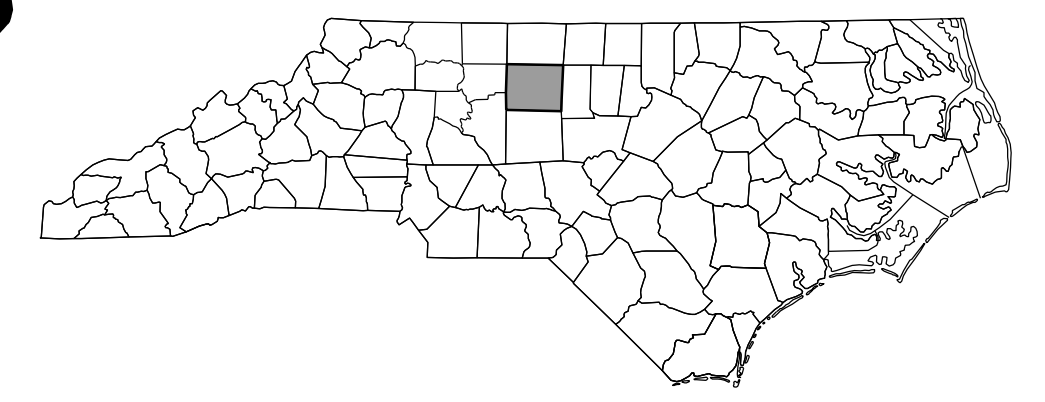


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**TIP PROJECT: U-4015A**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

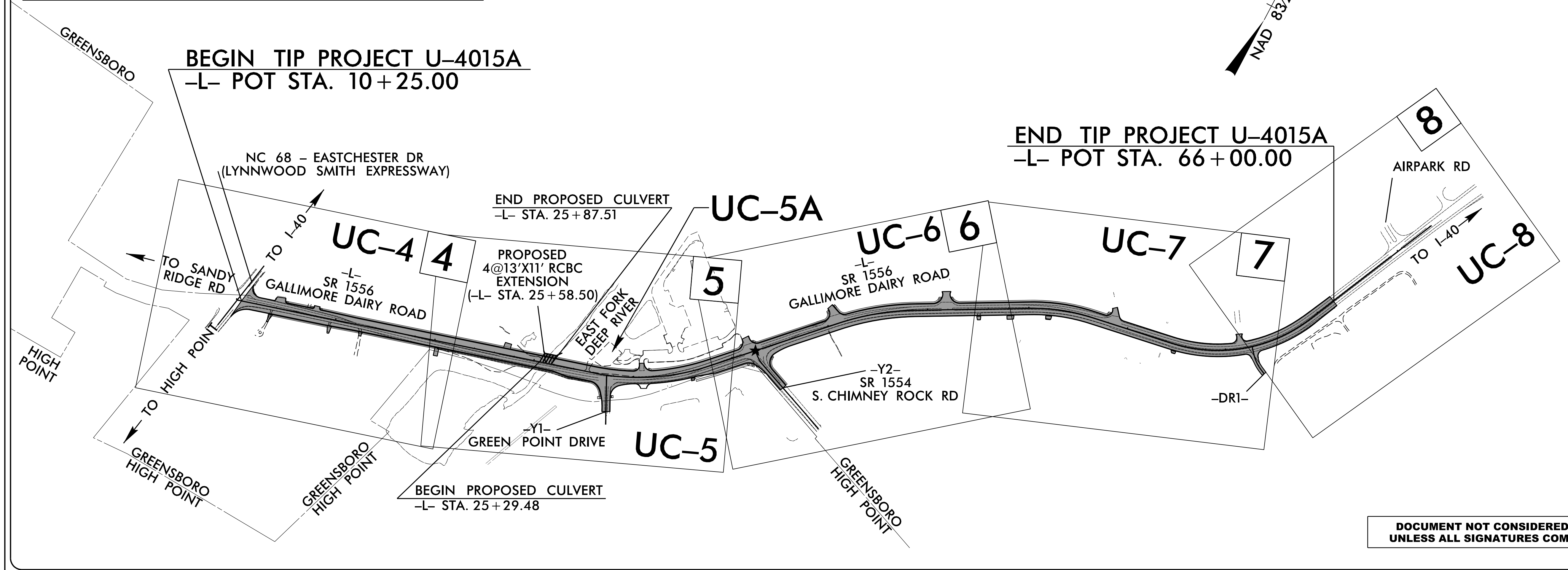
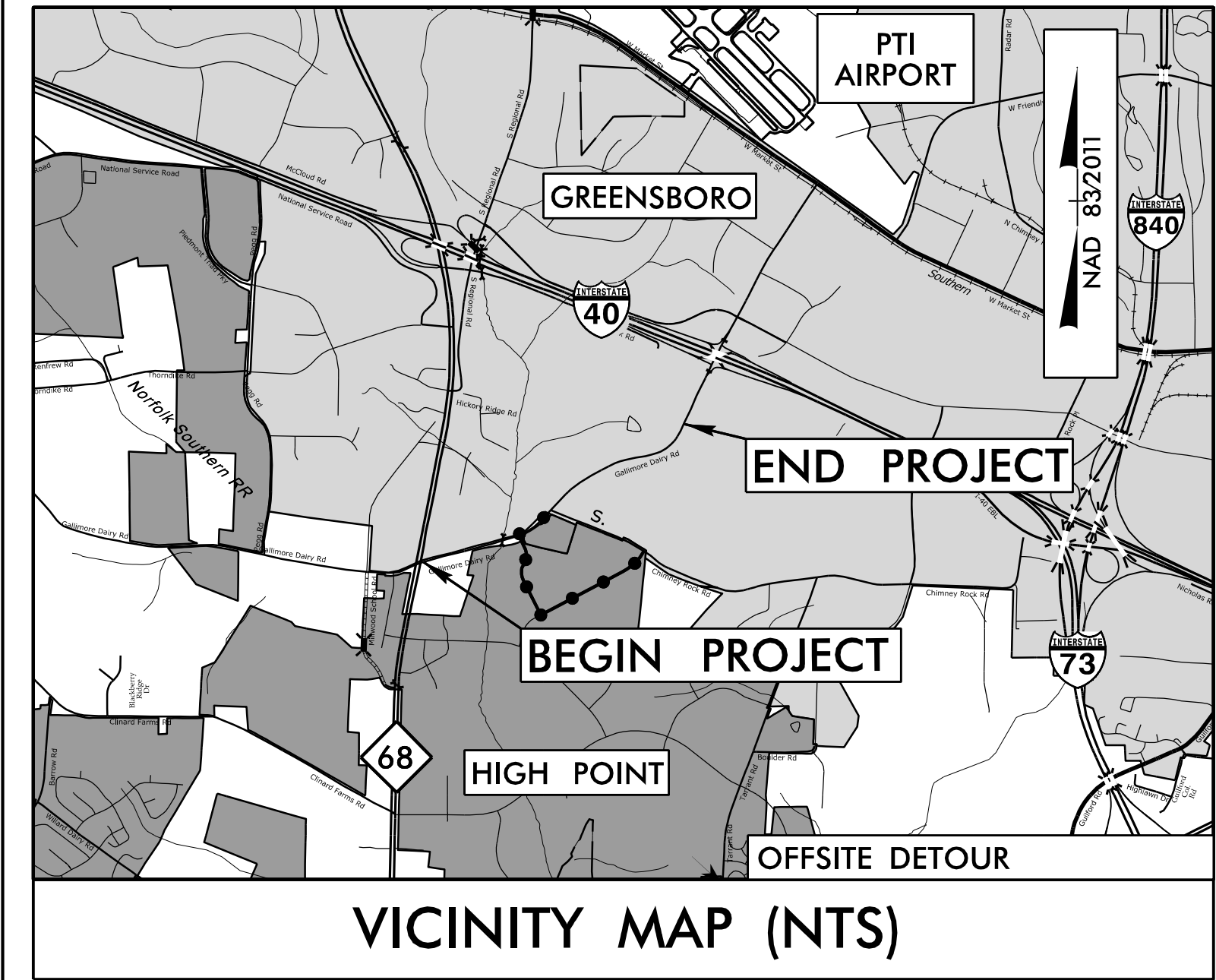
T.I.P. NO.	SHEET NO.
U-4015A	UC-1



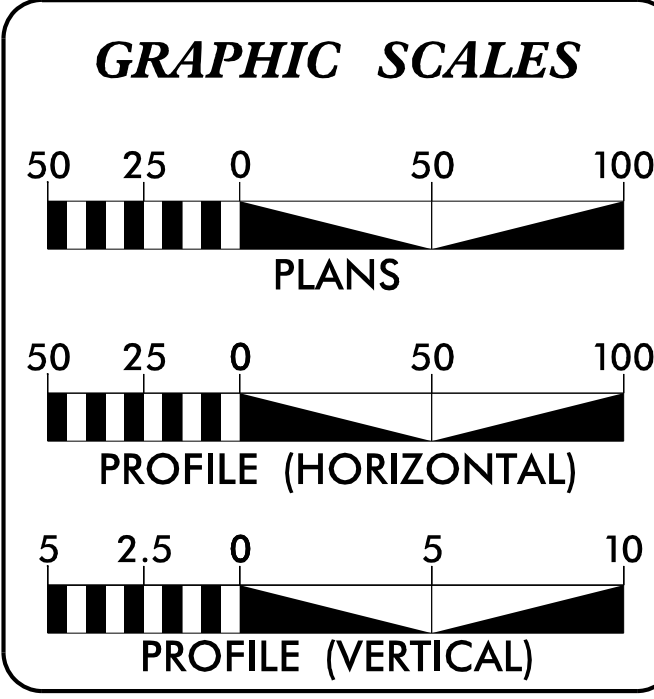
# UTILITY CONSTRUCTION PLANS GUILFORD COUNTY

**LOCATION: SR 1556 (GALLIMORE DAIRY RD.) FROM NC 68 - EASTCHESTER DR (LYNWOOD SMITH EXPY.) TO SOUTH OF AIRPARK RD. IN GREENSBORO**

**TYPE OF WORK: UTILITY CONSTRUCTION**



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3D	DETAILS
UC-4 THRU UC-8	UTILITY CONSTRUCTION SHEETS
UC-9 THRU UC-11	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT
A) WATER - CITY OF GREENSBORO
B) SEWER - CITY OF GREENSBORO
C) WATER - CITY OF HIGH POINT
D) SEWER - CITY OF HIGH POINT

PREPARED IN THE OFFICE OF:

**DAVIS • MARTIN • POWELL**  
ENGINEERS & SURVEYORS

6415 OLD PLANK RD, HIGH POINT, NC 27265  
PHONE: (336)896-4821 FAX: (336)896-4458  
WWW.DMP-INC.COM LICENSE: F-0245

Andy Larrick, P.E.	CONSULTANT CONTACT #1
Steve McKee, P.E.	CONSULTANT CONTACT #2
Ralph Lowe	CONSULTANT CONTACT #3

SEAL

Professional Engineer Seal for Andrew P. Larrick, License No. 6457, State of North Carolina, Department of Transportation.

12/28/2023

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

**DIVISION OF HIGHWAYS**  
DIVISION 7  
1584 YANCEVILLE STREET  
GREENSBORO, NC 27415-4996  
PHONE: (336) 487-0000  
FAX: (336) 334-3637

Pat Wilson, PE	DIVISION PROJECT DELIVERY ENGINEER
Chris Smitherman, PE	DIVISION PROJECT TEAM LEAD
Kelvin Martin	DIVISION UTILITY ENGINEER

28-DEC-2023 14:44 P:\2021\210050\NCDOT\_Files\U4015A\Utilities\Engineering\UC\Proj\U4015a\_ut\_1\_tsh\_UC01.psh.dgn \$\$\$SERNAME\$\$\$

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UTILITIES PLAN SHEET SYMBOLS

### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

### PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

### PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

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	
End of Information	

*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

\*For Existing Utilities  
Utility Line Drawn from Record (Type as Shown)  
Designated Utility Line (Type as Shown)

5/14/99  
REV: 2/1/2012

PROJECT REFERENCE NO. <b>U-4015A</b>	SHEET NO. <b>UC-3</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/28/2023
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

# UTILITY CONSTRUCTION

## 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 2024.
2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO THE CITY OF GREENSBORO AND THE CITY OF HIGH POINT.
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.

## PROJECT SPECIFIC NOTES:

1. UNLESS OTHERWISE NOTED, PIPE AND FITTINGS FOR PROPOSED WATER MAINS 4" DIAMETER AND LARGER SHALL BE DUCTILE IRON, PC 350.
2. UNLESS OTHERWISE NOTED, PIPE AND FITTINGS FOR PROPOSED GRAVITY SEWER MAINS 8" DIAMETER AND LARGER SHALL BE DUCTILE IRON, PC 350.
3. UNLESS OTHERWISE NOTED, PIPE AND FITTINGS FOR PROPOSED SEWER FORCE MAINS 20" DIAMETER AND LARGER SHALL BE DUCTILE IRON, PC 250.
4. THE INTERIOR OF THE PROPOSED SEWER FORCE MAIN PIPE AND FITTINGS SHALL BE LINED WITH CORROSION-RESISTANT CERAMIC EPOXY COATING AS DESCRIBED IN THE UTILITY CONSTRUCTION PROJECT SPECIAL PROVISIONS.
5. WATER LINE VALVES SHALL BE RESILIENT-SEAT GATE VALVES CONFORMING TO ANSI/AWWA C509 OR ANSI/AWWA C515, AND SHALL BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI.
6. TEMPORARY BYPASS PUMPING OF FLOW IN EXISTING GRAVITY SEWER LINES WILL BE REQUIRED WHEN INSTALLING NEW SEWER LINES IN THE SAME HORIZONTAL ALIGNMENT AS THE EXISTING SEWER LINES, AND WHEN TYING PROPOSED MH'S INTO EXISTING SEWER LINES. SEE DIVISION 15, SECTION 1520-3-A-1 OF THE NCDOT STANDARD SPECIFICATIONS. COSTS FOR TEMPORARY BYPASS PUMPING SHALL BE INCIDENTAL TO THE CONTRACT.
7. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
8. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY SYSTEM OWNERS AT LEAST TWO (2) WEEKS IN ADVANCE OF ANY WORK INVOLVING SHUT-DOWNS OF EXISTING WATER OR SEWER MAINS. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE TO CUSTOMERS WHEN EXISTING WATER MAINS HAVE TO BE SHUT DOWN FOR MORE THAN 8 HOURS.
9. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SEWER LATERALS AND/OR CLEANOUTS AS DIRECTED BY THE ENGINEER. ESTIMATED QUANTITIES HAVE BEEN ADDED TO THE CONTRACT TO FACILITATE THIS PROCEDURE.

## UTILITY CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

REVISIONS

## LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT
- 1520.01 SEWER CLEAN OUT

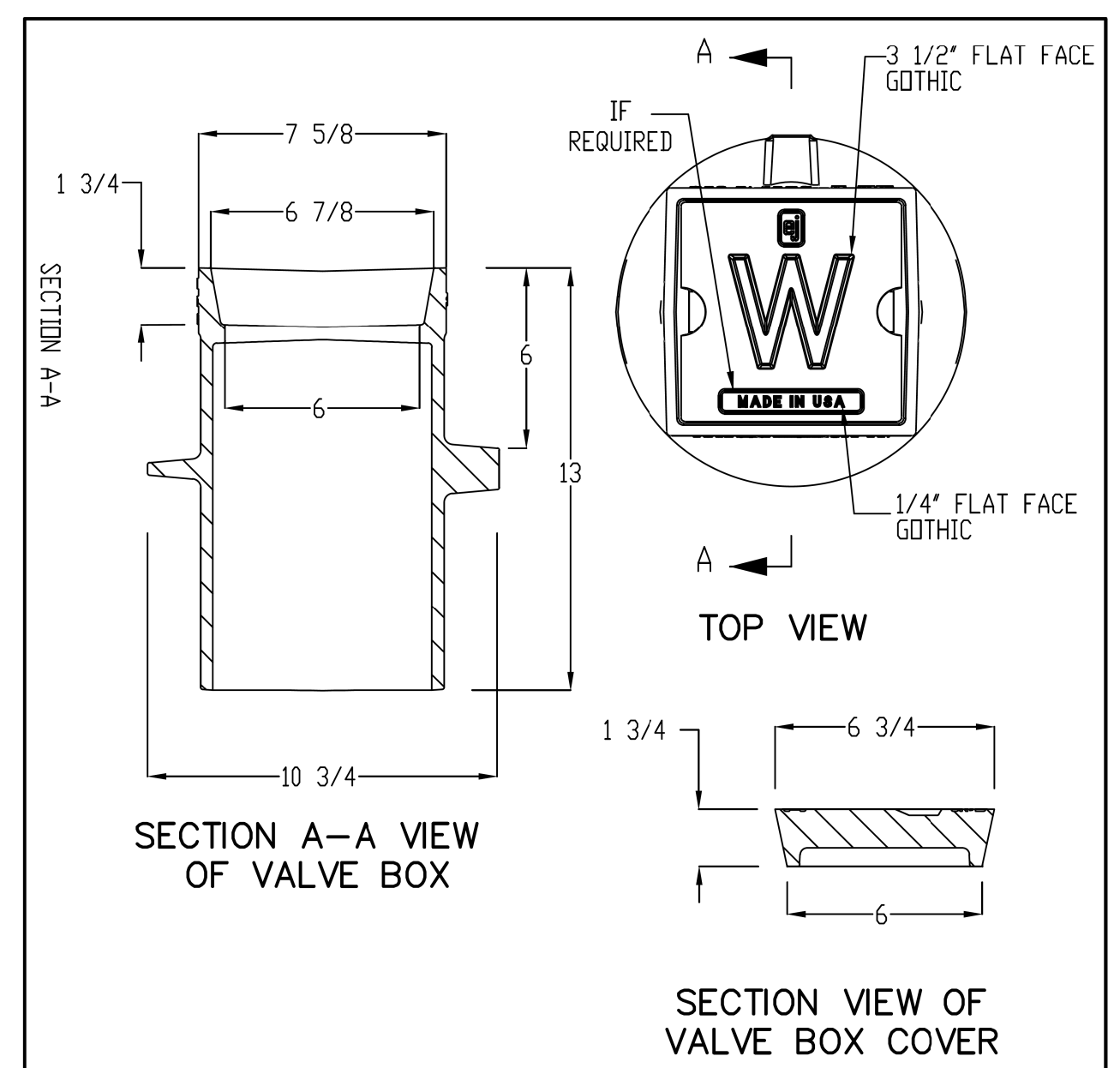
UTILITY CONSTRUCTION PLANS PREPARED BY:  
**DAVIS • MARTIN • POWELL**  
 ENGINEERS & SURVEYORS   
 6415 OLD PLANK RD, HIGH POINT, NC 27265  
 PHONE: (336)886-4821 FAX: (336)886-4458  
 WWW.DMP-INC.COM LICENSE: F-0245

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-4015A	UC-3A
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

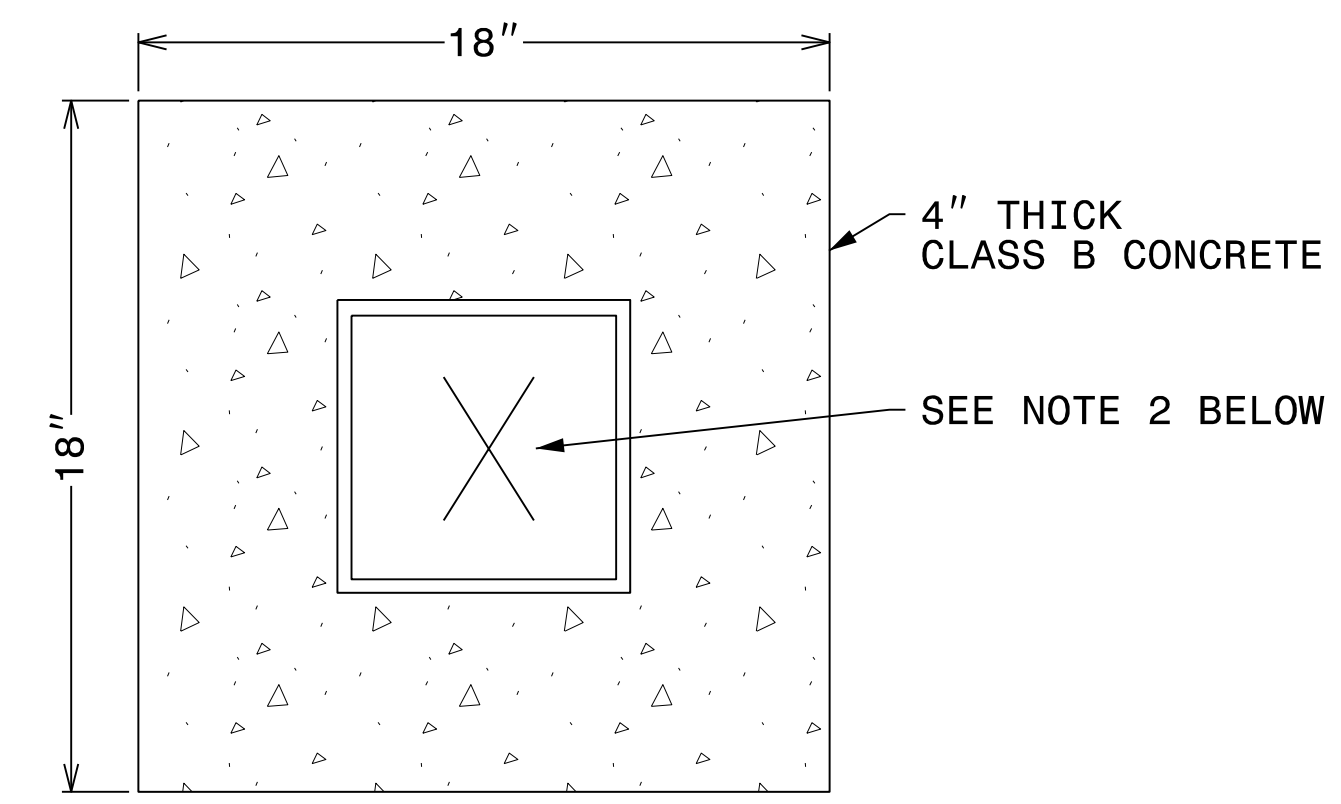
## UTILITY CONSTRUCTION

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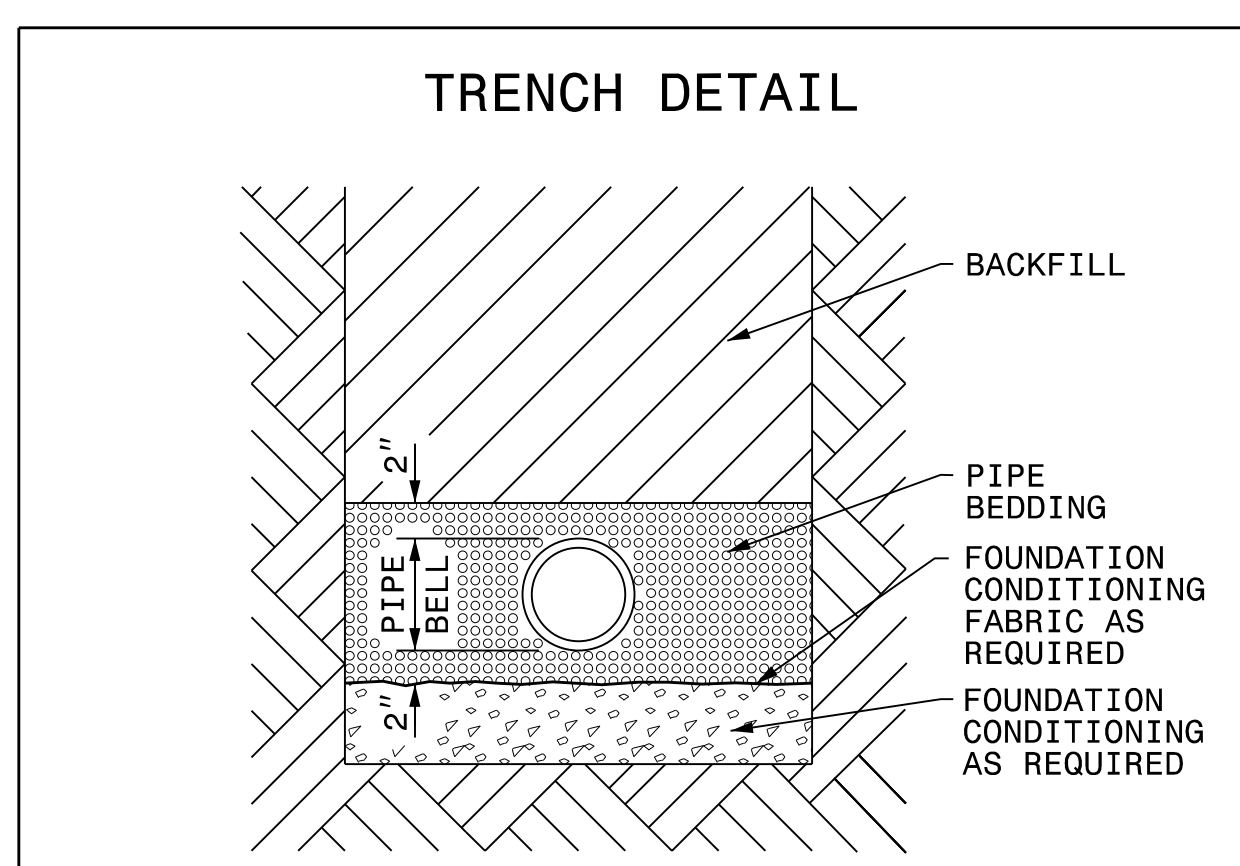
- NOTES:
1. VALVE BOX EXTENSION SHALL BE EITHER 6" DIA. SOIL PIPE OR SCH. 40 PVC PIPE.
  2. EXTENSION TO BE ONE SOLID PIECE OF PIPE UNLESS BURIAL DEPTH IS GREATER THAN STANDARD LENGTH OF PIPE. A BELL OR COUPLING SHALL BE UTILIZED AT THE TOP OF VALVE CONNECTION (SEE COG STD #101).
  3. LETTER HEIGHT 3-1/2"
  4. COUNTERSINK LETTER 3/16"
  5. TO BE USED IN PAVED OR NON-PAVED AREAS.
  6. ALL CASTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M306.
  7. DUE TO VARIATIONS IN CASTINGS OF DIFFERENT MANUFACTURERS, DIMENSIONS SHALL BE WITHIN REASONABLE TOLERANCES AS PRE-APPROVED BY GREENSBORO WATER RESOURCES DEPARTMENT AND/OR FIELD INSPECTOR PRIOR TO INSTALLATION.
  8. VALVE BOX MAY BE REQUIRED TO BE "MADE IN U.S.A." IF FEDERAL FUNDS ARE INVOLVED.

<b>CITY OF GREENSBORO</b>					
WATER VALVE BOX AND EXTENSION	<table border="1"> <tr> <th>STD. NO.</th> <th>REV.</th> </tr> <tr> <td>102</td> <td>03-93 03-12 08-02 12-12 09-10 03-15</td> </tr> </table>	STD. NO.	REV.	102	03-93 03-12 08-02 12-12 09-10 03-15
STD. NO.	REV.				
102	03-93 03-12 08-02 12-12 09-10 03-15				

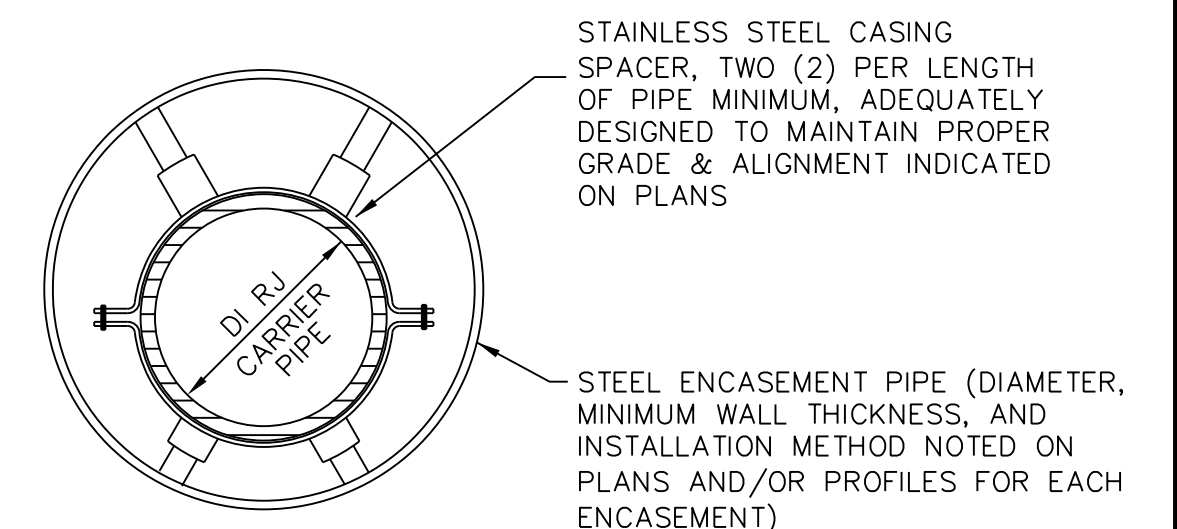


- CONCRETE COLLAR FOR COG VALVE BOX
- NOTES:
1. PROVIDE CONCRETE COLLARS FOR ALL VALVE BOXES THAT ARE NOT IN PAVED AREAS.
  2. VALVE BOX LIDS SHALL HAVE THE LETTER "W" FOR WATER VALVES, OR "S" FOR SEWER VALVES.

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	60	84

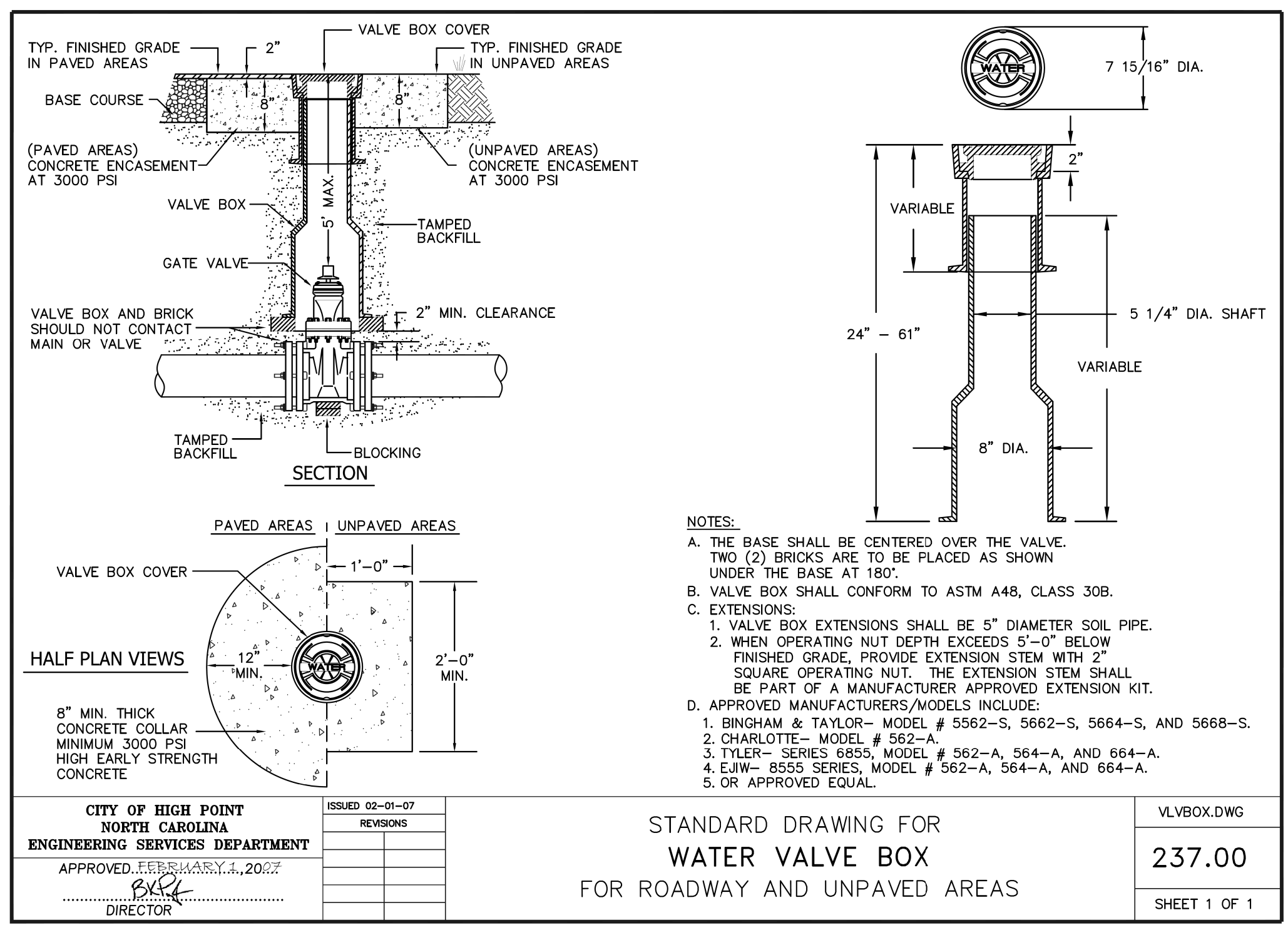


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL 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.



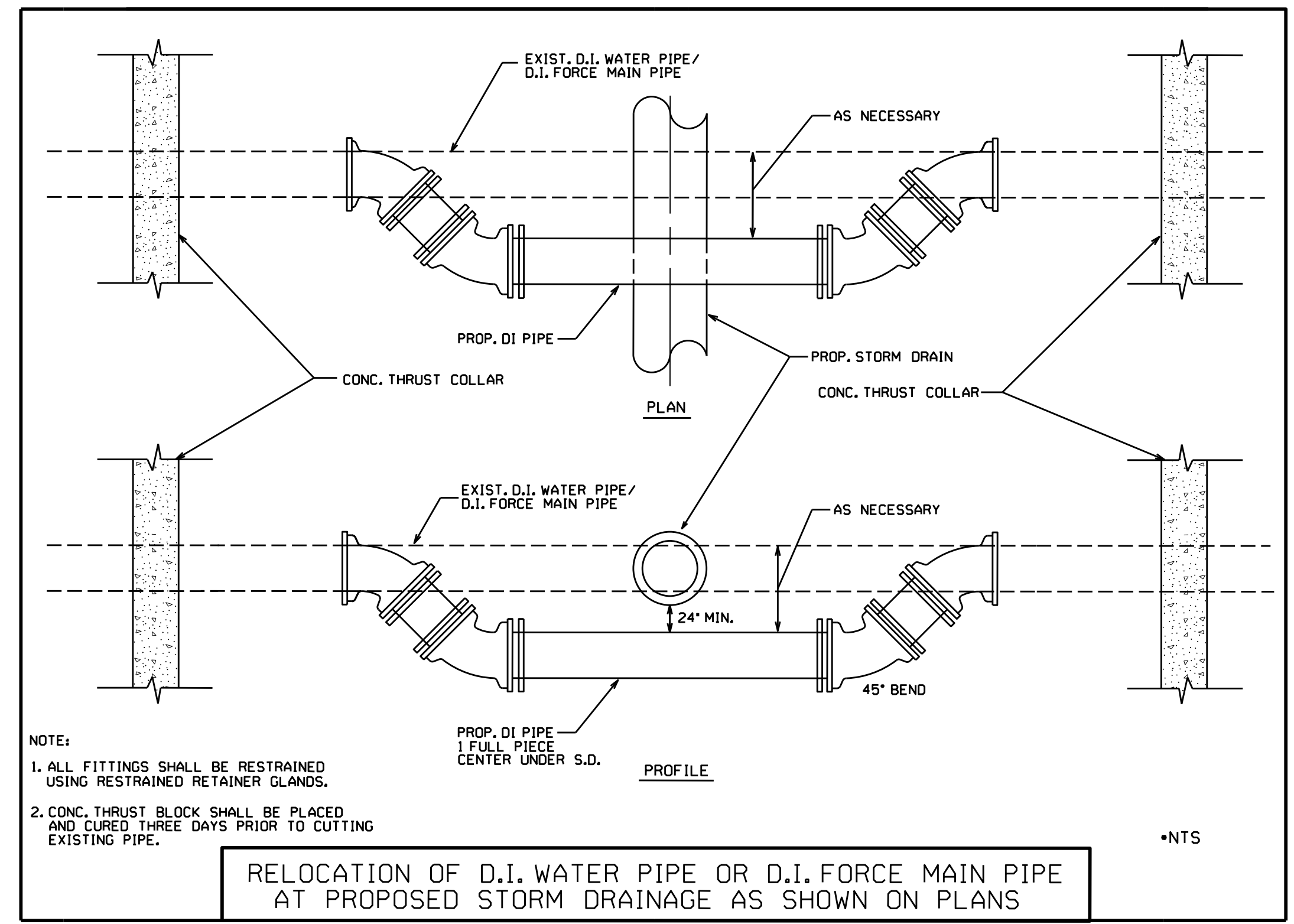
- NOTES:
1. ENCLOSE ENDS WITH BRICK MASONRY.
  2. PROVIDE 1" WEEP HOLE AT LOW END OF ENCASEMENT.
  3. SEE 2024 NCDOT STANDARD SPECIFICATIONS, DIVISION 15, SECTIONS 1540 AND 1550, FOR OTHER REQUIREMENTS.

TYPICAL ENCASEMENT PIPE SECTION  
N.T.S.



- NOTES:
- A. THE BASE SHALL BE CENTERED OVER THE VALVE. TWO (2) BRICKS ARE TO BE PLACED AS SHOWN UNDER THE BASE AT 180°.
  - B. VALVE BOX SHALL CONFORM TO ASTM A48, CLASS 30B.
  - C. EXTENSIONS:
    1. VALVE BOX EXTENSIONS SHALL BE 5" DIAMETER SOIL PIPE.
    2. WHEN OPERATING NUT DEPTH EXCEEDS 5'-0" BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH 2" SQUARE OPERATING NUT. THE EXTENSION STEM SHALL BE PART OF A MANUFACTURER APPROVED EXTENSION KIT.
  - D. APPROVED MANUFACTURERS/MODELS INCLUDE:
    1. BINGHAM & TAYLOR - MODEL # 5562-S, 5662-S, 5664-S, AND 5668-S.
    2. CHARLOTTE - MODEL # 562-A.
    3. TYLER - SERIES 8855, MODEL # 562-A, 564-A, AND 664-A.
    4. E.J.W. - 8555 SERIES, MODEL # 562-A, 564-A, AND 664-A.
    5. OR APPROVED EQUAL.

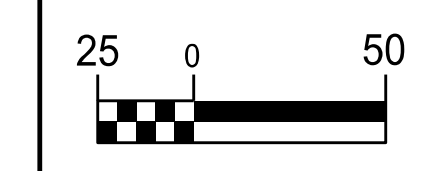
CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT	ISSUED 02-01-07	VLVBOX.DWG
APPROVED: [Signature]	REVISIONS	237.00
DIRECTOR		SHEET 1 OF 1



- NOTE:
1. ALL FITTINGS SHALL BE RESTRAINED USING RESTRAINED RETAINER GLANDS.
  2. CONC. THRUST BLOCK SHALL BE PLACED AND CURED THREE DAYS PRIOR TO CUTTING EXISTING PIPE.

RELOCATION OF D.I. WATER PIPE OR D.I. FORCE MAIN PIPE AT PROPOSED STORM DRAINAGE AS SHOWN ON PLANS

# PROJECT TYPICAL DETAILS

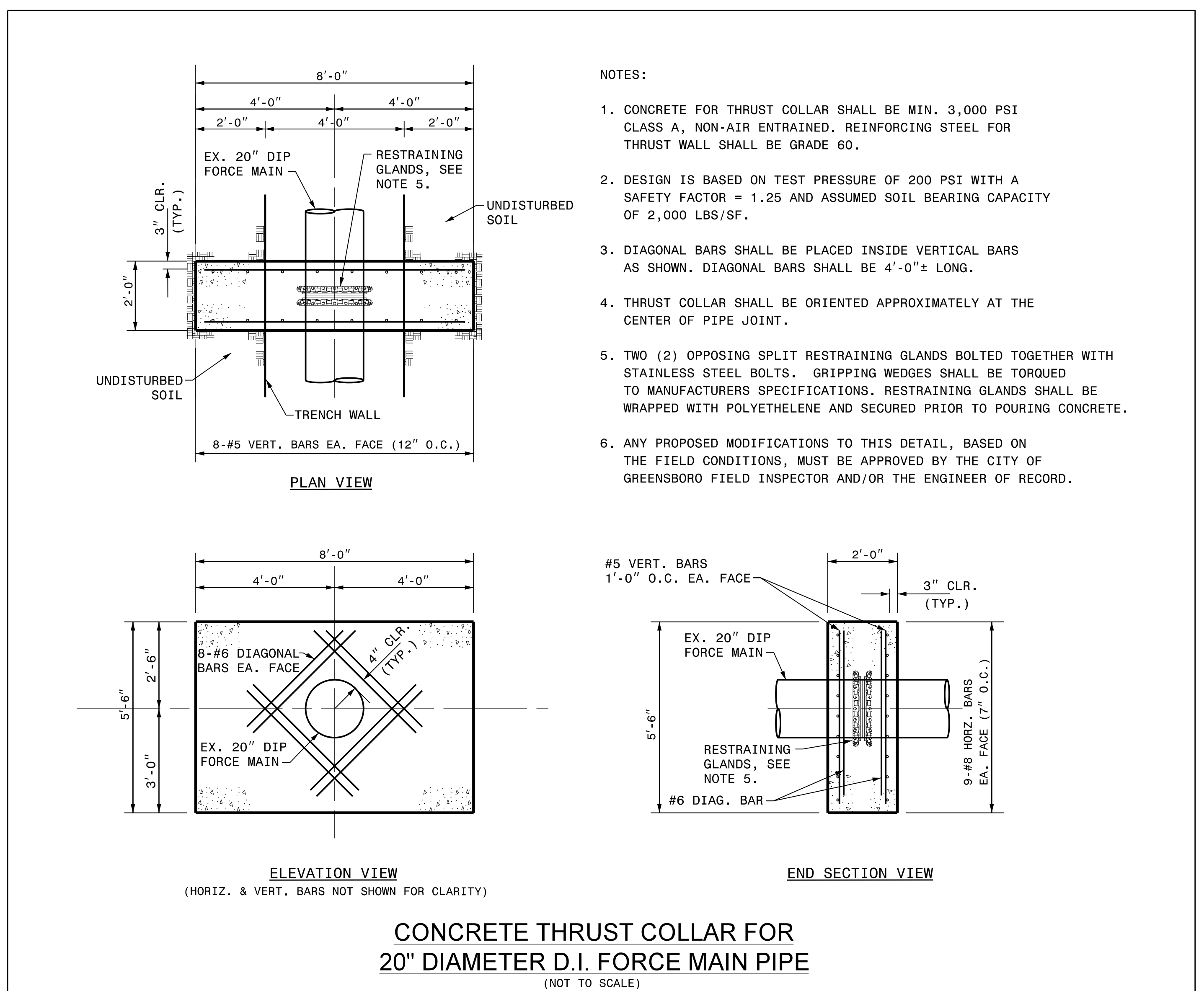


PROJECT REFERENCE NO. U-4015A	SHEET NO. UC-3B
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	12/28/2023 ANDREW P. LARRICK UTILITY CONSTRUCTION PLANS ONLY

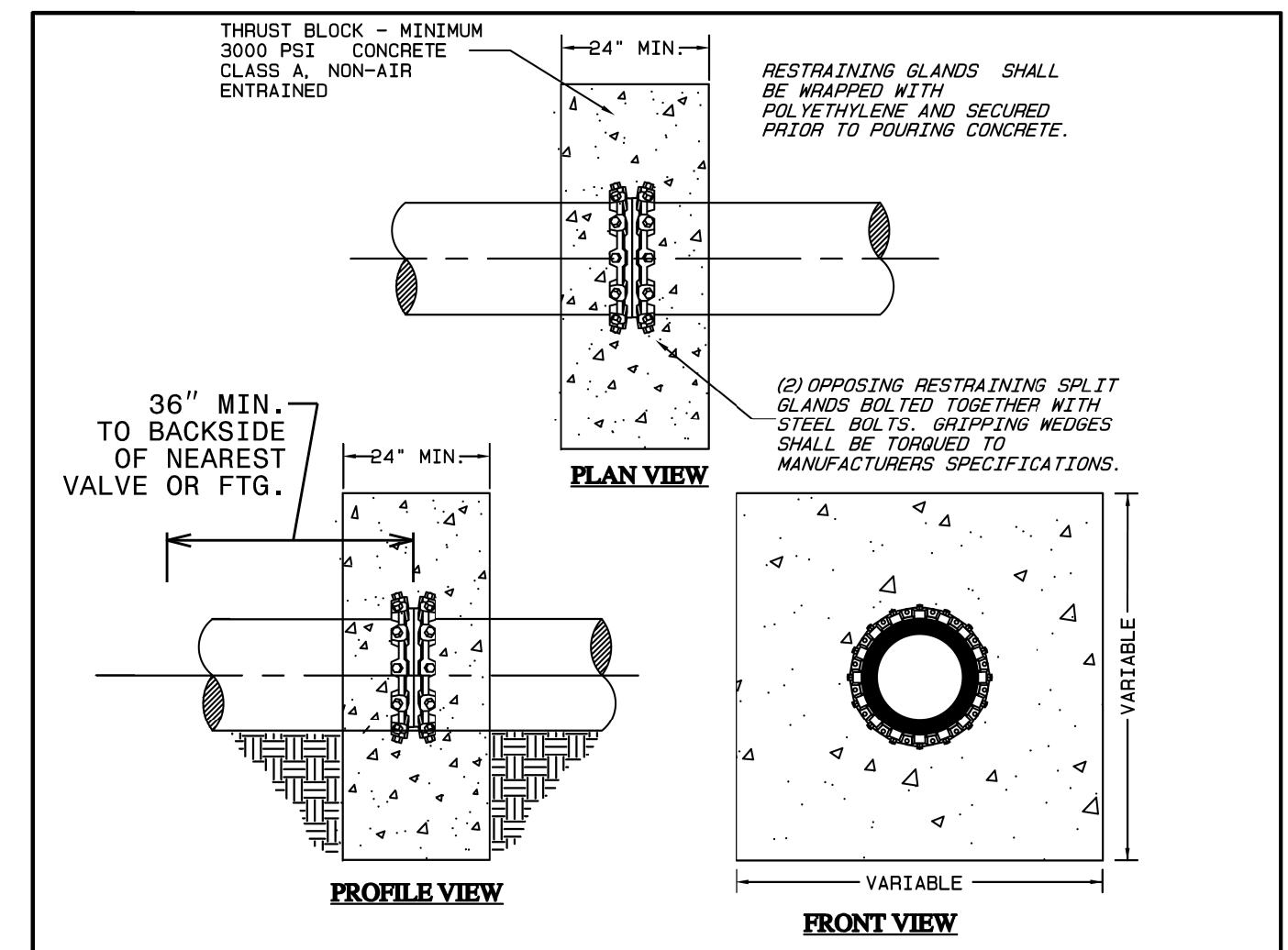
## UTILITY CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

REVISIONS



- NOTES:**
1. CONCRETE FOR THRUST COLLAR SHALL BE MIN. 3,000 PSI CLASS A, NON-AIR ENTRAINED. REINFORCING STEEL FOR THRUST WALL SHALL BE GRADE 60.
  2. DESIGN IS BASED ON TEST PRESSURE OF 200 PSI WITH A SAFETY FACTOR = 1.25 AND ASSUMED SOIL BEARING CAPACITY OF 2,000 LBS/SF.
  3. DIAGONAL BARS SHALL BE PLACED INSIDE VERTICAL BARS AS SHOWN. DIAGONAL BARS SHALL BE 4'-0"± LONG.
  4. THRUST COLLAR SHALL BE ORIENTED APPROXIMATELY AT THE CENTER OF PIPE JOINT.
  5. TWO (2) OPPOSING SPLIT RESTRAINING GLANDS BOLTED TOGETHER WITH STAINLESS STEEL BOLTS. GRIPPING WEDGES SHALL BE TORQUED TO MANUFACTURERS SPECIFICATIONS. RESTRAINING GLANDS SHALL BE WRAPPED WITH POLYETHYLENE AND SECURED PRIOR TO POURING CONCRETE.
  6. ANY PROPOSED MODIFICATIONS TO THIS DETAIL, BASED ON THE FIELD CONDITIONS, MUST BE APPROVED BY THE CITY OF GREENSBORO FIELD INSPECTOR AND/OR THE ENGINEER OF RECORD.



- NOTES:**
1. SEE CITY OF GREENSBORO - WATER LINE AND SEWER LINE STANDARD CONSTRUCTION SPECIFICATIONS, SUB-ARTICLE 3.02 & 3.03 FOR (TRENCH AND BACKFILL) AND (TRENCH STABILIZATION) REQUIREMENTS.
  2. THRUST BLOCK SHALL BE ORIENTED APPROXIMATELY CENTER OF PIPE JOINT.
  3. (OPTIONAL) A WELDED COLLAR (INSTALLED BY PIPE MANUFACTURER) MAY BE USED IN LIEU OF RESTRAINING GLANDS. ALL OTHER DESIGN REQUIREMENTS SHALL APPLY AS SHOWN.
  4. FOR PIPES LARGER THAN 16" DIAMETER, THE DEADMAN THRUST RESTRAINT WITH BLOCKING MUST BE DESIGNED AND SEALED BY A N.C. PROFESSIONAL ENGINEER.
  5. ANY PROPOSED MODIFICATIONS TO THIS STANDARD BASED ON THE FIELD CONDITIONS MUST BE PRE-APPROVED BY THE CITY OF GREENSBORO FIELD INSPECTOR AND/OR THE ENGINEER OF RECORD.
  6. QUANTITIES SHOWN BELOW ARE TO THE NEAREST QUARTER YARD AND ARE BASED ON MINIMUM MASS WEIGHT REQUIREMENTS OF THE TEST PRESSURES SHOWN.

PIPE DIAMETER	MINIMUM CUBIC YARDS OF CONCRETE REQUIRED		
	150 PSI TEST PRES.	200 PSI TEST PRES.	250 PSI TEST PRES.
6"	0.75	1.0	1.25
8"	1.5	2.0	2.25
10"	2.0	3.0	3.5
12"	3.0	4.0	5.0
16"	5.5	7.25	9.0

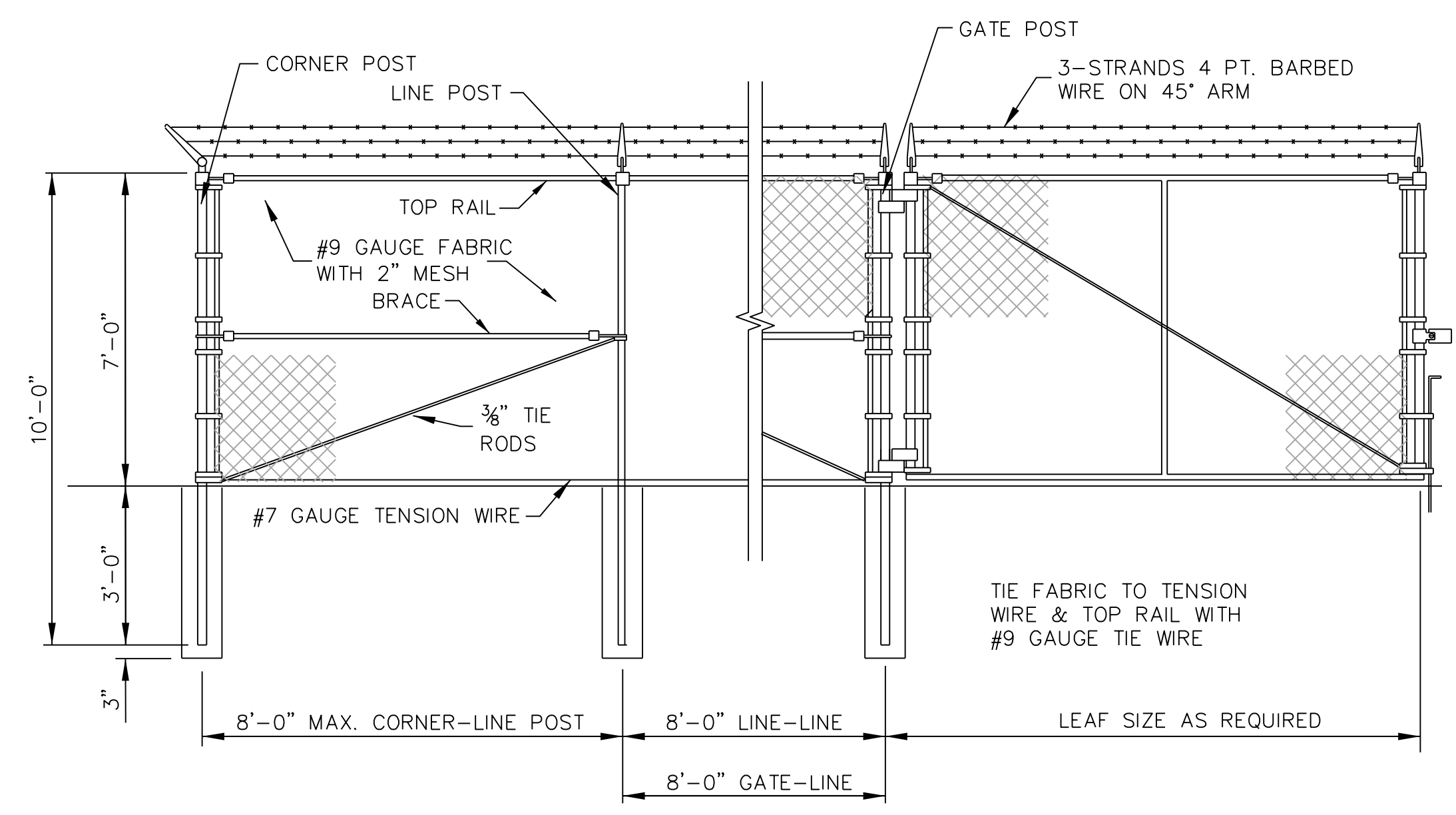
<b>CITY OF GREENSBORO</b>		
DEADMAN THRUST RESTRAINT WITH MASS WEIGHT BLOCKING	<b>STD. NO.</b> 118	<b>REV.</b> 06-13 06-15

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO. U-4015A	SHEET NO. UC-3C
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/28/2023 ANDREW P. LARRICK
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION

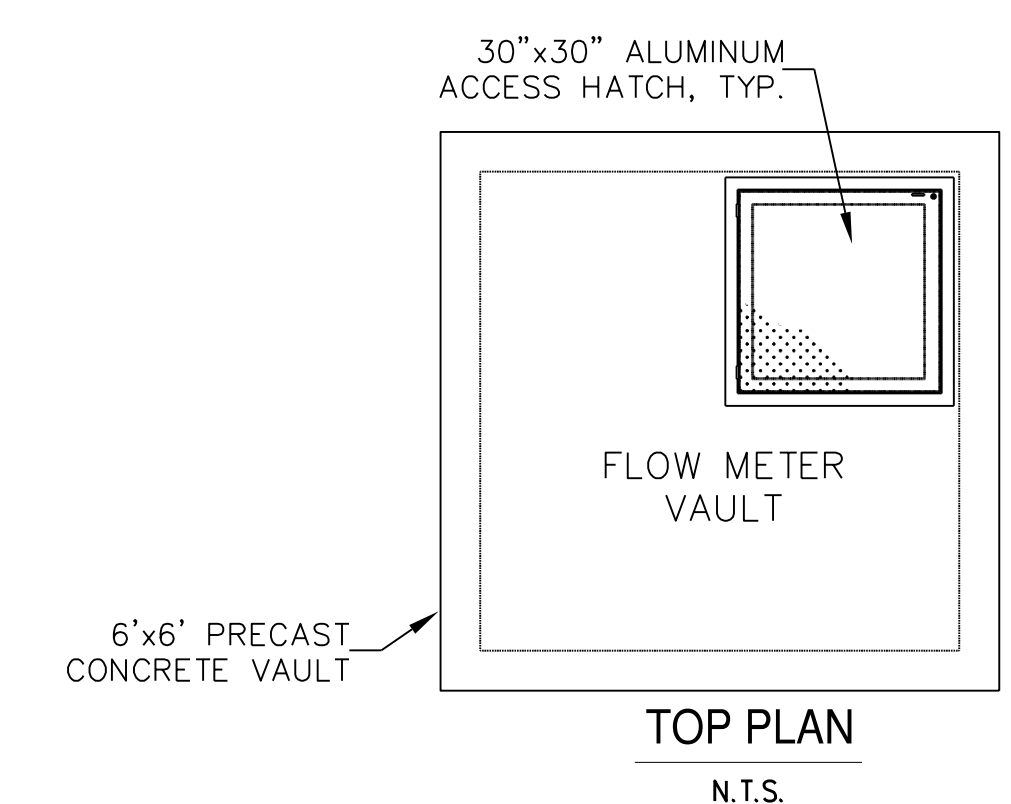
**DOCUMENT NOT CONSIDERED FINAL  
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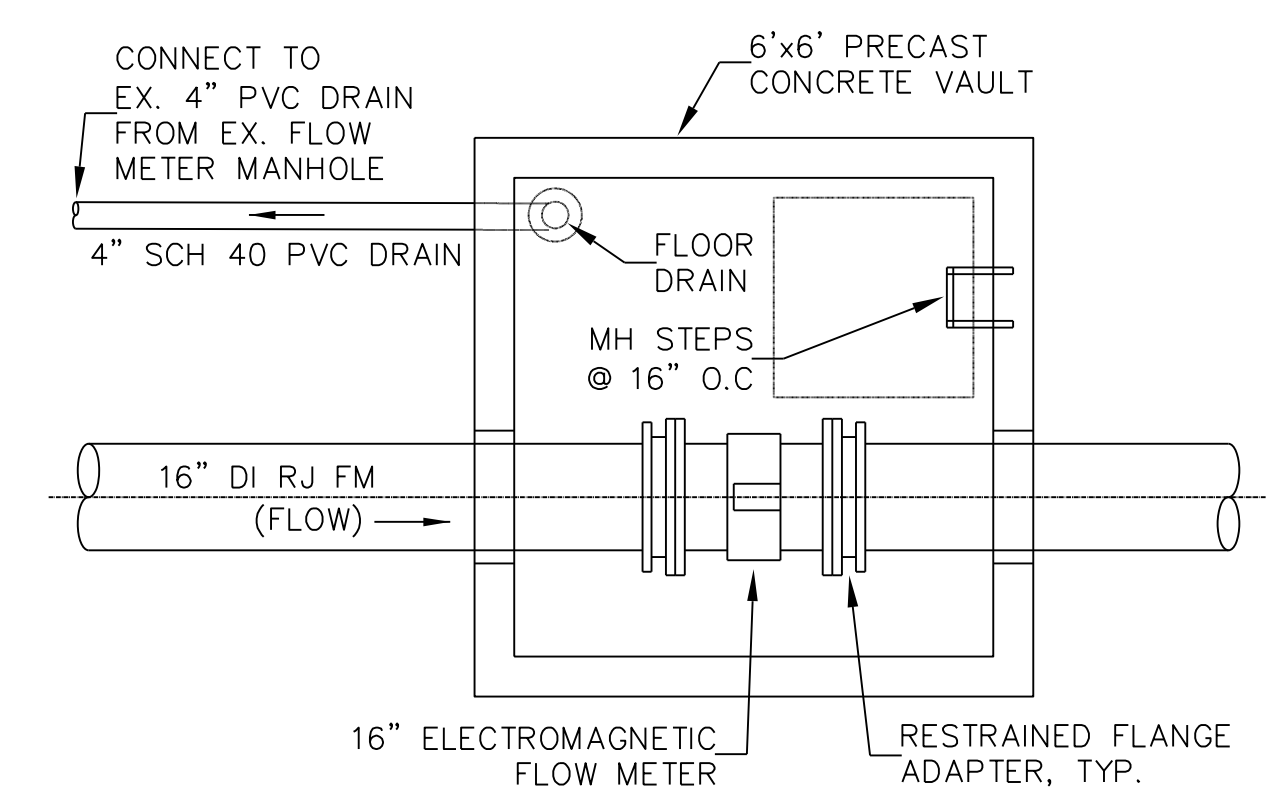
FABRIC HEIGHT	LINE POST	TOP RAIL	END/CORNER POST
4'-6'	2" O.D.	1 5/8" O.D.	2 1/2" O.D.
7'-9'	2 1/2" O.D.	1 5/8" O.D.	3" O.D.
10'-12'	3" O.D.	2" O.D.	4" O.D.
OVER 12'	4" O.D.	2" O.D.	4" O.D.

GATE LEAF SIZE	GATE POST
6' OR LESS	3" O.D.
6'-12'	3" O.D.
12'-20'	4" O.D.
20'-24'	6 5/8" O.D.
OVER 24'	8 5/8" O.D.

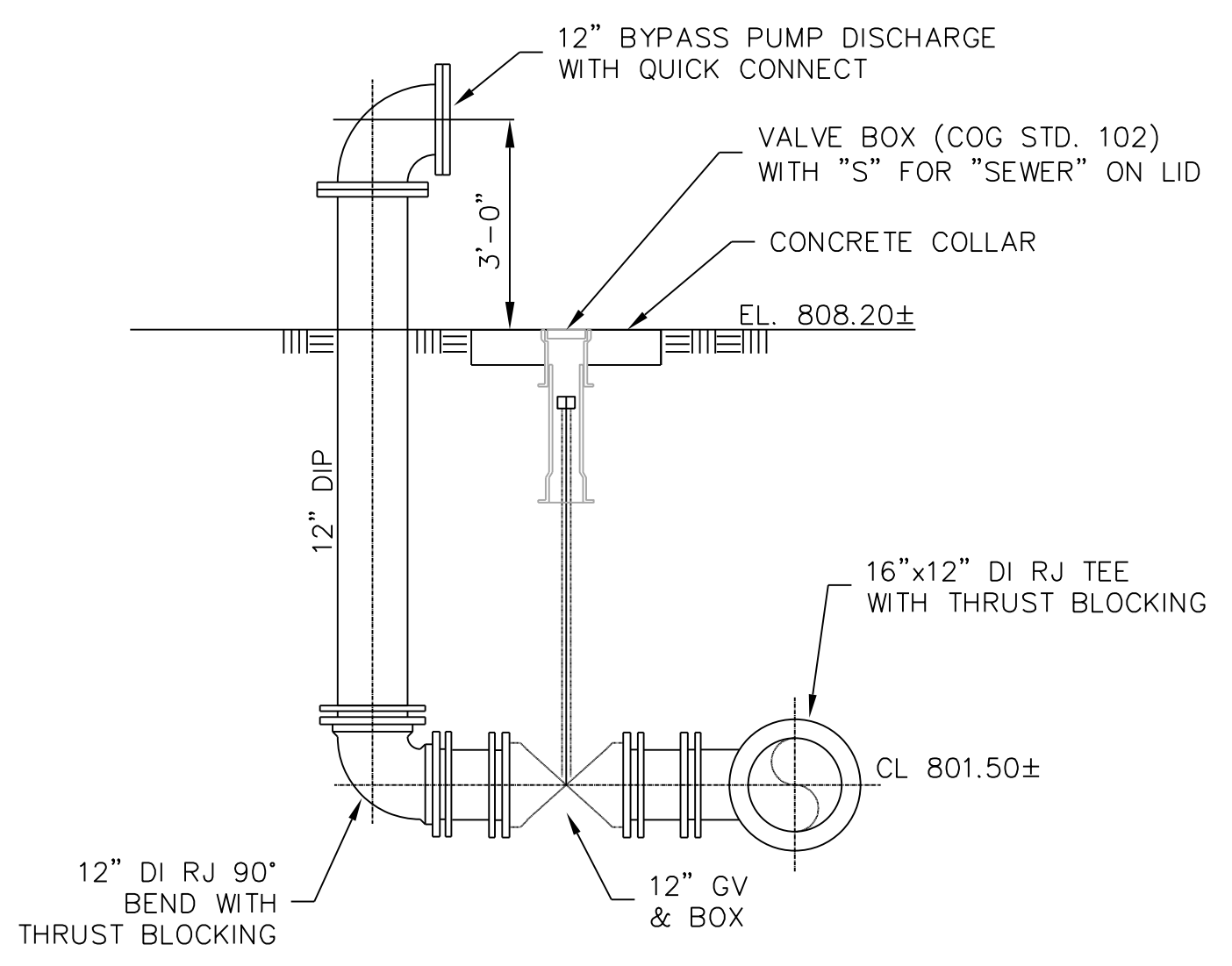
**CHAIN LINK FENCE  
WITH BARBED WIRE**  
N.T.S.



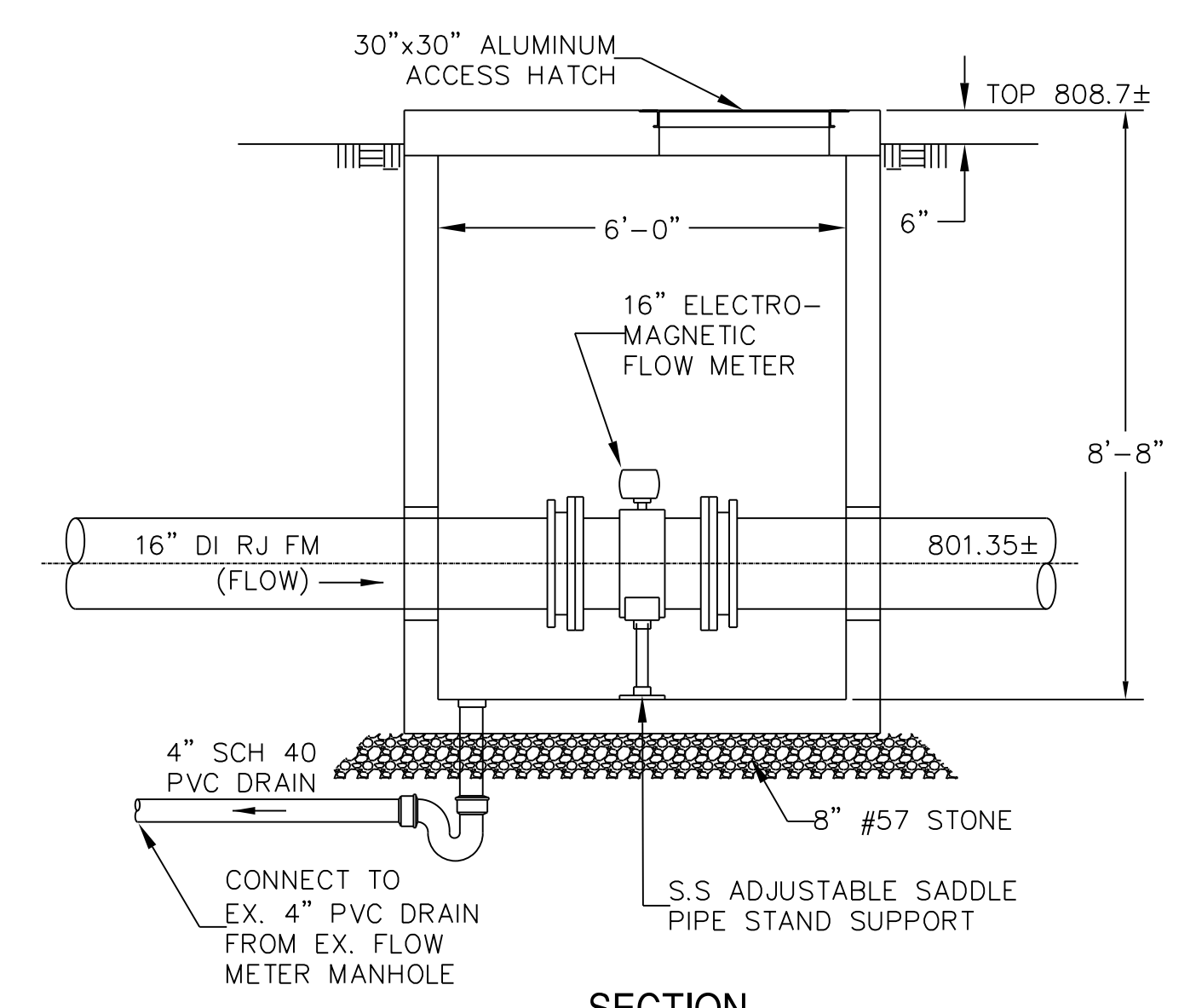
**TOP PLAN**  
N.T.S.



**INTERMEDIATE PLAN**  
N.T.S.



**BYPASS PUMP CONNECTION**  
N.T.S.



**SECTION**  
N.T.S.  
**16" FLOW METER IN VAULT**  
N.T.S.

REVISIONS

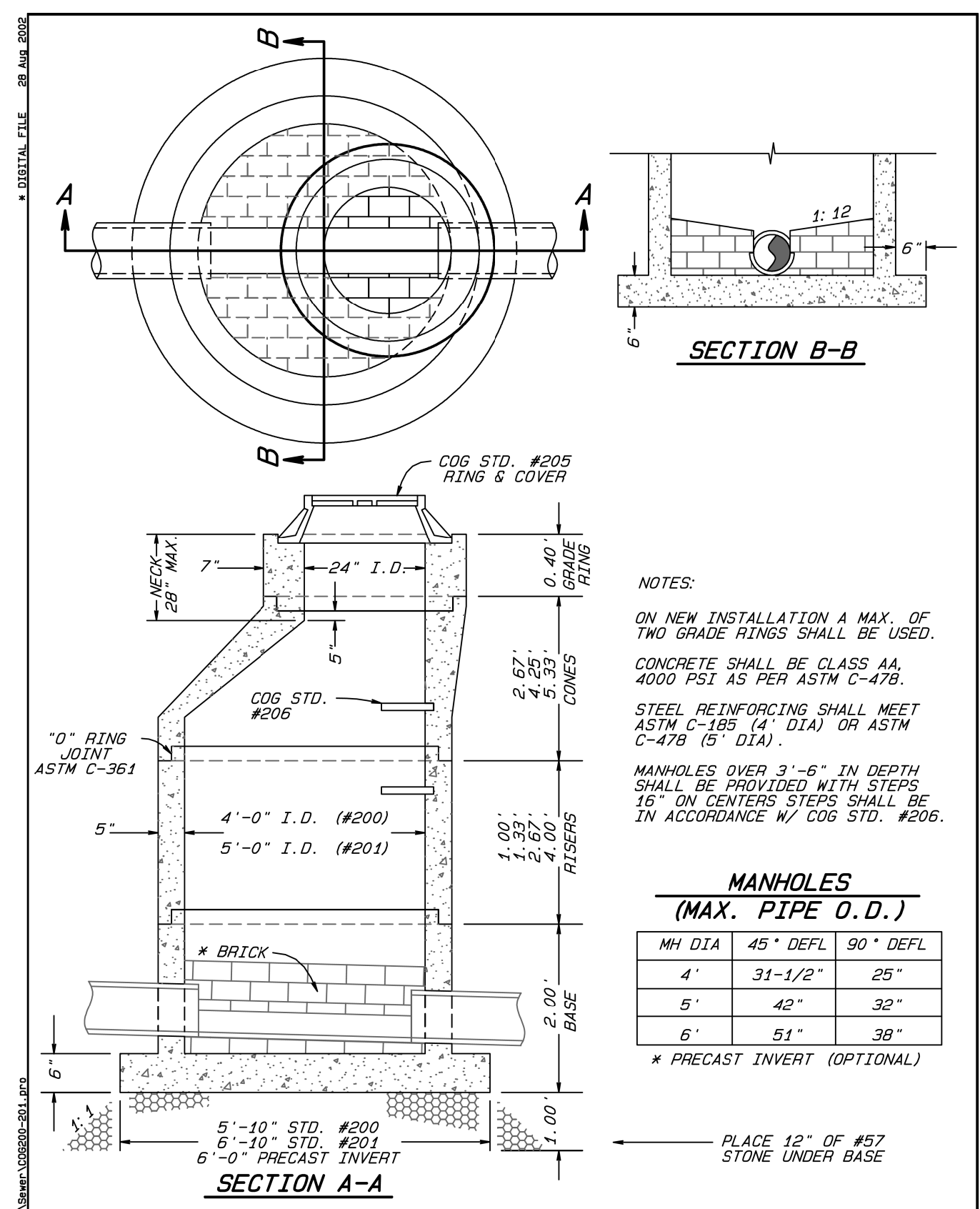
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# PROJECT TYPICAL DETAILS

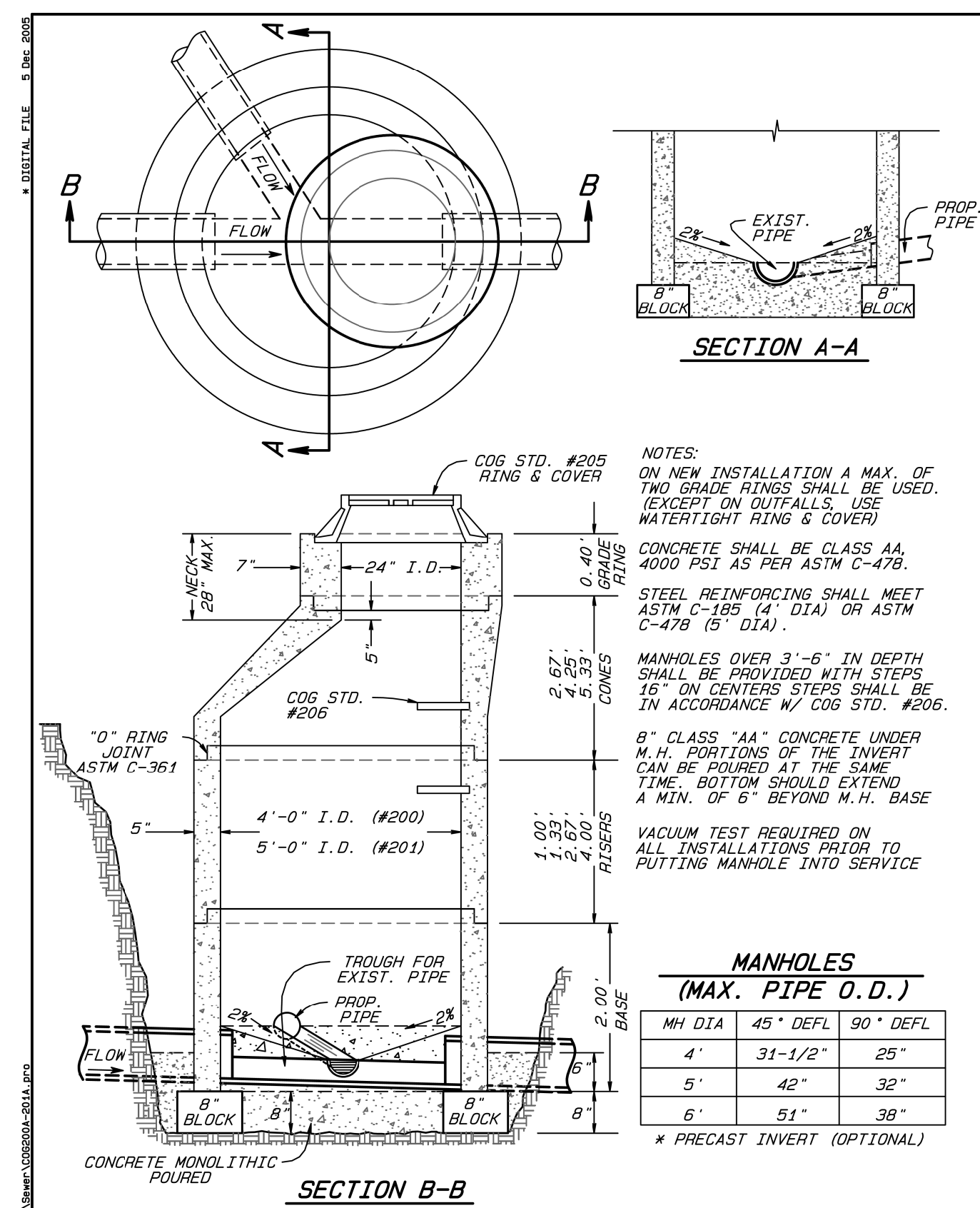
PROJECT REFERENCE NO.	SHEET NO.
U-4015A	UC-3D
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION

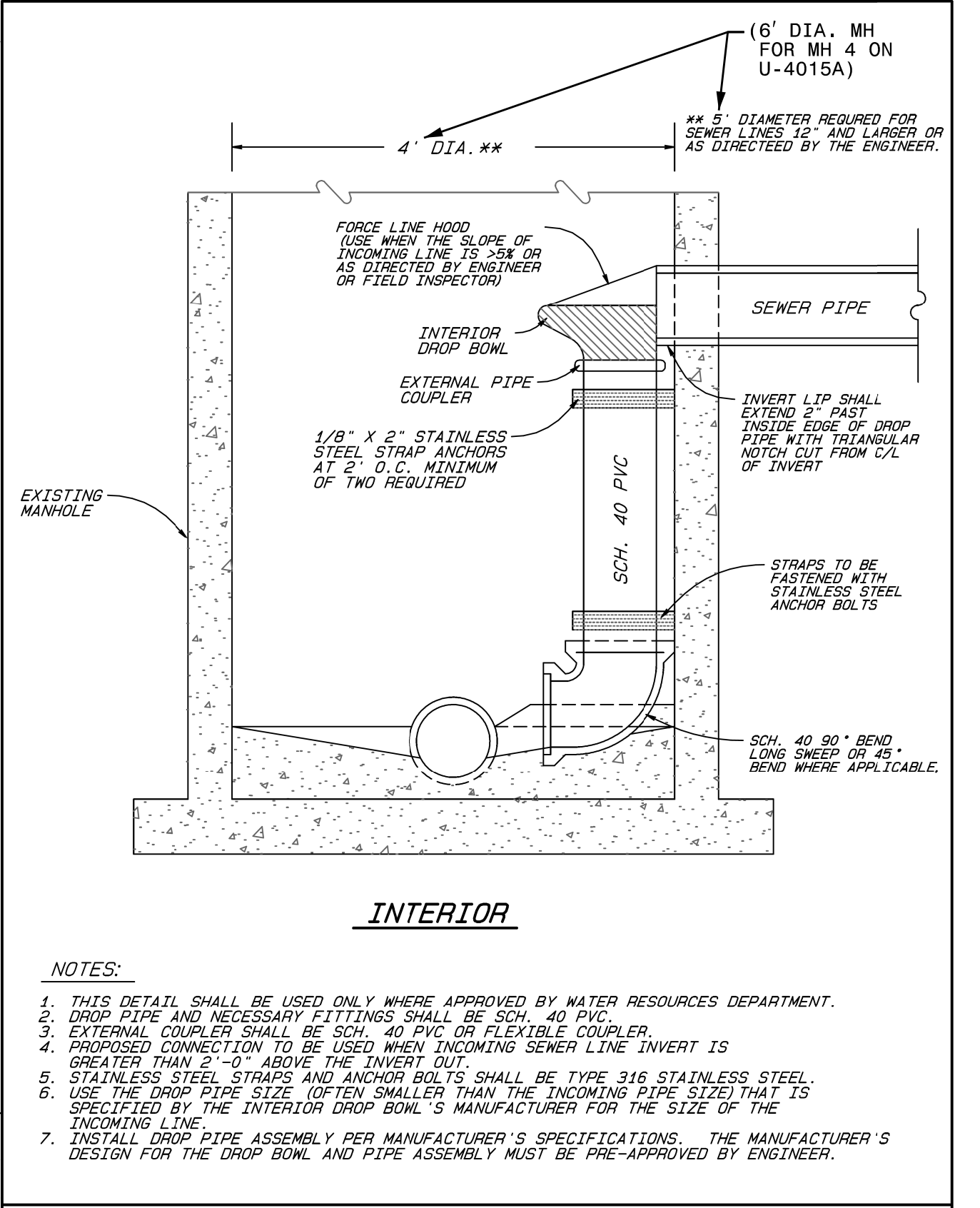
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



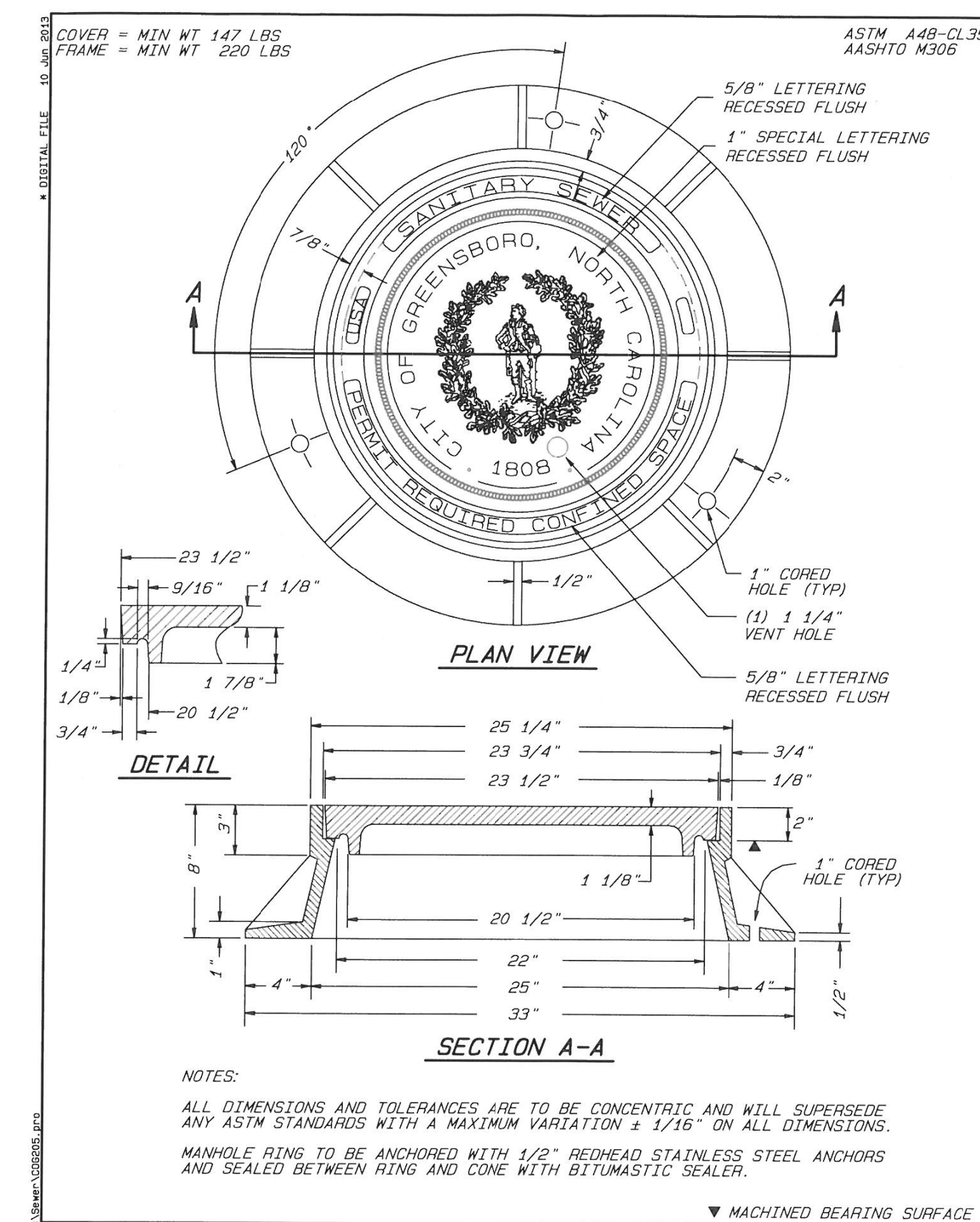
<b>CITY OF GREENSBORO</b>		
STANDARD 4' I.D. & 5' I.D. ECCENTRIC PRECAST CONCRETE SANITARY MANHOLE WITH EXPANDED BASE	STD. NO. 200 201	REV. 05-88 03-98 11-93 08-02 09-95



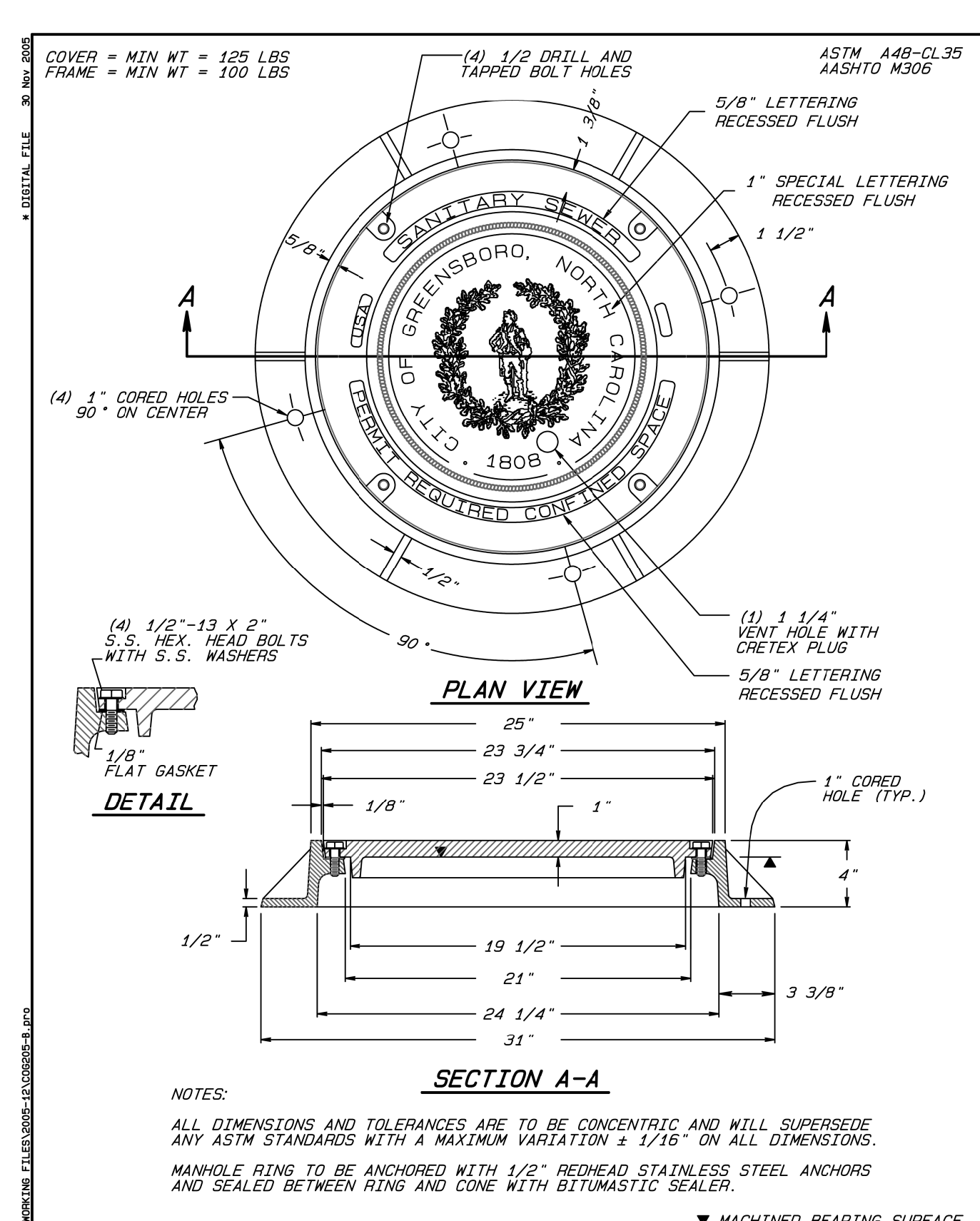
<b>CITY OF GREENSBORO</b>		
STANDARD 4' I.D. & 5' I.D. ECCENTRIC PRECAST BOTTOMLESS MANHOLE OVER EXISTING SANITARY SEWER (DOGHOUSE MANHOLE)	STD. NO. 200A 201A	REV. DEC-05



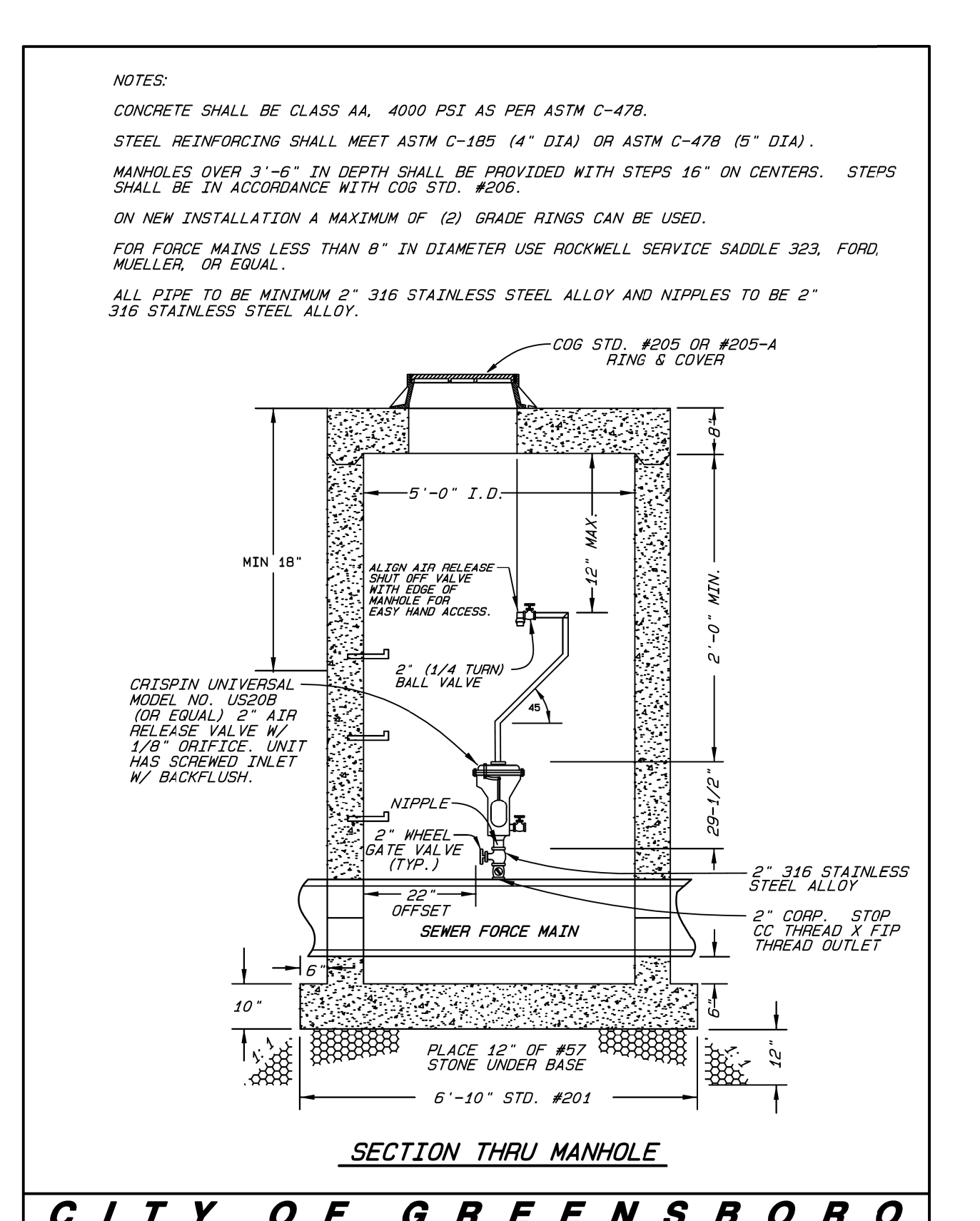
<b>CITY OF GREENSBORO</b>		
DROP CONNECTION (INTERIOR) FOR EXISTING SANITARY SEWER MANHOLE	STD. NO. 203	REV. 06-03 03-14



<b>CITY OF GREENSBORO</b>		
STANDARD MANHOLE RING AND COVER	STD. NO. 205	REV. 12-05 06-13



<b>CITY OF GREENSBORO</b>		
STANDARD WATERTIGHT MANHOLE RING AND COVER	STD. NO. 205-B	REV. MAR-97 DEC-05 MAR-98 MAR-01



<b>CITY OF GREENSBORO</b>		
AIR RELIEF VALVE WITH ASSEMBLY AND MANHOLE FOR SANITARY SEWER LINES	STD. NO. 211	REV. 03-03 06-07 03-08

NOTE:  
FOR SEWER ARV, INSTEAD OF TAPPING THE MAIN, CONTRACTOR SHALL INSTALL A MAIN-LINE TEE TURNED UPRIGHT ON THE FORCE MAIN, WITH A BLIND FLANGE BOLTED TO THE TOP SIDE OF THE TEE. THE BLIND FLANGE SHALL BE TAPPED TO ACCOMMODATE THE 2" CORPORATION STOP. COST FOR THE TEE AND TAPPED BLIND FLANGE SHALL BE INCIDENTAL TO THE COST OF THE 2" ARV.  
FOR THE 2" ARV ON 20" FORCE MAIN, USE A 20"x12" TEE.  
THE INTERIOR OF THE TEE AND THE BLIND FLANGE SHALL HAVE A CORROSION-RESISTANT CERAMIC EPOXY COATING.

REVISIONS

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THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1,355 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

(CITY OF GREENSBORO: 25 POUNDS)  
(CITY OF HIGH POINT: 1,330 POUNDS)

NOTE:  
1. SHUT EX. 6" VALVE ON HYDRANT LEG, RELOCATE FIRE HYDRANT, AND INSTALL 6" D.I. PLUG ON OUTLET SIDE OF EX. 6" VALVE. THE EX. 6" VALVE WILL REMAIN SHUT PERMANENTLY, AND EX. VALVE BOX SHOULD BE REMOVED.

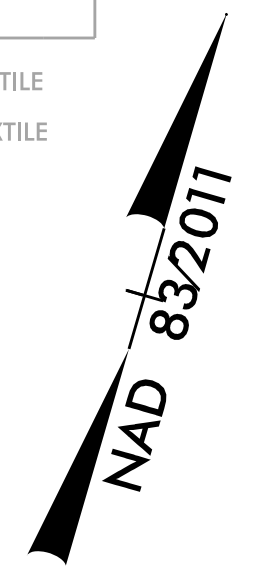
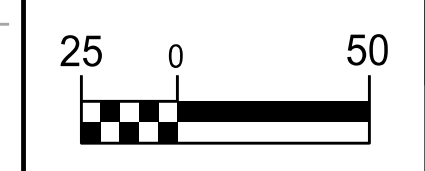
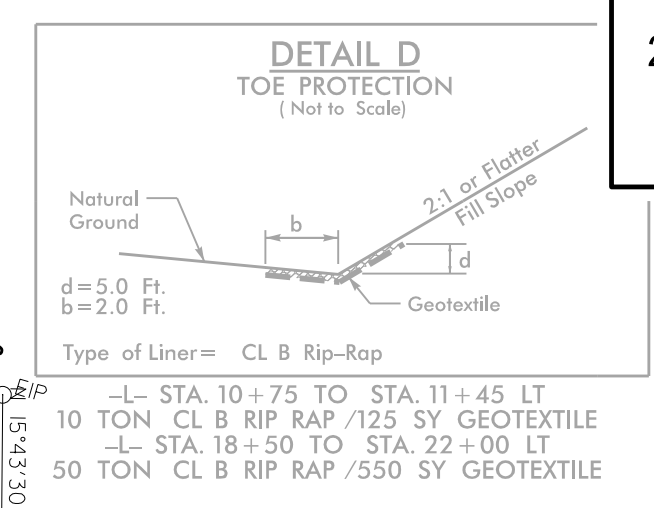
THE 12" WATER LINE AND APPURTENANCES ON THE NORTH SIDE OF GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF GREENSBORO.

THE 8" SEWER LINE ON THE NORTH SIDE OF GALLIMORE DAIRY ROAD IS OWNED BY THE CITY OF GREENSBORO.

THE 12" WATER LINE AND APPURTENANCES ON THE SOUTH SIDE OF GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF HIGH POINT.

PROJECT REFERENCE NO.	U-4015A	SHEET NO.	UC-04
DESIGNED BY:	DMP		
DRAWN BY:	DMP		
CHECKED BY:	DMP		
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

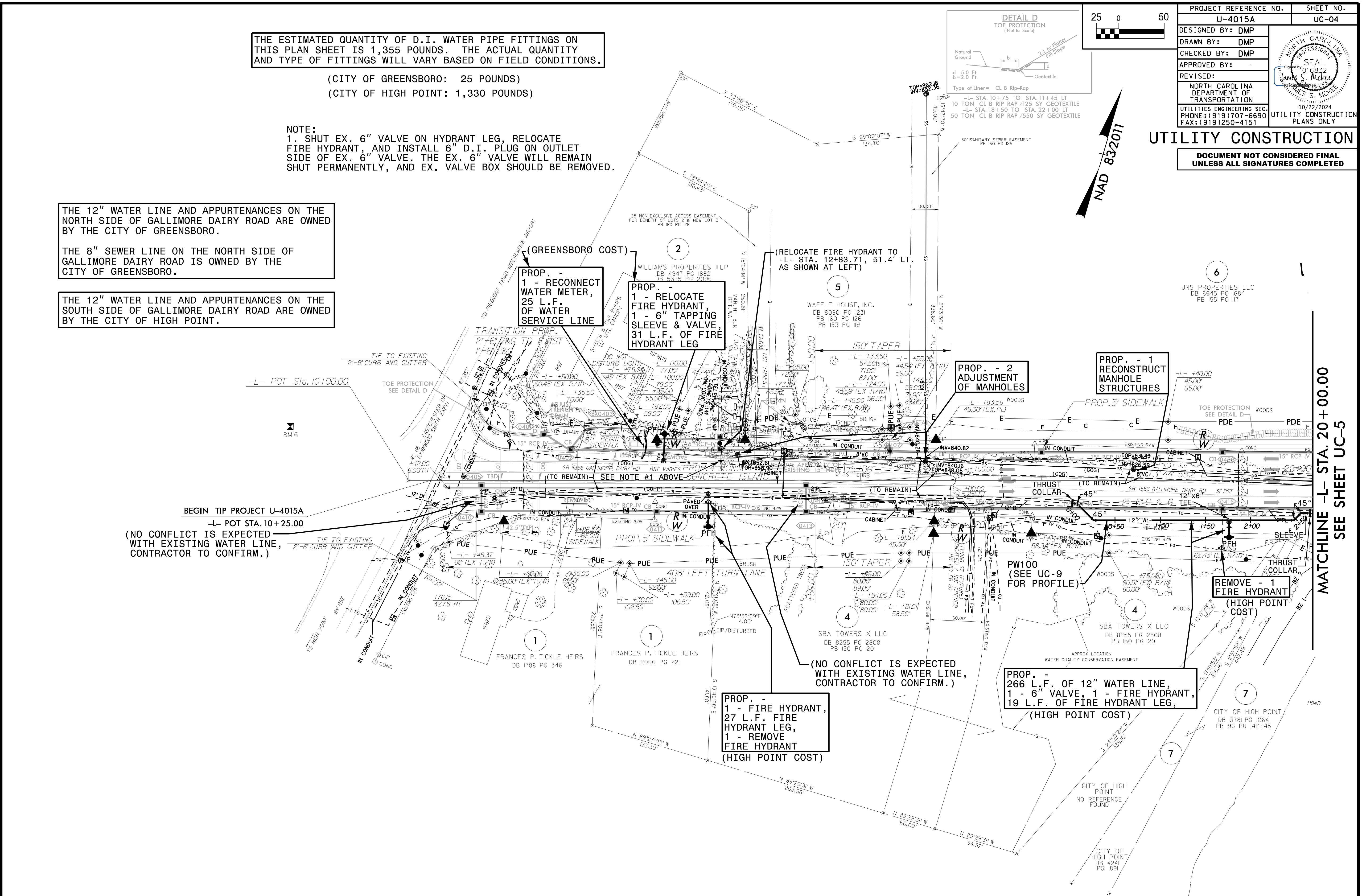
**UTILITY CONSTRUCTION**  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

BEGIN TIP PROJECT U-4015A  
-L- POT STA. 10+25.00  
(NO CONFLICT IS EXPECTED WITH EXISTING WATER LINE, CONTRACTOR TO CONFIRM.)

MATCHLINE -L- STA. 20+00.00  
SEE SHEET UC-5



PROP. - 1 - RECONNECT WATER METER, 25 L.F. OF WATER SERVICE LINE

PROP. - 1 - RELOCATE FIRE HYDRANT, 1 - 6" TAPPING SLEEVE & VALVE, 31 L.F. OF FIRE HYDRANT LEG

PROP. - 2 - ADJUSTMENT OF MANHOLES

PROP. - 1 - RECONSTRUCT MANHOLE STRUCTURES

REMOVE - 1 FIRE HYDRANT (HIGH POINT COST)

PROP. - 266 L.F. OF 12" WATER LINE, 1 - 6" VALVE, 1 - FIRE HYDRANT, 19 L.F. OF FIRE HYDRANT LEG, (HIGH POINT COST)

PROP. - 1 - FIRE HYDRANT, 27 L.F. FIRE HYDRANT LEG, 1 - REMOVE FIRE HYDRANT (HIGH POINT COST)

(NO CONFLICT IS EXPECTED WITH EXISTING WATER LINE, CONTRACTOR TO CONFIRM.)

CITY OF HIGH POINT NO REFERENCE FOUND

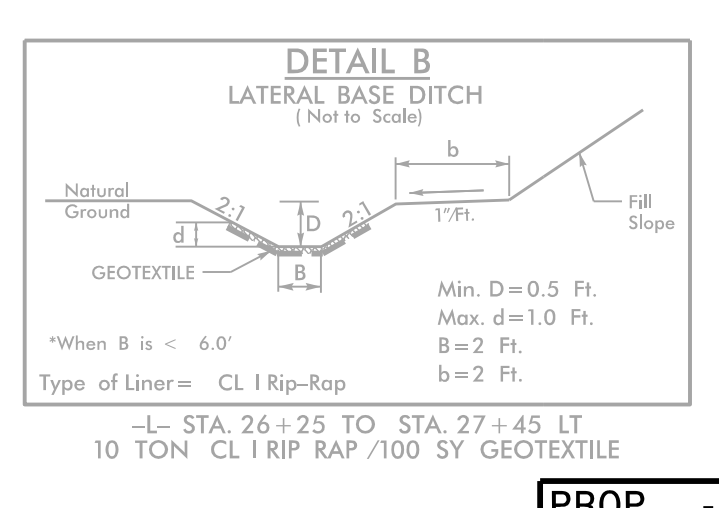
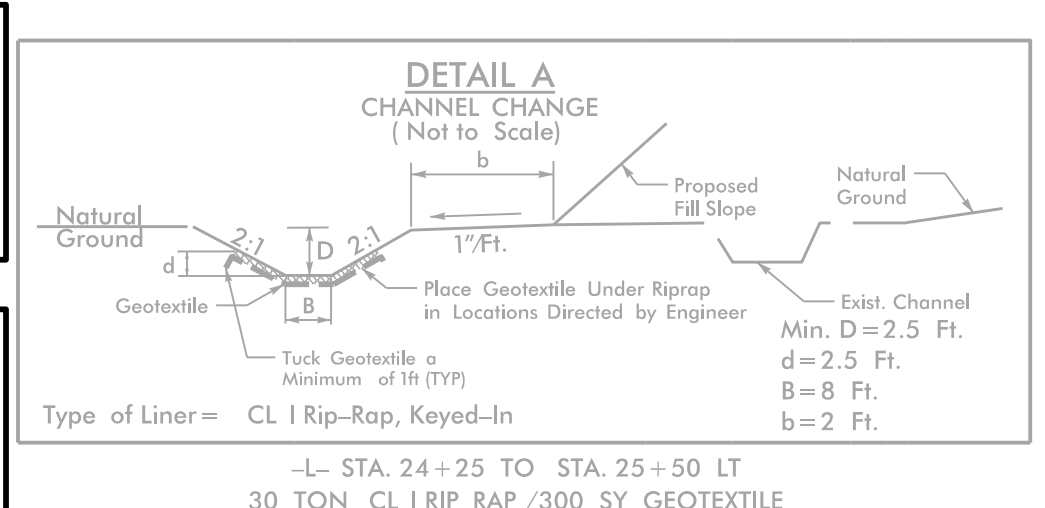


THE NORTHERN-MOST WATER LINES AND APPURTENANCES ALONG GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF GREENSBORO.

THE SEWER LINES AND LIFT STATION ON THE NORTH SIDE OF GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF GREENSBORO.

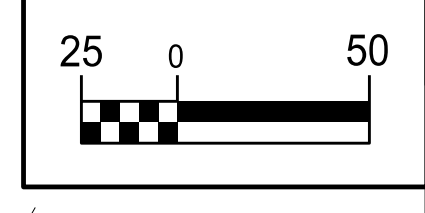
THE SOUTHERN-MOST WATER LINES AND APPURTENANCES ALONG GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF HIGH POINT.

THE SEWER LINES ON THE SOUTH SIDE OF GALLIMORE DAIRY ROAD ARE OWNED BY THE CITY OF HIGH POINT.



-L-  
 PI Sta 30+97.20  
 $\Delta = 29' 51" 43.8" (LT)$   
 $D = 5' 12" 31.3"$   
 $L = 573.33'$   
 $T = 293.33'$   
 $R = 1,000.00'$   
 $SE = 4\%$   
 $DS = 50 \text{ mph}$   
 $LR = 170'$

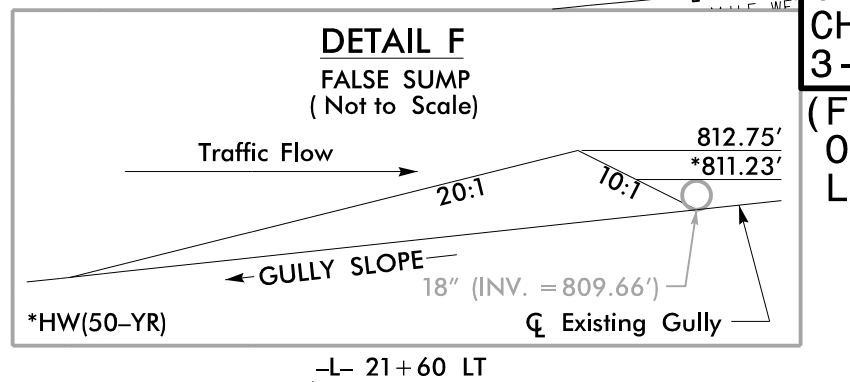
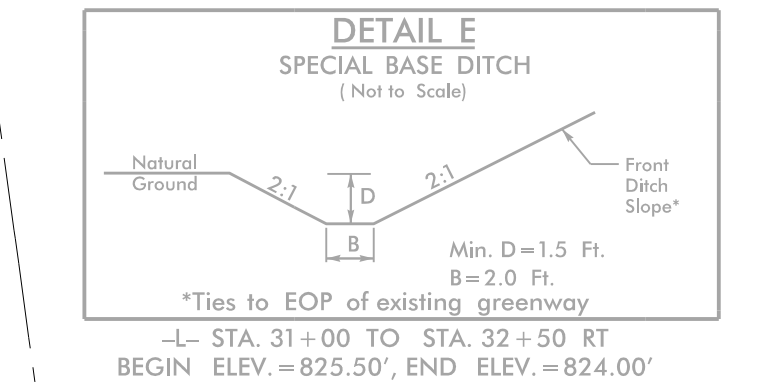
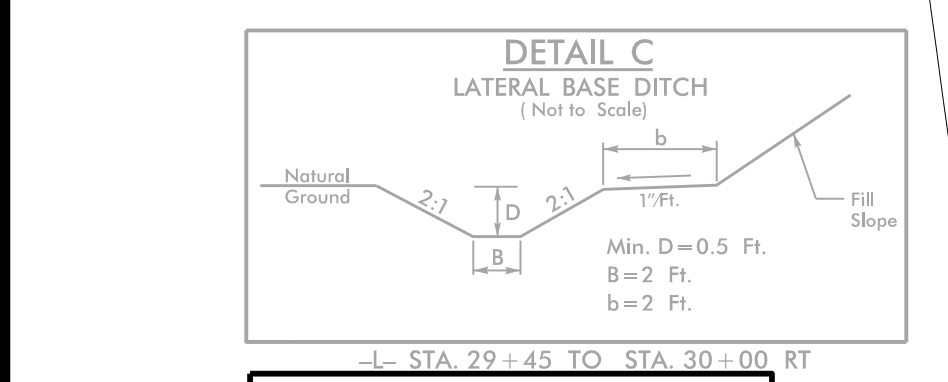
THE ESTIMATED QUANTITY OF D.I. SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 5,450 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



PROJECT REFERENCE NO.	SHEET NO.
U-4015A	UC-5
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

**UTILITY CONSTRUCTION**

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PROP. - 104 L.F. OF 6" WATER LINE,  
 1 - 6" VALVE

PW300 (SEE UC-9 FOR PROFILE)

PROP. - 43 L.F. OF 8" SAN. GRAV. SEW. LINE

PROP. - 52 L.F. OF 8" SAN. GRAV. SEWER LINE

PS100A (SEE UC-10 FOR PROFILE)

PROP. - 72 L.F. OF 8" SAN. GRAV. SEWER LINE

PS100 (SEE UC-10 FOR PROFILE)

ABANDON 238 LF 8" UTIL. PIPE, ABANDON 2 UTILITY MH'S

PROP. - 57 L.F. OF 8" SAN. GRAV. SEWER LINE

PS200 (SEE UC-10 FOR PROFILE)

PROP. - 104 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 144 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 155 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 51 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 107 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 1 RECONSTRUCT MANHOLE STRUCTURES

PROP. - 1 ADJUSTMENT OF MANHOLES

PROP. - 46 L.F. OF 8" SAN. GRAV. SEWER LINE

PROP. - 16" TAPPING SLEEVE AND VALVE

PROP. - 1 12" VALVE

PROP. - 1 12" VALVE

PROP. - 1 12" VALVE

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PROP. - 1 12" VALVE

MATCHLINE -L- STA. 20+00.00 SEE SHEET UC-4

PROP. - 1 12" VALVE

PROP. - 1 12" VALVE

PROP. - 1 12" VALVE

PROP. - 177 L.F. OF 12" WATER LINE

PW200 (SEE UC-9 FOR PROFILE)

ABANDON 1 UTILITY MH (HIGH POINT COST)

PROP. - 214 L.F. OF 4" WATER LINE, 100 L.F. OF 12" ENCASEMENT, 100 L.F. OF BORE AND JACK OF 12", 1 - 4" TAPPING SLEEVE AND VALVE

PW400 (SEE UC-9 FOR PROFILE)

PROP. - 214 L.F. OF 4" WATER LINE, 100 L.F. OF 12" ENCASEMENT, 100 L.F. OF BORE AND JACK OF 12", 1 - 4" TAPPING SLEEVE AND VALVE

PW400 (SEE UC-9 FOR PROFILE)

PROP. - 131 L.F. OF 12" WATER LINE

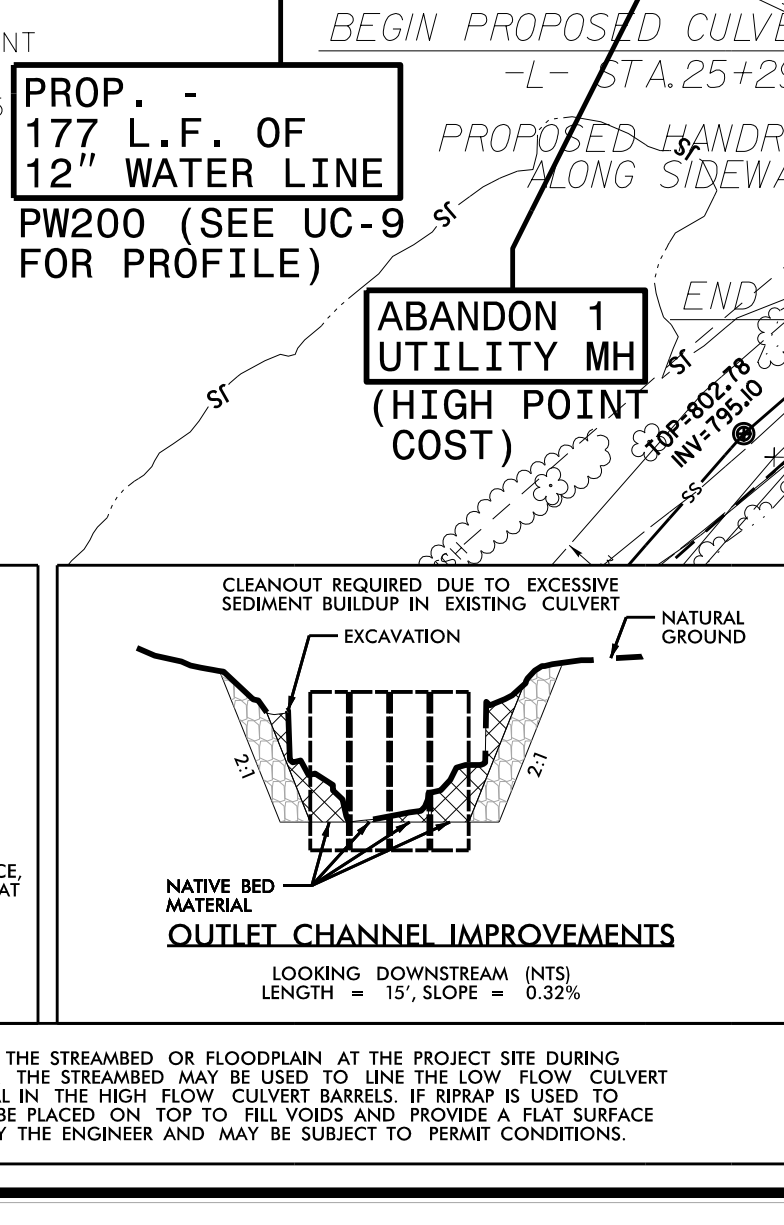
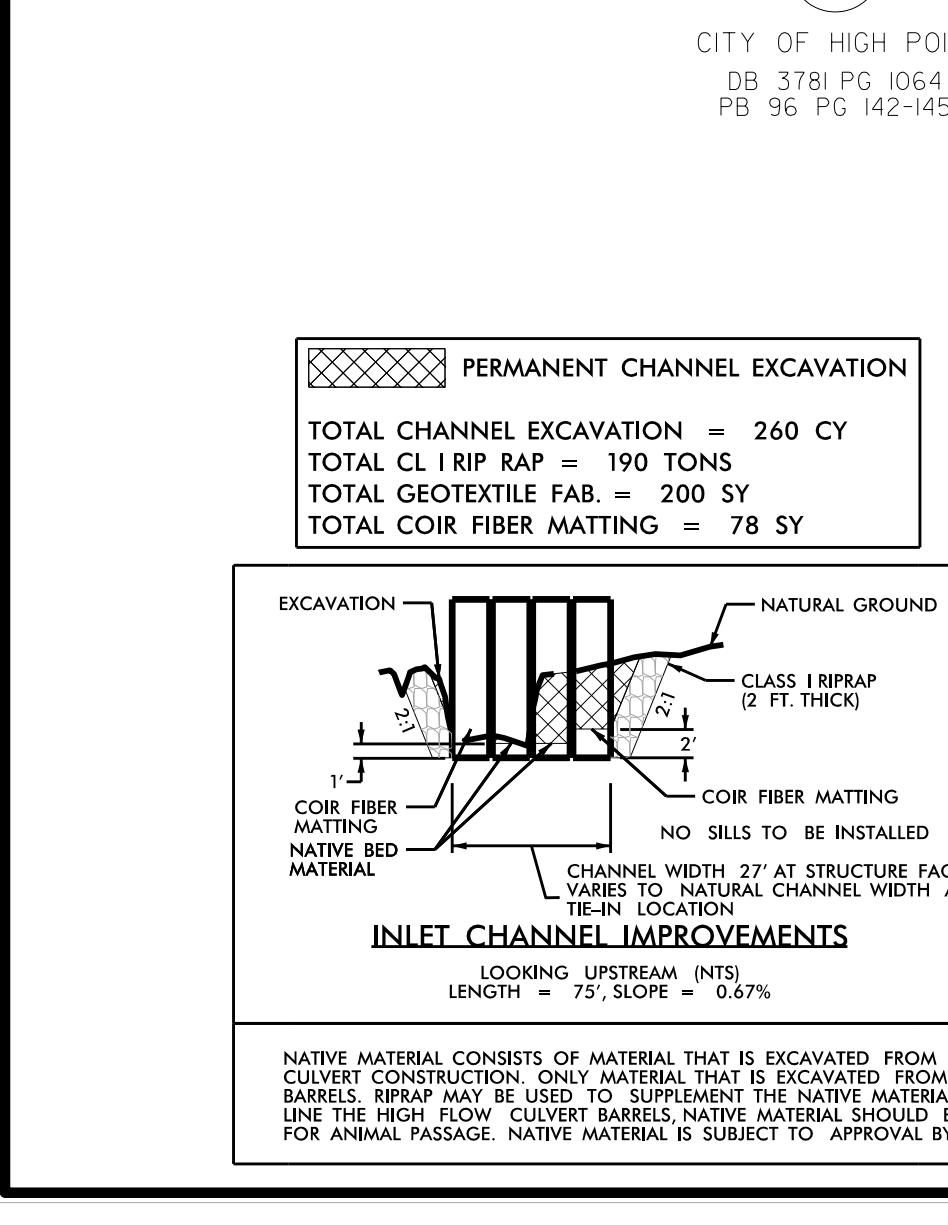
PW500 (SEE UC-9 FOR PROFILE)

PROP. - 48 L.F. OF 16" FORCE MAIN SEWER, 504 L.F. OF 20" FORCE MAIN SEWER

PFM100 (SEE UC-11 FOR PROFILE)

PROP. - 1 ADJUSTMENT OF MANHOLES

PROP. - 1 ADJUSTMENT OF MANHOLES



PROP. - 214 L.F. OF 4" WATER LINE, 100 L.F. OF 12" ENCASEMENT, 100 L.F. OF BORE AND JACK OF 12", 1 - 4" TAPPING SLEEVE AND VALVE

PW400 (SEE UC-9 FOR PROFILE)

PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
1	0+00.00, PS100	5'	-L- STA. 25+24.43, 81.7' LT.
2	0+72.40, PS100	4'	-L- STA. 24+52.13, 78.0' LT.
2A	1+15.56, PS100=0+00.00, PS100A	4'	-L- STA. 24+24.92, 44.5' LT.
2B	0+52.13, PS100A	4'	-L- STA. 23+73.85, 55.0' LT.
3	1+61.26, PS100	5'	-L- STA. 23+96.10, 9.0' LT.

PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
4	0+00.00, PS200	6'	-L- STA. 27+95.01, 126.9' LT.
5	0+57.11, PS200	4'	-L- STA. 28+30.74, 174.3' LT.
6	1+61.17, PS200	4'	-L- STA. 29+38.77, 127.9' LT.
7	3+16.13, PS200	4'	-L- STA. 30+84.71, 50.0' LT.
8	4+60.43, PS200	4'	-L- STA. 32+36.01, 50.0' LT.
9	5+67.41, PS200	4'	-L- STA. 33+48.11, 49.6' LT.

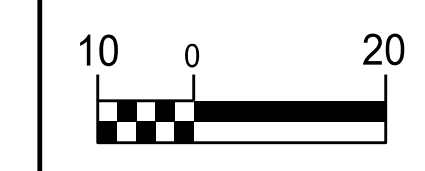
SEE SHEET UC-10 FOR PROFILE OF PROPOSED SEWER LINE PS200.

NOTE: PROP. MH 4 SHALL BE 6' DIA. DOGHOUSE STYLE MH FOR TYING INTO EXISTING SEWER LINE.

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,295 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

UTILITY CONSTRUCTION PLANS PREPARED BY:  
**DAVIS • MARTIN • POWELL**  
 ENGINEERS & SURVEYORS

6415 OLD PLANK RD., HIGH POINT, NC 27265  
 PHONE: (336) 888-4821 FAX: (336) 888-4458  
 WWW.DMP-INC.COM LICENSE: F-0245



PROJECT REFERENCE NO. <b>U-4015A</b>	SHEET NO. <b>UC-5A</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/28/2023
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

### UTILITY CONSTRUCTION

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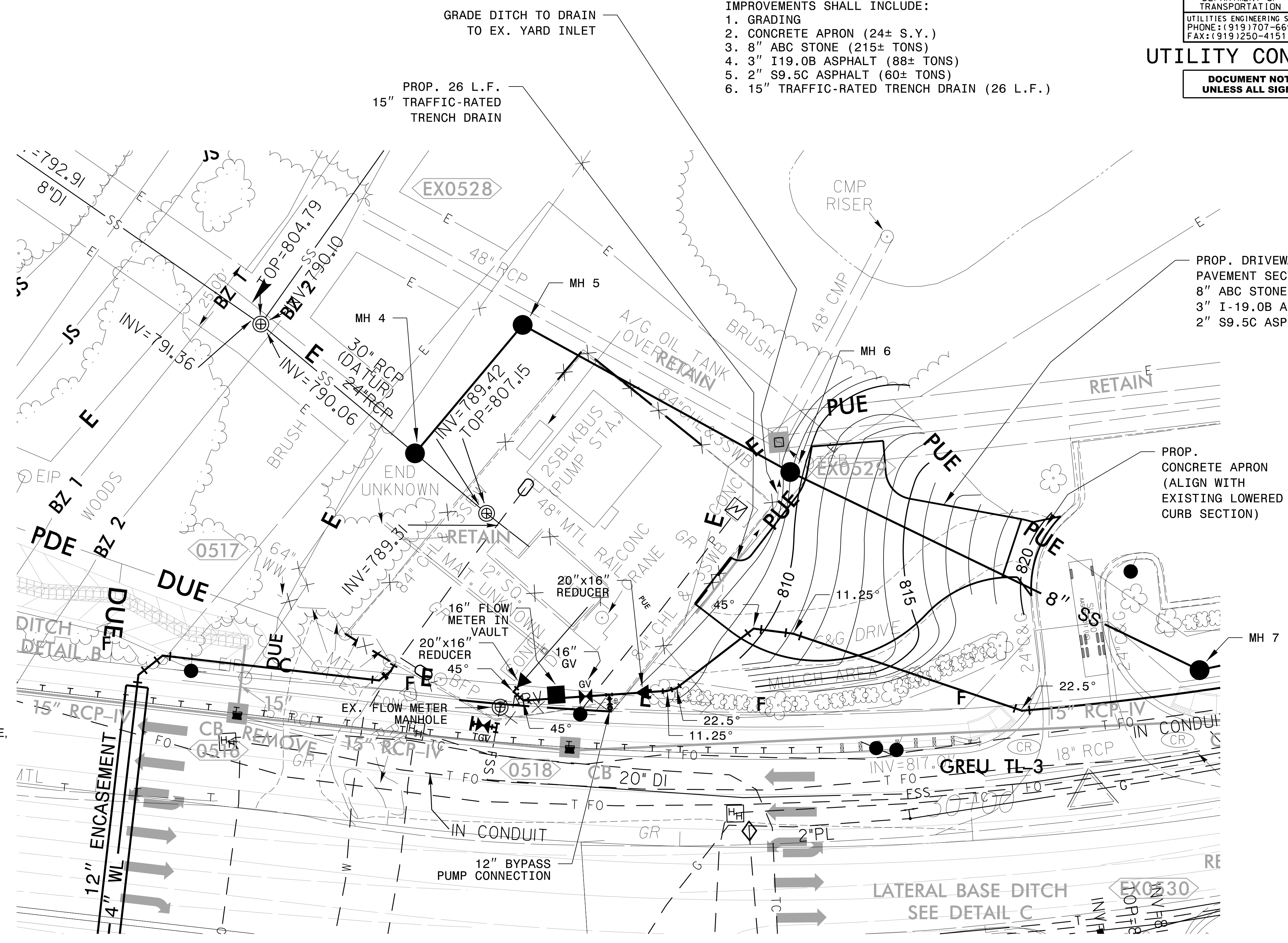
- FOR REPLACING EXISTING LIFT STATION DRIVEWAY, THE LUMP SUM PRICE FOR THE PROPOSED LIFT STATION DRIVEWAY IMPROVEMENTS SHALL INCLUDE:
1. GRADING
  2. CONCRETE APRON (24± S.Y.)
  3. 8" ABC STONE (215± TONS)
  4. 3" I19.0B ASPHALT (88± TONS)
  5. 2" S9.5C ASPHALT (60± TONS)
  6. 15" TRAFFIC-RATED TRENCH DRAIN (26 L.F.)

#### NOTE:

THE EXISTING 20" SEWER FORCE MAIN CARRYING FLOW FROM GALLIMORE DAIRY ROAD LIFT STATION (GDRLS) CAN ONLY BE SHUT DOWN FOR APPROXIMATELY 2-1/2 HOURS. THIS IS BASED ON THE CITY OF GREENSBORO'S ESTIMATES OF AVERAGE DAILY FLOW RATES OF WASTEWATER INFLUENT TO THE LIFT STATION, AND AVAILABLE STORAGE VOLUME IN THE LIFT STATION WET WELL AND UPSTREAM GRAVITY SEWER SYSTEM.

RECOMMENDATIONS FOR TYING THE PROPOSED 20" SEWER FORCE MAIN INTO THE EXISTING 20" SEWER FORCE MAIN INCLUDE THE FOLLOWING:

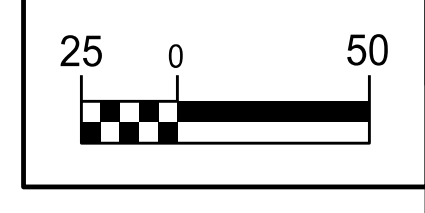
- INSTALL AND PRESSURE TEST ALL OF THE PROPOSED 20" FORCE MAIN, TO WITHIN A FEW FEET OF THE PROPOSED TIE-IN LOCATIONS.
- INSTALL THE PROPOSED 4" TAPPING SLEEVE AND VALVE NEXT TO THE EXISTING FLOW METER MANHOLE AT THE LIFT STATION. CONTRACTOR SHALL CONFIRM THE SIZE OF THE EXISTING FORCE MAIN AT THIS LOCATION (IT COULD BE 20" OR 12" DIAMETER). THIS 4" TAP WILL BE USED TO DRAIN THE EXISTING 20" FORCE MAIN AFTER IT HAS BEEN TAKEN OUT OF SERVICE, AND CAN ALSO BE USED TO AID WITH PUMPING FLOWABLE FILL INTO THE EXISTING 20" FORCE MAIN WHEN IT IS TIME TO ABANDON THE 20" FM.
- HAVE ADEQUATE TEMPORARY BYPASS PUMPING EQUIPMENT IN PLACE AT THE LIFT STATION SITE. BYPASS PUMP SUCTION LINE(S) CAN BE PLACED IN THE LIFT STATION WET WELL OR AN UPSTREAM GRAVITY SEWER MANHOLE, AND THE BYPASS PUMP DISCHARGE PIPING WILL BE CONNECTED TO THE NEW 12" BYPASS PUMP CONNECTION INSTALLED AT THE LIFT STATION SITE.
- JUST BEYOND THE END OF THE PROPOSED 20" FORCE MAIN RELOCATION (STA 9+77), INSTALL THE 20" LINE STOP, AND HAVE IT READY TO CLOSE THE LINE STOP VALVE AT THE APPROPRIATE TIME.
- CONTRACTOR SHALL HAVE ALL PIPE AND FITTINGS READY TO INSTALL AT THE END OF THE 20" FORCE MAIN RELOCATION (PFM100 STA. 9+77).
- COORDINATE WITH THE CITY OF GREENSBORO TO SHUT DOWN THE GDRLS, AND MAKE THE TIE-IN TO THE EXISTING 20" FORCE MAIN.
- AFTER MAKING THIS TIE-IN, CLOSE THE NEW 16" MAIN-LINE GATE VALVE AT THE LIFT STATION SITE, AND BEGIN BYPASS PUMPING OPERATION.
- INSTALL TEMPORARY 4" PIPING OR HOSE FROM THE 4" TAPPING VALVE BESIDE THE EXISTING FLOW METER MANHOLE, WITH THE TEMPORARY 4" PIPE OR HOSE DISCHARGING INTO THE LIFT STATION WET WELL OR UPSTREAM GRAVITY SEWER MH. OPEN THE TAPPING VALVE TO DRAIN THE EXISTING 20" FORCE MAIN.
- TYE-IN THE NEW FORCE MAIN PIPE TO THE EXISTING FORCE MAIN PIPE AT THE LIFT STATION SITE. SHUT DOWN THE TEMPORARY BYPASS PUMP OPERATION, AND ACTIVATE THE GDRLS.
- THE EXISTING 20" FORCE MAIN CAN THEN BE ABANDONED BY PUMPING FLOWABLE FILL INTO IT.



## INSET AT EX. GALLIMORE DAIRY ROAD LIFT STATION

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-4015A	UC-06
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

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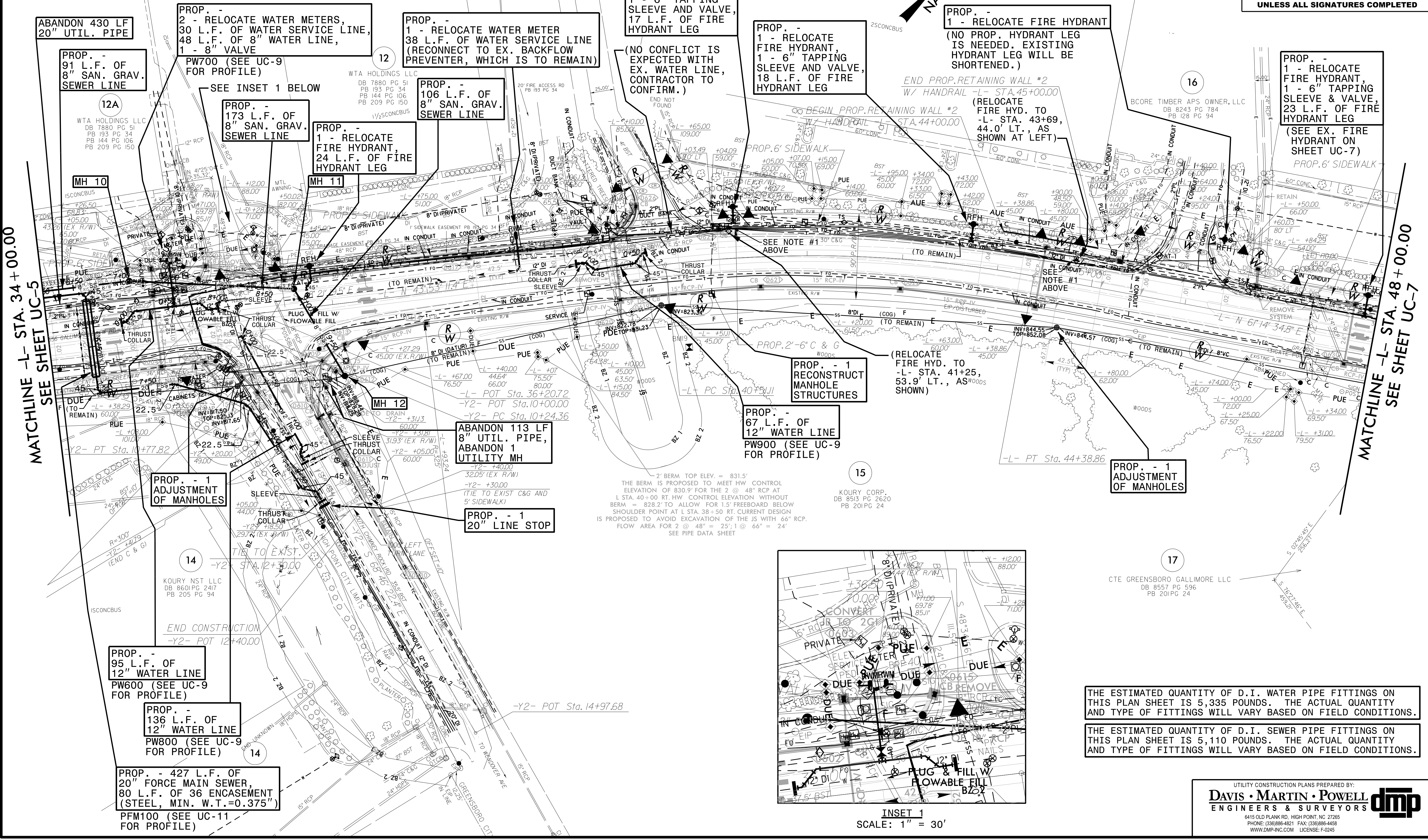
NOTE:  
 1. SHUT EX. 6" VALVE ON HYDRANT LEG, RELOCATE FIRE HYDRANT, AND INSTALL 6" D.I. PLUG ON OUTLET SIDE OF EXISTING 6" VALVE. THE EX. 6" VALVE WILL REMAIN SHUT PERMANENTLY, AND EX. VALVE BOX SHOULD BE REMOVED.

-L-	-Y2-
PI Sta 42+46.48	PI Sta 10+51.38
$\Delta = 17^{\circ} 21' 23.4" (RT)$	$\Delta = 20^{\circ} 25' 02.9" (LT)$
D = 4' 28' 34.4"	D = 3' 8" 49.9"
L = 387.75'	L = 53.45'
T = 195.37'	T = 27.01'
R = 1,280.00'	R = 150.00'
SE = 4%	SE = 4%
DS = 55 mph	DS = 40 MPH
LR = 170'	LR = 120'

SEE SHEET UC-10 FOR PROFILE OF PROPOSED SEWER LINE PS200.

NOTE: PROP. MH 12 SHALL BE 4' DIA. DOGHOUSE STYLE MH FOR TYING INTO EXISTING SEWER LINE.

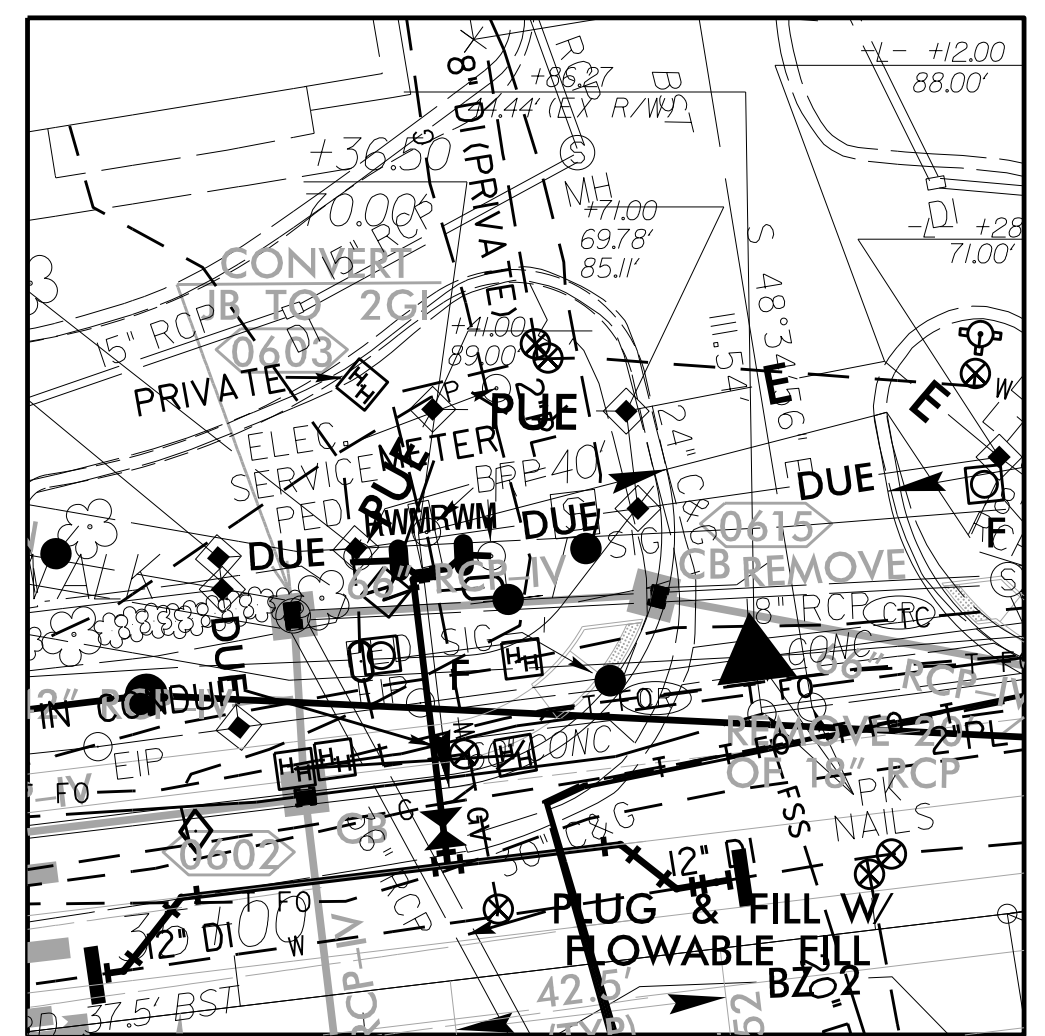
PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
10	7+09.22, PS200	4'	-L- STA. 34+91.23, 50.0' LT.
11	8+82.01, PS200	4'	-L- STA. 36+61.61, 21.2' LT.
12	9+87.69, PS200	4'	-L- STA. 37+03.65, 75.8' RT.



MATCHLINE -L- STA. 34+00.00  
SEE SHEET UC-5

MATCHLINE -L- STA. 48+00.00  
SEE SHEET UC-7

2' BERM TOP ELEV. = 831.5'  
 THE BERM IS PROPOSED TO MEET HW CONTROL ELEVATION OF 830.9' FOR THE 2 @ 48" RCP AT L STA. 40+00 RT. HW CONTROL ELEVATION WITHOUT BERM = 828.2' TO ALLOW FOR 1.5' FREEBOARD BELOW SHOULDER POINT AT L STA. 38+50 RT. CURRENT DESIGN IS PROPOSED TO AVOID EXCAVATION OF THE JS WITH 66" RCP. FLOW AREA FOR 2 @ 48" = 25'1 @ 66" = 24' SEE PIPE DATA SHEET



THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 5,335 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

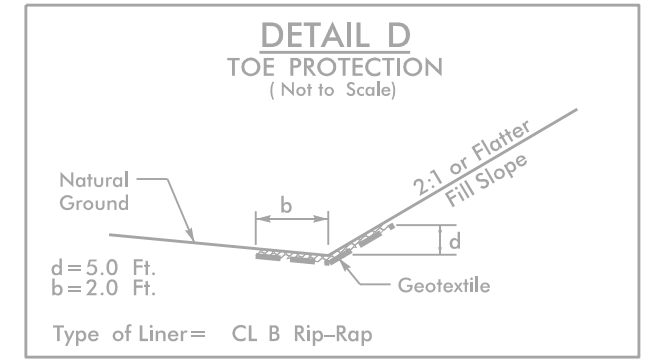
THE ESTIMATED QUANTITY OF D.I. SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 5,110 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

PROJECT REFERENCE NO. U-4015A	SHEET NO. UC-07
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISD:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

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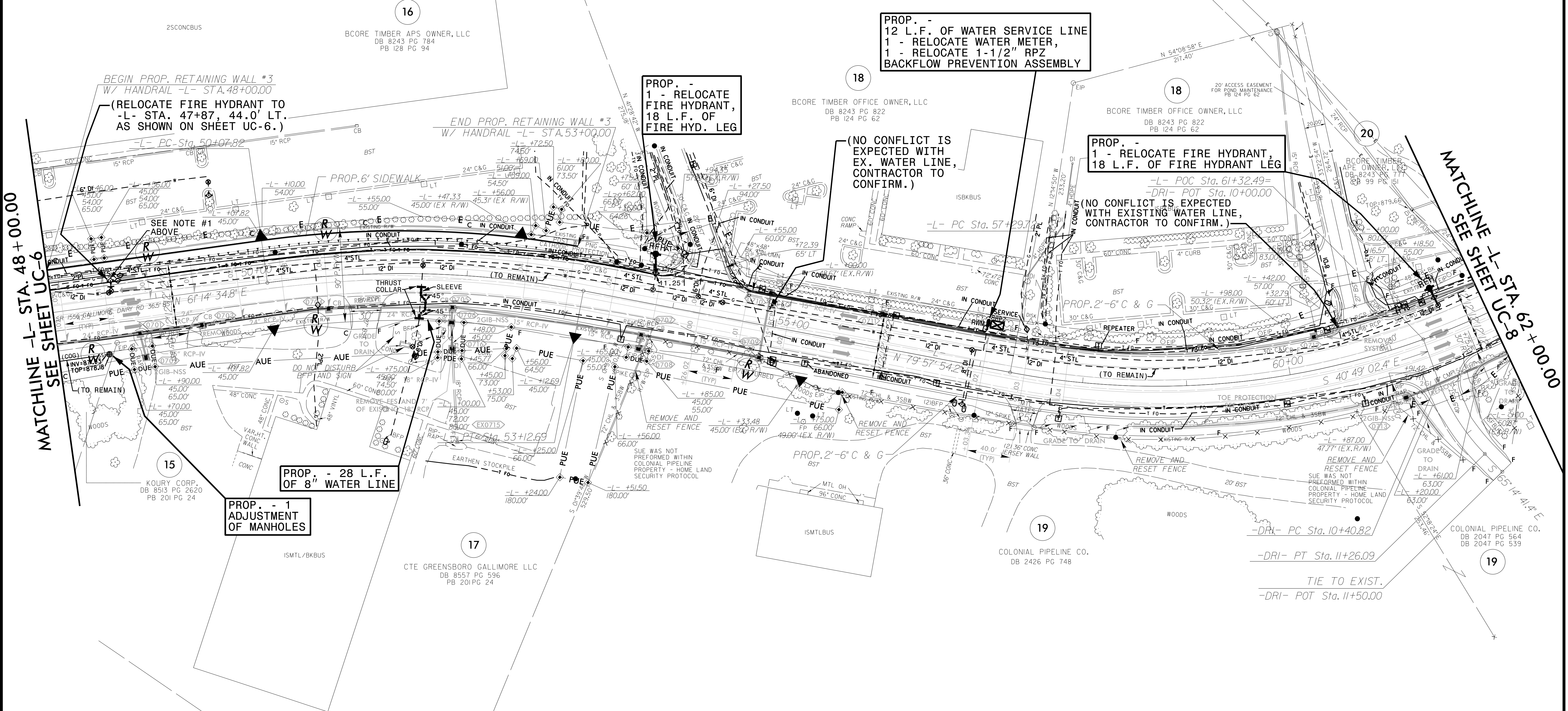
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THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 625 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



- DRI- STA. 10+45 TO STA. 10+90 LT
- 7.5 TON CL B RIP RAP / 75 SY GEOTEXTILE
- DRI- STA. 10+45 TO STA. 10+90 RT
- 7.5 TON CL B RIP RAP / 75 SY GEOTEXTILE
- L- STA. 58+50 TO STA. 61+05 RT
- 35 TON CL B RIP RAP / 400 SY GEOTEXTILE
- L- STA. 61+65 TO STA. 65+80 RT
- 60 TON CL B RIP RAP / 600 SY GEOTEXTILE

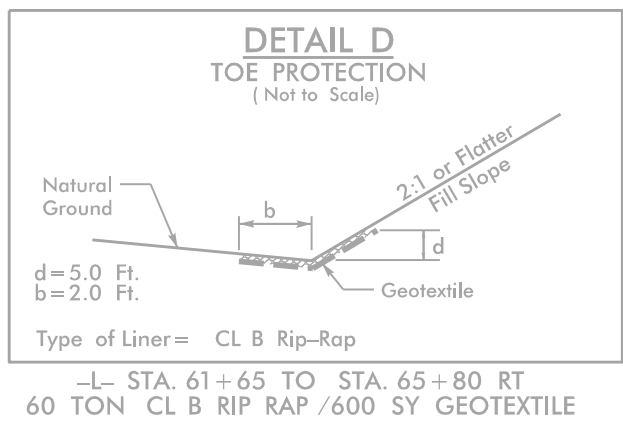
**NOTE:**  
1. SHUT EX. 6" VALVE ON HYDRANT LEG, RELOCATE FIRE HYDRANT, AND INSTALL 6" D.I. PLUG ON OUTLET SIDE OF EX. 6" VALVE. THE EX. 6" VALVE WILL REMAIN SHUT PERMANENTLY, AND EX. VALVE BOX SHOULD BE REMOVED.



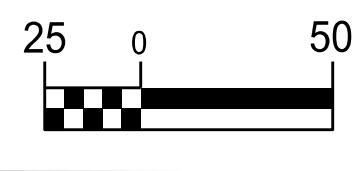
MATCHLINE -L- STA. 48+00.00  
SEE SHEET UC-6

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

-L-	-L-	-DRI-
PI Sta 51+61.63	PI Sta 61+23.12	PI Sta 10+84.11
Δ = 18° 43' 19.3" (RT)	Δ = 55° 21' 27.3" (LT)	Δ = 24° 25' 39.1" (LT)
D = 6' 08' 27.7"	D = 7' 38' 22.0"	D = 28' 38' 52.4"
L = 304.87'	L = 724.63'	L = 85.27'
T = 153.81'	T = 393.40'	T = 43.29'
R = 933.00'	R = 750.00'	R = 200.00'
SE = 4%	SE = 4%	SE = 2% (Stop)
DS = 50 mph	DS = 45 mph	DS = 15 mph
LR = 170'	LR = 160'	LR = 60'



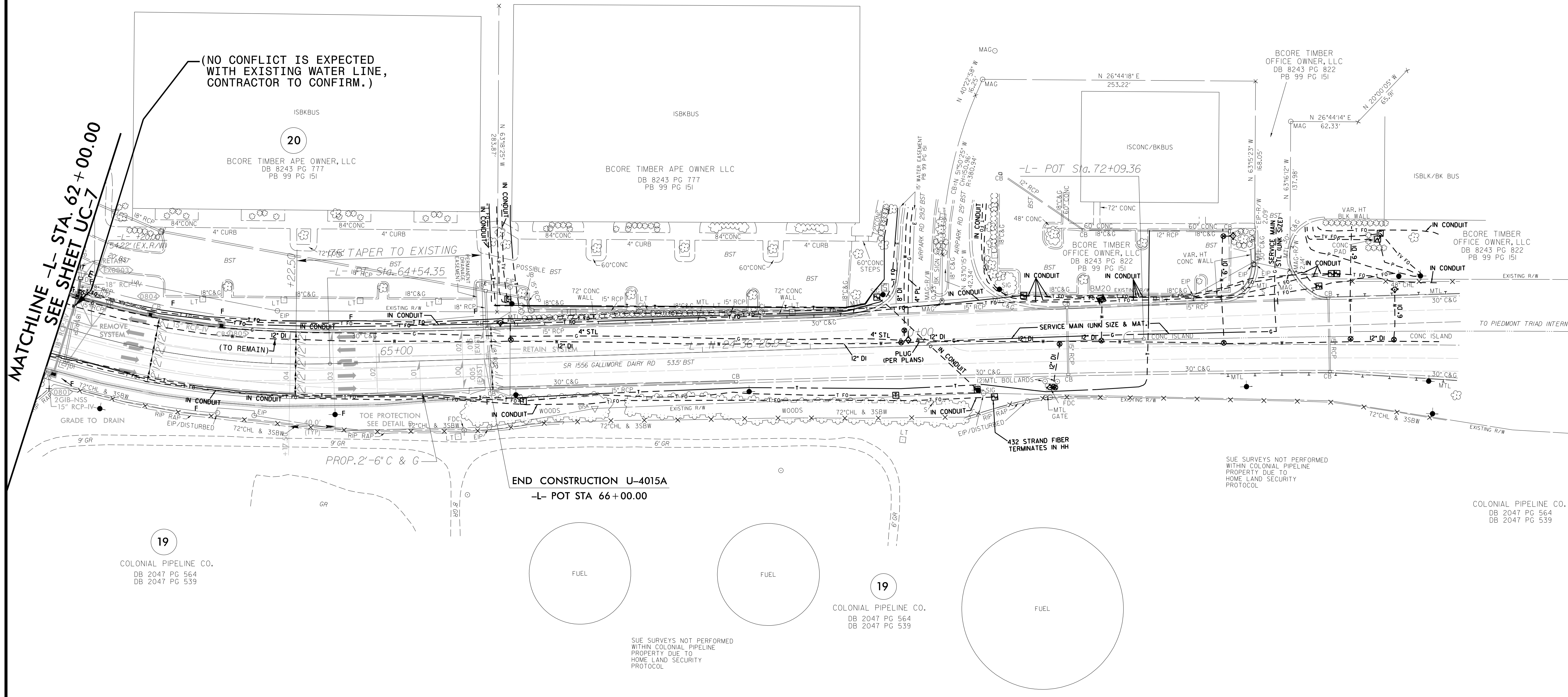
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. NO WATER OR SEWER CONFLICTS ARE ANTICIPATED ON THIS SHEET.



PROJECT REFERENCE NO. <b>U-4015A</b>	SHEET NO. <b>UC-8</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISOR:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 12/28/2023 UTILITY ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

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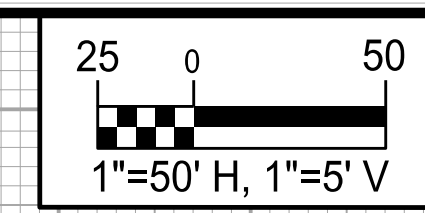
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-L-

PI Sta 61+23.12  
 $\Delta = 55' 21" 27.3" (LT)$   
 $D = 7' 38" 22.0"$   
 $L = 724.63'$   
 $T = 393.40'$   
 $R = 750.00'$   
 $SE = 4\%$   
 $DS = 45 \text{ mph}$   
 $LR = 160'$

5/14/23

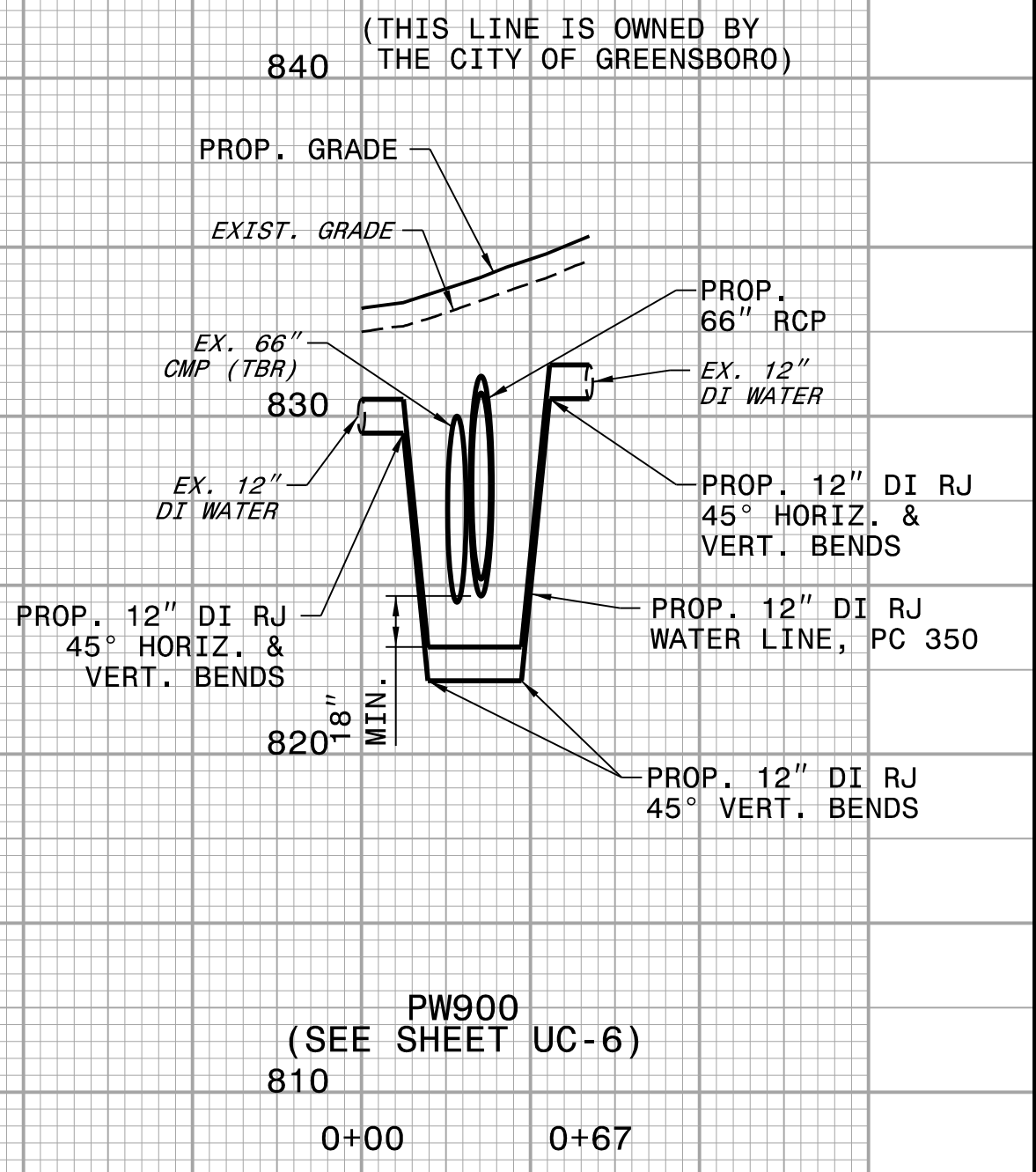
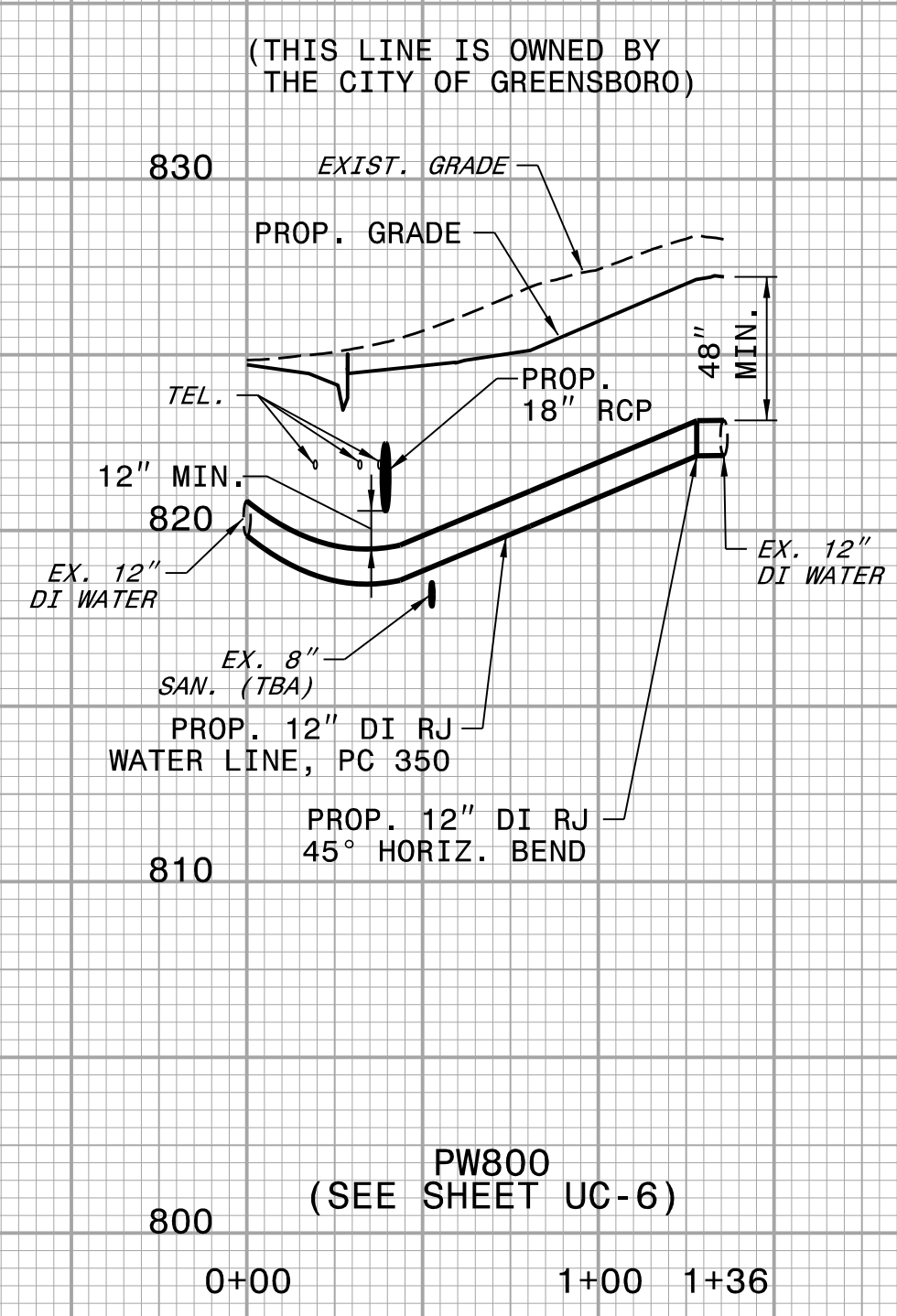
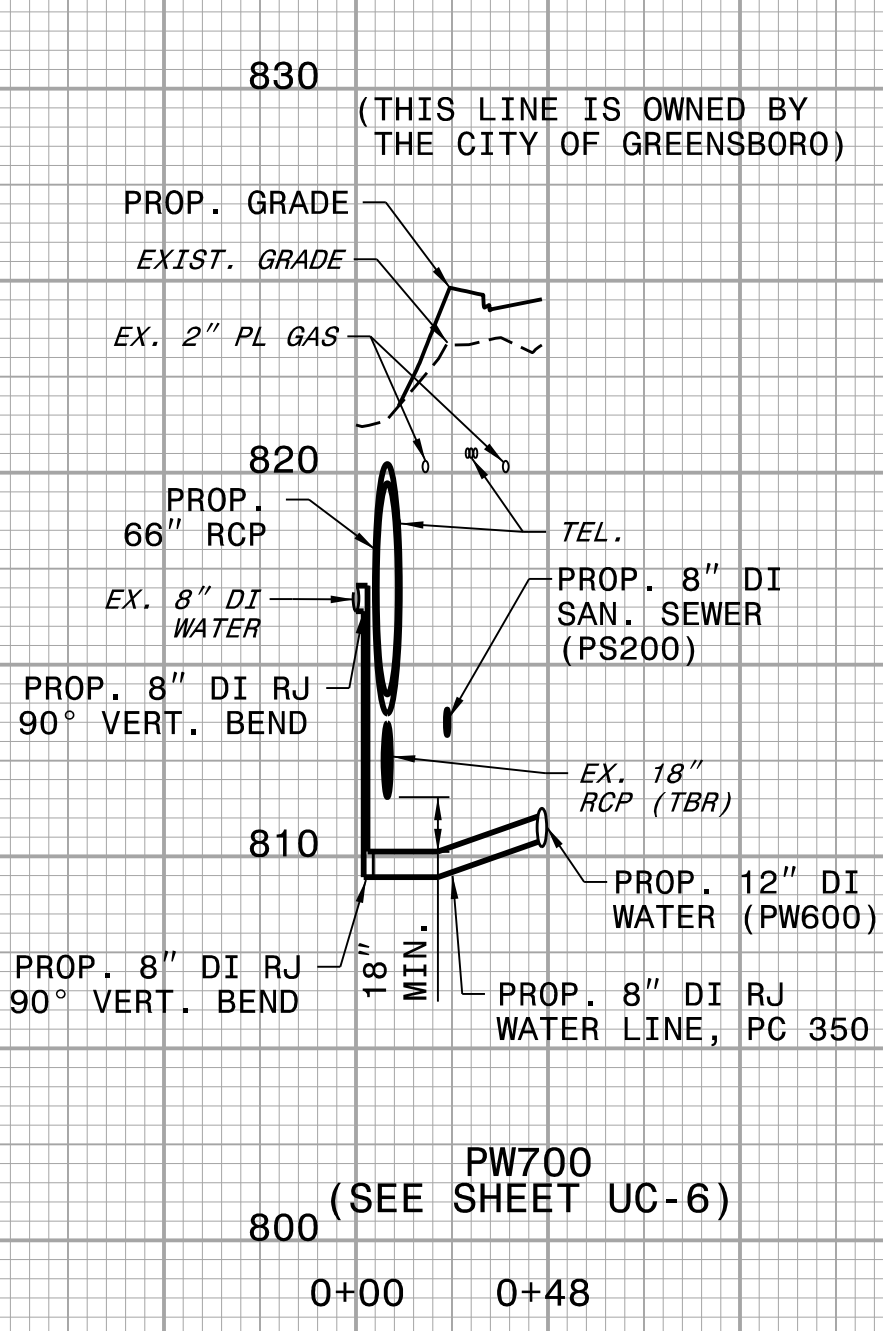
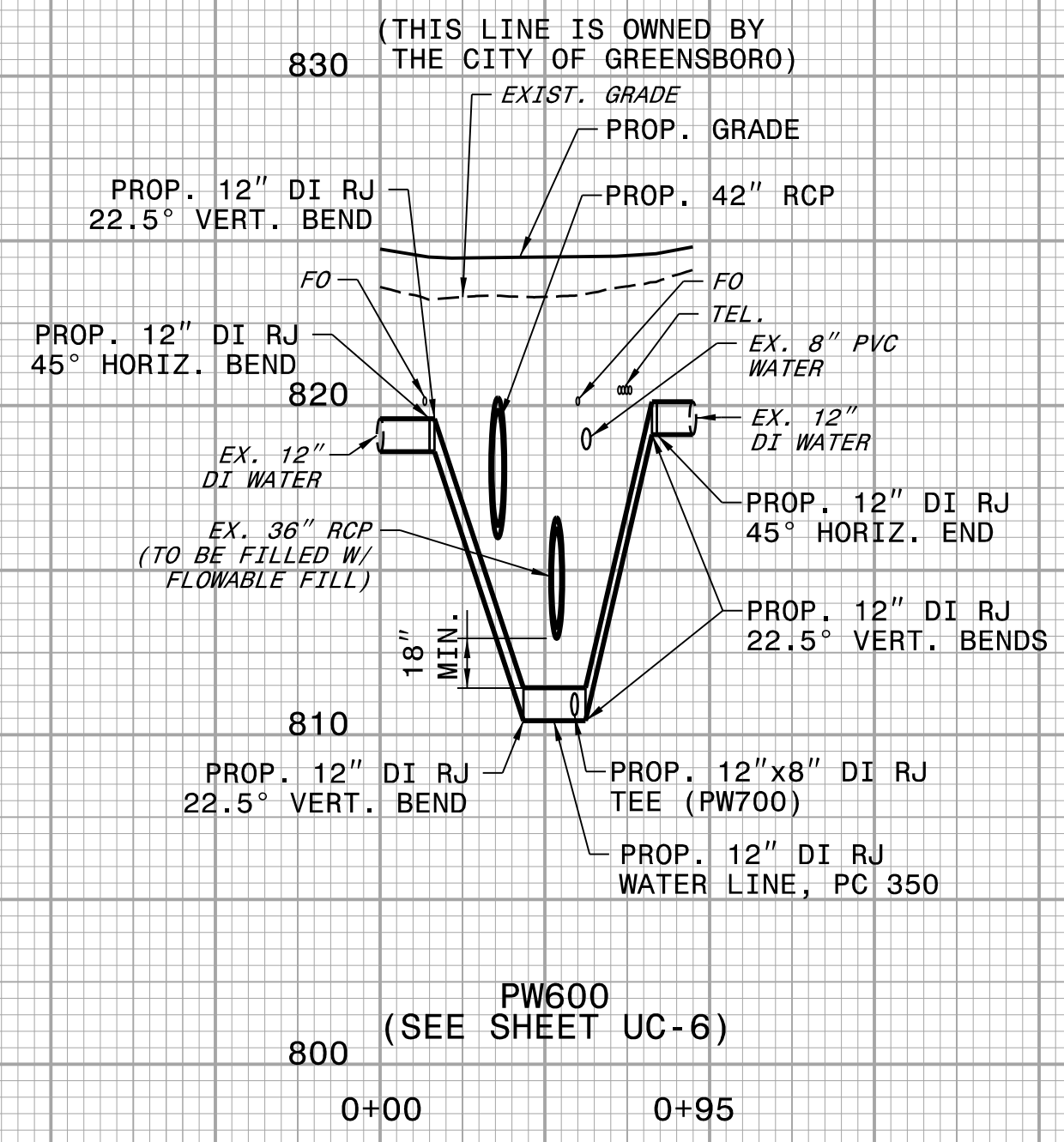
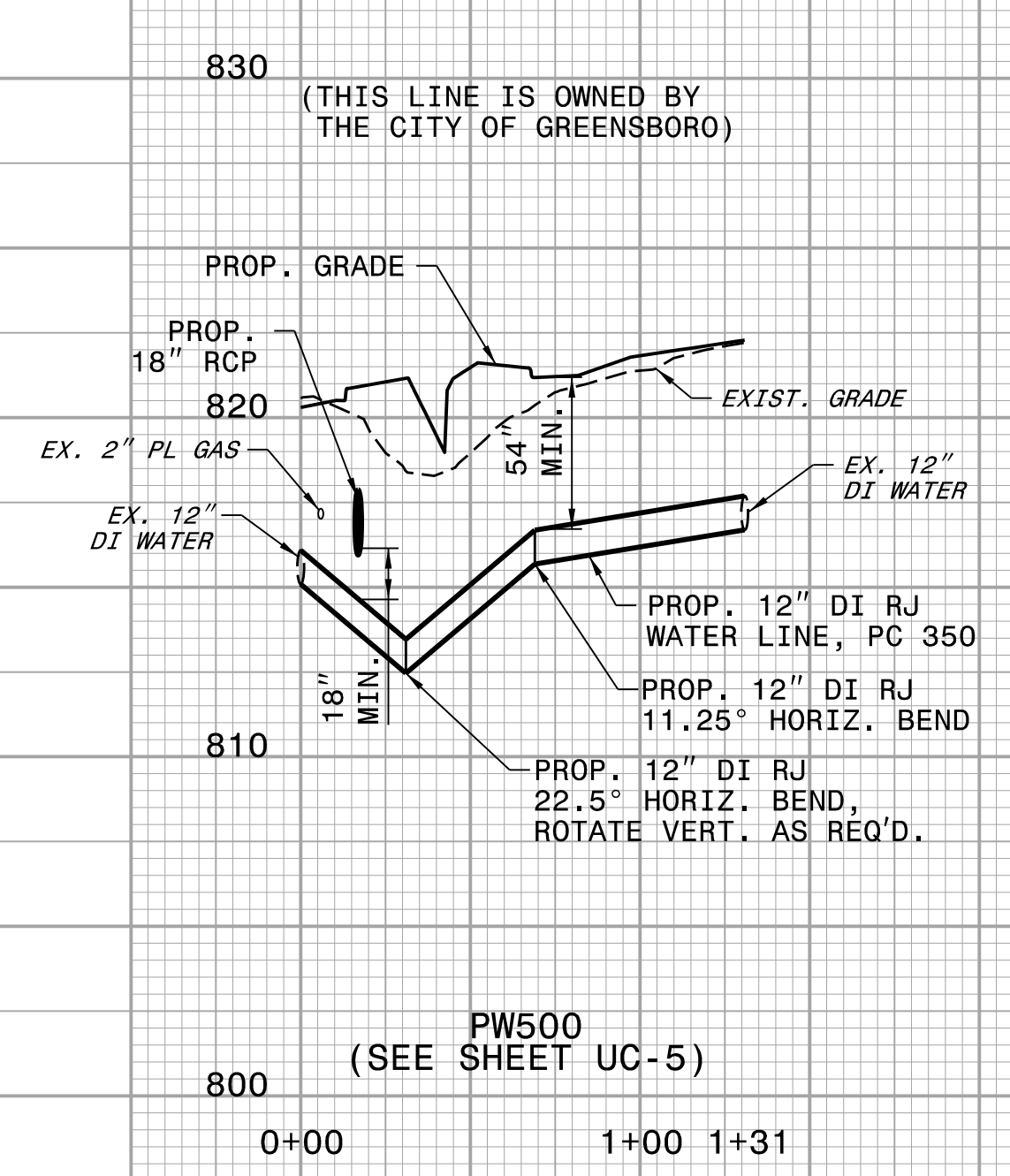
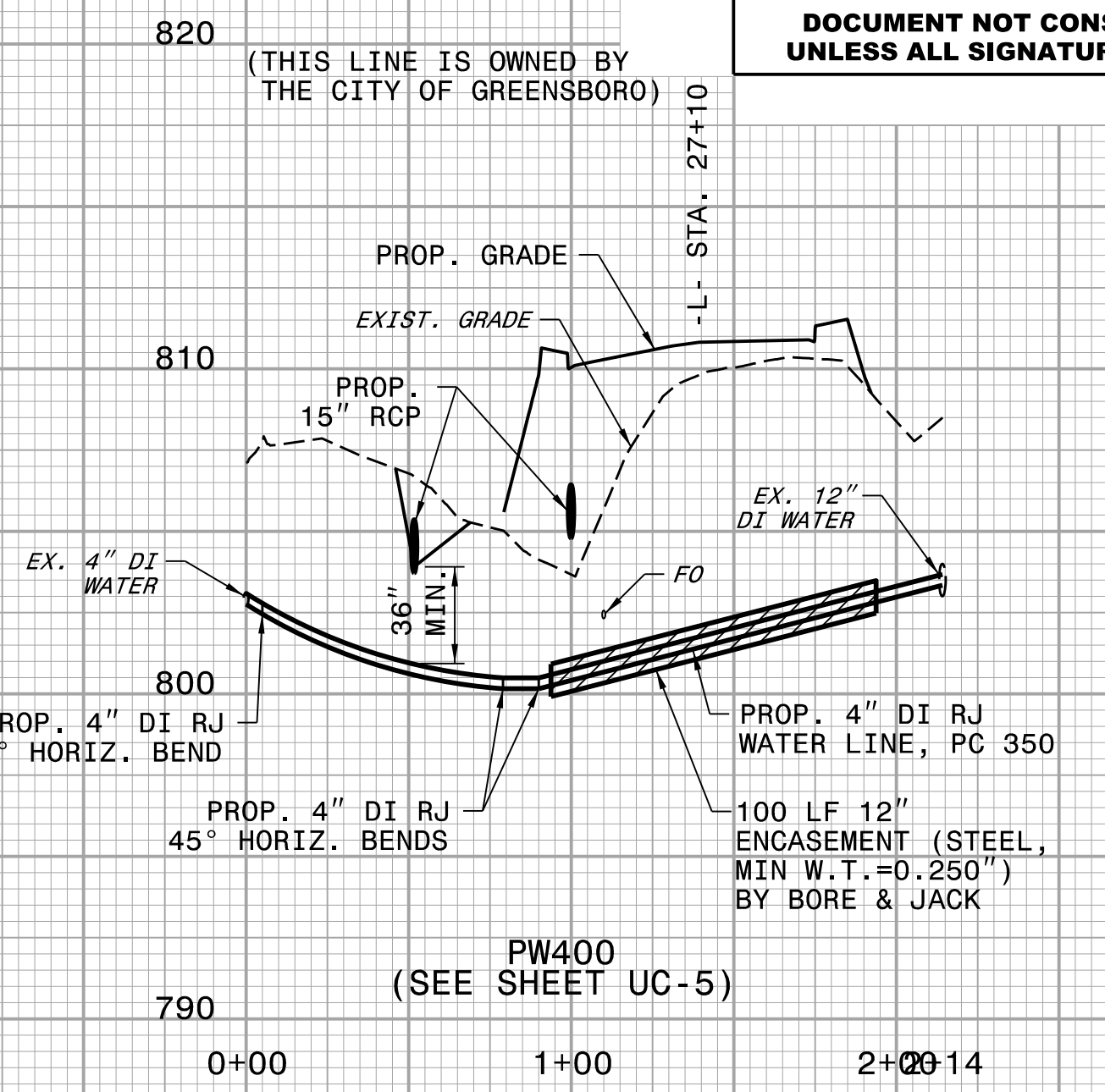
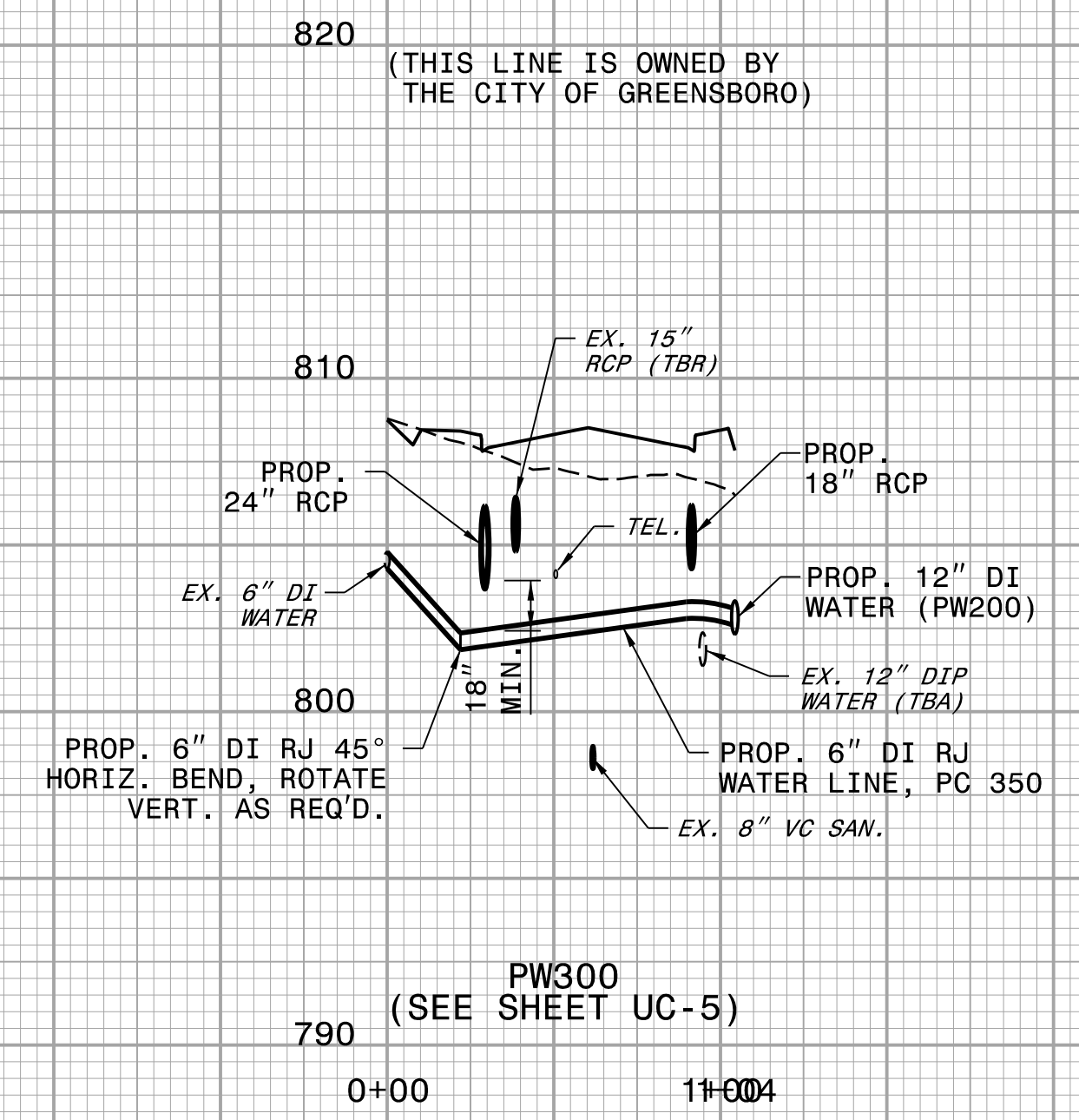
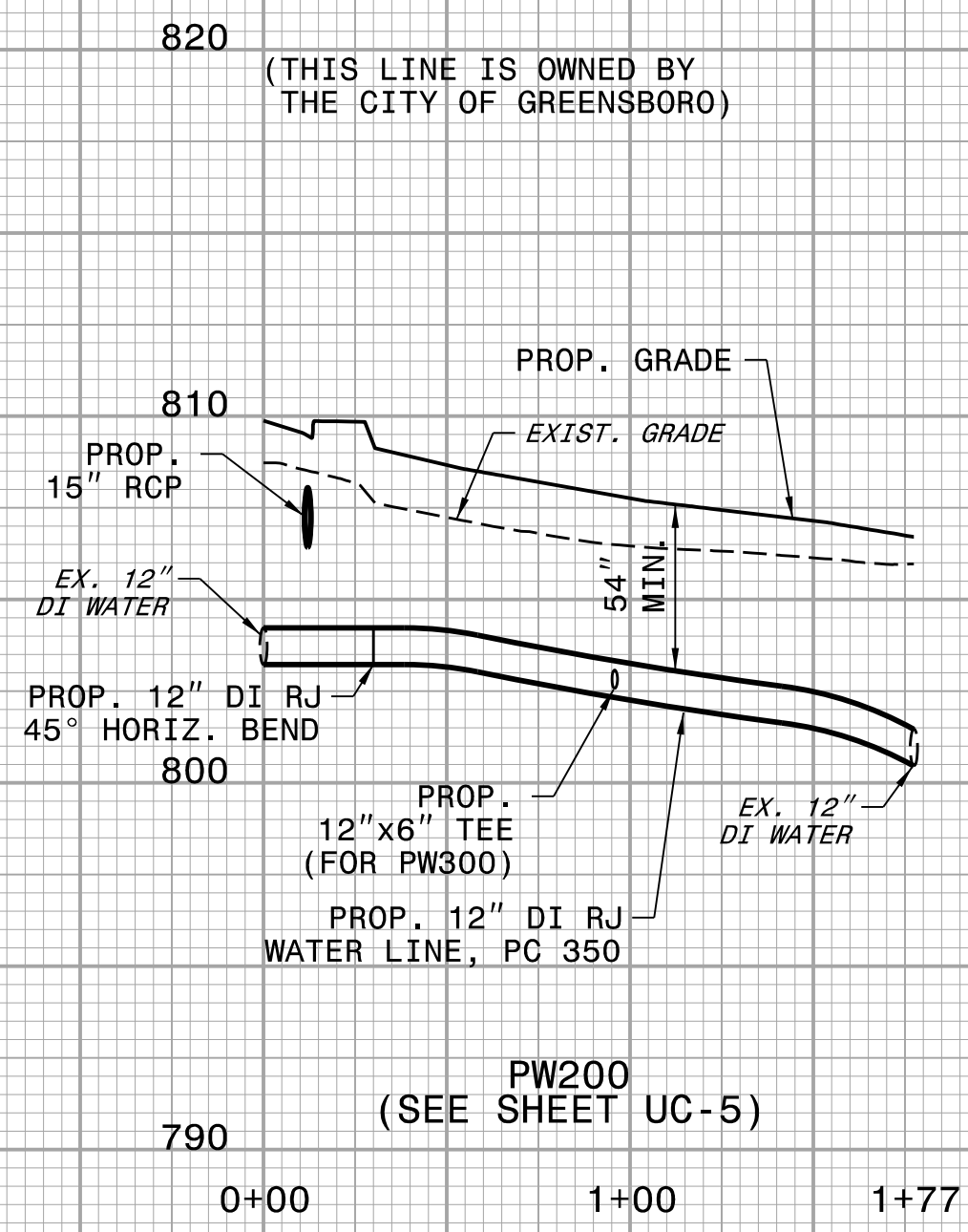
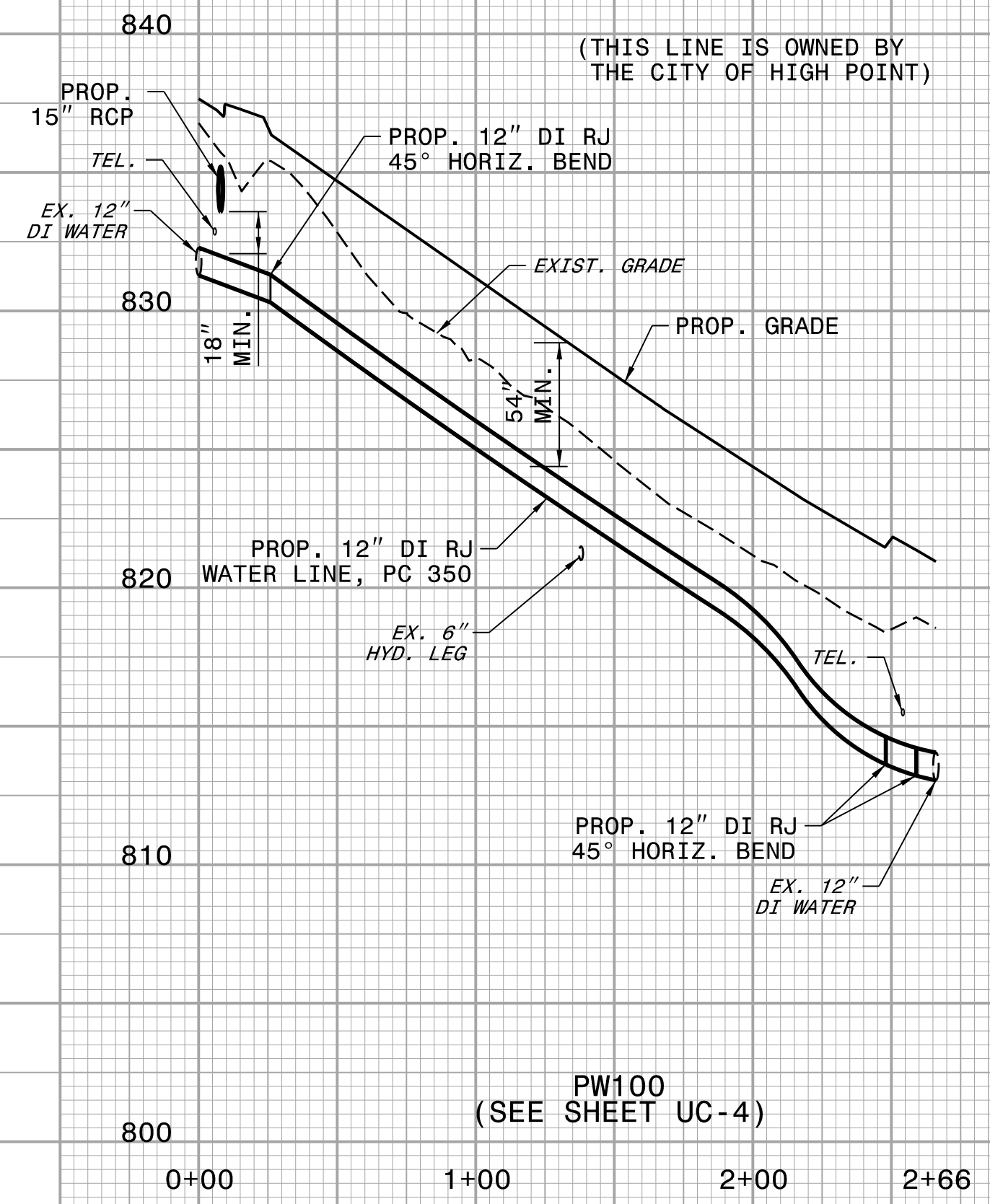


PROJECT REFERENCE NO.	SHEET NO.
U-4015A	UC-9
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/28/2023
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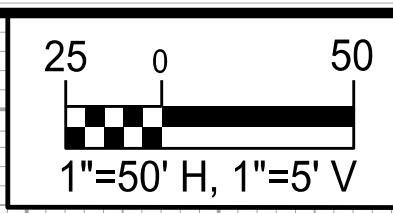
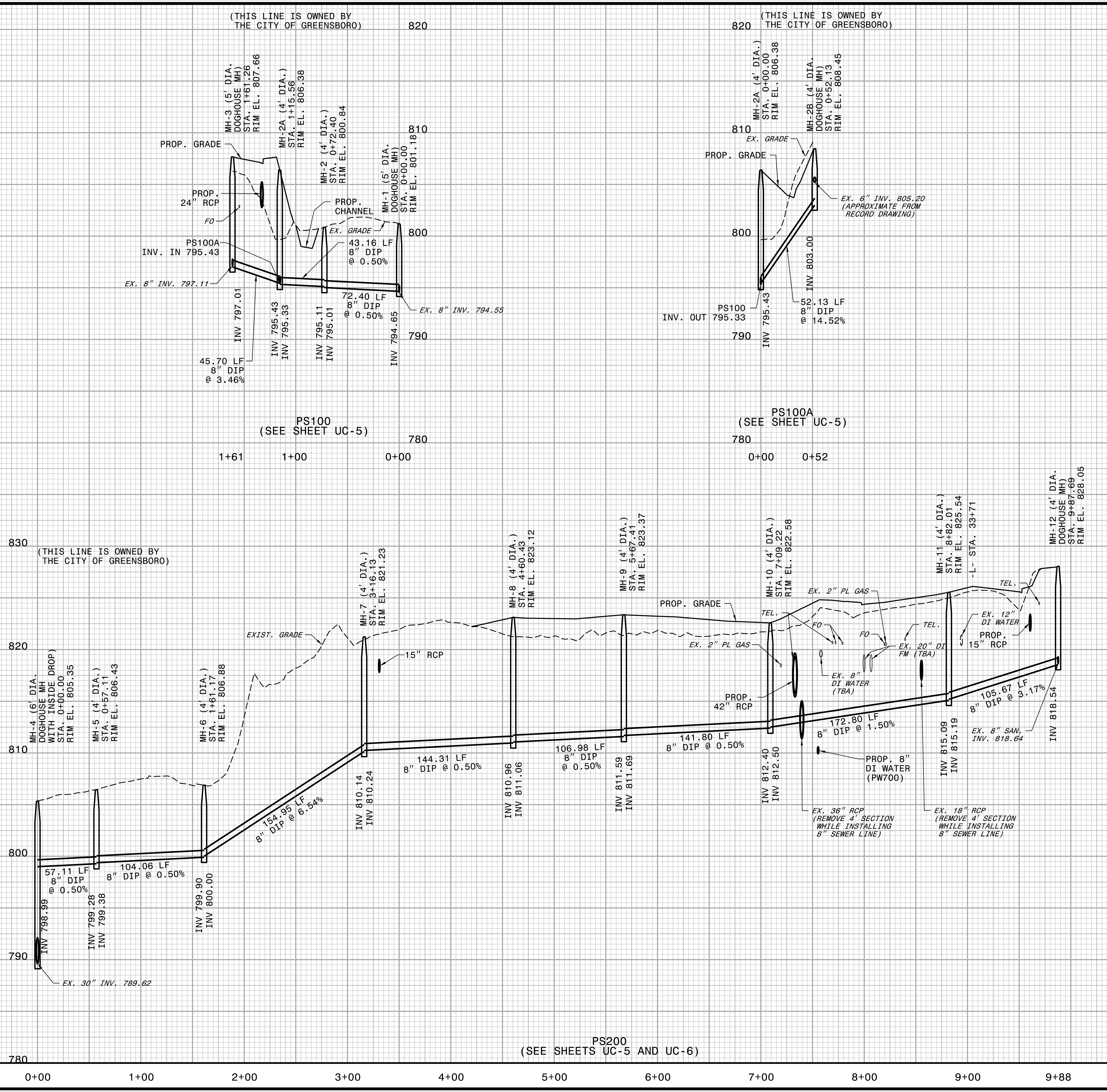
### UTILITY CONSTRUCTION

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REVISIONS



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W:\Projects\...  
X:\Projects\...  
Y:\Projects\...  
Z:\Projects\...



PROJECT REFERENCE NO. <b>U-4015A</b>	SHEET NO. <b>UC-10</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
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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- NOTES FOR PROPOSED MANHOLE RINGS AND COVERS:**
- MH RING AND COVER FOR PROPOSED MH'S 1, 2, 4, 5, 6, AND 12 ON SHALL BE WATERTIGHT BOLT-DOWN TYPE, PER CITY OF GREENSBORO STD. NO. 205-B.
  - MH RING AND COVER FOR PROPOSED MH'S 2A, 2B, 3, 7, 8, 9, 10, AND 11 SHALL BE STANDARD MH RING AND COVER, PER CITY OF GREENSBORO STD. NO. 205.

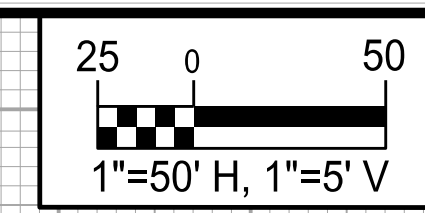
PS200  
(SEE SHEETS UC-5 AND UC-6)

UTILITY CONSTRUCTION PLANS PREPARED BY:

**DAVIS • MARTIN • POWELL**  
ENGINEERS & SURVEYORS

6415 OLD PLANK RD., HIGH POINT, NC 27265  
PHONE: (336) 886-4821 FAX: (336) 886-4458  
WWW.DMP-INC.COM LICENSE: F-0245

5/14/23



PROJECT REFERENCE NO. U-4015A	SHEET NO. UC-11
DESIGNED BY: DMP	
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