

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

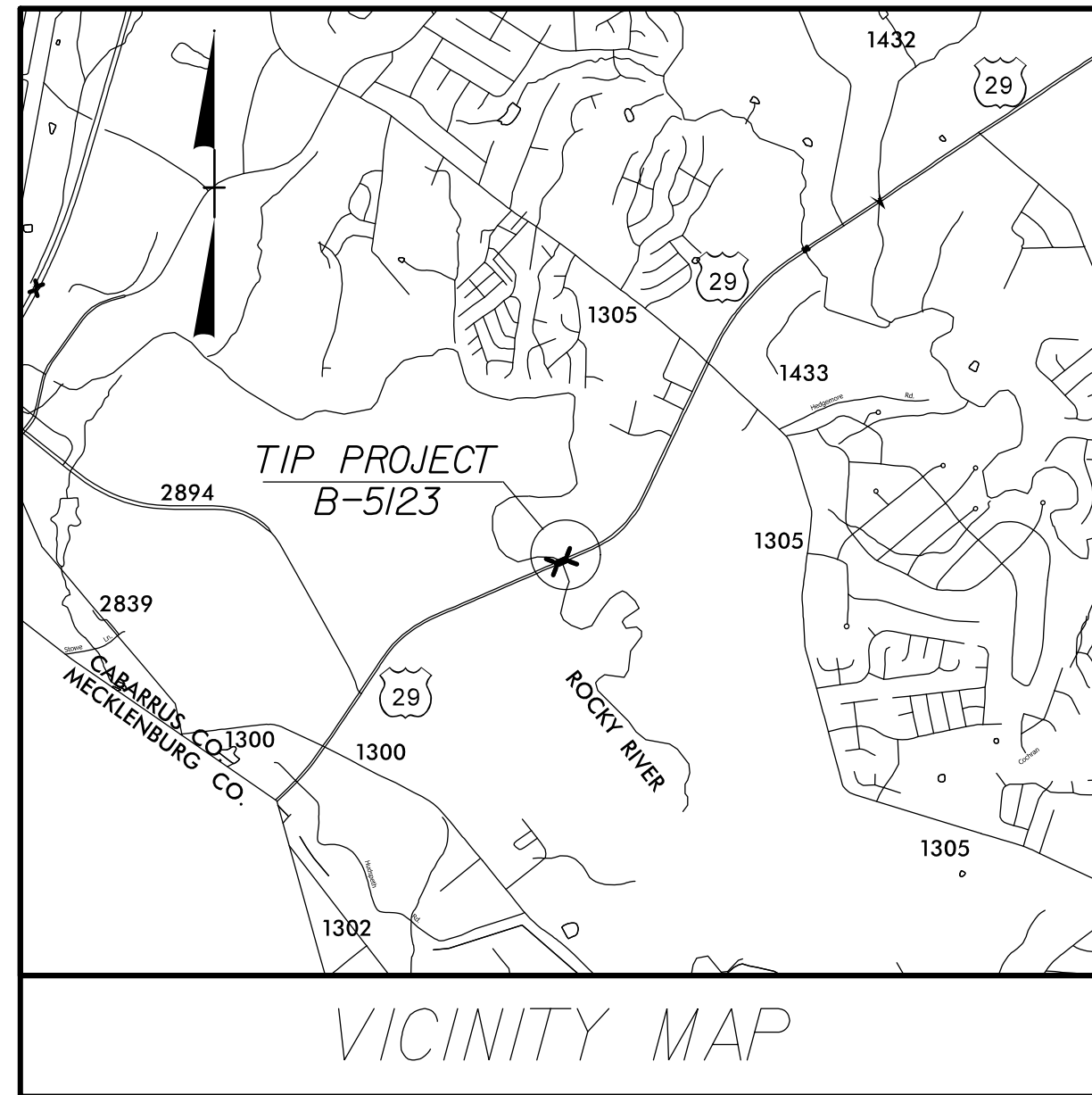
**This file or an individual page
shall not be considered a certified document.**

09, 08, 2016

See Sheet 1-A For Index of Sheets

T.I.P. NO.	SHEET NO.
B-5123	UC-1

TIP PROJECT: B-5123

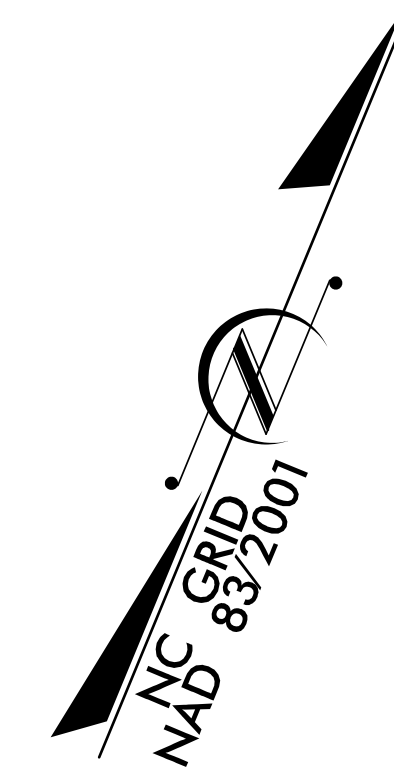


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS CABARRUS COUNTY

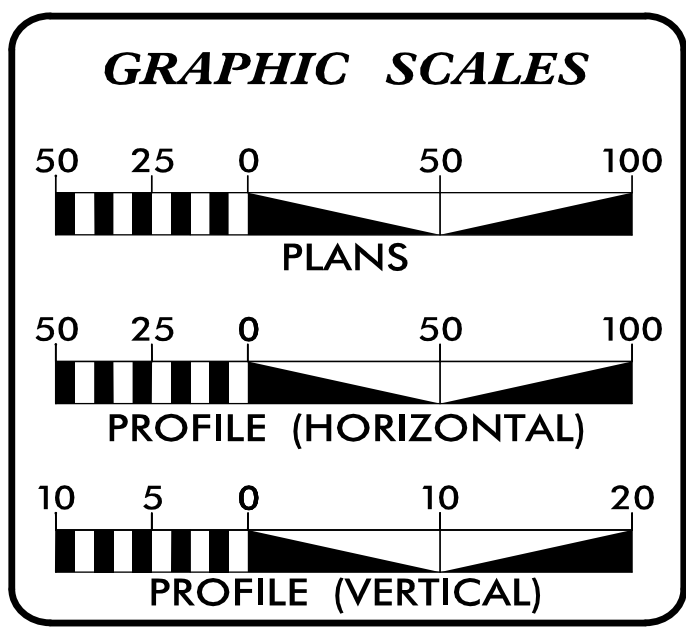
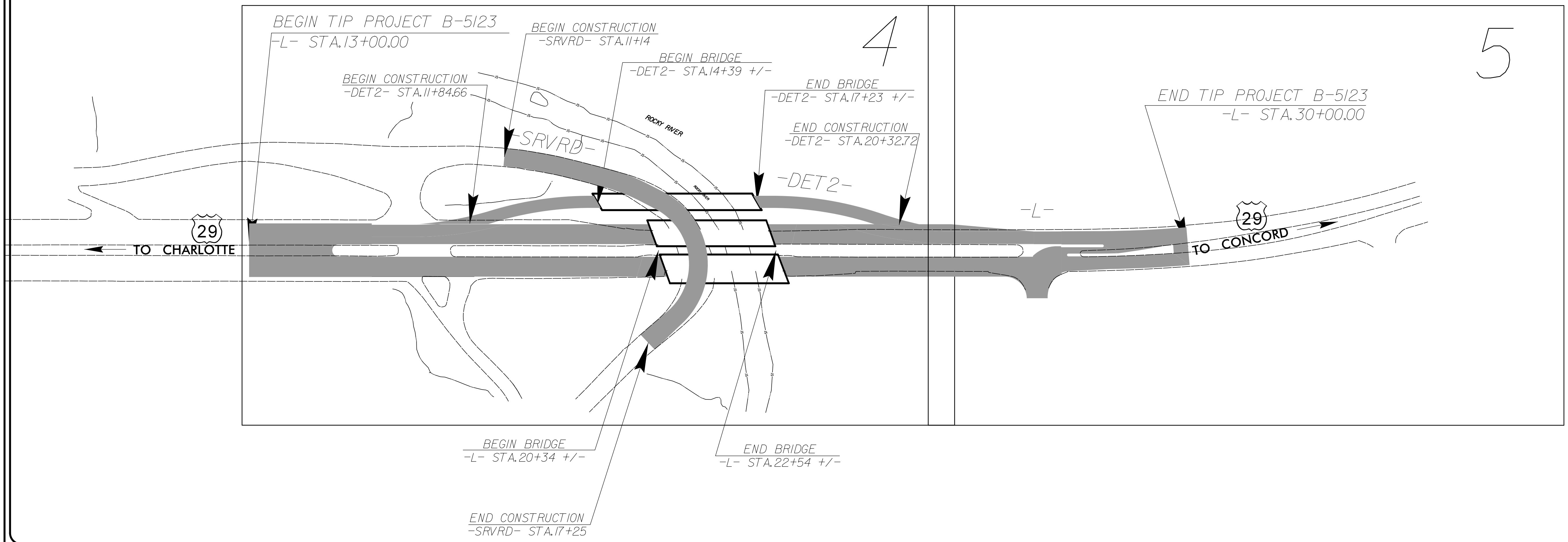
LOCATION: BRIDGES #14 AND #19 ON US 29 OVER ROCKY RIVER AND ACCESS RD.

TYPE OF WORK: UTILITY RELOCATION



UC-4

UC-5



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

WATER AND SEWER OWNERS ON PROJECT

- (1) WATER: CITY OF CONCORD
- (2) SANITARY SEWER: CITY OF CONCORD
- (3) SANITARY SEWER: WSACC

SEAL

1/29/2016

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

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$ DGN \$\$\$\$\$\$ USERNAME \$\$\$\$\$\$

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	

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

Designated Utility Line

5/14/99
 I:\4\2015\11\B-5123\Utilities\ProJ\B5123_Ut_symb_UC2.spsh.dgn
 REV: 2/1/2012

5/14/99

9/7/2016 9:18:51 AM C:\Users\Redu\Documents\Projects\UC03a-03a\psh.dgn

UTILITY CONSTRUCTION

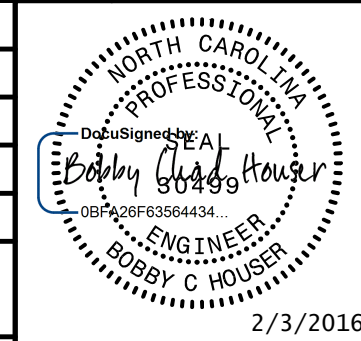
GENERAL NOTES:

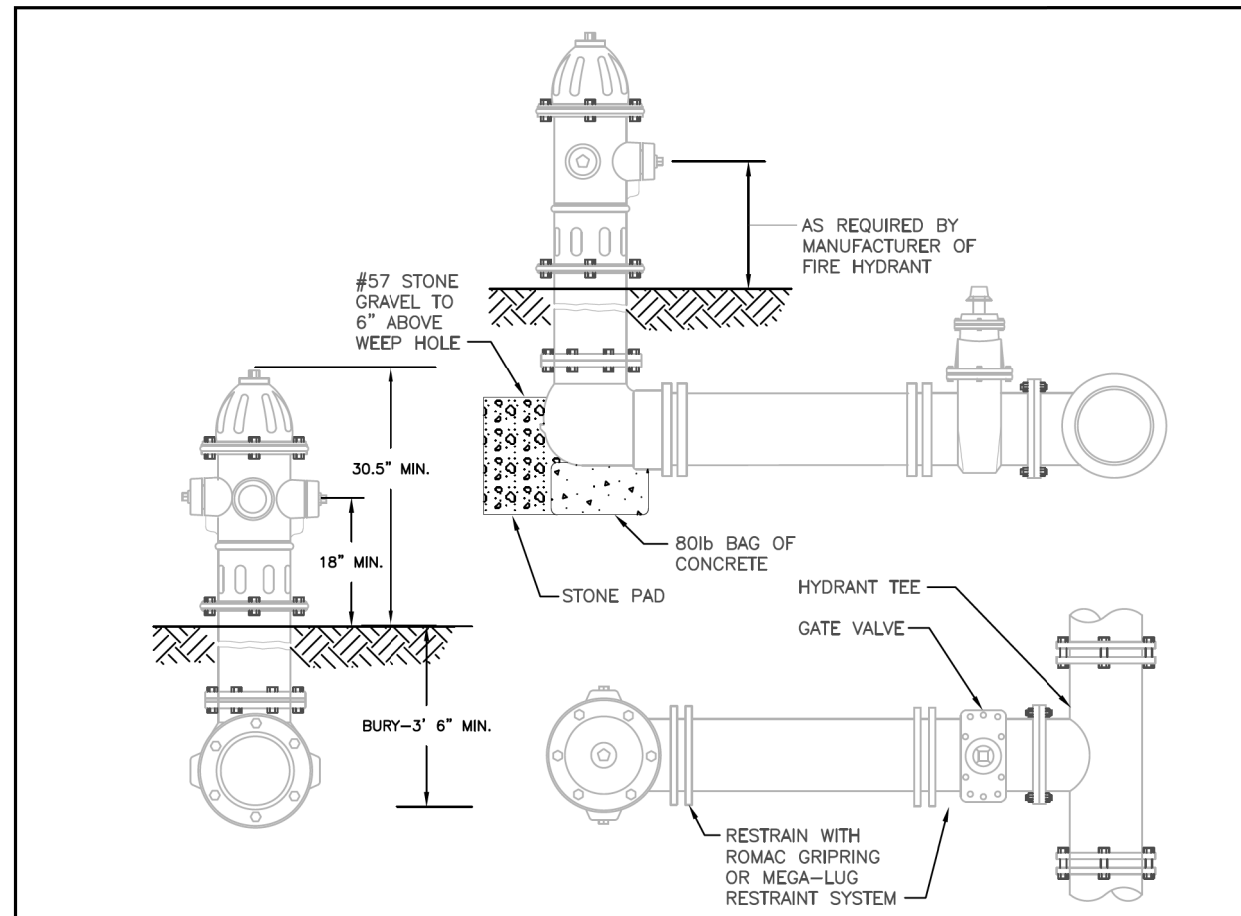
- 1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
- 2. THE EXISTING WATER LINES BELONG TO THE CITY OF CONCORD. THE EXISTING SEWER LINES BELONG TO THE CITY OF CONCORD AND WSACC AS NOTED ON THE PLANS
- 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 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. ALL TRENCH INSTALLED WATER LINE, 4-INCHES THROUGH 24-INCHES SHALL BE DUCTILE IRON THICKNESS CLASS 50, EXCEPT WHERE NOTED ON THE PLANS.
- 2. ALL WATER LINE FITTINGS 4-INCHES THROUGH 24- 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.
- 3. ALL TRENCHLESS INSTALLED WATER LINE PLACED BY DIRECTIONAL DRILLING SHALL BE 22" 250PSI HDPE DR9 TO CLOSELY MATCH INSIDE DIAMETER OF 16" D.I.P. ALL TRENCHLESS INSTALLED WATER LINE PLACED BY OTHER METHODS SHALL BE DUCTILE IRON THICKNESS CLASS 51 WITH CASING PIPE AND CASING SPIDERS.
- 4. CONTRACTOR 'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTORS RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
- 5. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE -INS ARE MADE AS NECESSARY.
- 6. 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.
- 7. ALL VALVES 12" AND UNDER SHALL BE RESILIENT WEDGE GATE VALVES.
- 8. ALL VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES.
- 9. ENSURE THAT ALL EXISTING MANHOLE RIMS ARE LOCATED OUTSIDE OF PROPOSED DRAINAGE DITCHES. ROTATE CONE IF NECESSARY.

PROJECT REFERENCE NO.	SHEET NO.
B-5123	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	




GENERAL NOTES:

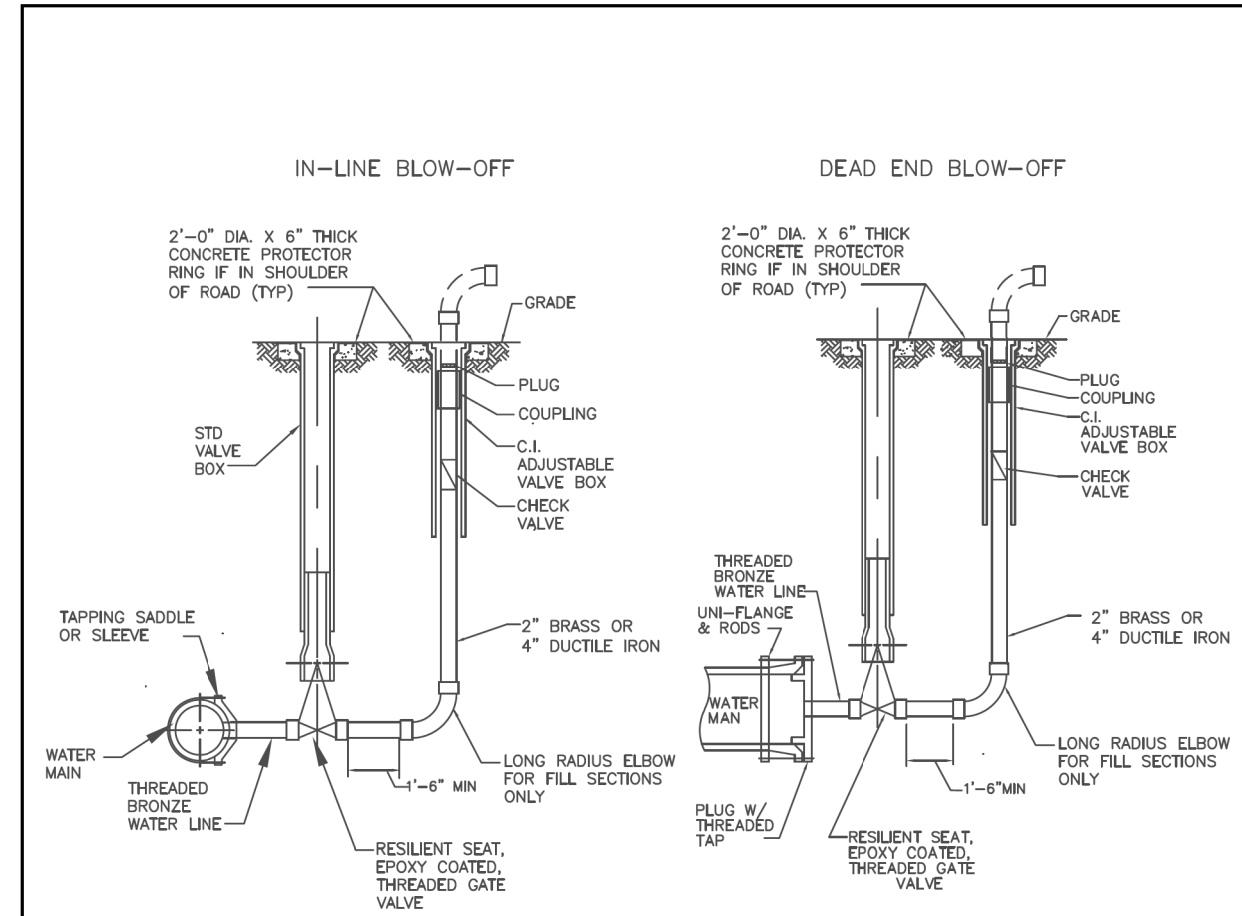
- HYDRANTS SHALL BE MUELLER COMPANY - MODEL SUPER CENTURION 250, AMERICAN FLOW CONTROL - MODEL 5K" B-84-B, CLOW VALVE COMPANY - MODEL MEDALLION, OR EQUAL WITH BLACK PRIMER FINISH.
- HYDRANT SHALL HAVE INTEGRAL SNAP-TIGHT STYLE STORZ CONNECTION WITH 5/4" VALVE OPENING, OPEN LEFT, 1/2" PENTAGON NUTS, TWO-2 3/4" NST CONNECTIONS, ONE-8" STORZ CONNECTION, DRAIN HOLES OPEN, AND 6" MJ SHOE.
- MINIMUM BURY DEPTH OF 3'-6".
- ALL HYDRANTS SHALL STAND PLUMB. HYDRANTS WITH PUMPER NOZZLES SHALL HAVE HOSE NOZZLES PARALLEL WITH AND THE PUMPER NOZZLE PERPENDICULAR TO THE CURB LINE. ALL HYDRANTS SHALL BE ORIENTED SO THAT THE PUMPER NOZZLE FACES THE CURB OR AS DIRECTED BY THE CITY.
- HYDRANT SHALL BE LOCATED AT LEAST 3' BEHIND THE CURB AND LESS THAN 10' FROM THE EDGE OF THE ROAD PAVEMENT OR AS DIRECTED BY THE CITY.
- ALL OTHER MATERIALS AND INSTALLATION MUST CONFORM WITH THE TECHNICAL STANDARDS OF WSACC AND CITY OF CONCORD.

FIRE HYDRANT PAINT COLOR CODE REQUIREMENTS:
 ALL NEW FIRE HYDRANTS INSTALLED IN THE CITY OF CONCORD SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING COLORS:

- HYDRANTS ON PUBLIC WATER MAINS SHALL BE PAINTED SAFETY YELLOW, SHERWIN WILLIAMS STEEL MASTER 9500 B56-300 SERIES LRV 30X OR EQUAL.
- PRIVATE HYDRANTS ON PRIVATE WATER MAINS SHALL BE PAINTED SAFETY RED, SHERWIN WILLIAMS SW4081 LVR 11X OR EQUAL.


FOR ALL FIELD PAINTING, ALL SURFACES SHALL BE SANDBLASTED AND PROPERLY PREPARED ACCORDING TO THE PAINT MANUFACTURER'S RECOMMENDATION PRIOR TO PAINTING. ALL FIRE HYDRANTS AND ANY PORTIONS OF THE HYDRANT ASSEMBLY EXPOSED TO VIEW (ABOVE ADJACENT GROUND ELEVATION) SHALL BE PAINTED WITH TWO (2) OR MORE EVENLY APPLIED COATS OF HYDRANT ENAMEL PAINT. HYDRANTS WILL BE RETOUCHED / REPAINTED AS NECESSARY AFTER INSTALLATION AND PRIOR TO ACCEPTANCE.

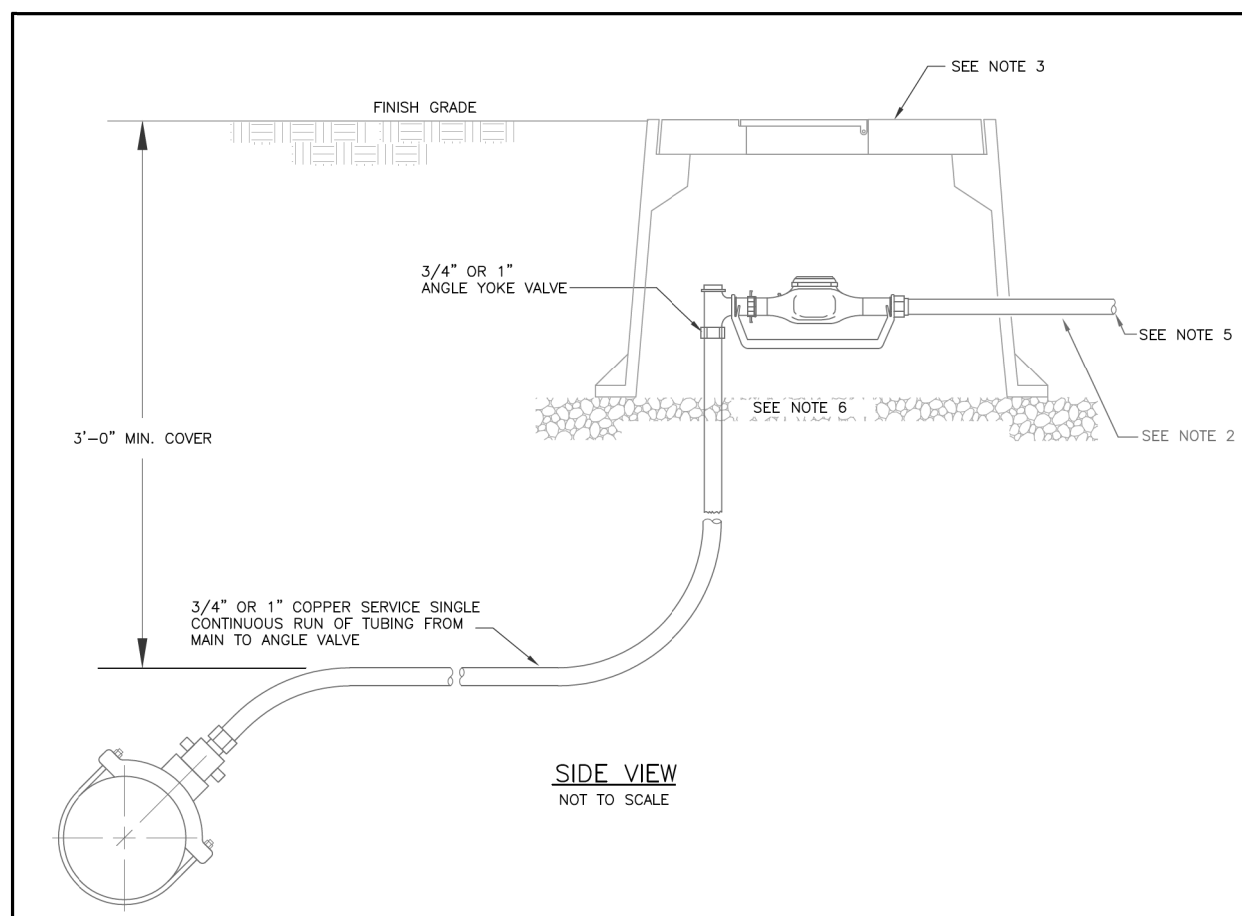
		CITY OF CONCORD	
FIRE HYDRANT		STANDARD DETAIL	
No.	Date	By	REVISION
2	6/9/10	MSH	PUBLIC HYDRANT COLOR REVISION
1	8/31/10	MSH	PRIVATE HYDRANT COLOR REVISION
Drawn By:	SVM	Checked By:	MSH
Approved By:		Date:	09/08
Sheet of:			



GENERAL NOTES:


- INSTALL 2" BLOW-OFF ON 2" THRU 18" MAINS.
- INSTALL 4" BLOW-OFF ON 20" OR LARGER MAIN.
- IF THE SEPARATION BETWEEN THE CONTROL VALVE AND THE BLOW-OFF DOES NOT ALLOW THE INSTALLATION OF THE CONCRETE PROTECTOR RINGS, A 24" BY 24" BY 6" THICK CONCRETE PAD SHALL BE FORMED AND POURED AROUND THE VALVE BOX. THE EDGE OF THE VALVE BOX RIM MUST BE AT LEAST 8" FROM THE EDGE OF THE CONCRETE PAD.

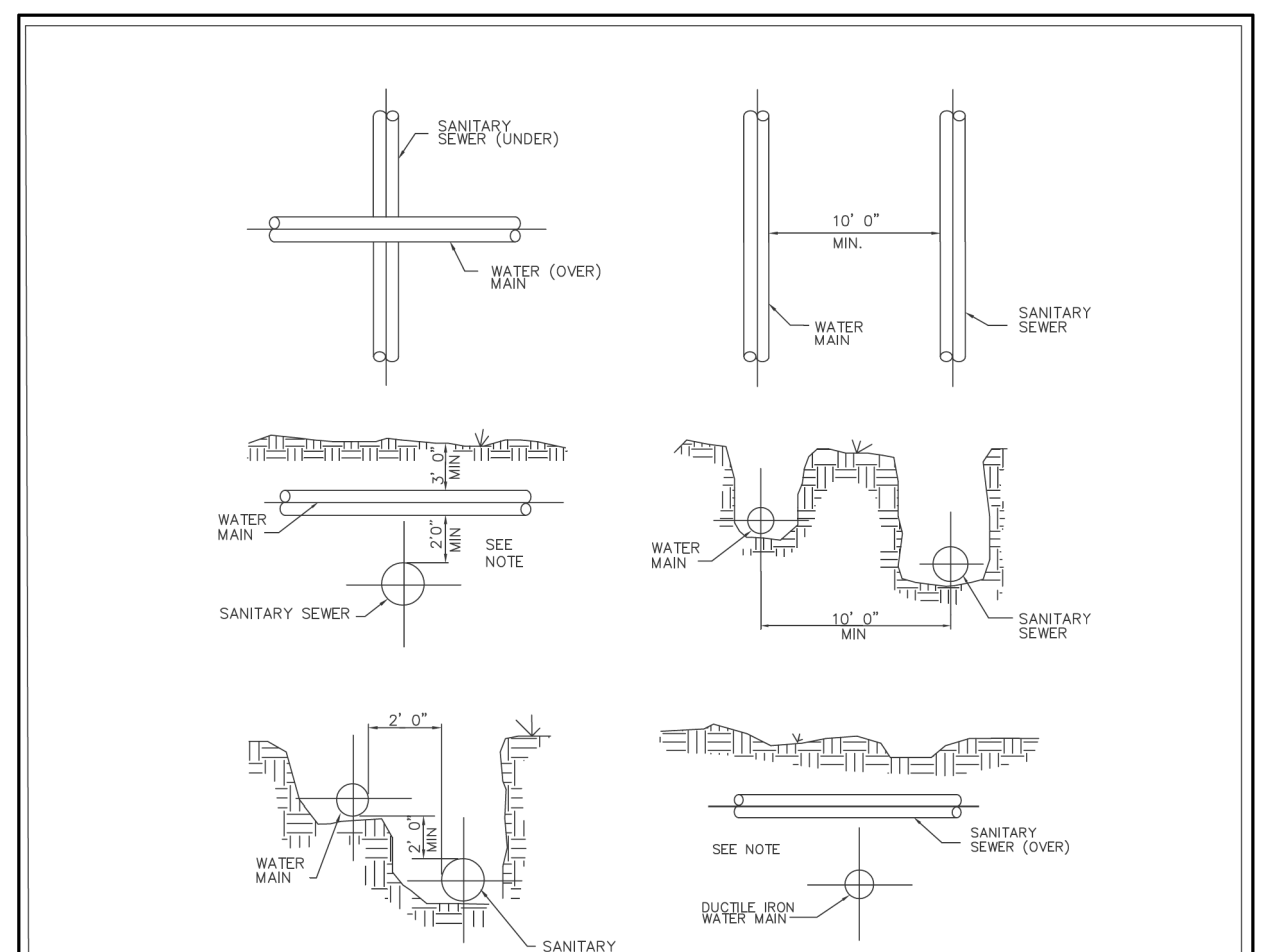
		CITY OF CONCORD	
BLOW-OFF ASSEMBLY		STANDARD DETAIL	
No.	Date	By	REVISION
1	03/10	PLK	
Drawn By:	SVM	Checked By:	MSH
Approved By:		Date:	03/10
Sheet of:			



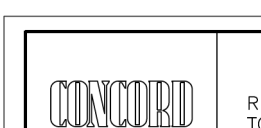
GENERAL NOTES:

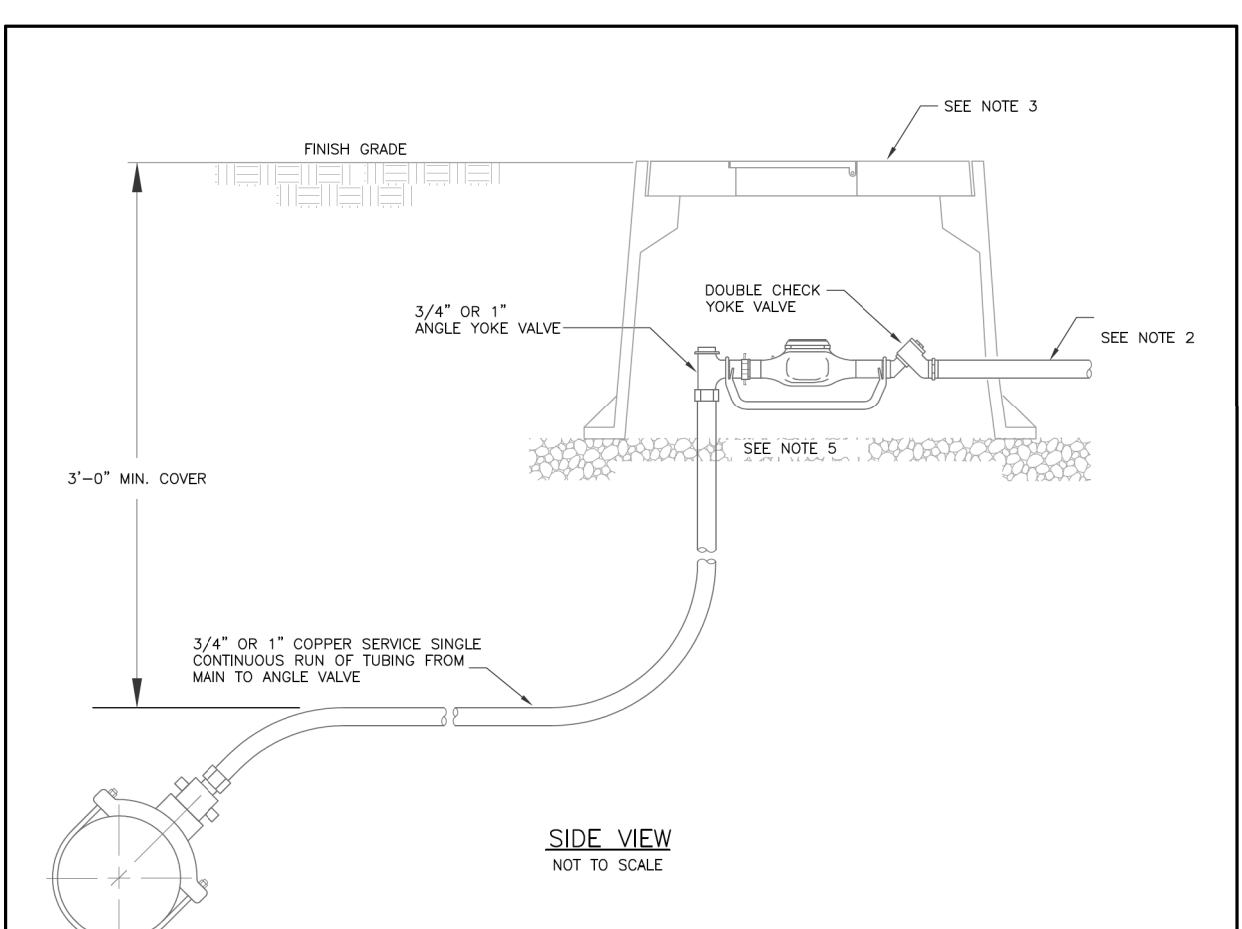
- REFER TO THE CITY OF CONCORD SPECIFICATIONS FOR ACCEPTABLE MANUFACTURES OF MATERIALS.
- PROVIDE 12" BRASS NIPPLE PAST BOX.
- METER BOXES SHALL BE PLASTIC BODY AND LID. THE METER HOUSING SHALL BE MID STATE PLASTICS OR EQUAL. 3/4-INCH BOX MSBCF - 1118-12XL AND LID MSCBC-1118 - RTR; AND 1-INCH BOX MSBCF - 1324-12XL AND LID MSCBC-1324 - RTR. METER BOX RIM SHALL BE SET FLUSH WITH FINAL GRADE. THE WATER METER BOX ASSEMBLY SHALL NOT BE LOCATED WITHIN A ROAD, STREET, DRIVEWAY, SIDEWALK OR DRAINAGE FEATURE.
- ALL APPURTENANCES FOR THE INSTALLATION OF THE WATER METER; THE METER, BRASS GROUND LOCKABLE METER CUTOFF, GASKETS, AND EXPANSION CONNECTION; SHALL BE INSTALLED BY THE CITY OF CONCORD, IF CONNECTION IS TO AN EXISTING MAIN.
- REQUIRED BACKFLOW PREVENTION ASSEMBLY IN ACCORDANCE WITH THE CITY OF CONCORD CROSS-CONNECTION CONTROL ORDINANCE.
- THE BASE OF THE METER BOX MUST HAVE AT LEAST 6-INCHES TO 8-INCHES OF #57 WASHED STONE.

		CITY OF CONCORD	
WATER METER STANDARD DETAIL		3/4-INCH AND 1-INCH IRRIGATION OR COMMERCIAL WATER SERVICE METER	
No.	Date	By	REVISION
1	9/7/07	JEC	CONTINUOUS PIPE & CONNECTION, SWM
Drawn By:	JEC	Checked By:	MSH
Approved By:		Date:	02/05
Sheet of:			




NOTE:
 WHEN THE WATER MAIN IS ABOVE THE SANITARY SEWER, BUT WITH LESS THAN 24" CLEARANCE, OR WHEN THE SANITARY SEWER IS ABOVE THE WATER MAIN, BOTH THE WATER MAIN AND THE SANITARY SEWER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM LATERAL DISTANCE, MEASURED AT RIGHT ANGLES TO THE SEWER, OF 10 FEET ON EACH SIDE OF THE CROSSING.

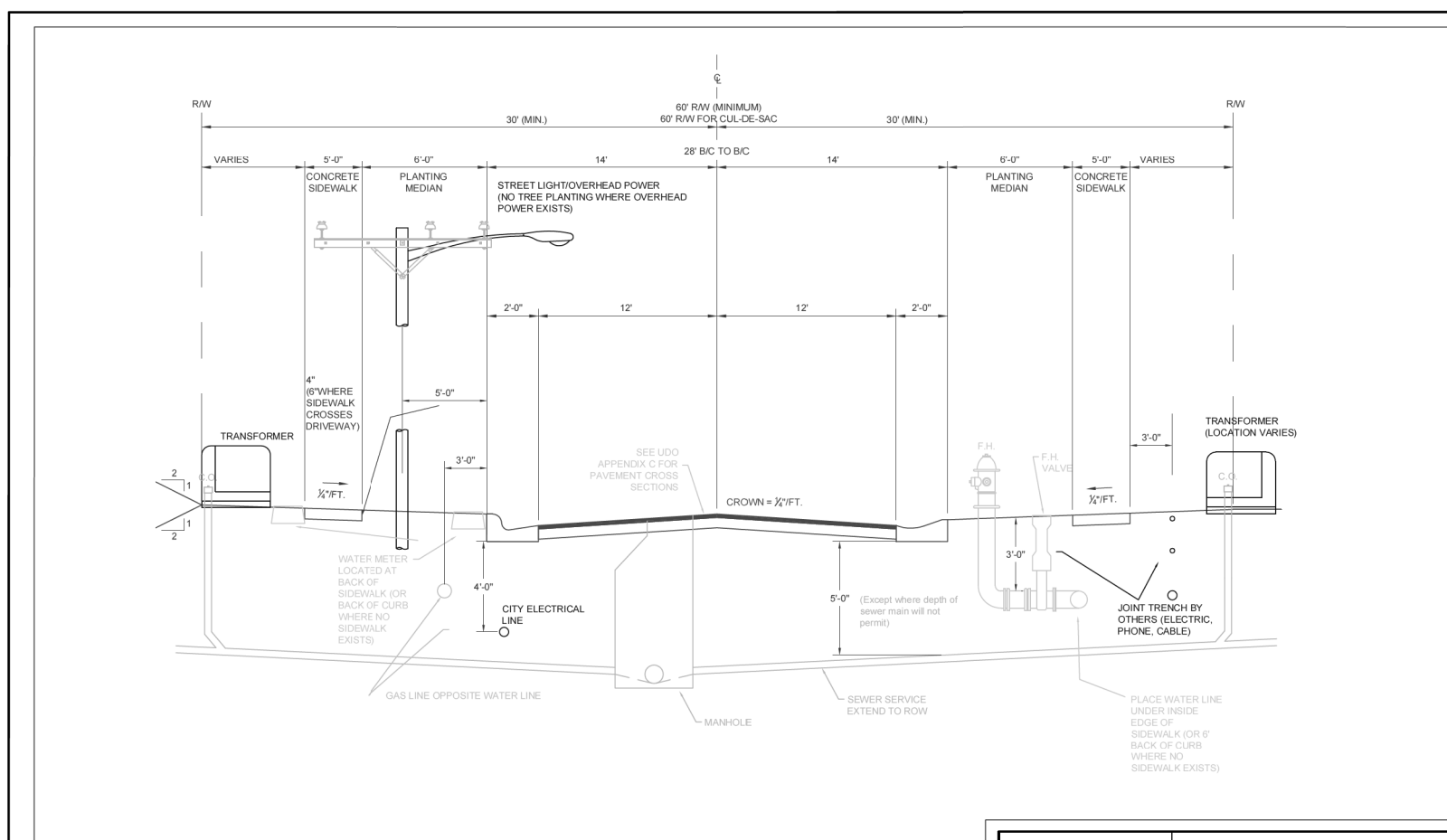
		CITY OF CONCORD	
RELATION OF WATER MAINS TO SANITARY SEWER MAINS		STANDARD DETAIL	
No.	Date	By	REVISION
1	12/29/05	JEC	REVISED FROM WSACC
Drawn By:	JEC	Checked By:	PLK
Approved By:		Date:	10/07
Sheet of:			



GENERAL NOTES:

- REFER TO THE CITY OF CONCORD SPECIFICATIONS FOR ACCEPTABLE MANUFACTURES OF MATERIALS.
- PROVIDE 12" BRASS NIPPLE PAST BOX.
- THE METER HOUSING SHALL BE MID STATE PLASTICS OR EQUAL; 3/4-INCH BOX MSBCF - 1118-12XL AND LID MSCBC-1118 - RTR; AND 1-INCH BOX MSBCF - 1324-12XL AND LID MSCBC-1324 - RTR. METER BOX RIM SHALL BE SET FLUSH WITH FINAL GRADE. THE WATER METER BOX ASSEMBLY SHALL NOT BE LOCATED WITHIN A ROAD, STREET, DRIVEWAY, SIDEWALK OR DRAINAGE FEATURE.
- ALL APPURTENANCES FOR THE INSTALLATION OF THE WATER METER; THE METER, BRASS GROUND LOCKABLE METER CUTOFF, GASKETS, AND EXPANSION CONNECTION; SHALL BE INSTALLED BY THE CITY OF CONCORD, IF CONNECTION IS TO AN EXISTING MAIN.
- THE BASE OF THE METER BOX MUST HAVE AT LEAST 6-INCHES TO 8-INCHES OF #57 WASHED STONE.

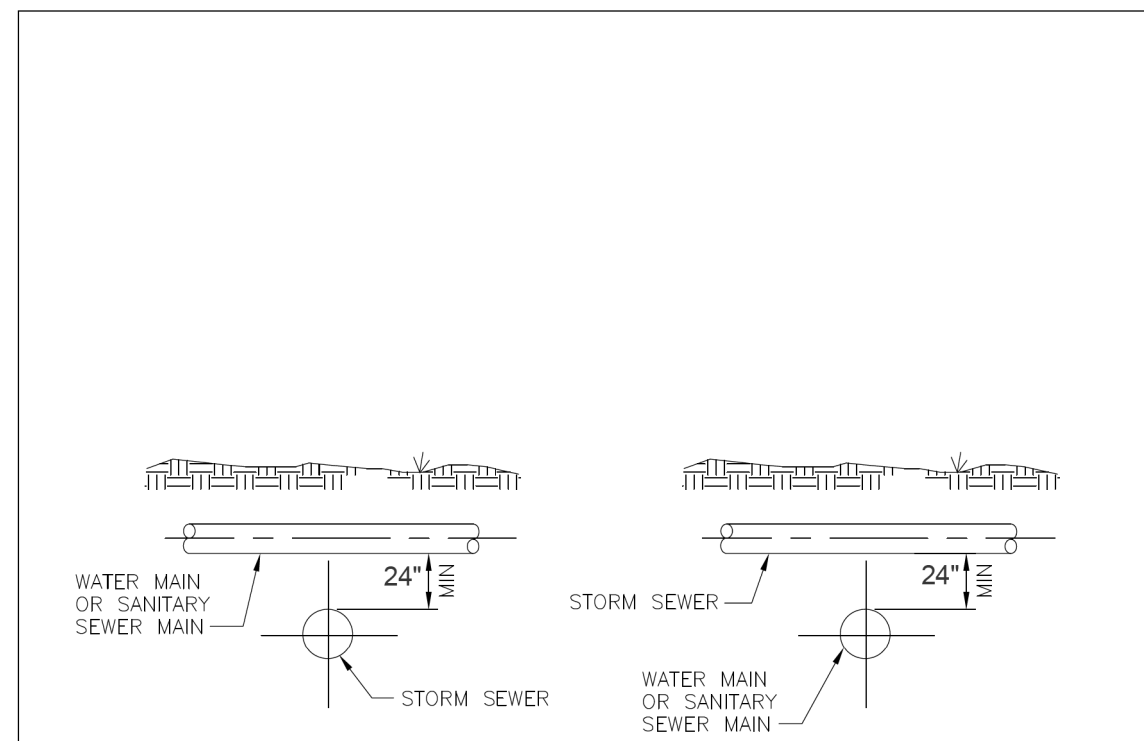
		CITY OF CONCORD	
WATER METER STANDARD DETAIL		3/4-INCH AND 1-INCH RESIDENTIAL WATER SERVICE METER	
No.	Date	By	REVISION
1	9/7/07	JEC	CONTINUOUS PIPE & CONNECTION, SWM
Drawn By:	JEC	Checked By:	MSH
Approved By:		Date:	02/05
Sheet of:			



		CITY OF CONCORD	
UTILITY LAYOUT		STANDARD DETAIL	
No.	Date	By	REVISION
1	12/29/05	JEC	REVISED FROM WSACC
Drawn By:	JEC	Checked By:	PLK
Approved By:		Date:	10/07
Sheet of:			

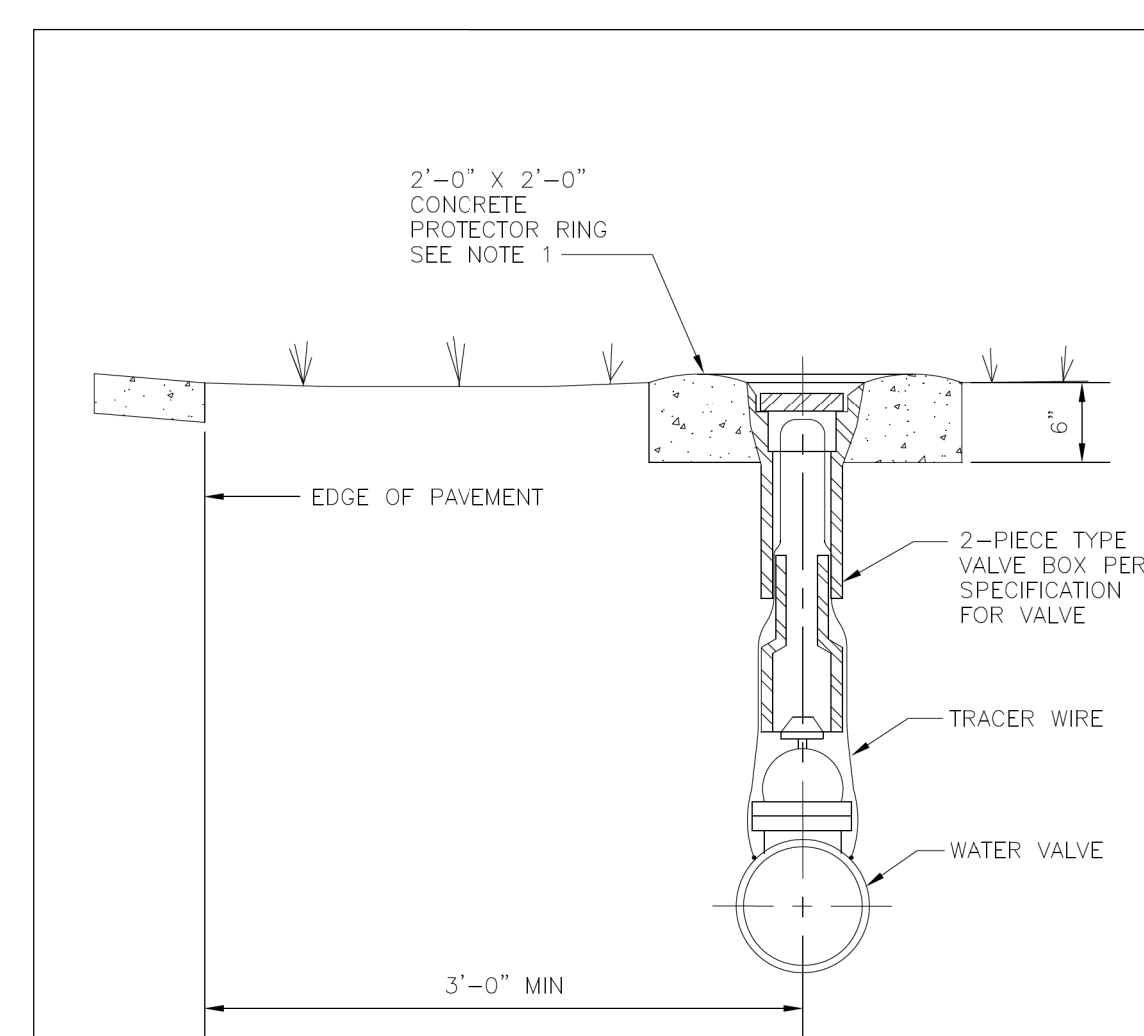
UTILITY DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-5123	UC-3B
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	1/29/2016
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	



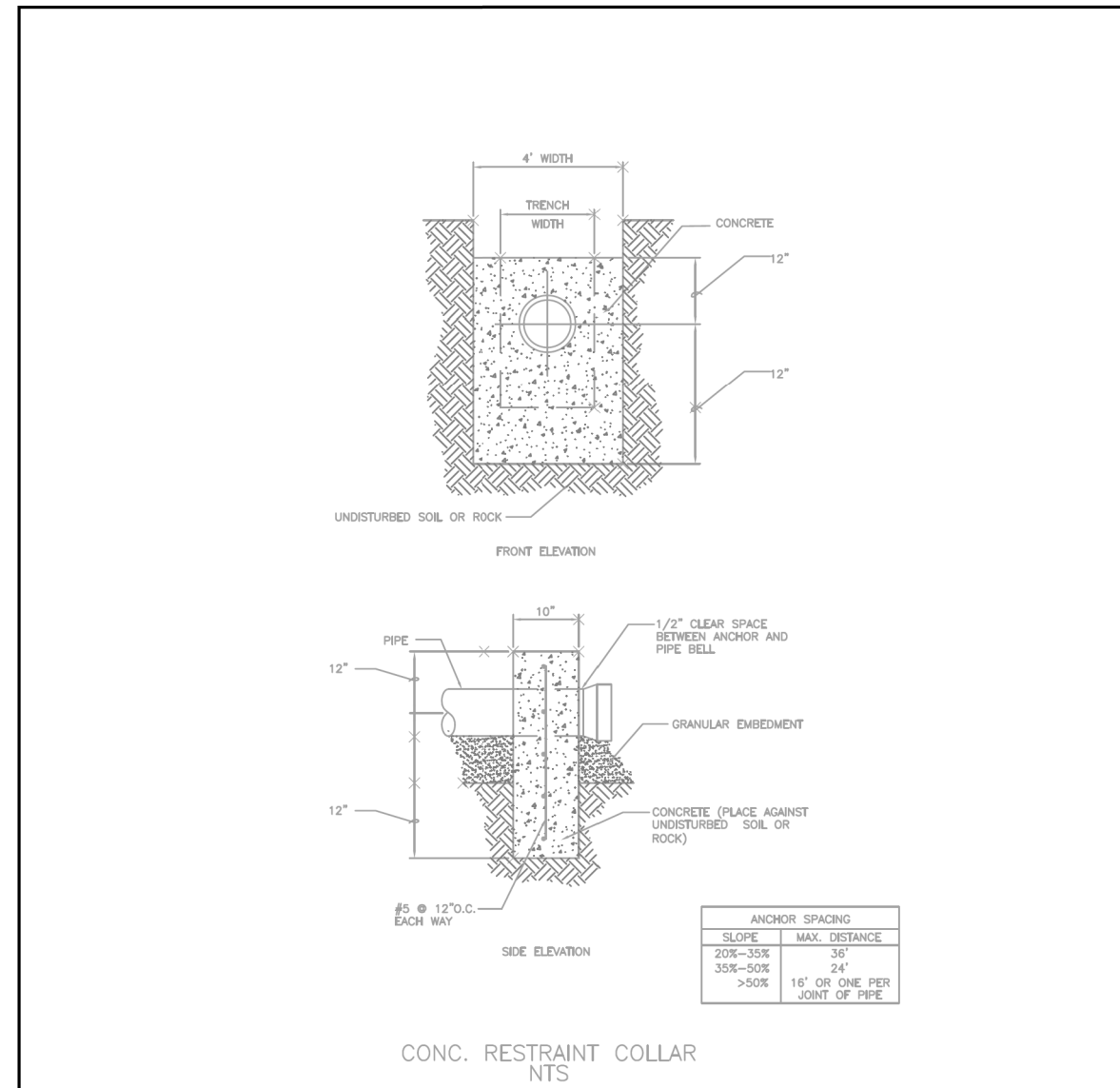
NOTE:
WHEN A WATER MAIN OR SANITARY SEWER MAIN CROSSES OVER OR UNDER A STORM SEWER AND CONDITIONS PREVENT THE REQUIRED 24" MIN VERTICAL SEPARATION, THE WATER MAIN OR SANITARY SEWER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSINGS.

WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				RELATION OF WATER MAINS AND SANITARY SEWER MAINS TO STORM SEWERS FILE NAME: W4.0 DATE: 8/06			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD

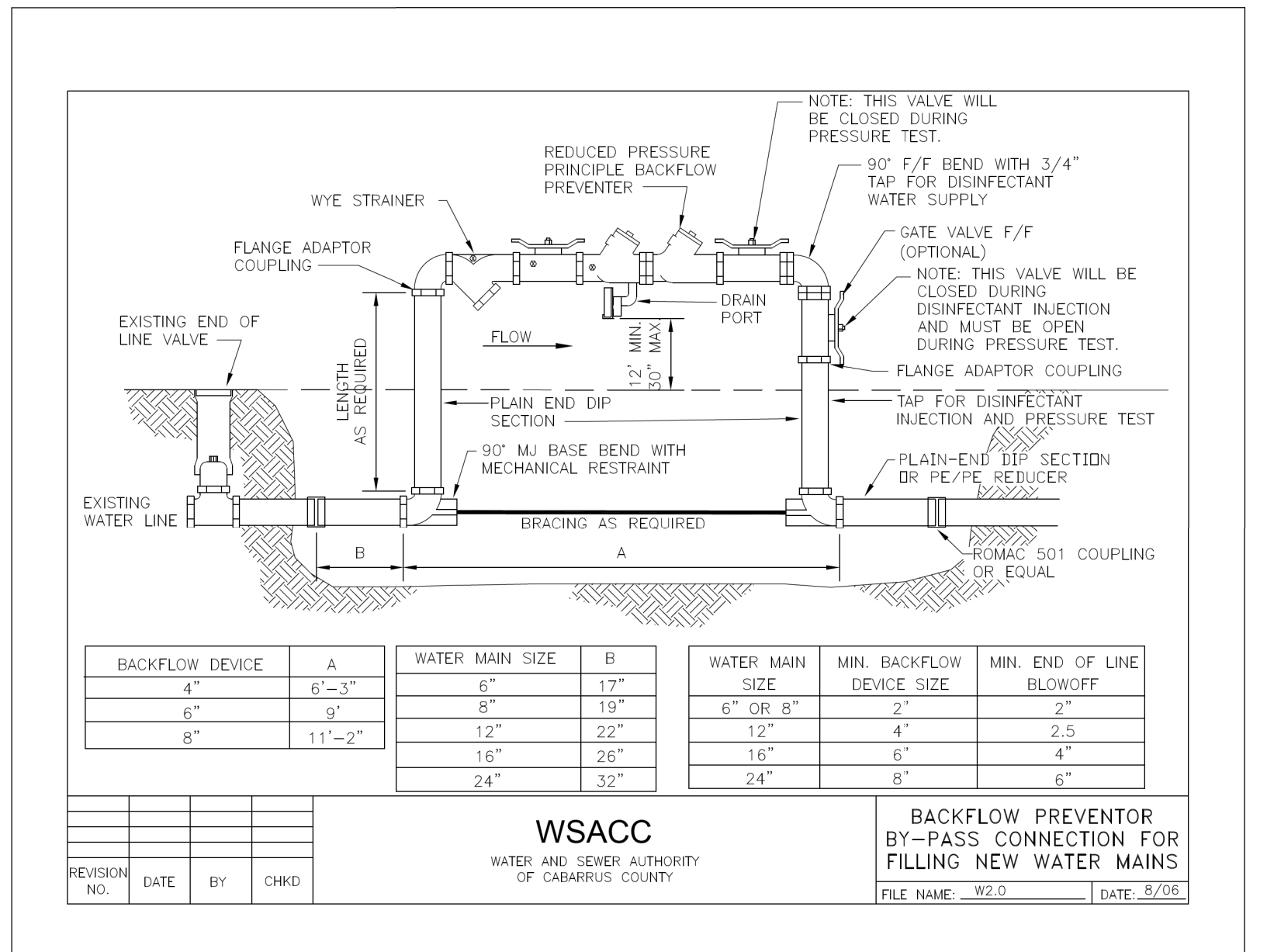


NOTE:
1. USE PROTECTION RING IN SHOULDER OF ROAD.

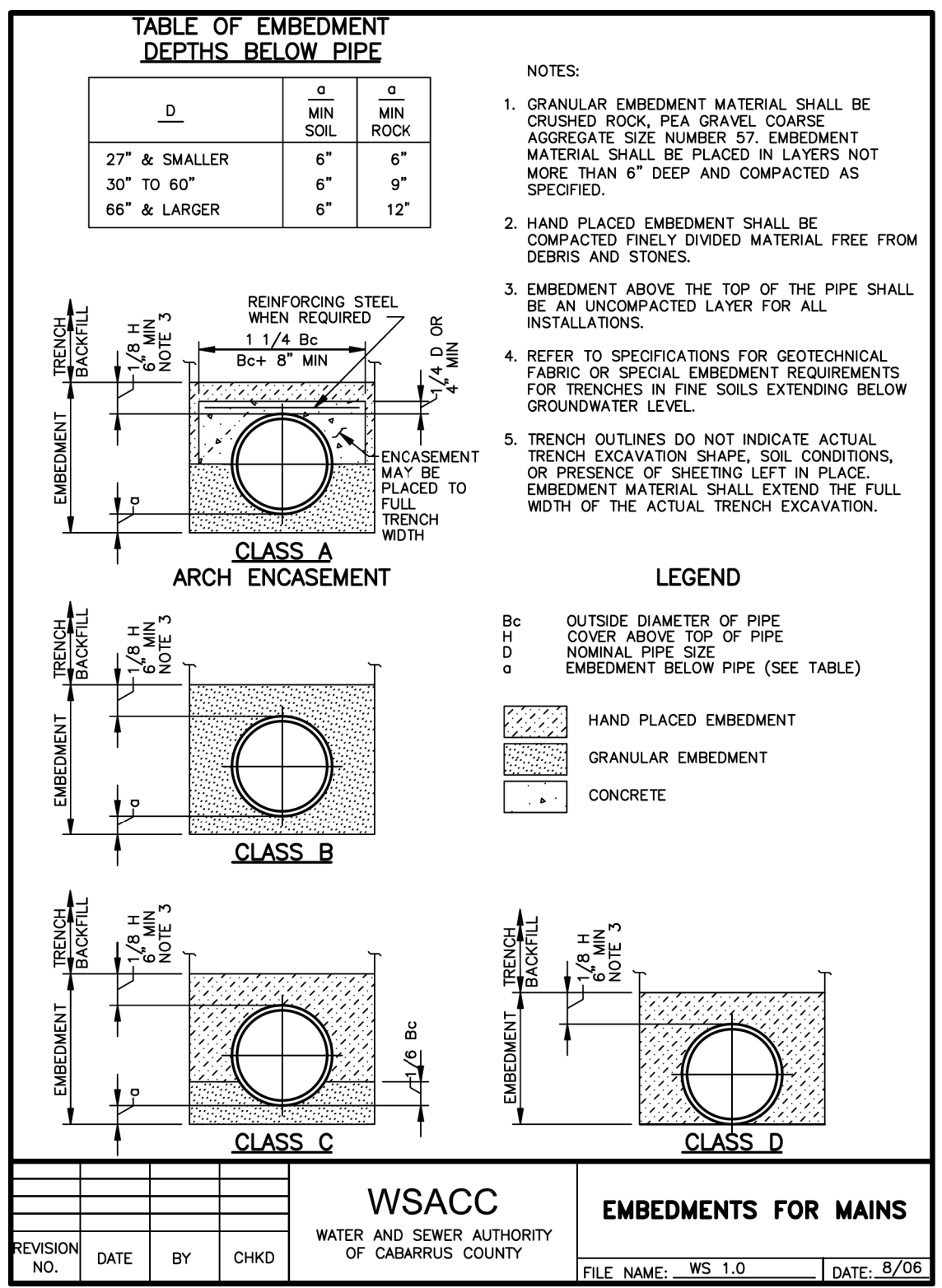
WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				VALVE BOX INSTALLATION FILE NAME: W1.0 DATE: 8/06			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD



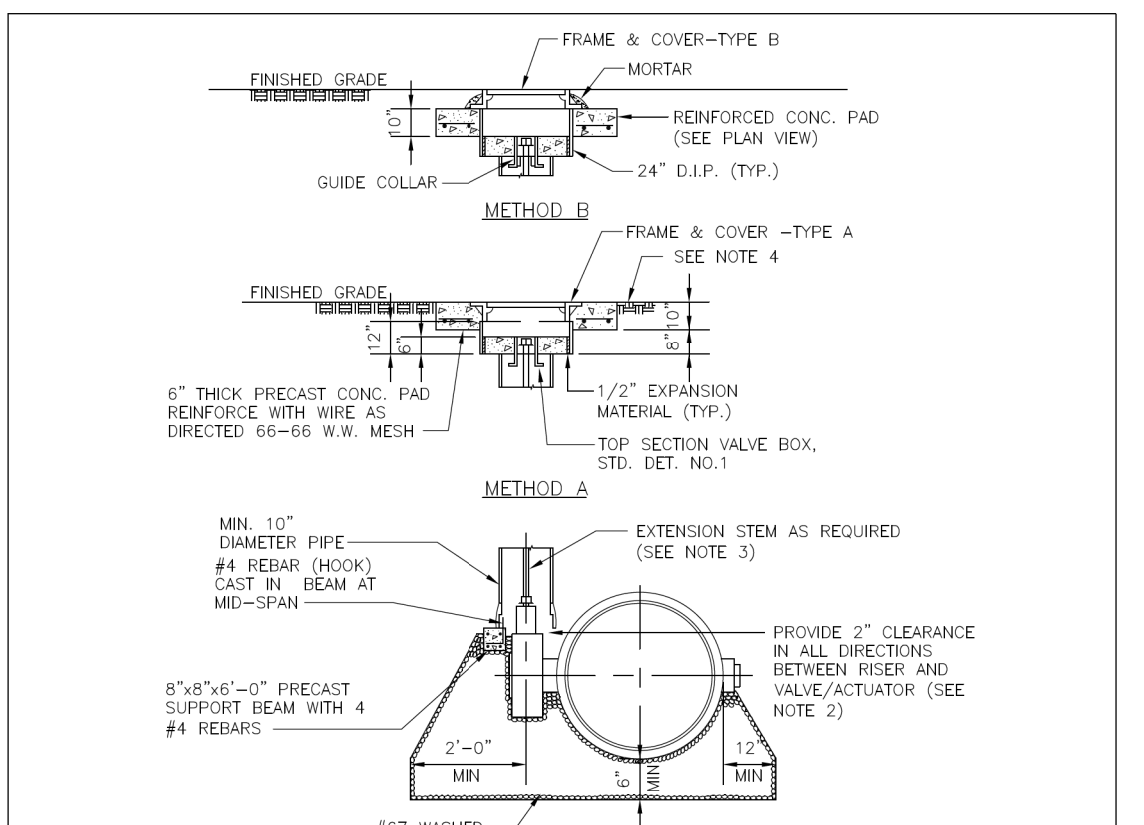
City of Concord STANDARDS DETAIL TYPICAL CONCRETE RESTRAINT COLLAR			
Drawn By: SVM	Checked By:	Approved By:	Date: 08/15
Sheet No. 1	of 1		



WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				BACKFLOW PREVENTER BY-PASS CONNECTION FOR FILLING NEW WATER MAINS FILE NAME: W2.0 DATE: 8/06			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD

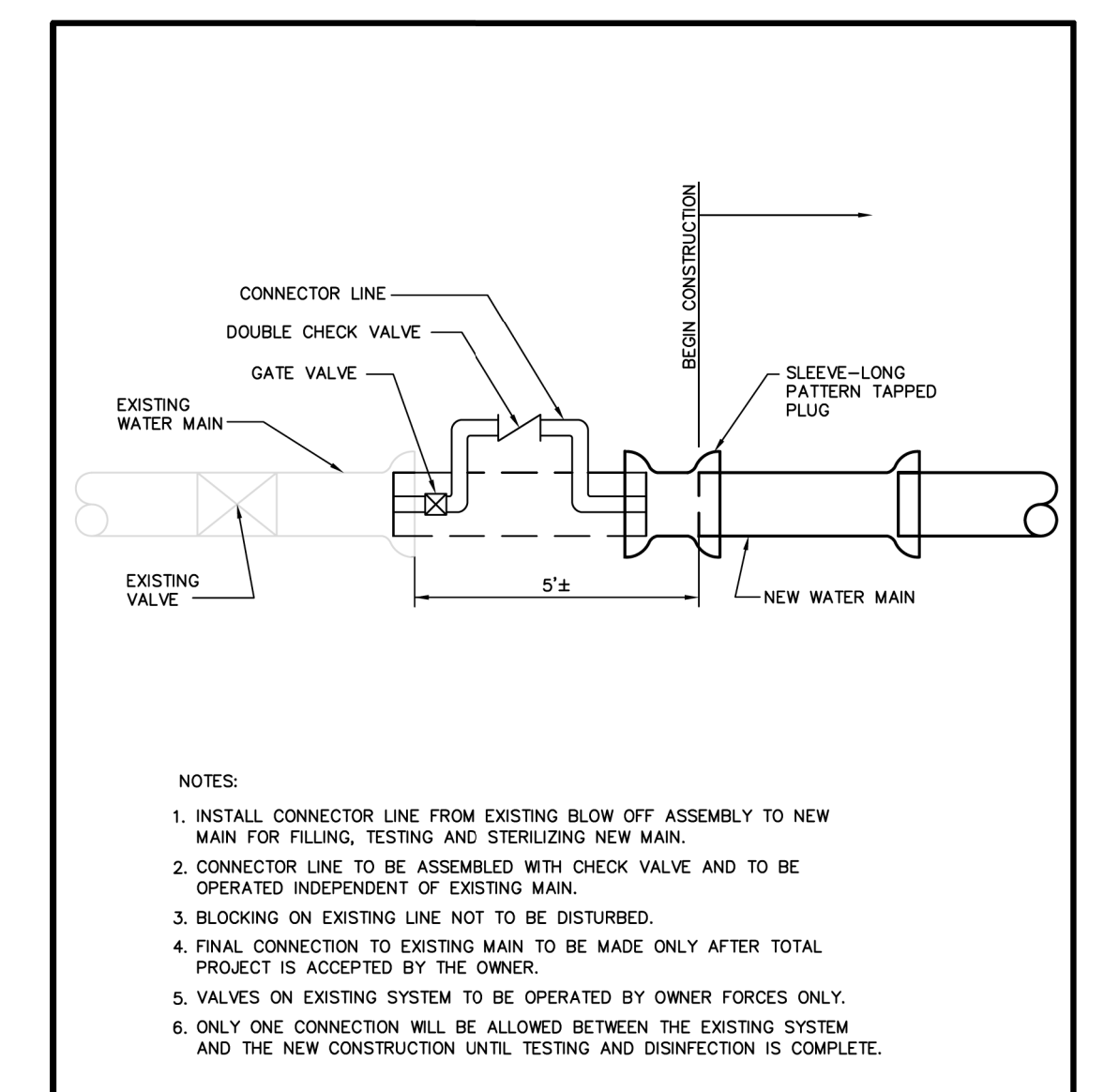


WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				EMBEDMENTS FOR MAINS FILE NAME: WS.1.0 DATE: 8/06			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD



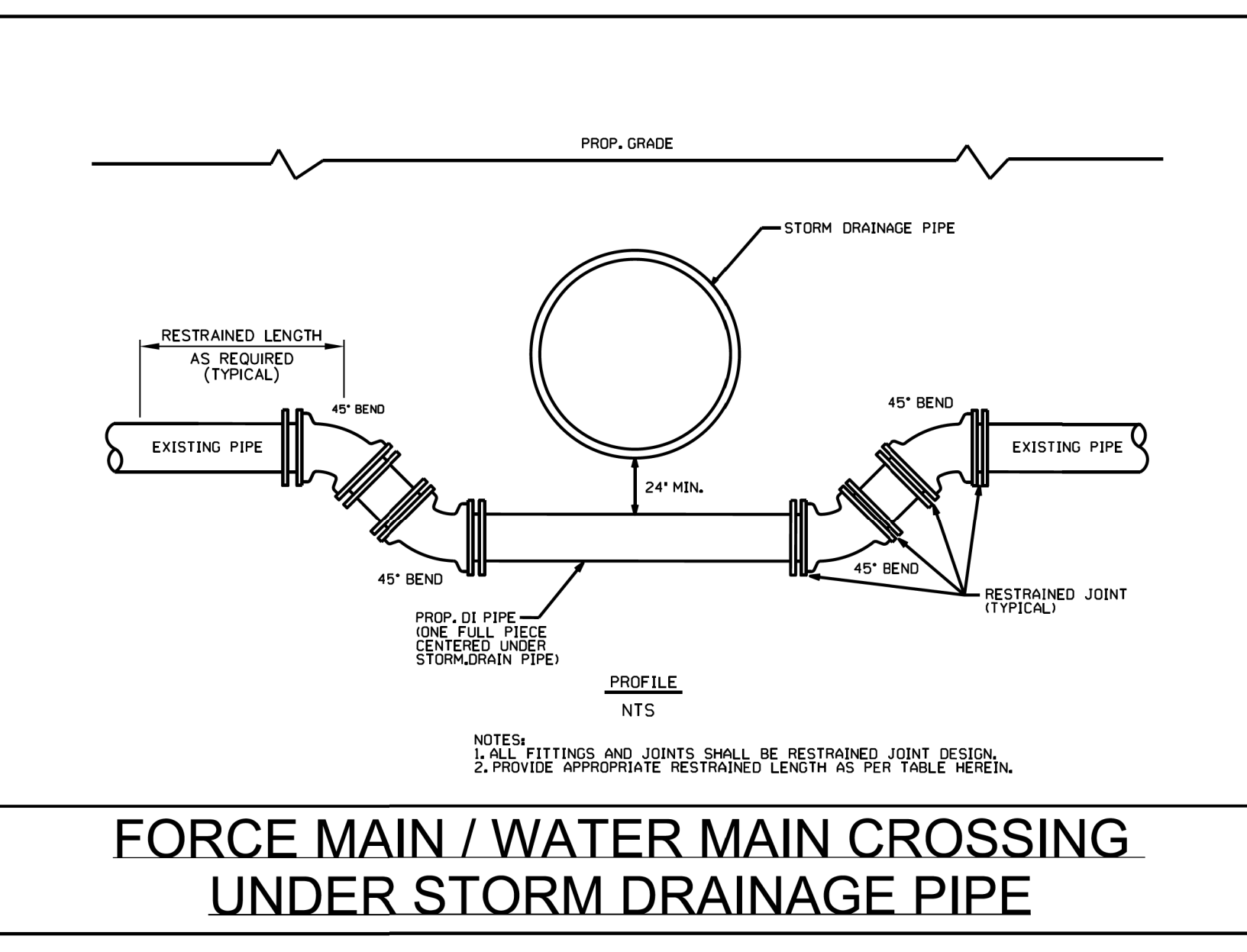
NOTE:
 1. METHOD B SHALL BE USED IN PAVED AREAS AND METHOD A SHALL BE USED IN UNPAVED AREAS.
 2. DIAMETER OF RIDER MAY VARY AS REQUIRED BY VALVE ACTUATOR.
 3. WHEN OPERATING RISE DEPTH EXCEEDS 4'-0" BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH 20# 2" SQUARE OPERATING NUT IN TOP SECTION OF VALVE BOX. EXTENSION STEM SHALL BE SIZED AS RECOMMENDED BY THE VALVE MANUFACTURER.
 4. PROVIDE PRECAST PROTECTOR RING IF IN SHOULDER OF ROAD.

WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				DIRECT BURY BUTTERFLY VALVE INSTALLATION FILE NAME: WS.0 DATE: 8/06			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD



NOTE:
 1. INSTALL CONNECTOR LINE FROM EXISTING BLOW OFF ASSEMBLY TO NEW MAIN FOR FILLING, TESTING AND STERILIZING NEW MAIN.
 2. CONNECTOR LINE TO BE ASSEMBLED WITH CHECK VALVE AND TO BE OPERATED INDEPENDENT OF EXISTING MAIN.
 3. BLOCKING ON EXISTING LINE NOT TO BE DISTURBED.
 4. FINAL CONNECTION TO EXISTING MAIN TO BE MADE ONLY AFTER TOTAL PROJECT IS ACCEPTED BY THE OWNER.
 5. VALVES ON EXISTING SYSTEM TO BE OPERATED BY OWNER FORCES ONLY.
 6. ONLY ONE CONNECTION WILL BE ALLOWED BETWEEN THE EXISTING SYSTEM AND THE NEW CONSTRUCTION UNTIL TESTING AND DISINFECTION IS COMPLETE.

WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				JUMPER CONNECTION FILE NAME: W.13.0 DATE: 2/08			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD



WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY				FORCE MAIN / WATER MAIN CROSSING UNDER STORM DRAINAGE PIPE			
REVISION NO.	DATE	BY	CHKD	REVISION NO.	DATE	BY	CHKD

PROJECT REFERENCE NO.	SHEET NO.
B-5123	UC-4
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	1/29/2016
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITIES CONSTRUCTION PLANS ONLY	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	

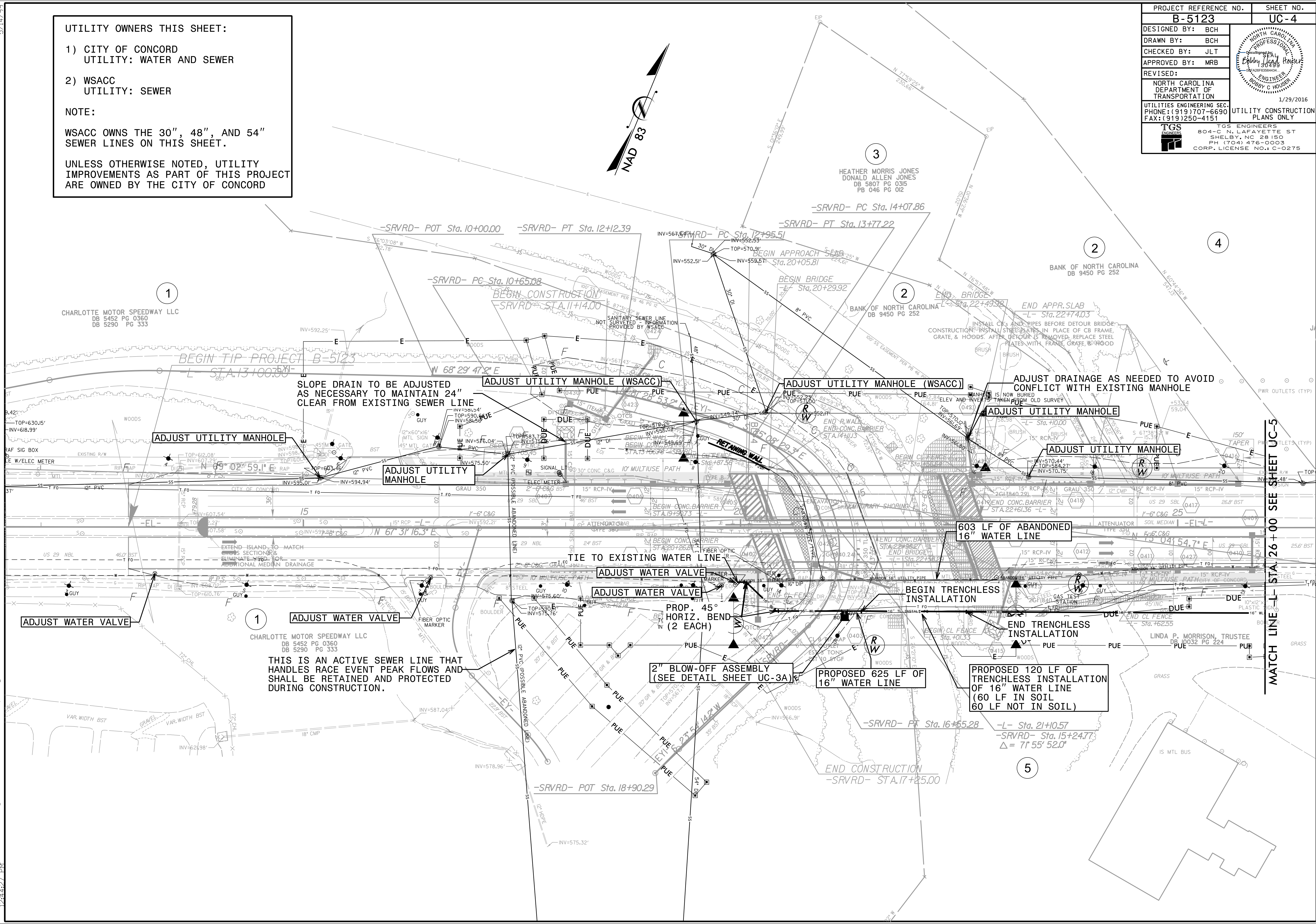
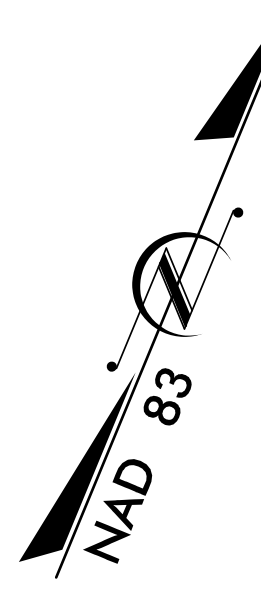
UTILITY OWNERS THIS SHEET:

- 1) CITY OF CONCORD
UTILITY: WATER AND SEWER
- 2) WSACC
UTILITY: SEWER

NOTE:

WSACC OWNS THE 30", 48", AND 54" SEWER LINES ON THIS SHEET.

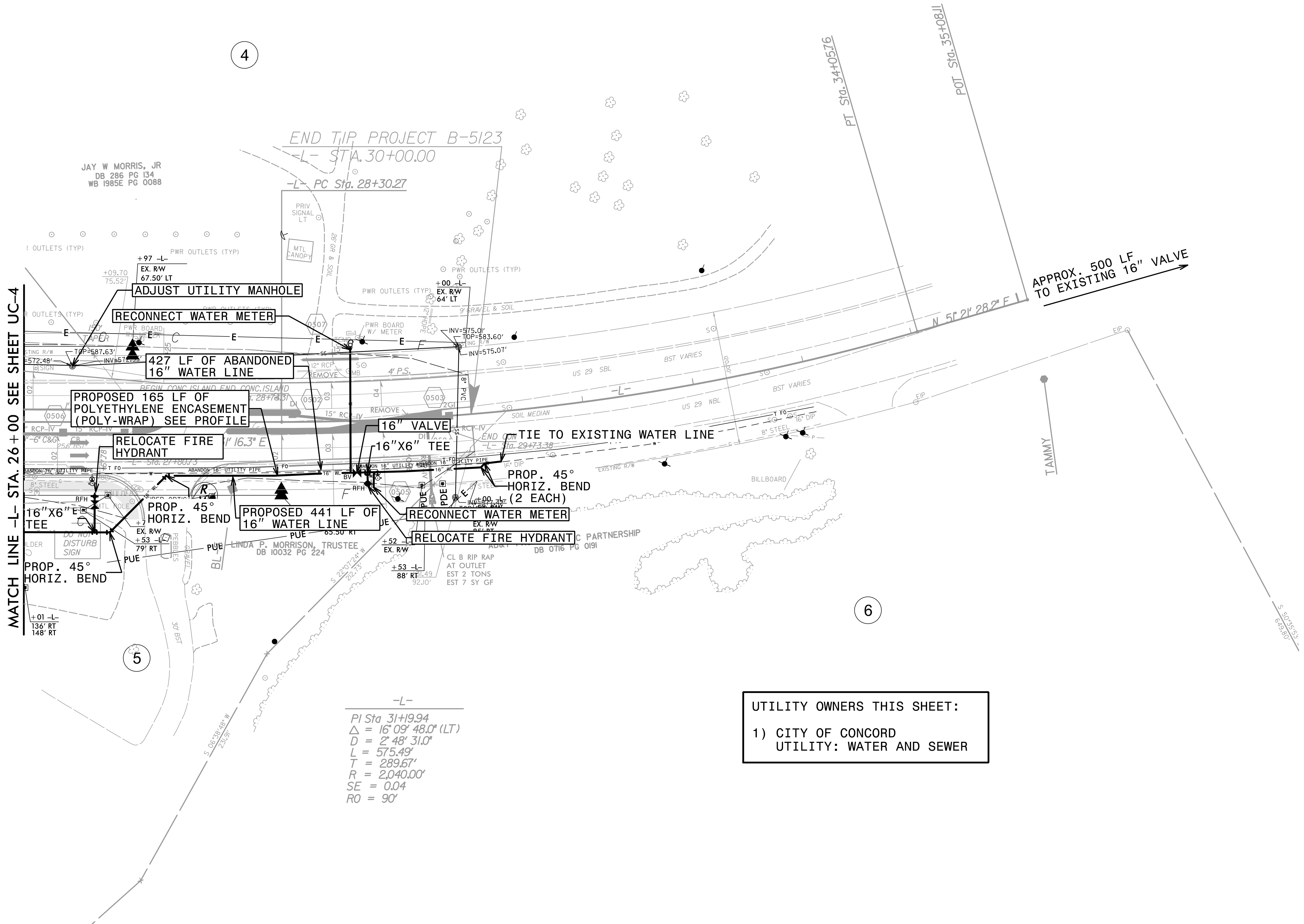
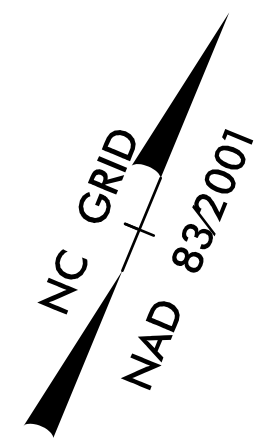
UNLESS OTHERWISE NOTED, UTILITY IMPROVEMENTS AS PART OF THIS PROJECT ARE OWNED BY THE CITY OF CONCORD



5/14/99
 I:\28\2016\B-5123\UC-4\UC(ut).const.Sht(4).psh.dgn
 1/28/2016 10:42:27 AM

MATCH LINE-L STA. 26+00 SEE SHEET UC-5

PROJECT REFERENCE NO.	SHEET NO.
B-5123	UC-5
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: MRB	
REVISED:	1/29/2016
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
	TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275



MATCH LINE -L- STA. 26+00 SEE SHEET UC-4

4

6

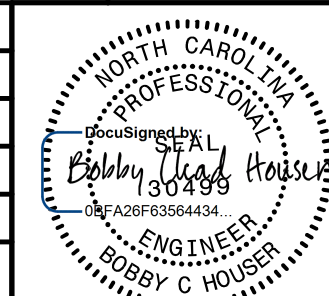
5

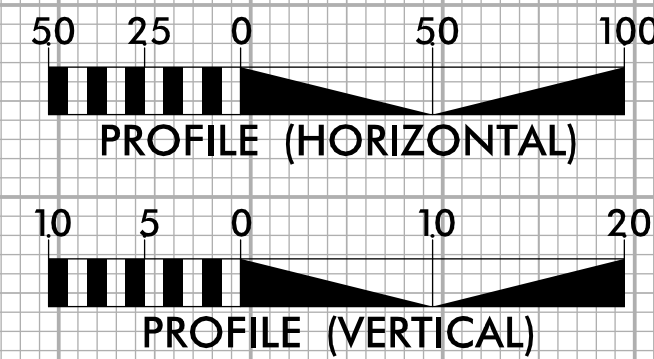
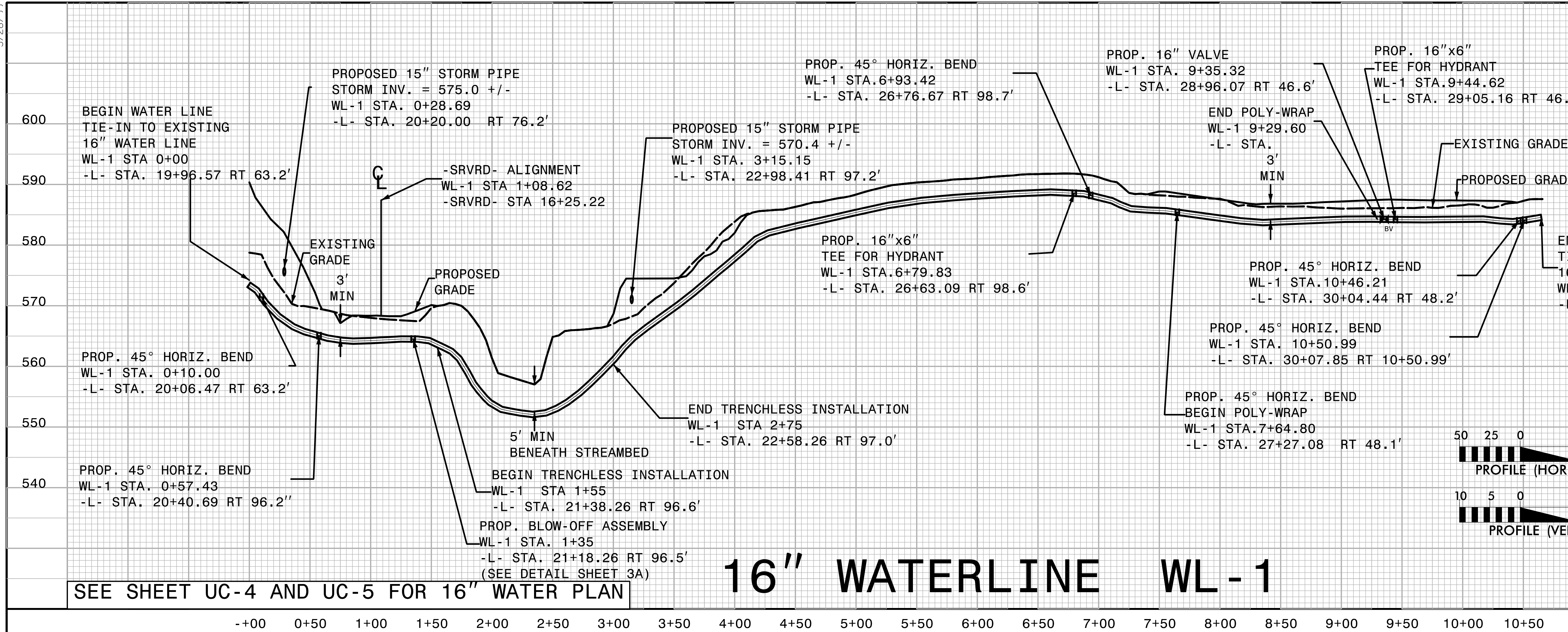
-L-
 PI Sta 31+19.94
 $\Delta = 16^{\circ} 09' 48.0''$ (LT)
 $D = 2^{\circ} 48' 31.0''$
 $L = 575.49'$
 $T = 289.67'$
 $R = 2,040.00'$
 $SE = 0.04$
 $RO = 90^{\circ}$

UTILITY OWNERS THIS SHEET:
 1) CITY OF CONCORD
 UTILITY: WATER AND SEWER

5/14/99
 I:\2016\11\13\B-5123_Ut_(r.dv) sht5_Ut1.const.Sht5).psh.dgn

5/28/16

PROJECT REFERENCE NO. B-5123	SHEET NO. UC-6
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	



K:\2016\16-5123\Utilities\Rdy_Ut\Proj\B-5123_ut_.pfl_UC6_psh.dgn