

09/28/2023

9:52:59 AM C:\pwworking\aecom\ds21_nq_2020\d0125665\BR0041_uc_.tsh.dgn SwinsonG

CONTRACT: TIP PROJECT: BR-0041

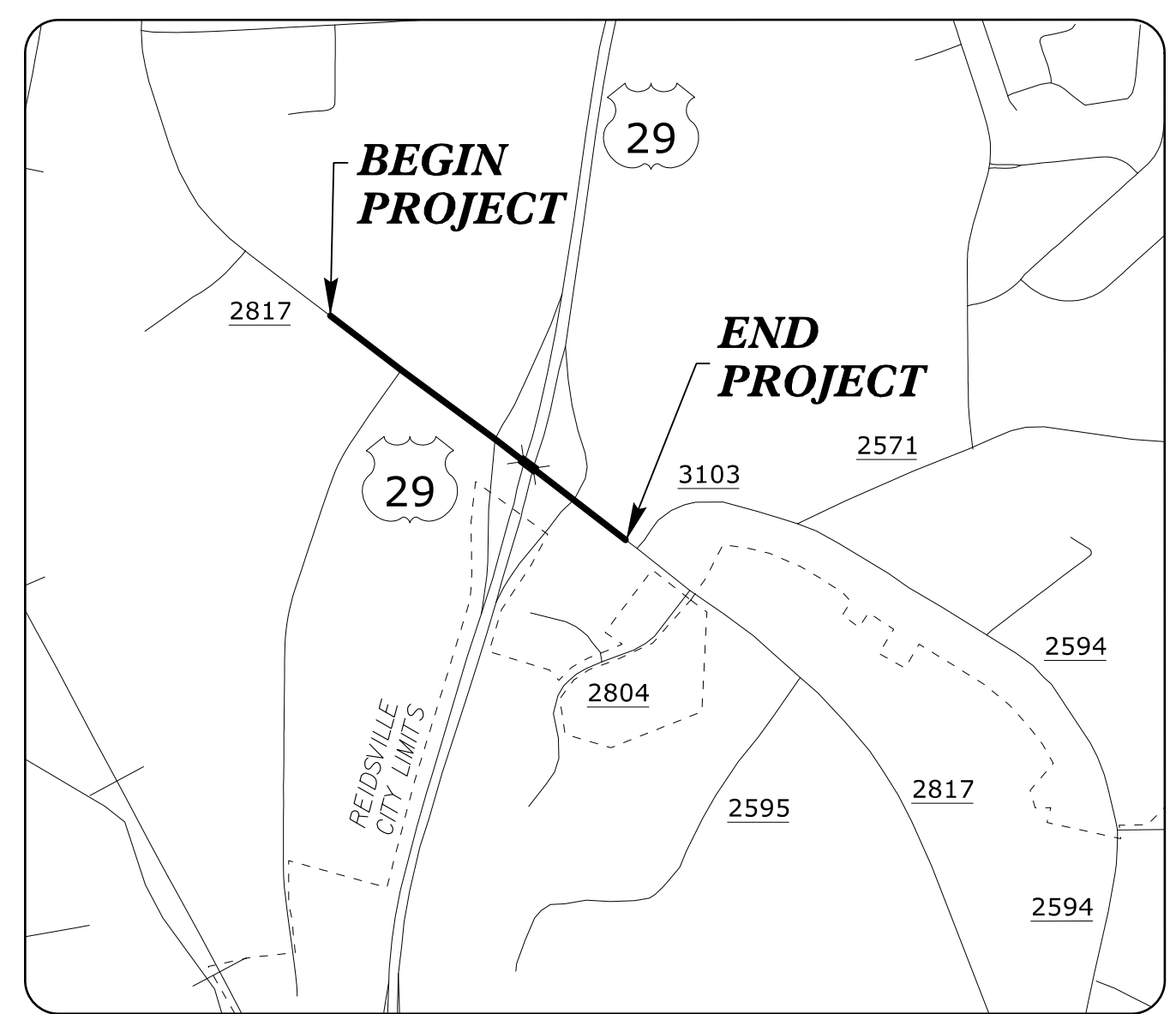
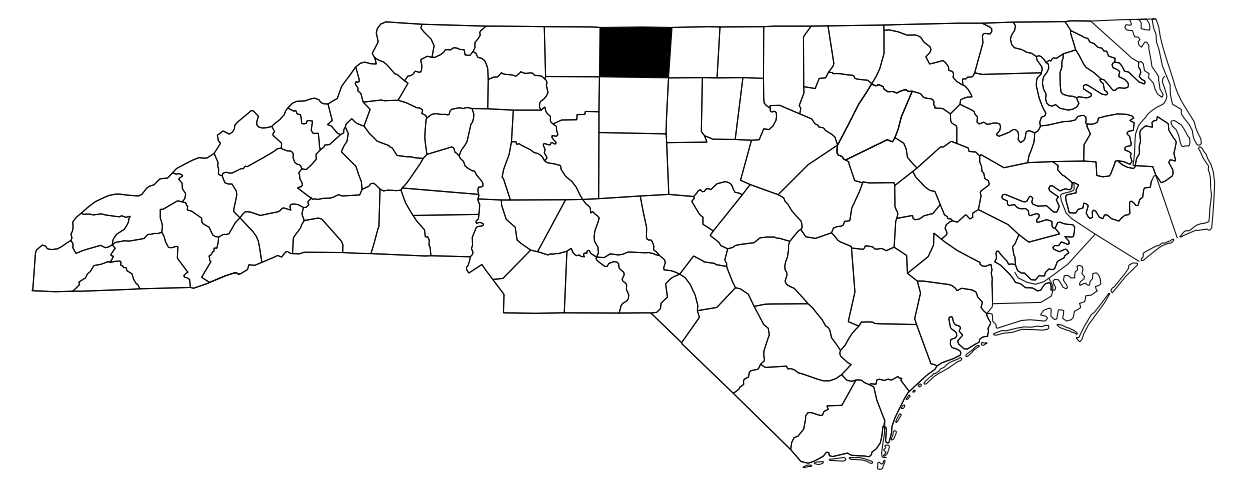
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
BR-0041	UC-1

UTILITY CONSTRUCTION PLANS ROCKINGHAM COUNTY

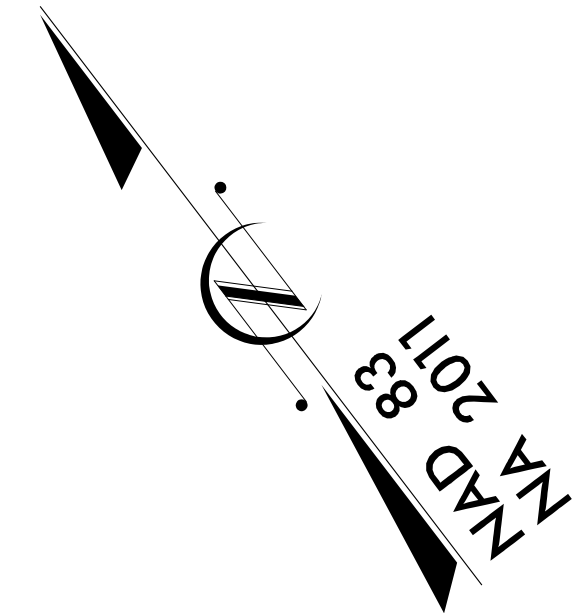
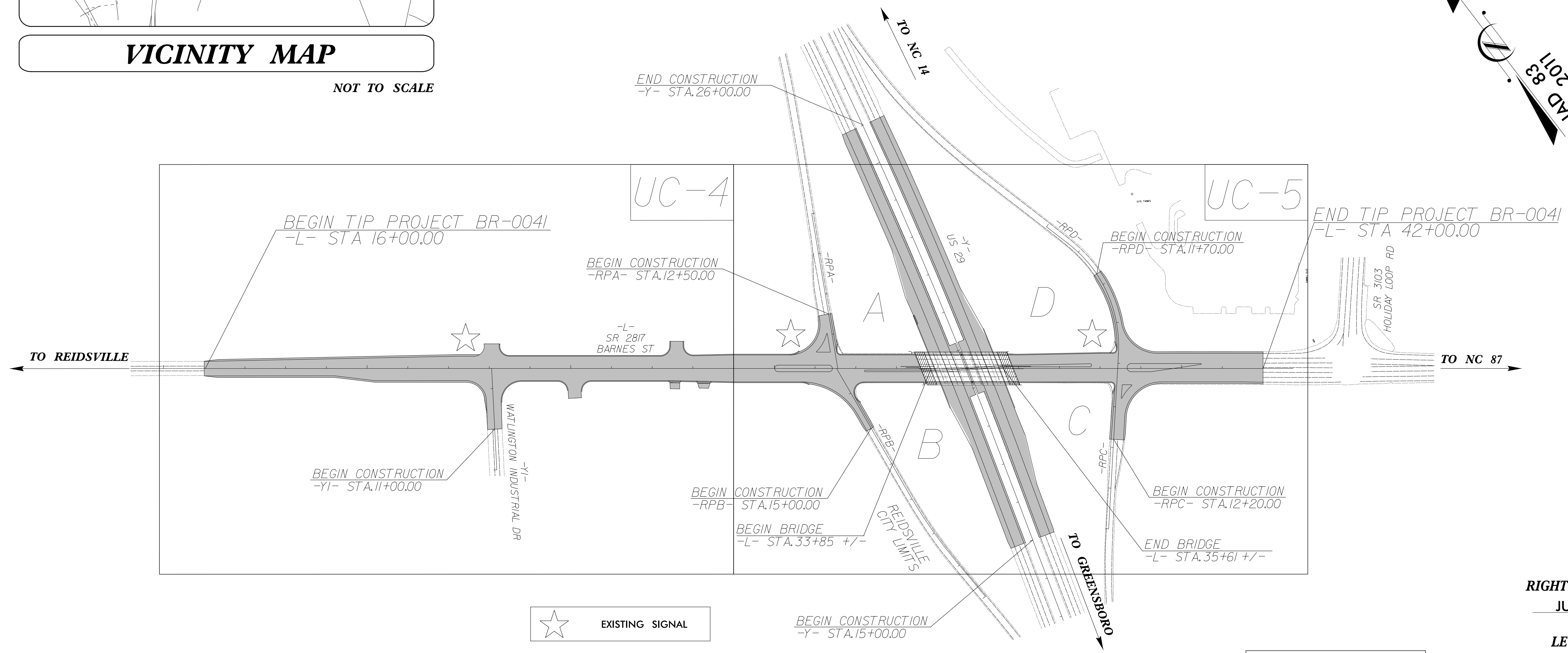
LOCATION: BRIDGE 780001 ON SR 2817 (BARNES ST)
OVER US 29

TYPE OF WORK: WATER AND SANITARY SEWER RELOCATIONS



VICINITY MAP

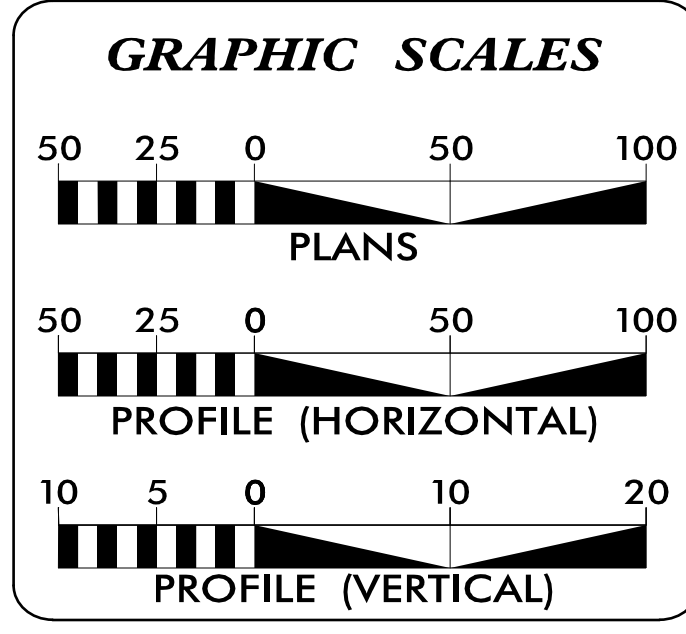
NOT TO SCALE



RIGHT OF WAY DATE:
JUNE 15, 2022

LETTING DATE:
APRIL 18, 2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS

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

WATER AND SEWER OWNERS ON PROJECT

(A) WATER: CITY OF REIDSVILLE
 (B) SANITARY SEWER: CITY OF REIDSVILLE
 (C)
 (D)
 (E)

PREPARED IN THE OFFICE OF

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
 5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
 919-461-1100
 F-0342

Steve Scruggs, PE UTILITY PROJECT MANAGER
 Farah Ramadan PROJECT UTILITY DESIGNER

SEAL

1/24/2023

D. Stephen Scruggs
 957A10C3D5E471...

DIVISION OF HIGHWAYS UTILITIES UNIT

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

Amy York UTILITIES REGIONAL ENGINEER
 Ali Kouchehi, PE UTILITIES ENGINEER
 Dayton Martin UTILITIES AREA COORDINATOR
 Jon Gaillard UTILITIES COORDINATOR

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	..... 12" WL
11¼ Degree Bend ++
22½ Degree Bend	..... +X
45 Degree Bend	..... +X
90 Degree Bend	..... L
Plug █
Tee ⊕
Cross ⊕
Reducer ▶
Gate Valve	..... GV
Butterfly Valve	..... BV
Tapping Valve	..... TGV
Line Stop	..... LS
Line Stop with Bypass	..... LS/BP
Blow Off	..... BO
Fire Hydrant	..... PFH
Relocate Fire Hydrant	..... RFH
Remove Fire Hydrant	..... REM FH
Water Meter	..... PWM
Relocate Water Meter	..... RWM
Remove Water Meter	..... REM WM
Water Pump Station	..... PS(W)
RPZ Backflow Preventer	..... PRPZ
DCV Backflow Preventer	..... PBFP
Relocate RPZ Backflow Preventer	..... RRPZ
Relocate DCV Backflow Preventer	..... RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	..... 12" SS
Force Main Sewer Line (Sized as Shown)	..... 12" FSS
Manhole (Sized per Note) ●
Sewer Pump Station	..... PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole ○
Telephone Pole ○
Joint Use Pole ○
Telephone Pedestal	..... TEL PED
Utility Line by Others (Type as Shown)	.....
Trenchless Installation	..... 12" TL INSTALL
Encasement by Open Cut	..... 24" ENCAS BY OC
Encasement	..... 24" ENCASEMENT

Thrust Block █
Air Release Valve	..... AR
Utility Vault	..... UV
Concrete Pier	..... CP
Steel Pier	..... SP
Plan Note	..... ↖ NOTE
Pay Item Note	..... ↖ PAY ITEM

EXISTING UTILITIES SYMBOLS

*Underground Power Line	..... P
*Underground Telephone Cable	..... T
*Underground Telephone Conduit	..... TC
*Underground Fiber Optics Telephone Cable	..... T FO
*Underground TV Cable	..... TV
*Underground Fiber Optics TV Cable	..... TV FO
*Underground Gas Pipeline	..... G
Aboveground Gas Pipeline	..... A/G Gas
*Underground Water Line	..... W
Aboveground Water Line	..... A/G Water
*Underground Gravity Sanitary Sewer Line	..... SS
Aboveground Gravity Sanitary Sewer Line	..... A/G Sanitary Sewer
*Underground SS Forced Main Line	..... FSS
Underground Unknown Utility Line	..... UUL
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)

REV: 2/1/2012

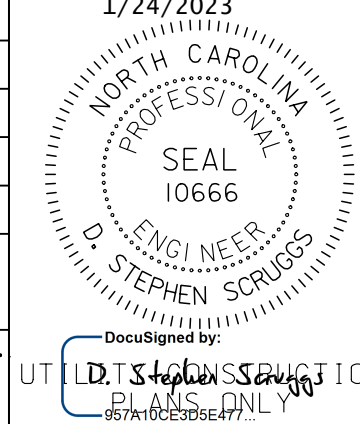
UTILITY CONSTRUCTION

Prepared in the Office of:



AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F - 0342

PROJECT REFERENCE NO.	SHEET NO.
BR-0041	UC-3
DESIGNED BY:	1/24/2023
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	



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UNLESS ALL SIGNATURES COMPLETED

UTILITY CONSTRUCTION

GENERAL NOTES:

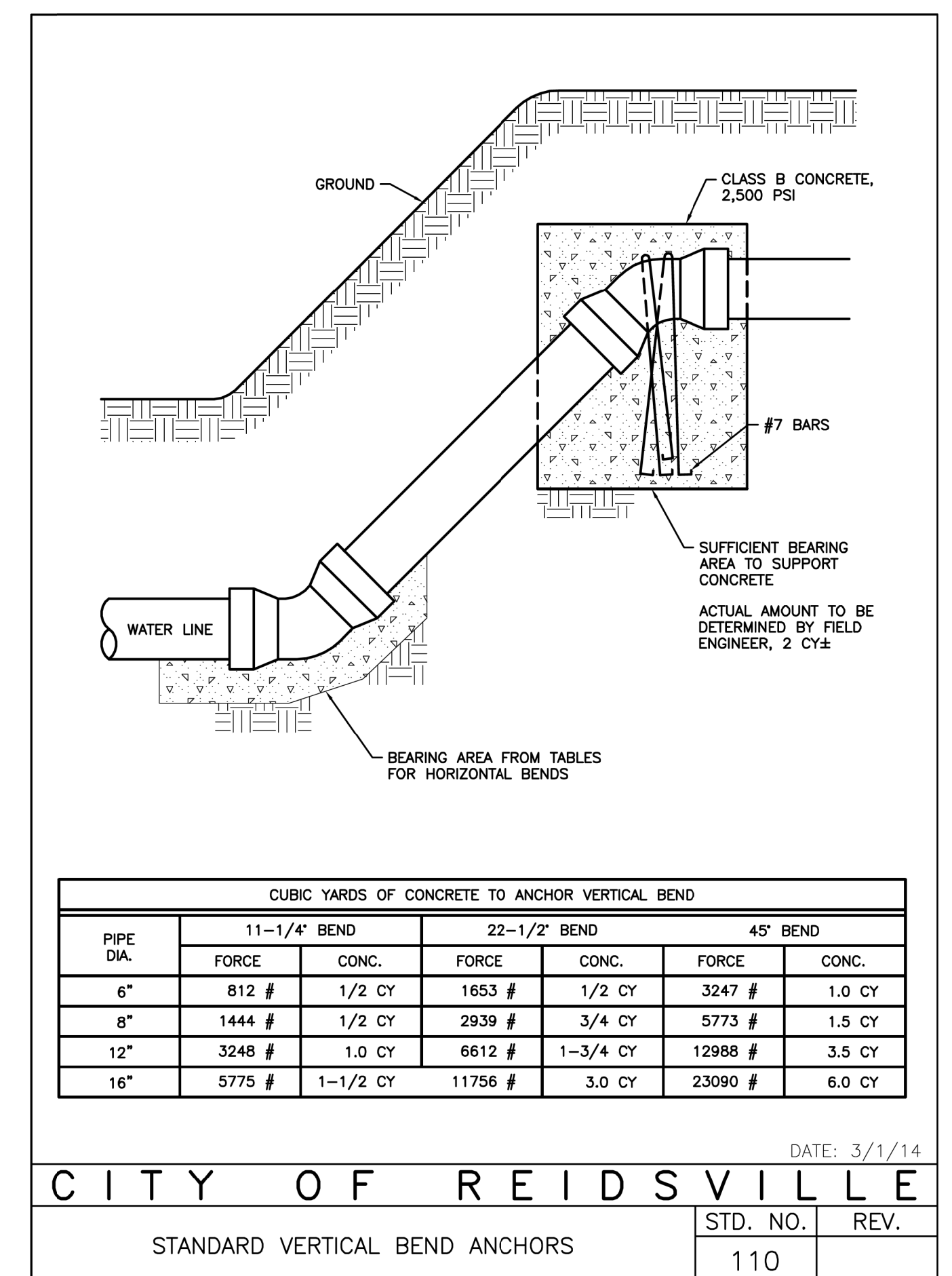
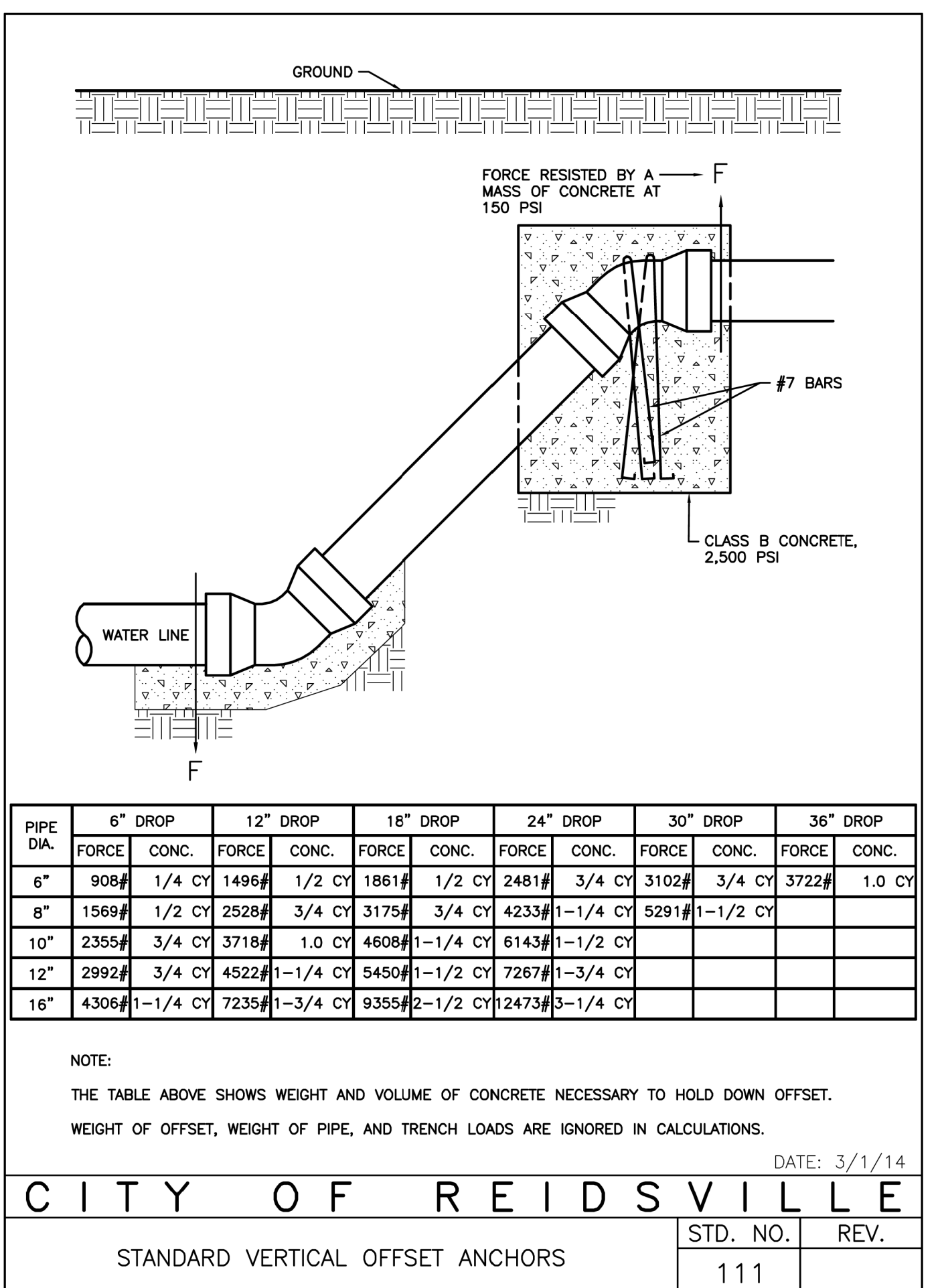
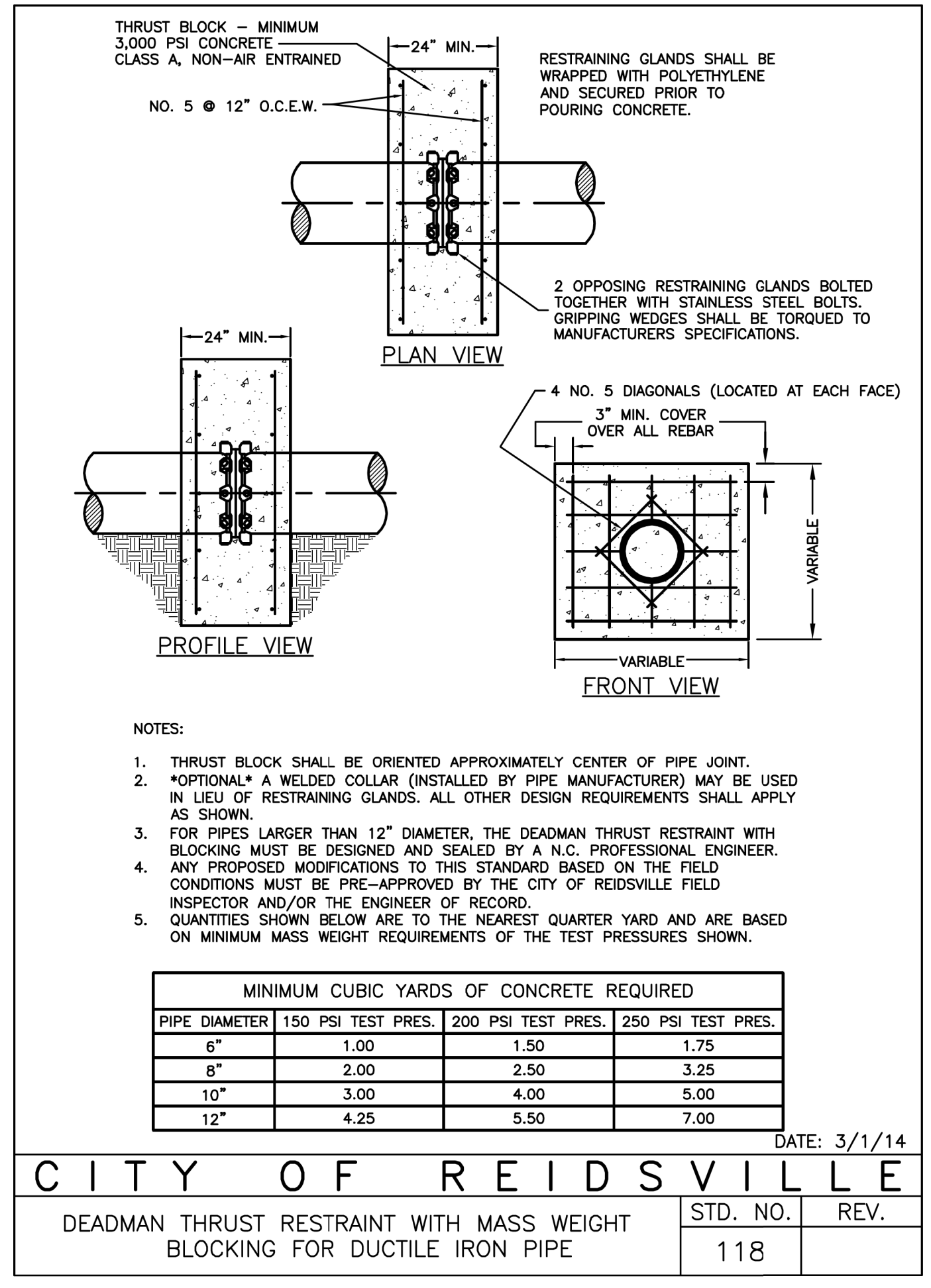
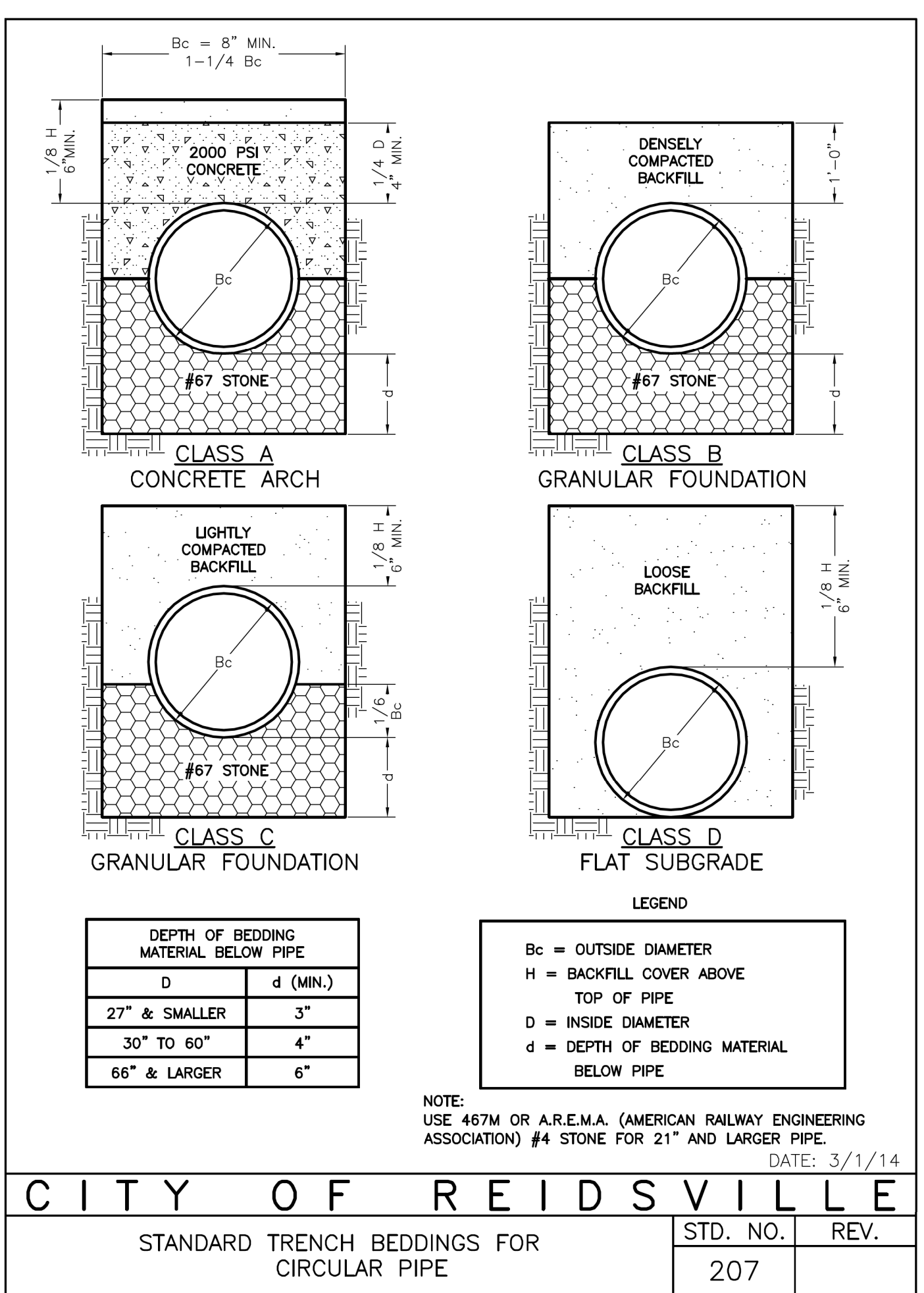
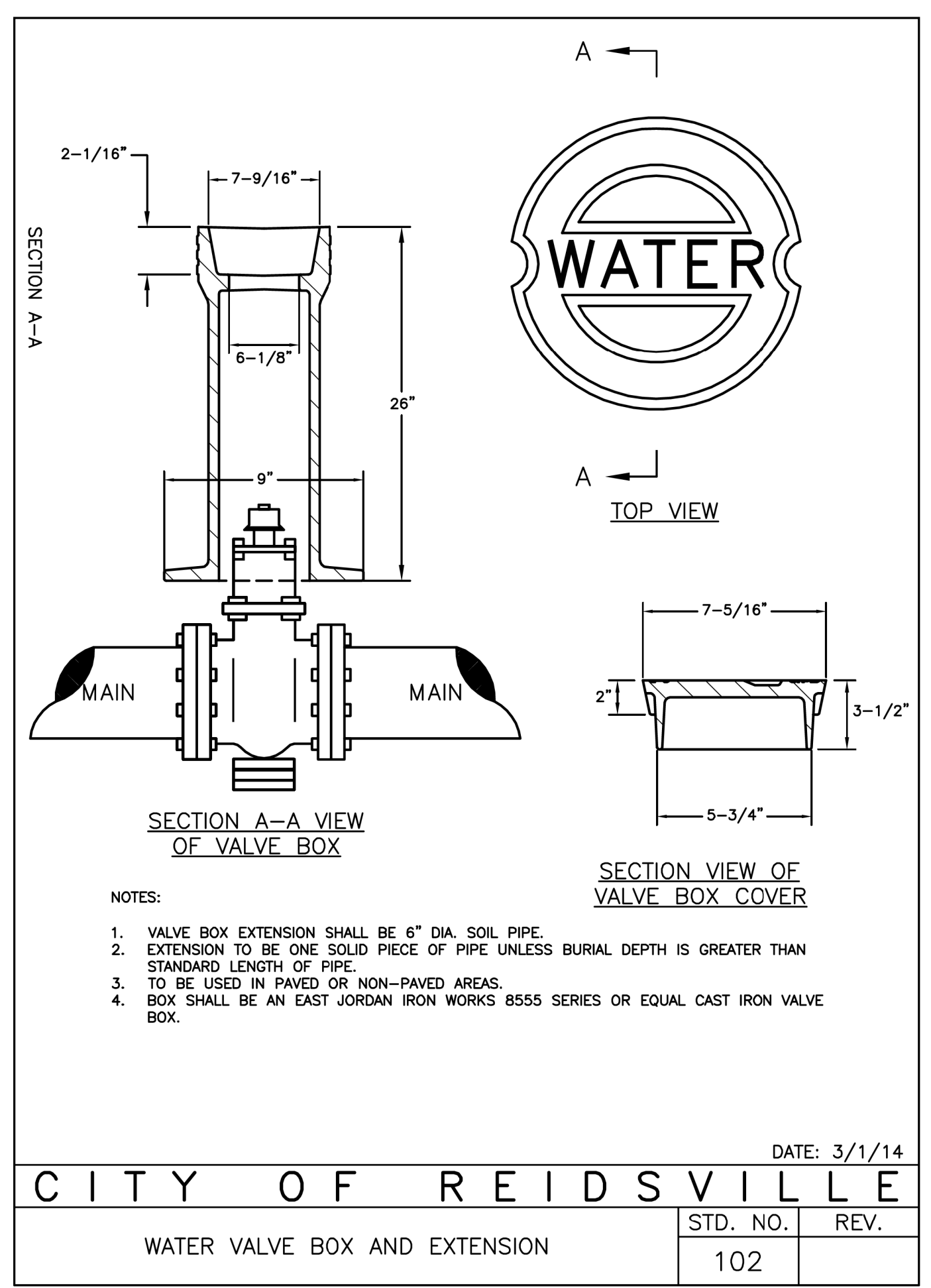
1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.
2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO THE CITY OF REIDSVILLE.
3. ALL WATER LINES TO BE INSTALLED WITHIN 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.

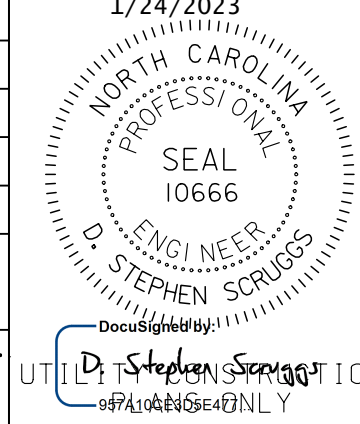
6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING 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.

WATER LINES - GENERAL NOTES:

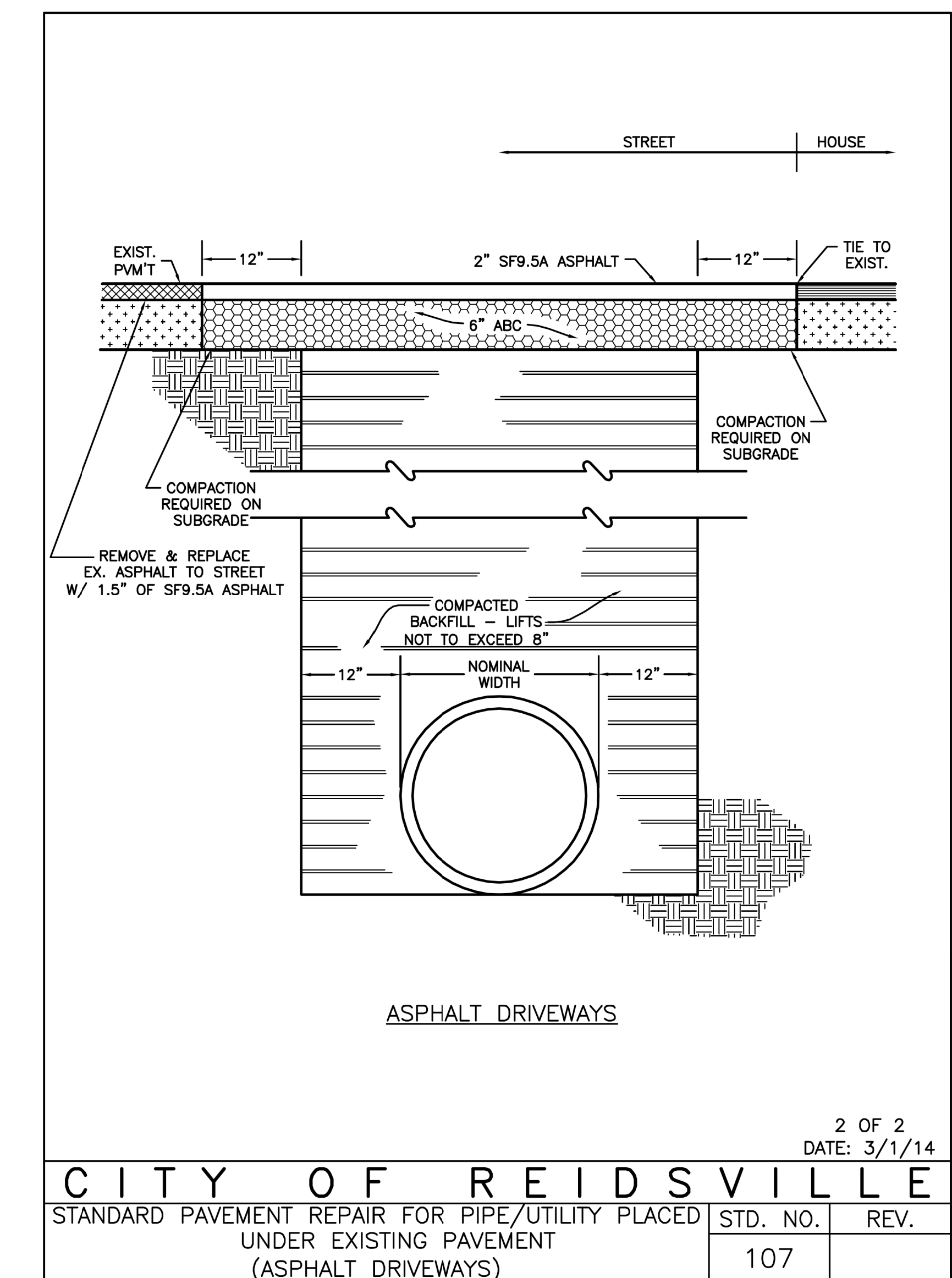
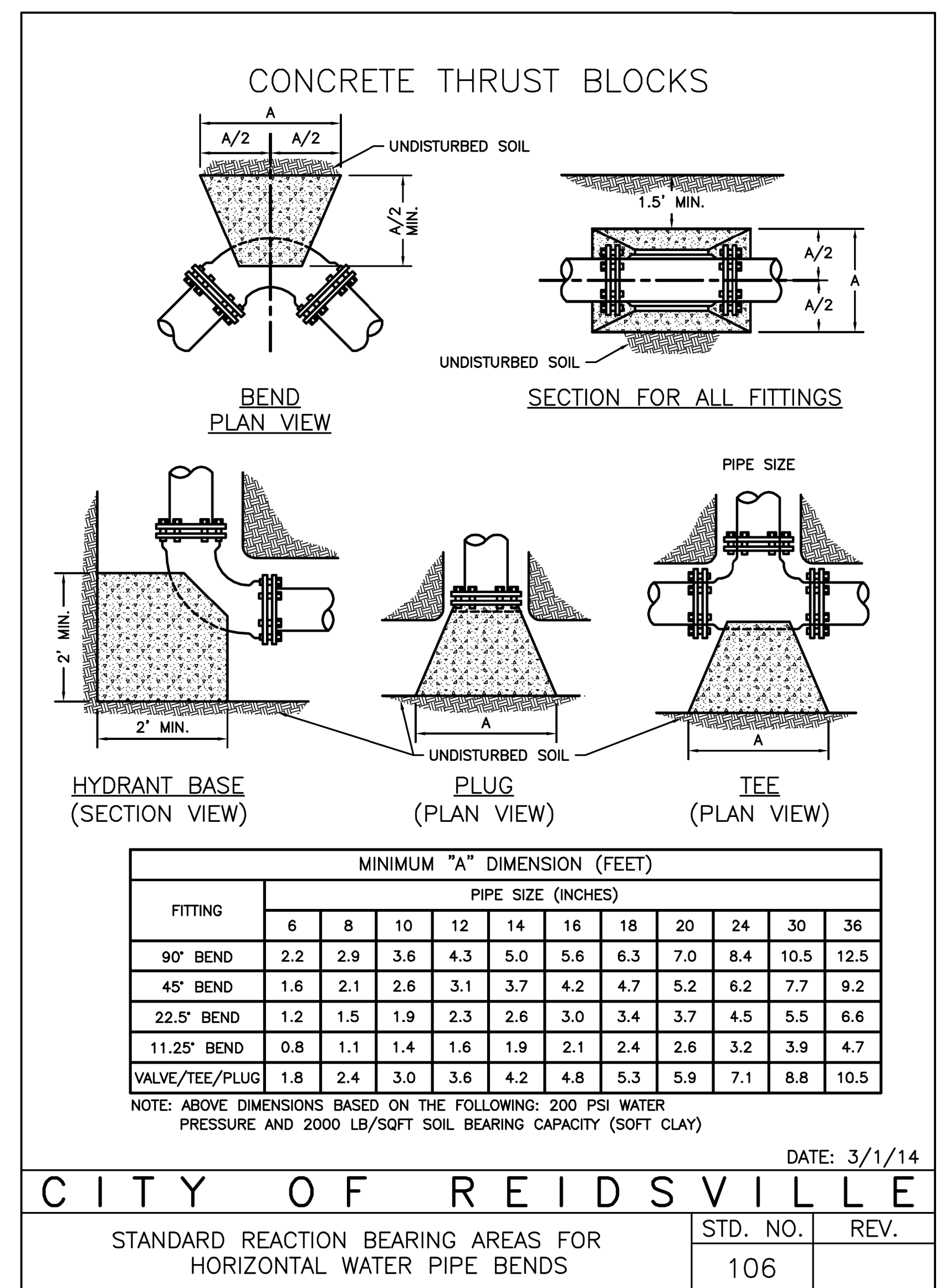
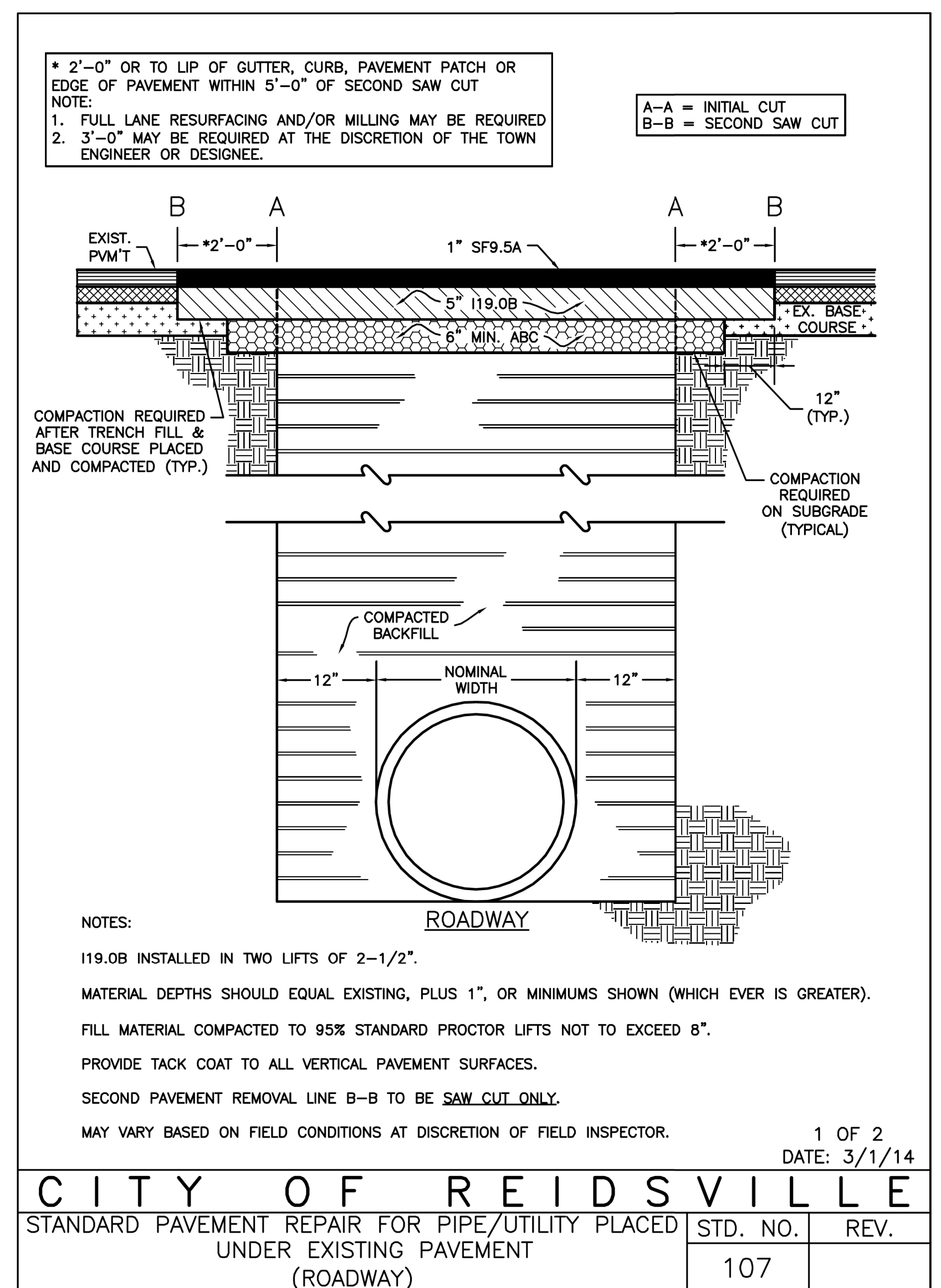
1. CONCRETE BLOCKING (3000 PSI) SHALL BE PLACED AT ALL BENDS AND TEES OR AS REQUIRED.
2. STANDARD DEPTH OF COVER SHALL BE 3 FEET EXCEPT AT VALVE OR HYDRANT LOCATIONS OR OTHER SPECIAL SITUATIONS. COVER IS BASED ON GROUND ELEVATION OR AS INDICATED ON THE PLANS.
3. PROVIDE CONCRETE PAD (30"X 30"X 6") AT ALL VALVE BOXES.
4. EXTENSIONS FOR VALVE BOXES, WHEN REQUIRED, SHALL BE 6" SOIL PIPE.
5. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, SHALL BE REPLACED ACCORDING TO THE STANDARD DETAILS OF THE NC DEPARTMENT OF TRANSPORTATION.
6. PAVEMENT CUTS SHALL BE REPLACED IMMEDIATELY AFTER BACKFILLING INITIAL CUT EITHER WITH PERMANENT REPLACEMENT OR A TEMPORARY REPLACEMENT OF 1-1/2" OR 1-2 OR 4" OF BINDER.
7. REPAIRS TO MAIN BREAKS:
 - a. BELL CLAMPS WILL NOT BE ALLOWED, EXCEPT IN SPECIAL SITUATIONS AND AS DIRECTED BY THE DIRECTOR OF PUBLIC WORKS.
 - b. SOLID SLEEVES SHALL BE USED FOR CONNECTING SPIGOT ENDS AND BE OF THE LONG PATTERN TYPE.
8. IN ANY INSTANCE WHERE IT WILL BE NECESSARY TO HAVE THE WATER SHUT OFF ON EXISTING MAINS IN ORDER TO MAKE A TIE-IN, THE WORK SHALL BE DONE UNDER THE DIRECT SUPERVISION OF THE DIRECTOR OF PUBLIC WORKS AND AT THE TIME LEAST INCONVENIENT TO THE WATER CUSTOMERS INVOLVED.

9. WHEN A WATER MAIN CROSSES AN EXISTING SEWER MAIN, THE CONTRACTOR SHALL REPLACE THE SEWER PIPE SPANNING THE DITCH WITH DUCTILE PIPE WHEN THE FOLLOWING CONDITIONS OCCUR:
 - a. ANYTIME A WATER MAIN IS INSTALLED UNDER A SEWER MAIN.
 - b. WHEN A WATER MAIN IS OVER A SEWER MAIN AND THE VERTICAL DISTANCE BETWEEN THE TWO MAINS IS 18"OR LESS.
10. WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 10' HORIZONTAL SEPARATION FROM SEWER LINES. WHERE THIS IS NOT POSSIBLE, AS DETERMINED BY THE DIRECTOR OF PUBLIC WORKS, BOTH THE WATER LINE AND SEWER LINE SHALL BE DUCTILE IRON PIPE.
11. WATER LINES SHALL BE DISINFECTED AND HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL STATE AND CITY OF REIDSVILLE REQUIREMENTS.





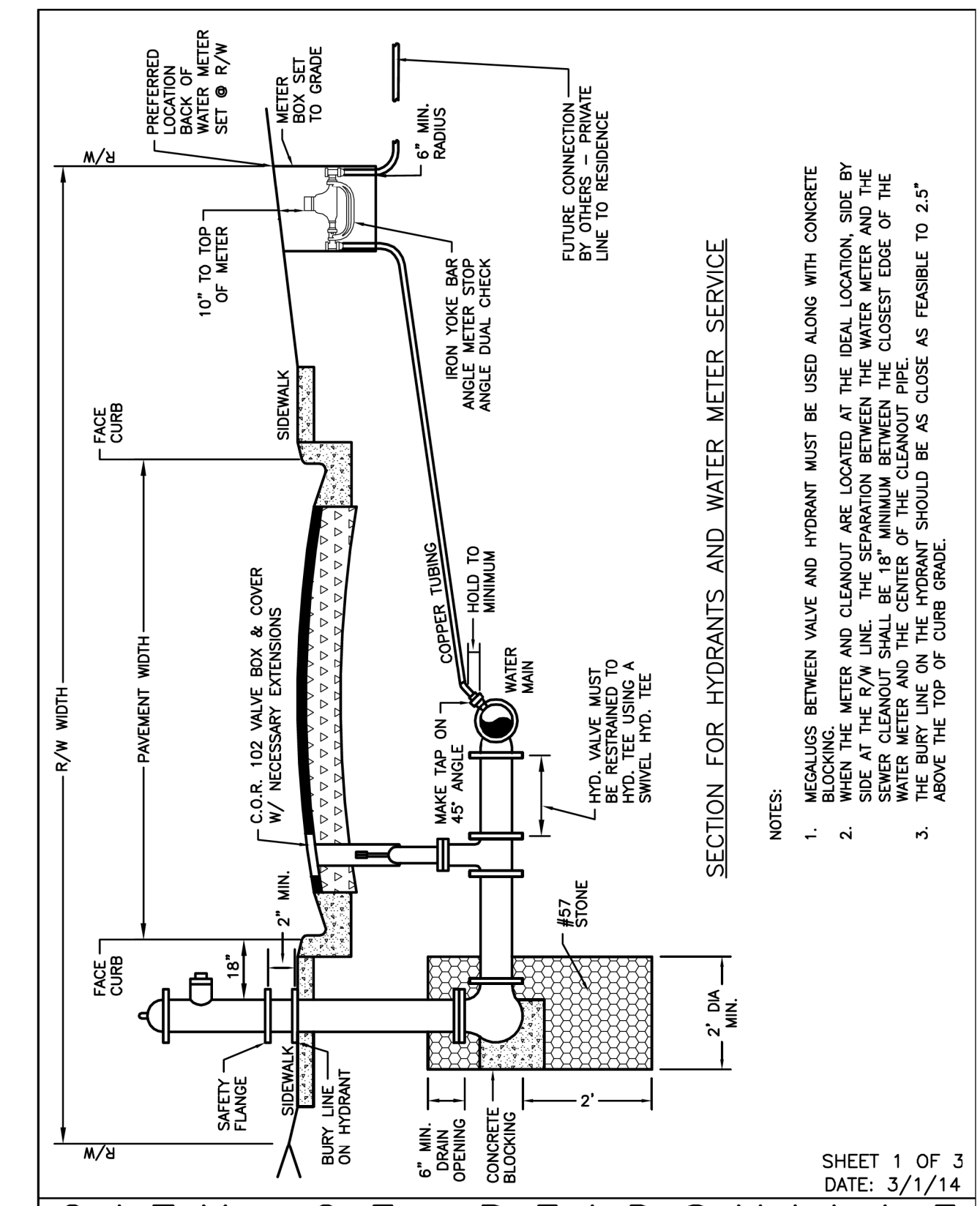
UTILITY CONSTRUCTION



PROJECT REFERENCE NO.	BR-0041	SHEET NO.	UC-3C
DESIGNED BY:		DATE:	1/24/2023
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		SEAL 10666	
UTILITIES ENGINEERING SEC.		D. STEPHEN SCRUGGS	
PHONE: (919) 707-6690		FAX: (919) 250-4151	

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UTILITY CONSTRUCTION

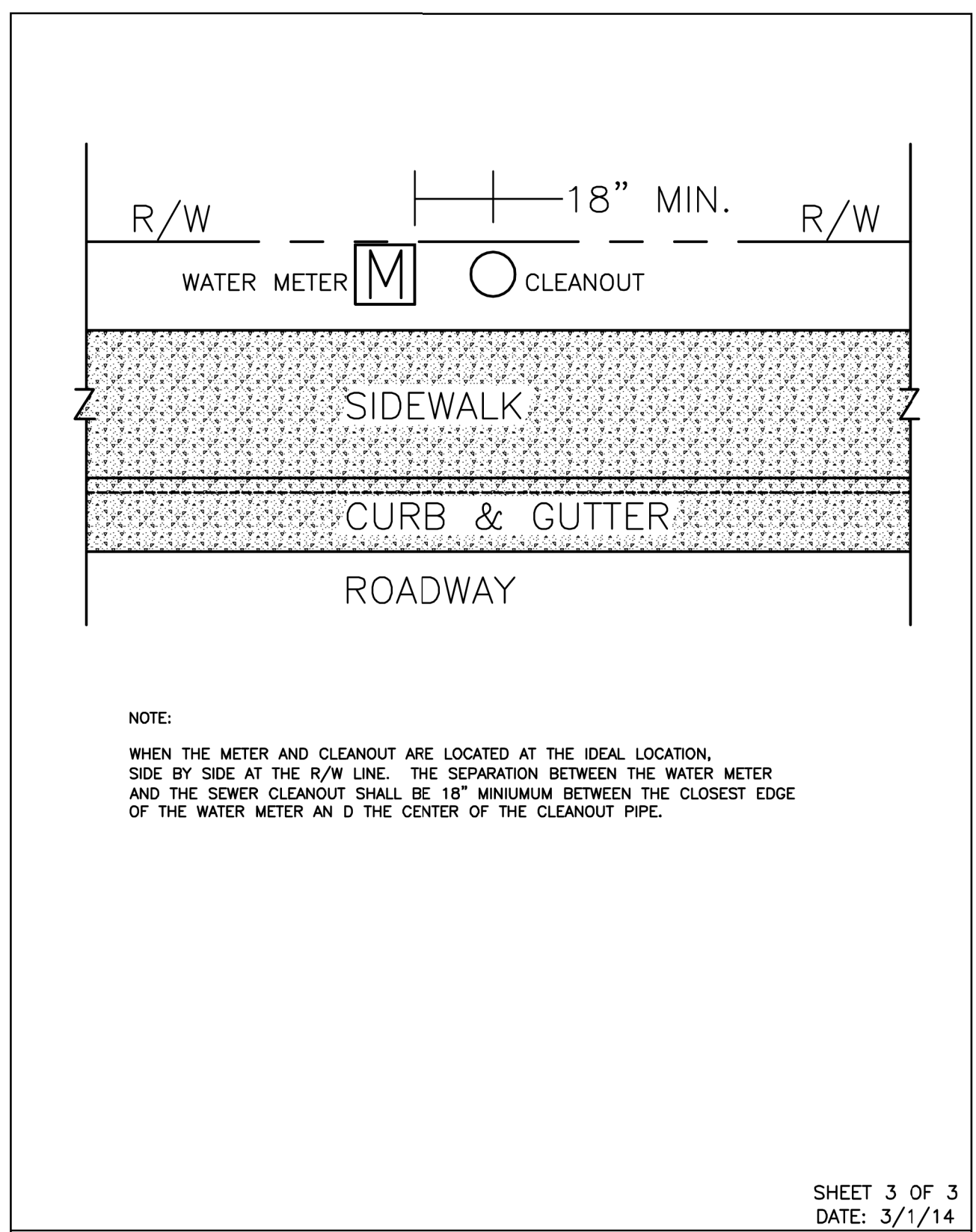


SECTION FOR HYDRANTS AND WATER METER SERVICE

- NOTES:
1. METALLOGS BETWEEN VALVE AND HYDRANT MUST BE USED ALONG WITH CONCRETE WHEN THE METER AND CLEANOUT ARE LOCATED AT THE IDEAL LOCATION, SIDE BY SIDE AT THE R/W LINE. THE SEPARATION BETWEEN THE WATER METER AND THE SEWER CLEANOUT SHALL BE 18" MINIMUM BETWEEN THE CLOSEST EDGE OF THE WATER METER AND THE CENTER OF THE HYDRANT. THE BURY LINE ON THE HYDRANT SHOULD BE AS CLOSE AS FEASIBLE TO 2.5" ABOVE THE TOP OF CURB GRADE.
 2. WHEN THE METER AND CLEANOUT ARE LOCATED AT THE IDEAL LOCATION, SIDE BY SIDE AT THE R/W LINE. THE SEPARATION BETWEEN THE WATER METER AND THE SEWER CLEANOUT SHALL BE 18" MINIMUM BETWEEN THE CLOSEST EDGE OF THE WATER METER AND THE CENTER OF THE HYDRANT. THE BURY LINE ON THE HYDRANT SHOULD BE AS CLOSE AS FEASIBLE TO 2.5" ABOVE THE TOP OF CURB GRADE.
 3. ABOVE THE TOP OF CURB GRADE.

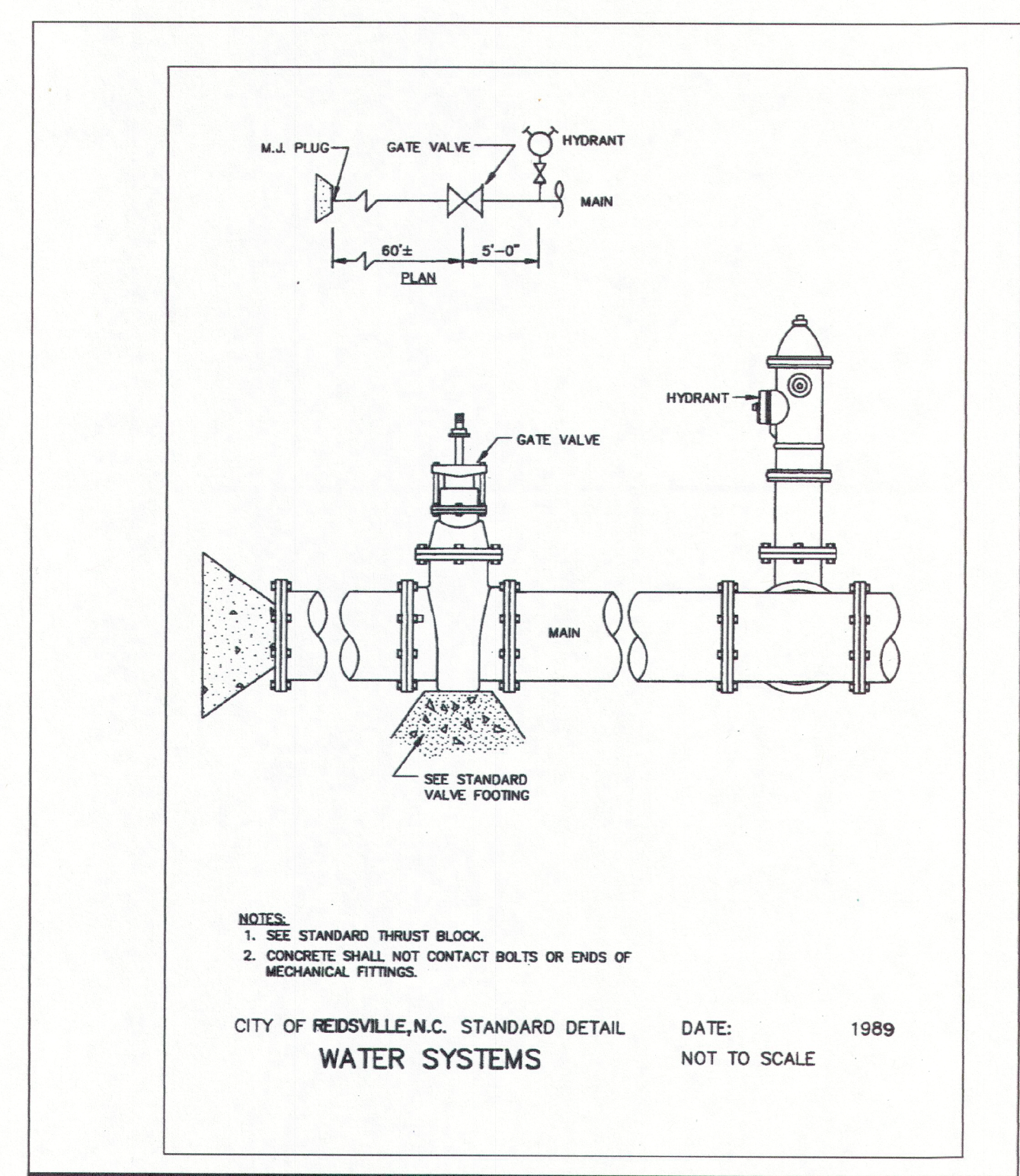
SHEET 1 OF 3
DATE: 3/1/14

CITY OF REIDSVILLE	STD. NO.	REV.
HOUSE CONNECTION AND HYDRANT SETTING DETAIL	101	



SHEET 3 OF 3
DATE: 3/1/14

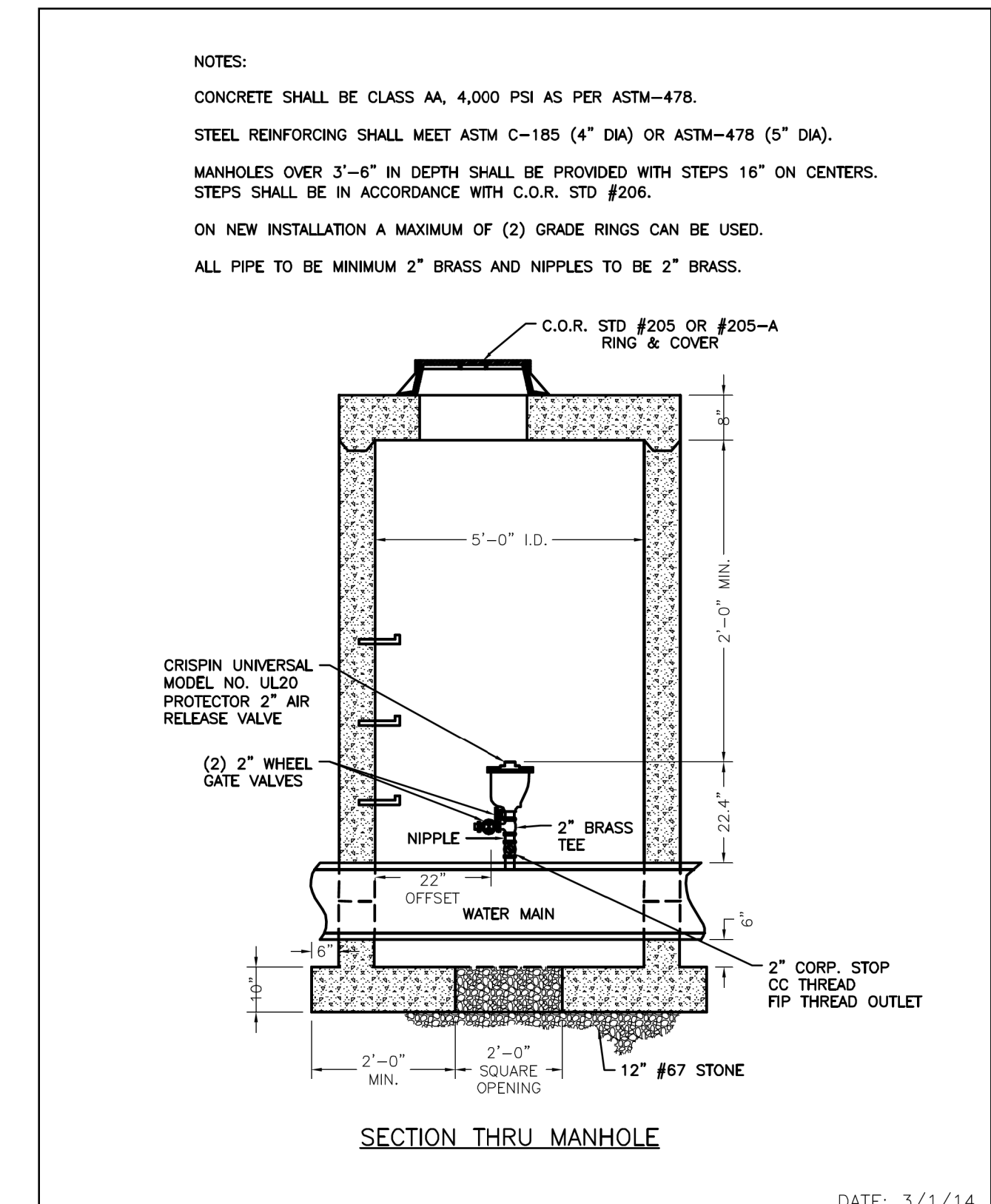
CITY OF REIDSVILLE	STD. NO.	REV.
HOUSE CONNECTION AND HYDRANT SETTING DETAIL - PLAN VIEW	101	



- NOTES:
1. SEE STANDARD THRUST BLOCK.
 2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.

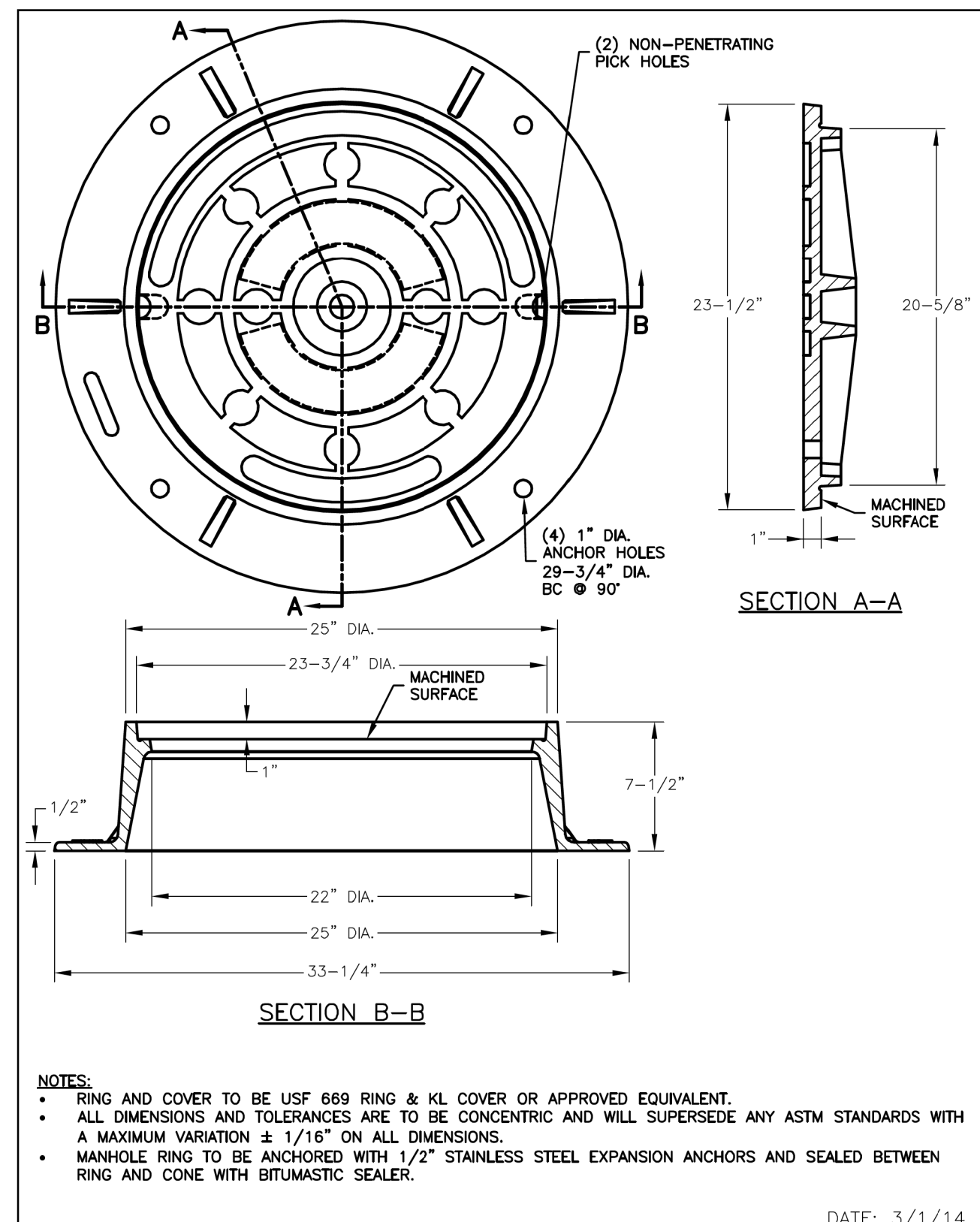
CITY OF REIDSVILLE, N.C. STANDARD DETAIL DATE: 1989
WATER SYSTEMS NOT TO SCALE

CITY OF REIDSVILLE, N.C. STANDARD DETAIL	DATE: 1989
WATER SYSTEMS	NOT TO SCALE
6" & LARGER DEAD END LINES	STANDARD 106A



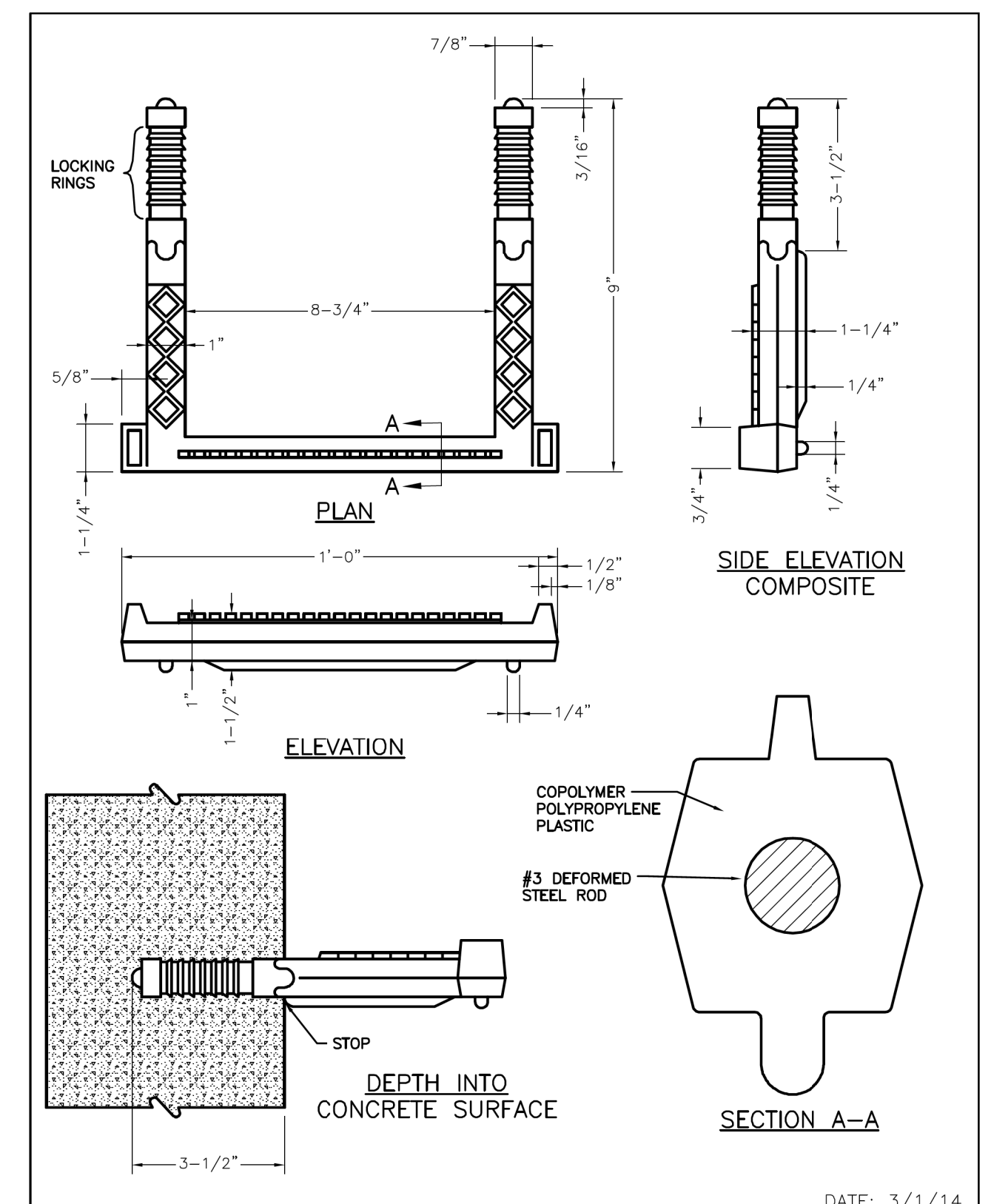
DATE: 3/1/14

CITY OF REIDSVILLE	STD. NO.	REV.
STANDARD AIR RELIEF VALVE WITH ASSEMBLY AND MANHOLE FOR WATER LINES	116	



DATE: 3/1/14

CITY OF REIDSVILLE	STD. NO.	REV.
STANDARD MANHOLE RING AND COVER	205A	



DATE: 3/1/14

CITY OF REIDSVILLE	STD. NO.	REV.
STANDARD MANHOLE STEP FOR PRECAST CONCRETE MANHOLE	206	

DATE: #0DATE##
TIME: #0TIME##
DGN: #0DGN##

Prepared in the Office of:



AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F-0342

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PROJECT REFERENCE NO.

BR-0041

SHEET NO.

UC-4

DESIGNED BY:

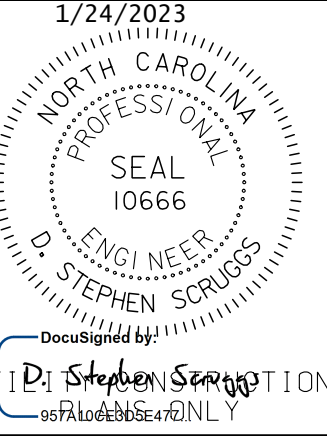
DRAWN BY:

CHECKED BY:

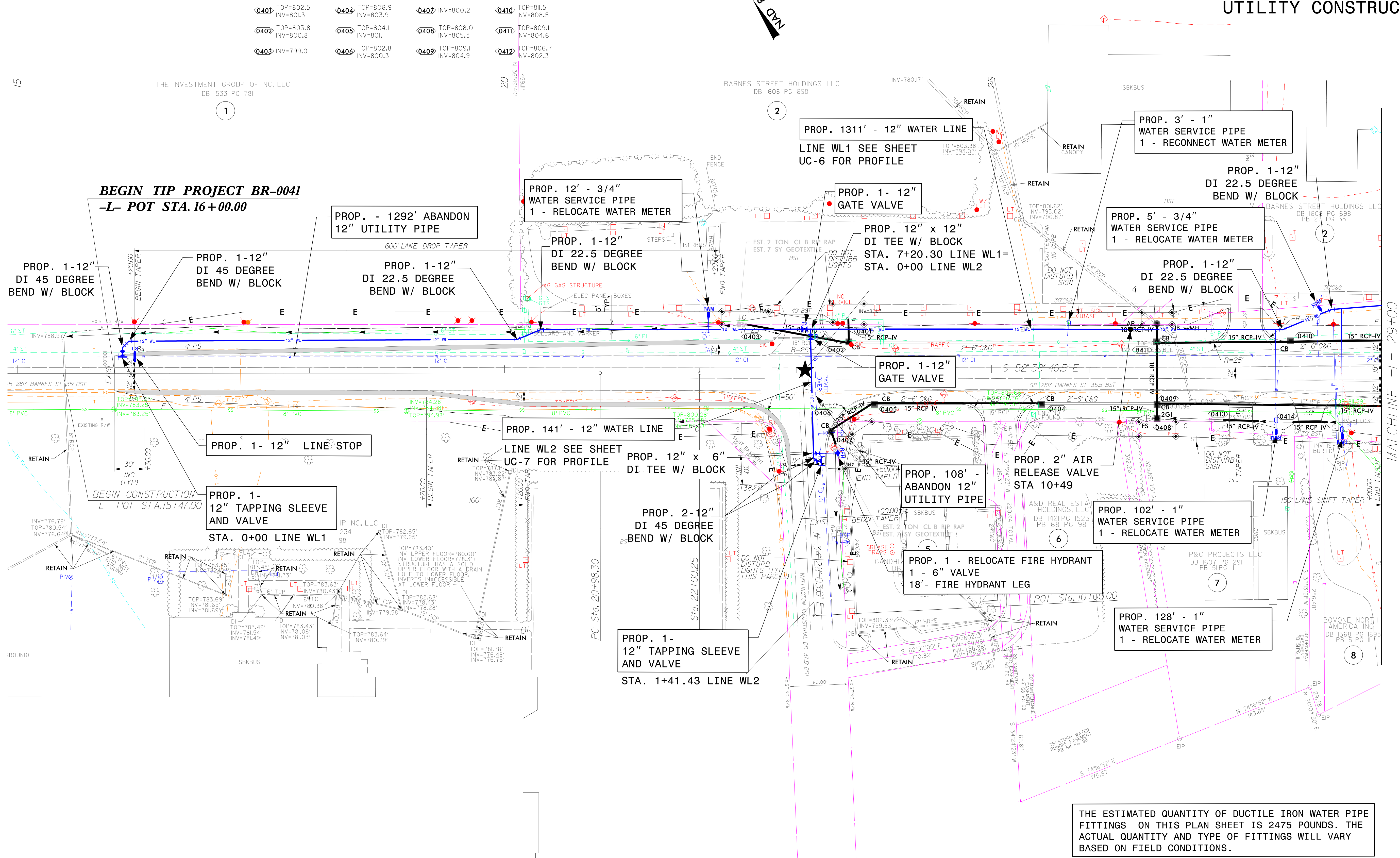
APPROVED BY:

REVISED:

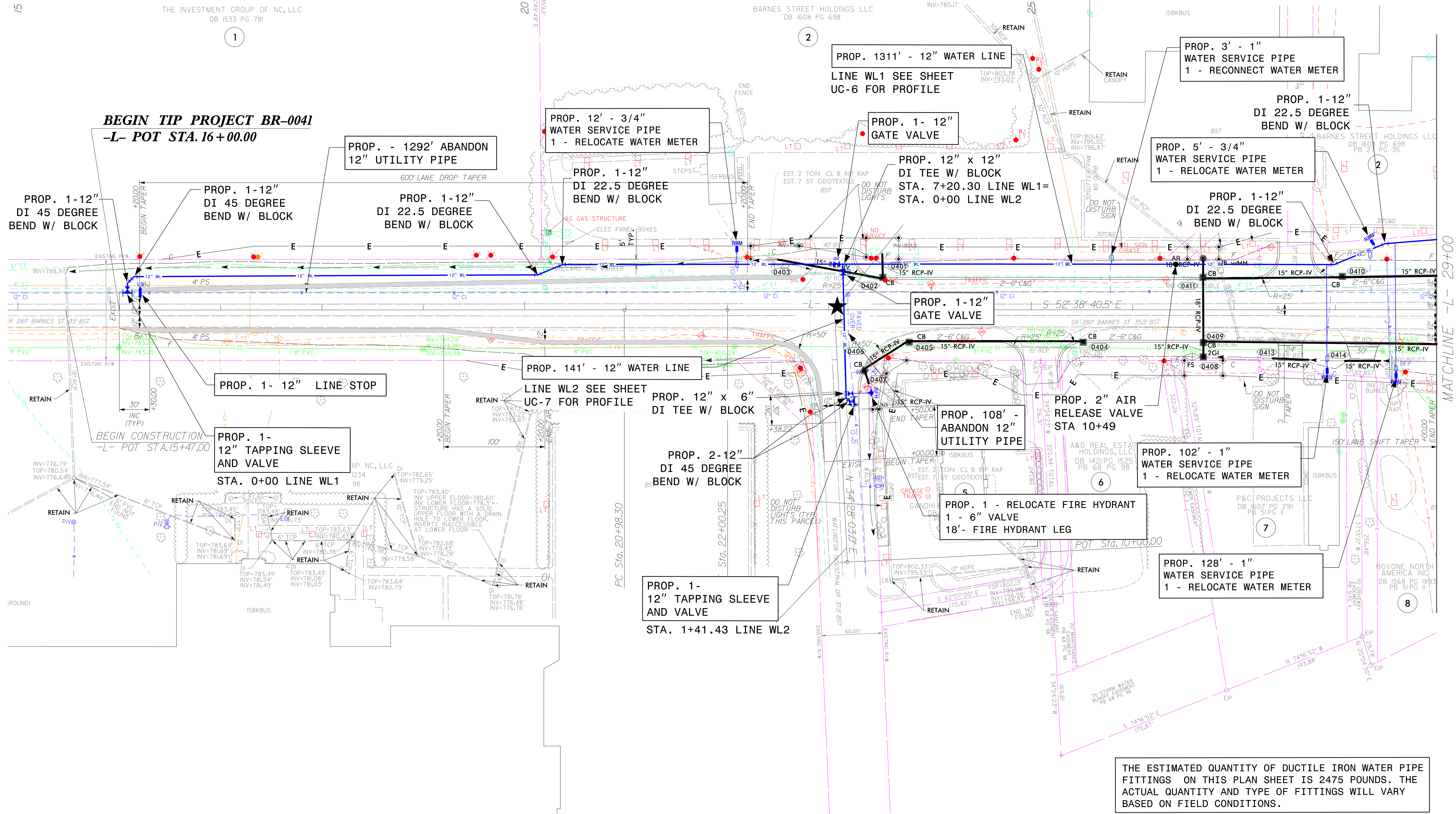
NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151



UTILITY CONSTRUCTION



0401	TOP=802.5 INV=801.3	0404	TOP=806.9 INV=803.9	0407	INV=800.2	0410	TOP=811.5 INV=808.5
0402	TOP=803.8 INV=800.8	0405	TOP=804.1 INV=801.1	0408	TOP=808.0 INV=805.3	0411	TOP=809.1 INV=804.6
0403	INV=799.0	0406	TOP=802.8 INV=800.3	0409	TOP=809.1 INV=804.9	0412	TOP=806.7 INV=802.3



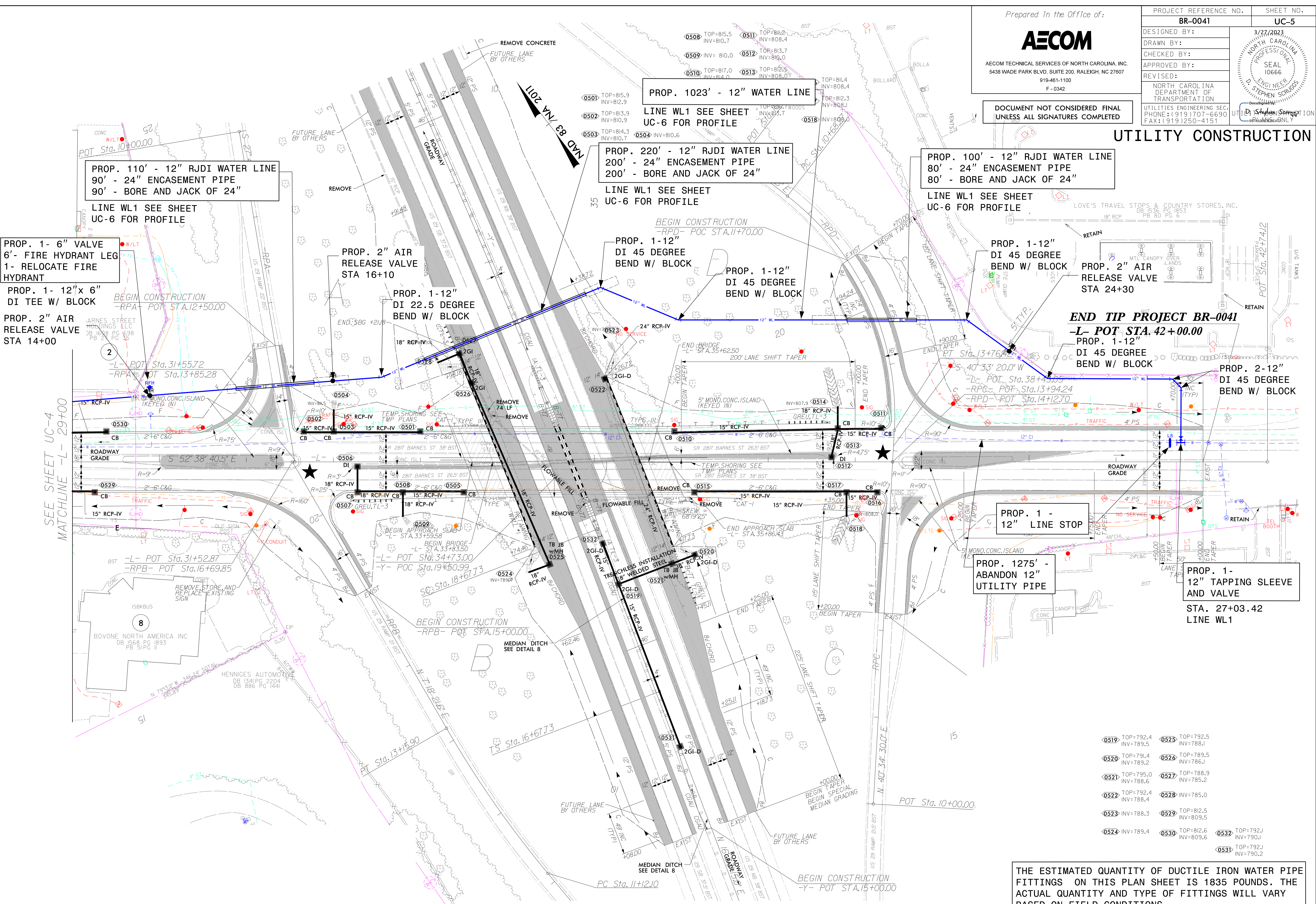
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2475 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

DATE: 8/24/23
TIME: 9:51 AM
DGN: 8/24/23

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
BR-0041	UC-5
DESIGNED BY:	3/27/2023
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION



PROP. 110' - 12" RJDI WATER LINE
 90' - 24" ENCASEMENT PIPE
 90' - BORE AND JACK OF 24"
 LINE WL1 SEE SHEET UC-6 FOR PROFILE

PROP. 1023' - 12" WATER LINE
 LINE WL1 SEE SHEET UC-6 FOR PROFILE

PROP. 220' - 12" RJDI WATER LINE
 200' - 24" ENCASEMENT PIPE
 200' - BORE AND JACK OF 24"
 LINE WL1 SEE SHEET UC-6 FOR PROFILE

PROP. 100' - 12" RJDI WATER LINE
 80' - 24" ENCASEMENT PIPE
 80' - BORE AND JACK OF 24"
 LINE WL1 SEE SHEET UC-6 FOR PROFILE

PROP. 1- 6" VALVE
 6'- FIRE HYDRANT LEG
 1- RELOCATE FIRE HYDRANT

PROP. 1- 12"x 6" DI TEE W/ BLOCK

PROP. 2" AIR RELEASE VALVE STA 14+00

PROP. 2" AIR RELEASE VALVE STA 16+10

PROP. 1- 12" DI 22.5 DEGREE BEND W/ BLOCK

PROP. 1- 12" DI 45 DEGREE BEND W/ BLOCK

PROP. 1- 12" DI 45 DEGREE BEND W/ BLOCK

PROP. 1- 12" DI 45 DEGREE BEND W/ BLOCK

PROP. 2" AIR RELEASE VALVE STA 24+30

END TIP PROJECT BR-0041
 -L- POT STA. 42+00.00

PROP. 1- 12" DI 45 DEGREE BEND W/ BLOCK

PROP. 2- 12" DI 45 DEGREE BEND W/ BLOCK

PROP. 1 - 12" LINE STOP

PROP. 1275' - ABANDON 12" UTILITY PIPE

PROP. 1- 12" TAPPING SLEEVE AND VALVE STA. 27+03.42 LINE WL1

0519	TOP=792.4 INV=789.5	0525	TOP=792.5 INV=788.1
0520	TOP=791.4 INV=789.2	0526	TOP=789.5 INV=786.1
0521	TOP=795.0 INV=788.6	0527	TOP=788.9 INV=785.2
0522	TOP=792.4 INV=788.4	0528	INV=785.0
0523	INV=788.3	0529	TOP=812.5 INV=809.5
0524	INV=789.4	0530	TOP=812.6 INV=809.6
		0531	TOP=792.1 INV=790.1
		0532	TOP=792.1 INV=790.1
		0533	TOP=792.1 INV=790.2

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1835 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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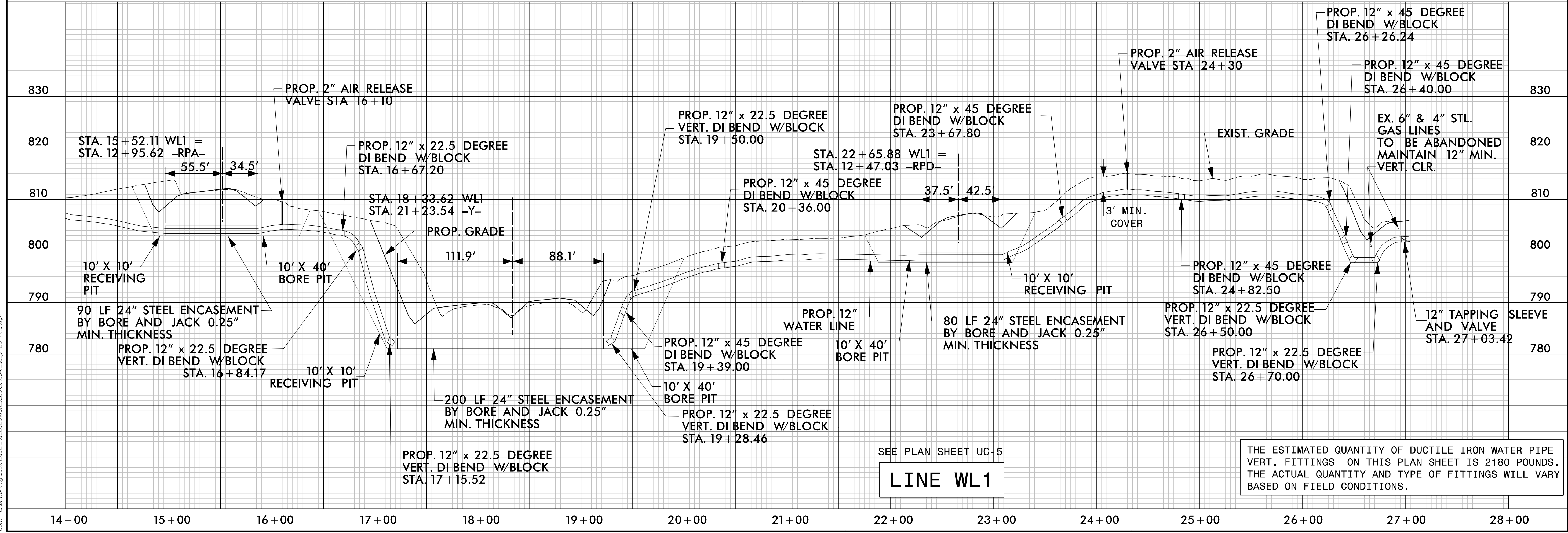
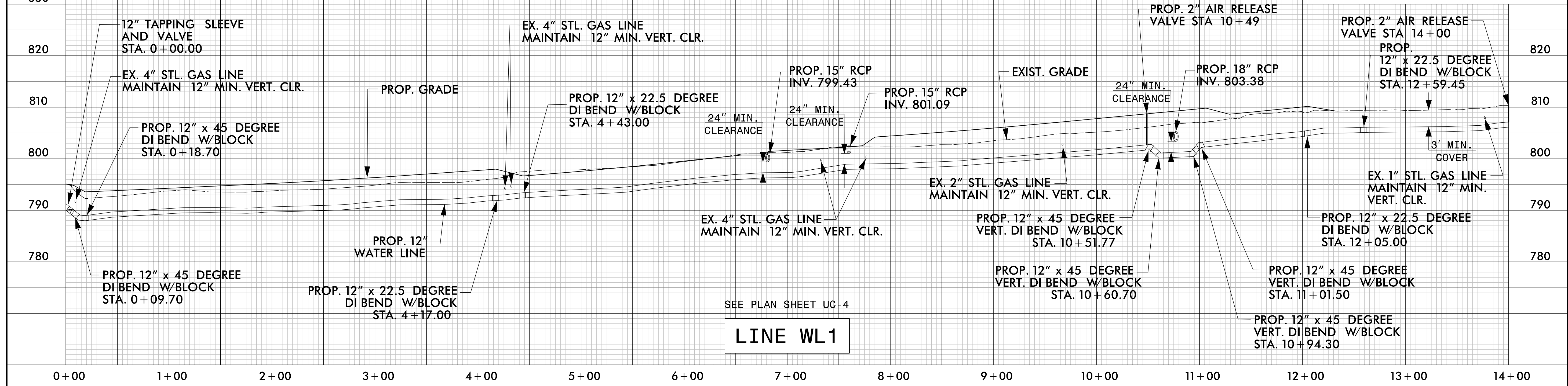
Prepared in the Office of:



AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F - 0342

PROJECT REFERENCE NO. BR-0041	SHEET NO. UC-6
DESIGNED BY:	3/27/2023
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
D. Stephen Scruggs	

UTILITY CONSTRUCTION



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE VERT. FITTINGS ON THIS PLAN SHEET IS 2180 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

DATE: 3/27/2023
TIME: 4:05:54 PM
DWG: s:\pwworking\aecom\as2\ra_2020\0025665\BR0041\uc-6.dwg