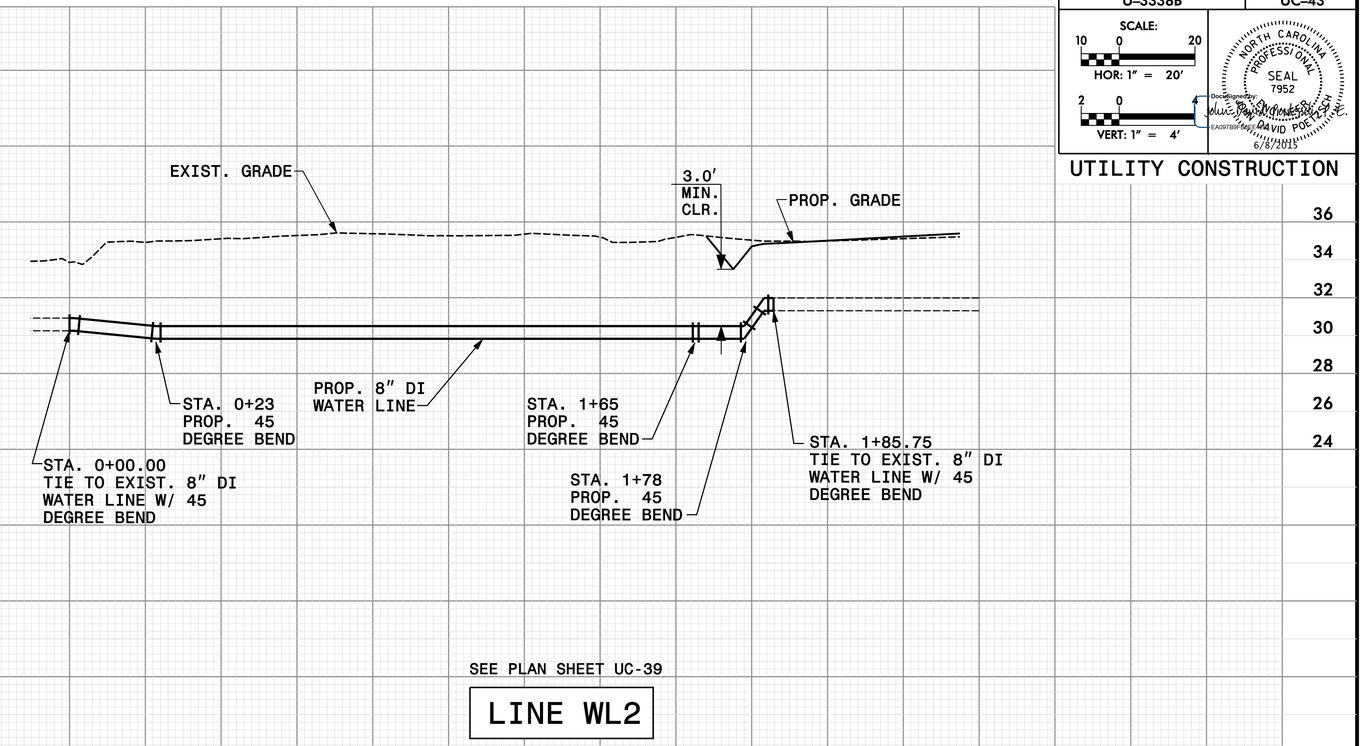
NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER DAVID POETZSCH
DocuSigned by: EA0701BF8A0F4A6... 6/8/2015

# UTILITY CONSTRUCTION



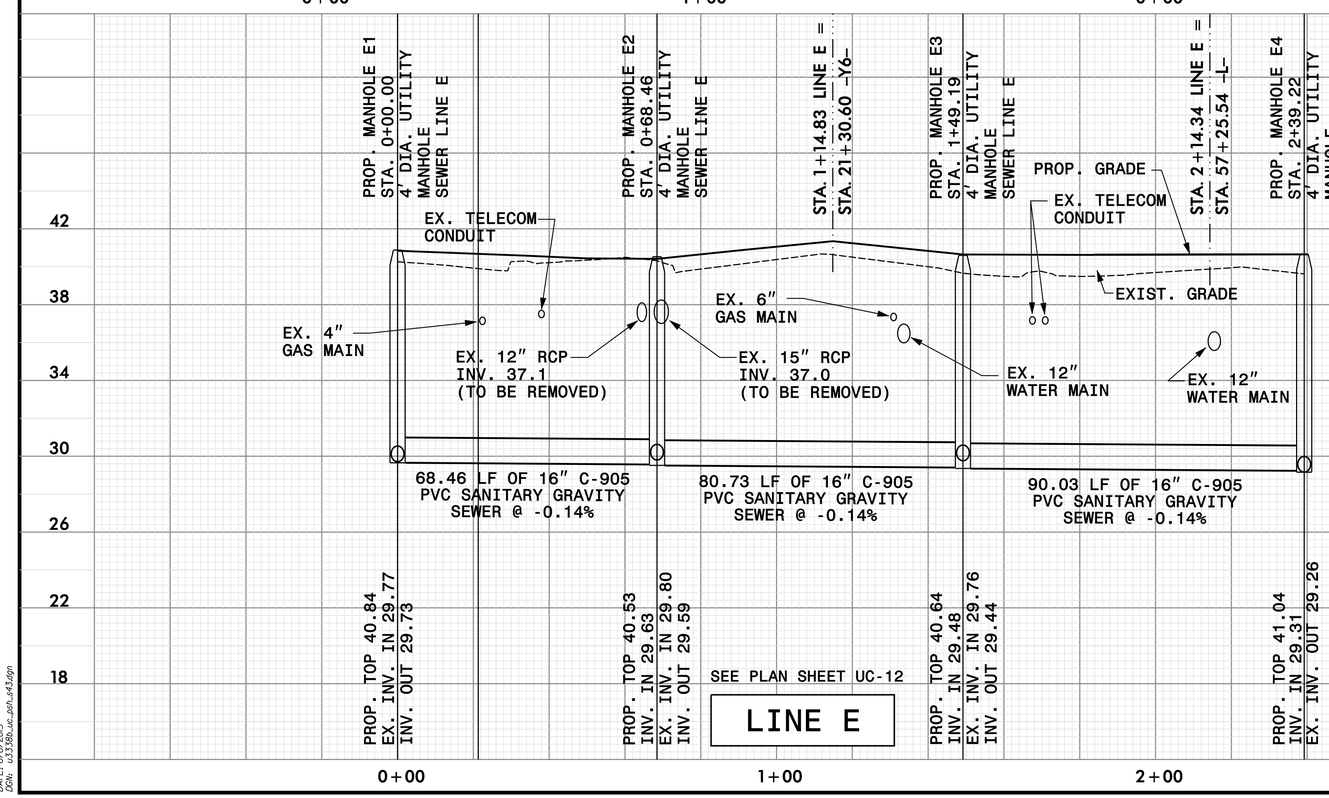

SEE PLAN SHEET UC-7

## LINE WL1



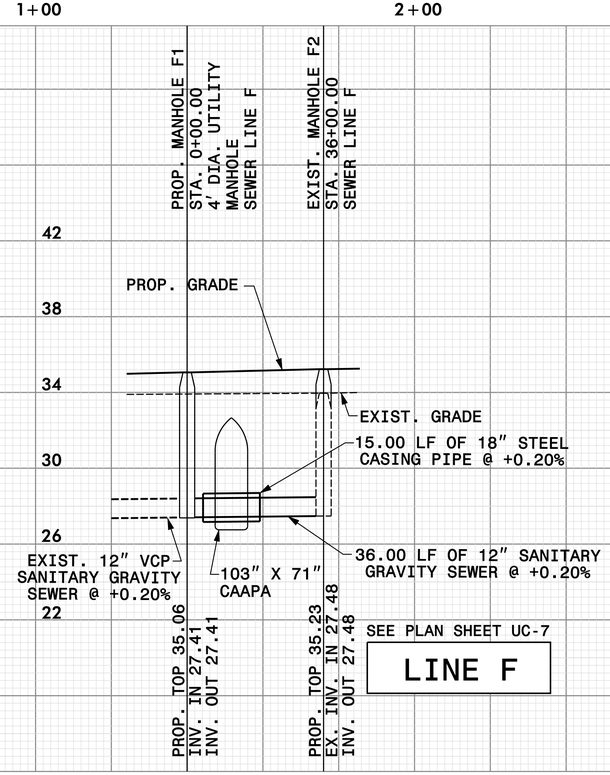

SEE PLAN SHEET UC-39

## LINE WL2




SEE PLAN SHEET UC-12

## LINE E




SEE PLAN SHEET UC-7

## LINE F

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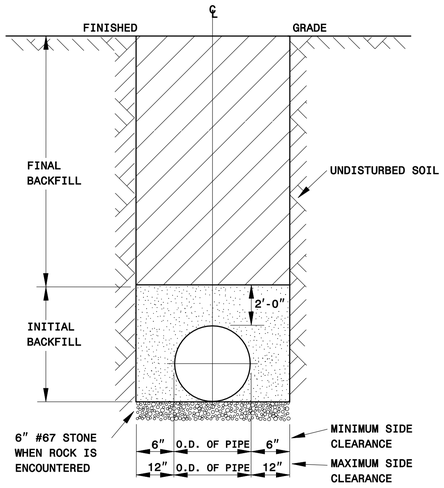
|---|---|
| U-3338B | UC-44 |

SCALE: NONE

NORTH CAROLINA PROFESSIONAL SEAL 7952 DAVID POETKER

DocuSigned by: 6/8/2015

# UTILITY CONSTRUCTION

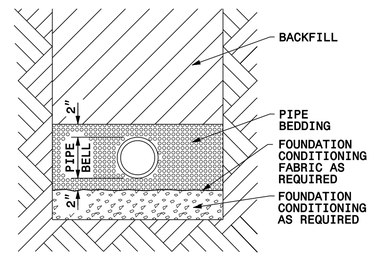



## TRENCH & BACKFILL DETAIL

NOTES:

1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL IS REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

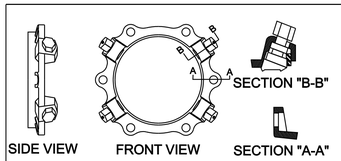
## TRENCH DETAIL




PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

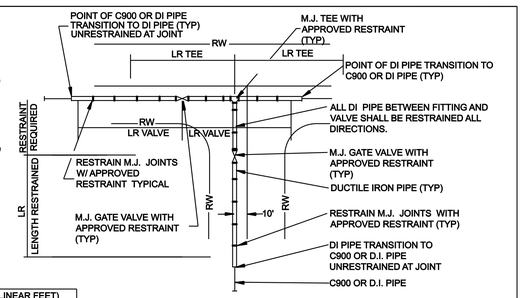
MAXIMUM TRENCH WIDTH AT TOP OF PIPE

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




| 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 |

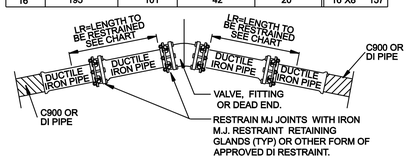
8" SIZE SHOWN 6" & 12" SIMILAR
IRON RETAINING GLAND M.J. RESTRAINT




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

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" | 67' |
| 8" | 72' | 40' | 17' | 8' | 8"X6" | 30' |
| 12" | 102' | 57' | 24' | 12' | 12"X8" | 54' |
| 16" | 195' | 101' | 42' | 20' | 16"X8" | 157' |




NOTES:

1.) THRUST RESTRAINT SHALL BE INSTALLED ON DUCTILE IRON WATER DISTRIBUTION LINES 6" THRU 16" DIAMETER IN THE MANNER SHOWN.

2.) IRON RETAINING GLAND M.J. RESTRAINT OR OTHER FORMS OF IRON RESTRAINT SHALL NOT BE USED ON PVC PIPE.

3.) PIPE GREATER THAN 16 INCH DIAMETER SHALL REQUIRE RESTRAINED JOINT PIPE FOR THE PROPER LENGTH.

4.) COMPACT FITTINGS ARE ACCEPTABLE FOR USE WITH IRON RETAINING GLAND M.J. RESTRAINT AND OTHER FORMS OF DI RESTRAINT.

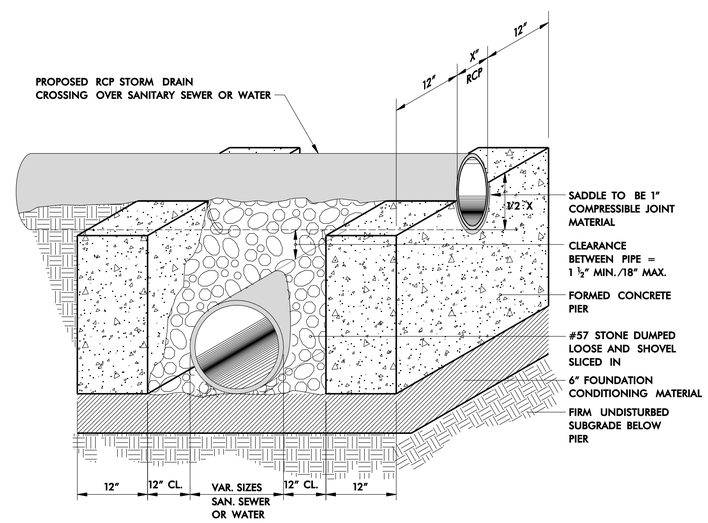
5.) THE MINIMUM LENGTH OF RESTRAINT INDICATED SHALL REQUIRE ALL JOINTS WITHIN THE LR DISTANCE TO BE RESTRAINED.

6.) RESTRAINT SYSTEM SHALL BE INSPECTED AND APPROVED PWC PRIOR TO BACKFILLING.

7.) RESTRAINT SYSTEMS MAY VARY BASED UPON THE ENGINEERS' DESIGN AS SHOWN ON THE PLAN AND PROFILE SHEETS.

8 ) 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.




## PIPELINE SUPPORT DETAIL SANITARY SEWER LINE OR WATER LINE

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-44A |

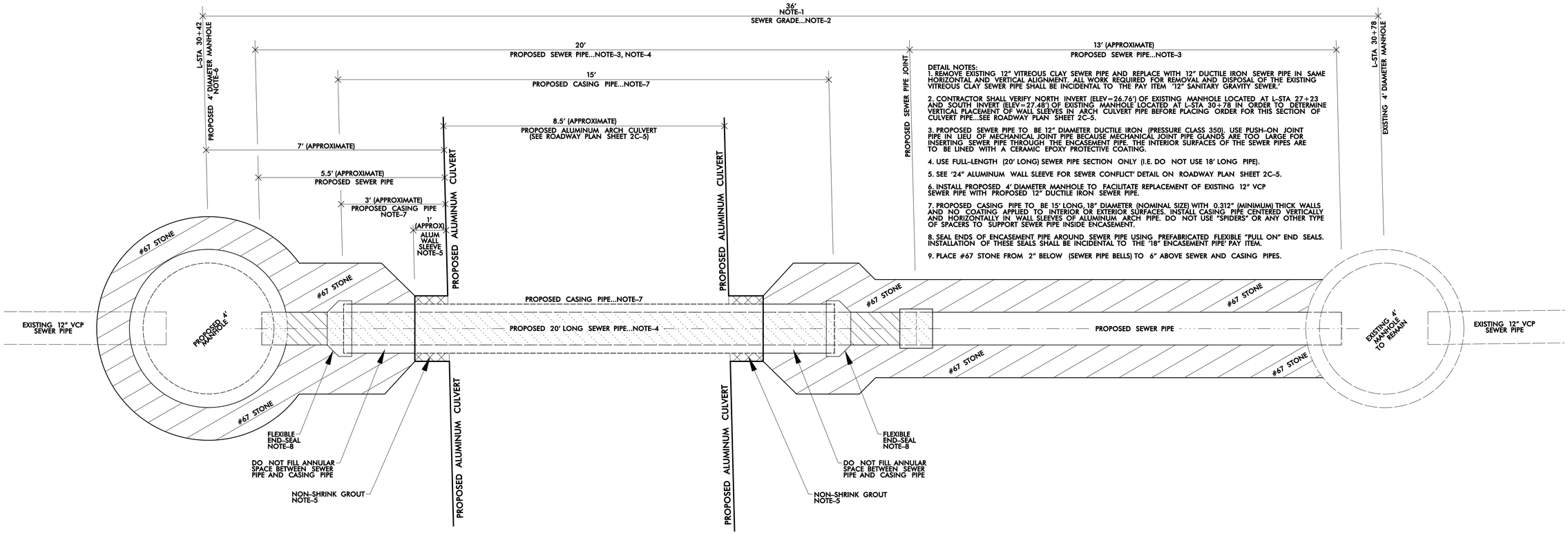
SCALE: NONE

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEERING DAVID POPE

DocuSigned by: 6/11/2015

UTILITY CONSTRUCTION

# SEWER PIPE /ARCH CULVERT DETAIL




DETAIL NOTES:

1. REMOVE EXISTING 12" VITREOUS CLAY SEWER PIPE AND REPLACE WITH 12" DUCTILE IRON SEWER PIPE IN SAME HORIZONTAL AND VERTICAL ALIGNMENT. ALL WORK REQUIRED FOR REMOVAL AND DISPOSAL OF THE EXISTING VITREOUS CLAY SEWER PIPE SHALL BE INCIDENTAL TO THE PAY ITEM '12" SANITARY GRAVITY SEWER.'

2. CONTRACTOR SHALL VERIFY NORTH INVERT (ELEV=26.76') OF EXISTING MANHOLE LOCATED AT L-STA 27+23 AND SOUTH INVERT (ELEV=27.48') OF EXISTING MANHOLE LOCATED AT L-STA 30+78 IN ORDER TO DETERMINE VERTICAL PLACEMENT OF WALL SLEEVES IN ARCH CULVERT PIPE BEFORE PLACING ORDER FOR THIS SECTION OF CULVERT PIPE...SEE ROADWAY PLAN SHEET 2C-5.

3. PROPOSED SEWER PIPE TO BE 12" DIAMETER DUCTILE IRON (PRESSURE CLASS 350). USE PUSH-ON JOINT PIPE IN LIEU OF MECHANICAL JOINT PIPE BECAUSE MECHANICAL JOINT PIPE GLANDS ARE TOO LARGE FOR INSERTING SEWER PIPE THROUGH THE ENCASEMENT PIPE. THE INTERIOR SURFACES OF THE SEWER PIPES ARE TO BE LINED WITH A CERAMIC EPOXY PROTECTIVE COATING.

4. USE FULL-LENGTH (20' LONG) SEWER PIPE SECTION ONLY (I.E. DO NOT USE 18' LONG PIPE).

5. SEE '24" ALUMINUM WALL SLEEVE FOR SEWER CONFLICT' DETAIL ON ROADWAY PLAN SHEET 2C-5.

6. INSTALL PROPOSED 4' DIAMETER MANHOLE TO FACILITATE REPLACEMENT OF EXISTING 12" VCP SEWER PIPE WITH PROPOSED 12" DUCTILE IRON SEWER PIPE.

7. PROPOSED CASING PIPE TO BE 15' LONG, 18" DIAMETER (NOMINAL SIZE) WITH 0.312" (MINIMUM) THICK WALLS AND NO COATING APPLIED TO INTERIOR OR EXTERIOR SURFACES. INSTALL CASING PIPE CENTERED VERTICALLY AND HORIZONTALLY IN WALL SLEEVES OF ALUMINUM ARCH PIPE. DO NOT USE "SPIDERS" OR ANY OTHER TYPE OF SPACERS TO SUPPORT SEWER PIPE INSIDE ENCASEMENT.

8. SEAL ENDS OF ENCASEMENT PIPE AROUND SEWER PIPE USING PREFABRICATED FLEXIBLE "PULL ON" END SEALS. INSTALLATION OF THESE SEALS SHALL BE INCIDENTAL TO THE '18" ENCASEMENT PIPE' PAY ITEM.

9. PLACE #67 STONE FROM 2" BELOW (SEWER PIPE BELLS) TO 6" ABOVE SEWER AND CASING PIPES.

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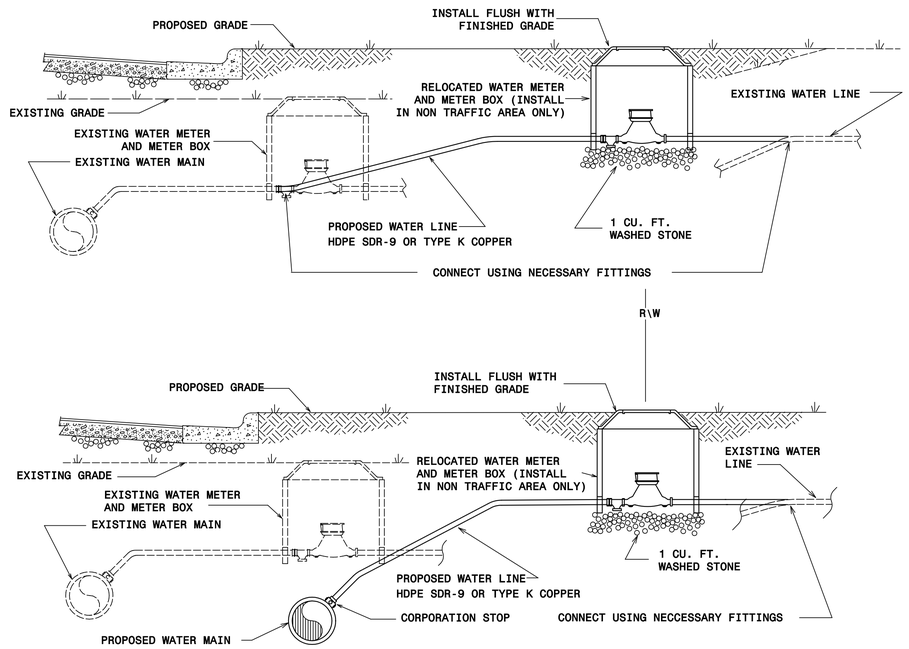
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-3338B | UC-45 |

SCALE: NONE

NORTH CAROLINA PROFESSIONAL SEAL 7952 ENGINEER JOHN DAVID POETKER

DocuSigned by: EA0976BF9F0F4BB... 6/8/2015

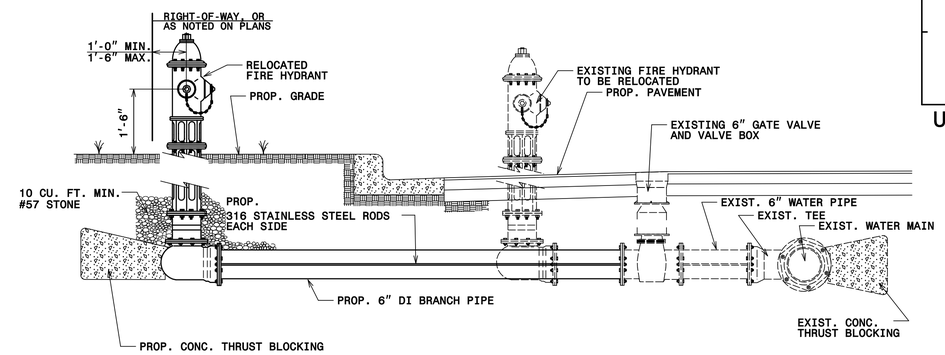
# UTILITY CONSTRUCTION




NOTES:

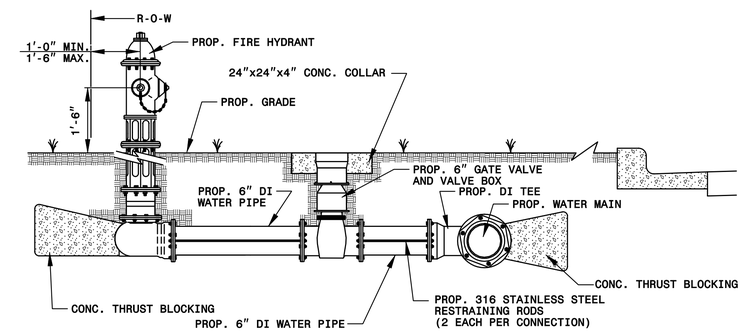
1. RELOCATION SHALL INCLUDE THE REMOVAL AND INSTALLATION AT THE APPROPRIATE LOCATION OF THE WATER METER, CURB STOP & CLAMPING DEVICE, METER VALVES, AND METER BOX WITH LID.
2. THE NEW WATER SERVICE LINE SHALL BE OF THE SAME TYPE AND GRADE AS THE EXISTING WATER SERVICE LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUN OF 12", MAXIMUM OF 24" COVER BELOW FINISHED GRADE.
4. THE OWNER RESERVES THE RIGHT TO ADD OR DELETE WATER SERVICE TAPS AND TO CHANGE LOCATIONS FROM THOSE SHOWN.

## WATER METER RELOCATION DETAILS



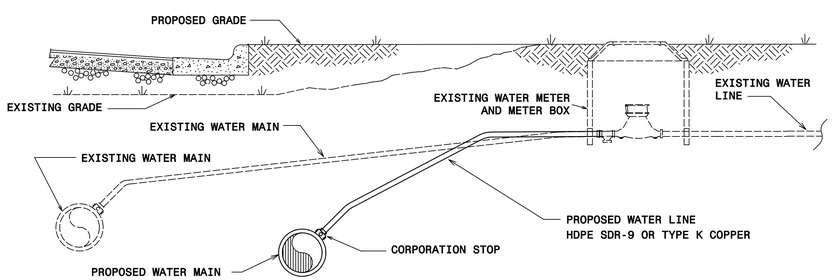

## FIRE HYDRANT RELOCATION DETAIL

NTS




## FIRE HYDRANT INSTALLATION DETAIL (UNPAVED AREAS)

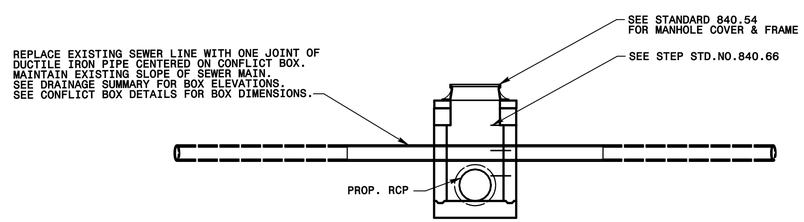
NTS




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 12", MAXIMUM OF 24" COVER BELOW FINISHED GRADE.

## RECONNECT EXISTING WATER METER DETAIL




## UTILITY CONFLICT BOX DETAIL

SEE PLAN SHEETS UC-7, UC-9, UC-10 FOR LOCATIONS

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