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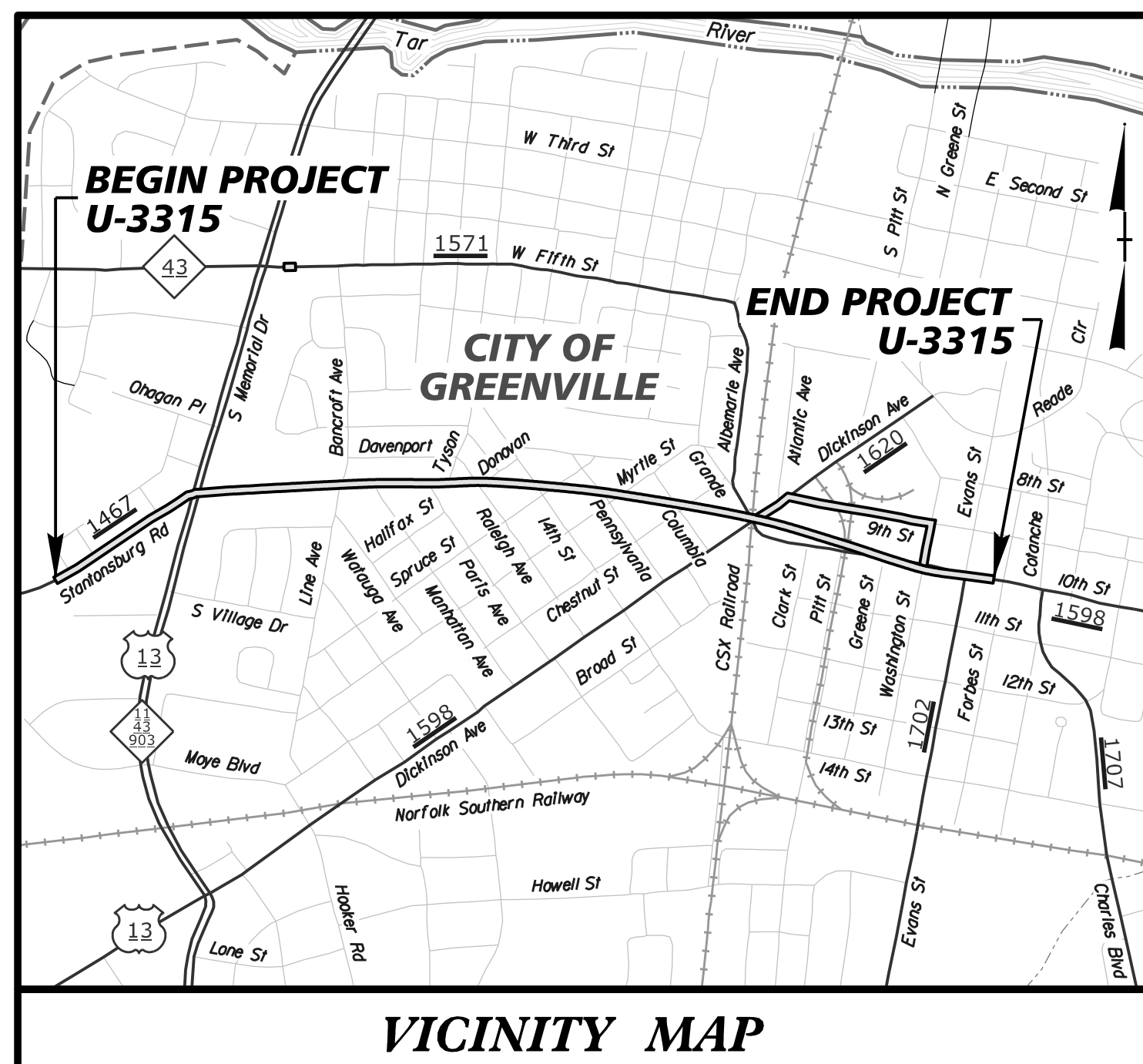
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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# UTILITY CONSTRUCTION PLANS CITY OF GREENVILLE - PITT COUNTY

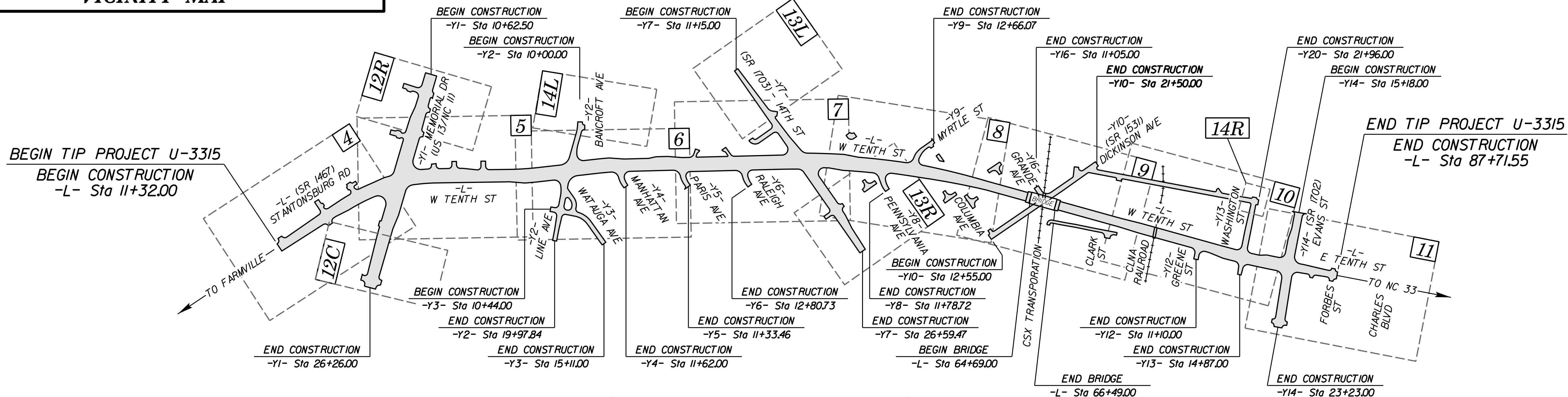
LOCATION: STANTONSBURG ROAD - TENTH STREET CONNECTOR  
FROM US 13 / NC 11 (MEMORIAL DRIVE) TO SR 1702 (EVANS STREET)

TYPE OF WORK: RELOCATION OF UTILITIES



VICINITY MAP

END CONSTRUCTION  
-Y18- POT Sta.13+00.00  
BEGIN CONSTRUCTION  
-Y18- POT Sta.12+07.00



EXISTING PIPE LINES WITHIN THE PROJECT LIMITS

GREENVILLE UTILITIES COMMISSION

(SR 1467) STANTONSBURG ROAD  
4" MDPE SDR 11 GAS MAIN  
8" PVC C-900 WATER MAIN

(US 13 / NC 11) MEMORIAL BLVD  
2" STEEL GAS MAIN  
2" MDPE SDR 11 GAS MAIN  
8" WRAPPED STEEL GAS MAIN  
6" PVC C-900 WATER MAIN  
12" PVC C-900 WATER MAIN

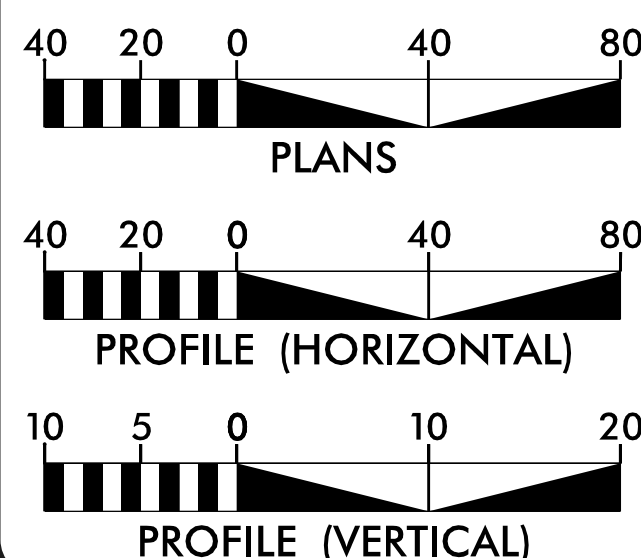
WEST 10th STREET  
2" MDPE SDR 11 GAS MAIN  
8" PVC C-900 WATER MAIN  
10" PVC C-900 WATER MAIN  
12" PVC C-900 WATER MAIN  
14" PVC C-900 WATER MAIN

BANCROFT AVE / LINE AVE  
2" MDPE SDR 11 GAS MAIN  
6" PVC C-900 WATER MAIN  
8" PVC C-900 WATER MAIN

MANHATTAN AVE  
PARIS AVE / DICKINSON AVE  
2" MDPE SDR 11 GAS MAIN  
6" PVC C-900 WATER MAIN

CONTRACT: T.I.P. PROJECT: U - 3315

GRAPHIC SCALES



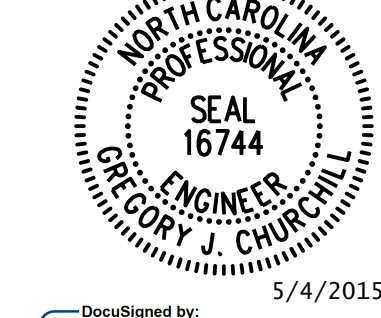
INDEX OF SHEETS

SHEET NUMBER	UTILITY CONSTRUCTION PLANS
UC - 1	COVER SHEET
UC - 2	PLAN SYMBOLS SHEET
UC - 3	CONSTRUCTION NOTES SHEET
UC - 3A...THRU...UC - 3C	UTILITY DETAIL SHEETS
UC - 4...THRU...UC - 14	UTILITY CONSTRUCTION PLAN SHEETS
UC - 15...THRU...UC - 20	WATER PROFILE SHEETS
UC - 21...THRU...UC - 23	GAS PROFILE SHEETS
UC - 24	GAS, WATER & SEWER PROFILE SHEET
UC - 25	WATER & SEWER PROFILE SHEET

WATER AND SEWER OWNERS ON PROJECT

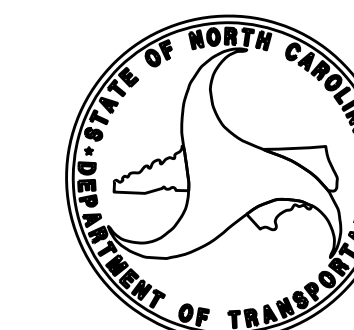
- (1) GREENVILLE UTILITIES COMMISSION (GAS MAINS)
- (2) GREENVILLE UTILITIES COMMISSION (WATER MAINS)
- (3) GREENVILLE UTILITIES COMMISSION (SEWER MAINS)

PLANS PREPARED  
FOR THE NCDOT BY:



Designed by:  
Gregory J. Churchill  
PROJECT ENGINEER

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

4/21/2015 \\nckimley-horn\c00 - 01h - Street\NCDOT - Folder - Structure\Utilities\Ray - U\Proj\Notes - sheets\U-3315 - 01h - Street Connector - Plan.dwg

REVISIONS

REVISIONS

Note: Not to Scale  
\*S.U.E. = Subsurface Utility Engineering

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

**Rivers**  
& Associates, Inc.  
Since 1918  
107 East Second Street  
Greenville, NC 27858 (252) 752-4135  
6131 Falls of Neuse Road, Suite 300  
Raleigh, NC 27615 (919) 848-3347  
Engineers - Planners - Surveyors  
NC License: F-0334

**Kimley-Horn  
and Associates, Inc.**  
P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315	SHEET NO. UC - 2
DESIGNED BY: FDT /GJC	
DRAWN BY: JHT	
CHECKED BY: FDT /GJC	
APPROVED BY: FDT /GJC	
REVISED: 3-31-15	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
RIGHT-OF-WAY REV:	PROJECT SERVICES UNIT PHONE: (919) 250-4128
CONSTRUCTION REV:	FAX: (919) 250-4119

### 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
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary

### 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
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

### RAILROADS:

- Standard Gauge
- RR Signal Milepost
- 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
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage / Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Permanent Easement with Iron Pin and Cap Marker

### ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Wheel Chair Ramp
- 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
  - Bridge Wing Wall, Head Wall and End Wall
- MINOR:
  - Head and End Wall
  - Pipe Culvert
  - Footbridge
  - Drainage Box: Catch Basin, DI or JB
  - Paved Ditch Gutter
  - Storm Sewer Manhole
  - 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
  - Designated U/G Power Line (S.U.E.\*)
- 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
  - Designated U/G Telephone Cable (S.U.E.\*)
  - Recorded U/G Telephone Conduit
  - Designated U/G Telephone Conduit (S.U.E.\*)
  - Recorded U/G Fiber Optics Cable
  - Designated U/G Fiber Optics Cable (S.U.E.\*)

### EXISTING WATER:

- Water Manhole
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line
- Designated U/G Water Line (S.U.E.\*)
- Above Ground Water Line

### EXISTING TV:

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

### EXISTING GAS:

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

### EXISTING SANITARY SEWER:

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

### EXISTING MISCELLANEOUS:

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

### PROPOSED WATER:

- Gate Valve
- Reducer
- Plug
- Hydrant And Valve
- Water Main
- Water Meter

### PROPOSED SANITARY SEWER:

- Manhole
- Sewer Force Main
- Sanitary Sewer Line
- Sewer Service With Cleanout
- Plug

### PROPOSED GAS:

- Gate Valve
- Ball Valve
- Reducer
- Plug
- Gas Main

### PROPOSED STORM SEWER:

- Temp. Interference Manhole

### ABBREVIATIONS:

- F- = Prefix denotes FUTURE items
- P- = Prefix denotes PROPOSED items
- HWL = High water line
- MEG = Match Existing Grade
- WLB = Wetlands boundary
- 30CSB = Coastal shoreline buffer
- 75ESA = Estuarine shoreline area of environmental concern

### EROSION CONTROL:

- = RIST = Rock Inlet Sediment Trap
- = RCD = Rock Silt Check Dam
- = Silt Fence

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PROJECT REFERENCE NO. **U - 3315**  
SHEET NO. **UC - 3**

DESIGNED BY: **FDT /GJC**  
DRAWN BY: **JHT**  
CHECKED BY: **FDT /GJC**  
APPROVED BY: **FDT /GJC**  
REVISED: **3-31-15**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
PROJECT SERVICES UNIT  
PHONE: (919) 250-4128  
FAX: (919) 250-4119

Seal: **NORTH CAROLINA PROFESSIONAL ENGINEER**  
No. **16744**  
Name: **Gregory J. Churchill**  
Title: **PROJECT ENGINEER**  
Date: **5/4/2015**

REVISIONS

**GENERAL:**

- ALL PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
- SECTIONS 3, 4, 7 AND 8 OF THE GREENVILLE UTILITIES COMMISSION (GUC) WATER AND WASTEWATER DESIGN MANUAL SHALL BE ADHERED TO WITH RESPECT TO MATERIALS AND SPECIFIC TECHNICAL REQUIREMENTS.
- ALL EQUIPMENT AND MATERIALS SPECIFIED BY MANUFACTURER'S NAME SHALL BE CONSIDERED AS THE QUALITY STANDARD, AND APPROVED EQUALS FOR EACH WILL BE CONSIDERED.
- THE EVALUATION OF AN APPROVED EQUAL SHALL BE THE RESPONSIBILITY OF THE ENGINEER.

**DEWATERING (NON-CONTAMINATED GROUNDWATER):**

- CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AS REQUIRED TO ACCOMMODATE UTILITIES INSTALLATION.
- DEWATERING OF NON-CONTAMINATED GROUNDWATER SHALL BE INCIDENTAL TO THE PROJECT.
- WATER PUMPED DURING DEWATERING OPERATIONS SHALL BE CONFINED TO EXISTING STORM DRAINAGE PIPES AND INLETS.
- WATER SHALL NOT BE ALLOWED TO FLOW ACROSS PRIVATE PROPERTY.
- CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS REQUIRED FOR DEWATERING OPERATIONS.
- ENGINEER MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.

**DEWATERING (NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED GROUNDWATER):**

- NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED GROUNDWATERS ARE IDENTIFIED ON CORRESPONDING PLAN SHEETS AND AT THE DIRECTION OF NCDOT'S SPECIALTY CONTRACTOR /CONSULTANT AS DESCRIBED BY THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING OF NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED GROUNDWATERS AS REQUIRED TO ACCOMMODATE UTILITIES INSTALLATION.
- THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS SHALL GOVERN THE CONTRACTOR'S RESPONSIBILITIES FOR HANDLING NON-HAZARDOUS AND/OR HAZARDOUS CONTAMINATED GROUNDWATER.
- DEWATERING OF NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED GROUNDWATER SHALL BE INCIDENTAL TO THE PROJECT.

**NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED SOILS:**

- NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED SOILS ARE IDENTIFIED ON CORRESPONDING PLAN SHEETS AS DESCRIBED BY THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED SOILS AS REQUIRED TO ACCOMMODATE UTILITIES INSTALLATION.
- THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS SHALL GOVERN THE CONTRACTOR'S RESPONSIBILITIES FOR HANDLING NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED SOILS.
- EXCAVATION OF NON-HAZARDOUS AND /OR HAZARDOUS CONTAMINATED SOILS SHALL BE INCIDENTAL TO THE PROJECT.
- PAYMENT FOR STOCKPILING OF NON-HAZARDOUS CONTAMINATED SOIL SHALL BE THE ACTUAL NUMBER OF CUBIC YARDS OF MATERIAL AS MEASURED AND DESCRIBED BY THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS.
- PAYMENT FOR LOADING OF HAZARDOUS CONTAMINATED SOIL SHALL BE THE ACTUAL NUMBER OF CUBIC YARDS OF MATERIAL AS MEASURED AND DESCRIBED BY THE GEOENVIRONMENTAL PROJECT SPECIAL PROVISIONS.

**HAZARDOUS CONTAMINATED MATERIALS:**

- EXISTING ASBESTOS CEMENT PIPE MATERIALS ARE IDENTIFIED ON THE DRAWINGS WHICH WILL REQUIRE PROPER REMOVAL AND DISPOSAL.
- CONTRACTOR SHALL COMPLY WITH NCDOT STANDARD SPECIFICATIONS SECTION 107-25 HAZARDOUS CONTAMINATED AND TOXIC MATERIALS FOR HANDLING, DISPOSAL AND PAYMENT FOR SUCH MATERIALS.

**UTILITY CONFLICTS:**

- IN GENERAL, IT IS THE INTENT OF THE DESIGN DOCUMENTS TO MINIMIZE HORIZONTAL AND VERTICAL CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES, EXISTING AND PROPOSED STORM DRAINAGE AND OTHER EXISTING AND PROPOSED ROADWAY ELEMENTS TO THE EXTENT PRACTICAL.
- CONTRACTOR SHALL PROSPECT FOR EXISTING WATER AND SEWER SERVICES IN ADVANCE OF DRAINAGE AND UTILITY INSTALLATION TO IDENTIFY AND MINIMIZE POTENTIAL CONFLICTS.
- CONTRACTOR SHALL PROSPECT TO VERIFY SIZE AND LOCATION OF EXISTING UTILITIES AT LEAST 200 FT AHEAD OF INSTALLED PIPING, SUCH THAT ADEQUATE DISTANCE IS ALLOWED FOR HORIZONTAL OR VERTICAL DEVIATION OF PIPING AT LOCATIONS OF POTENTIAL CONFLICT.
- NOTIFY THE ENGINEER IMMEDIATELY IF A POTENTIAL CONFLICT ARISES BETWEEN THE EXISTING AND PROPOSED UTILITIES, EXISTING AND PROPOSED STORM DRAINAGE, EXISTING OR PROPOSED ROADWAY ELEMENTS.
- IN THE EVENT OF UNDERGROUND UTILITIES CONFLICTS, CONTRACTOR MAY ELECT TO PROPOSE AN ALTERNATE ALIGNMENT FOR ENGINEER AND GUC APPROVAL. THE ALTERNATE SHALL RESULT IN NO INCREASED COST TO THE OWNER.
- CONFLICT BOXES SHALL BE USED AS A LAST RESORT FOR UNAVOIDABLE VERTICAL CONFLICTS BETWEEN SANITARY SEWER MAINS /SANITARY SEWER SERVICES AND STORM DRAINAGE PIPES. DUCTILE IRON CARRIER PIPE SHALL BE INSTALLED THROUGH STEEL CASINGS WITHIN THE STORM DRAIN CONFLICT BOX. THE FOLLOWING MINIMUM SIZE CASINGS ARE REQUIRED:

DIP CARRIER	STEEL CASING
4"	8"
6"	12"
8"	16"
10"	18"

**UTILITY ADJUSTMENT:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENT OF EXISTING AND PROPOSED UTILITIES TO FINAL GRADE WITHIN THE PROJECT LIMITS.
- UTILITY APPURTENANCES THAT MAY REQUIRE ADJUSTMENT INCLUDE SANITARY SEWER MANHOLES, SEWER CLEAN OUTS, VALVE BOXES, WATER METER BOXES, FIRE HYDRANTS, ETC.
- FINAL UTILITY ELEVATION SHALL MATCH THE PROPOSED FINISHED GRADE OF ROADWAY, CURB & GUTTER, SIDEWALK AND SHOULDERS.
- INSTALL UTILITIES TO READILY ACCOMMODATE FINAL ADJUSTMENT.
- NO MORE THAN TWO (2) GRADE RINGS (4" IN HEIGHT) WILL BE ALLOWED ON A MANHOLE.
- CLEAN OUTS LOCATED IN TRAFFIC OR PAVED AREAS SHALL BE INSTALLED WITH A SEWER CLEANOUT BOX SET TO FINISHED GRADE.
- VALVE BOXES SHALL BE INSTALLED SO THAT A MINIMUM OF 4" OF UPWARD AND 4" OF DOWNWARD (TOTAL OF 8") VERTICAL ADJUSTMENT IS AVAILABLE WITHOUT DISTURBING THE BASE OR REMOVING ANY BOX SECTION.
- VALVE BOX EXTENSION SHALL BE PROVIDED AS REQUIRED BASED ON FINAL VALVE DEPTH.
- WATER METER BOXES SHALL BE SET FLUSH WITH FINISHED GRADE AT THE STREET RIGHT OF WAY LINE.
- WATER METER BOXES SHALL NOT BE LOCATED WITHIN DRIVEWAYS, SIDEWALKS, OR ANY PAVED AREA SUBJECT TO VEHICULAR TRAFFIC.
- WATER METER BOXES SHALL NOT BE INSTALLED WITHIN A DITCH SLOPE.
- FIRE HYDRANTS SHALL BE SET SUCH THAT THE PUMPER NOZZLE CENTERLINE IS A MINIMUM OF 18" AND A MAXIMUM OF 24" ABOVE FINISHED GRADE.

**BYPASS PUMPING:**

- CONTRACTOR IS RESPONSIBLE FOR FURNISHING BYPASS PUMPING FOR EXISTING SANITARY SEWER MAINS OR SERVICES AS NECESSARY DURING CONSTRUCTION. CONTRACTOR SHALL GIVE GUC A MINIMUM OF 48 HOURS NOTICE PRIOR TO BEGINNING SUCH CONSTRUCTION.
- TRAFFIC CONTROL MEASURES, ROAD RAMPS, ETC. SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE BYPASS OPERATIONS.

**JOINT RESTRAINT WATER MAINS:**

- PROVIDE APPROVED RESTRAINED JOINT PIPE OR DEVICES AT EACH HORIZONTAL AND VERTICAL CHANGE IN DIRECTION FOR NEW WATER MAINS.
- ADHERE TO THE REQUIREMENTS OF THE GUC STANDARD DESIGN MANUAL SECTION 7.2.6 FOR MATERIAL AND EQUIPMENT REQUIREMENTS AND SECTION 3.4.6.9.1 FOR RESTRAINED LENGTH REQUIREMENTS.
- THRUST BLOCKING WILL BE REQUIRED AT THE INTERFACE OF NEW PIPING TO EXISTING PIPING SYSTEMS

**CONSTRUCTION SEQUENCE:**

**A) GENERAL:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR PLANNING AND COORDINATING CONSTRUCTION ACTIVITIES AND SEQUENCES TO FACILITATE TIMELY AND SIMULTANEOUS PROGRESSION OF OTHER PARTS OF THE WORK WHILE MINIMIZING CUSTOMER SERVICE DISRUPTIONS.
- CONTRACTOR SHALL SCHEDULE AND COORDINATE UTILITY MAIN RELOCATION TO ACCOMMODATE INSTALLATION OF DRAINAGE AND ROADWAY CONSTRUCTION.
- IN GENERAL, IT IS THE INTENT OF THE DESIGN DOCUMENTS THAT EXISTING UTILITY MAINS WILL BE LEFT IN SERVICE WHILE THE NEW UTILITY MAINS ARE INSTALLED TO PROVIDE UNINTERRUPTED SERVICE TO EXISTING UTILITY CUSTOMERS.
- PROVIDE 48 HOURS NOTICE TO GUC FOR CUSTOMER NOTIFICATION PRIOR TO INITIATING CONSTRUCTION ACTIVITIES THAT MAY NEGATIVELY IMPACT CUSTOMER'S NORMAL LEVEL OF SERVICE.
- THE FOLLOWING SEQUENCES ARE SUGGESTED; HOWEVER, THE CONTRACTOR MAY SUGGEST ALTERNATES, SUBJECT TO APPROVAL BY THE ENGINEER AND GUC.
- INSTALLATION OF SANITARY SEWER IMPROVEMENTS BENEATH CSX RAILROAD MUST BE ACCOMPLISHED PRIOR TO INSTALLATION OF WATER IMPROVEMENTS IN ORDER TO ACCOMMODATE JACK & BORE OPERATIONS AND TO UTILIZE WATER CASING TO TEMPORARILY ROUTE SANITARY SEWER BYPASS PUMP DISCHARGE HOSE BENEATH RAILROAD.

**B) SANITARY SEWER:**

- MOST OF THE EXISTING SANITARY SEWER MAINS WILL REMAIN IN PERMANENT SERVICE.
- REMOVE OR ABANDON EXISTING SEWER MAINS, MANHOLES AND SERVICES DESIGNATED TO BE REMOVED /ABANDONED AS INDICATED ON THE DRAWINGS AND IN "UTILITIES ABANDONMENT /REMOVAL" BELOW.
- ISOLATE 8" AND 12" WATER MAINS ON GRANDE AVENUE NEAR ITS INTERSECTION WITH DICKINSON AVENUE AND CSX RAILROAD.
- CUT, PLUG, REMOVE AND /OR ABANDON 8" AND 12" MAINS ON GRANDE AVENUE AS REQUIRED TO ACCOMMODATE BORE RIG AND ENTRY PIT ON THE NORTHWEST SIDE OF CSX RAILROAD.
- BYPASS PUMP SANITARY SEWER FROM EXISTING MH-48 TO EXISTING MH-50.
- CUT, REMOVE AND TEMPORARILY PLUG EXISTING SEWER MAIN BETWEEN MH-48 AND MH-50 AT SOUTHEAST END OF WATER AND SEWER CASING PIPES.
- EXCAVATE EXIT PIT ON SOUTHEAST SIDE OF CSX RAILROAD IN DICKINSON AVENUE.
- INSTALL NEW WATER CASING BENEATH CSX RAILROAD BY JACK AND BORE FROM WEST TO EAST PER REQUIREMENTS OF THE ENCRoACHMENT AGREEMENT.
- TEMPORARILY PLUG DOWNSTREAM SEWER AT EXISTING MANHOLE LOCATED AT CHESTNUT STREET AND GRANDE AVENUE.
- BYPASS PUMP SANITARY SEWER FROM CHESTNUT/GRANDE MANHOLE TO MH-48 OR MH-50.
- INSTALL NEW SEWER CASING BENEATH CSX RAILROAD BY JACK AND BORE FROM WEST TO EAST PER REQUIREMENTS OF THE ENCRoACHMENT AGREEMENT.
- CUT-IN AND SET NEW MANHOLE AND REPLACE SEWER MAINS ON DOWNSTREAM SIDE OF CSX RAILROAD.
- INSTALL NEW SANITARY SEWER CARRIER PIPE THROUGH CASING AND CONNECT TO NEW DOWNSTREAM MANHOLE.
- CUT-IN AND SET NEW MANHOLE LOCATED UPSTREAM OF CSX RAILROAD.
- TIE IN EXISTING UPSTREAM SEWER MAIN AND NEW DOWNSTREAM SEWER MAIN TO NEW UPSTREAM MANHOLE ON NORTHWEST SIDE OF CSX RAILROAD.
- REMOVE TEMPORARY SANITARY SEWER PLUGS AND BYPASS PUMPING EQUIPMENT.
- RESTORE GRAVITY SEWER FLOW THROUGH NEW MANHOLES AND MAIN.
- RESTORE POTABLE WATER SUPPLY TO EXISTING MAINS ON GRANDE AVENUE AND DICKINSON AVENUE AS INDICATED BELOW.

**C) WATER:**

- INSTALL WL-1, WL-2, AND WL-3, INCLUDING NEW TAPPING TEES & VALVES AND LATERAL TEES & VALVES, CASINGS, ETC., AS DEPICTED ON THE DRAWINGS.
- INSTALL TEMPORARY BLOW OFF ASSEMBLIES WHERE REQUIRED TO FACILITATE FLUSHING, PRESSURE TESTING AND DISINFECTION.
- FOLLOWING SUCCESSFUL BACTII SAMPLE, PLACE WL-1, WL-2 AND WL-3 INTO PARALLEL SERVICE WITH EXISTING MAINS.
- RELOCATE AND /OR RECONNECT EXISTING WATER SERVICES FROM THE EXISTING MAINS TO WL-1, WL-2 AND WL-3 WHERE APPLICABLE.
- INSTALL ALL NEW LATERAL WATER MAINS FROM WL-3 JUST SHORT OF THE EXISTING LATERAL WATER MAIN.
- INSTALL TEMPORARY PLUGS AND BLOWOFF ASSEMBLIES TO FACILITATE FLUSHING, PRESSURE TESTING AND DISINFECTION.
- FOLLOWING SUCCESSFUL BACTII SAMPLE, ISOLATE EXISTING UTILITY SYSTEM SEGMENTS AS REQUIRED TO ALLOW CONNECTION OF THE NEW MAIN TO THE EXISTING.
- SWAB DISINFECT PIPING AND FITTINGS TO CONNECT THE NEW MAIN TO THE EXISTING.
- RESTORE WATER SERVICE.
- OBSERVE CONNECTIONS FOR LEAKS.
- REPAIR AS NECESSARY.
- PLUG AND ABANDON EXISTING RESIDUAL WATER MAINS AS INDICATED ON THE DRAWINGS AND IN "UTILITIES ABANDONMENT /REMOVAL" BELOW.

**D) GAS:**

- INSTALL GL-101, 8" WRAPPED STEEL GAS MAIN ON MEMORIAL DRIVE, INCLUDING LATERAL TEES & VALVES, AS DEPICTED ON THE DRAWINGS.
- INSTALL TEMPORARY PLUGS, VENT, ETC. TO ACCOMMODATE PRESSURE TESTING AND PURGING.
- ISOLATE EXISTING 8" GAS MAIN TO ALLOW CONNECTION OF THE NEW MAIN TO THE EXISTING.
- PURGE THE SYSTEM OF AIR AND PLACE THE NEW MAIN IN SERVICE BY INTRODUCING NATURAL GAS.
- RELOCATE AND /OR RECONNECT EXISTING GAS SERVICE(S) FROM THE EXISTING MAIN TO GL-101 WHERE APPLICABLE.
- PLUG AND ABANDON EXISTING RESIDUAL GAS MAINS AS INDICATED ON THE DRAWINGS AND IN "UTILITIES ABANDONMENT /REMOVAL" BELOW.
- INSTALL GL-100, 4" MDPE ON STANTONSBURG ROAD, INCLUDING ASSOCIATED TEES & VALVES AS DEPICTED ON THE DRAWINGS.
- INSTALL TEMPORARY PLUGS, VENT, ETC. TO ACCOMMODATE PRESSURE TESTING AND PURGING.
- ISOLATE EXISTING 4" GAS MAIN TO ALLOW CONNECTION OF THE NEW MAIN TO THE EXISTING.
- PURGE THE SYSTEM OF AIR AND PLACE THE NEW MAIN IN SERVICE BY INTRODUCING NATURAL GAS.
- RELOCATE AND /OR RECONNECT EXISTING GAS SERVICE(S) FROM THE EXISTING MAIN TO GL-100 WHERE APPLICABLE.
- INSTALL THE FOLLOWING GAS MAIN SEGMENTS, INCLUDING ASSOCIATED TEES & VALVES AS DEPICTED ON THE DRAWINGS:
  - GL-102A, 2" MDPE ON W. 10TH STREET FROM MEMORIAL DRIVE TO BANCROFT AVENUE
  - GL-102B, 2" MDPE ON W. 10TH STREET FROM 14TH STREET TO CHESTNUT STREET
  - GL-102C, 2" MDPE ON W. 10TH STREET FROM WASHINGTON STREET TO FORBES STREET
- INSTALL TEMPORARY PLUGS, VENT, ETC. TO ACCOMMODATE PRESSURE TESTING AND PURGING.
- ISOLATE EXISTING 2" GAS MAINS TO ALLOW CONNECTIONS OF THE NEW SEGMENTS TO THE EXISTING SYSTEM.
- PURGE THE SYSTEM OF AIR AND PLACE THE NEW MAIN IN SERVICE BY INTRODUCING NATURAL GAS.
- RELOCATE AND /OR RECONNECT EXISTING GAS SERVICE(S) FROM THE EXISTING MAINS TO THE NEW SEGMENTS WHERE APPLICABLE.
- INSTALL ALL NEW LATERAL GAS MAINS FROM GL-102A, GL-102B & GL-102C JUST SHORT OF THE EXISTING LATERAL GAS MAIN SEGMENTS.
- INSTALL TEMPORARY PLUGS, VENT, ETC. TO ACCOMMODATE PRESSURE TESTING AND PURGING.
- ISOLATE EXISTING GAS MAINS TO ALLOW CONNECTIONS OF THE NEW MAINS TO THE EXISTING.
- RESTORE GAS SERVICE.
- RELOCATE AND /OR RECONNECT ANY REMAINING EXISTING GAS SERVICE(S) WHERE APPLICABLE.

**UTILITIES ABANDONMENT /REMOVAL:**

**A) PIPES:**

- NCDOT STANDARD SPECIFICATIONS SECTION 1530 SHALL GOVERN MATERIALS, METHODS AND PAYMENT FOR ABANDONMENT OR REMOVAL OF UTILITIES. THE FOLLOWING NOTES PROVIDE ADDITIONAL INFORMATION REGARDING THE INTENT OF THE DESIGN FOR THIS PROJECT.
- ALL EXISTING UTILITY PIPES DESIGNATED TO BE ABANDONED ARE INTENDED TO REMAIN IN PLACE UNLESS OTHER WORK (I.E. PROPOSED UTILITY, PROPOSED DRAINAGE OR PROPOSED ROADWAY CONSTRUCTION) REQUIRES THEIR REMOVAL.
- EXISTING UTILITY PIPE THAT IS REMOVED BY OTHER WORK OF THE CONTRACT WILL BE INCIDENTAL TO THE OTHER WORK. NO ADDITIONAL COMPENSATION WILL BE MADE.
- EXISTING UTILITY PIPES DESIGNATED TO BE ABANDONED SHALL BE TREATED AS FOLLOWS:
  - UTILITY PIPE LINES LESS THAN 6" DIAMETER SHALL BE EMPTIED OF THEIR CONTENTS WITH OPEN ENDS PLUGGED WITH GROUT OR FLOWABLE FILL.
  - UTILITY PIPE LINES THAT ARE 6" AND LARGER IN DIAMETER SHALL BE EMPTIED OF THEIR CONTENTS AND FILLED WITH GROUT OR FLOWABLE FILL TO AT LEAST 90% FULL (100% FULL WHEN ON RAILROAD RIGHT OF WAY).
- EXISTING UTILITY PIPE THAT IS ABANDONED BY PLUGGING THE ENDS ONLY AND LEAVING IN PLACE WILL NOT BE MEASURED OR PAID. GROUT USED FOR PLUGGING OF OPEN PIPE ENDS IS INCIDENTAL TO THE WORK PERFORMED.
- EXISTING UTILITY PIPE THAT IS ABANDONED BY FILLING WITH GROUT OR FLOWABLE FILL WILL BE PAID BY THE LINEAR FOOT FOR THE SIZE OF PIPE. SUCH PIPE ABANDONMENT IS CALLED OUT BY LENGTH AND SIZE ON THE DRAWING SHEETS.
- CONTRACTOR MAY ELECT TO REMOVE AN EXISTING UTILITY PIPE IN LIEU OF ABANDONING BY THE METHODS DESCRIBED ABOVE. NO ADDITIONAL COMPENSATION WILL BE MADE FOR REMOVAL IN LIEU OF ABANDONING AS DESCRIBED ABOVE.
- REMOVE ANY ABANDONED UTILITY PIPE EXPOSED BY GRADING OPERATIONS TO A MINIMUM DEPTH OF 12" BELOW SUBGRADE ELEVATION.
- UTILITY PIPE THAT IS REMOVED DUE TO MINIMAL COVER WILL BE MEASURED AND PAID BY THE LINEAR FOOT FOR THE SIZE OF PIPE.

**B) METERS:**

- EXISTING WATER METERS DESIGNATED TO BE ABANDONED ARE INDICATED BY PARCEL NUMBER ON THE DRAWING SHEETS.
- EXISTING WATER METERS DESIGNATED TO BE ABANDONED DUE TO THE SUPPLY MAIN BEING ABANDONED REQUIRE NO SPECIAL ABANDONMENT TECHNIQUES. DISPOSAL OF EXISTING METER BOXES SHALL BE INCIDENTAL TO THE WORK PERFORMED.
- EXISTING WATER METERS DESIGNATED TO BE ABANDONED ON A LIVE SUPPLY MAIN ARE NOT ANTICIPATED.
- EXISTING WATER METERS DESIGNATED TO BE RELOCATED WILL BE PHYSICALLY MOVED TO A NEW LOCATION OR ELEVATION. METERS THAT ARE TO BE CONNECTED TO AND SUPPLIED BY THE PROPOSED REPLACEMENT WATER MAIN WILL BE INSTALLED BY THE CONTRACTOR. PAYMENT WILL BE PER EACH RELOCATED METER REGARDLESS OF LENGTH OF SERVICE TUBING REQUIRED.
- METERS THAT WILL CONTINUE TO BE SUPPLIED BY THE EXISTING WATER MAIN SHALL BE RELOCATED BY GUC TO ACCOMMODATE INSTALLATION OF A PROPOSED STORM DRAIN PIPE. CONTRACTOR SHALL SCHEDULE AND COORDINATE THE WORK WITH GUC TO MINIMIZE DISRUPTION TO THE CUSTOMER.
- EXISTING WATER METERS DESIGNATED TO BE RECONNECTED WILL BE TRANSFERRED FROM AN ABANDONED WATER MAIN TO A NEW WATER MAIN WHEN RELOCATION OF THE METER IS NOT REQUIRED. PAYMENT WILL BE PER EACH RECONNECTED METER.

**C) FIRE HYDRANTS:**

- EXISTING FIRE HYDRANTS DESIGNATED TO BE REMOVED ARE INDICATED ON THE DRAWING SHEETS.
- REMOVE THE FIRE HYDRANT BY DISCONNECTING THE HYDRANT LEG AS CLOSE TO THE MAIN AS POSSIBLE.
- IF THE HYDRANT VALVE IS WITHIN 4 FT OF THE MAIN, CLOSE THE VALVE, PLUG THE OUTLET SIDE OF THE VALVE, AND REMOVE THE VALVE BOX.
- RETURN THE FIRE HYDRANT TO GREENVILLE UTILITIES COMMISSION OPERATIONS CENTER AT 801 MUMFORD ROAD.
- PROPERLY DISPOSE OF PIPING, VALVE BOX, ETC.

**D) MANHOLES:**

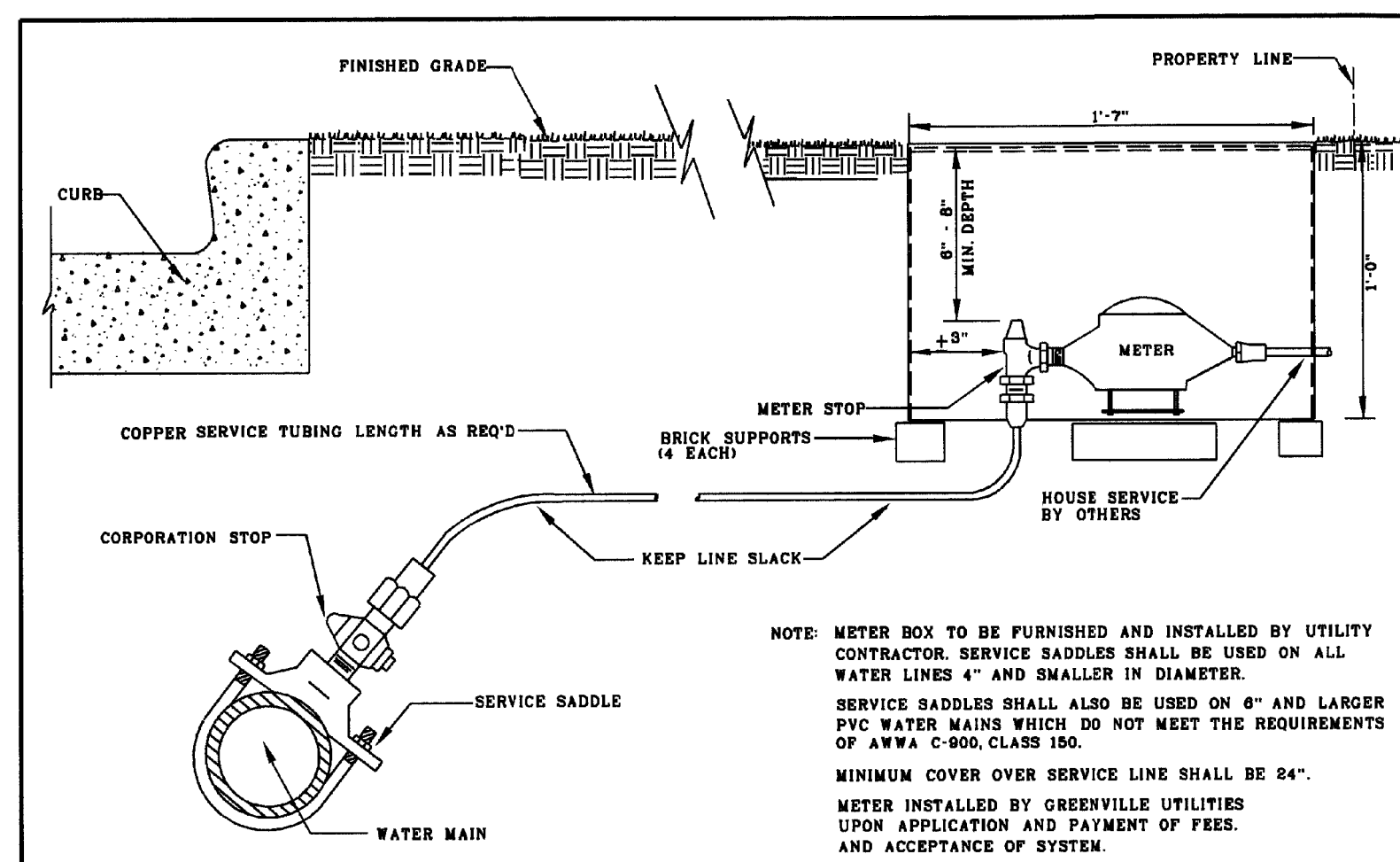
- EXISTING MANHOLES DESIGNATED FOR REMOVAL ARE INDICATED ON THE DRAWING SHEETS.
- EXISTING MANHOLES DESIGNATED FOR REMOVAL WILL BE PAID PER EACH REGARDLESS OF DIAMETER AND DEPTH.
- PLUG CONNECTING UTILITY PIPES BEFORE REMOVING EXISTING MANHOLES.
- EXISTING MANHOLES DESIGNATED TO BE REMOVED SHALL REQUIRE COMPLETE DEMOLITION AND REMOVAL OF THE CONE, RISER AND BASE.
- PROPERLY DISPOSE OF THE MANHOLE FRAMES AND COVERS.
- SANITARY SEWER MAINS OR SERVICES DESIGNATED FOR ABANDONMENT THAT DISCHARGE TO A RECEIVING MANHOLE DESIGNATED TO BE RETAINED SHALL BE CUT ADJACENT TO THE MANHOLE WALL.
- PLUG OPEN ENDS OF THE PIPING WITH GROUT OR FLOWABLE FILL PER UTILITY PIPE ABANDONMENT REQUIREMENTS.
- PLUG THE RESIDUAL OPENING IN THE MANHOLE WALL WITH NON-SHRINK GROUT ON THE INTERIOR AND EXTERIOR GROUT USED FOR PLUGGING RESIDUAL MANHOLE OPENINGS IS INCIDENTAL TO THE WORK PERFORMED.

WEST 10TH STREET EXISTING SANITARY MANHOLE ADJUSTMENT					
SHEET NO.	STREET LOCATION	MANHOLE NO.	EXIST. TOP ELEVATION	PROPOSED TOP ELEVATION	CHANGE IN HEIGHT (FT)
4	MEMORIAL DRIVE	MH-01	71.22	70.80	(0.82)
4	W. 10TH STREET	MH-02	69.45	69.95	0.50
5	W. 10TH STREET	MH-04	69.94	68.70	0.76
5	W. 10TH STREET	MH-05	69.35	69.35	0.01
5	W. 10TH STREET	MH-11	67.95	68.53	0.58
5	W. 10TH STREET	MH-12	67.67	68.77	1.10
5	W. 10TH STREET	MH-13	67.64	68.68	1.04
5	W. 10TH STREET	MH-14	68.69	68.12	1.02
5	LINE AVENUE	MH-08	68.00	68.44	0.44
5	LINE AVENUE	MH-10	68.92	69.00	0.08
6	W. 10TH STREET	MH-18	69.12	70.16	1.04
6	W. 10TH STREET	MH-19	70.04	71.19	1.12
6	W. 10TH STREET	MH-20	69.87	70.27	0.40
6	W. 10TH STREET	MH-21	66.57	66.88	0.11
6	14TH STREET	MH-22	63.66	64.12	0.48
6	W. 10TH STREET	MH-23	REMOVE	REMOVE	REMOVE
6	14TH STREET	MH-24	61.57	62.79	1.22
6	14TH STREET	MH-25	62.50	63.12	0.62
6	14TH STREET	MH-26	61.71	61.95	0.24
6	14TH STREET	MH-27	62.07	62.42	0.35
6	14TH STREET	MH-31	64.53	64.71	0.18
6	SPRUCE STREET	MH-28	REMOVE	REMOVE	REMOVE
6	W. 10TH/RALEIGH	MH-34	70.05	70.05	0.00
7	SPRUCE STREET	MH-37	69.10	69.10	0.00
7	MYRTLE STREET	MH-41	61.58	61.05	(0.53)
7	COLUMBIA/CHESTNUT	MH-45	61.89	62.50	0.61
8	W. 10TH/GRANDE	MH-48	58.04	58.16	0.12
8	DICKINSON/LANTIC	MH-50	53.38	53.38	0.00
8	W. 10TH/DICKINSON	MH-52	REMOVE	REMOVE	REMOVE
8	OLD 10TH	MH-53	49.88	49.88	0.00
8	OLD 10TH/CLARK	MH-54	45.52	45.60	0.08
8	CLARKWAY ST/EE	MH-200	48.64	48.34	0.00
9	W. 9TH STREET	MH-201	48.89	48.89	0.00
9	W. 9TH STREET	MH-203	42.43	42.43	0.00
9	W. 9TH STREET	MH-204	41.95	41.95	0.00
9	W. 9TH/WASHINGTON	MH-58	40.85	40.85	0.00
9	OLD 10TH	MH-55	REMOVE	REMOVE	REMOVE
9	OLD 10TH	MH-56	REMOVE	REMOVE	REMOVE
9	OLD 10TH	MH-57	45.59	46.27	0.68
9	W. 10TH/WASHINGTON	MH-58	44.77	45.97	1.20
10	14TH/HEAVENS	MH-60	47.32	48.80	1.48
10	W. 10TH/FORBES	MH-62	51.05	51.05	0.00
10	EVANS/W. 11TH	MH-61	52.18	52.30	0.12
11	MEMORIAL DRIVE	MH-68	71.26	71.26	0.00
11	MEMORIAL DRIVE	MH-69	71.51	71.51	0.00
11	MEMORIAL DRIVE	MH-70	71.09	71.15	0.06
11	MEMORIAL DRIVE	MH-71	70.81	70.70	0.09
11	MEMORIAL DRIVE	MH-72	70.44	70.44	0.00
12	14TH STREET	MH-43	63.52	63.80	0.08
13	W. 9TH/WASHINGTON	EX MH	REMOVE	REMOVE	REMOVE

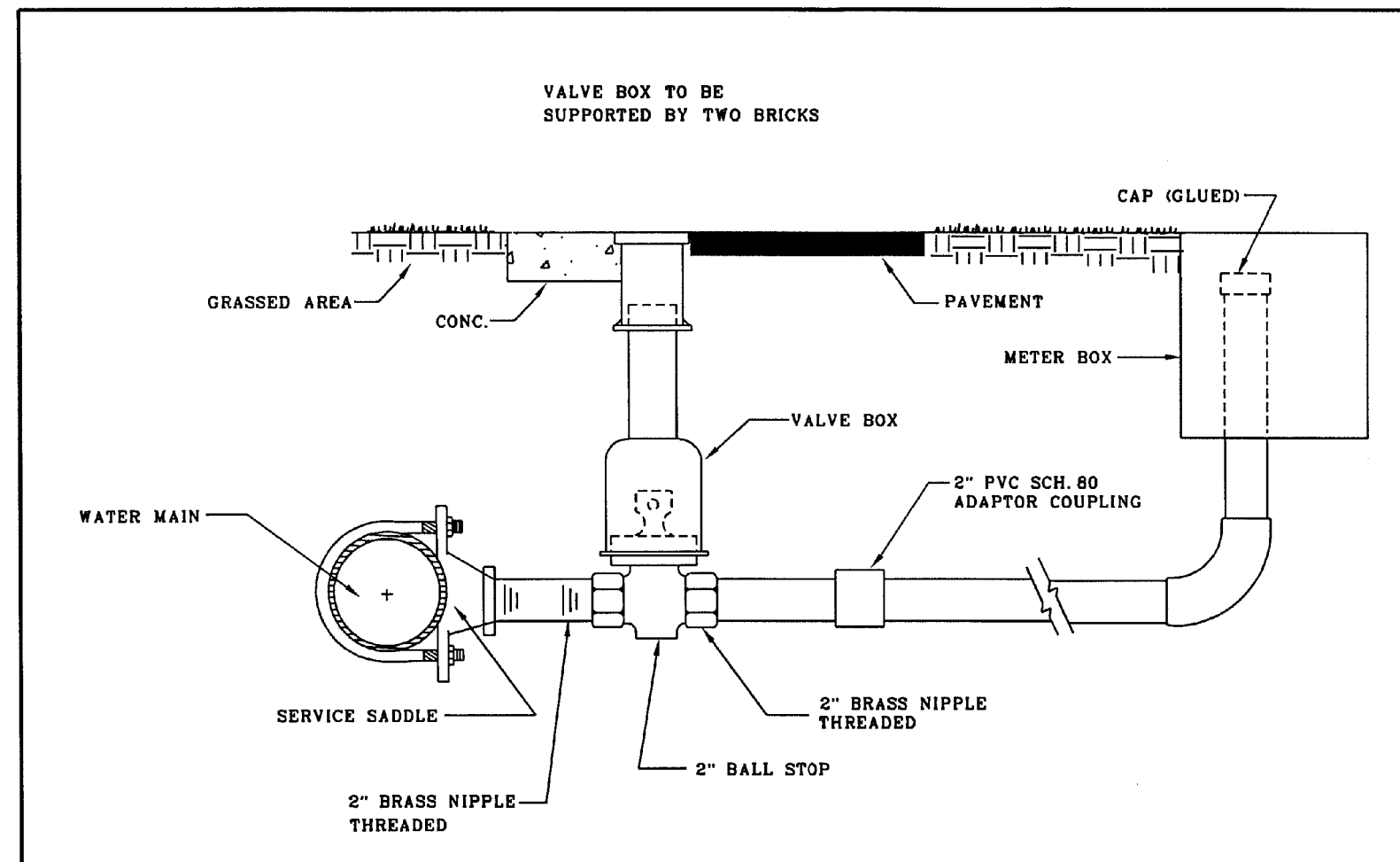
## UTILITY CONSTRUCTION

### WATER DETAILS

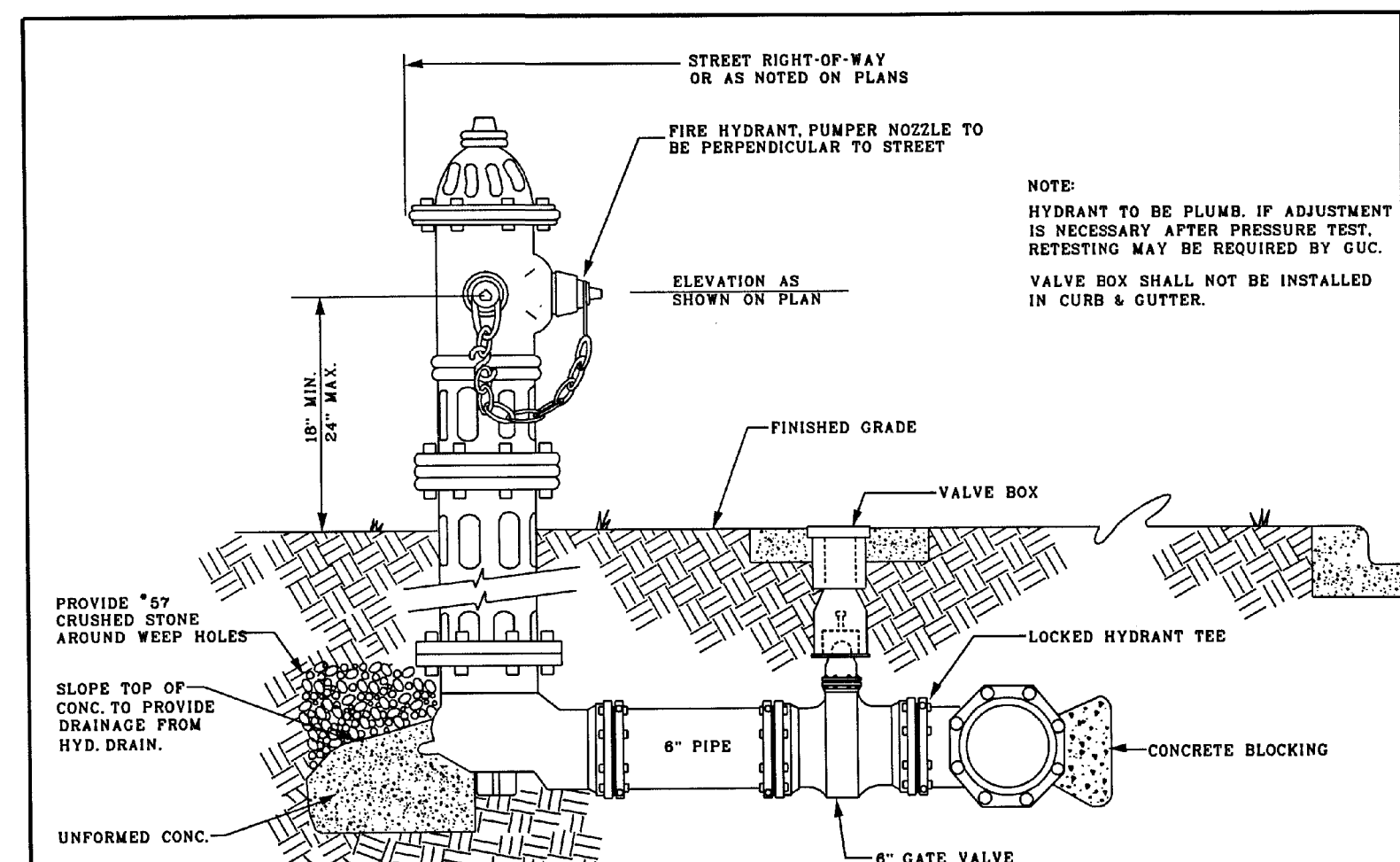
REVISIONS



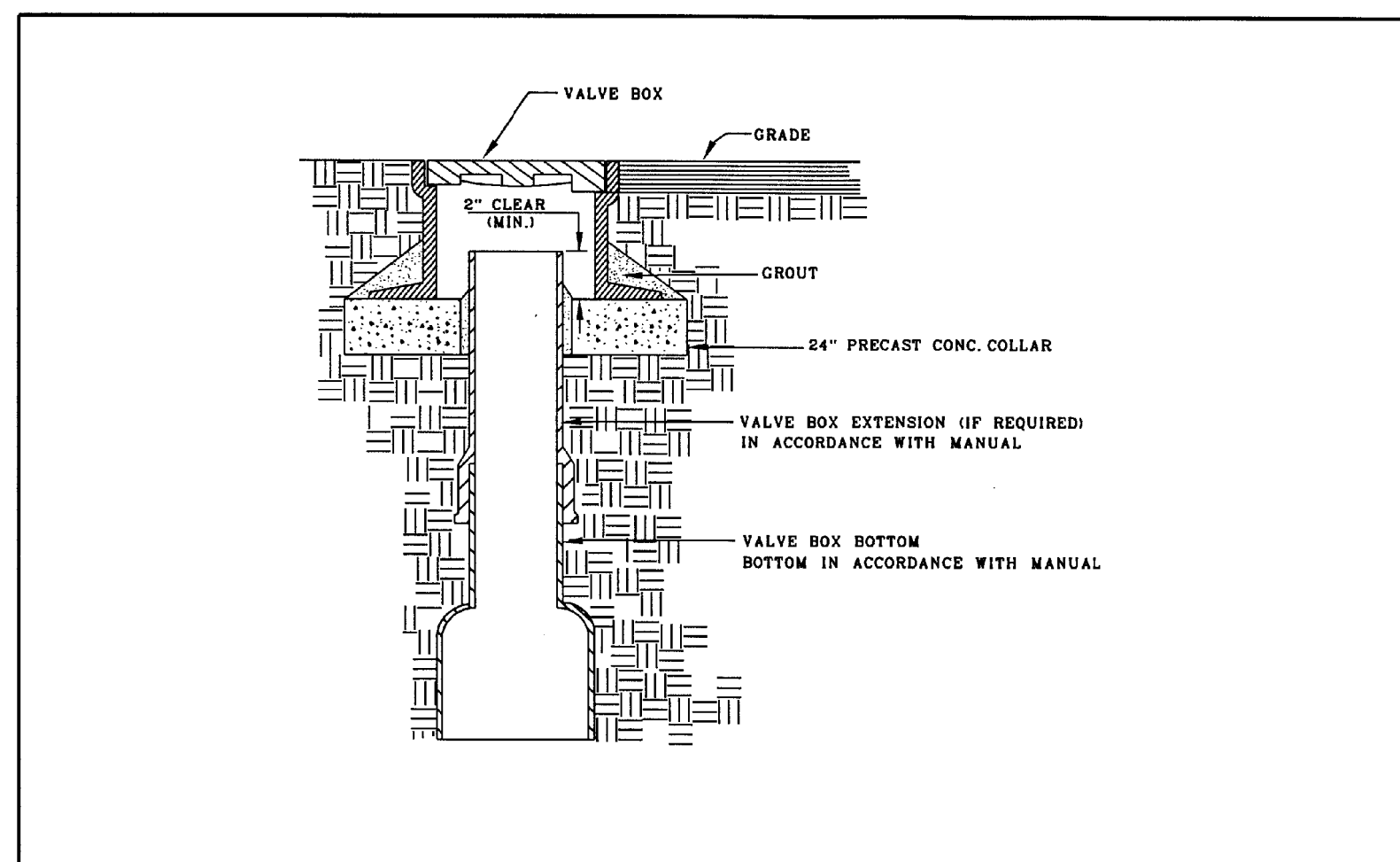
1" WATER SERVICE DETAIL FOR AREAS WITH CURB AND GUTTER		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-1	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



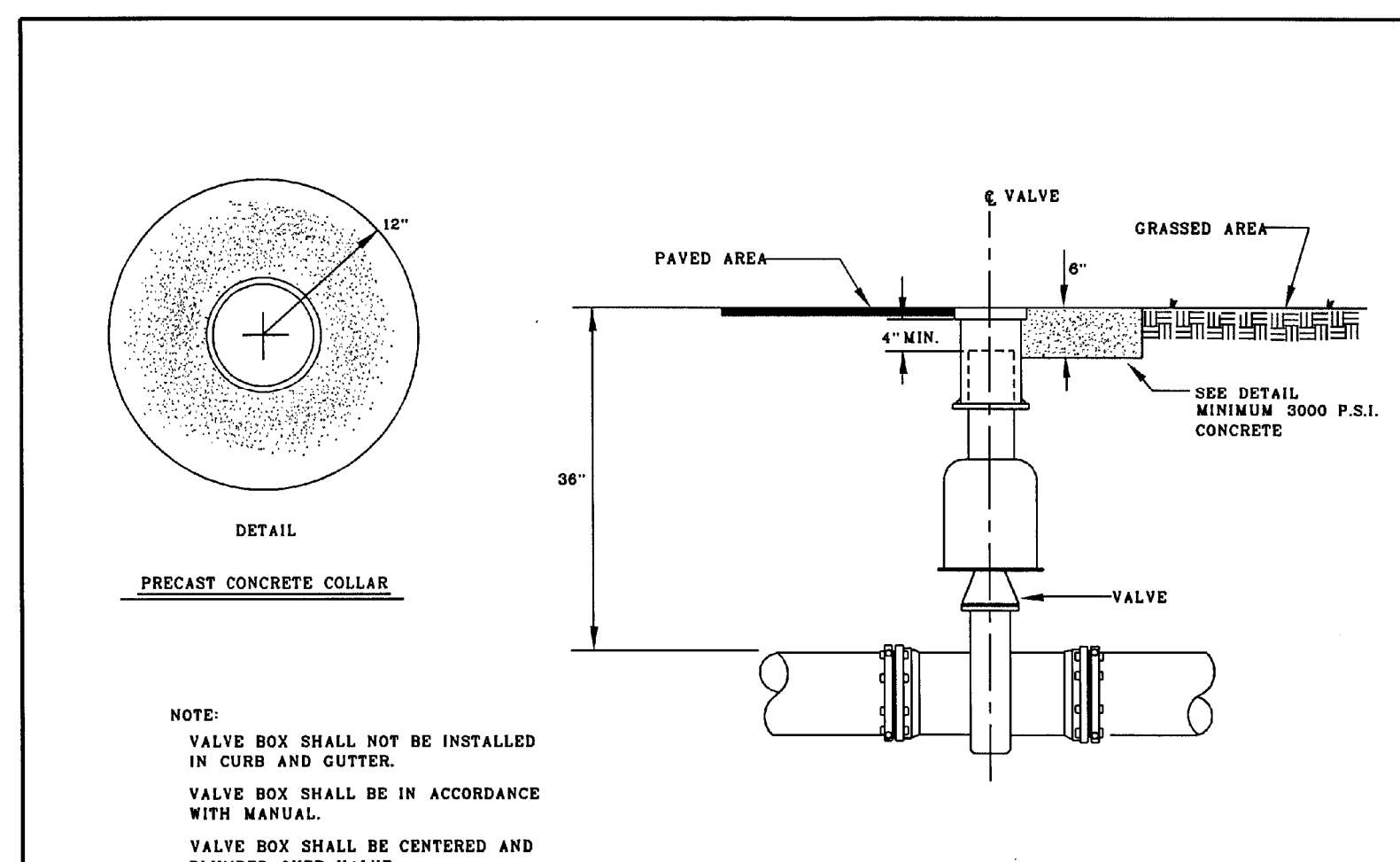
TYPICAL 1-1/2" AND 2" WATER SERVICE CONNECTION		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-3	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



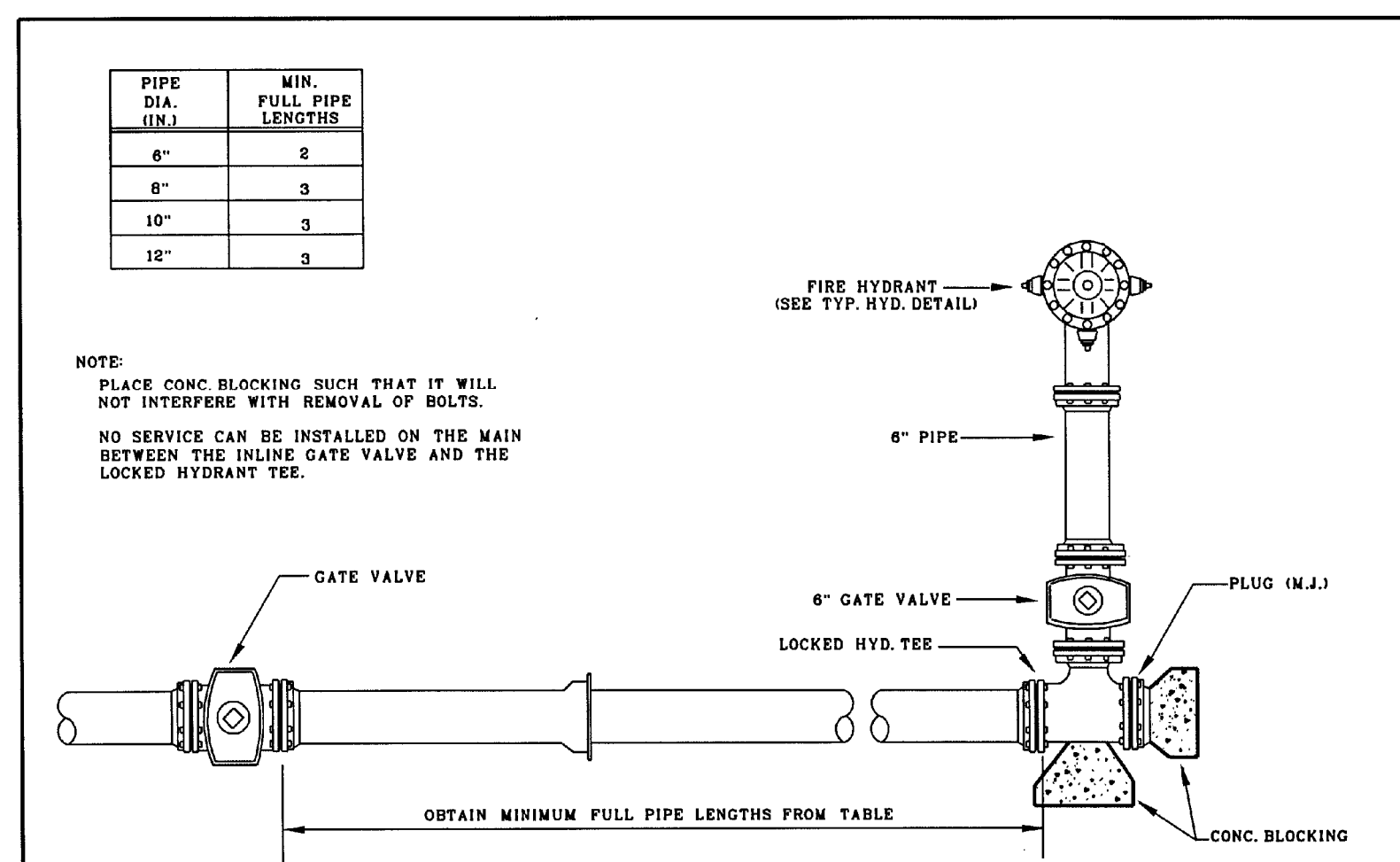
FIRE HYDRANT INSTALLATION (FOR AREAS WITH CURB AND GUTTER)		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-4	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



VALVE BOX DETAIL FOR VALVES 12" AND LARGER		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-6	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



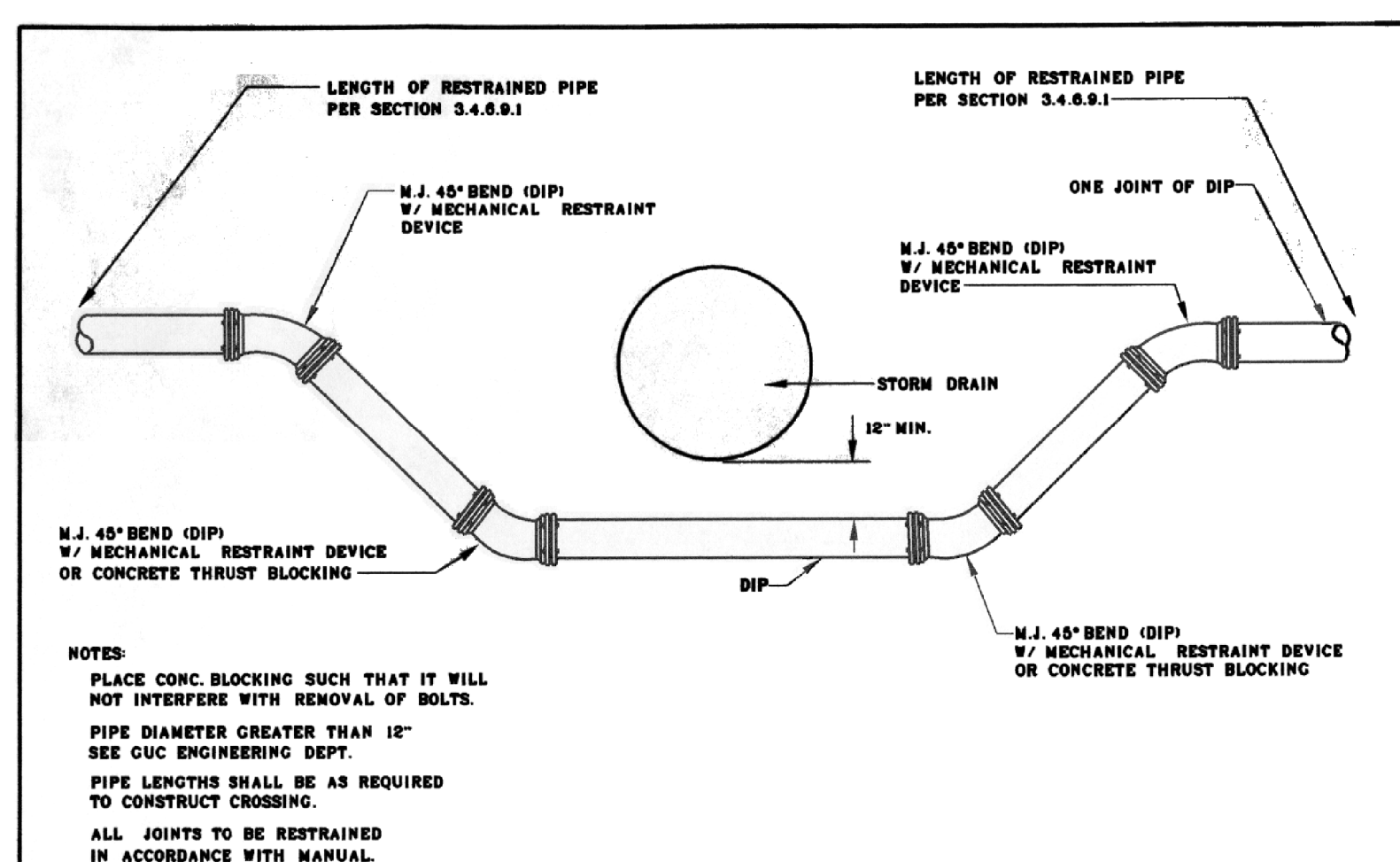
VALVE BOX DETAIL FOR VALVES SMALLER THAN 12"		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-7	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



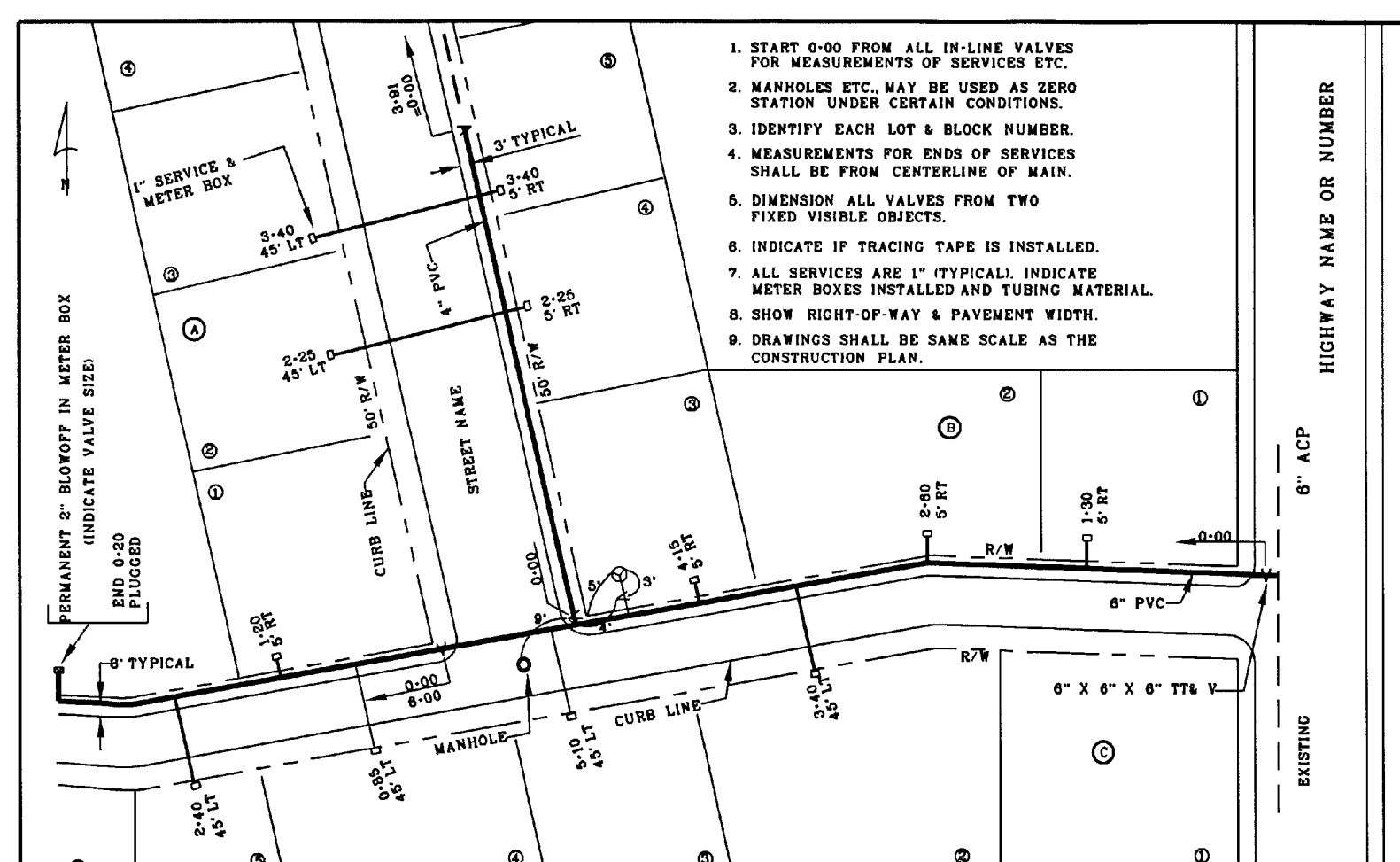
TERMINATION OF 6" - 12" WATER MAIN		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-8	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			

RESULTANT THRUST AT FITTING AT 150 PSI WATER PRESSURE		TYPES OF THRUST BLOCKING	
NON PIPE DIA.	DEAD END	45° BEND	90° BEND
4"	2,700	3,800	2,100
6"	5,600	8,000	4,300
8"	9,700	13,800	7,400
10"	14,500	20,500	11,100
12"	20,500	29,000	15,700
14"	27,600	39,000	21,100
16"	35,700	50,400	27,300
18"	44,800	63,400	34,400
20"	55,000	77,000	42,100
24"	78,500	110,000	60,000
30"	120,600	170,600	92,300
36"	172,800	244,400	132,500
42"	232,300	330,000	178,800
48"	304,000	430,000	232,700
54"	384,100	543,800	294,000

THRUST BLOCKING DETAIL		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-12	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			



WATER MAIN AND STORM DRAIN CROSSING		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-14	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			

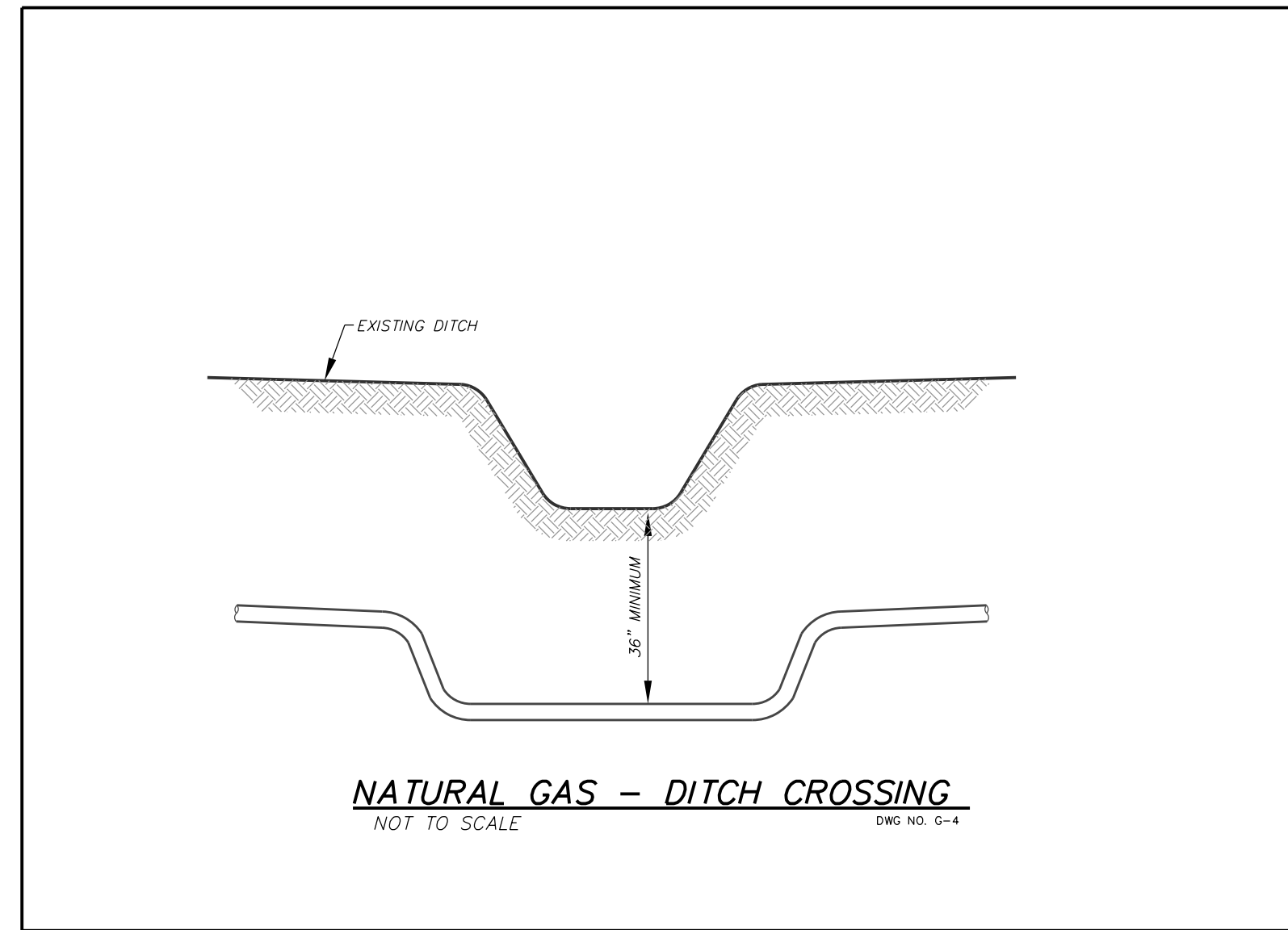
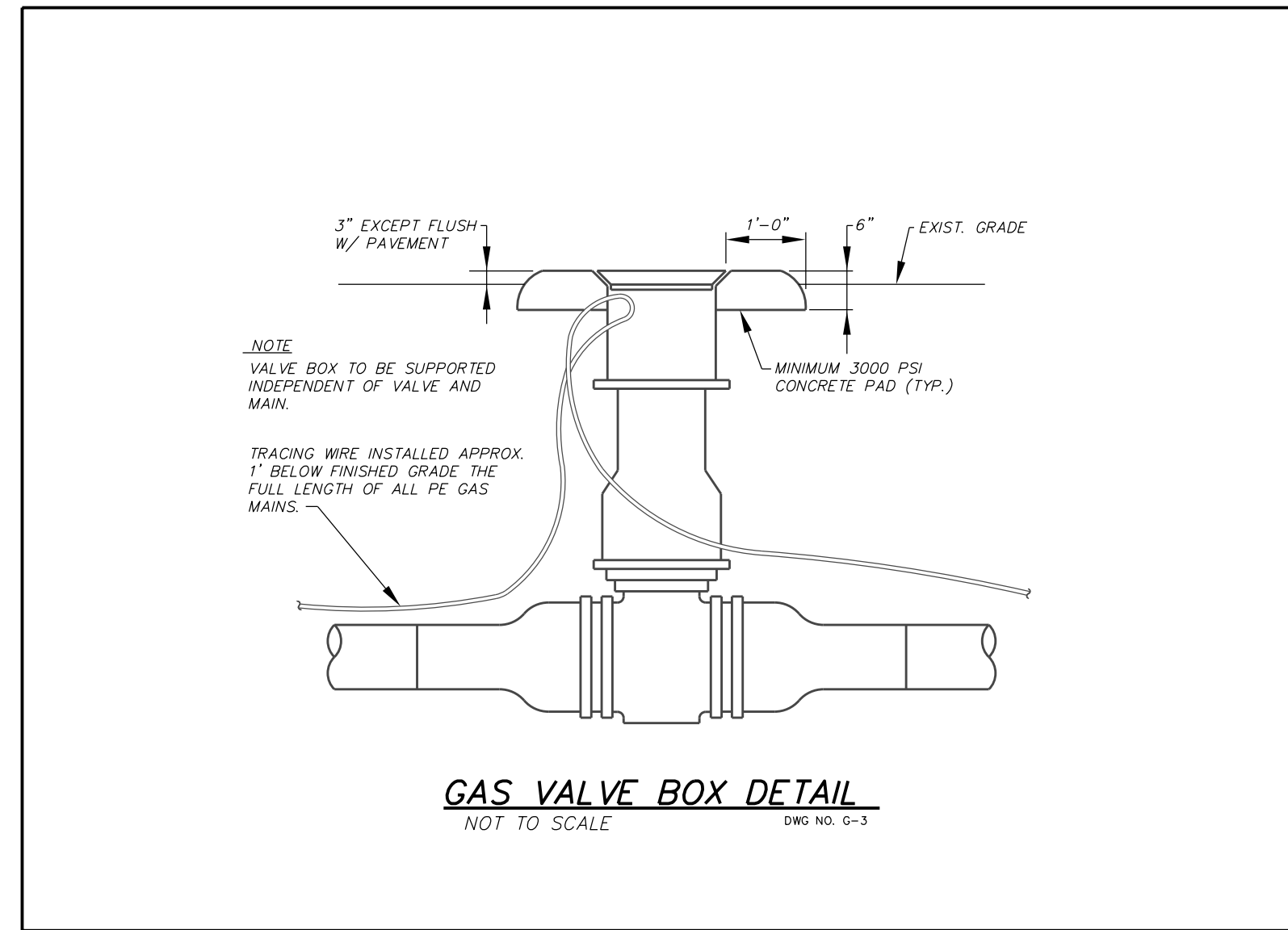


TYPICAL WATER SYSTEM AS BUILT		GREENVILLE UTILITIES GREENVILLE, N.C.	NO.	DATE	DESCRIPTION
SHEET	DWG. NO. W-18	DWG. N. WOOTEN			
1 OF 1	DATE 3-12-99	APP. H. COREY			

4/21/2015 N:\Vimney-Horn\COG 10th Street NCDOT Feder. Structure\Utilities\3315\_Utility\3315-Water\_Profiles-Final.dwg



REVISIONS



PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 3C</b>
DESIGNED BY: <b>FDT /GJC</b>	<p>DocuSigned by: <i>Gregory J. Churchill</i> PROJECT ENGINEER</p>
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	

**UTILITY CONSTRUCTION**

**NATURAL GAS  
DETAILS**







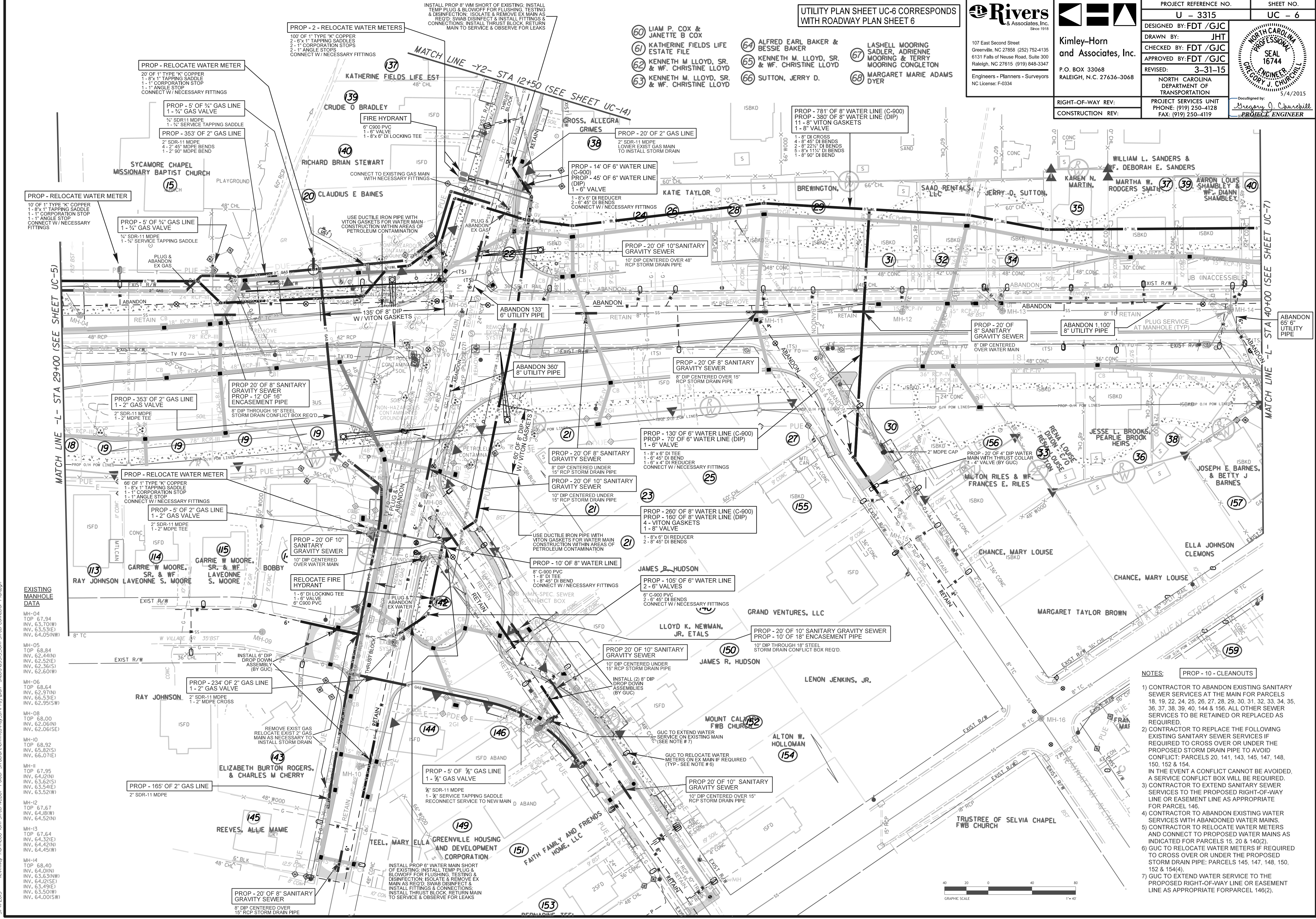
REVISIONS

UTILITY PLAN SHEET UC-6 CORRESPONDS WITH ROADWAY PLAN SHEET 6

**Rivers**  
Associates, Inc.  
107 East Second Street  
Greenville, NC 27858 (252) 752-4135  
6131 Falls of Neuse Road, Suite 300  
Raleigh, NC 27615 (919) 848-3347  
Engineers - Planners - Surveyors  
NC License: F-0334

**Kimley-Horn and Associates, Inc.**  
P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 6</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119
RIGHT-OF-WAY REV:	Designed by: <i>Gregory J. Churchill</i> PROJECT ENGINEER
CONSTRUCTION REV:	



**EXISTING MANHOLE DATA**

MH-04	TOP 67.94 INV. 63.70(W) INV. 63.53(E) INV. 64.05(NW)
MH-05	TOP 68.84 INV. 62.44(N) INV. 62.52(E) INV. 62.36(S) INV. 62.60(W)
MH-06	TOP 68.64 INV. 62.97(N) INV. 66.53(E) INV. 62.95(SW)
MH-08	TOP 68.00 INV. 65.82(S) INV. 66.07(E)
MH-10	TOP 68.92 INV. 65.82(S) INV. 66.07(E)
MH-11	TOP 67.95 INV. 64.02(N) INV. 63.62(S) INV. 63.54(E) INV. 63.52(W)
MH-12	TOP 67.67 INV. 64.81(W) INV. 64.52(N)
MH-13	TOP 67.64 INV. 64.32(E) INV. 64.42(N) INV. 64.45(W)
MH-14	TOP 68.40 INV. 64.00(N) INV. 63.63(NW) INV. 64.02(E) INV. 63.49(E) INV. 63.50(W) INV. 64.00(SW)

- NOTES:**
- CONTRACTOR TO ABANDON EXISTING SANITARY SEWER SERVICES AT THE MAIN FOR PARCELS 18, 19, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 144 & 156. ALL OTHER SEWER SERVICES TO BE RETAINED OR REPLACED AS REQUIRED.
  - CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCELS 20, 141, 143, 145, 147, 148, 150, 152 & 154. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED.
  - CONTRACTOR TO EXTEND SANITARY SEWER SERVICES TO THE PROPOSED RIGHT-OF-WAY LINE OR EASEMENT LINE AS APPROPRIATE FOR PARCEL 146.
  - CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS.
  - CONTRACTOR TO RELOCATE WATER METERS AND CONNECT TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 15, 20 & 140(2).
  - GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE: PARCELS 145, 147, 148, 150, 152 & 154(4).
  - GUC TO EXTEND WATER SERVICE TO THE PROPOSED RIGHT-OF-WAY LINE OR EASEMENT LINE AS APPROPRIATE FOR PARCEL 146(2).



- 40 WILLIAM L. SANDERS & WF. DEBORAH E. SANDERS
- 41 BOYD, BOBBY E.
- 43 CARL FODUS CHERRY, & MAMIE CHERRY
- 45 TURNAGE, LULA J.
- 51 WILLIE LEE MOORE & WF. ALICE P. MOORE
- 52 BOBBY R. BOWEN & BLANCHE H. WILSON
- 53 BOBBY R. BOWEN, SR. MARSHALL L. BOWEN
- 54 BOBBY R. BOWEN & BLANCHE H. WILSON
- 72 JONATHAN SUTTON & TODD SUTTON

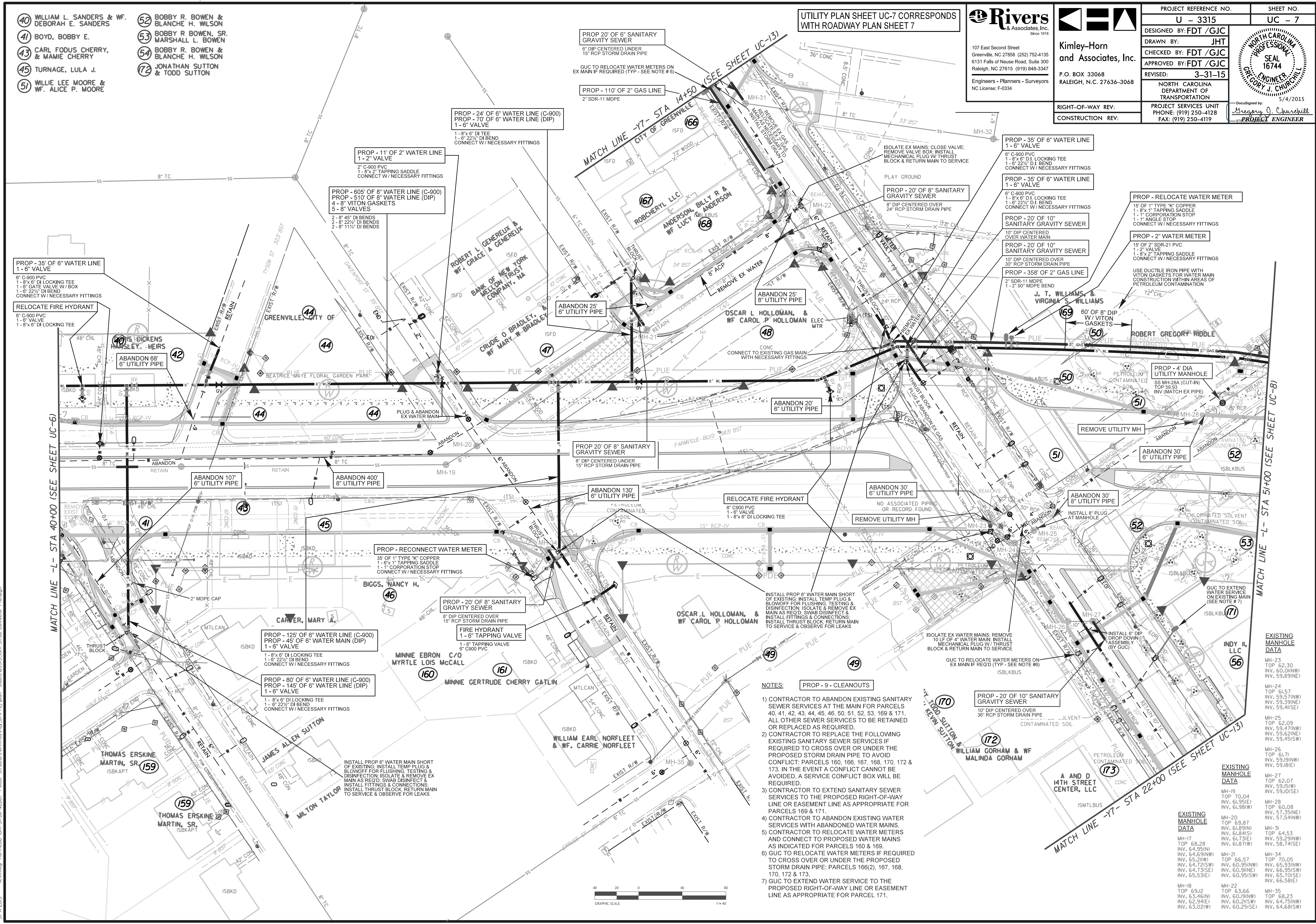
**Rivers**  
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 107 East Second Street  
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 Engineers - Planners - Surveyors  
 NC License: F-0334

**Kimley-Horn**  
 and Associates, Inc.  
 P.O. BOX 33068  
 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315	SHEET NO. UC - 7
DESIGNED BY: FDT /GJC	
DRAWN BY: JHT	
CHECKED BY: FDT /GJC	
APPROVED BY: FDT /GJC	
REVISED: 3-31-15	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119
RIGHT-OF-WAY REV:	Designed by: Gregory J. Churchill PROJECT ENGINEER 5/4/2015
CONSTRUCTION REV:	

UTILITY PLAN SHEET UC-7 CORRESPONDS WITH ROADWAY PLAN SHEET 7

REVISIONS



- NOTES:**
- CONTRACTOR TO ABANDON EXISTING SANITARY SEWER SERVICES AT THE MAIN FOR PARCELS 40, 41, 42, 43, 44, 45, 46, 50, 51, 52, 53, 169 & 171. ALL OTHER SEWER SERVICES TO BE RETAINED OR REPLACED AS REQUIRED.
  - CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCELS 160, 166, 167, 168, 170, 172 & 173. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED.
  - CONTRACTOR TO EXTEND SANITARY SEWER SERVICES TO THE PROPOSED RIGHT-OF-WAY LINE OR EASEMENT LINE AS APPROPRIATE FOR PARCELS 169 & 171.
  - CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS.
  - CONTRACTOR TO RELOCATE WATER METERS AND CONNECT TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 160 & 169.
  - GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE; PARCELS 166(2), 167, 168, 170, 172 & 173.
  - GUC TO EXTEND WATER SERVICE TO THE PROPOSED RIGHT-OF-WAY LINE OR EASEMENT LINE AS APPROPRIATE FOR PARCEL 171.

**EXISTING MANHOLE DATA**

MH-23	TOP 62.30 INV. 60.01(NW) INV. 59.89(NE)
MH-24	TOP 61.57 INV. 59.57(NW) INV. 59.39(NE) INV. 59.41(SE)
MH-25	TOP 62.09 INV. 59.47(NW) INV. 59.62(NE) INV. 59.45(SW)
MH-26	TOP 61.71 INV. 59.91(NW) INV. 59.81(E)
MH-27	TOP 62.07 INV. 59.51(W) INV. 59.10(SE)
MH-28	TOP 60.08 INV. 57.35(NE) INV. 57.54(NW)
MH-31	TOP 64.53 INV. 59.29(NW) INV. 58.74(SE)
MH-17	TOP 68.28 INV. 64.69(NW) INV. 65.21(W) INV. 64.72(SW) INV. 64.73(SE) INV. 65.53(E)
MH-18	TOP 69.12 INV. 63.46(N) INV. 62.94(E) INV. 63.02(W)
MH-21	TOP 66.57 INV. 60.95(NW) INV. 60.91(N) INV. 60.95(SW)
MH-22	TOP 63.66 INV. 60.91(NW) INV. 60.21(SW) INV. 60.25(SE)
MH-35	TOP 68.23 INV. 64.75(NW) INV. 64.68(SW)



5/4/2015 Kimley-Horn & Associates, Inc. (KH) Street NCDOT Folder: StructureUtilities/Reg. Util/Proj/Notes sheets/UC-3315\_10th Street Connector\_Plan.dwg

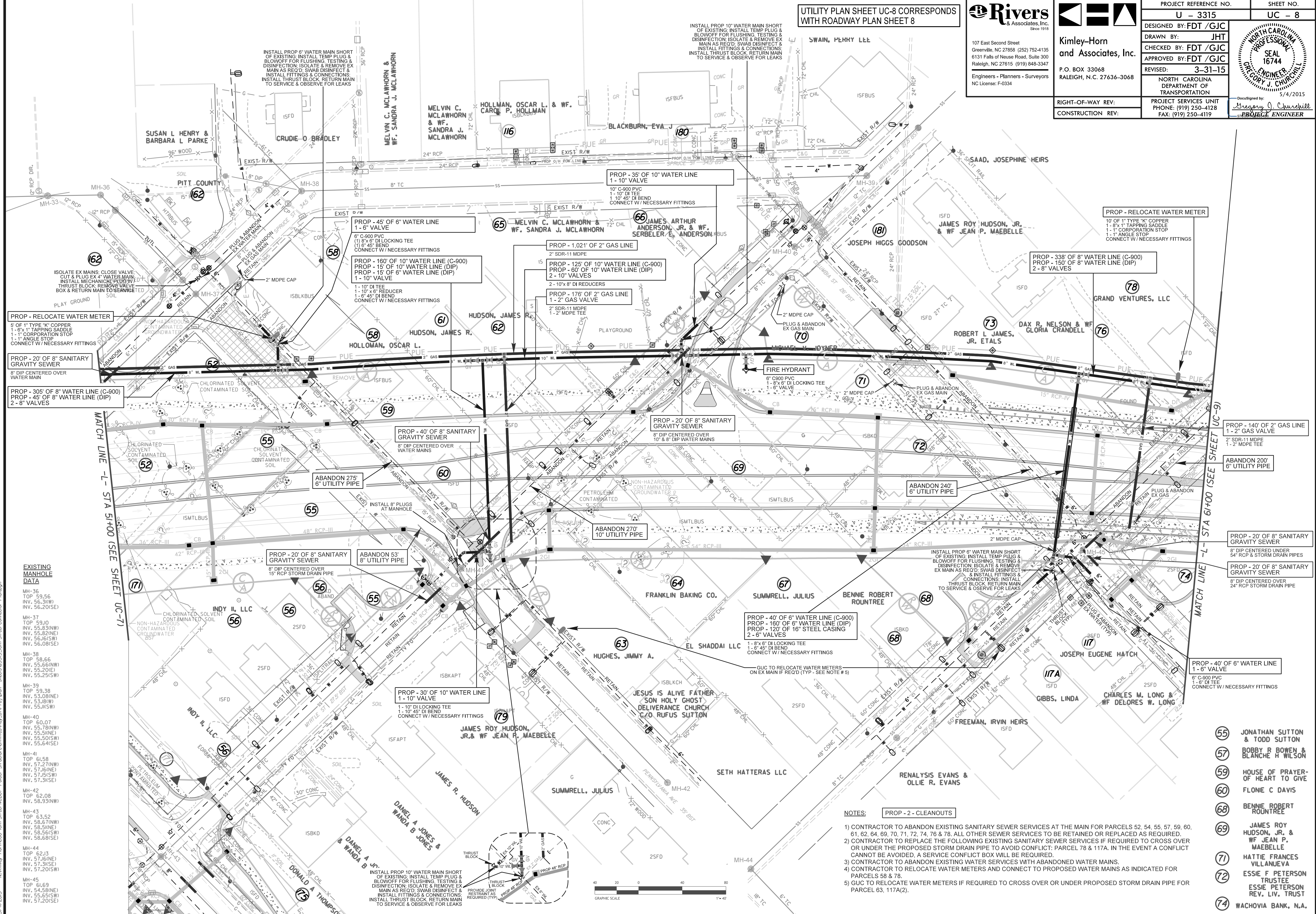
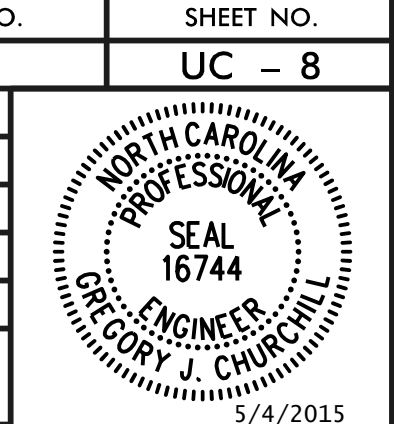
REVISIONS

UTILITY PLAN SHEET UC-8 CORRESPONDS WITH ROADWAY PLAN SHEET 8

Rivers & Associates, Inc. 107 East Second Street Greenville, NC 27858 (252) 752-4135 6131 Falls of Neuse Road, Suite 300 Raleigh, NC 27615 (919) 848-3347 Engineers - Planners - Surveyors NC License: F-0334

Kimley-Horn and Associates, Inc. P.O. BOX 33068 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315 SHEET NO. UC - 8. DESIGNED BY: FDT /GJC DRAWN BY: JHT CHECKED BY: FDT /GJC APPROVED BY: FDT /GJC REVISED: 3-31-15 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119



EXISTING MANHOLE DATA table with columns for manhole ID (MH-36 to MH-45), top elevation, and invert elevations for various directions.



- NOTES: 1) CONTRACTOR TO ABANDON EXISTING SANITARY SEWER SERVICES AT THE MAIN FOR PARCELS 52, 54, 55, 57, 59, 60, 61, 62, 64, 69, 70, 71, 72, 74, 76 & 78. ALL OTHER SEWER SERVICES TO BE RETAINED OR REPLACED AS REQUIRED. 2) CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCEL 78 & 117A. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED. 3) CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS. 4) CONTRACTOR TO RELOCATE WATER METERS AND CONNECT TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 58 & 78. 5) GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER PROPOSED STORM DRAIN PIPE FOR PARCEL 63, 117A(2).

- 55 JONATHAN SUTTON & TODD SUTTON
- 57 BOBBY R BOWEN & BLANCHE H WILSON
- 59 HOUSE OF PRAYER-OF HEART TO GIVE
- 60 FLONIE C DAVIS
- 68 BENNIE ROBERT ROUNTREE
- 69 JAMES ROY HUDSON, JR. & WF JEAN P. MAEBELLE
- 71 HATTIE FRANCES VILLANUEVA
- 72 ESSIE F PETERSON TRUSTEE ESSIE PETERSON REV. LIV. TRUST
- 74 WACHOVA BANK, N.A.

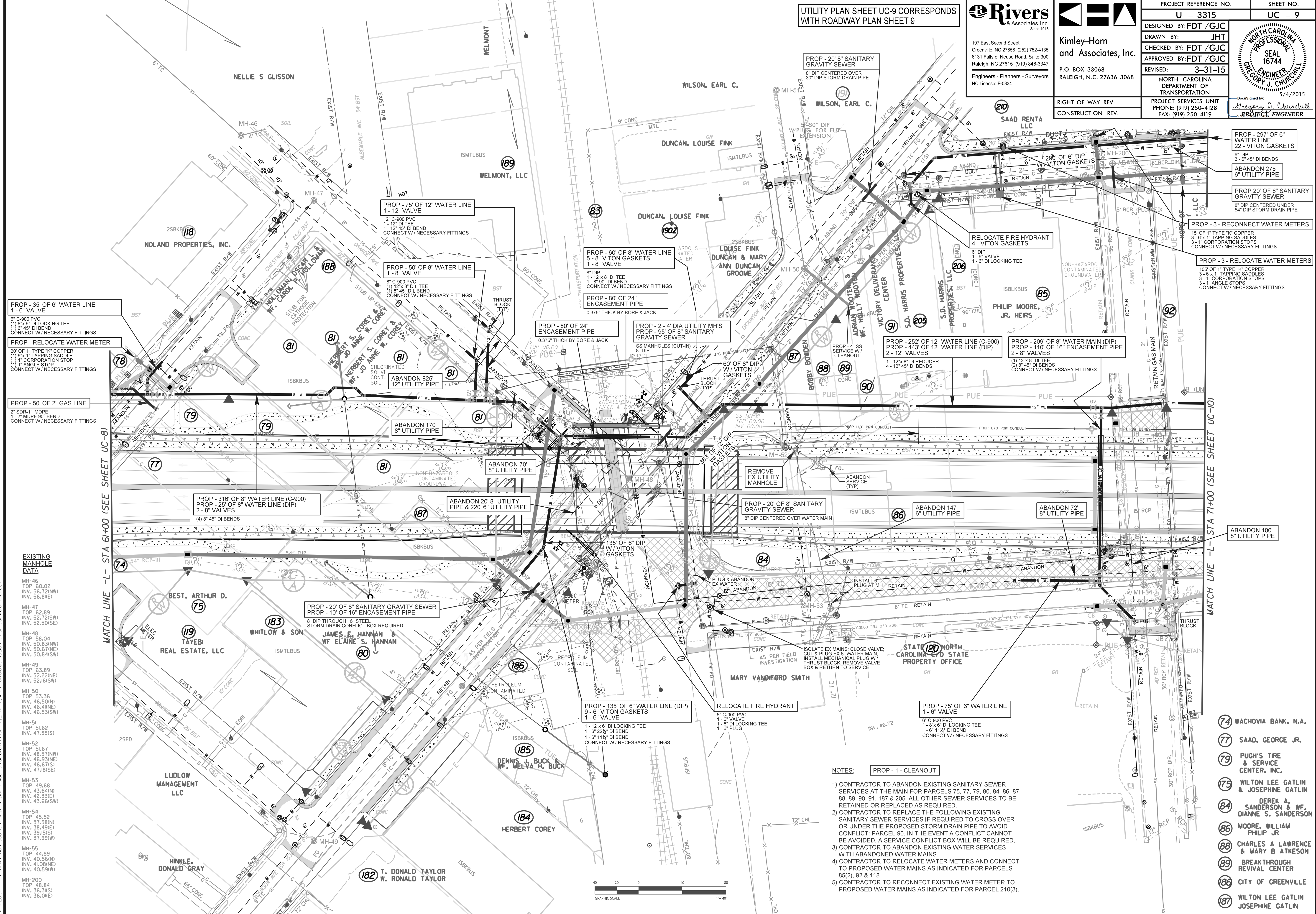
REVISIONS

UTILITY PLAN SHEET UC-9 CORRESPONDS WITH ROADWAY PLAN SHEET 9

**Rivers**  
& Associates, Inc.  
107 East Second Street  
Greenville, NC 27858 (252) 752-4135  
6131 Falls of Neuse Road, Suite 300  
Raleigh, NC 27615 (919) 848-3347  
Engineers - Planners - Surveyors  
NC License: F-0334

**Kimley-Horn**  
and Associates, Inc.  
P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315	SHEET NO. UC - 9
DESIGNED BY: FDT /GJC	
DRAWN BY: JHT	
CHECKED BY: FDT /GJC	
APPROVED BY: FDT /GJC	
REVISED: 3-31-15	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119
RIGHT-OF-WAY REV:	5/4/2015
CONSTRUCTION REV:	Designed by: <i>Gregory J. Churchill</i> PROJECT ENGINEER



**EXISTING MANHOLE DATA**

MH-46	TOP 60.02 INV. 56.72(NW) INV. 56.81(E)
MH-47	TOP 62.89 INV. 52.72(SW) INV. 52.50(SE)
MH-48	TOP 58.04 INV. 50.83(NW) INV. 50.87(NE) INV. 50.84(SW)
MH-49	TOP 63.89 INV. 52.22(NE) INV. 52.16(SW)
MH-50	TOP 53.36 INV. 46.50(N) INV. 46.41(NE) INV. 46.53(SW)
MH-51	TOP 51.62 INV. 47.55(S)
MH-52	TOP 51.67 INV. 48.57(NW) INV. 46.93(NE) INV. 46.67(S) INV. 47.18(SE)
MH-53	TOP 49.68 INV. 43.64(N) INV. 42.33(E) INV. 43.66(SW)
MH-54	TOP 45.52 INV. 37.58(N) INV. 38.49(E) INV. 39.15(S) INV. 37.59(SW)
MH-55	TOP 44.89 INV. 40.56(N) INV. 41.08(NE) INV. 40.59(SW)
MH-200	TOP 48.84 INV. 36.31(S) INV. 36.01(E)

- NOTES:**
- 1) CONTRACTOR TO ABANDON EXISTING SANITARY SEWER SERVICES AT THE MAIN FOR PARCELS 75, 77, 79, 80, 84, 86, 87, 88, 89, 90, 91, 187 & 205. ALL OTHER SEWER SERVICES TO BE RETAINED OR REPLACED AS REQUIRED.
  - 2) CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCEL 90. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED.
  - 3) CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS.
  - 4) CONTRACTOR TO RELOCATE WATER METERS AND CONNECT TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 85(2), 92 & 118.
  - 5) CONTRACTOR TO RECONNECT EXISTING WATER METER TO PROPOSED WATER MAINS AS INDICATED FOR PARCEL 210(3).

- 74 WACHOVIA BANK, N.A.
- 77 SAAD, GEORGE JR.
- 79 PUGH'S TIRE & SERVICE CENTER, INC.
- 75 WILTON LEE GATLIN & JOSEPHINE GATLIN
- 84 DEREK A. SANDERSON & WF. DIANNE S. SANDERSON
- 86 MOORE, WILLIAM PHILIP JR
- 88 CHARLES A LAWRENCE & MARY B ATKESON
- 89 BREAKTHROUGH REVIVAL CENTER
- 186 CITY OF GREENVILLE
- 187 WILTON LEE GATLIN JOSEPHINE GATLIN

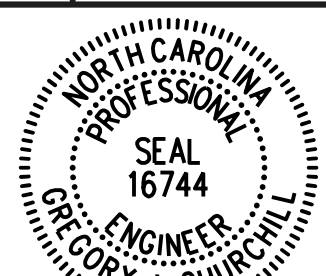
5/4/2015 Kimley-Horn/COG IDW, Street/Utilities/Plan, UC-9, Station 61+00, 10th Street Connector, Plan/Draw

UTILITY PLAN SHEET UC-10 CORRESPONDS WITH ROADWAY PLAN SHEET 10

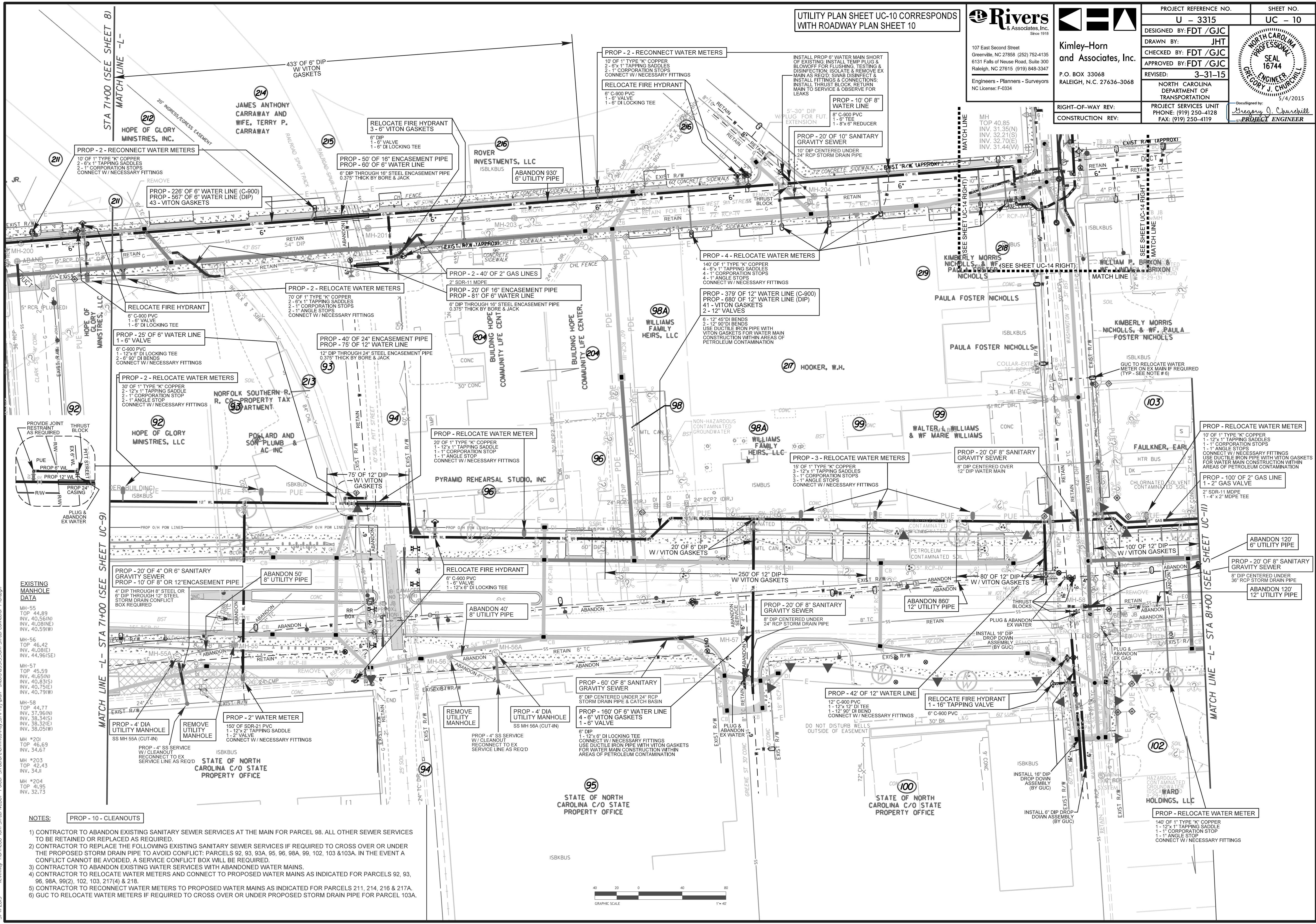
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 6131 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27615 (919) 848-3347  
 Engineers - Planners - Surveyors  
 NC License: F-0334

**Kimley-Horn**  
 and Associates, Inc.  
 P.O. BOX 33068  
 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315	SHEET NO. UC - 10
DESIGNED BY: FDT /GJC	DRAWN BY: JHT
CHECKED BY: FDT /GJC	APPROVED BY: FDT /GJC
REVISED: 3-31-15	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
RIGHT-OF-WAY REV:	PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119
CONSTRUCTION REV:	5/4/2015 Designed by: Gregory J. Churchill PROJECT ENGINEER



REVISIONS



**EXISTING MANHOLE DATA**

MH-55	TOP 44.89	INV. 40.56(N)	INV. 40.08(E)	INV. 40.53(W)
MH-56	TOP 46.42	INV. 41.08(E)	INV. 41.08(E)	INV. 44.96(E)
MH-57	TOP 45.59	INV. 41.55(N)	INV. 40.83(S)	INV. 40.75(E)
MH-58	TOP 44.77	INV. 37.95(N)	INV. 38.34(S)	INV. 38.32(E)
MH-59	TOP 46.69	INV. 34.67		
MH-201	TOP 44.13	INV. 40.56(N)	INV. 40.08(E)	INV. 40.53(W)
MH-203	TOP 42.43	INV. 34.11		
MH-204	TOP 41.95	INV. 32.73		

- NOTES:**
- 1) CONTRACTOR TO ABANDON EXISTING SANITARY SEWER SERVICES AT THE MAIN FOR PARCEL 98. ALL OTHER SEWER SERVICES TO BE RETAINED OR REPLACED AS REQUIRED.
  - 2) CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCELS 92, 93, 93A, 95, 96, 98A, 99, 102, 103 & 103A. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED.
  - 3) CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS.
  - 4) CONTRACTOR TO RELOCATE WATER METERS AND CONNECT TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 92, 93, 96, 98A, 99(2), 102, 103, 217(4) & 218.
  - 5) CONTRACTOR TO RECONNECT WATER METERS TO PROPOSED WATER MAINS AS INDICATED FOR PARCELS 211, 214, 216 & 217A.
  - 6) GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER PROPOSED STORM DRAIN PIPE FOR PARCEL 103A.





REVISIONS

UTILITY PLAN SHEET UC-12 CORRESPONDS WITH ROADWAY PLAN SHEET 15

UTILITY PLAN SHEET UC-12 CORRESPONDS WITH ROADWAY PLAN SHEET 12

UTILITY PLAN SHEET UC-12 CORRESPONDS WITH ROADWAY PLAN SHEET 12

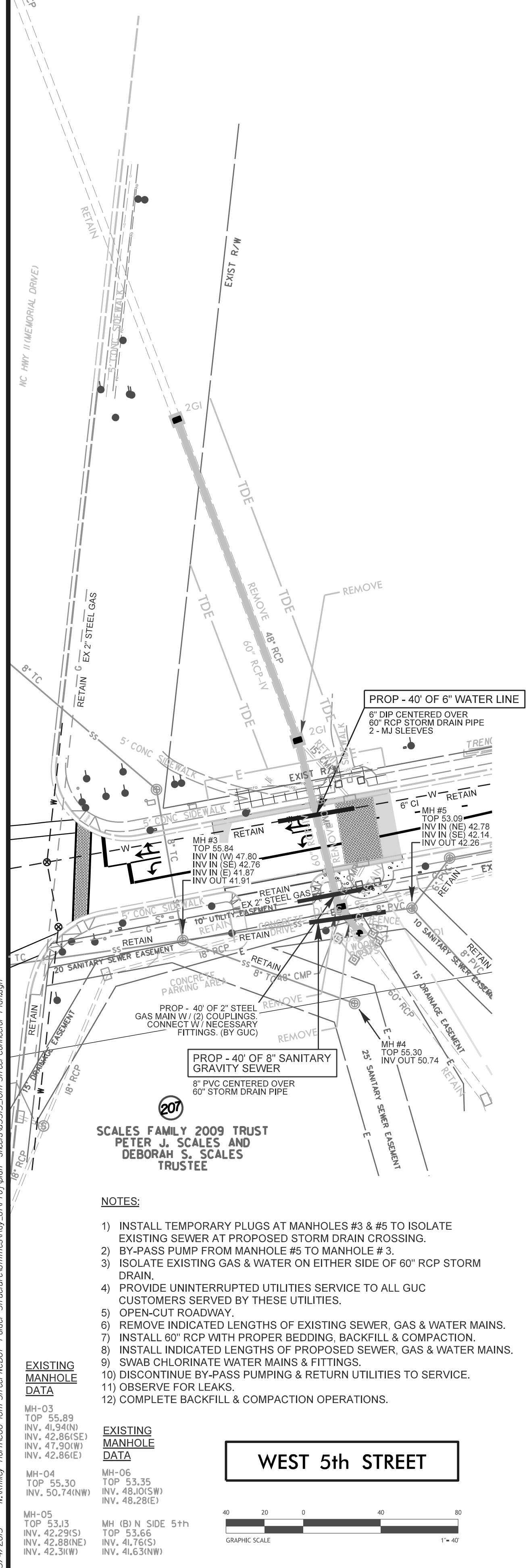
Rivers & Associates, Inc. 107 East Second Street Greenville, NC 27858 (252) 752-4135 6131 Falls of Neuse Road, Suite 300 Raleigh, NC 27615 (919) 848-3347 Engineers - Planners - Surveyors NC License: F-0334

Kimly-Horn and Associates, Inc. P.O. BOX 33068 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. U - 3315 DESIGNED BY: FDT /GJC DRAWN BY: JHT CHECKED BY: FDT /GJC APPROVED BY: FDT /GJC REVISED: 3-31-15

SHEET NO. UC - 12 NORTH CAROLINA PROFESSIONAL SEAL 16744 GREGORY J. CHURCHILL ENGINEER

RIGHT-OF-WAY REV: PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119 CONSTRUCTION REV: PROJECT ENGINEER

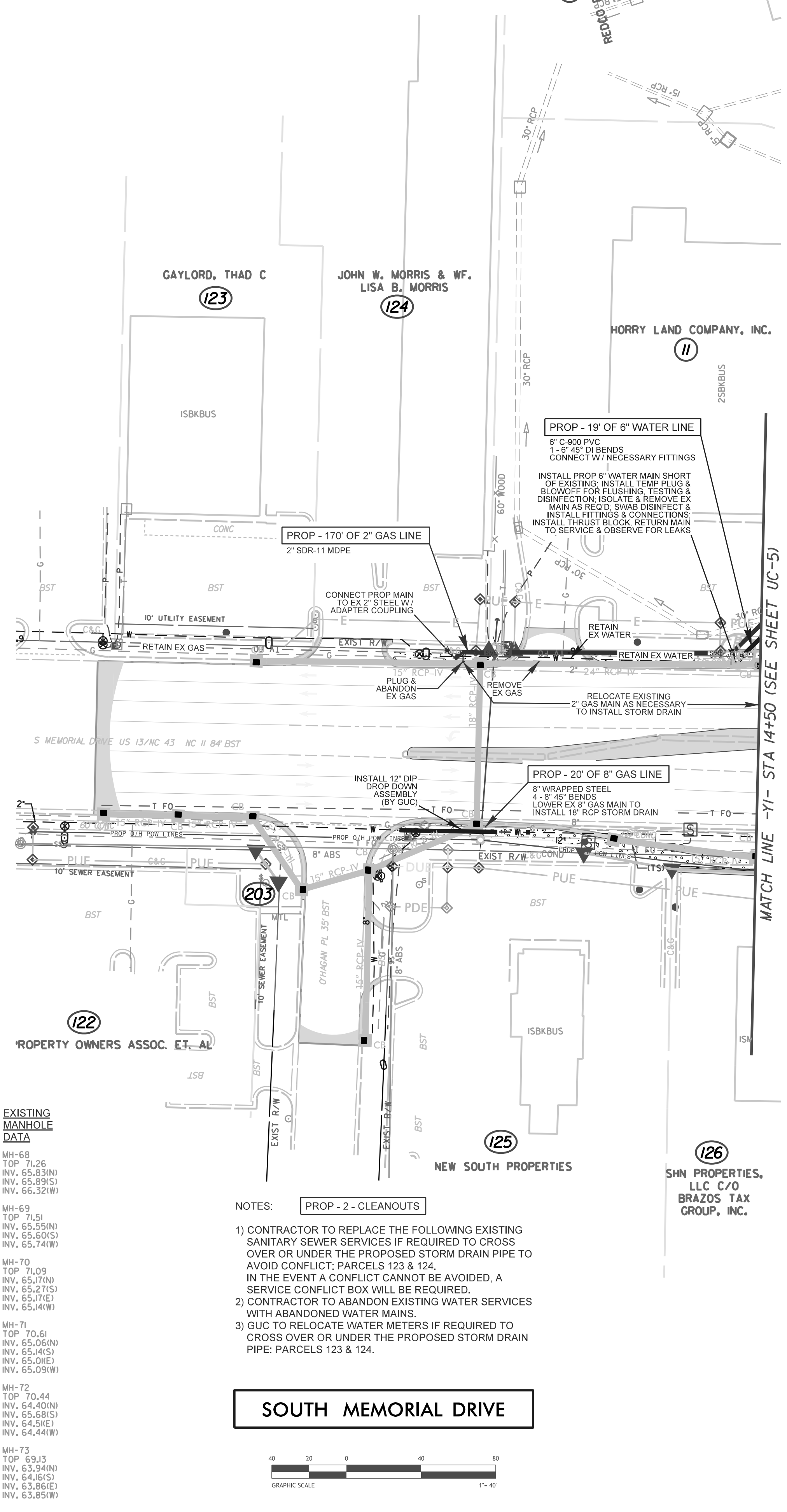


- NOTES: 1) INSTALL TEMPORARY PLUGS AT MANHOLES #3 & #5 TO ISOLATE EXISTING SEWER AT PROPOSED STORM DRAIN CROSSING. 2) BY-PASS PUMP FROM MANHOLE #5 TO MANHOLE #3. 3) ISOLATE EXISTING GAS & WATER ON EITHER SIDE OF 60" RCP STORM DRAIN. 4) PROVIDE UNINTERRUPTED UTILITIES SERVICE TO ALL GUC CUSTOMERS SERVED BY THESE UTILITIES. 5) OPEN-CUT ROADWAY. 6) REMOVE INDICATED LENGTHS OF EXISTING SEWER, GAS & WATER MAINS. 7) INSTALL 60" RCP WITH PROPER BEDDING, BACKFILL & COMPACTION. 8) INSTALL INDICATED LENGTHS OF PROPOSED SEWER, GAS & WATER MAINS. 9) SWAB CHLORINATE WATER MAINS & FITTINGS. 10) DISCONTINUE BY-PASS PUMPING & RETURN UTILITIES TO SERVICE. 11) OBSERVE FOR LEAKS. 12) COMPLETE BACKFILL & COMPACTION OPERATIONS.

Table with 2 columns: Manhole ID, Top Elevation, Invert Elevations (N, S, W).

Table with 2 columns: Manhole ID, Top Elevation, Invert Elevations (N, S, W).

WEST 5th STREET



EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

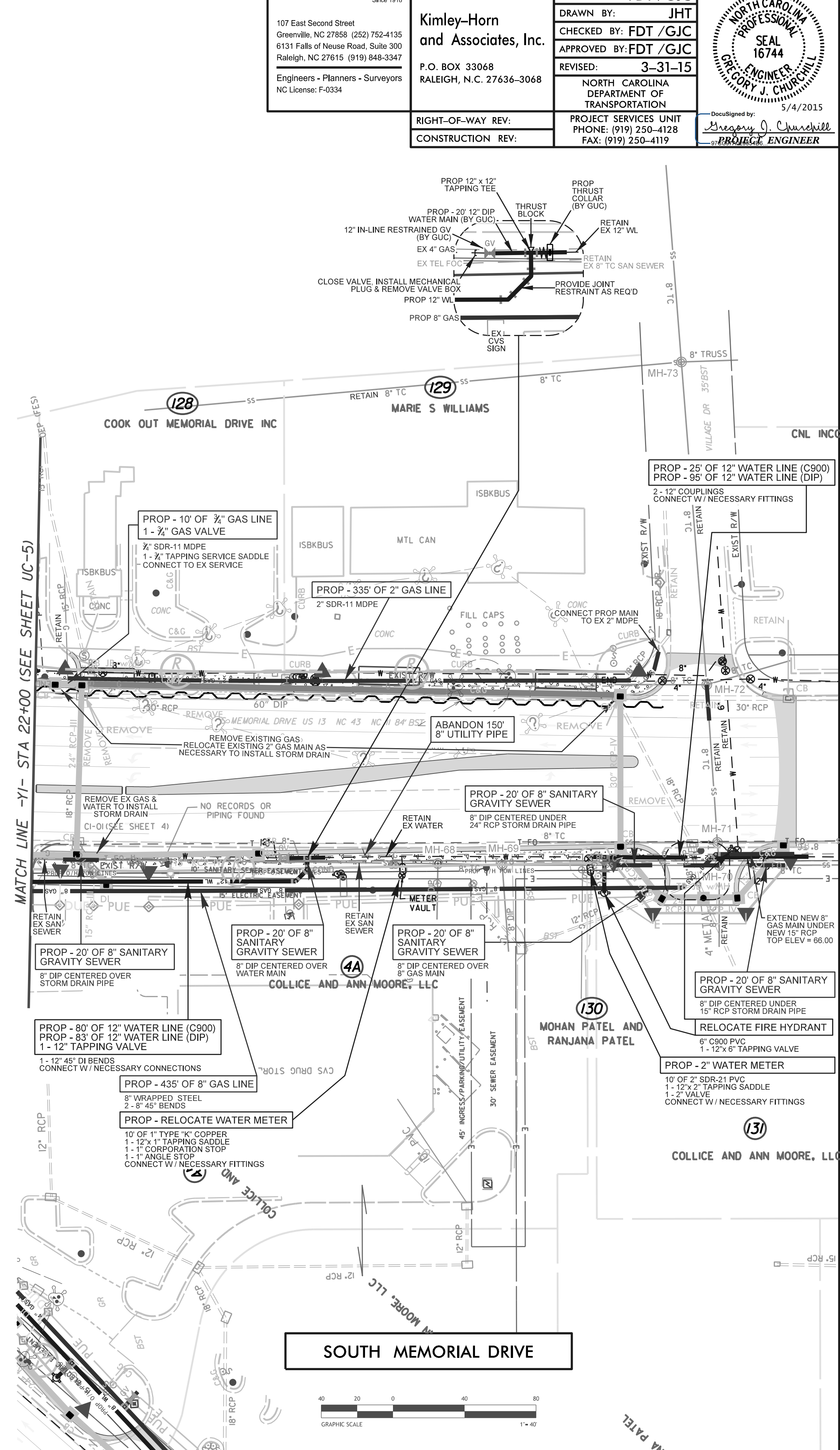
EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

- NOTES: 1) CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCELS 123 & 124. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED. 2) CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS. 3) GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE: PARCELS 123 & 124.

SOUTH MEMORIAL DRIVE



EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

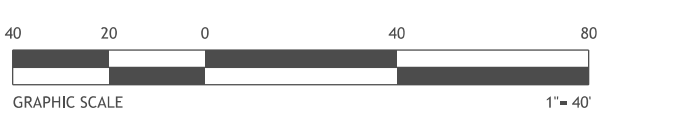
EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

EXISTING MANHOLE DATA

SOUTH MEMORIAL DRIVE



Vertical text on the left margin: 5/4/2015 Kimly-Horn/COG IDH, Street, NCDOT, Folder: StructureUtilities/Reg, Util/Pro/Plan, sheetU3315\_10th Street Connector, Plan/Doc



UTILITY PLAN SHEET UC-13 CORRESPONDS WITH ROADWAY PLAN SHEET 13

UTILITY PLAN SHEET UC-13 CORRESPONDS WITH ROADWAY PLAN SHEET 13

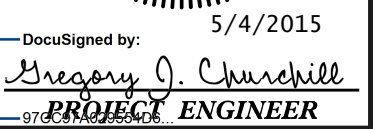
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 Greenville, NC 27858 (252) 752-4135  
 6131 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27615 (919) 848-3347  
 Engineers - Planners - Surveyors  
 NC License: F-0334

**Kimley-Horn and Associates, Inc.**  
 P.O. BOX 33068  
 RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO.  
**U - 3315**  
 DESIGNED BY: **FDT /GJC**  
 DRAWN BY: **JHT**  
 CHECKED BY: **FDT /GJC**  
 APPROVED BY: **FDT /GJC**  
 REVISED: **3-31-15**

SHEET NO.  
**UC - 13**

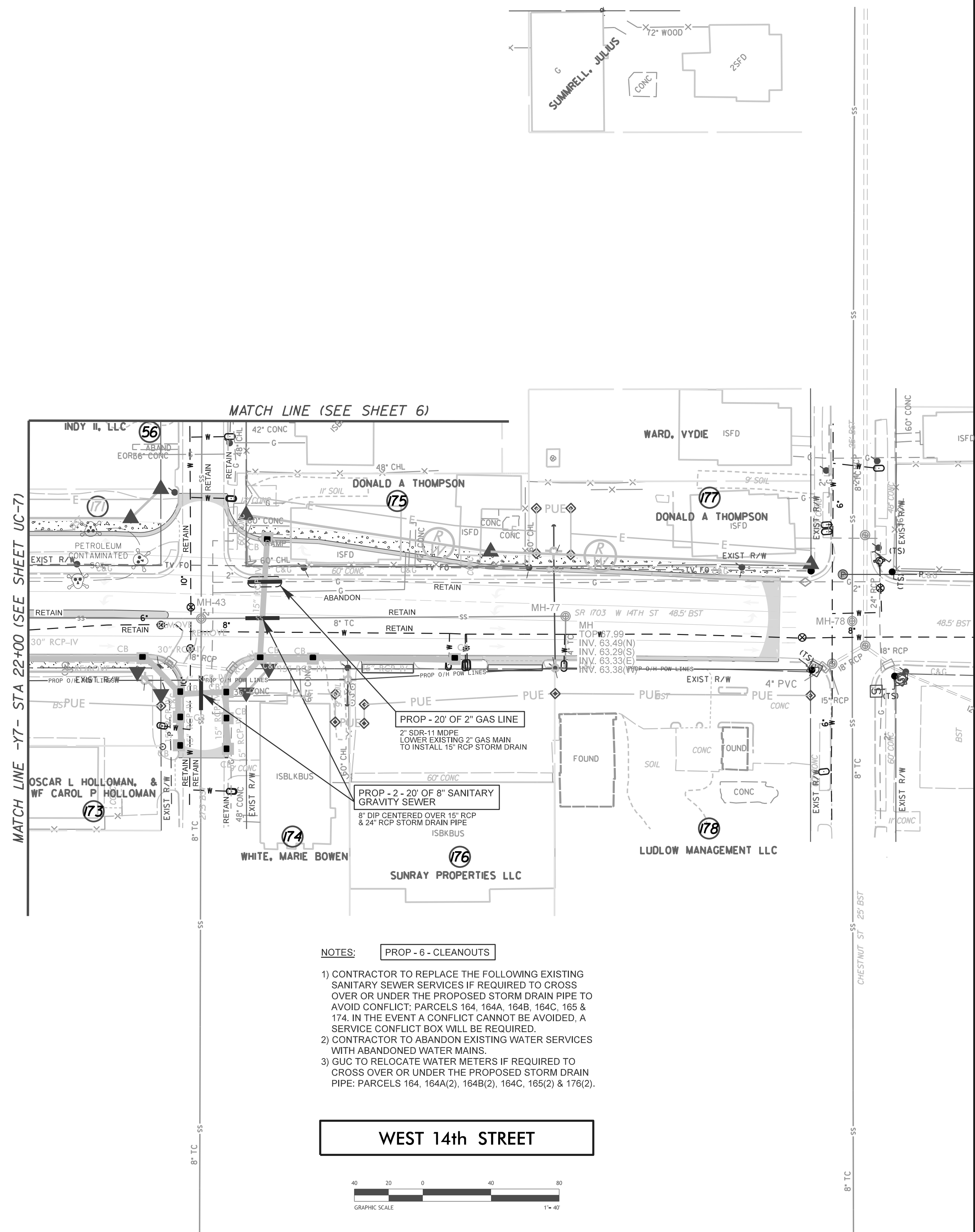
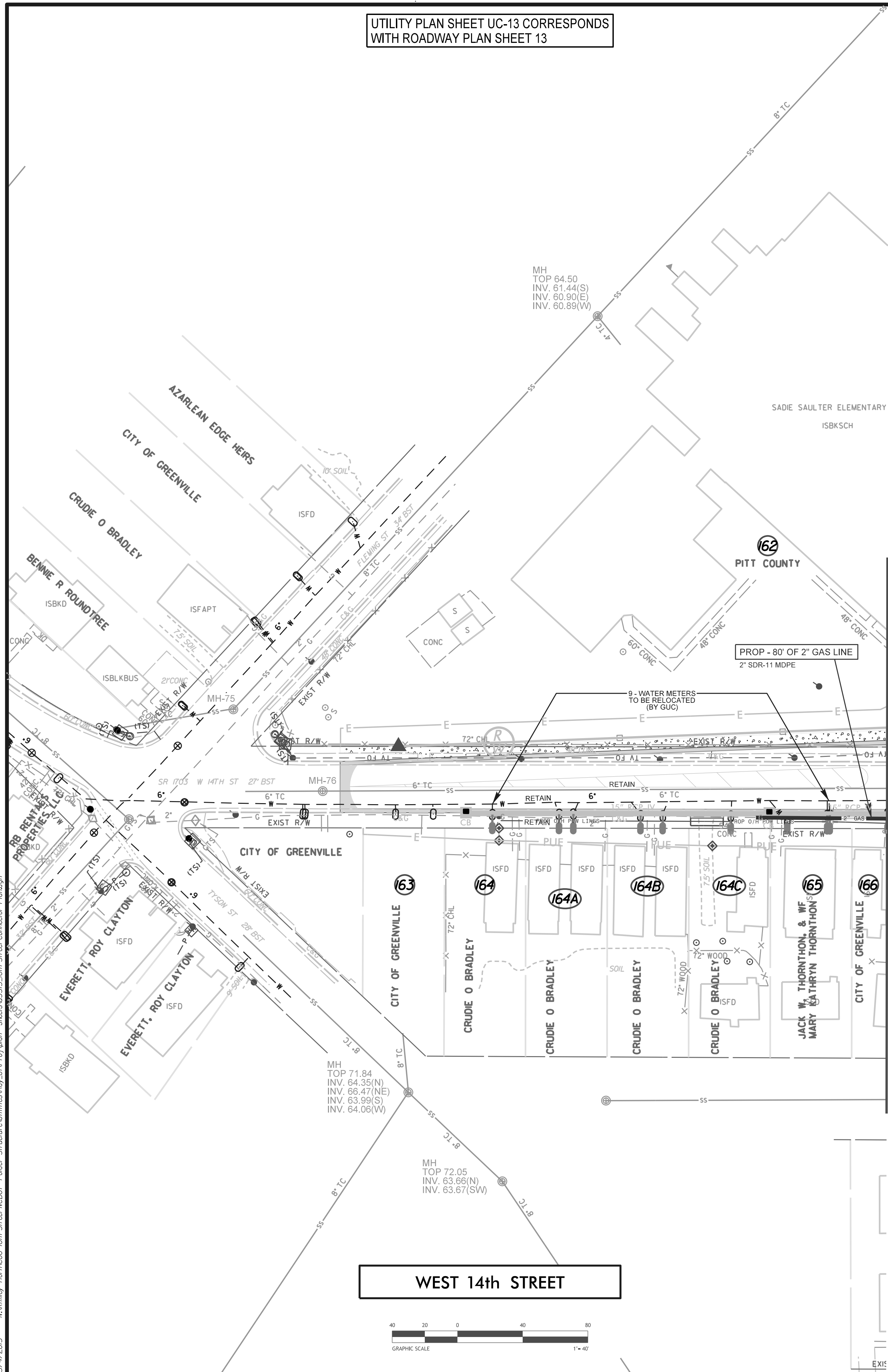
Designed by:  
*Gregory J. Churchill*  
 PROJECT ENGINEER



RIGHT-OF-WAY REV:  
 CONSTRUCTION REV:

PROJECT SERVICES UNIT  
 PHONE: (919) 250-4128  
 FAX: (919) 250-4119

REVISIONS



- NOTES:**
- 1) CONTRACTOR TO REPLACE THE FOLLOWING EXISTING SANITARY SEWER SERVICES IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE TO AVOID CONFLICT: PARCELS 164, 164A, 164B, 164C, 165 & 174. IN THE EVENT A CONFLICT CANNOT BE AVOIDED, A SERVICE CONFLICT BOX WILL BE REQUIRED.
  - 2) CONTRACTOR TO ABANDON EXISTING WATER SERVICES WITH ABANDONED WATER MAINS.
  - 3) GUC TO RELOCATE WATER METERS IF REQUIRED TO CROSS OVER OR UNDER THE PROPOSED STORM DRAIN PIPE: PARCELS 164, 164A(2), 164B(2), 164C, 165(2) & 176(2).

**WEST 14th STREET**

**WEST 14th STREET**



5/4/2015 \\K:\m\kim-horn\CDG - IDH, Street, NCDOT - Folder, Structure\Utilities\Ray, UC-Pro\Notes - sheets\U3315 - IDH, Street, Connector, Plan\plan

UTILITY PLAN SHEET UC-14 CORRESPONDS WITH ROADWAY PLAN SHEET 14

UTILITY PLAN SHEET UC-14 CORRESPONDS WITH ROADWAY PLAN SHEET 10



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Raleigh, NC 27615 (919) 848-3347  
Engineers - Planners - Surveyors  
NC License: F-0334



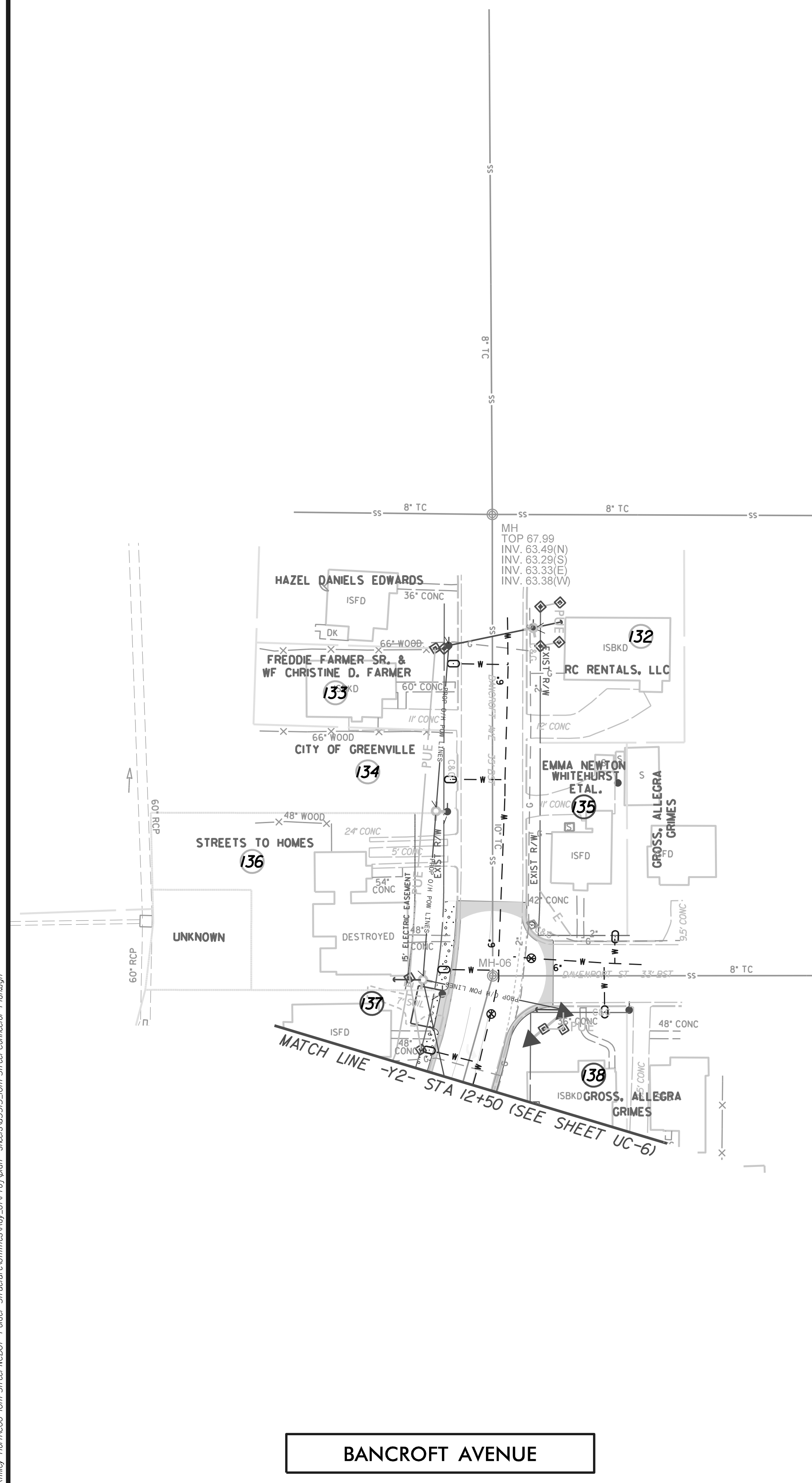
**Kimley-Horn and Associates, Inc.**  
P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 14</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	REVISED: <b>3-31-15</b>
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	

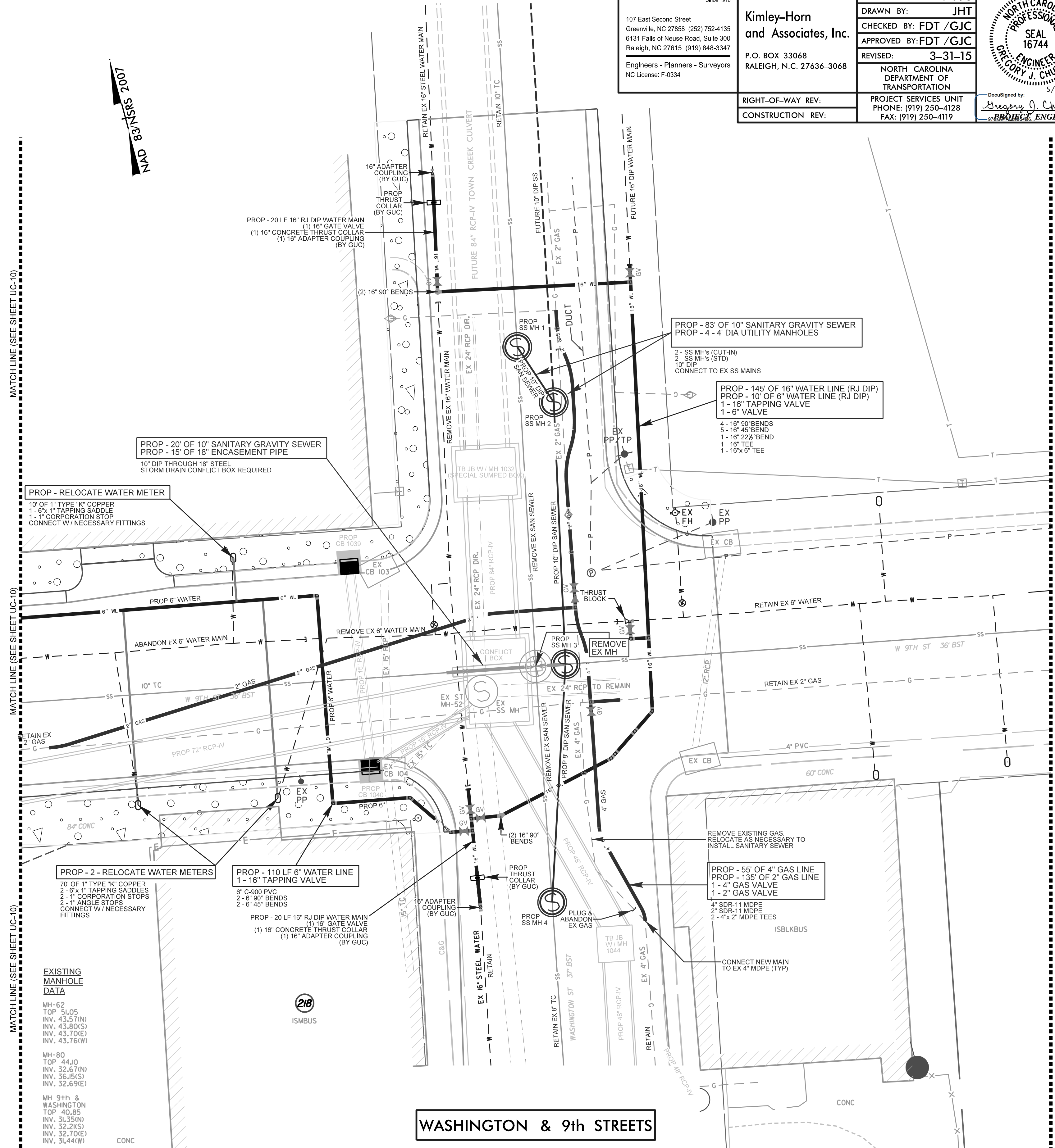
Designed by:  
*Gregory J. Churchill*  
PROJECT ENGINEER

RIGHT-OF-WAY REV: PROJECT SERVICES UNIT  
CONSTRUCTION REV: PHONE: (919) 250-4128  
FAX: (919) 250-4119

REVISIONS



**BANCROFT AVENUE**



**WASHINGTON & 9th STREETS**

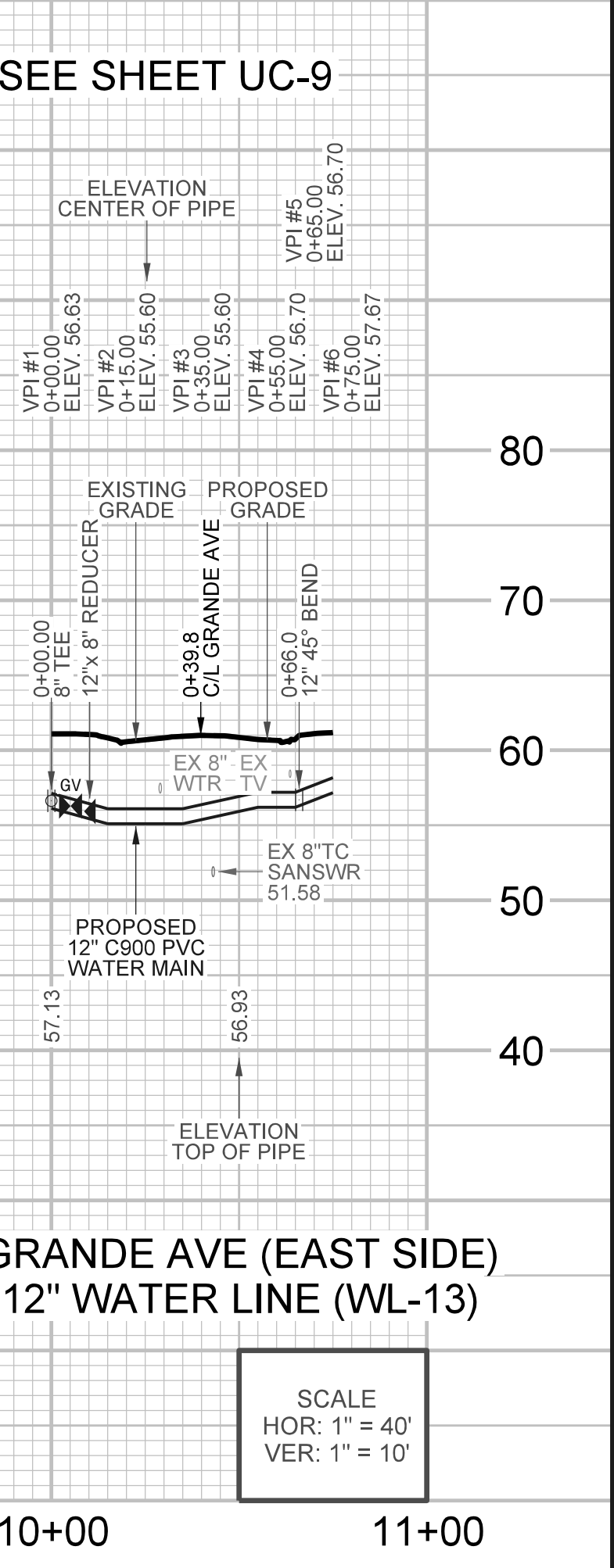
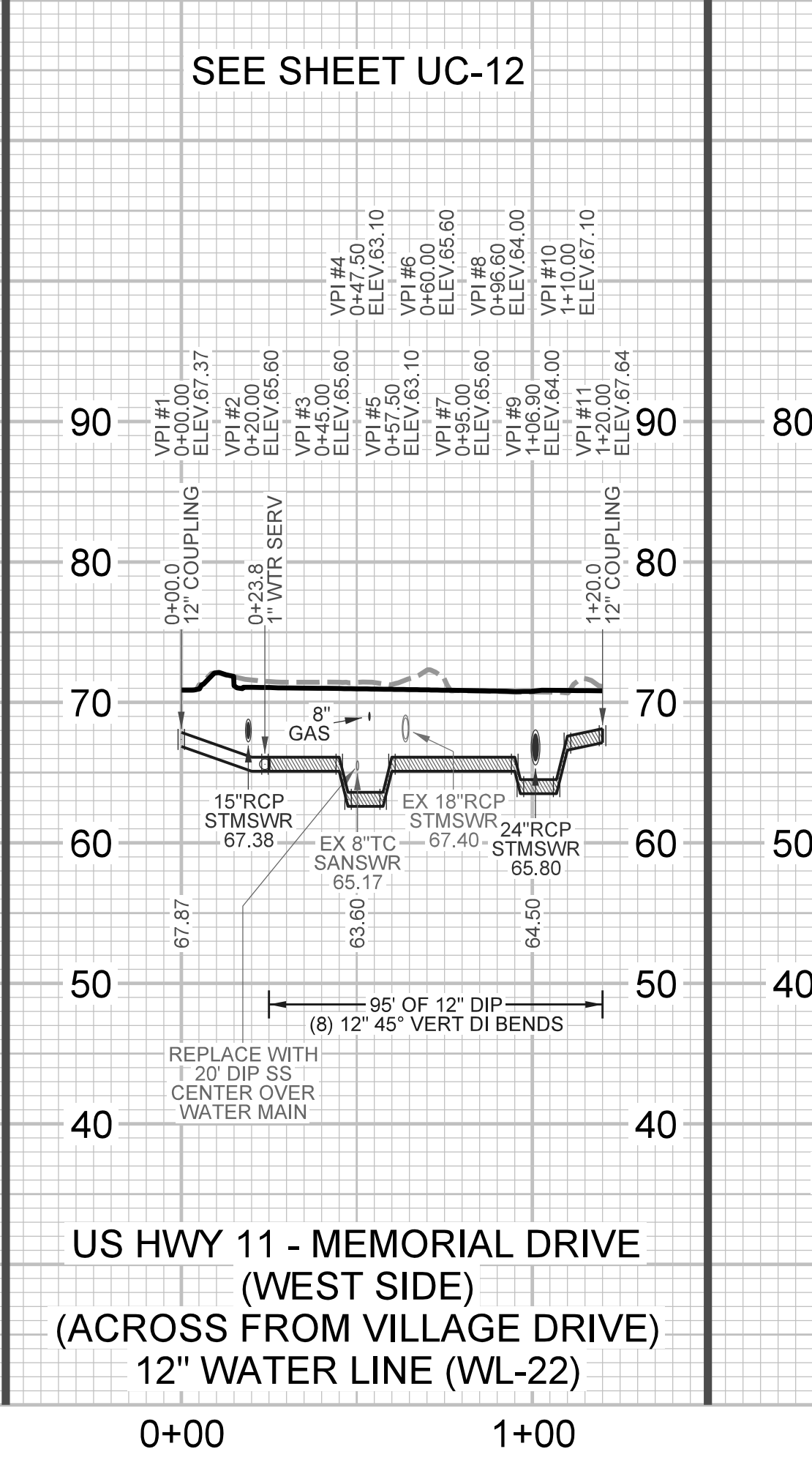
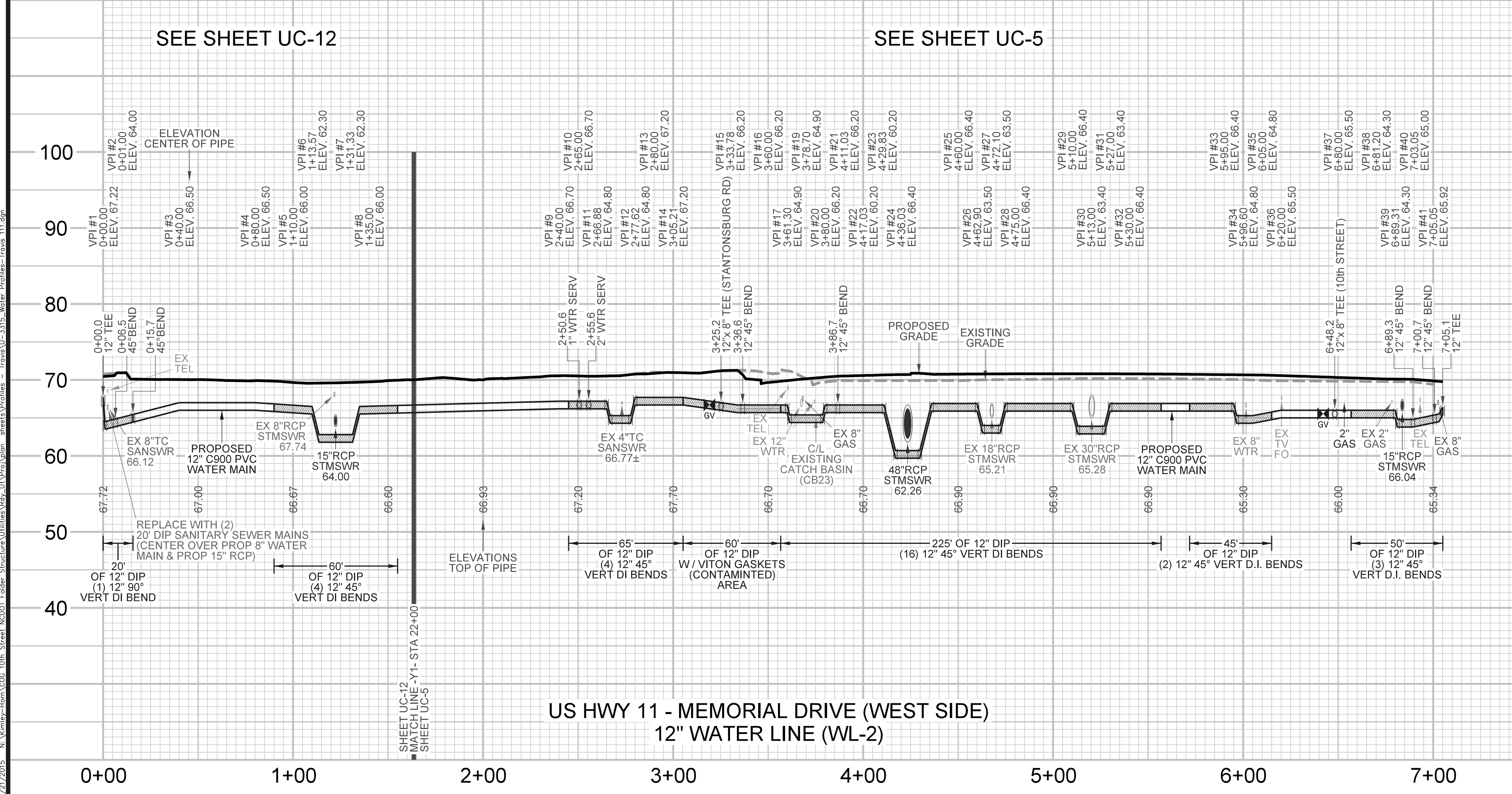
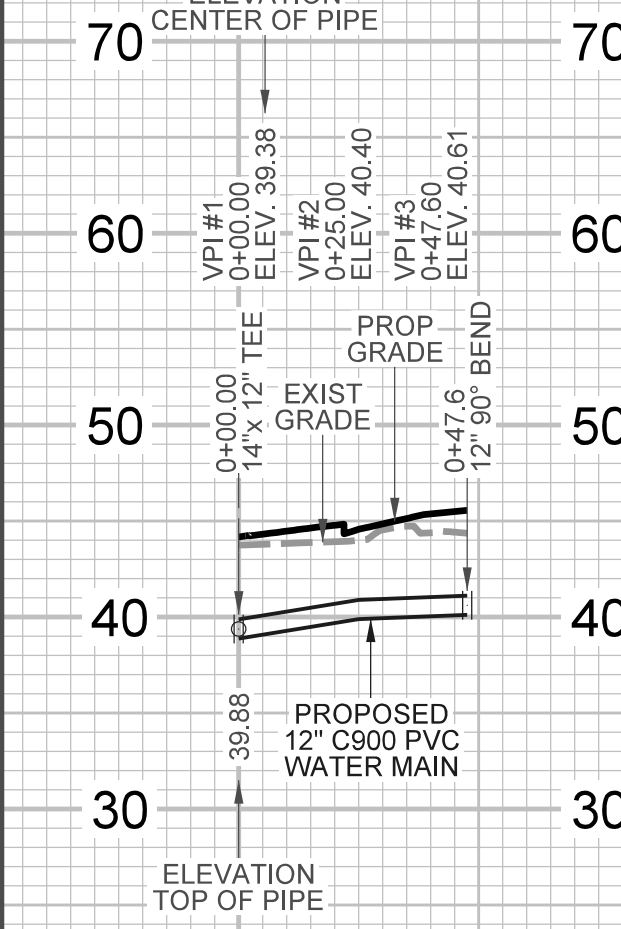
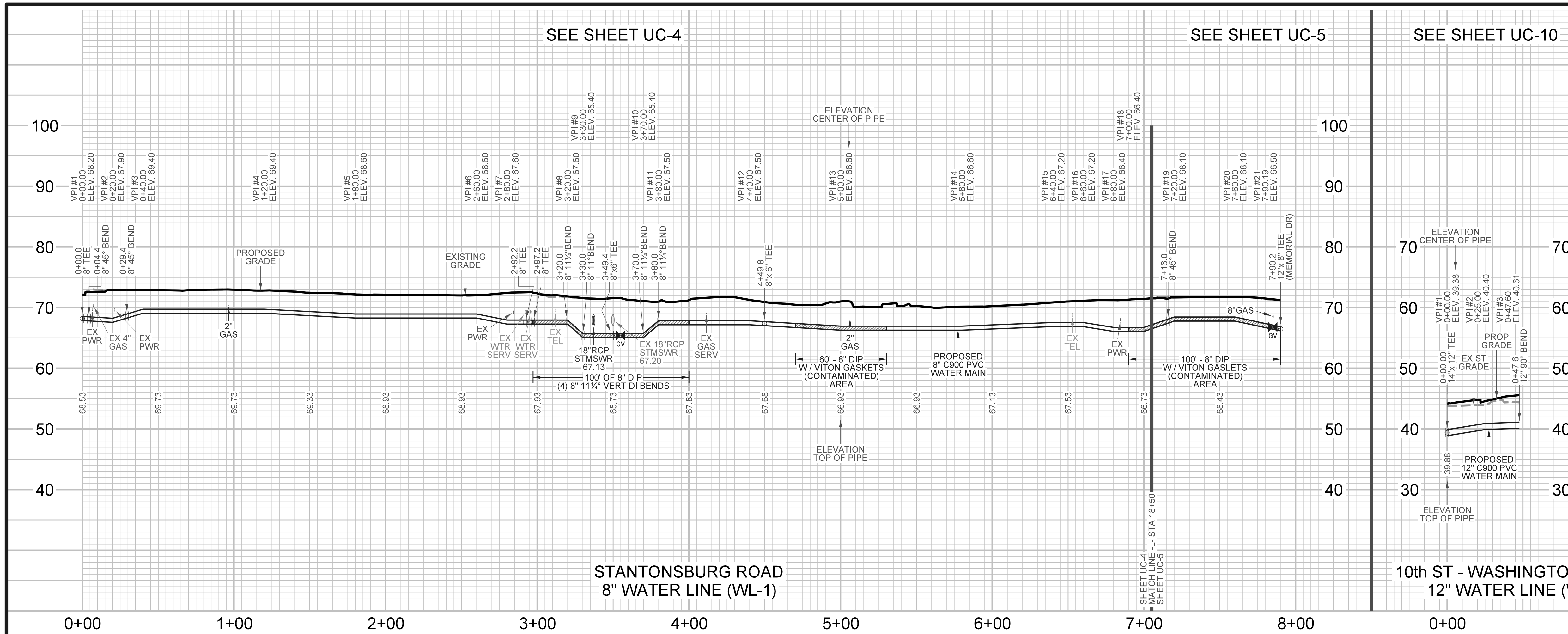


5/4/2015 \\K:\mly-horn\006 IDH\_Street\NCDOT\_Folder\_Structure\Utilities\Ray\_U\Proj\Notes sheet\U3315\_IDH\_Street\_Conector\_Plan.dwg

PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 15</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119

**UTILITY CONSTRUCTION**

REVISIONS



SCALE  
 HOR: 1" = 40'  
 VER: 1" = 10'

4/21/2015 N:\mcmey-hon\COG\_10th\_Street\_NCDOT\_Feder\_Structure\Utilities\209\_ut\Production\_sheets\Profiles - Towns\U-3315\_Water\_Profile-Front\_111.dwg

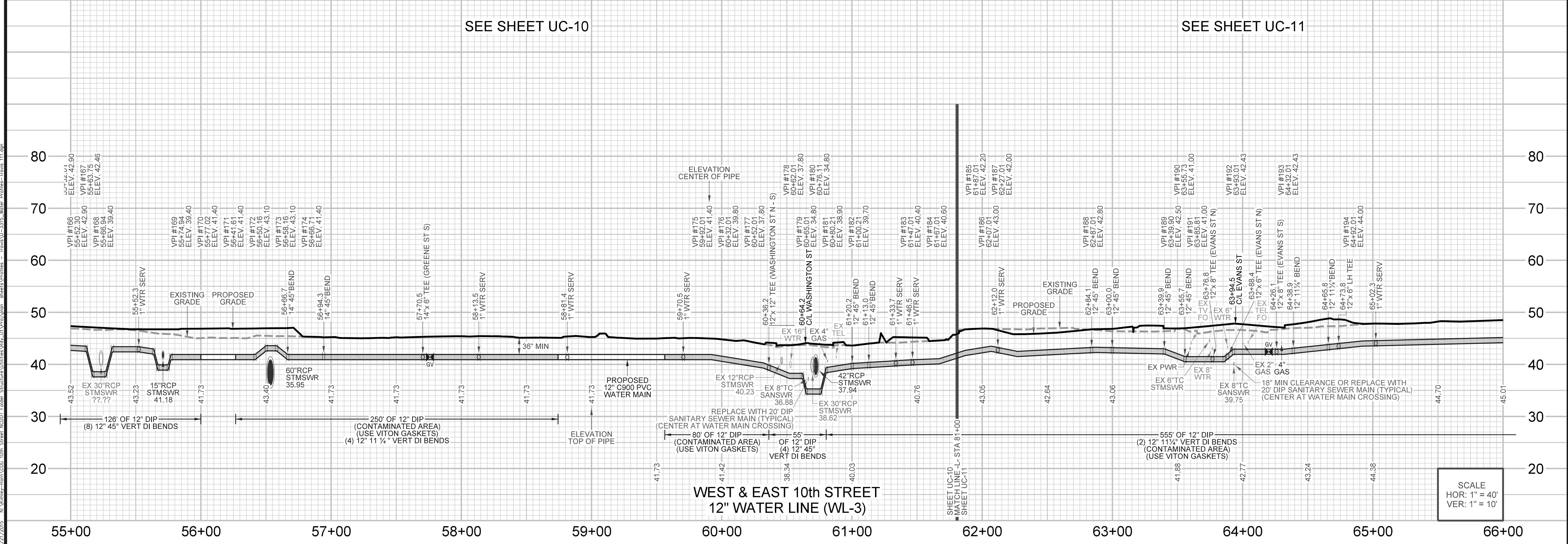
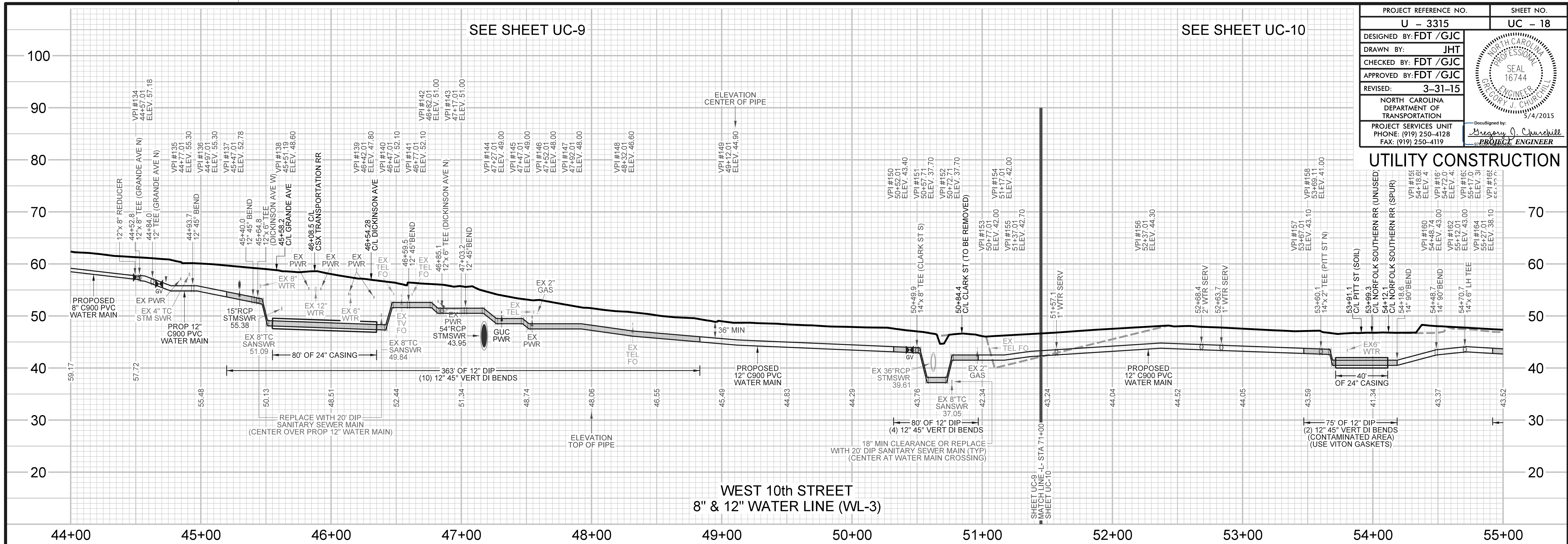




PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 18</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119

**UTILITY CONSTRUCTION**

REVISIONS  
 1. 12" x 8" REDUCER (GRANDE AVE N) (44+52.8)  
 2. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 3. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 4. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 5. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
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 10. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
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 13. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
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 15. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 16. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 17. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 18. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 19. 12" x 8" TEE (GRANDE AVE N) (44+84.0)  
 20. 12" x 8" TEE (GRANDE AVE N) (44+84.0)

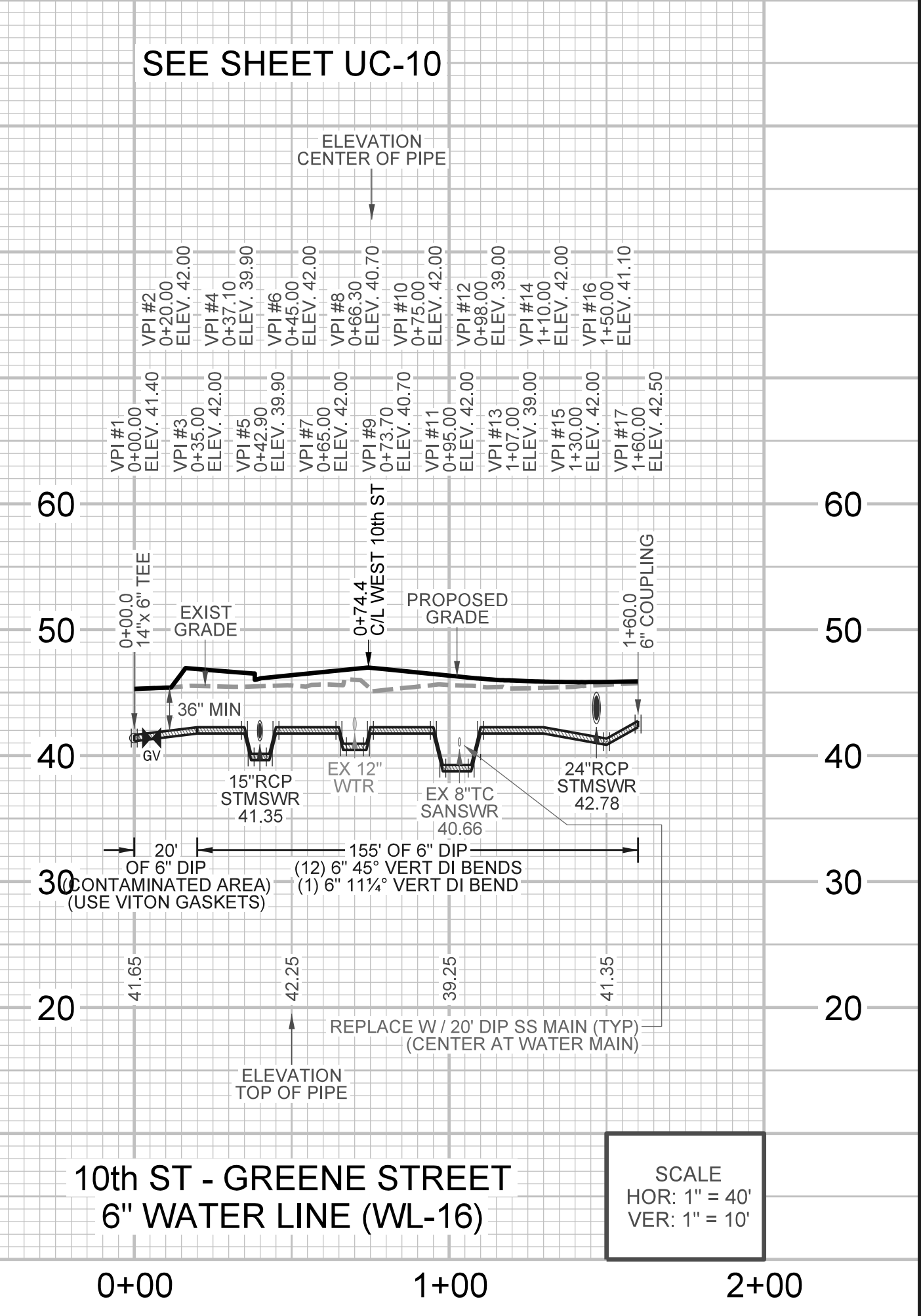
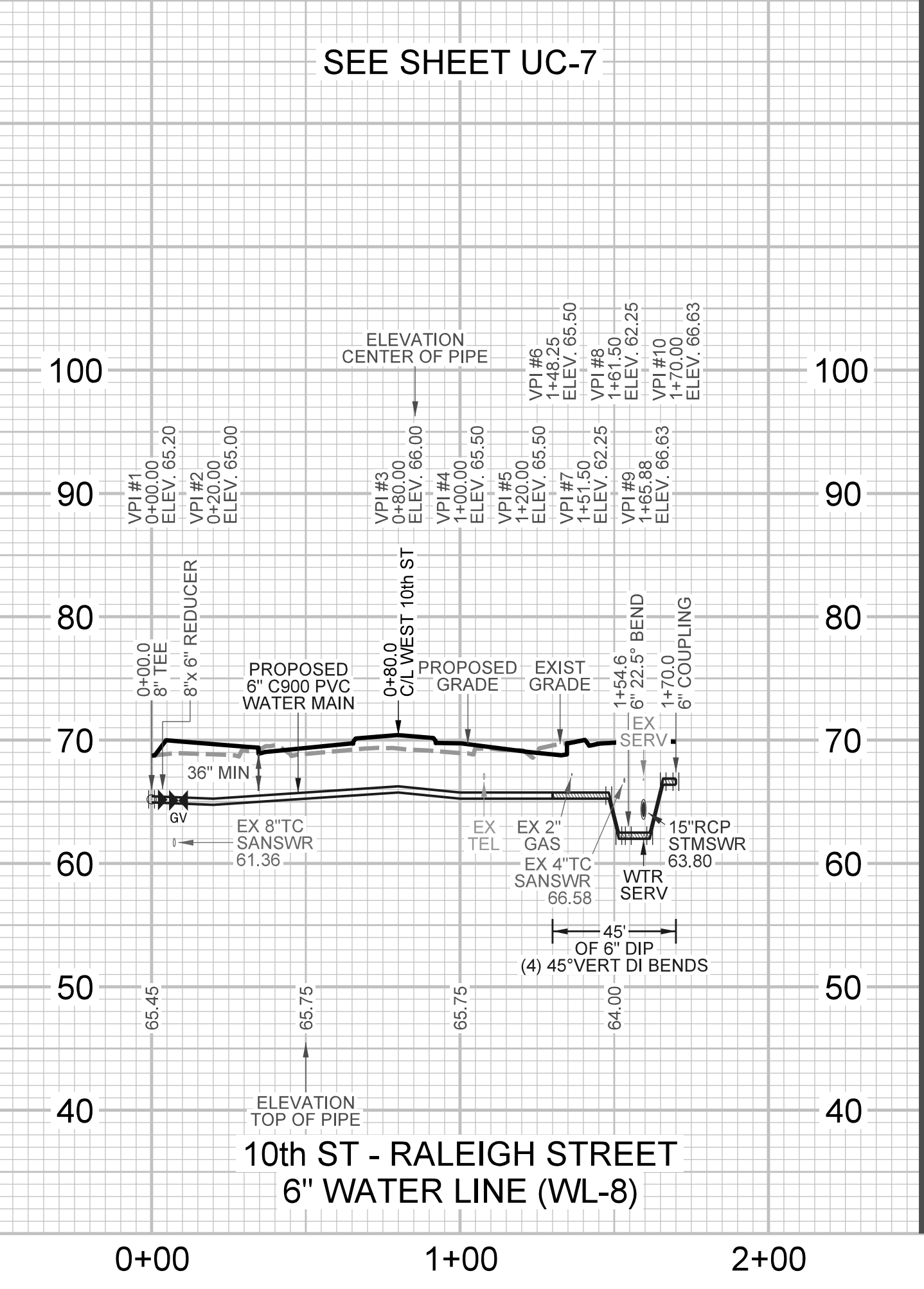
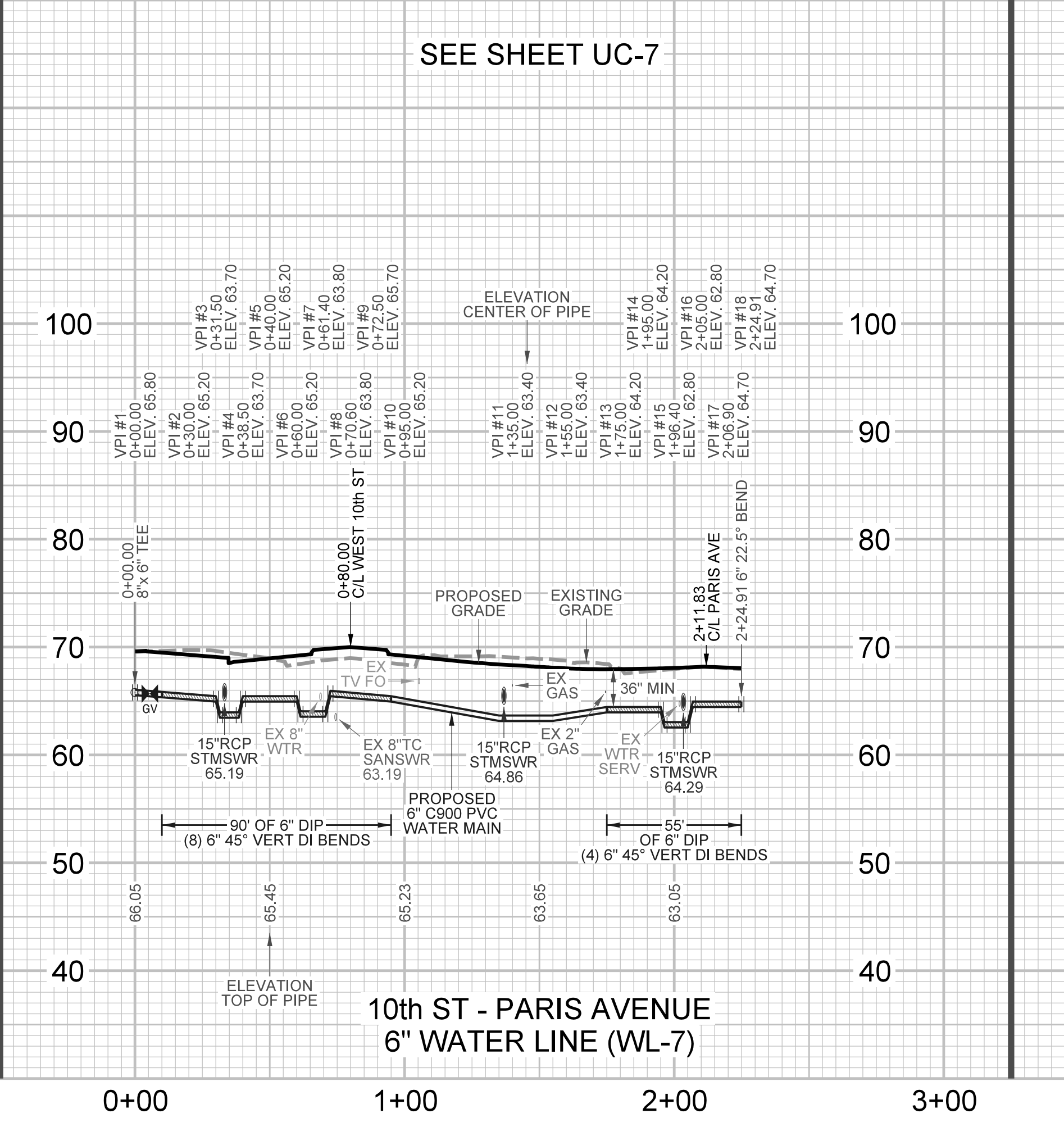
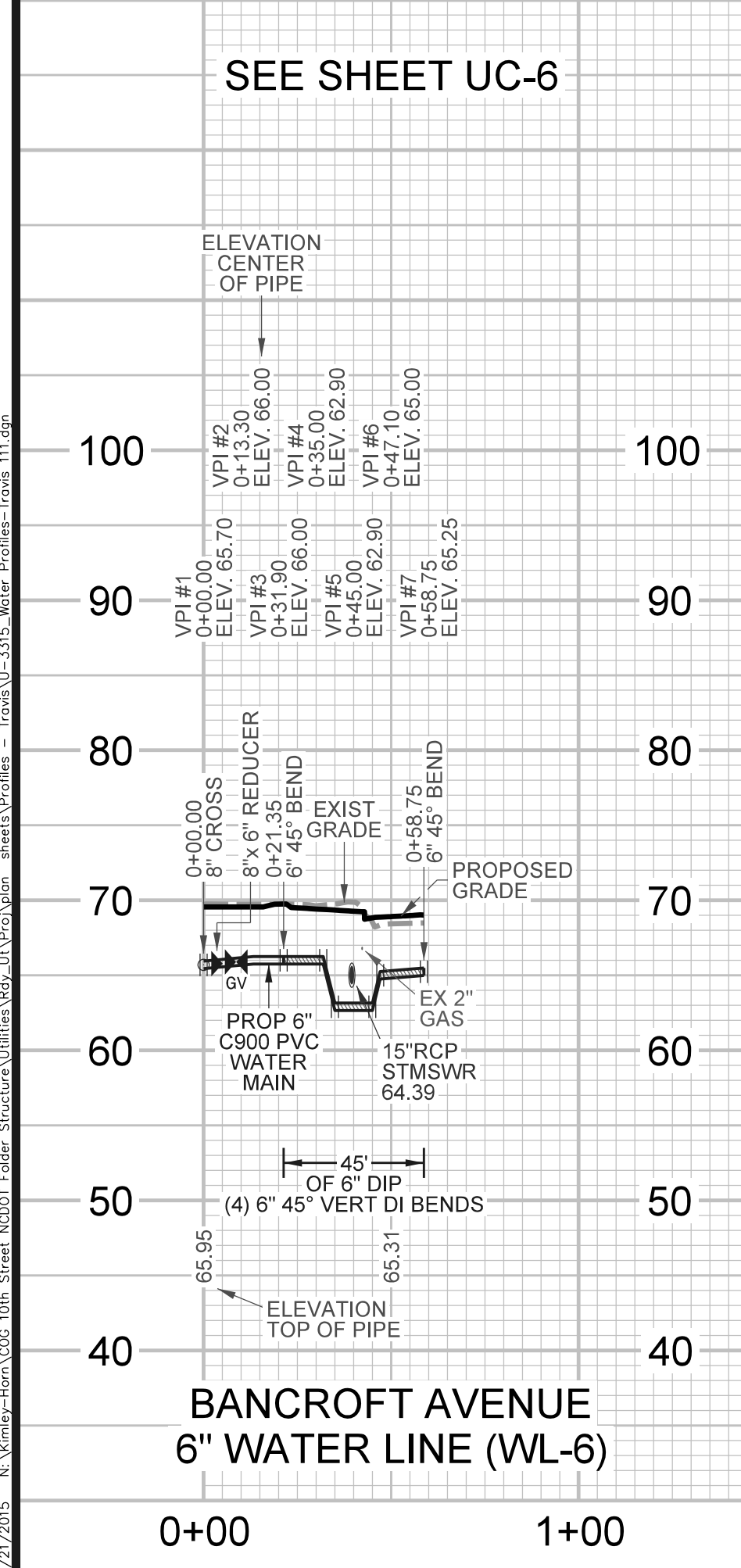
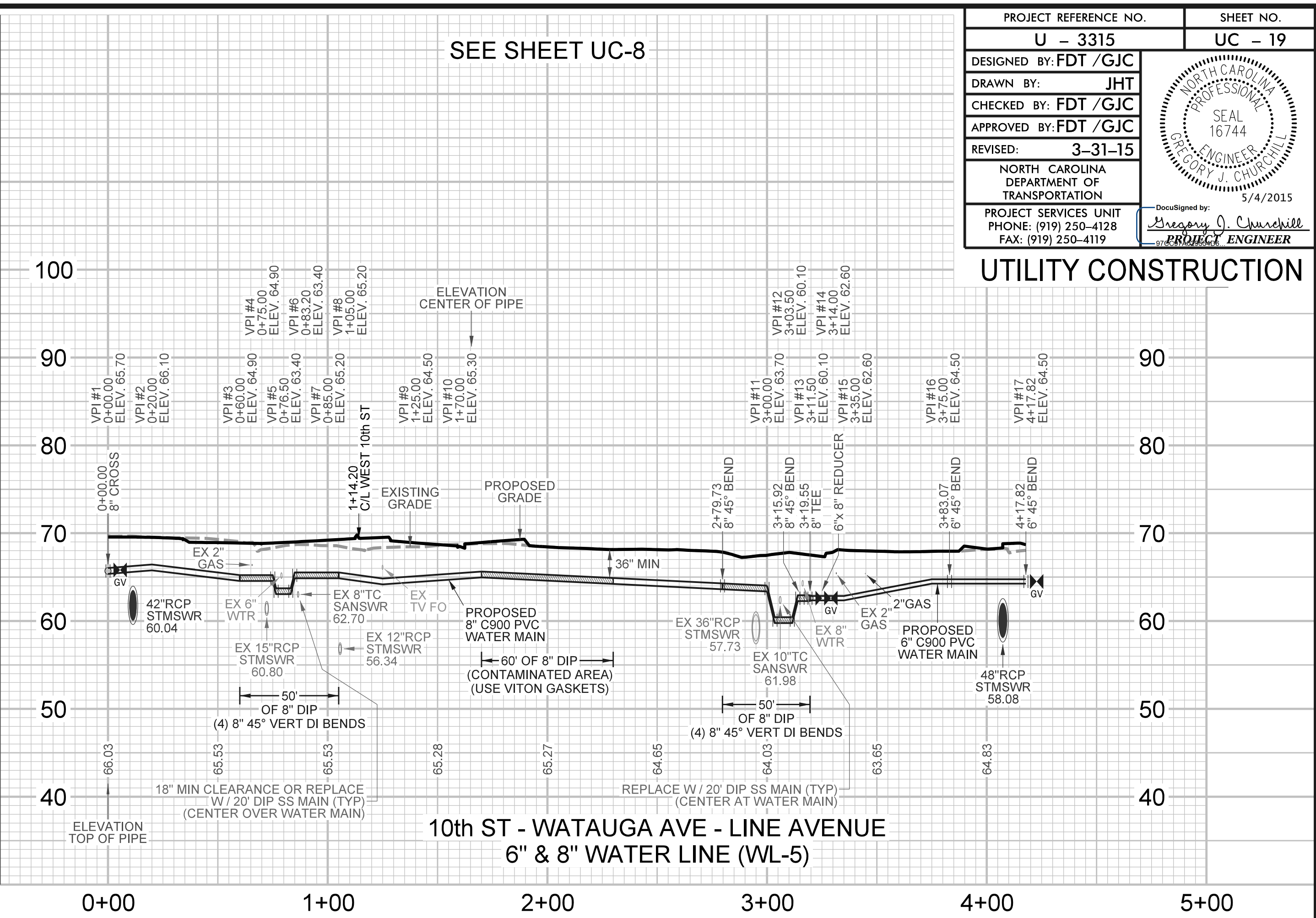
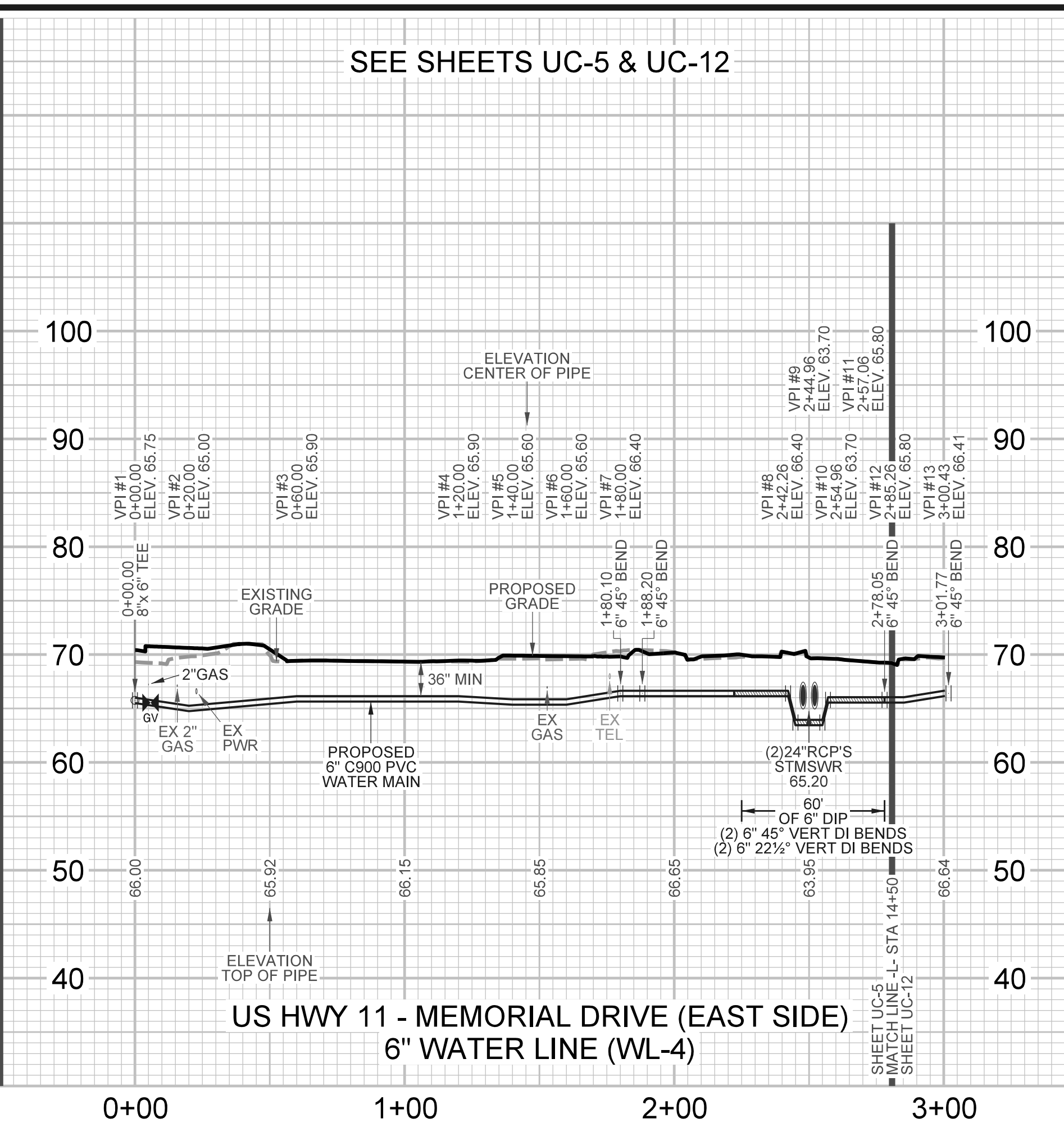
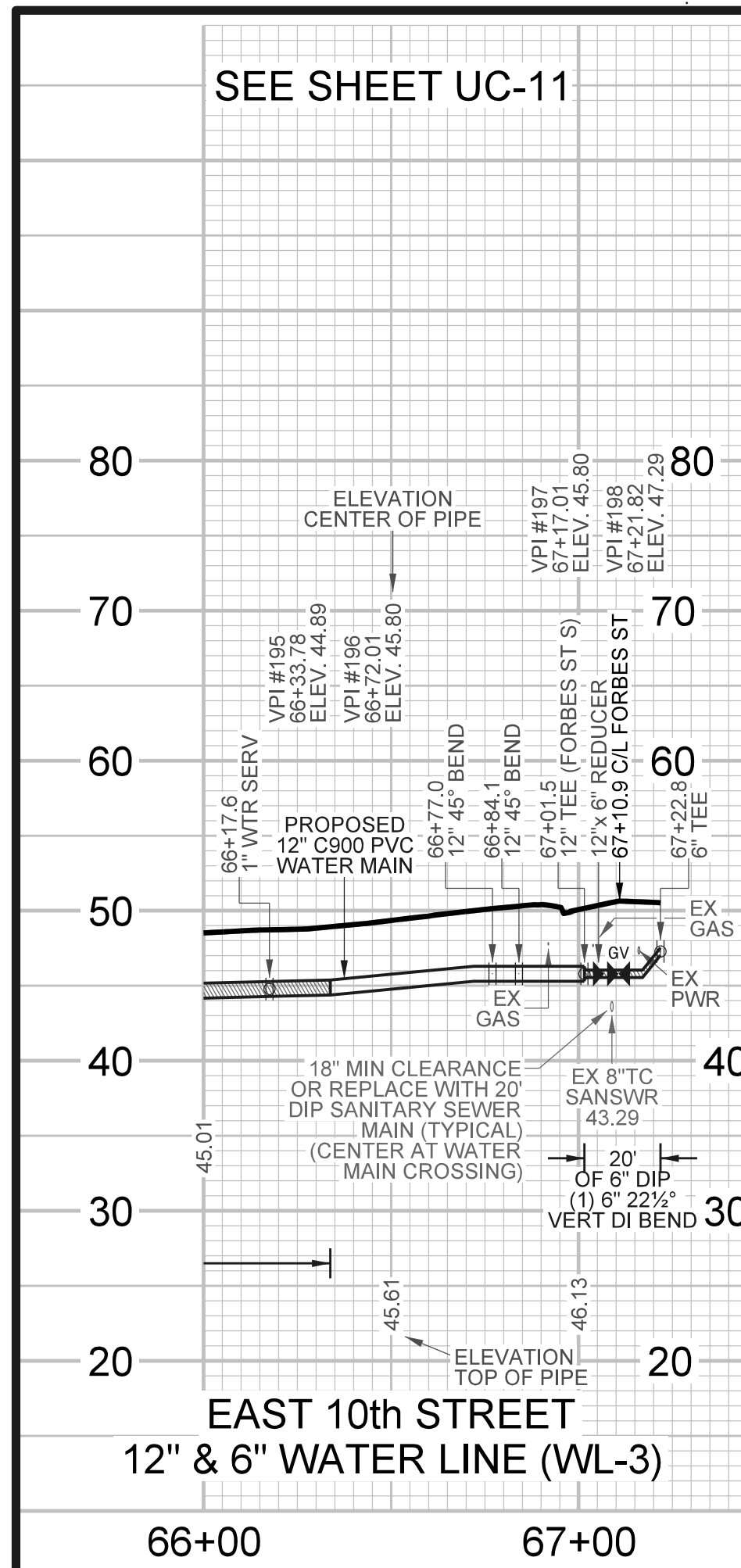


SCALE  
 HOR: 1" = 40'  
 VER: 1" = 10'

4/21/2015 N:\mymey-hon\COG\_10th\_Street\_ND001\_Editer\_Structure\Utilities\3315\_Utility\anet3\Profiles - Towns\U-3315-Water-Profile-Final.dwg

PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 19</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119

REVISIONS  
 1. 4/21/2015 N:\murray-horn\000\_10th Street NCDOT Foster Structure Utilities\09\_Utilities\09\_Utilities - Towns\U-3315-Water-Profiles-Footer\_111.dwg



SCALE  
 HOR: 1" = 40'  
 VER: 1" = 10'





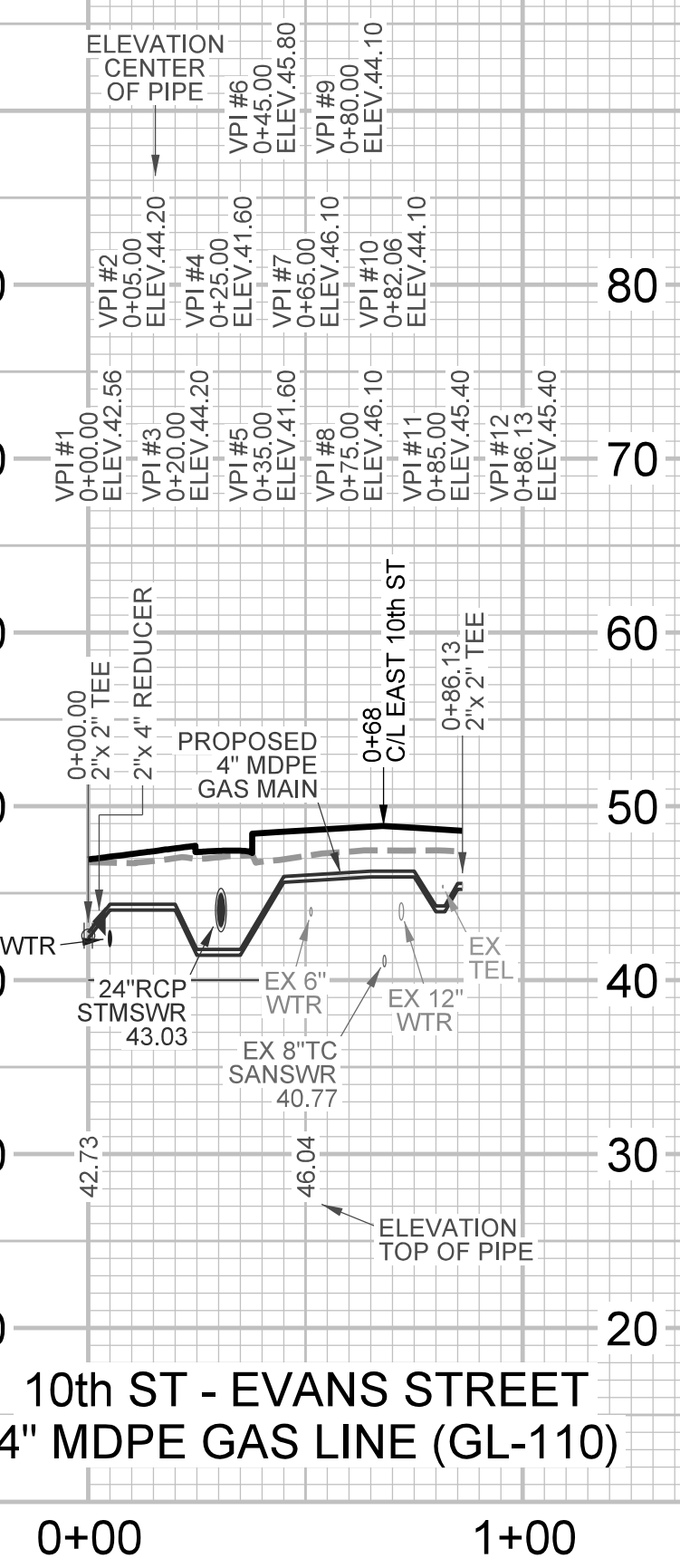






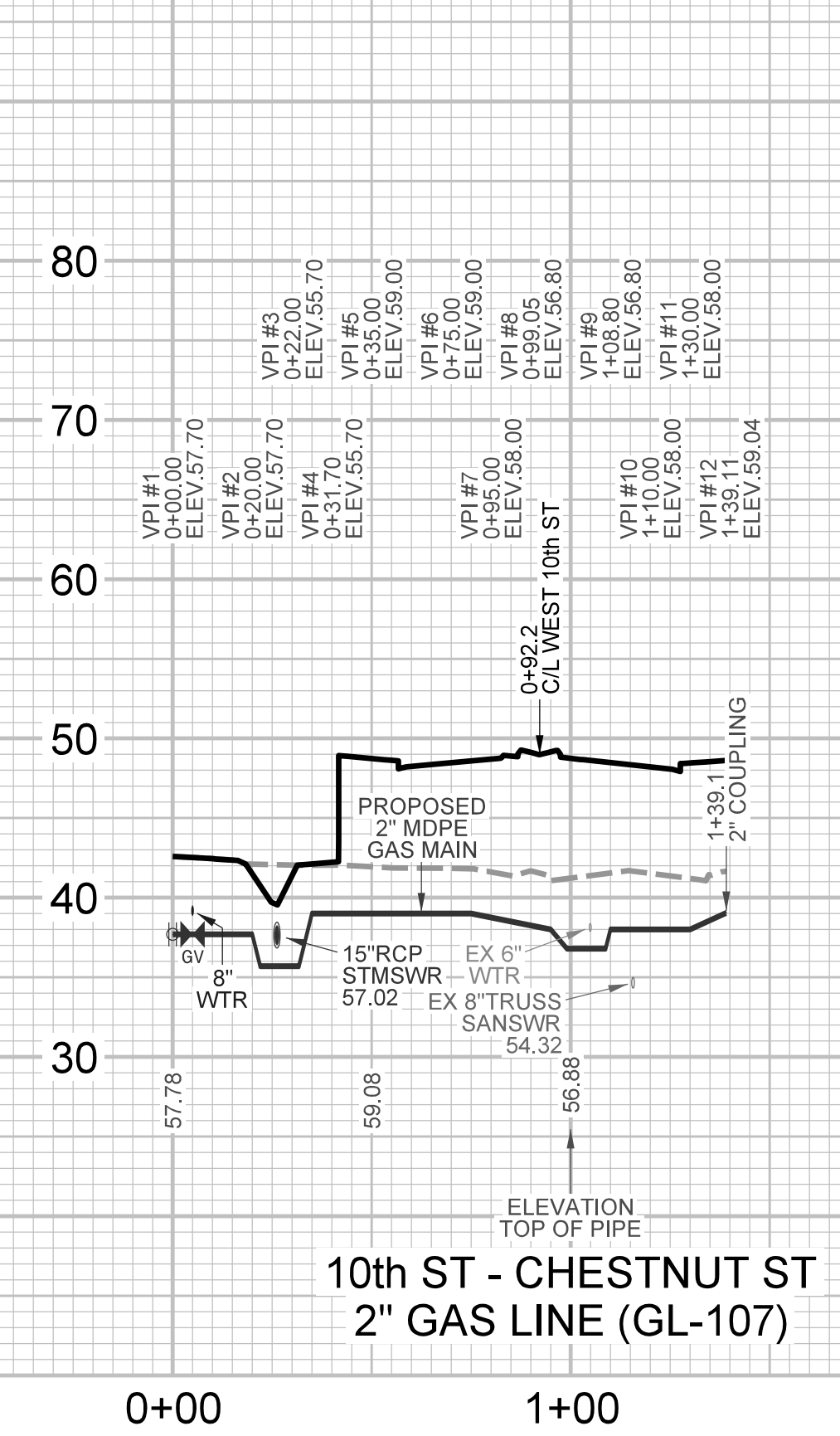
REVISIONS

SEE SHEET UC-8



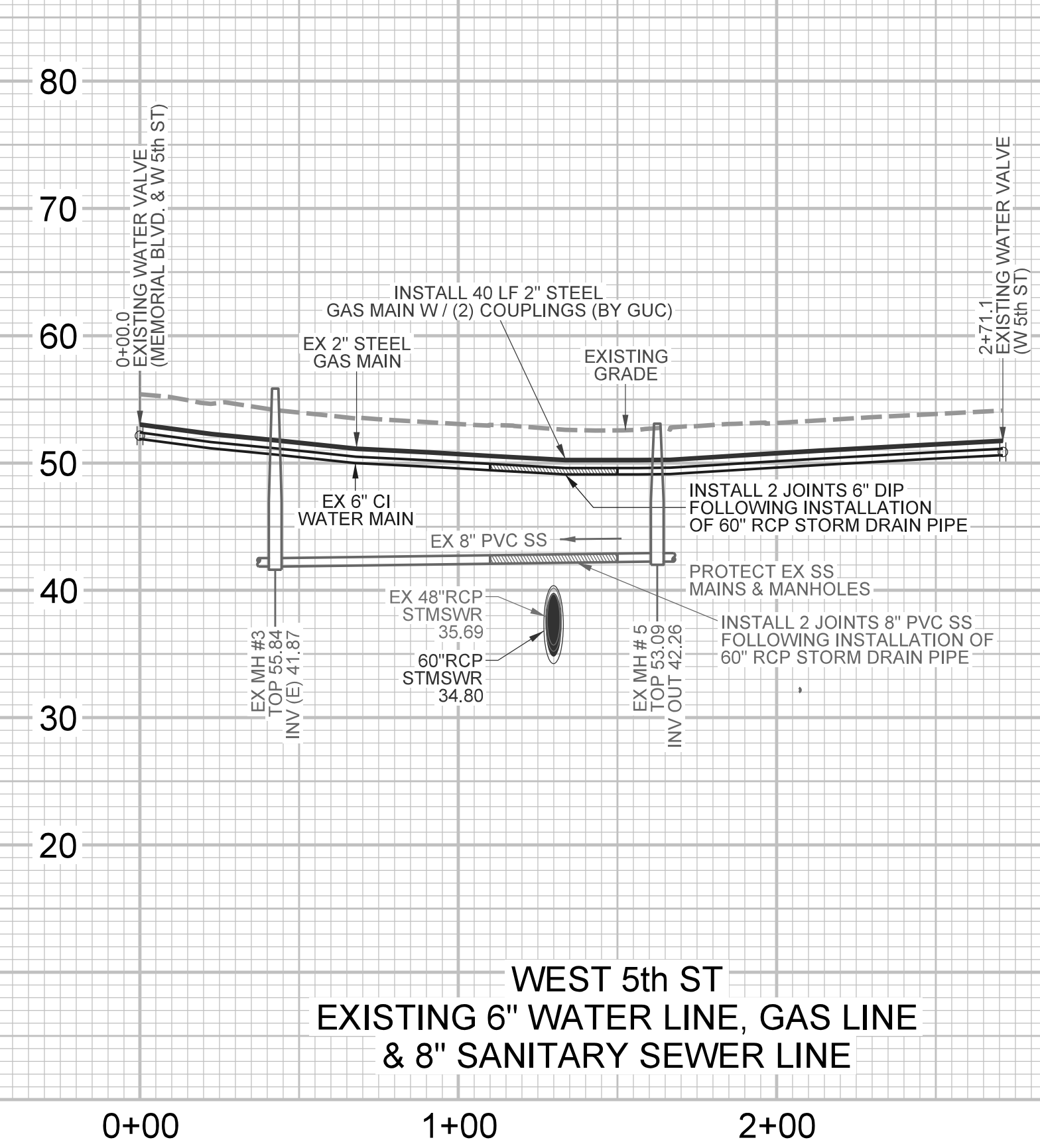
10th ST - EVANS STREET  
4" MDPE GAS LINE (GL-110)

SEE SHEET UC-8



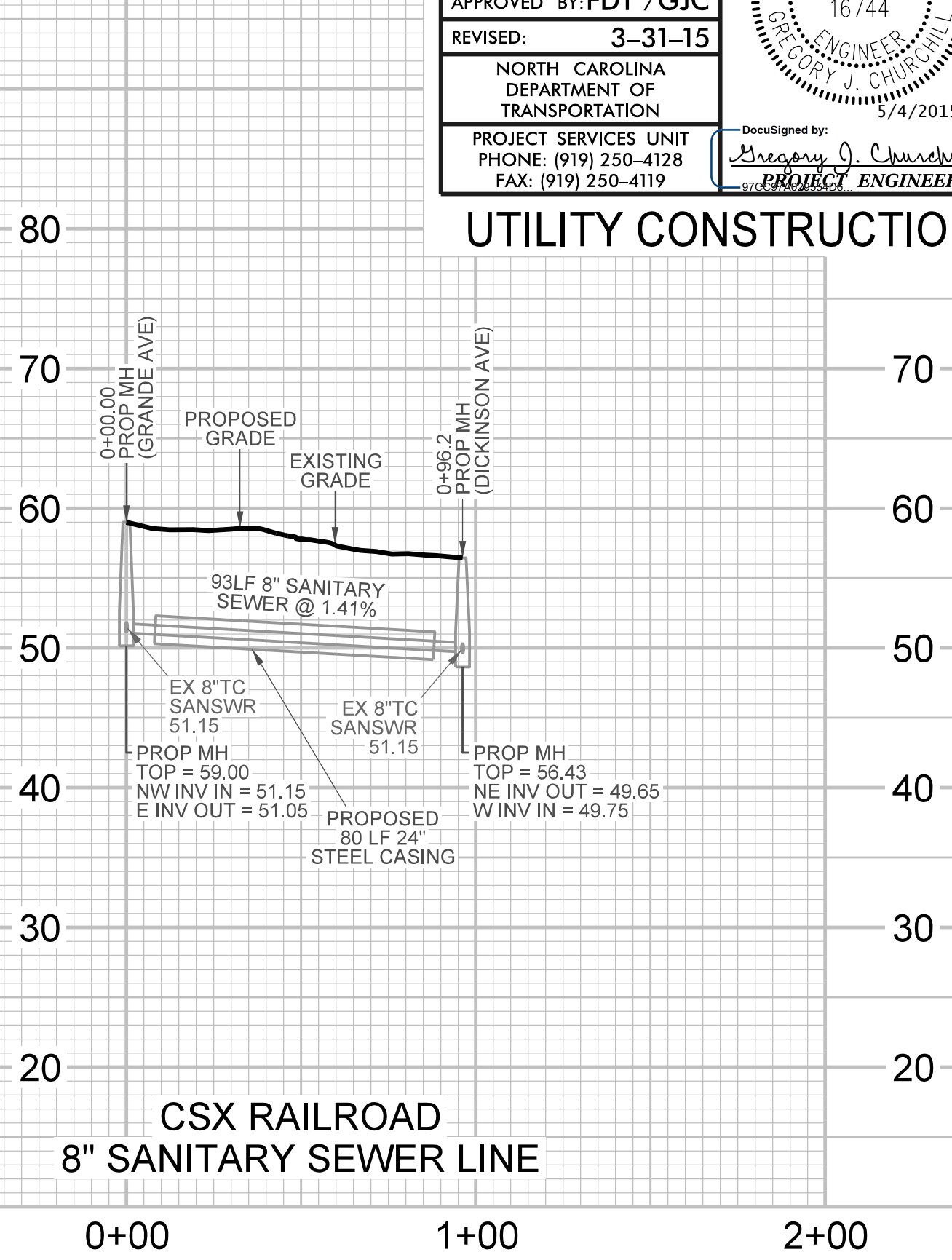
10th ST - CHESTNUT ST  
2" GAS LINE (GL-107)

SEE SHEET UC-12



WEST 5th ST  
EXISTING 6" WATER LINE, GAS LINE  
& 8" SANITARY SEWER LINE

SEE SHEET UC-9



CSX RAILROAD  
8" SANITARY SEWER LINE

PROJECT REFERENCE NO. <b>U - 3315</b>	SHEET NO. <b>UC - 24</b>
DESIGNED BY: <b>FDT /GJC</b>	
DRAWN BY: <b>JHT</b>	
CHECKED BY: <b>FDT /GJC</b>	
APPROVED BY: <b>FDT /GJC</b>	
REVISED: <b>3-31-15</b>	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
Designed by <i>Gregory J. Churchill</i> PROJECT ENGINEER	

UTILITY CONSTRUCTION

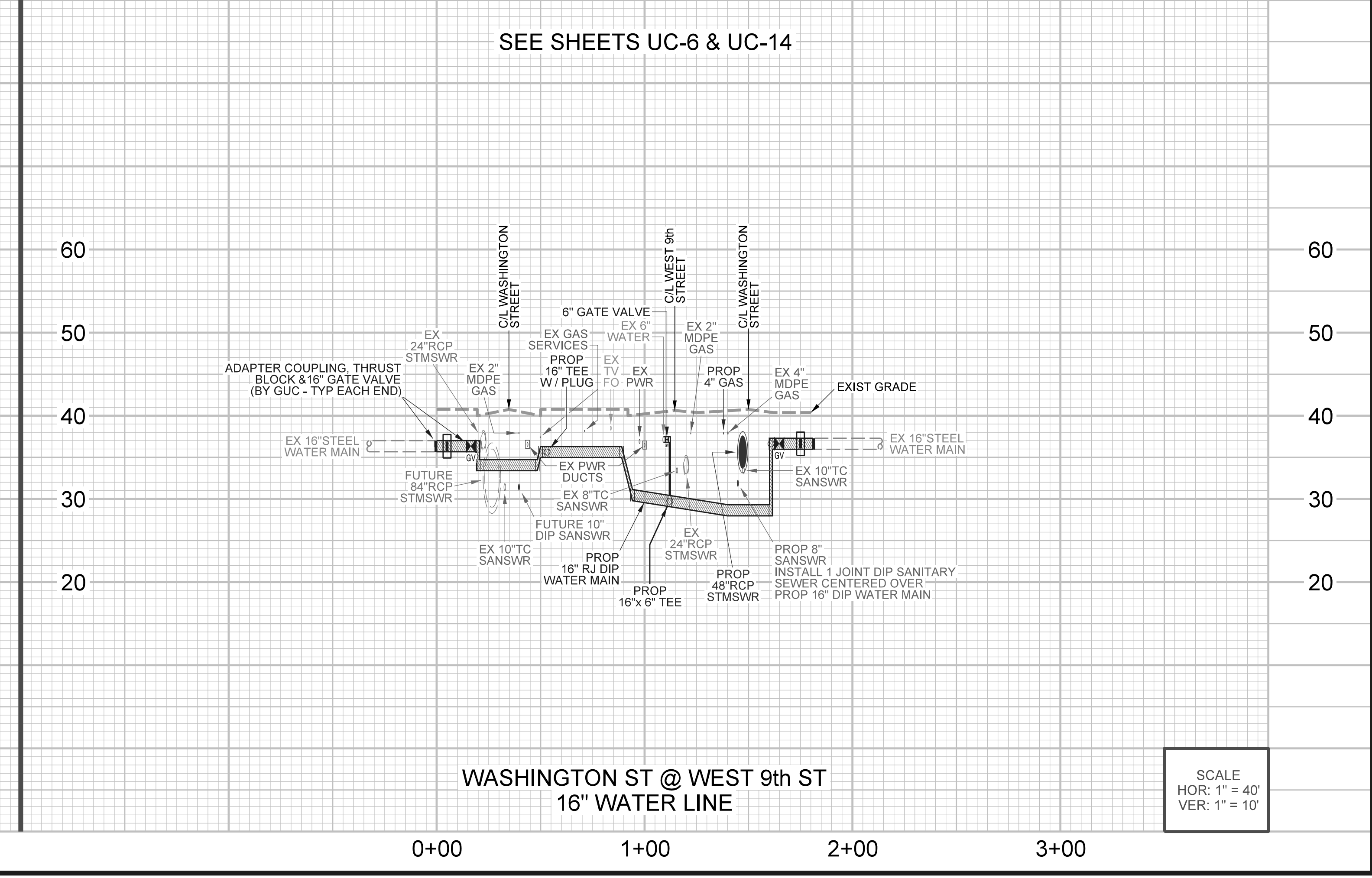
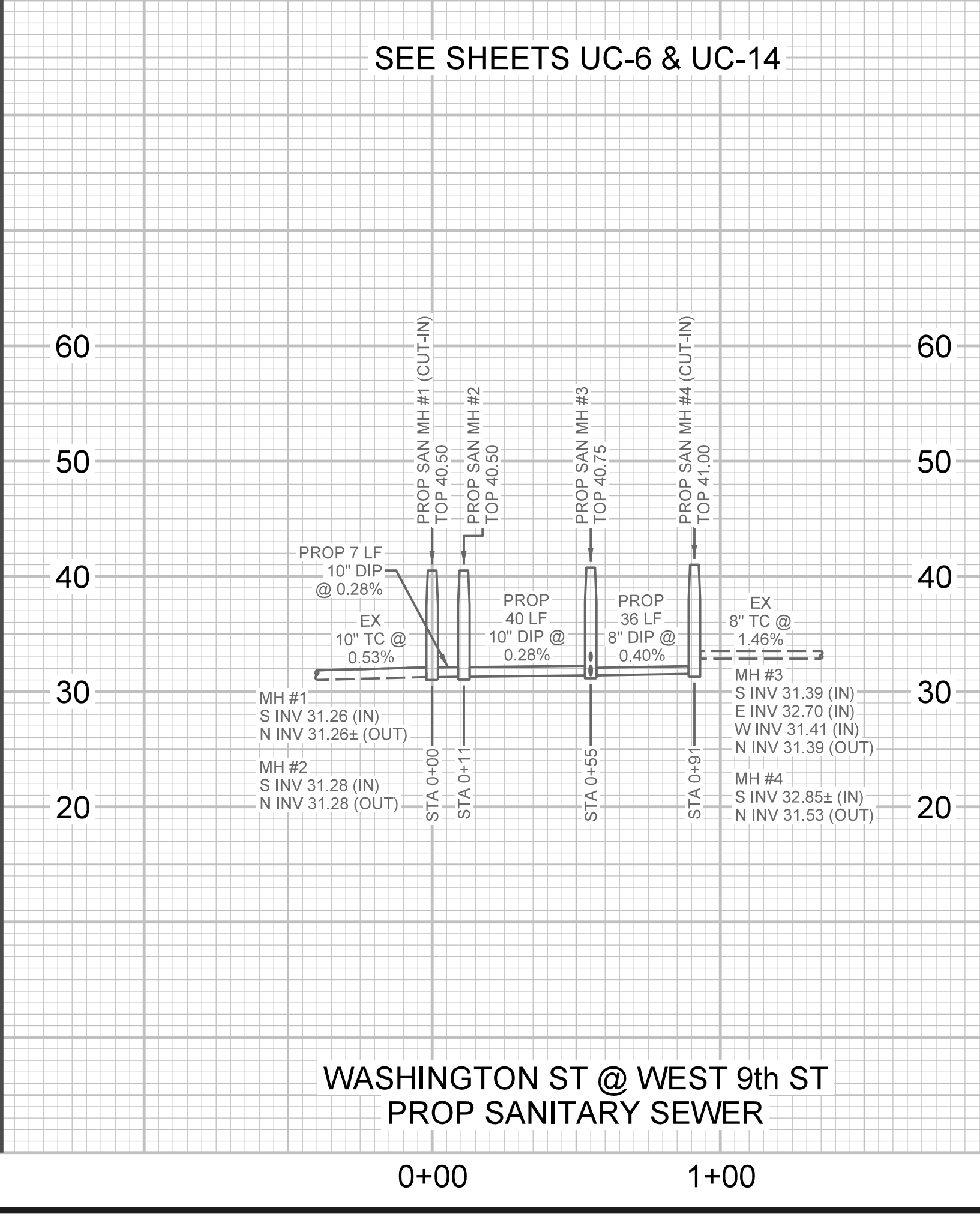
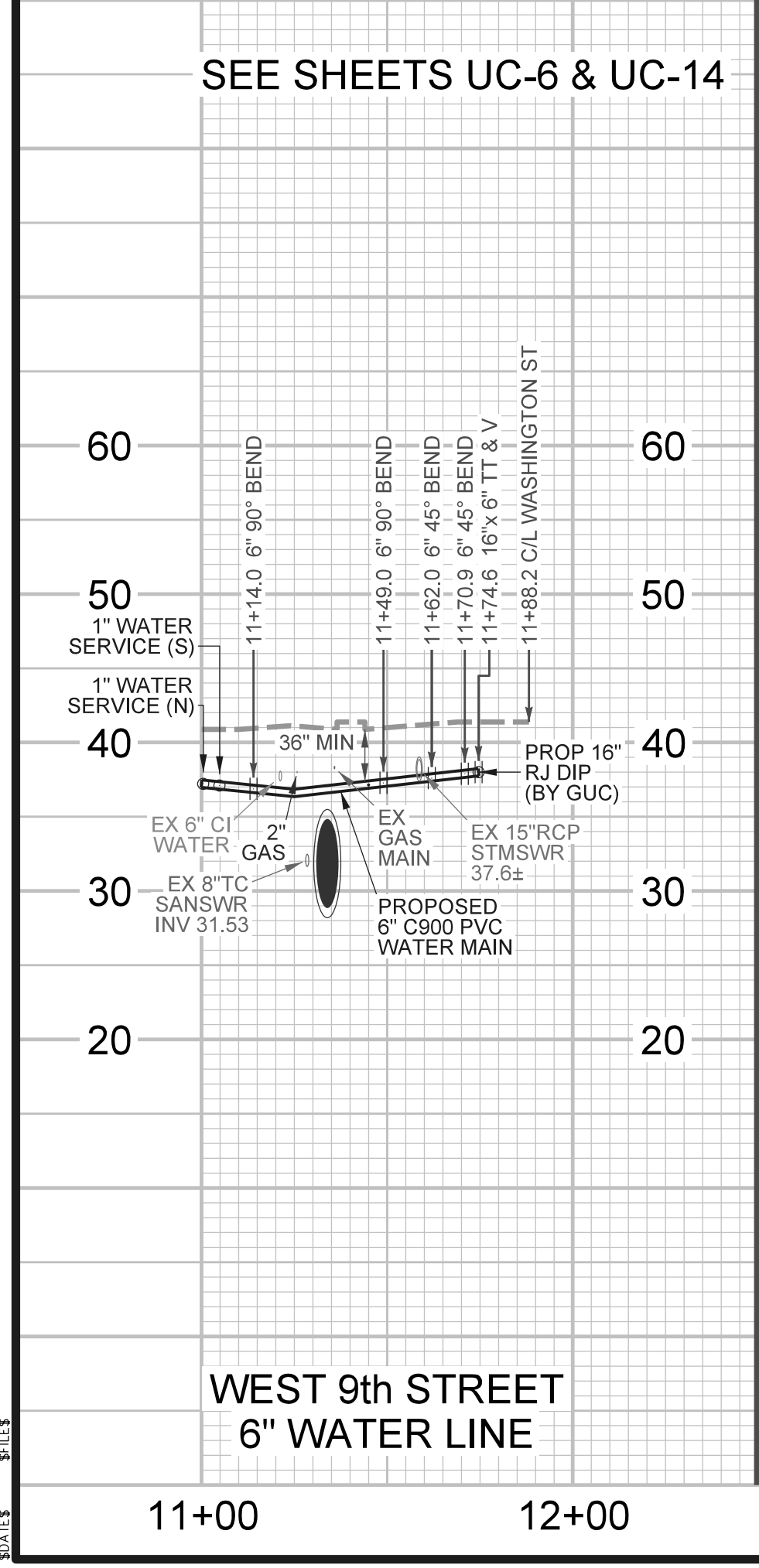
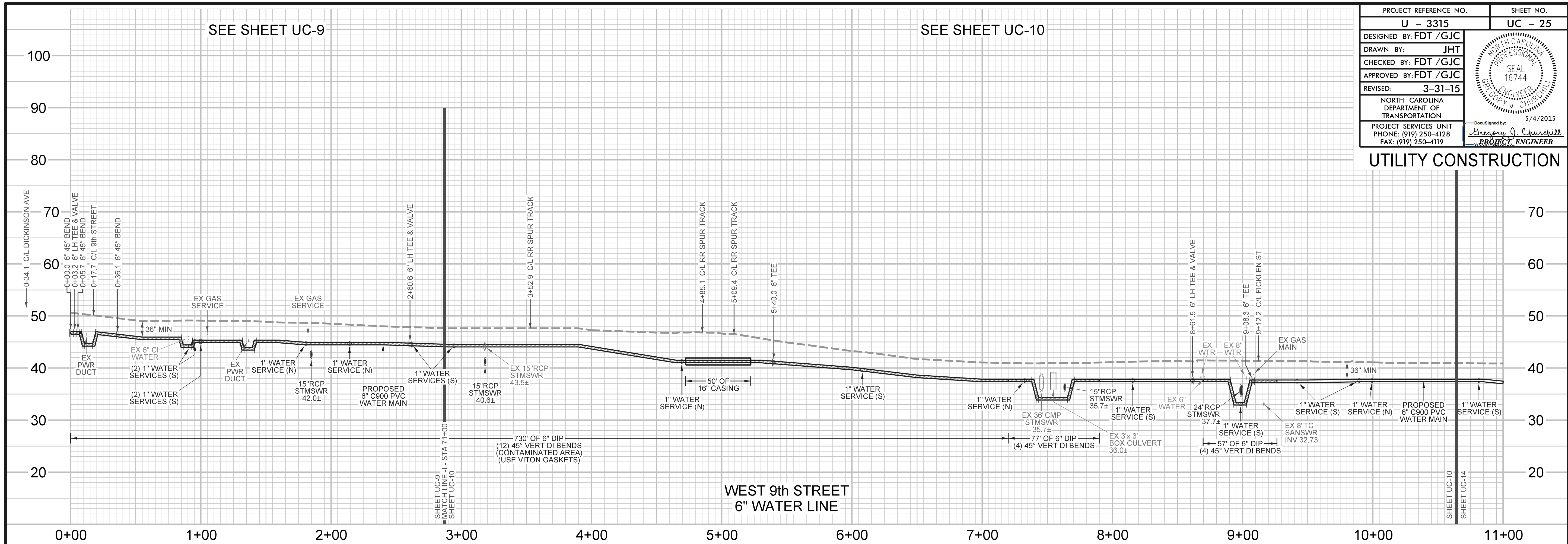
SCALE  
HOR: 1" = 40'  
VER: 1" = 10'

4/21/2015 N:\vmev\con\000\_10th\_Street\_NCDOT\_Feder\_Structure\Utilities\09a\_ut\prop\plan\_sheets\Profile - Trov's U - 3315 - Water\_Profile - Trov's 111.dwg

PROJECT REFERENCE NO.	SHEET NO.
U - 3315	UC - 25
DESIGNED BY: FDT /GJC	
DRAWN BY: JHT	
CHECKED BY: FDT /GJC	
APPROVED BY: FDT /GJC	
REVISED: 3-31-15	5/4/2015
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
Designed by: <i>Gregory J. Churchill</i> PROJECT ENGINEER	

**UTILITY CONSTRUCTION**

REVISIONS



SCALE  
 HOR: 1" = 40'  
 VER: 1" = 10'