

09_08/2019

TIP PROJECT: U-5775

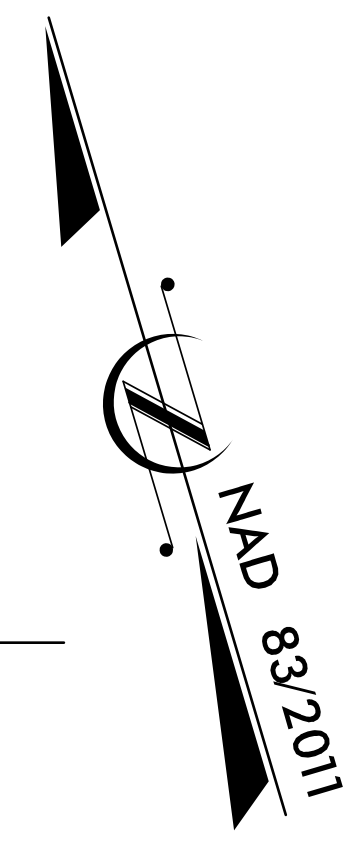
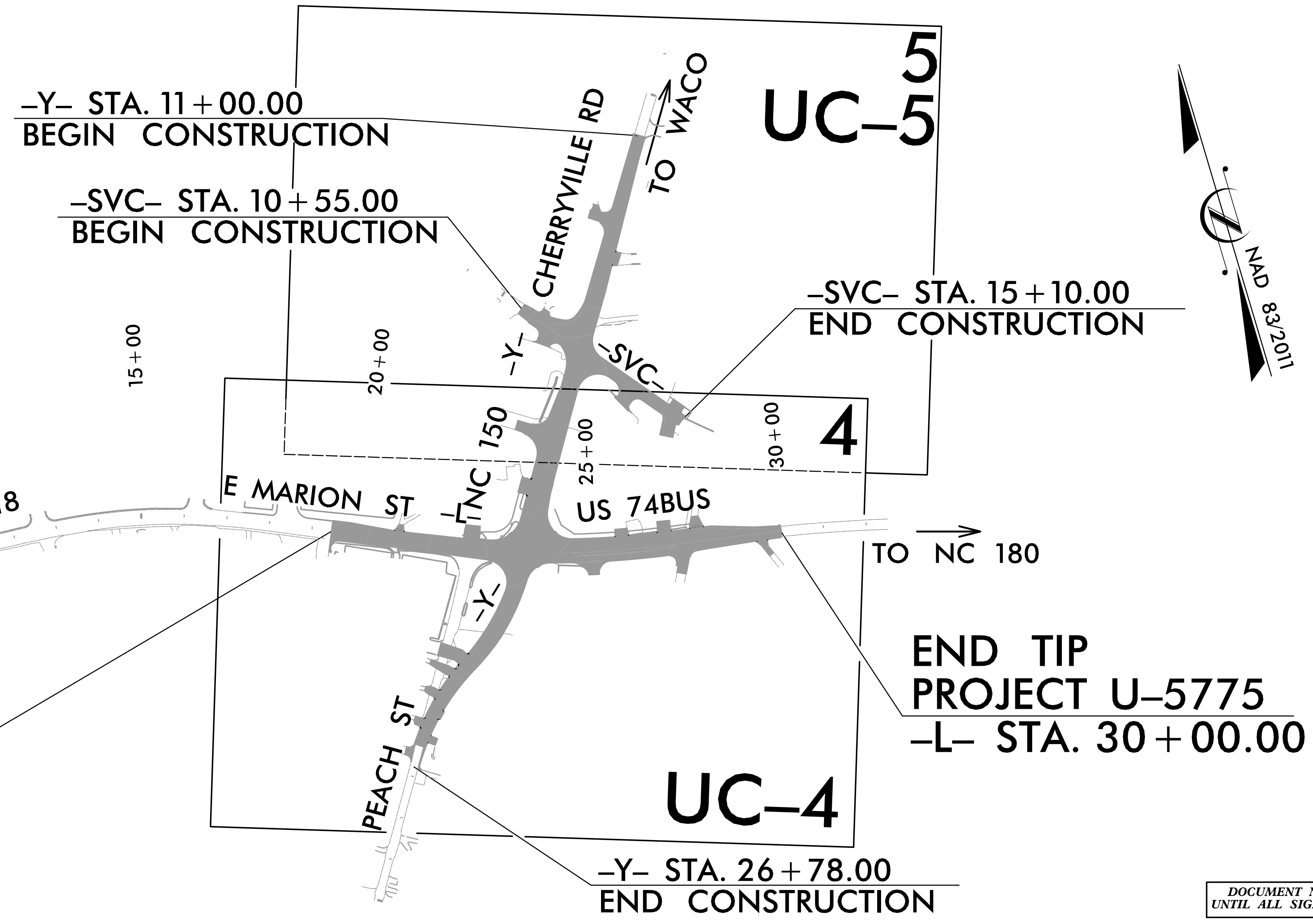
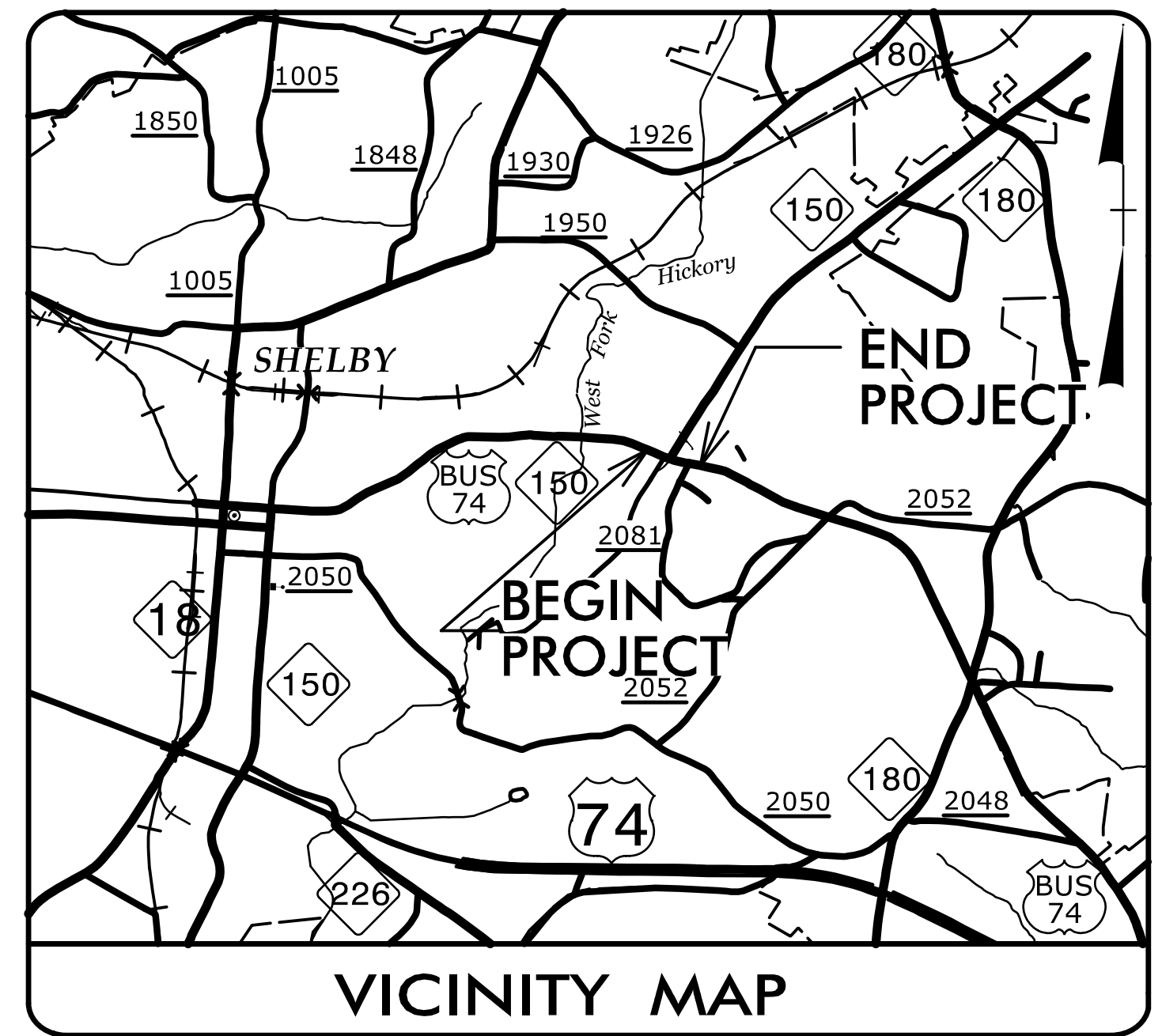
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-5775	UC-1

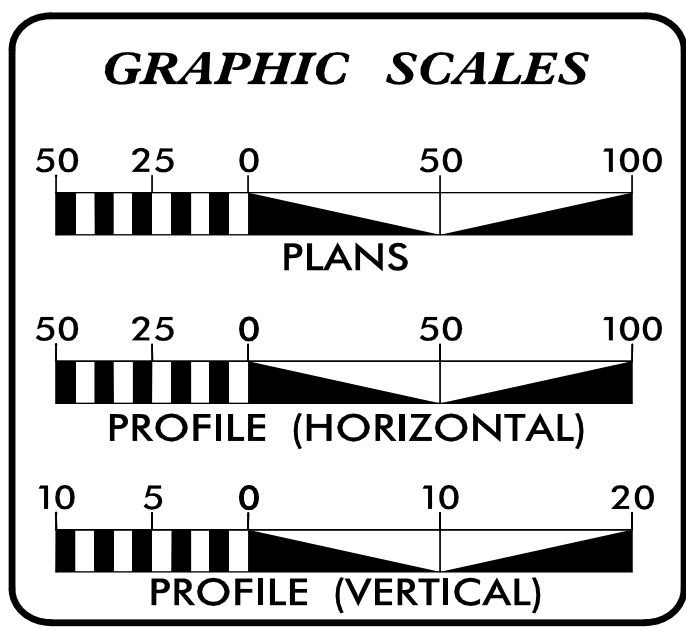
UTILITY CONSTRUCTION PLANS CLEVELAND COUNTY

LOCATION: INTERSECTION OF US 74 BUS. (MARION ST) AT
NC 150 (CHERRYVILLE RD) AND PEACH ST.

TYPE OF WORK: WATER AND SEWER RELOCATION



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SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4 THRU UC-5	UTILITY CONSTRUCTION SHEETS
UC-6 THRU UC-7	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

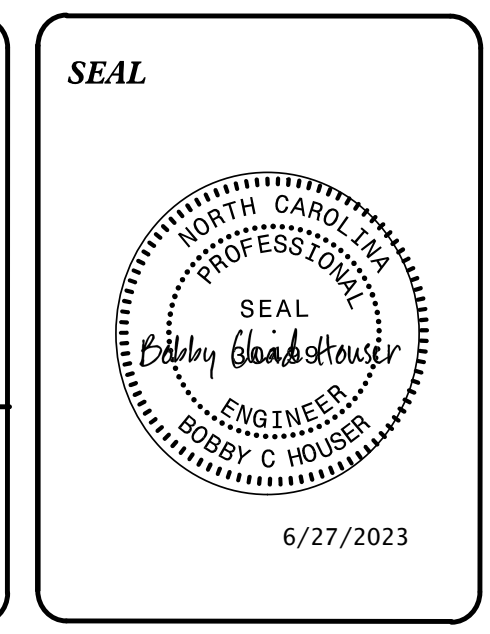
(A) WATER - CITY OF SHELBY
(B) SANITARY SEWER - CITY OF SHELBY

PREPARED IN THE OFFICE OF

TGS ENGINEERS

201 W. MARION ST
SHELBY, NC 28150
PH. (704) 476-0003
CORP. LICENSE NO.: C-0275

B. CHAD HOUSER, PE UTILITY DESIGN ENGINEER
JIMMY TERRY, PE PROJECT MANAGER



NCDOT DIVISION 12

1710 E. MARION ST
SHELBY, NC 28151
PHONE (980)552-4200

BRYAN SOWELL, PE DIVISION PROJECT ENGINEER
CHAD DREWERY DIVISION UTILITY ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
U-5775	UC-3
DESIGNED BY: BCH	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

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 2018.
2. THE EXISTING UTILITIES BELONG TO THE CITY OF SHELBY.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. 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 ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT
- 1520.01 SEWER CLEAN OUT
- 1525.06 PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

PROJECT SPECIFIC NOTES:

1. ALL PROPOSED WATER MAINS SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE AND UTILIZE FLEXIBLE PUSH-ON RESTRAINED JOINTS.
2. WATER LINE UTILIZING RESTRAINED JOINTS SHALL BE TYTON JOINT, HP LOK, TR FLEX, USIFLEX OR EQUIVALENT.
3. ALL WATERLINE SHALL HAVE COATED TRACER WIRE NO SMALLER THAN 14 AWG SOLID COPPER.
4. HYDRANTS SHALL BE WATEROUS WB-67, MUELLER, KENNEDY OR APPROVED EQUAL WITH LOCKING CAP. ALL PROPOSED HYDRANT LEGS SHALL BE 6" DUCTILE IRON PIPE AND UTILIZE MECHANICAL RESTRAINED JOINTS.
5. ALL WATER LINE FITTINGS 6" OR LARGER SHALL BE PRESSURE CLASS 350 DUCTILE IRON MECHANICAL RESTRAINED JOINT IN ACCORDANCE WITH AWWA C110
6. EXISTING WATER SERVICE LINES WHICH ARE GALVANIZED OR IN WHICH THE EXISTING SERVICE COUPLING IS BENEATH THE PROPOSED EDGE OF PAVEMENT SHALL BE INSTALLED FROM THE WATER MAIN TO THE METER.
7. ALL VALVES 12" AND UNDER SHALL BE RESILIENT WEDGE GATE VALVES.
8. WATER MAINS CROSSING OTHER UTILITIES AND NON -POTABLE WATER LINES (SANITARY SEWER, STORM DRAINS, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM TWENTY -FOUR (24") INCHES BETWEEN THE WATER LINE AND OTHER UTILITIES. IF THESE SEPARATIONS CANNOT BE MAINTAINED, THEN DUCTILE IRON PIPE SHALL BE USED FOR 10' ON EACH SIDE OF THE CROSSING WITH A MINIMUM SEPARATION OF 6" MAINTAINED AS WELL AS ENCASED IN CLASS B CONCRETE FOR 5' ON EACH SIDE.
9. WHERE WATER, SEWER, AND GAS LINES ARE PARALLEL, A FOUR FEET HORIZONTAL CLEARANCE MUST BE MAINTAINED.
10. PROPOSED WATER LINES SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT FOR 10' EACH SIDE OF GAS LINE CROSSINGS AND WHERE THE WATER LINE AND GAS LINE ARE WITHIN 10 FEET OF EACH OTHER.

UTILITY CONSTRUCTION

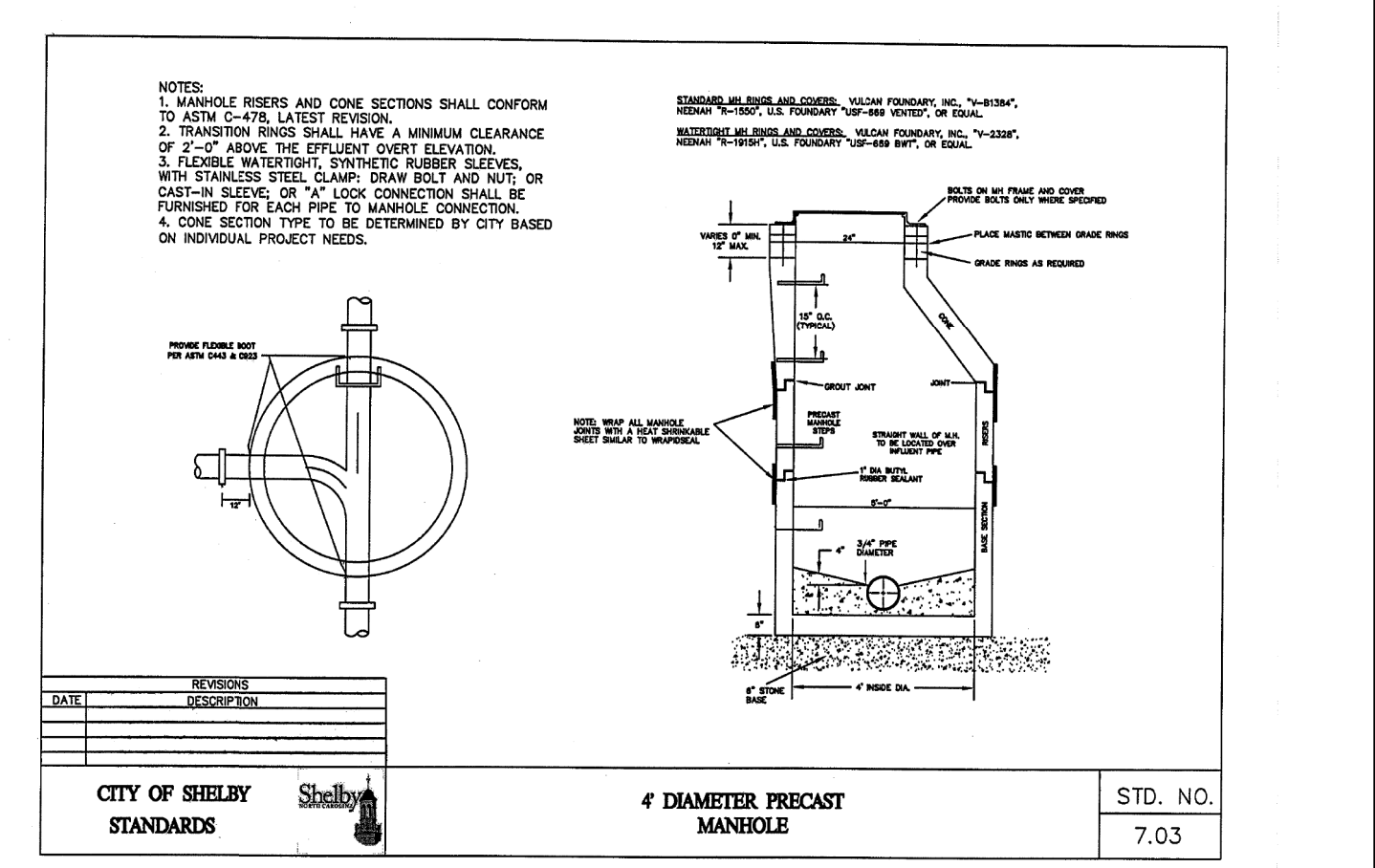
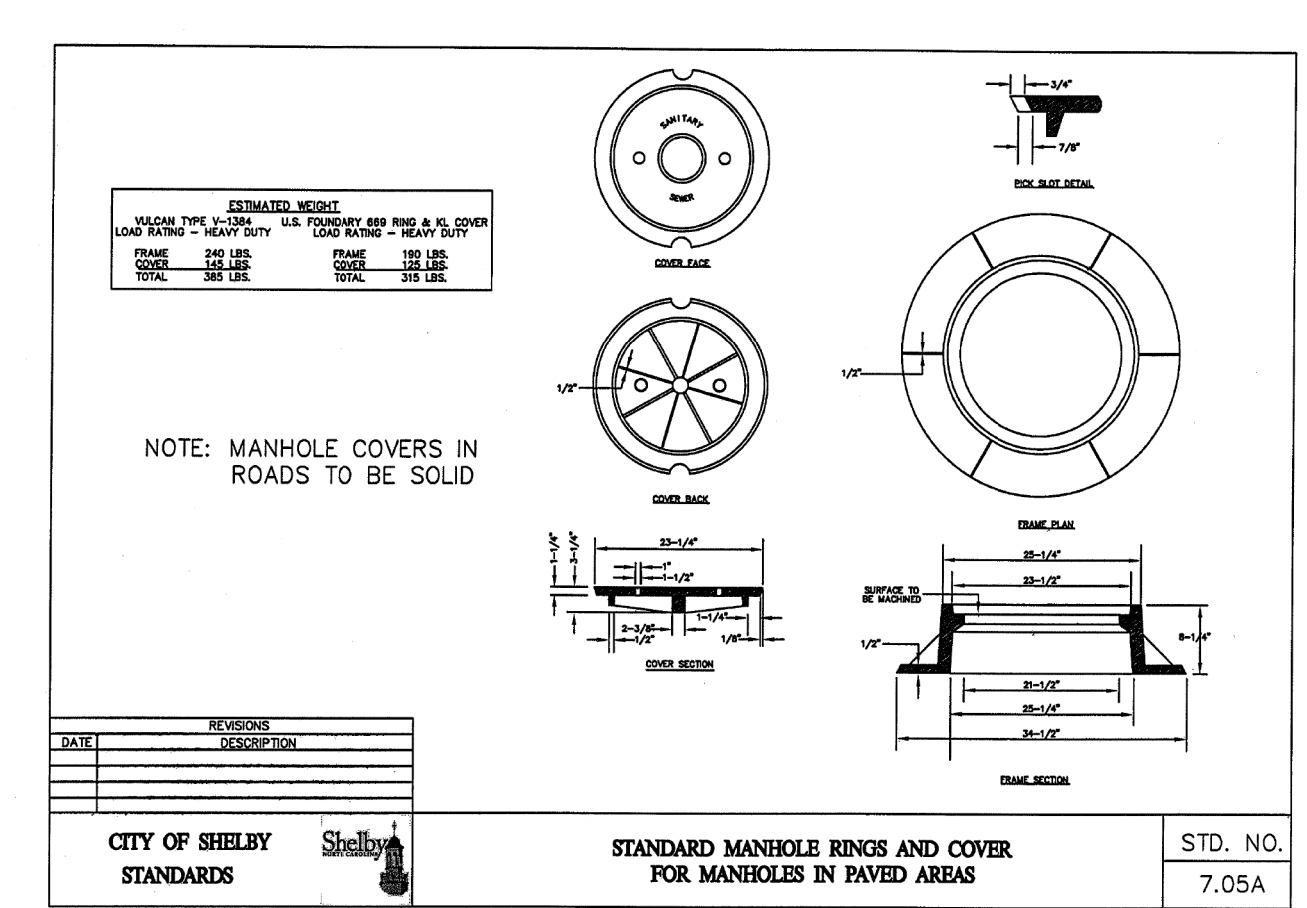
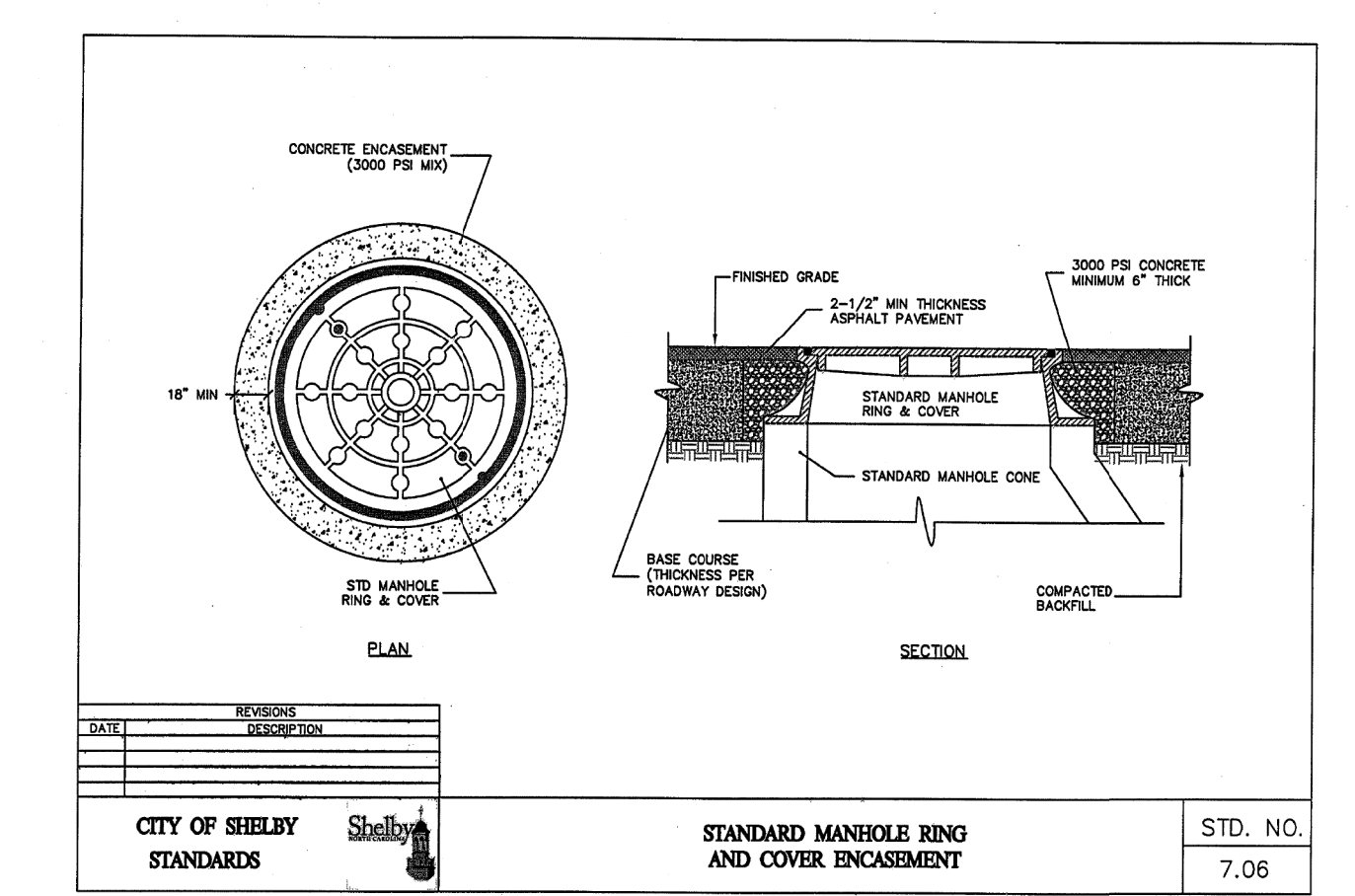
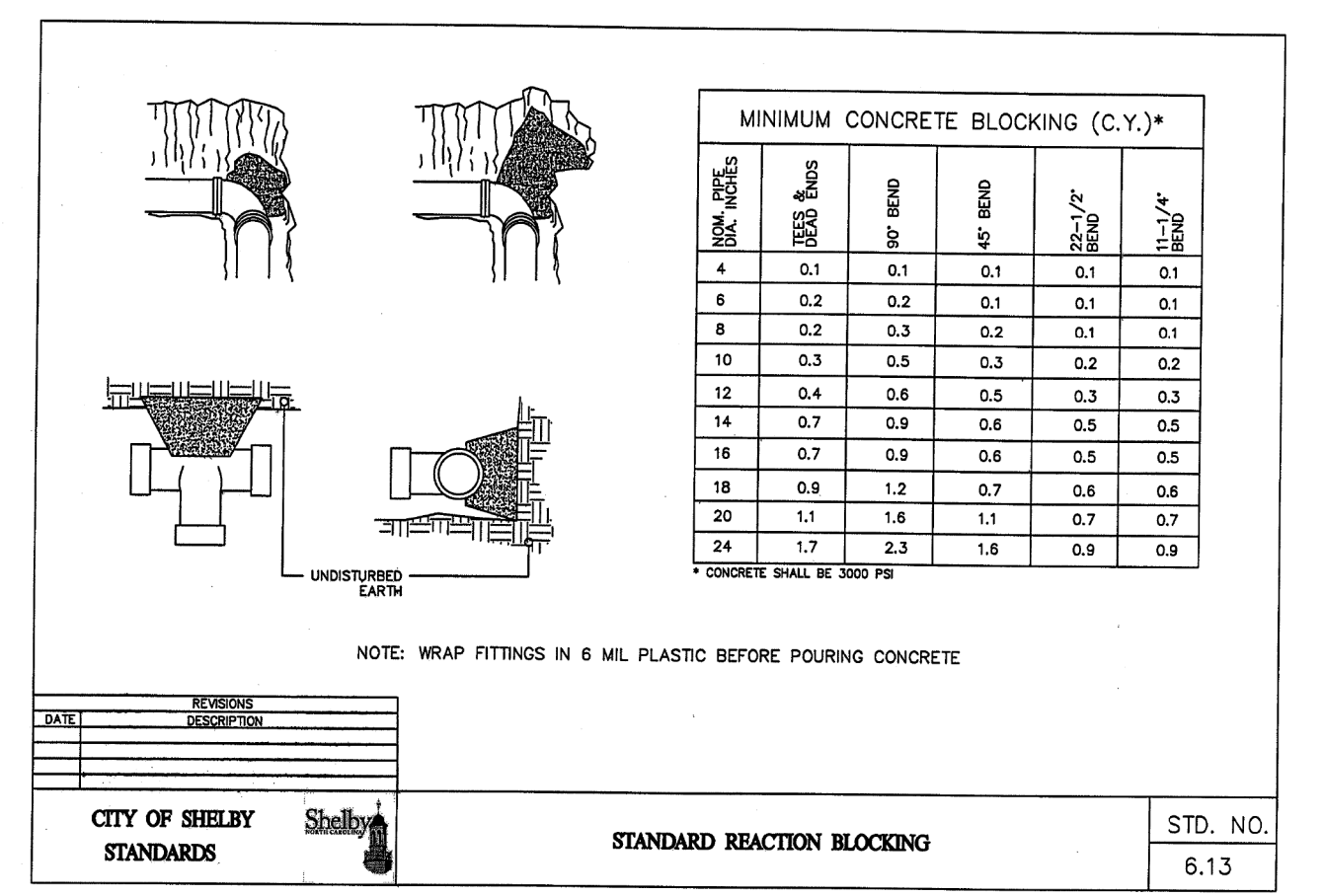
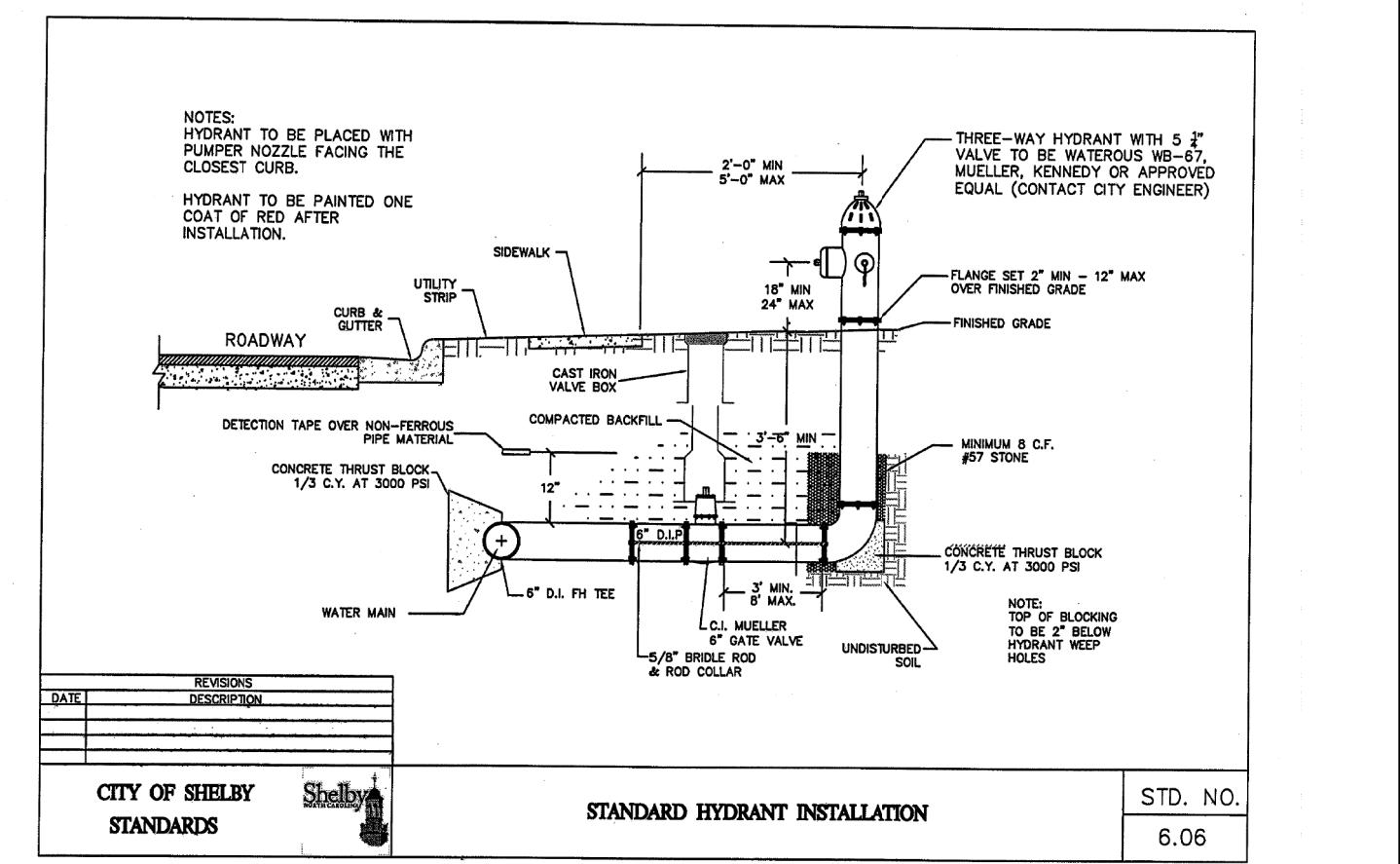
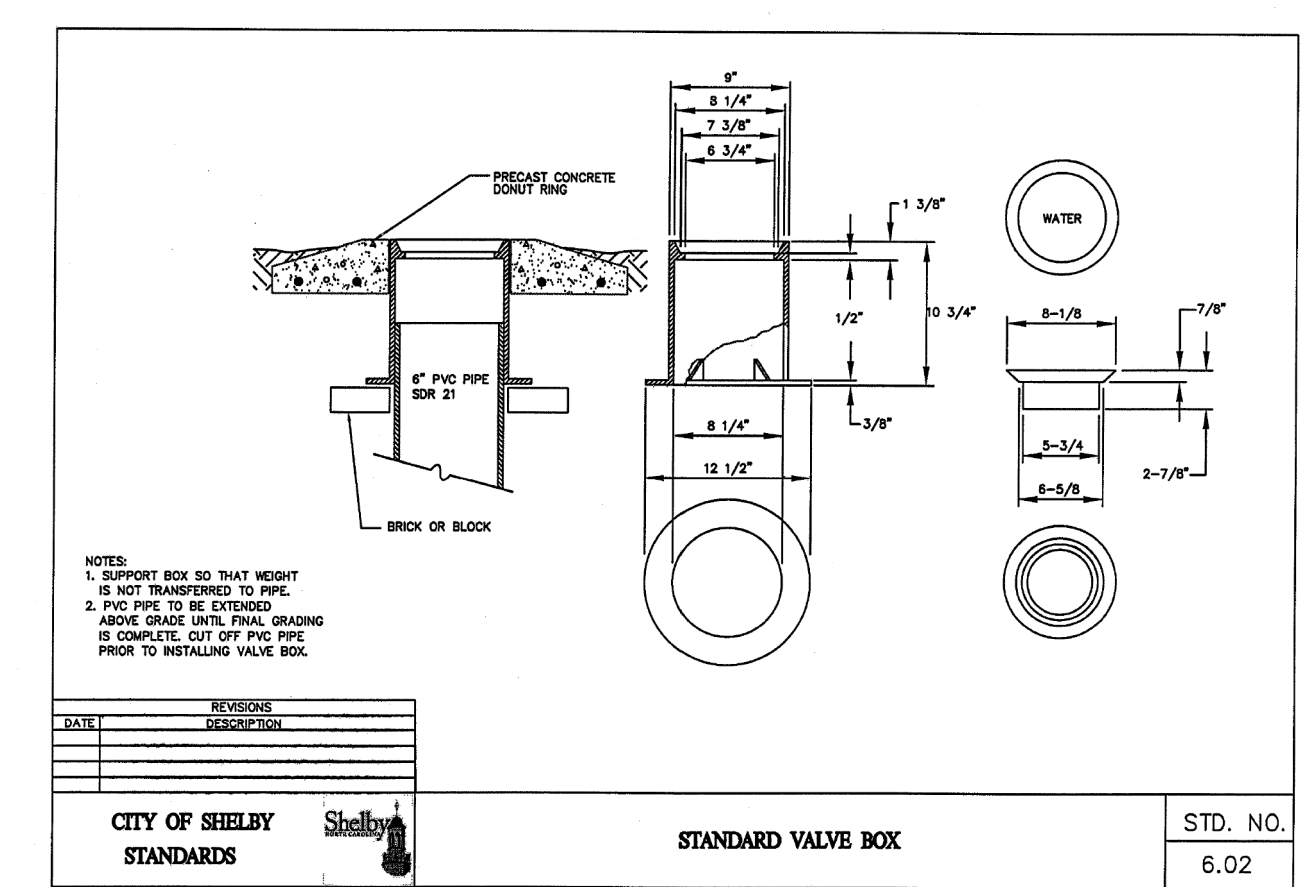
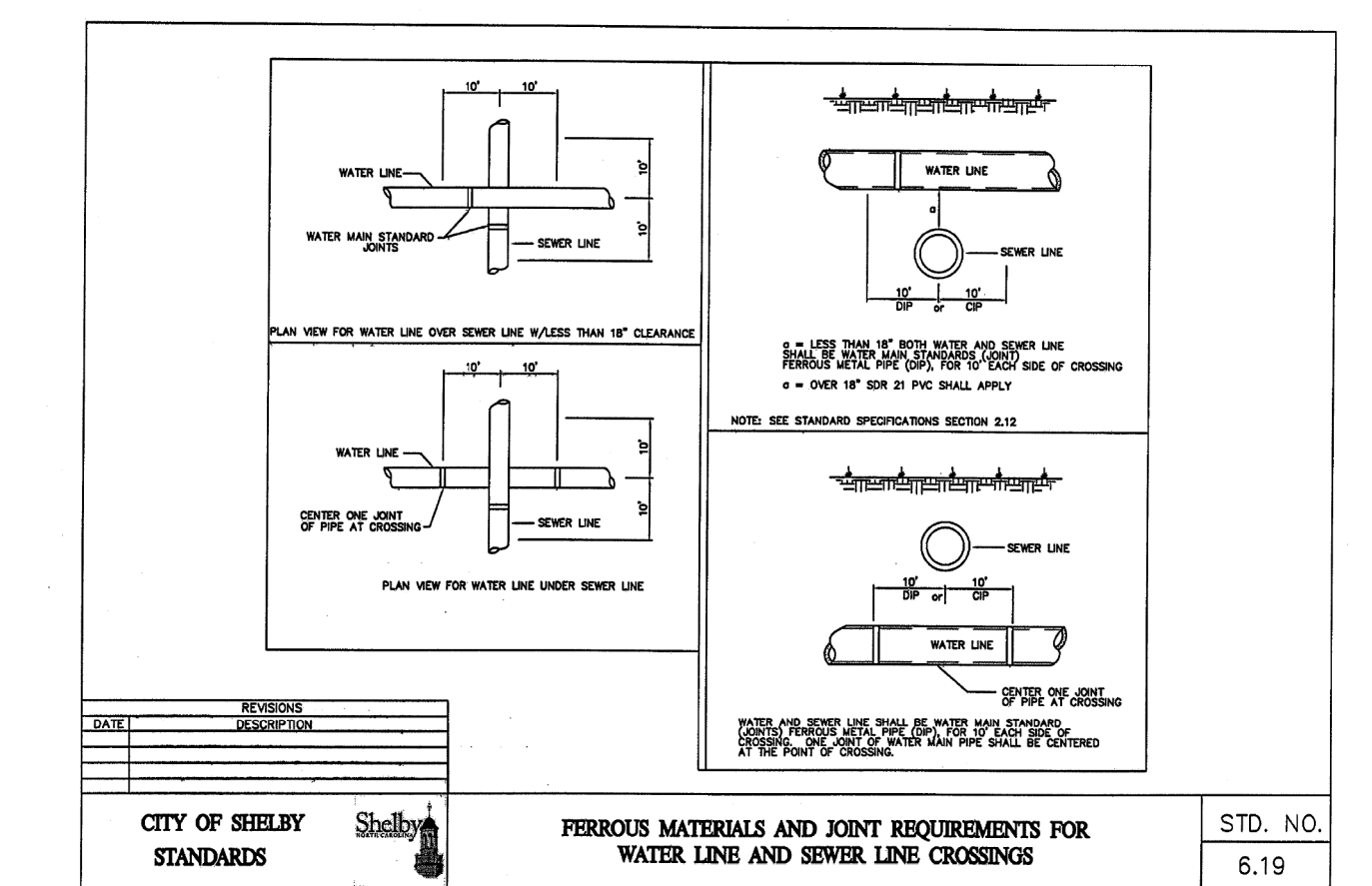
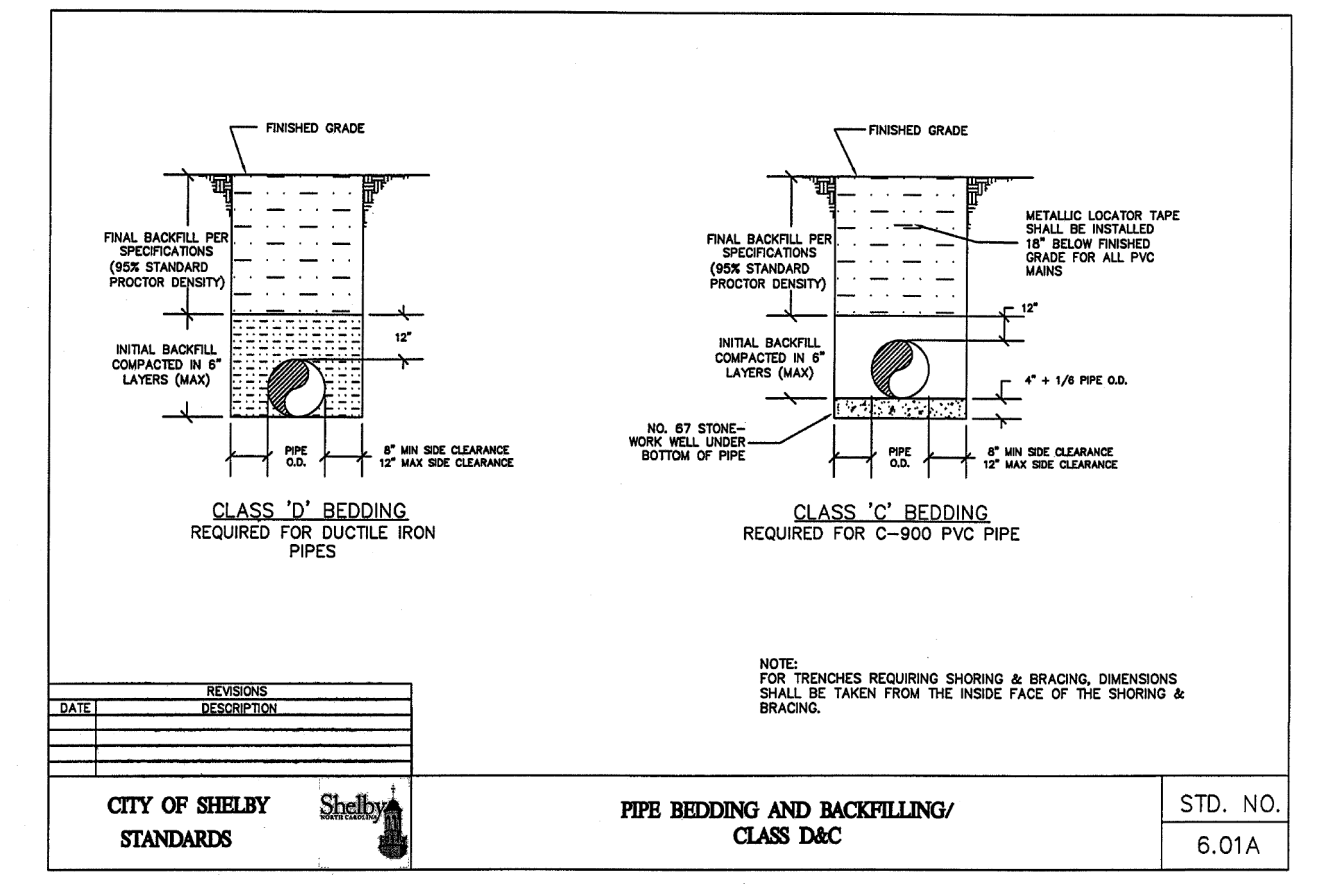
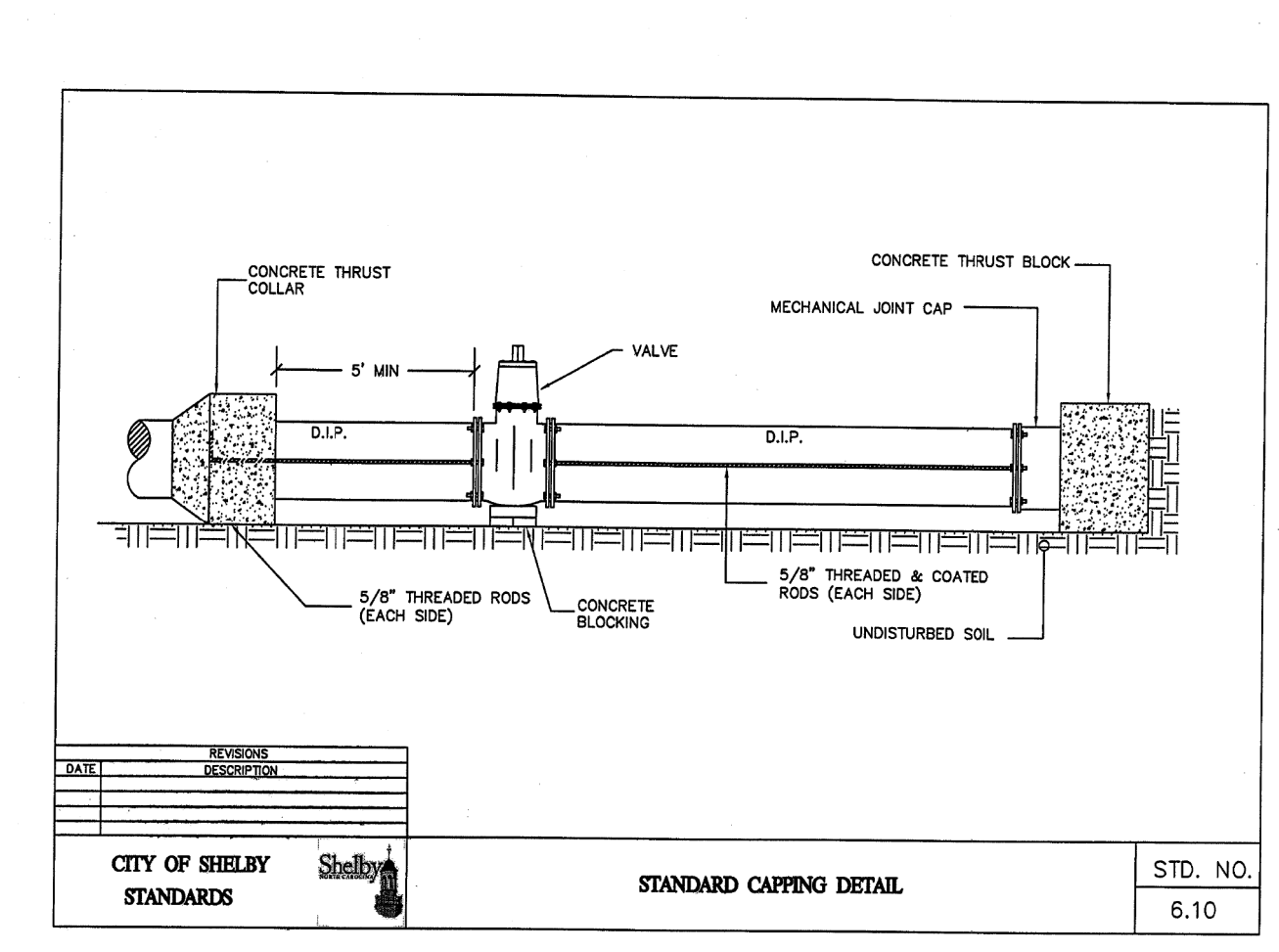
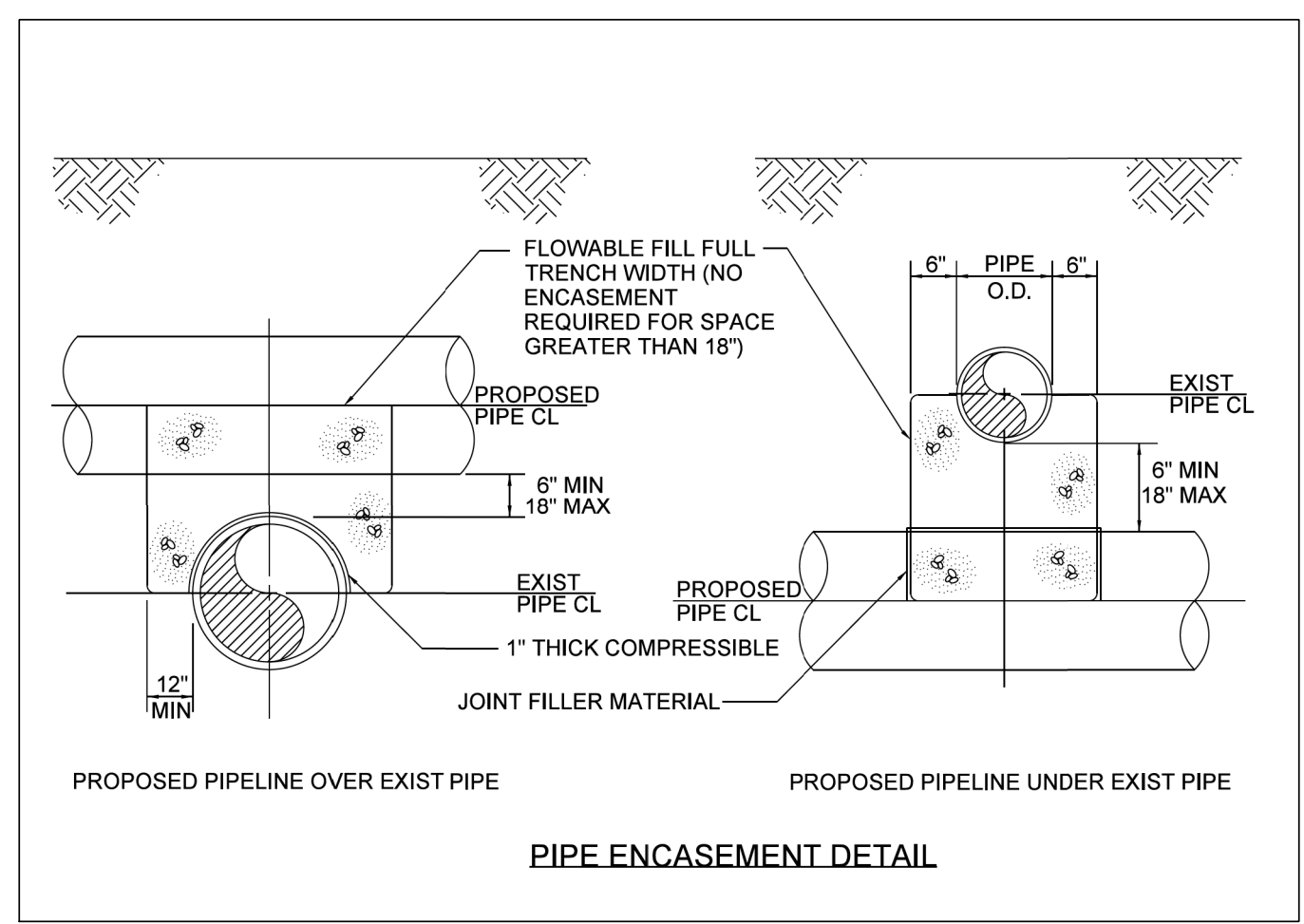
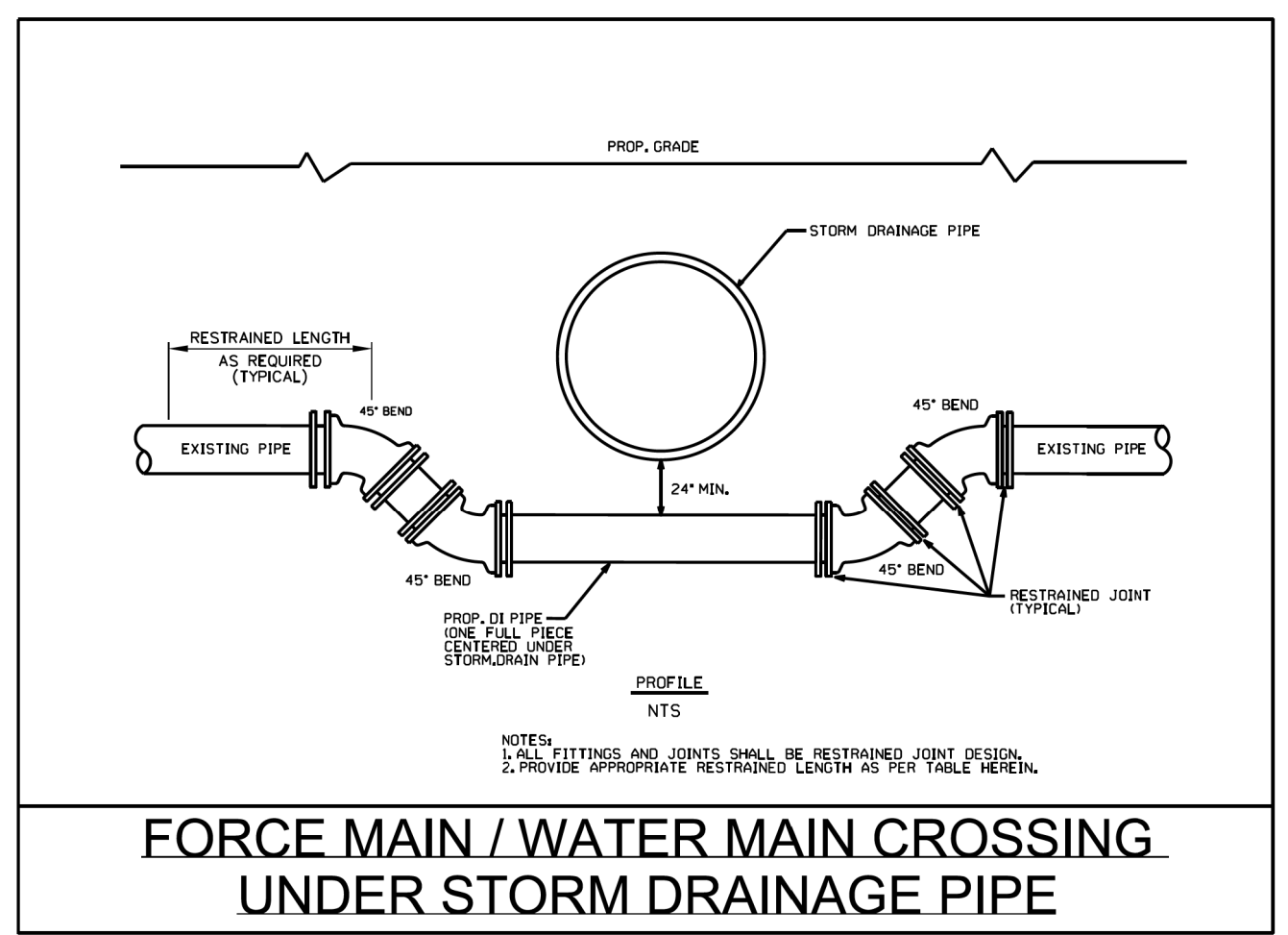
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11. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.
12. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.
13. ALL PROPOSED GRAVITY SEWER LINE SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE .
14. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CITY OF SHELBY STANDARDS AND NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR PROPOSED WATER AND SEWER LINES. IN THE EVENT OF CONFLICT BETWEEN STANDARDS, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.
15. ANY BENDS OF PVC WATER PIPE NOT SPECIFICALLY CALLED OUT WITH A 90, 45, 22.5, OR 11.25 DEGREE BEND FITTING, SHALL BE CONSTRUCTED BY A RADIAL BEND OF THE PIPE AS NOTED ON THE PLANS OR IN ACCORDANCE WITH PIPE MANUFACTURER'S SPECIFICATIONS (WHICHEVER IS MORE STRINGENT) - OR A COMBINATION OF BEND FITTINGS AND A RADIAL BEND OF THE PIPE. DEFLECTION OF THE PIPE JOINTS ON PVC PIPE MATERIAL IS NOT AN ACCEPTABLE METHOD OF PIPE BENDING.

PROJECT TYPICAL DETAILS

UTILITY CONSTRUCTION

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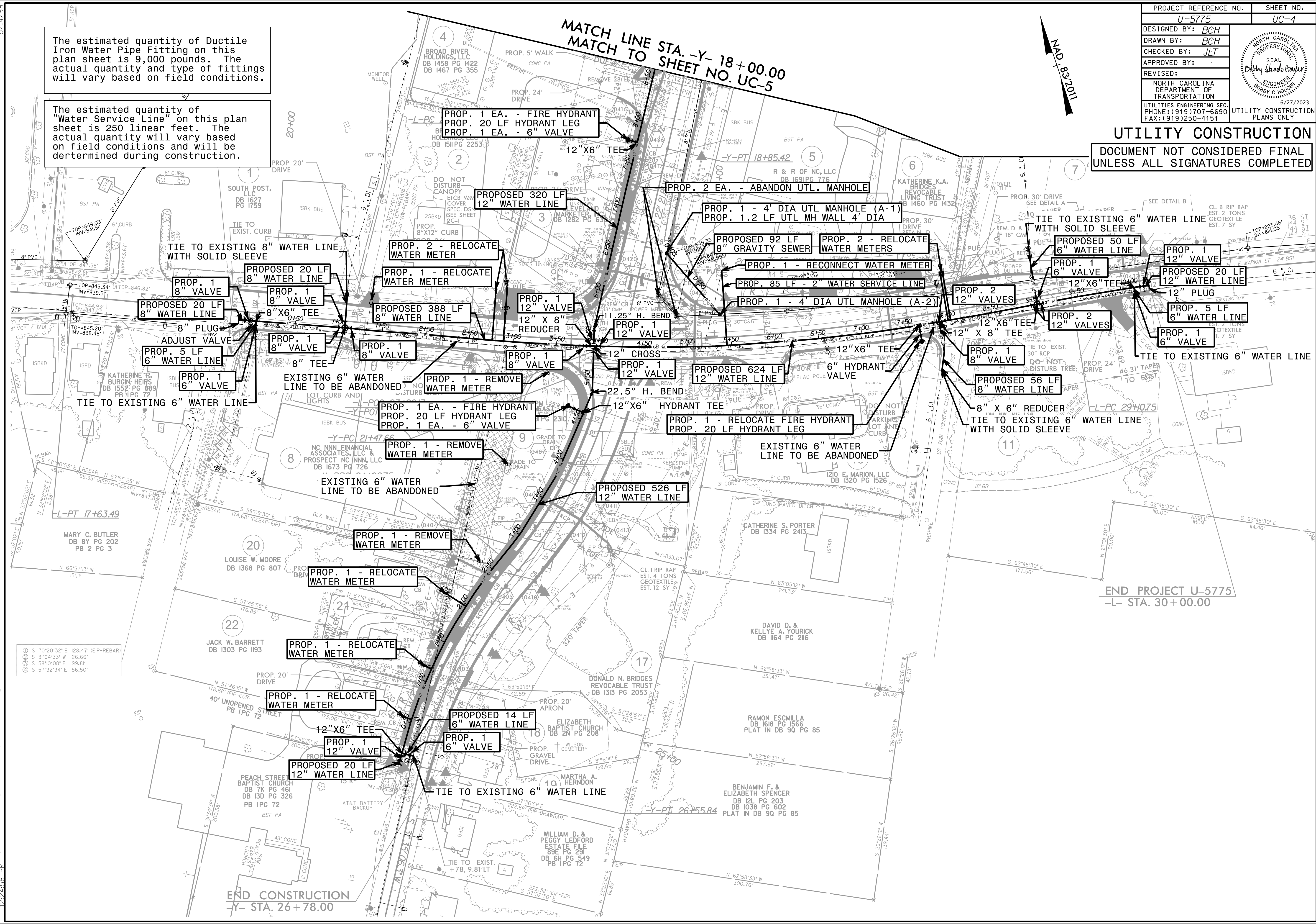
PROJECT REFERENCE NO.	SHEET NO.
U-5775	UC-4
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION

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The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 9,000 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 250 linear feet. The actual quantity and type of fittings will be determined during construction.



- ① S 70°20'32" E 128.47' (EIP-REBAR)
- ② S 31°04'33" W 26.66'
- ③ S 58°10'08" E 99.81'
- ④ S 57°32'34" E 56.50'

END CONSTRUCTION
-Y- STA. 26+78.00

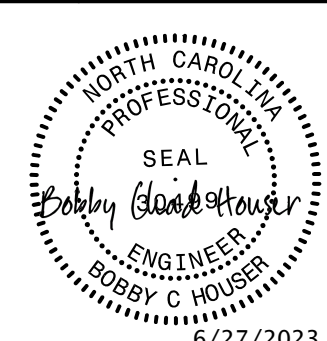
END PROJECT U-5775
-L- STA. 30+00.00

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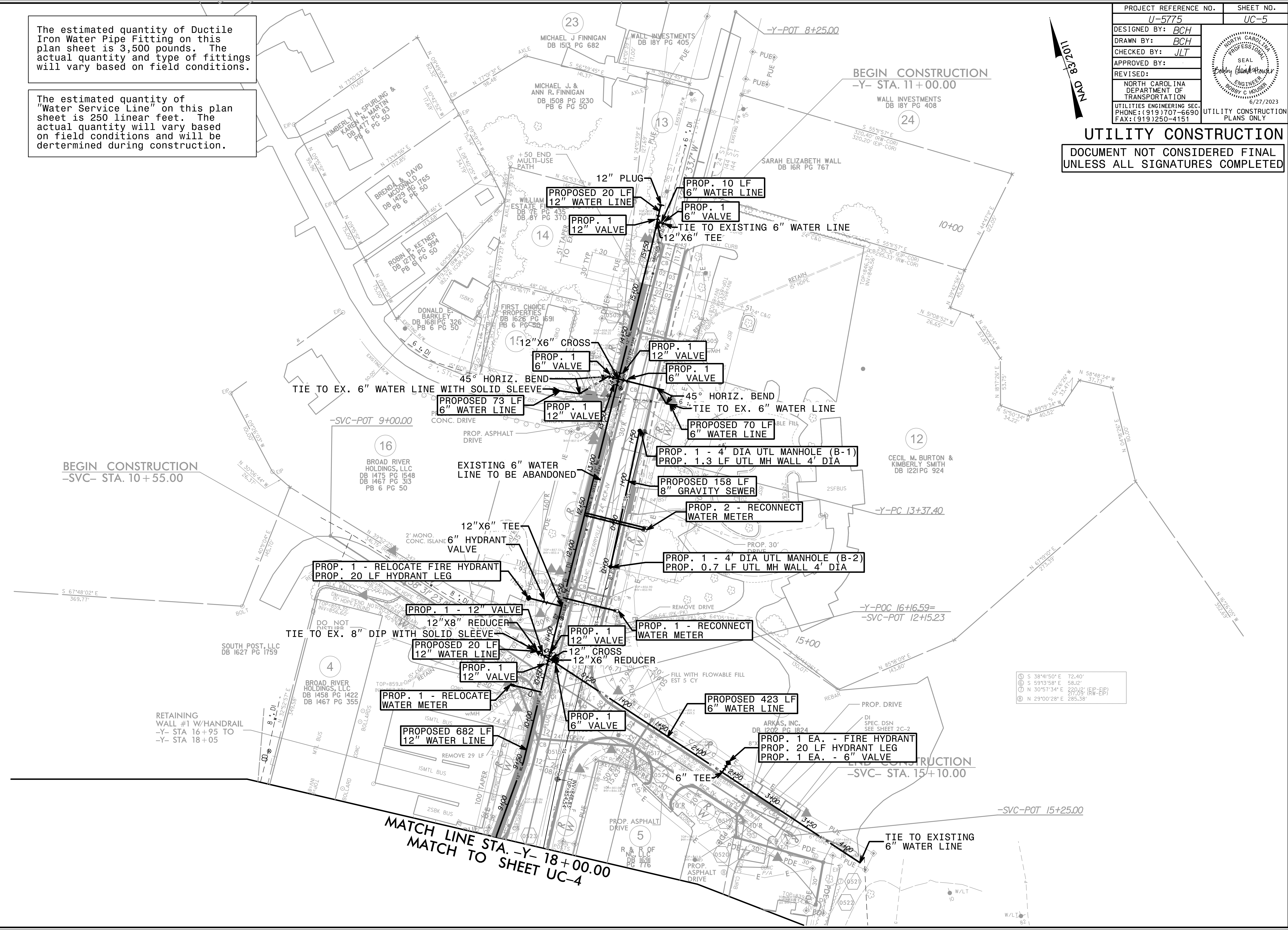
The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 3,500 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 250 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

PROJECT REFERENCE NO.	SHEET NO.
U-5775	UC-5
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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UTILITY CONSTRUCTION
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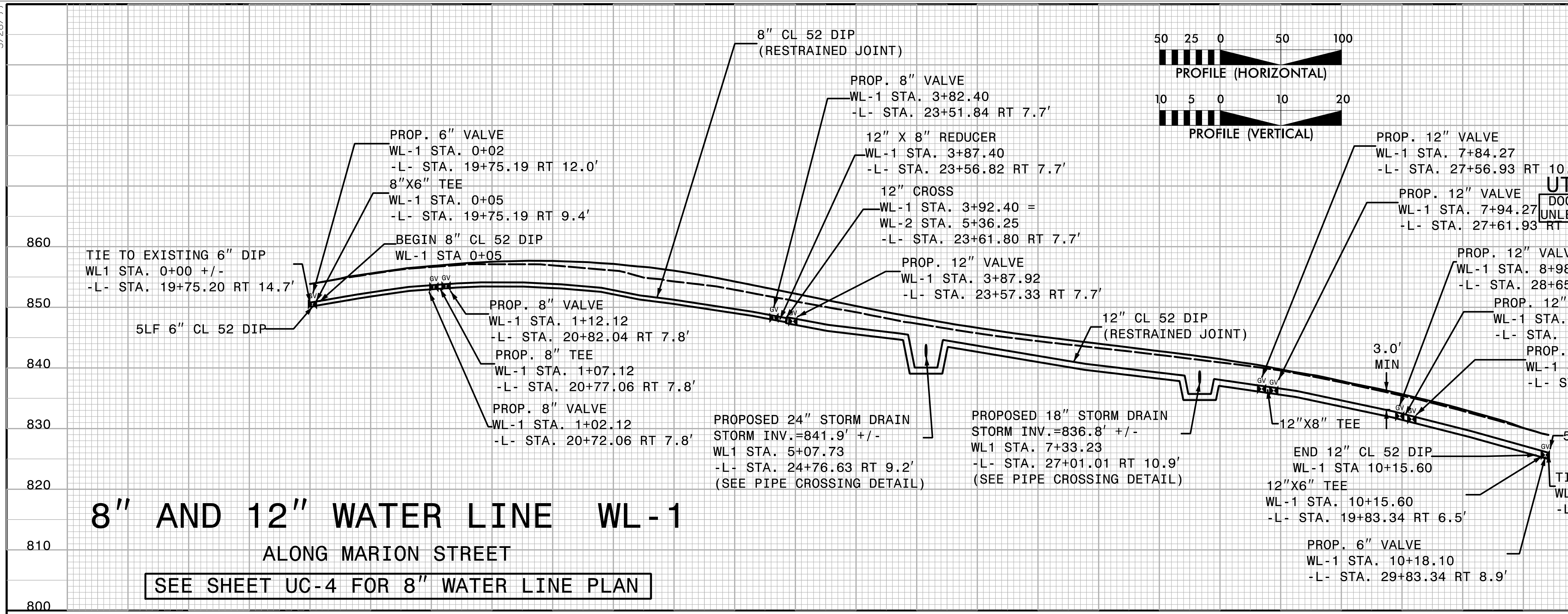
- ⑤ S 38°41'50" E 72.40'
- ⑥ S 59°13'58" E 58.12'
- ⑦ N 30°57'34" E 220.00' (RW-EP)
- ⑧ N 29°00'28" E 285.38'

MATCH LINE STA. -Y- 18+00.00
MATCH TO SHEET UC-4

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5/28/2023

PROJECT REFERENCE NO. U-5775	SHEET NO. UC-6
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	



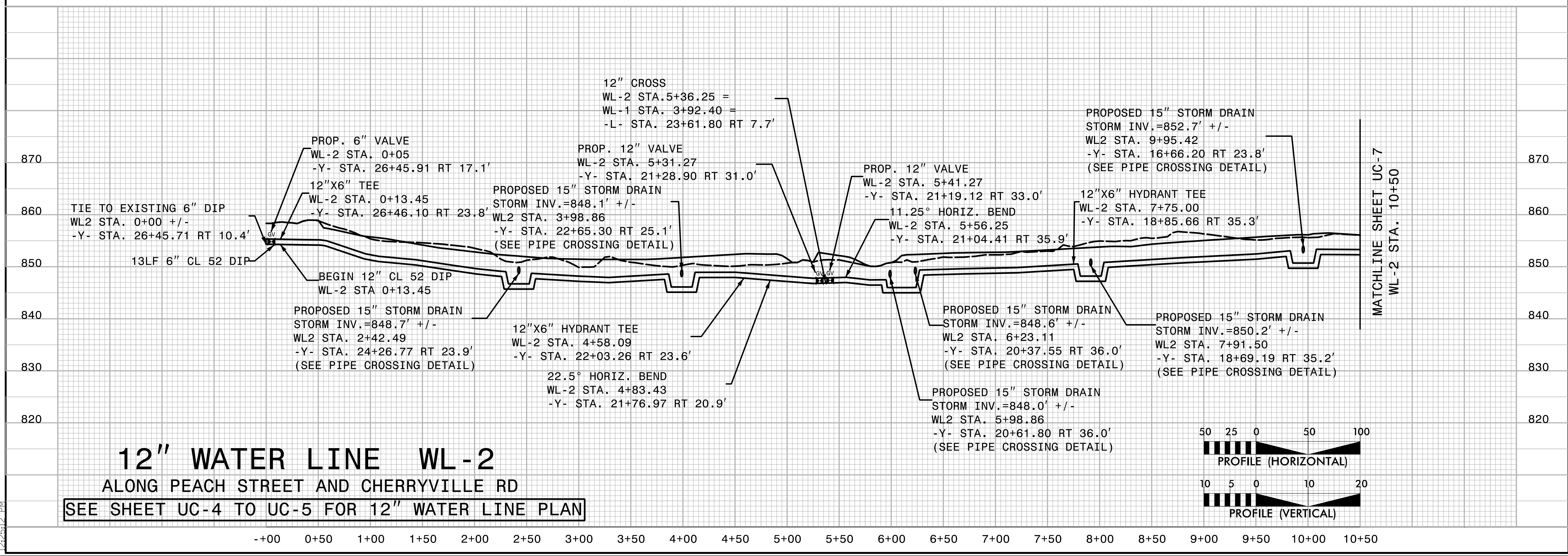
8" AND 12" WATER LINE WL-1

ALONG MARION STREET

SEE SHEET UC-4 FOR 8" WATER LINE PLAN

UTILITY CONSTRUCTION
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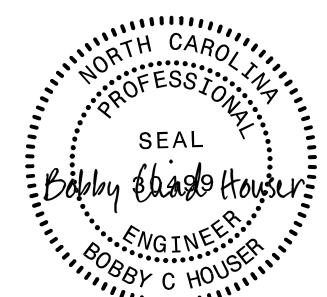
12" WATER LINE WL-2

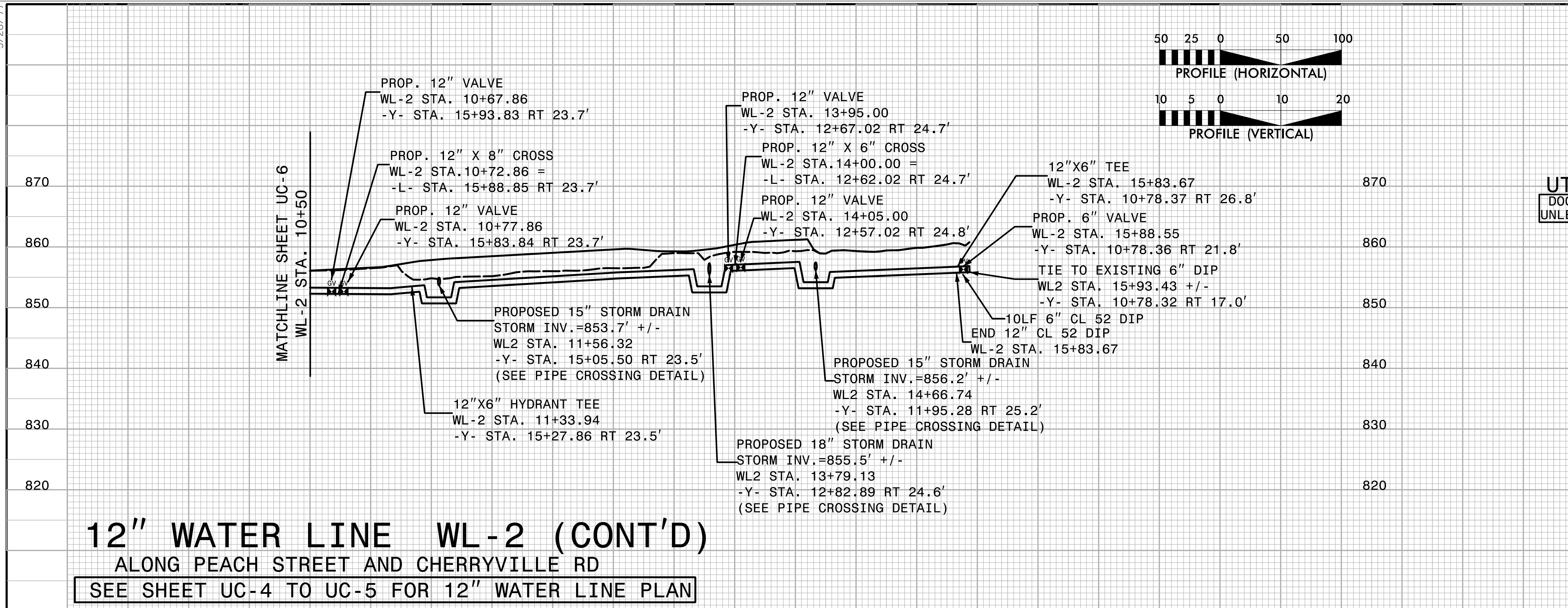
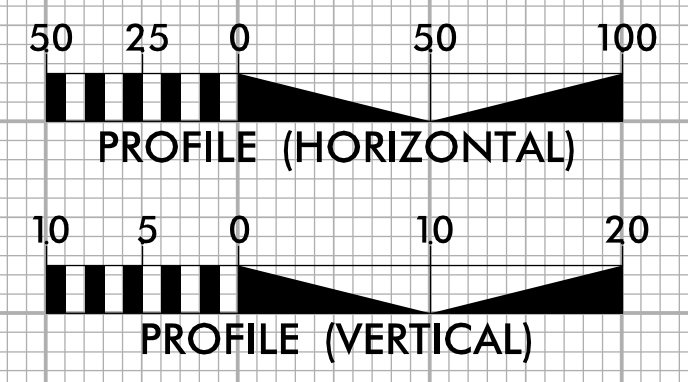
ALONG PEACH STREET AND CHERRYVILLE RD

SEE SHEET UC-4 TO UC-5 FOR 12" WATER LINE PLAN

MATCHLINE SHEET UC-7
WL-2 STA. 10+50

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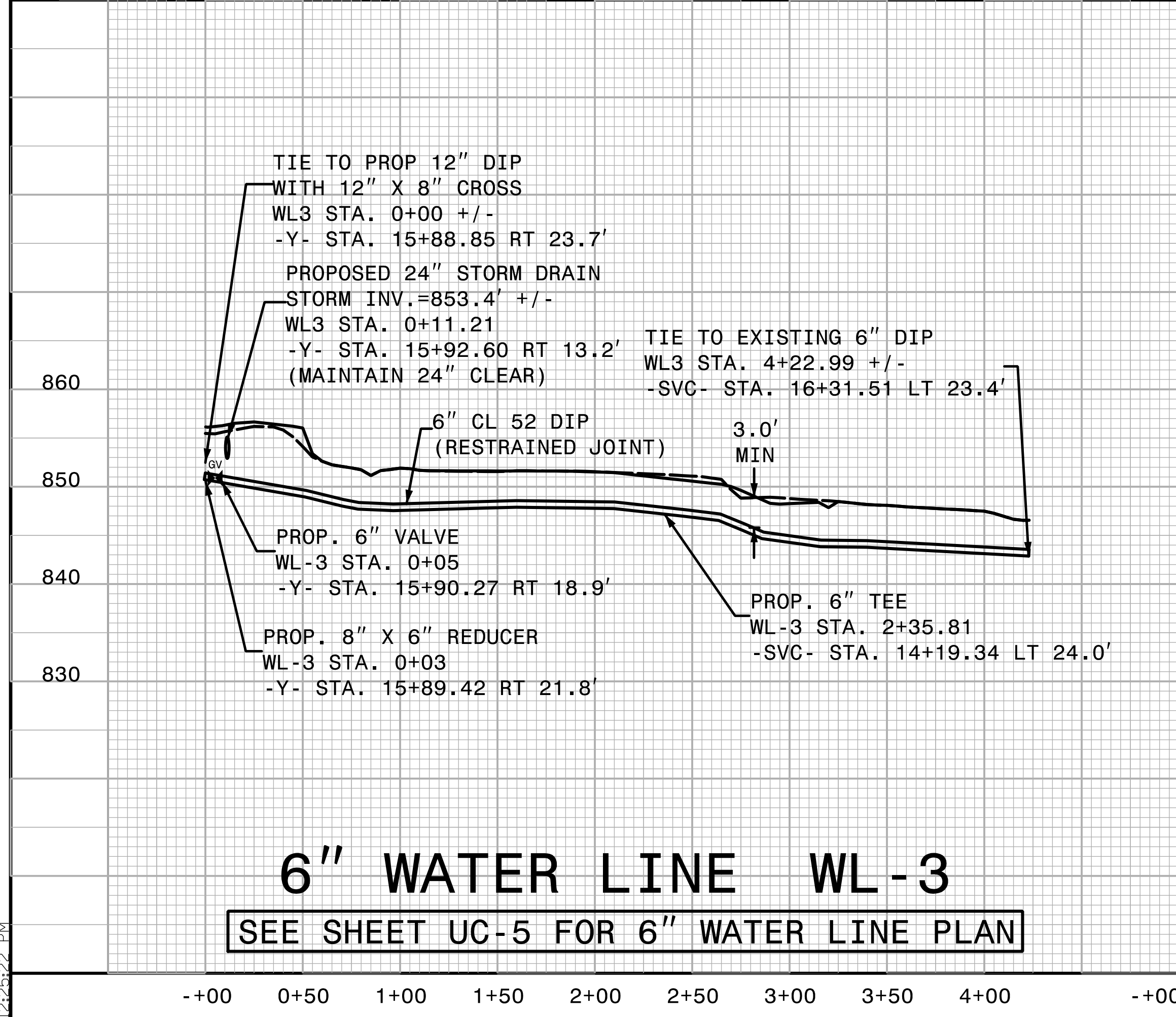
PROJECT REFERENCE NO. U-5775	SHEET NO. UC-7
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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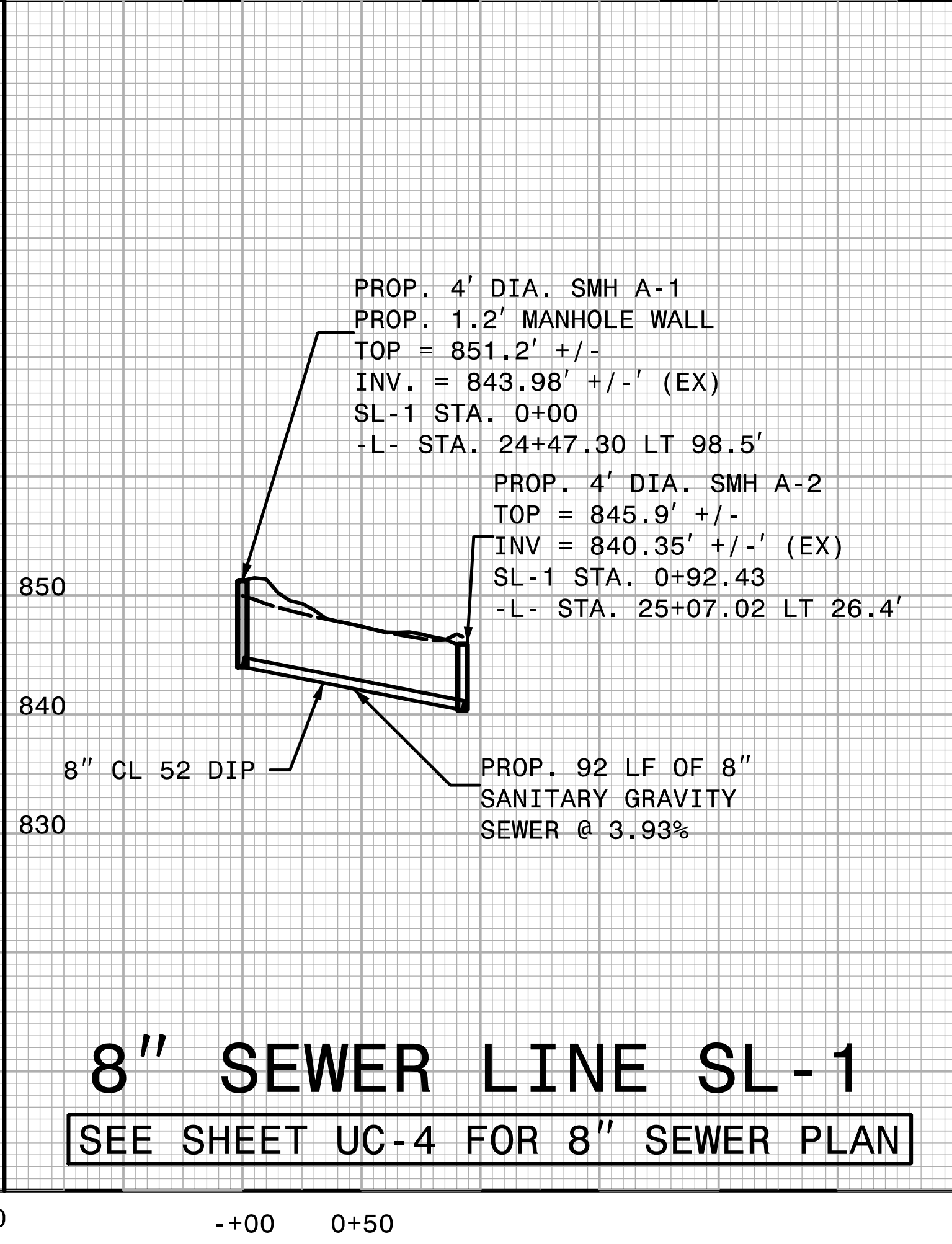
12" WATER LINE WL-2 (CONT'D)
ALONG PEACH STREET AND CHERRYVILLE RD
SEE SHEET UC-4 TO UC-5 FOR 12" WATER LINE PLAN

10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50



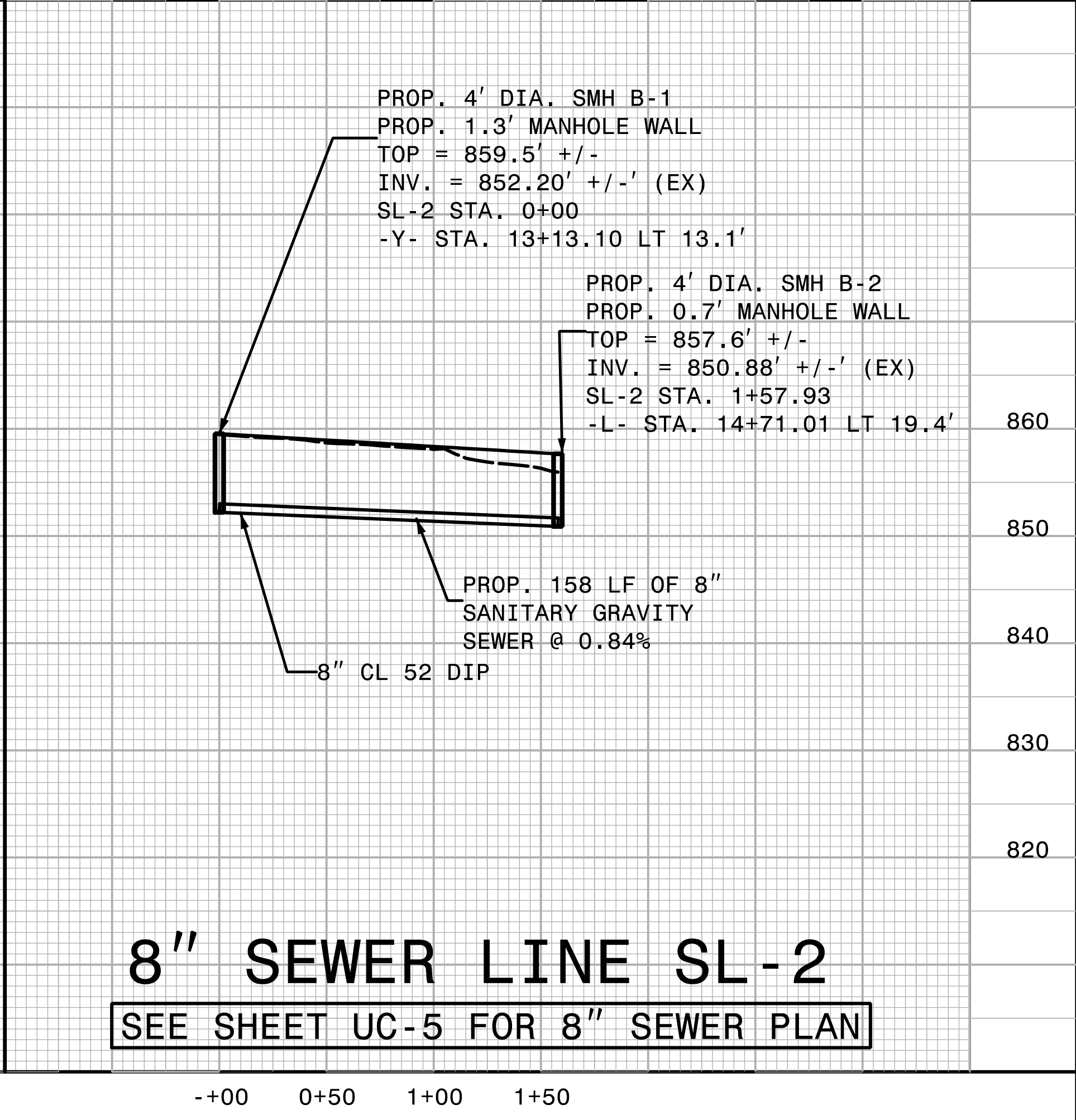
6" WATER LINE WL-3
SEE SHEET UC-5 FOR 6" WATER LINE PLAN

-+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00



8" SEWER LINE SL-1
SEE SHEET UC-4 FOR 8" SEWER PLAN

-+00 0+50



8" SEWER LINE SL-2
SEE SHEET UC-5 FOR 8" SEWER PLAN

-+00 0+50 1+00 1+50

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