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09_08/2015

T.I.P. NO.	SHEET NO.
B-5243	UC-1

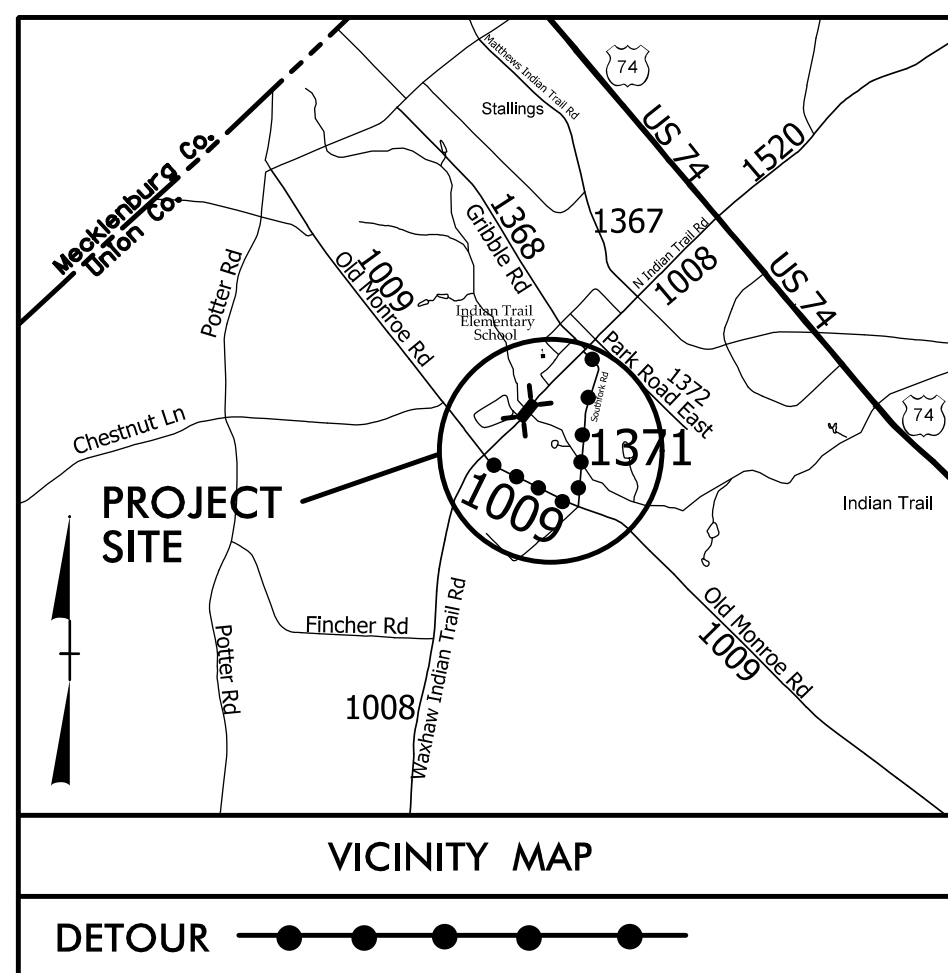
TIP PROJECT: B-5243

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

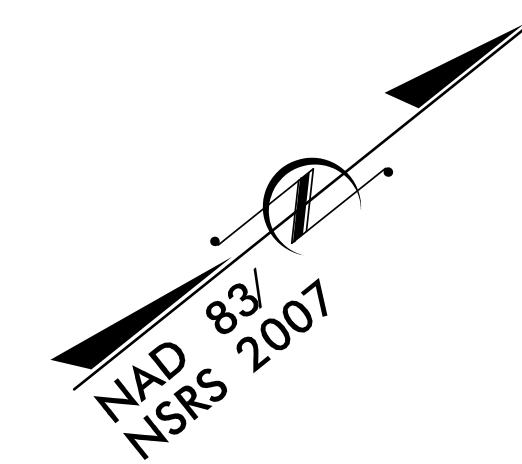
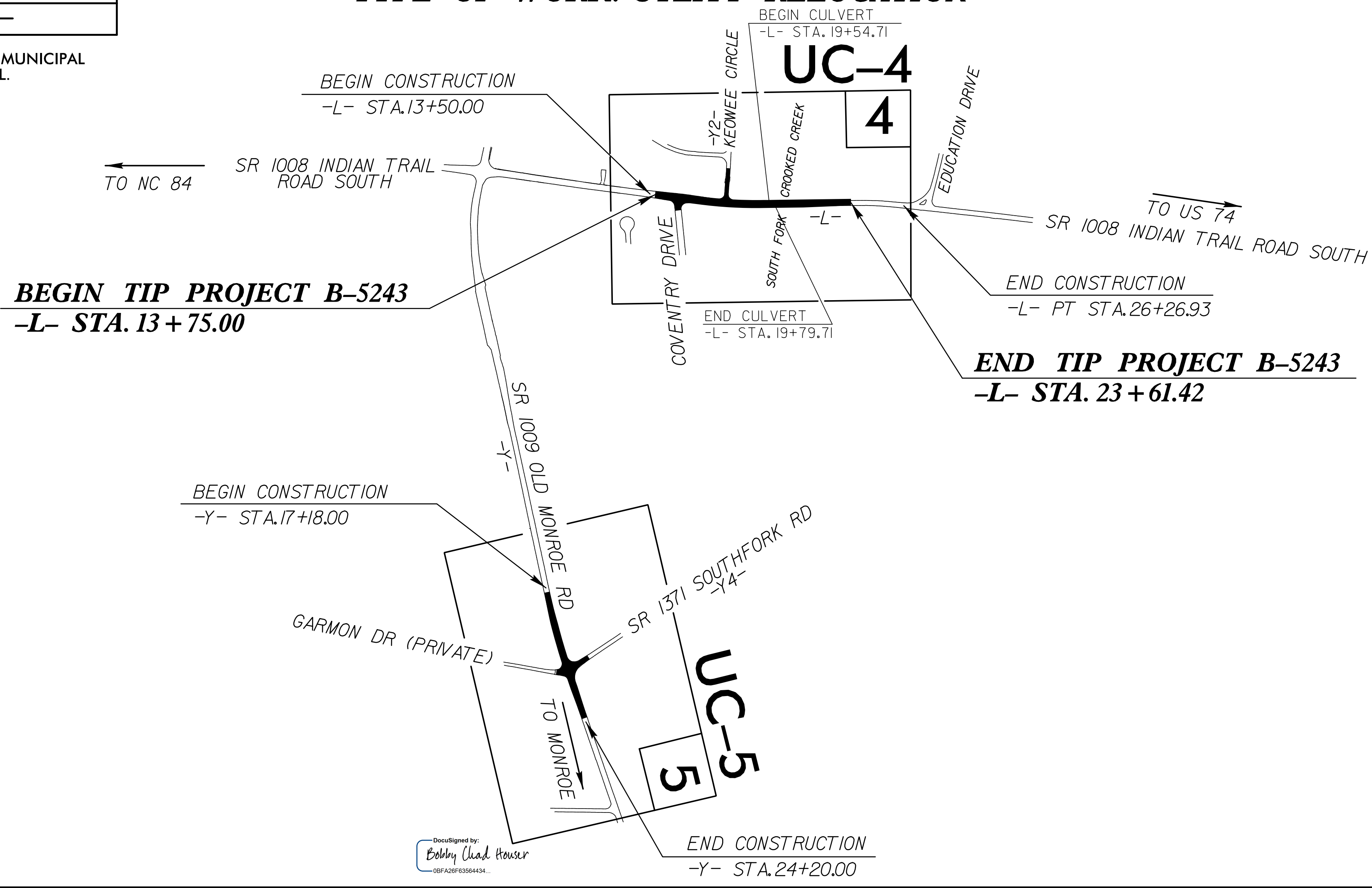
UTILITY CONSTRUCTION PLANS
UNION COUNTY

LOCATION: BRIDGE 258 ON SR 1008 OVER SOUTH FORK CROOKED CREEK AND IMPROVEMENT OF THE INTERSECTION OF SR 1009 AND SR 1371

TYPE OF WORK: UTILITY RELOCATION

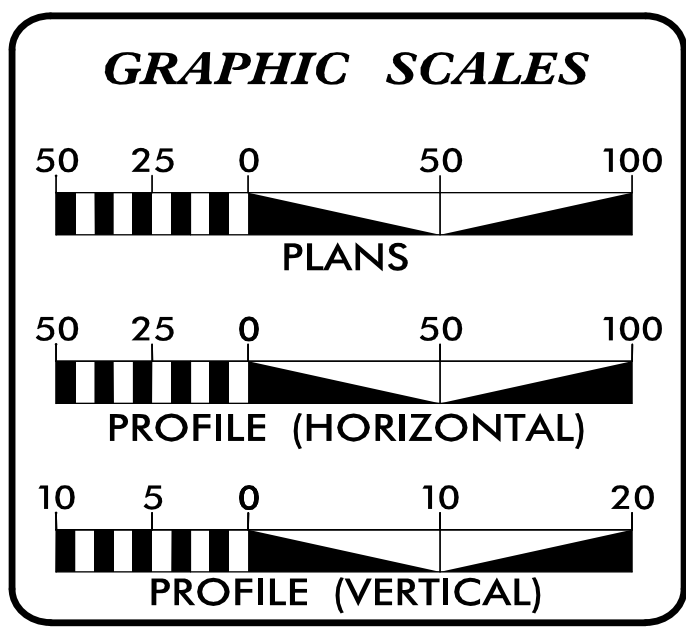


THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF INDIAN TRAIL.



DocuSigned by:
Bobby Chad Houser
00FA20F63564434

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

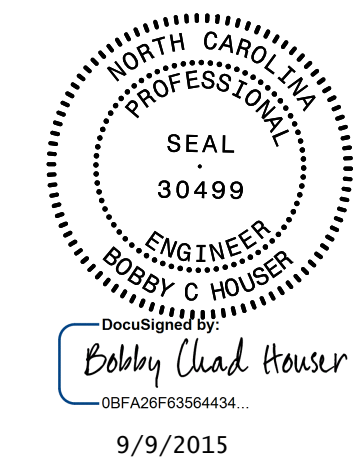


INDEX OF SHEETS

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 THUR UC-7	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER: UNION COUNTY
(2) SANITARY SEWER: UNION COUNTY



PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

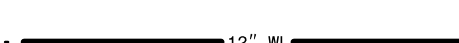





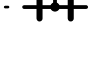

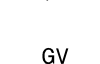


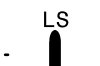












Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Michael Bright UTILITIES PROJECT DESIGNER

9/9/2015 3:17:22 PM X:\NCD001\B-5243\Utilities\Rdy_Ut\Pro\B5243_Ut_tsh_UC1_psh.dgn




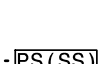
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS





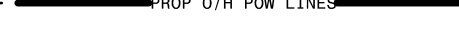
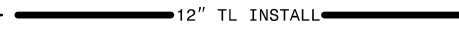
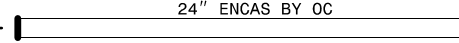
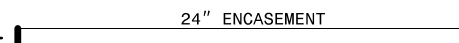
PROPOSED WATER SYMBOLS


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	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
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		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
Utility Line Drawn from Record

(Type as Shown)

Designated Utility Line

(Type as Shown)

5/14/99

REV: 2/1/2012

UTILITY CONSTRUCTION

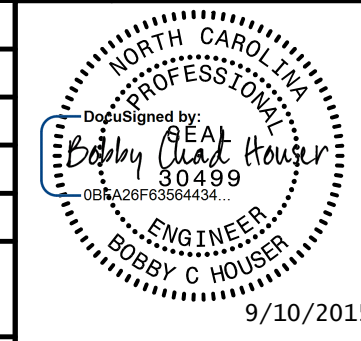

GENERAL NOTES:

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 2012.
2. THE EXISTING UTILITIES BELONG TO UNION COUNTY .
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF 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 AND NATURAL RESOURCES, 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 OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. ANY WATER INTERRUPTION MUST BE SCHEDULED WITH THE UTILITY OWNER. ALL WATER VALVES ARE TO BE OPERATED BY UNION COUNTY OPERATIONS PERSONNEL ONLY.
7. 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.
8. 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.
9. 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. WATER LINES SHALL ONLY BE SHUT DOWN BETWEEN THE HOURS OF 11:00 PM AND 4:00 AM WITHOUT WRITTEN PERMISSION FROM THE UTILITY OWNER.
10. 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:

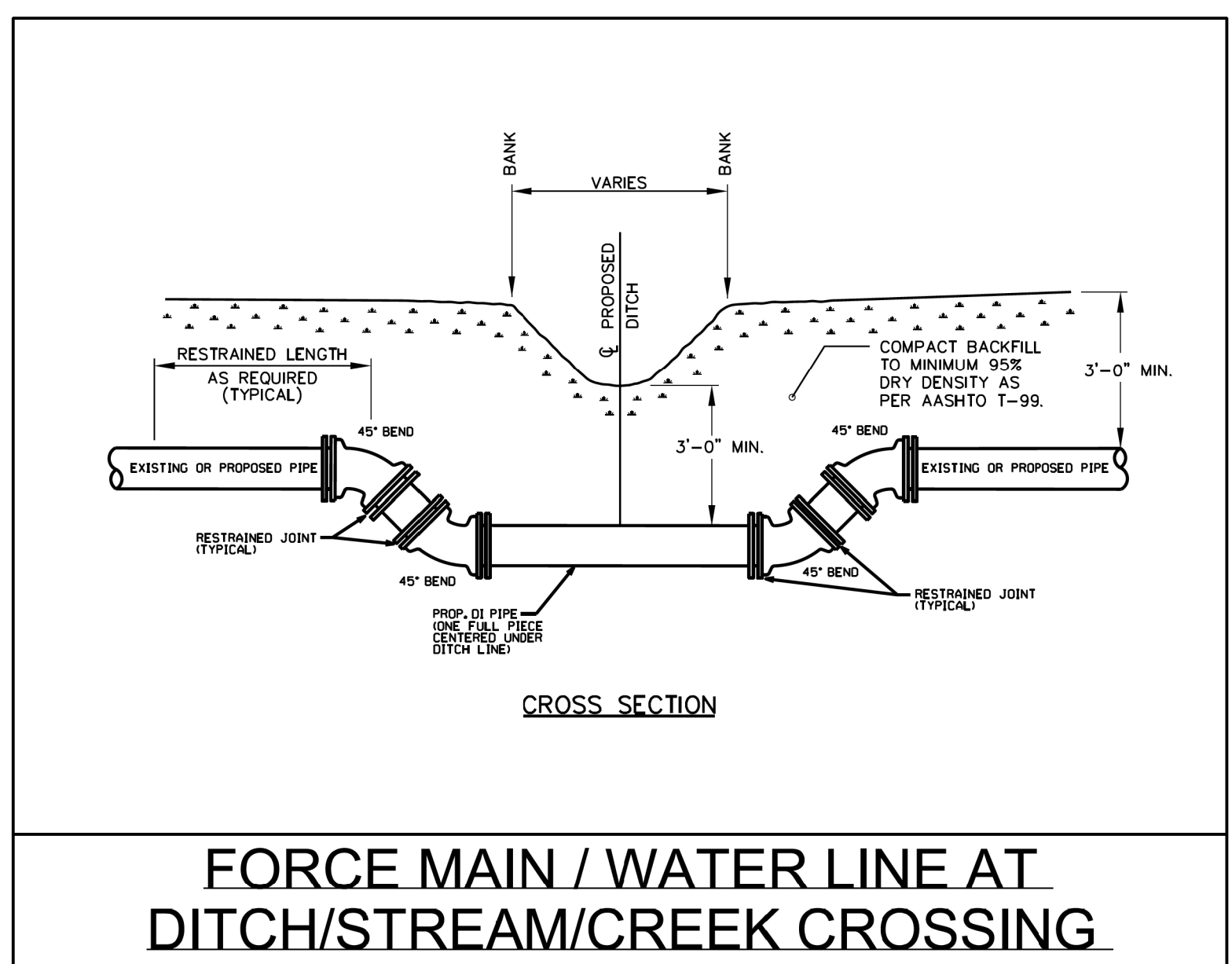
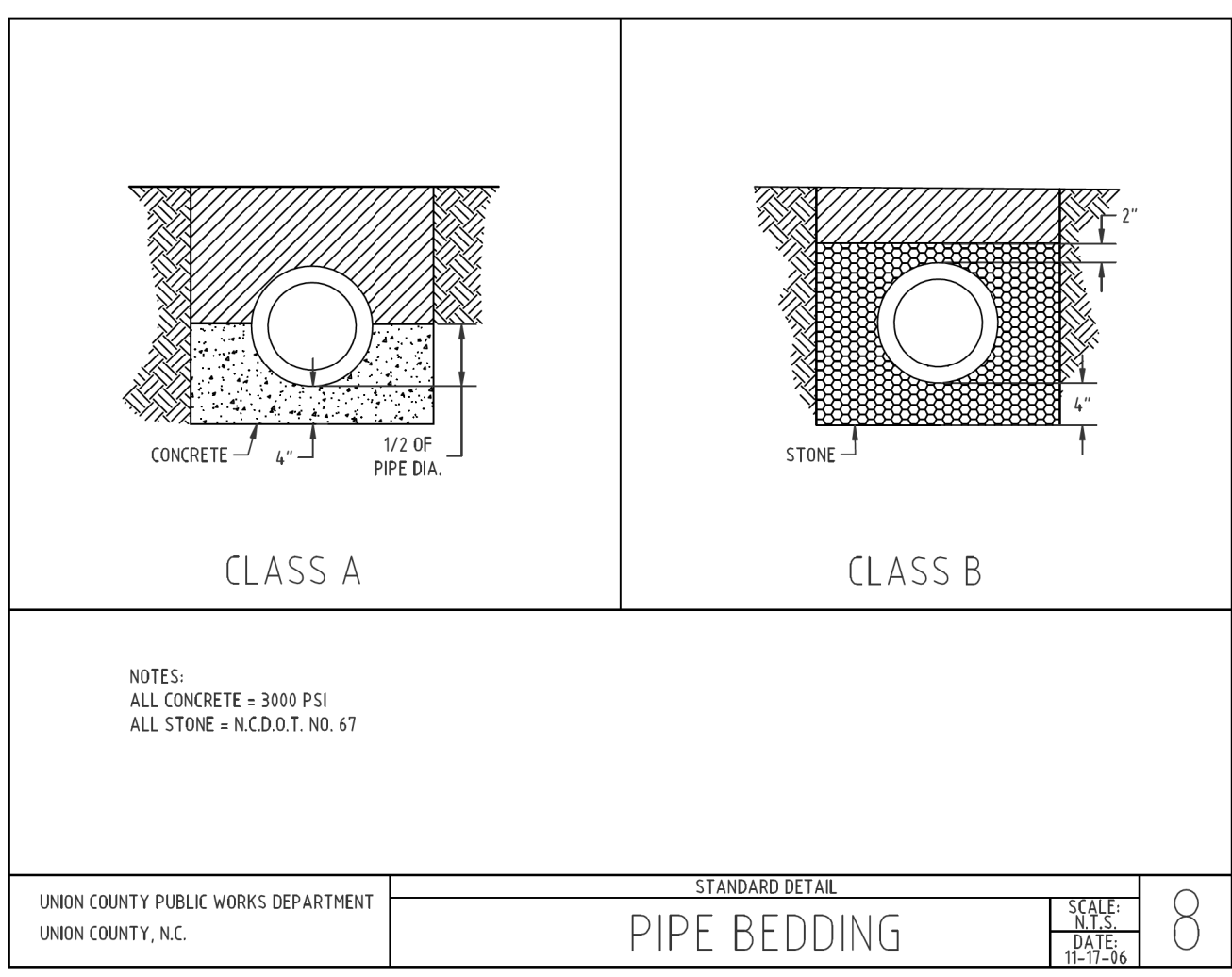
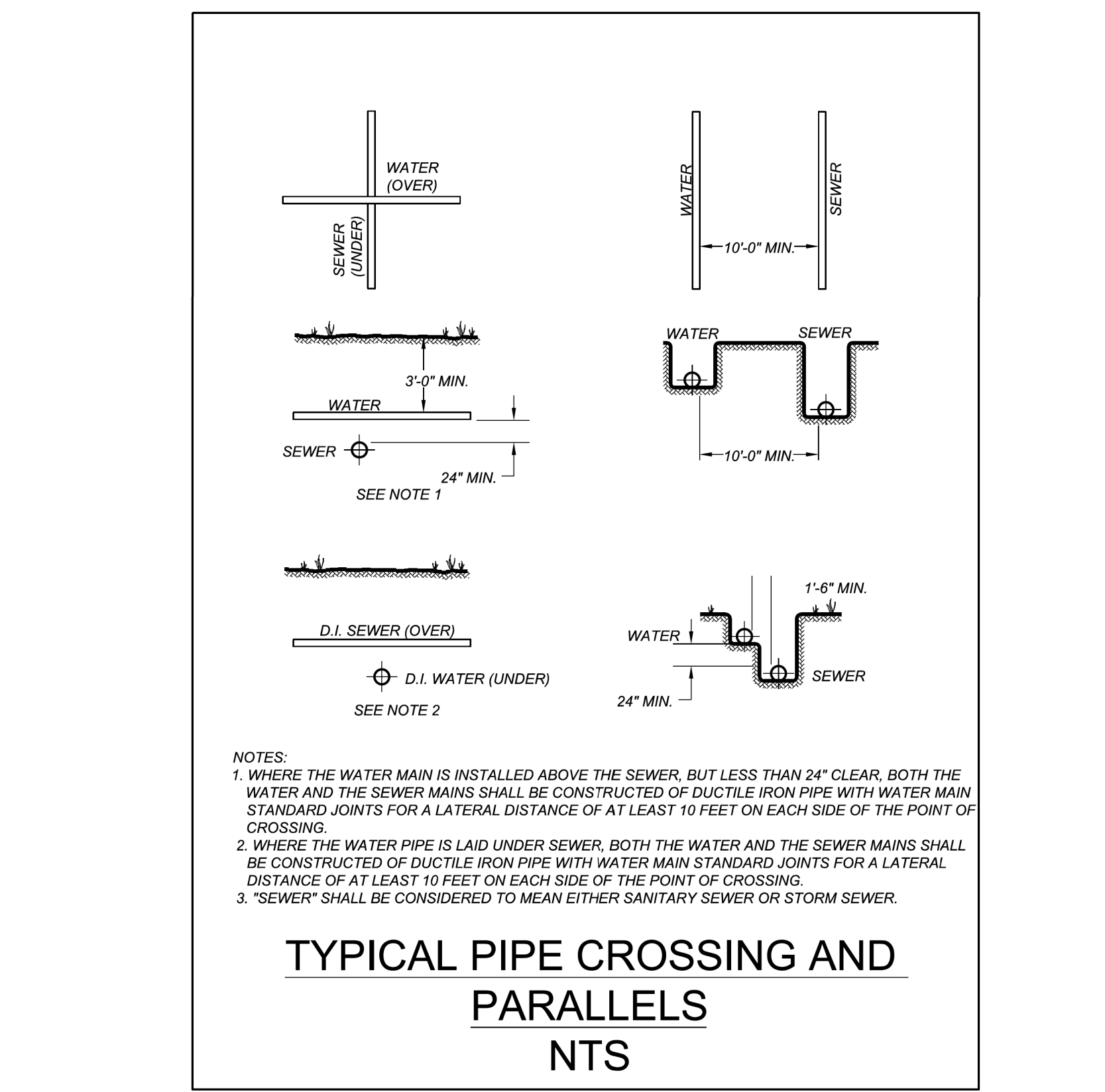
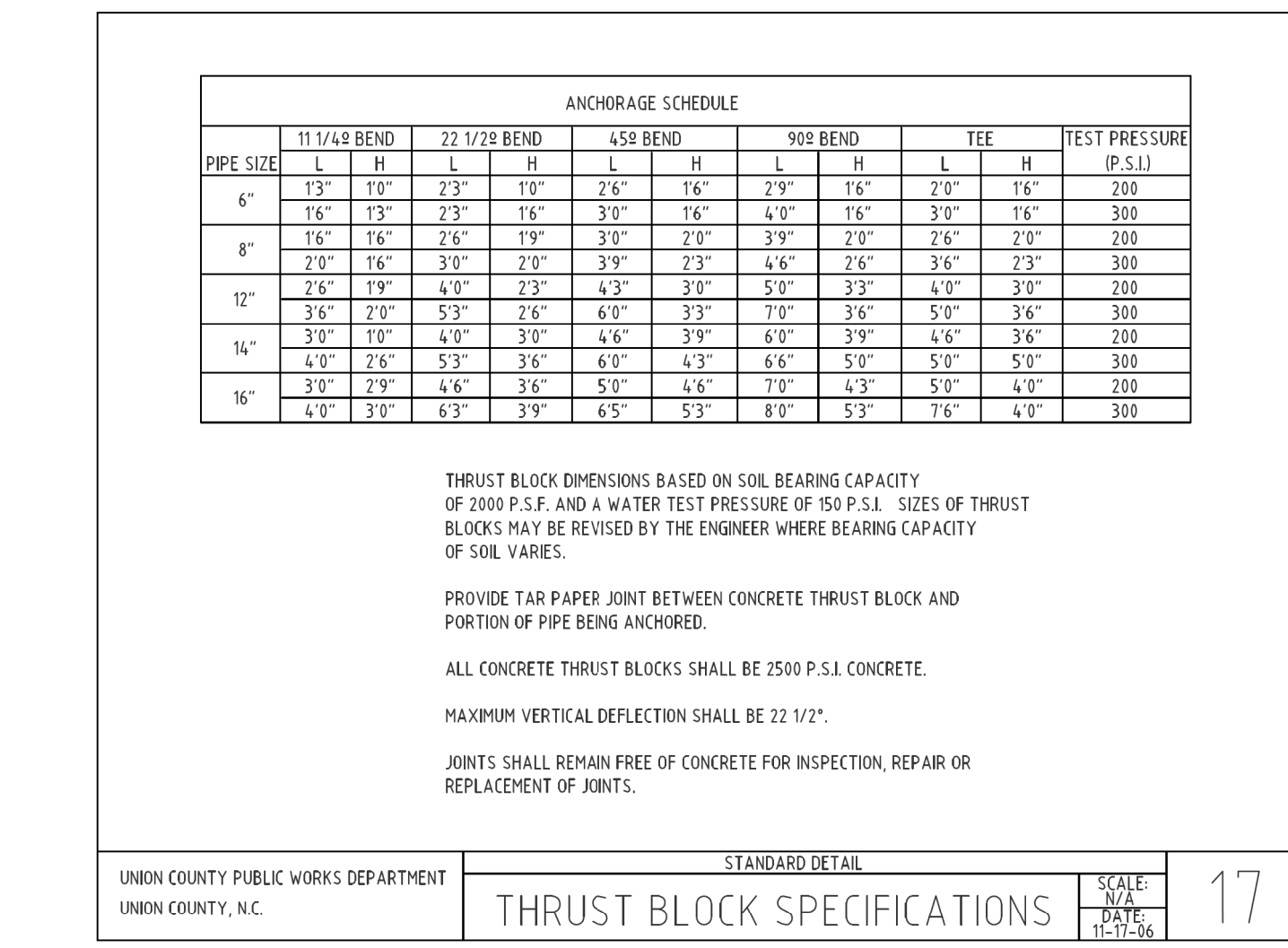
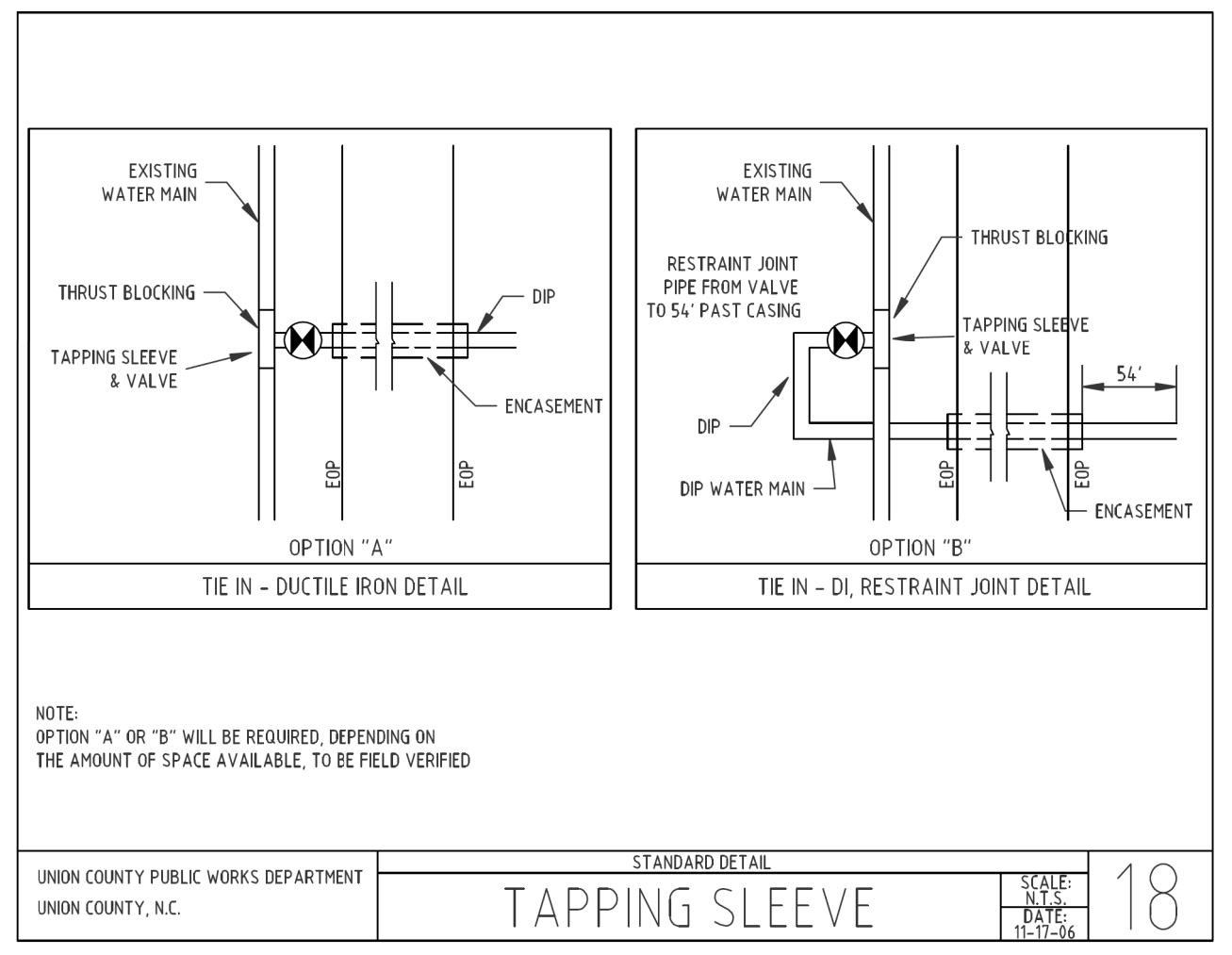
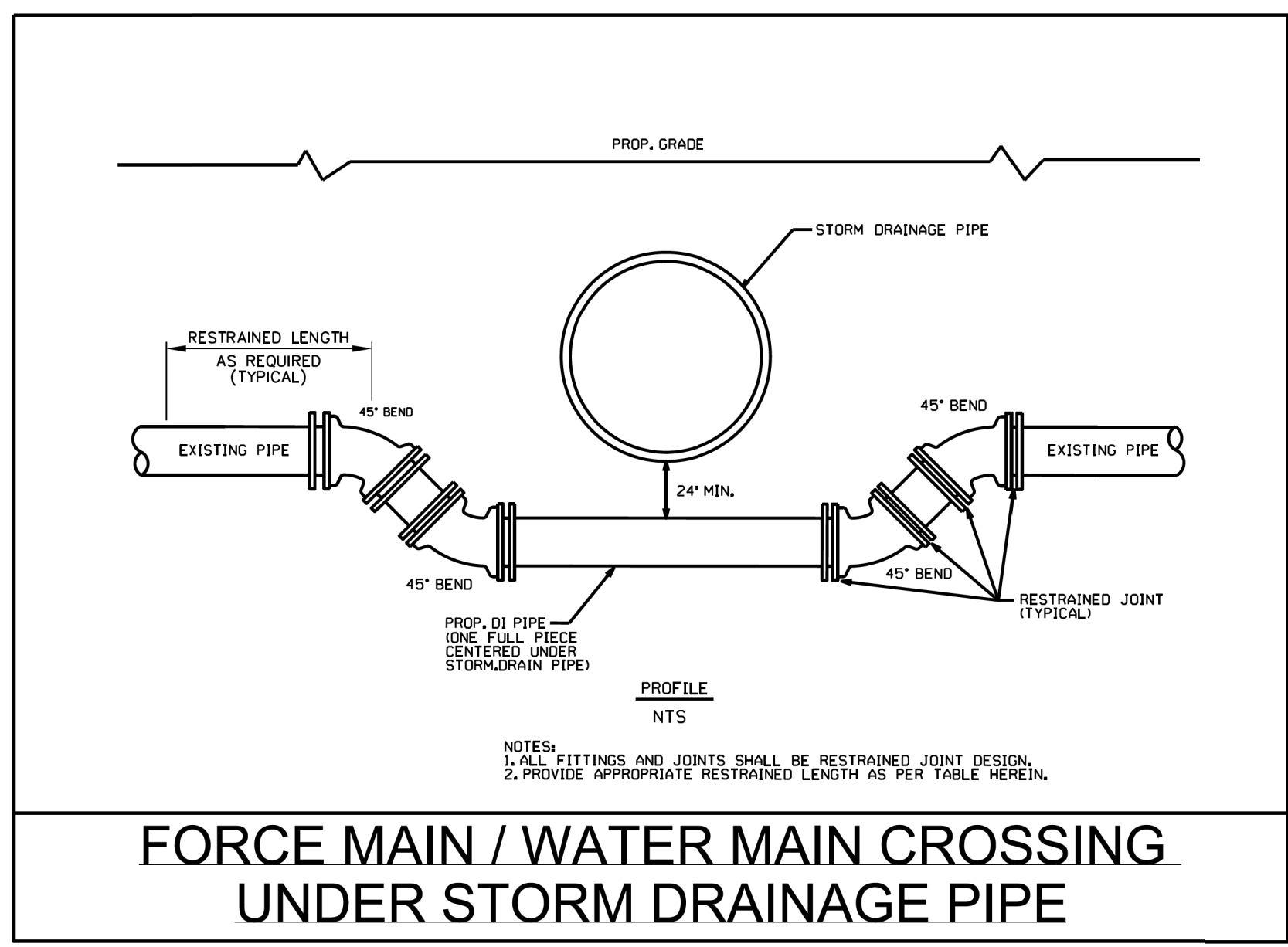
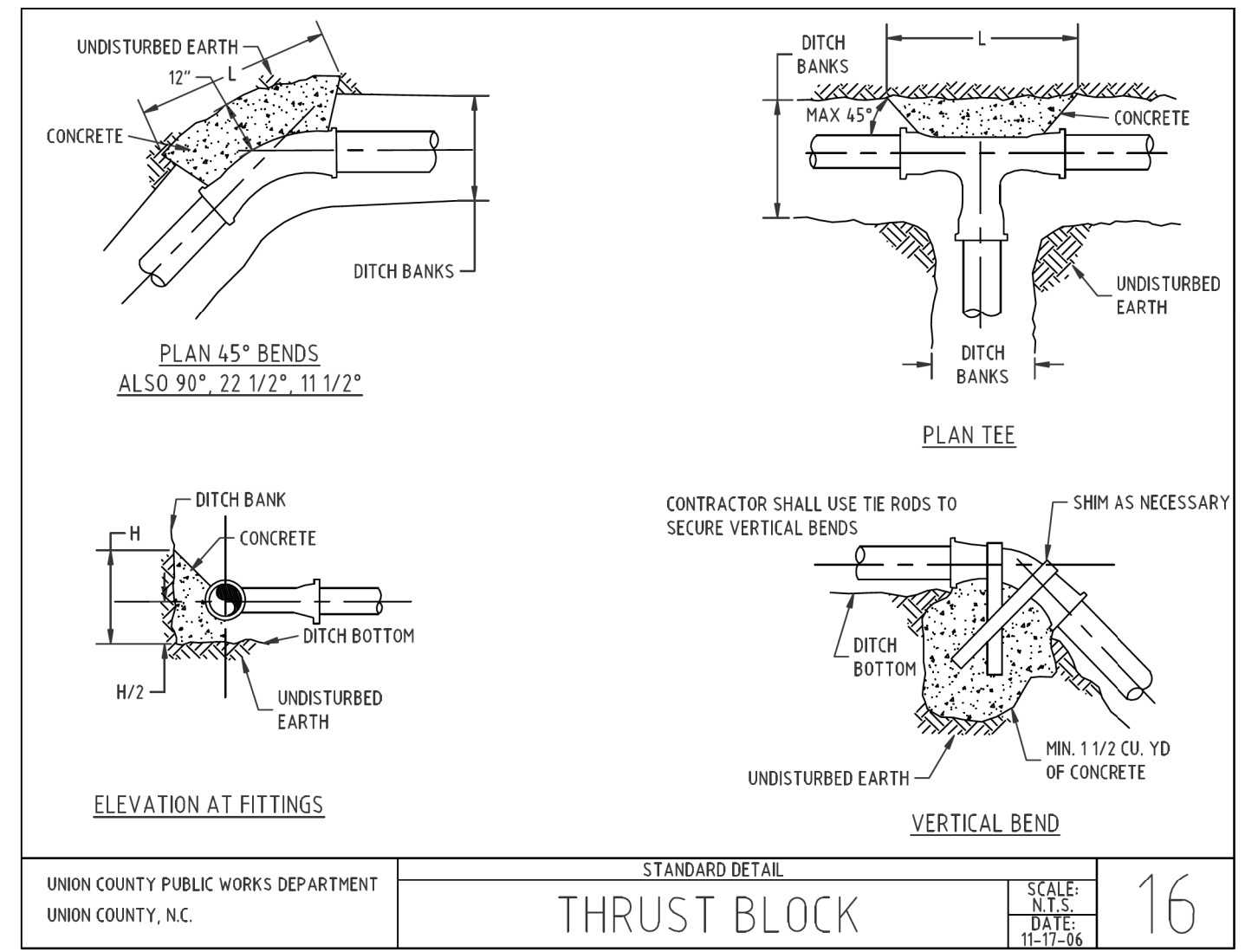
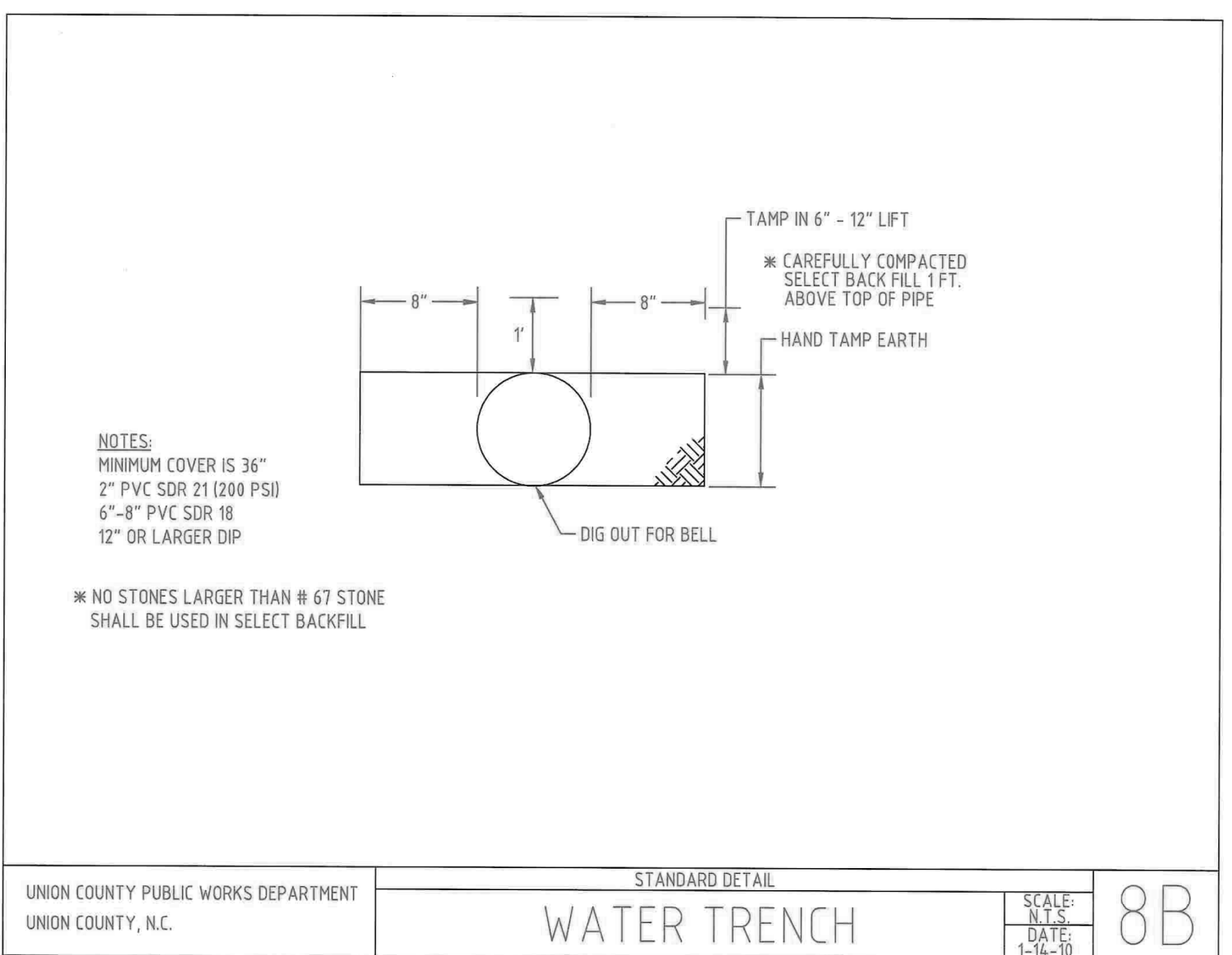
1. ALL TRENCH INSTALLED WATER LINE, 6-INCHES THROUGH 12", SHALL BE DUCTILE IRON THICKNESS CLASS 350, EXCEPT WHERE NOTED ON THE PLANS.
2. ALL WATER SERVICE LINES SHALL BE ¾ -INCH OR 1-INCH TYPE "K" COPPER PIPE UNLESS OTHERWISE NOTED. IF AN EXISTING SERVICE LINE IS ANY MATERIAL OTHER THAN COPPER, THE ENTIRE SERVICE LINE SHALL BE REPLACED FROM THE WATER MAIN TO THE WATER METER.
3. ALL SANITARY GRAVITY SEWER PIPE SHALL BE SDR-26, EXCEPT WHERE NOTED ON THE PLANS.
4. ALL WATER LINE FITTINGS 4-INCHES THROUGH 12- INCHES IN DIAMETER, SHALL BE PRESSURE CLASS 350 DUCTILE IRON RESTRAINED JOINT IN ACCORDANCE WITH ANSI A21.10 / AWWA C110 AND ANSI A21.4 / AWWA C104.
5. 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.
6. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.
7. 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.
8. ALL VALVES 12" AND UNDER SHALL BE RESILIENT WEDGE GATE VALVES.
9. UTILITY MANHOLE SPACING SHALL NOT EXCEED 425 FEET, EXCEPT AS SHOWN ON THE PLANS

PROJECT REFERENCE NO. B-5423	SHEET NO. UC-3
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

UTILITY CONSTRUCTION PLANS ONLY

5/14/99

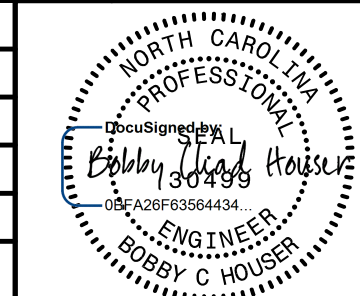
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CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 TGS ENGINEERS 804-C N. LAFAYETTE ST. SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

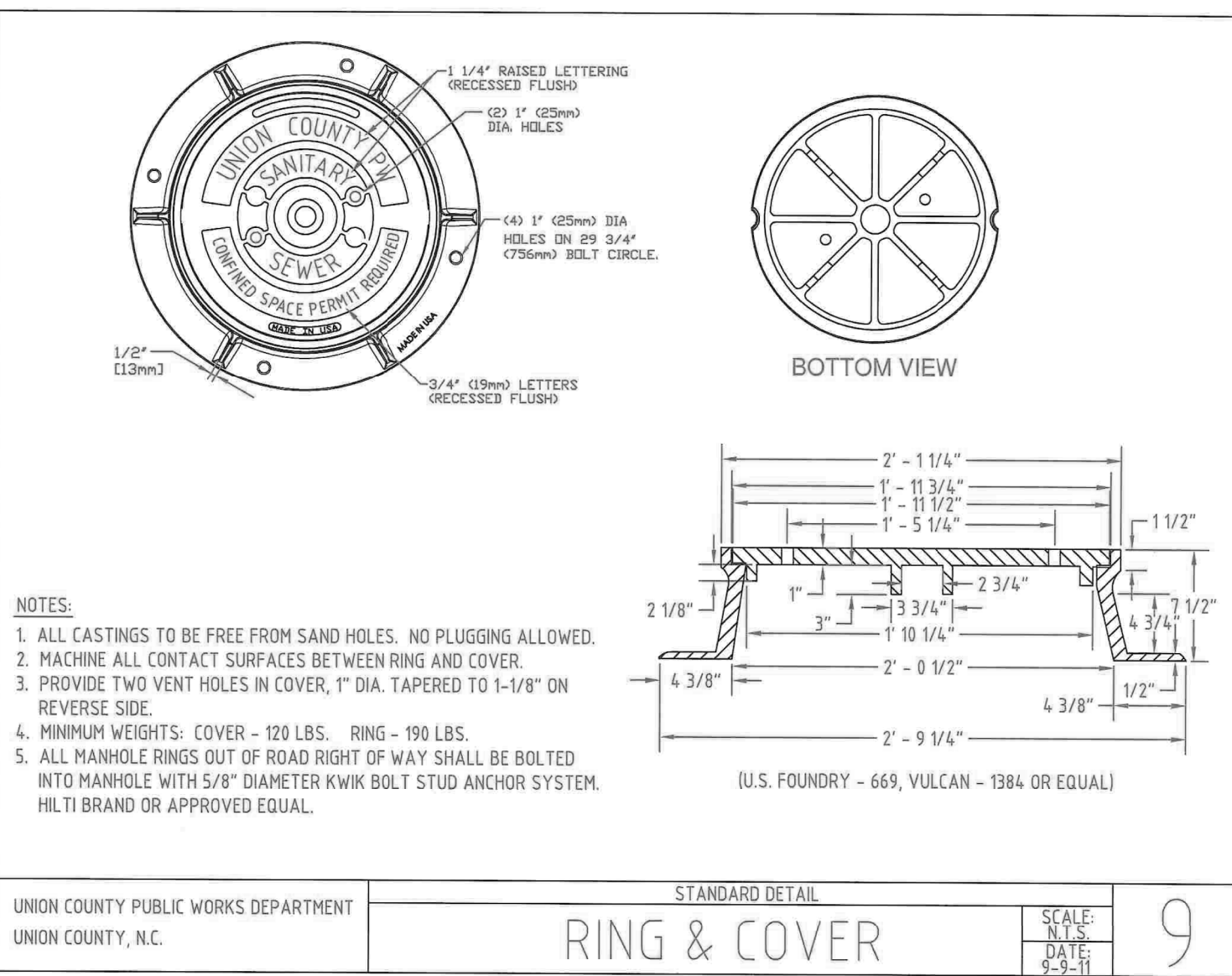
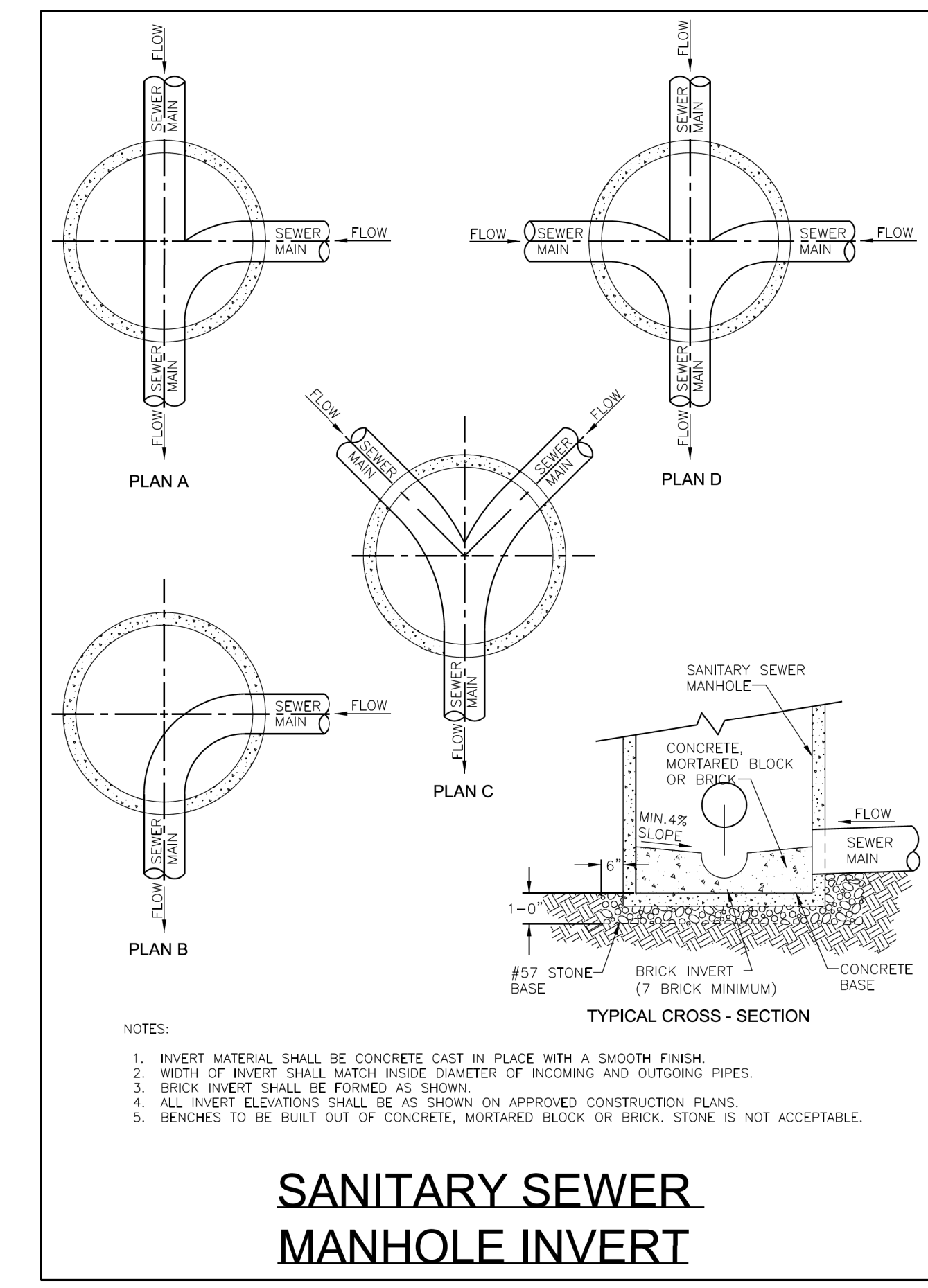
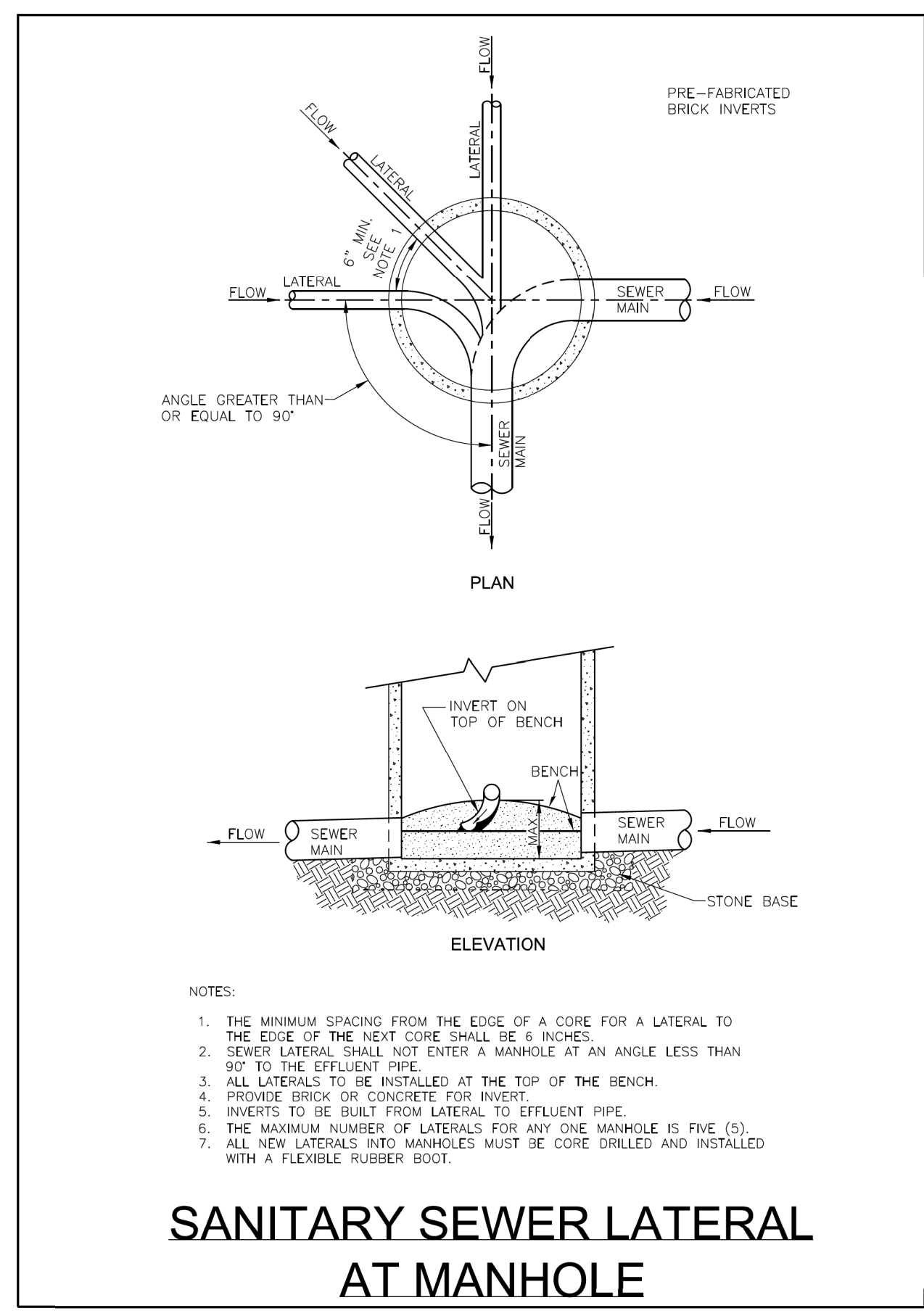
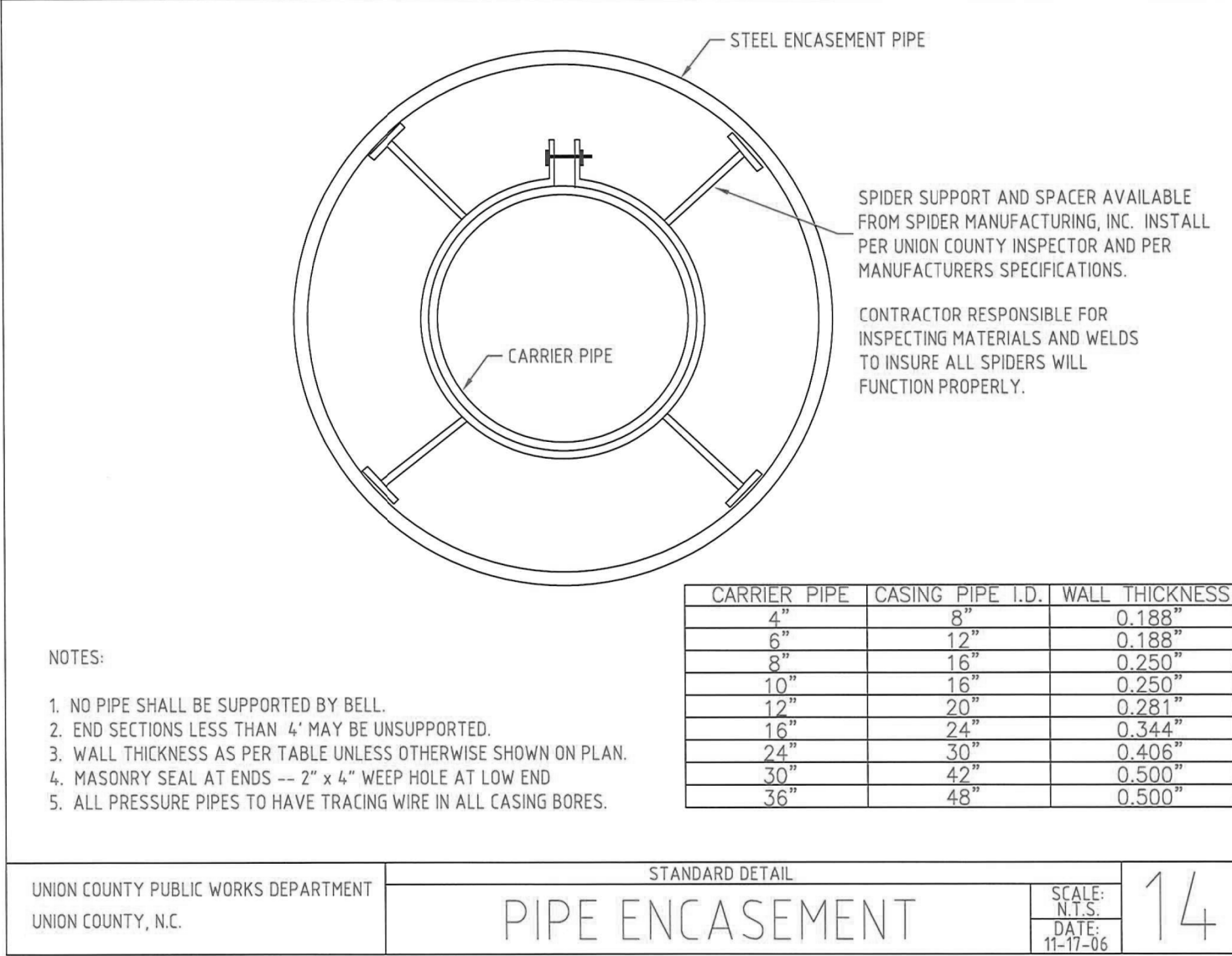
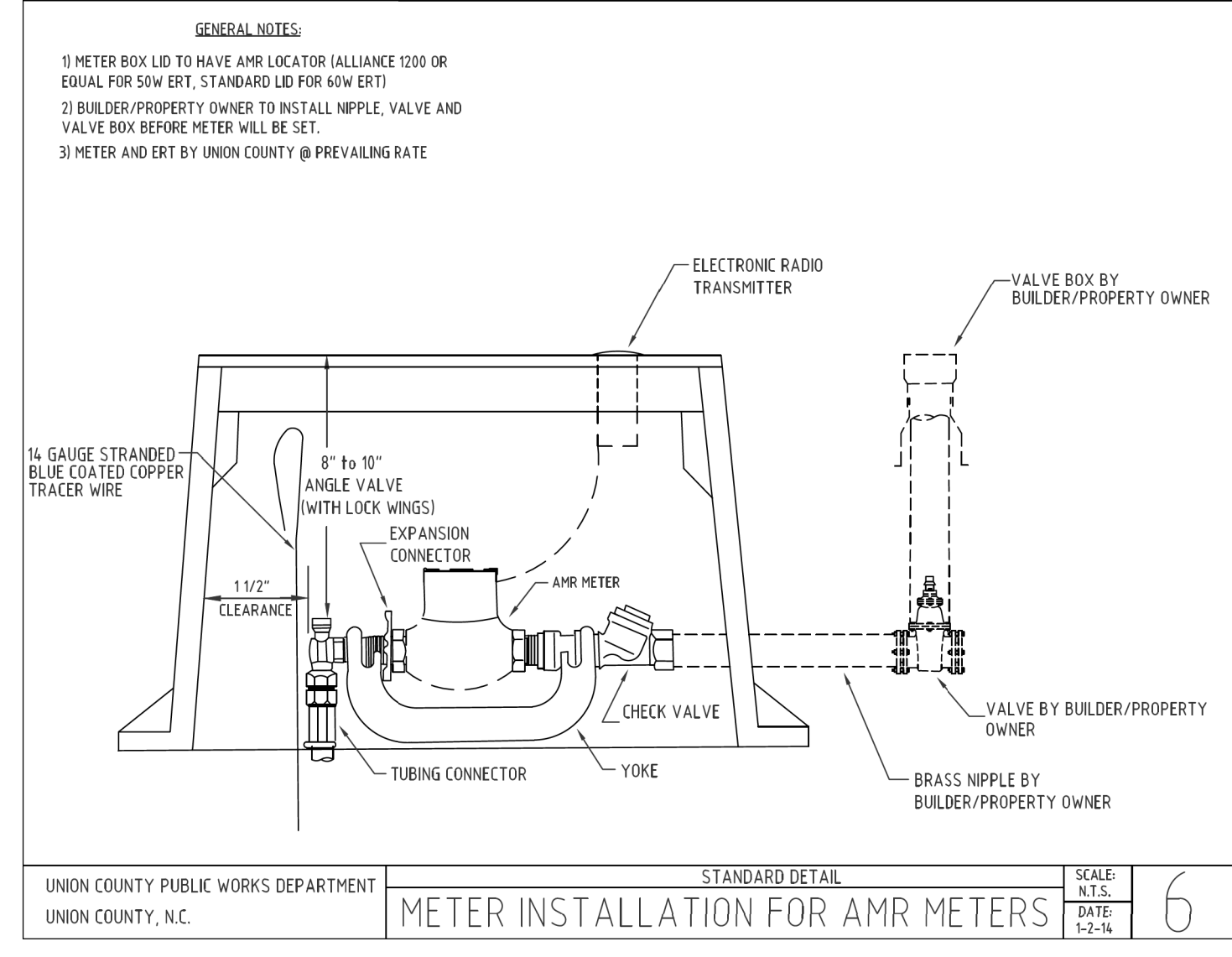
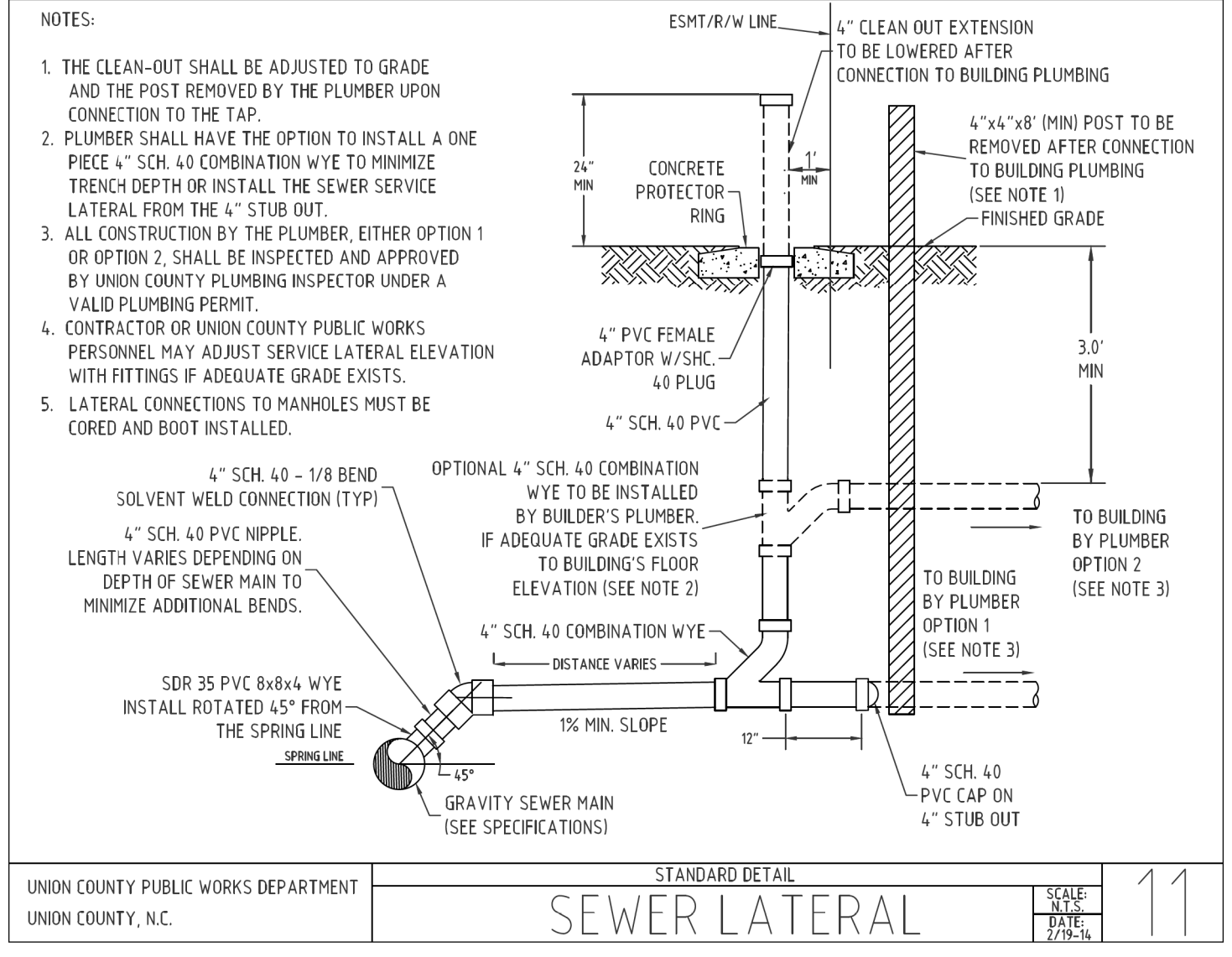
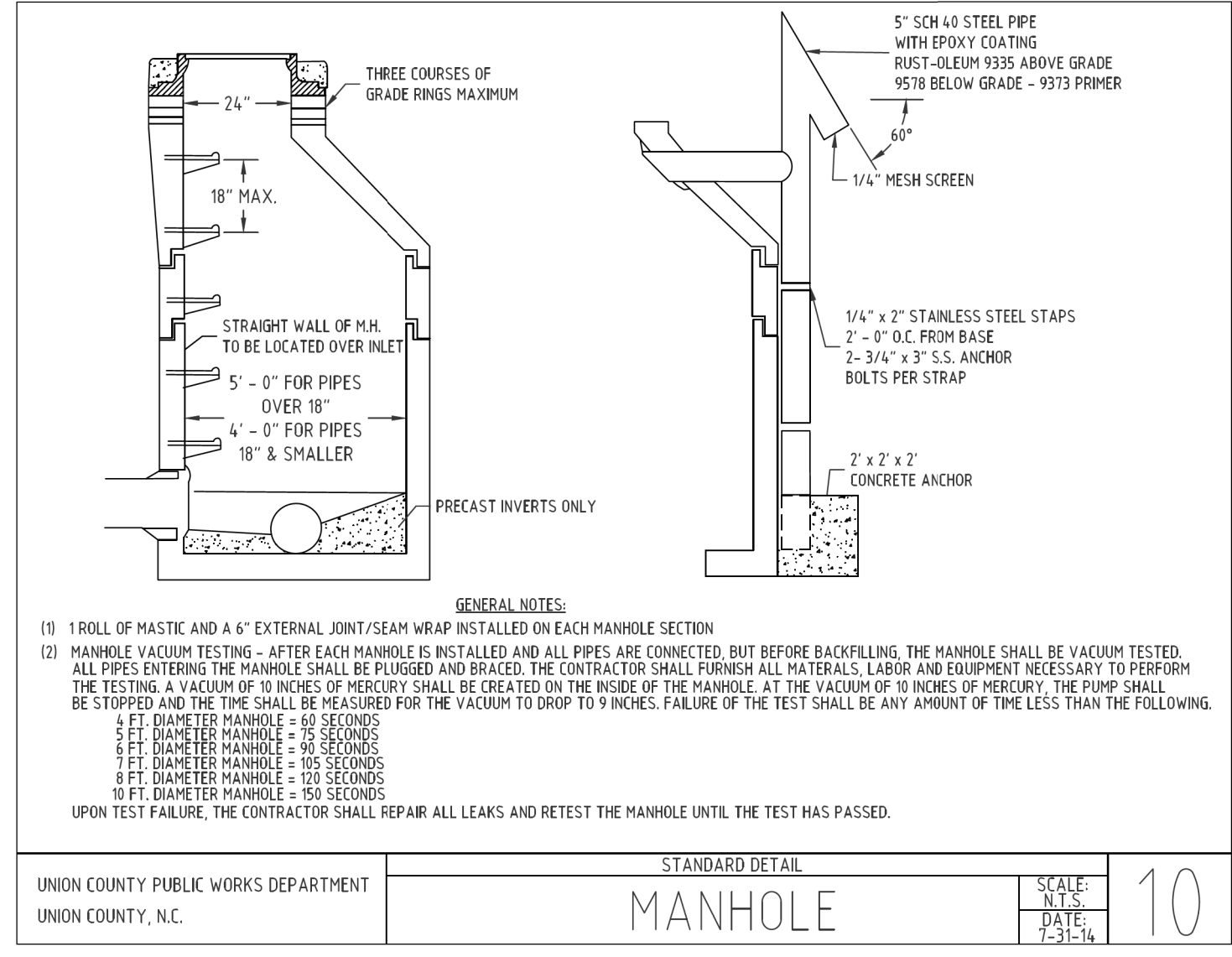


UTILITY DETAILS

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5/14/99

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REVISED:	
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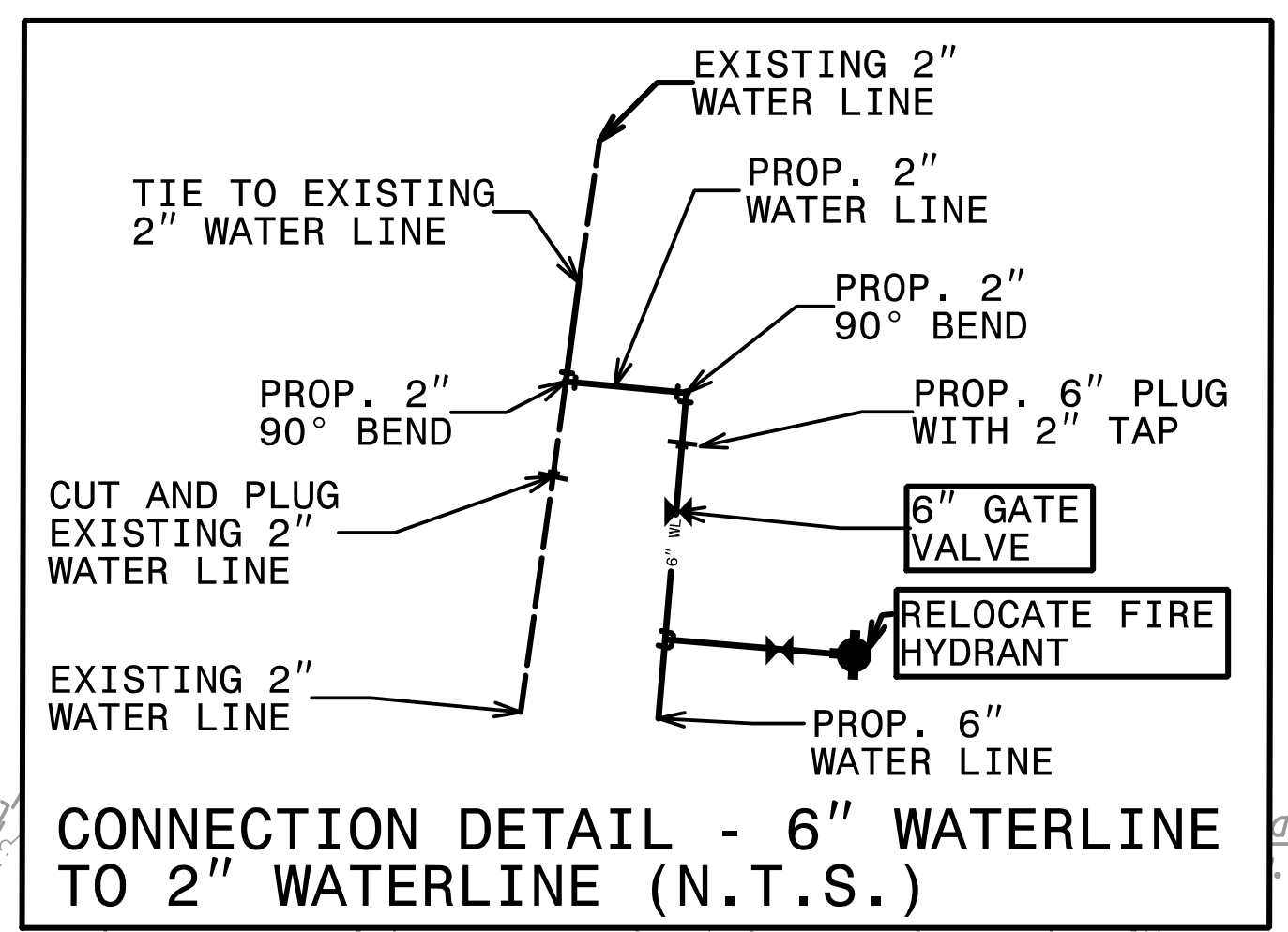


UTILITY DETAILS

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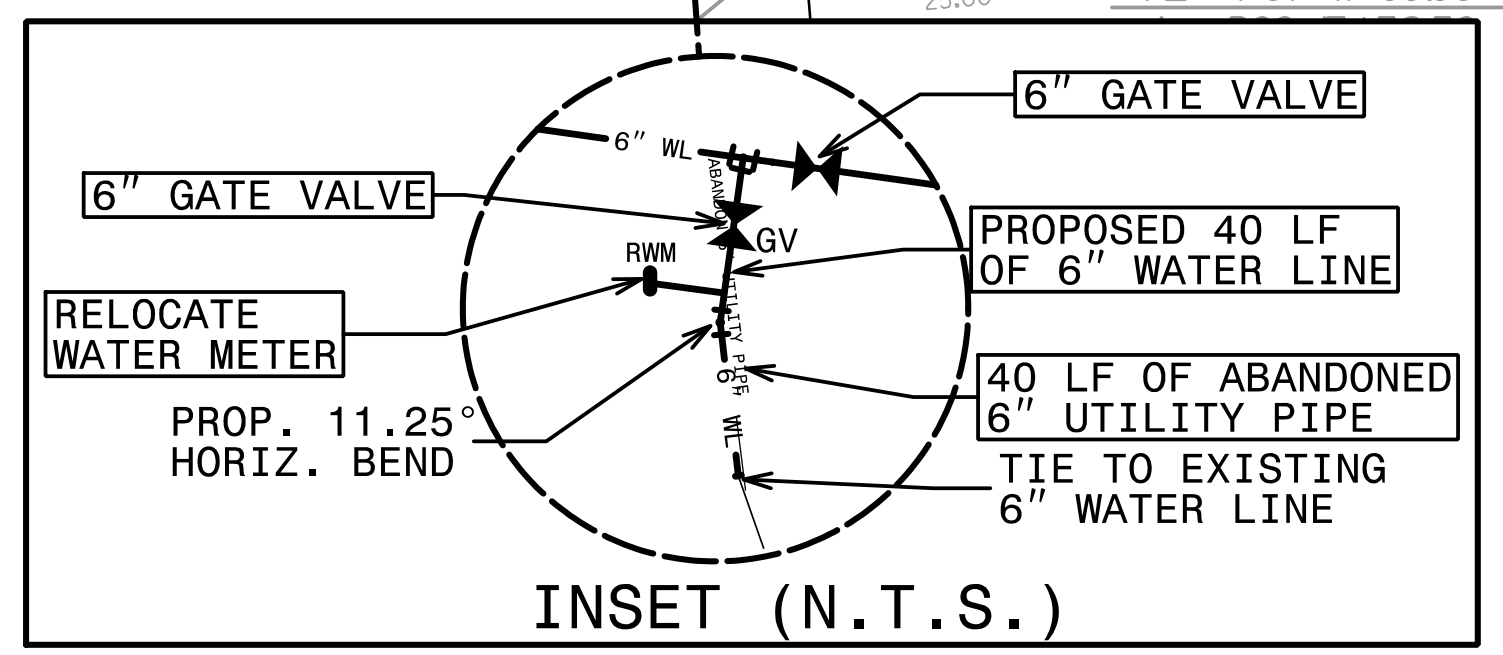
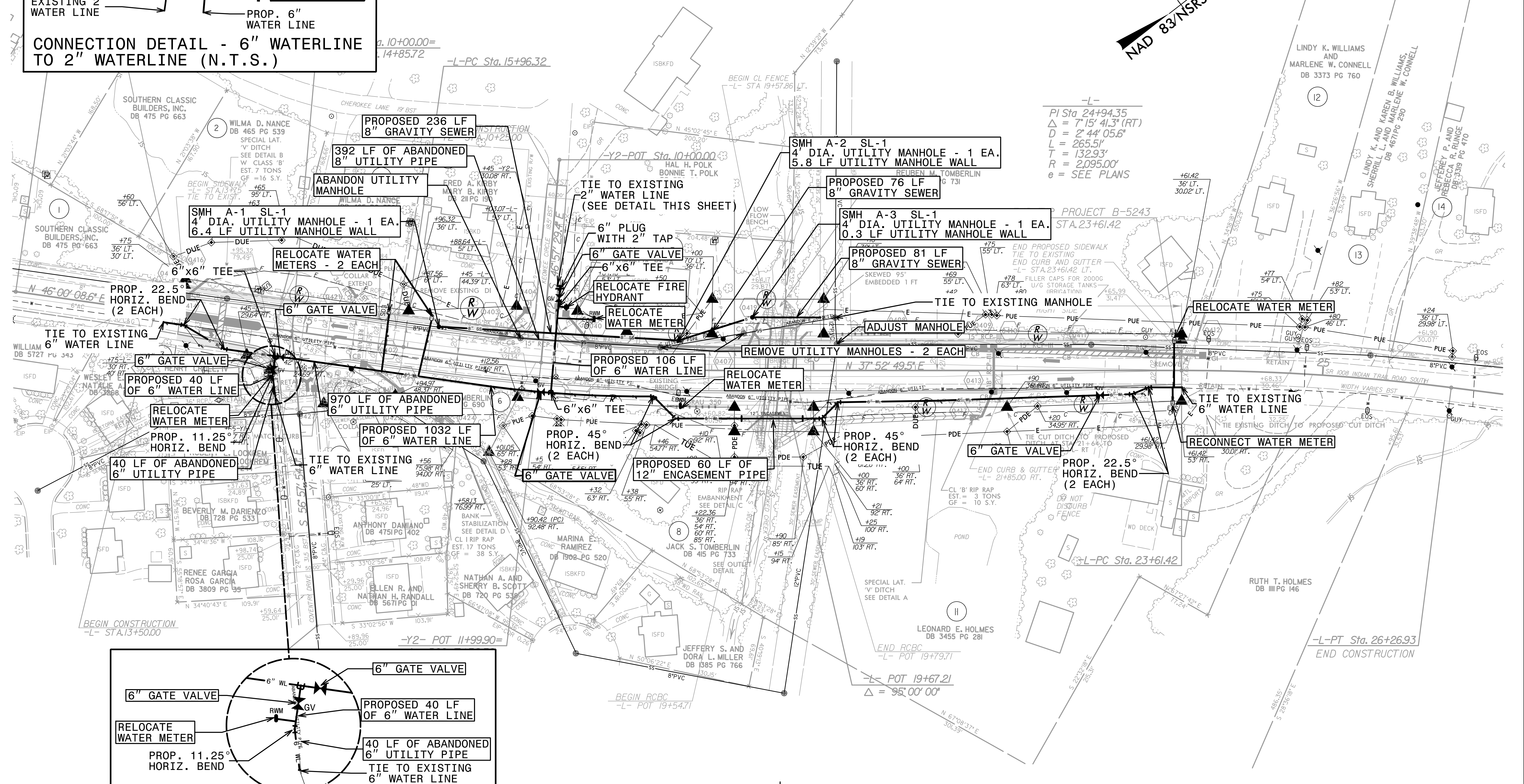
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APPROVED BY: MRB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 TGS ENGINEERS 804-C N. LAFAYETTE ST. SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	



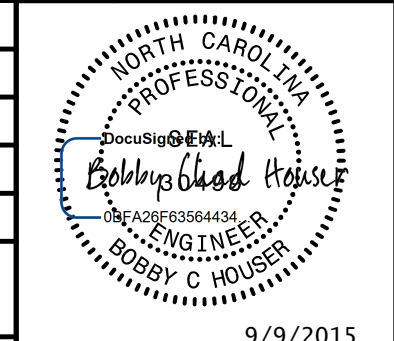
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 $R = 2,300.00'$
 e = SEE PLANS

-L-
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 $T = 132.93'$
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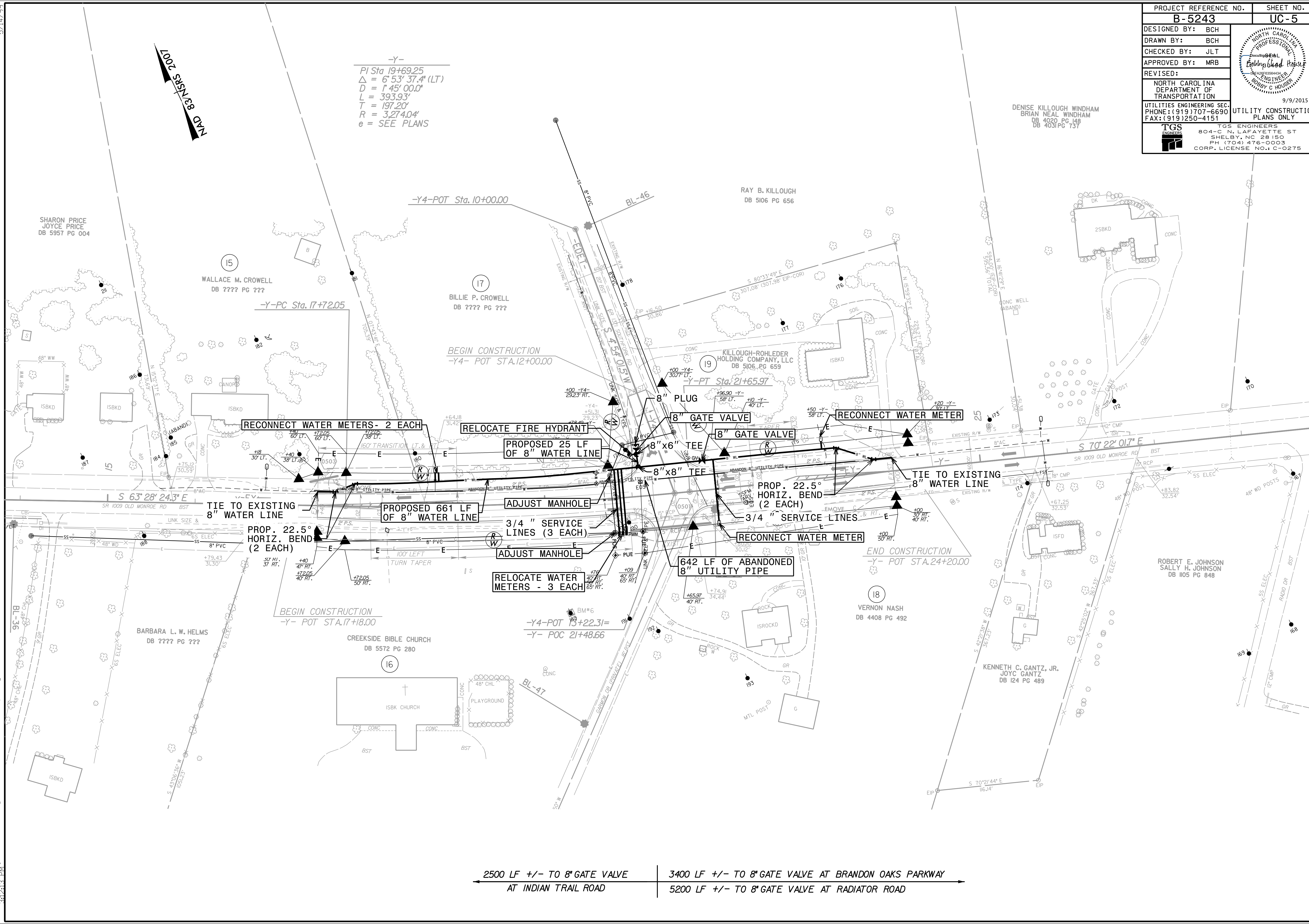


1475 LF +/- TO 6" GATE VALVE AT OLD MONROE ROAD
 2000 LF +/- TO 6" GATE VALVE AT GRIBBLE ROAD
 3800 LF +/- TO 6" GATE VALVE AT UNIONVILLE INDIAN TRAIL ROAD

9/9/2015
 Utility\ties\Fd\B-5243_Ut_(r.dj_sht4).uc(ut)_const_Sht41_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
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CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

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-Y-

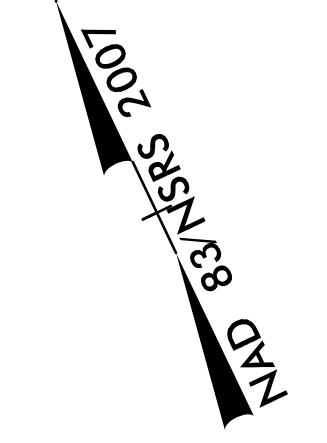
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 $e = \text{SEE PLANS}$

2500 LF +/- TO 8" GATE VALVE AT INDIAN TRAIL ROAD

3400 LF +/- TO 8" GATE VALVE AT BRANDON OAKS PARKWAY

5200 LF +/- TO 8" GATE VALVE AT RADIATOR ROAD

5/14/99



SHARON PRICE
JOYCE PRICE
DB 5957 PG 004

WALLACE M. CROWELL
DB ??? PG ???

BILLIE P. CROWELL
DB ??? PG ???

RAY B. KILLOUGH
DB 5106 PG 656

KILLOUGH-ROHLER
HOLDING COMPANY, LLC
DB 5106 PG 659

BARBARA L. W. HELMS
DB ??? PG ???

CREEKSIDE BIBLE CHURCH
DB 5572 PG 280

ISBK CHURCH

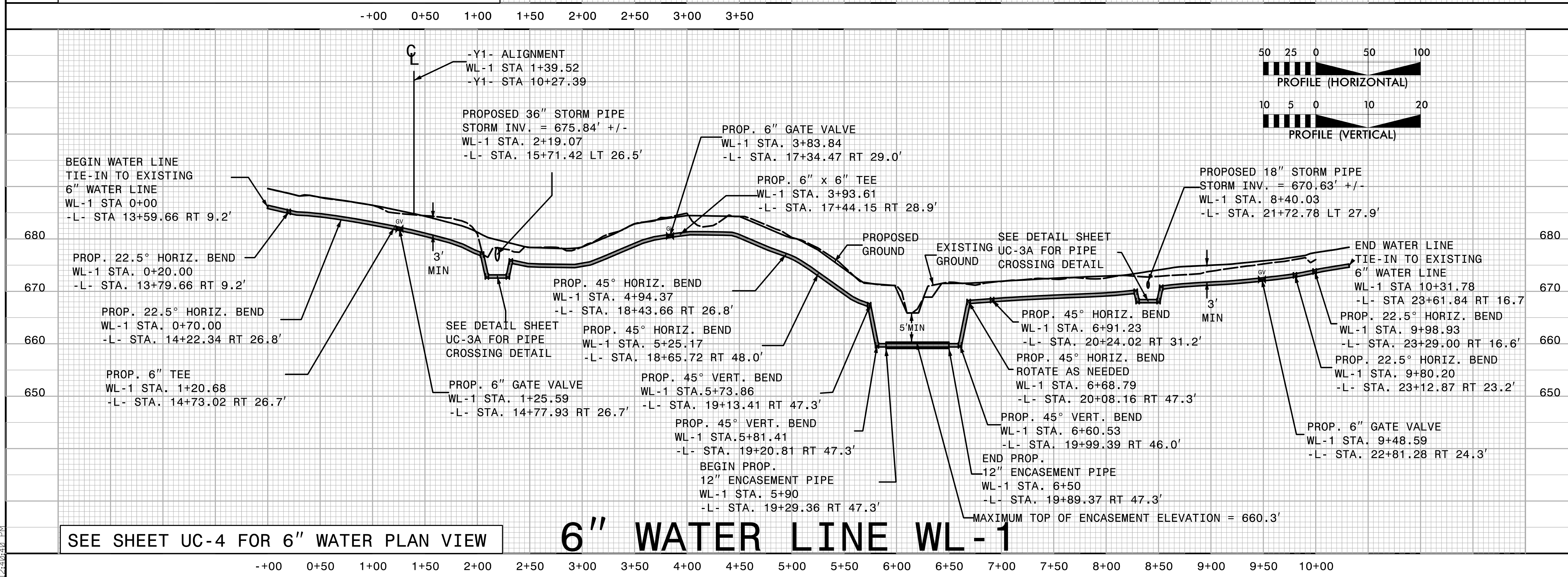
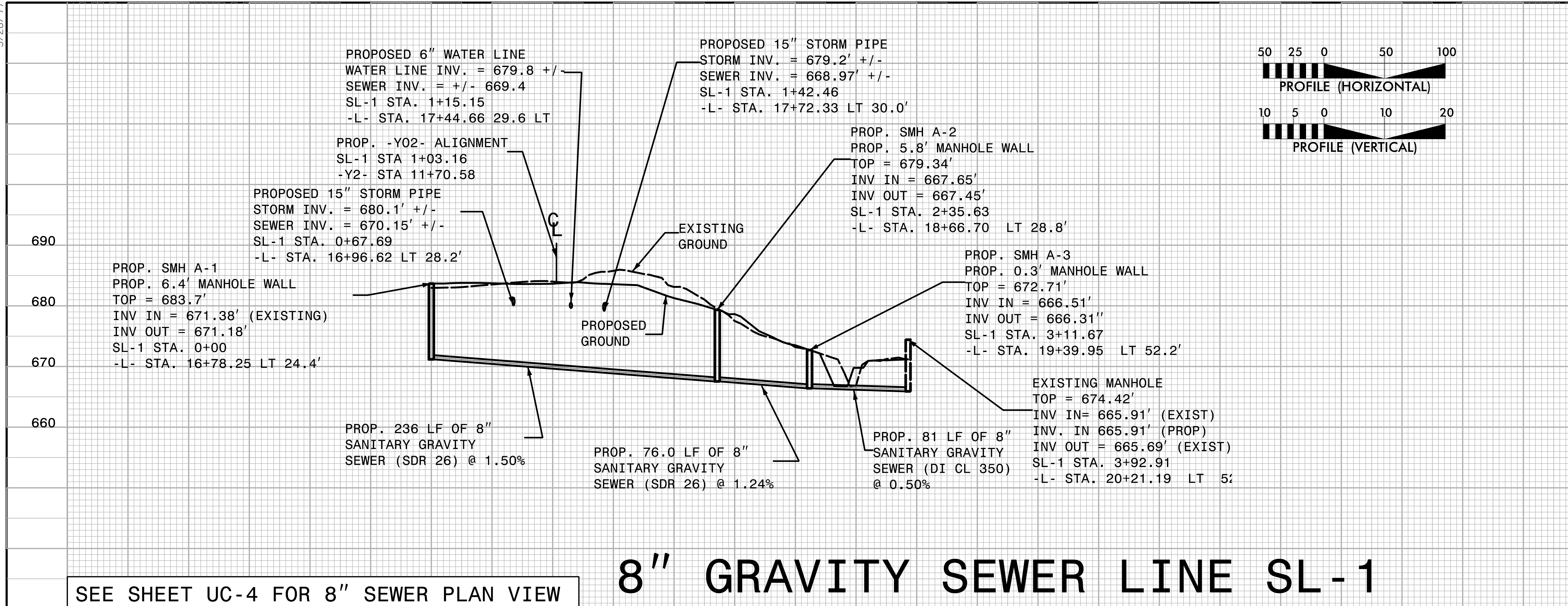
VERNON NASH
DB 4408 PG 492

KENNETH C. GANTZ, JR.
JOYCE GANTZ
DB 124 PG 489

ROBERT E. JOHNSON
SALLY H. JOHNSON
DB 1105 PG 848

5/28/99

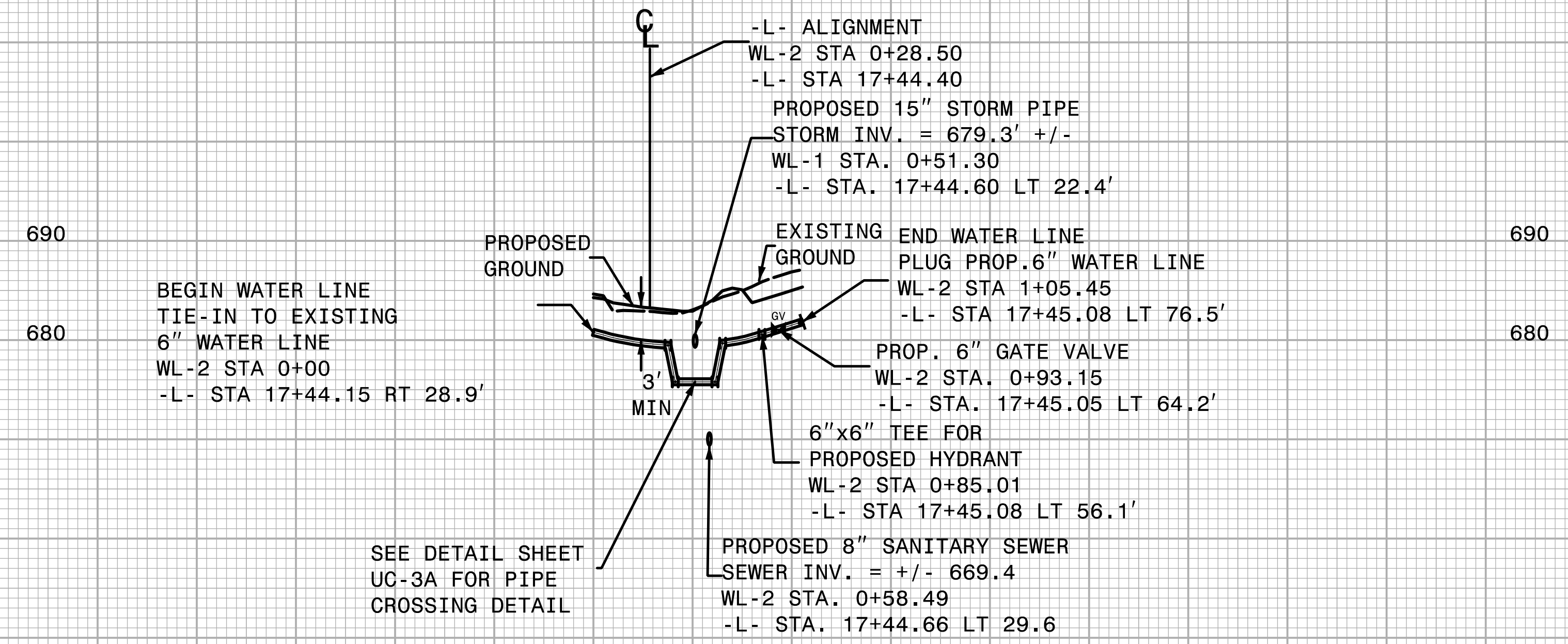
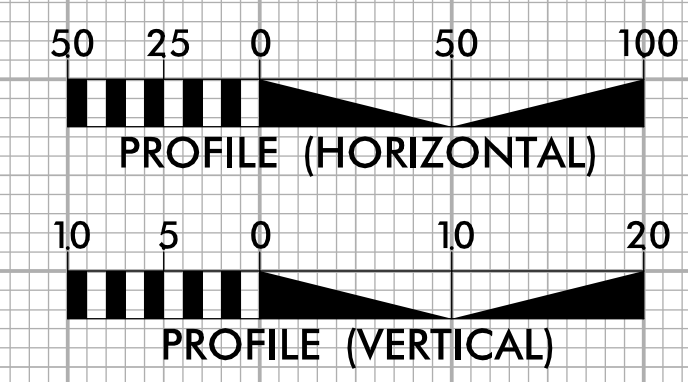
PROJECT REFERENCE NO. B-5243	SHEET NO. UC-6
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	10/27/2015
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	



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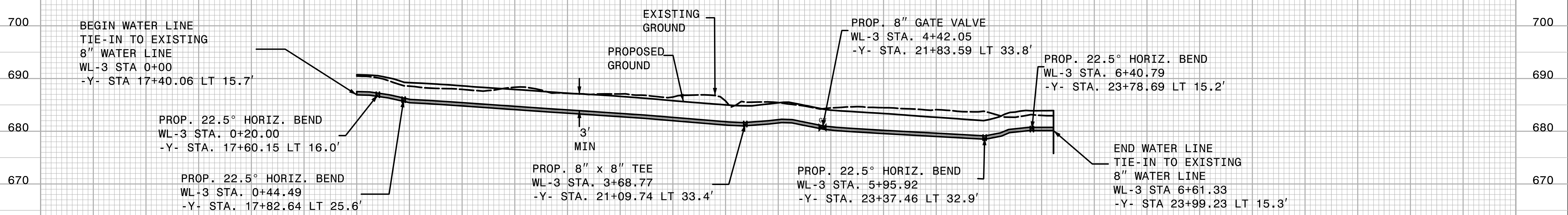
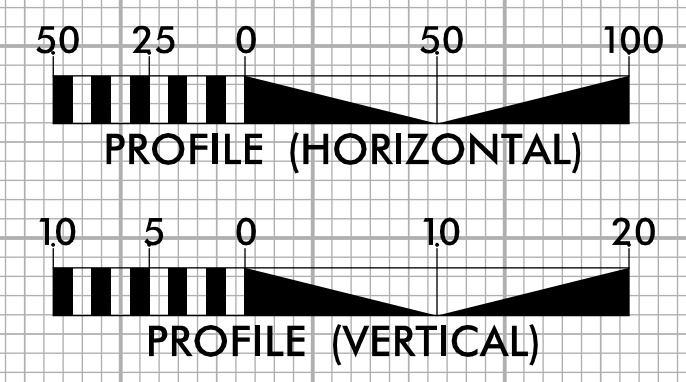
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DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISI:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 TGS ENGINEERS 804-C N. LAFAYETTE ST. SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	



6" WATER LINE WL-2

SEE SHEET UC-4 FOR 6" WATER PLAN VIEW

-+00 0+50 1+00



8" WATER LINE WL-3

SEE SHEET UC-5 FOR 8" WATER PLAN VIEW

-+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50

9/9/2015 8:21:00 AM \\B-5243\Utilities\Redy-Ut\Proj\B-5243_ut_pf1_UC(6-7)_psh.dgn
 3/28/15