

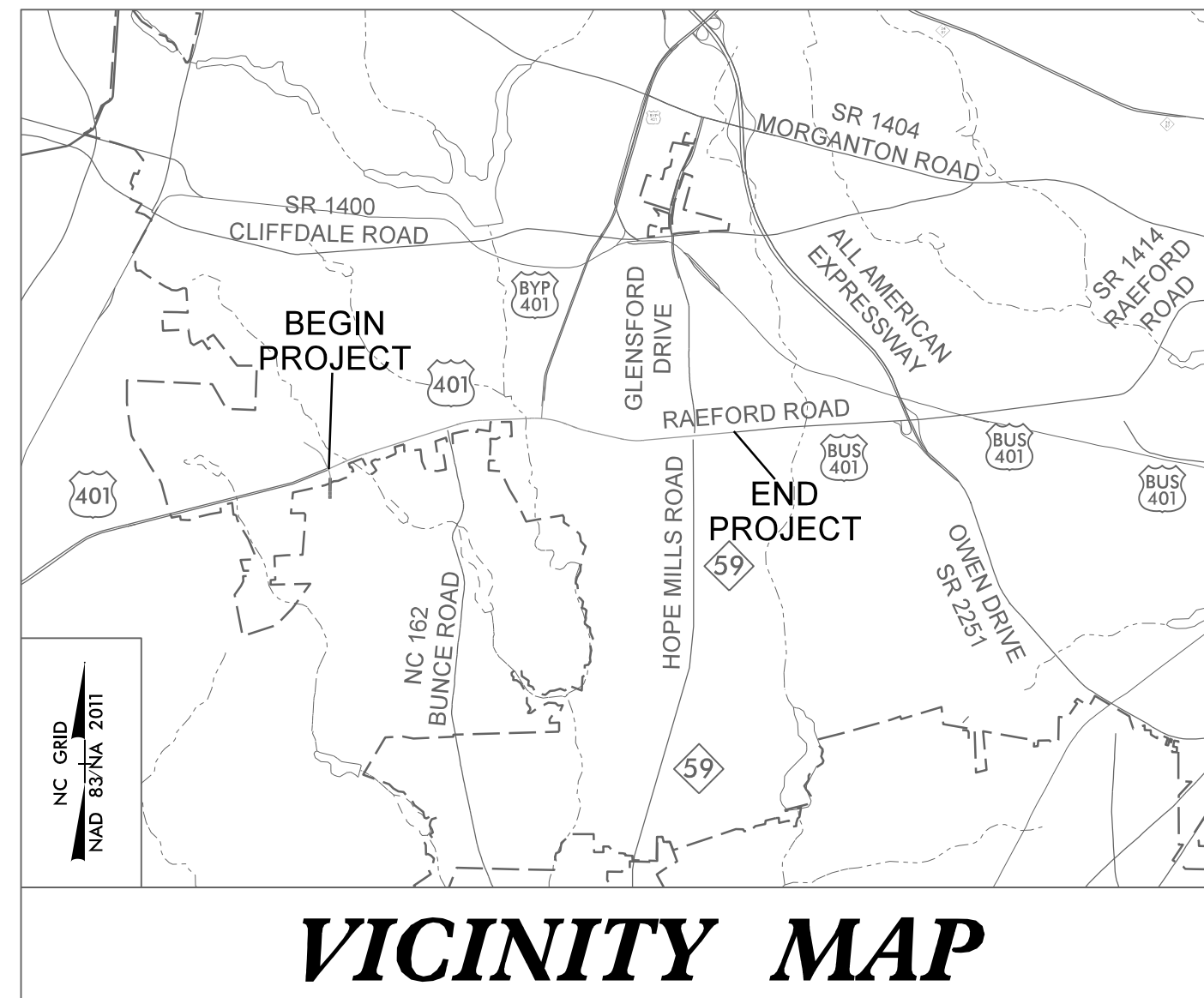
26-NOV-2024 08:49  
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09/28/99  
adadekoya AT WKDZ216

**TIP PROJECT: U-4405B**

**CONTRACT:**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-4405B	UC-01



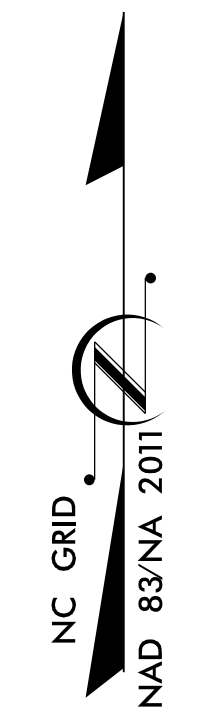
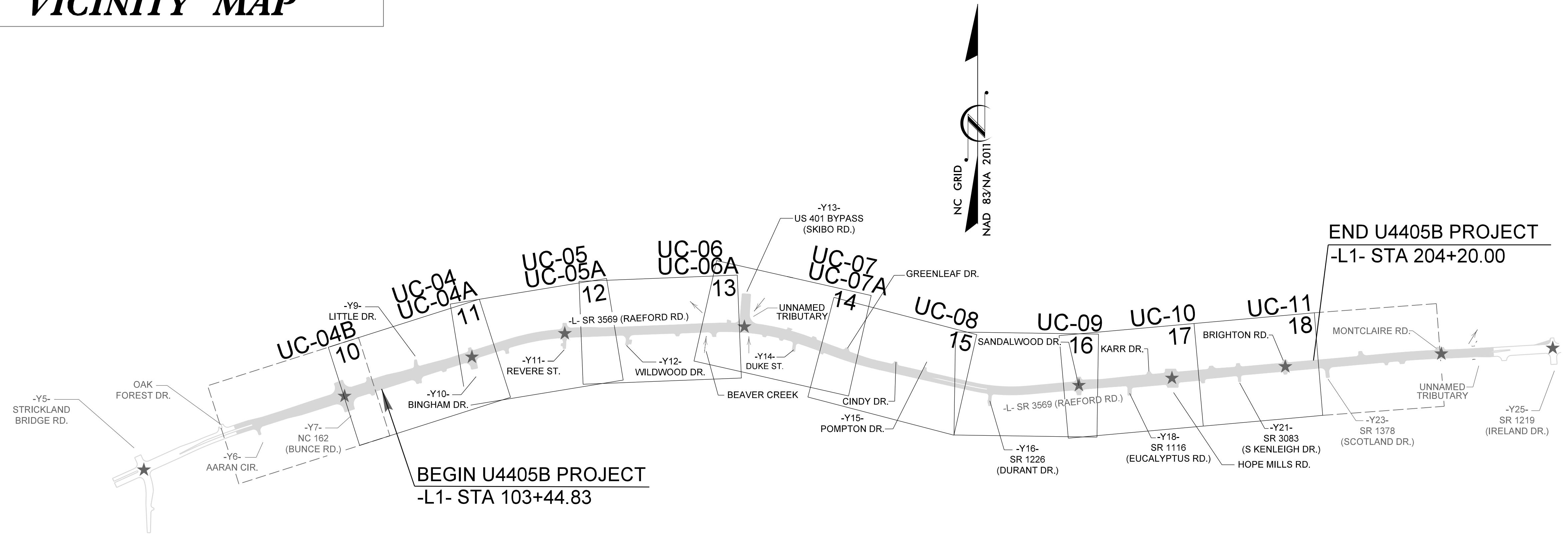
FINAL DRAWINGS

# UTILITY CONSTRUCTION PLANS CUMBERLAND COUNTY

**LOCATION: US 401 FROM BUNCE ROAD TO EAST OF BRIGHTON ROAD IN FAYETTEVILLE**

**TYPE OF WORK: RELOCATION OF WATER AND SEWER**

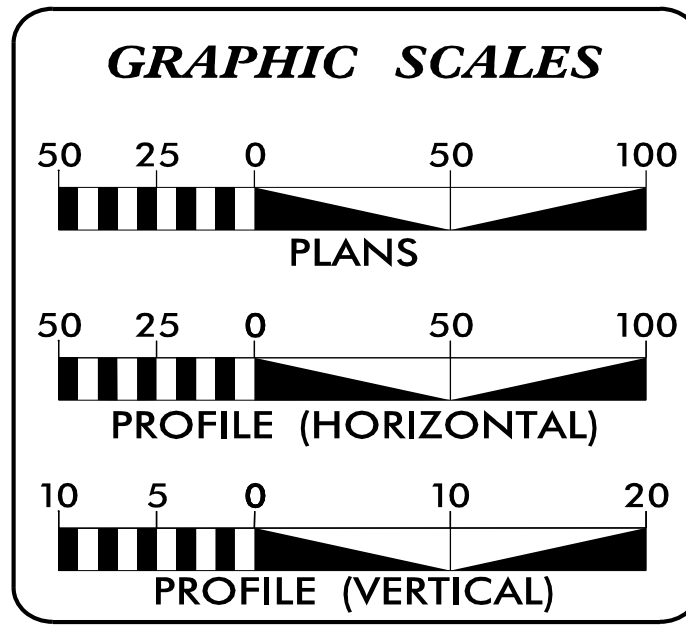
**VICINITY MAP**



NO UTILITY RELOCATION

**PWC DRAWING NUMBERS:  
U-4405B DWS-15370**

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



**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3 THRU UC-3B	NOTES
UC-3C THRU UC-3L	DETAILS
UC-4 THRU UC-11	UTILITY CONSTRUCTION SHEETS
UC-12 THRU UC-19	PROFILE SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(1) WATER: FAYETTEVILLE PWC  
(2) SANITARY SEWER: FAYETTEVILLE PWC

Prepared in the Office of:

**WK DICKSON**  
AN ARDURRA COMPANY

720 CORPORATE CENTER DRIVE,  
RALEIGH, NC 27607  
(919) 782-0495 | NCBELS #F-0374

**ALEX ADEKOYA, PE**  
PROJECT ENGINEER

**KAMI SCHWARTZ**  
PROJECT DESIGN ENGINEER

SEAL

11/26/2024

**DIVISION OF HIGHWAYS UTILITIES UNIT**  
1555 MAIL SERVICES CENTER  
RALEIGH NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

**NABIL HAMDAN** UTILITIES REGIONAL ENGINEER  
**TEVIN ASAMOAH** UTILITIES ENGINEER  
**TANGA SAMPSON** REGIONAL UTILITIES COORDINATOR  
**TYRON STALLINGS** UTILITIES COORDINATOR













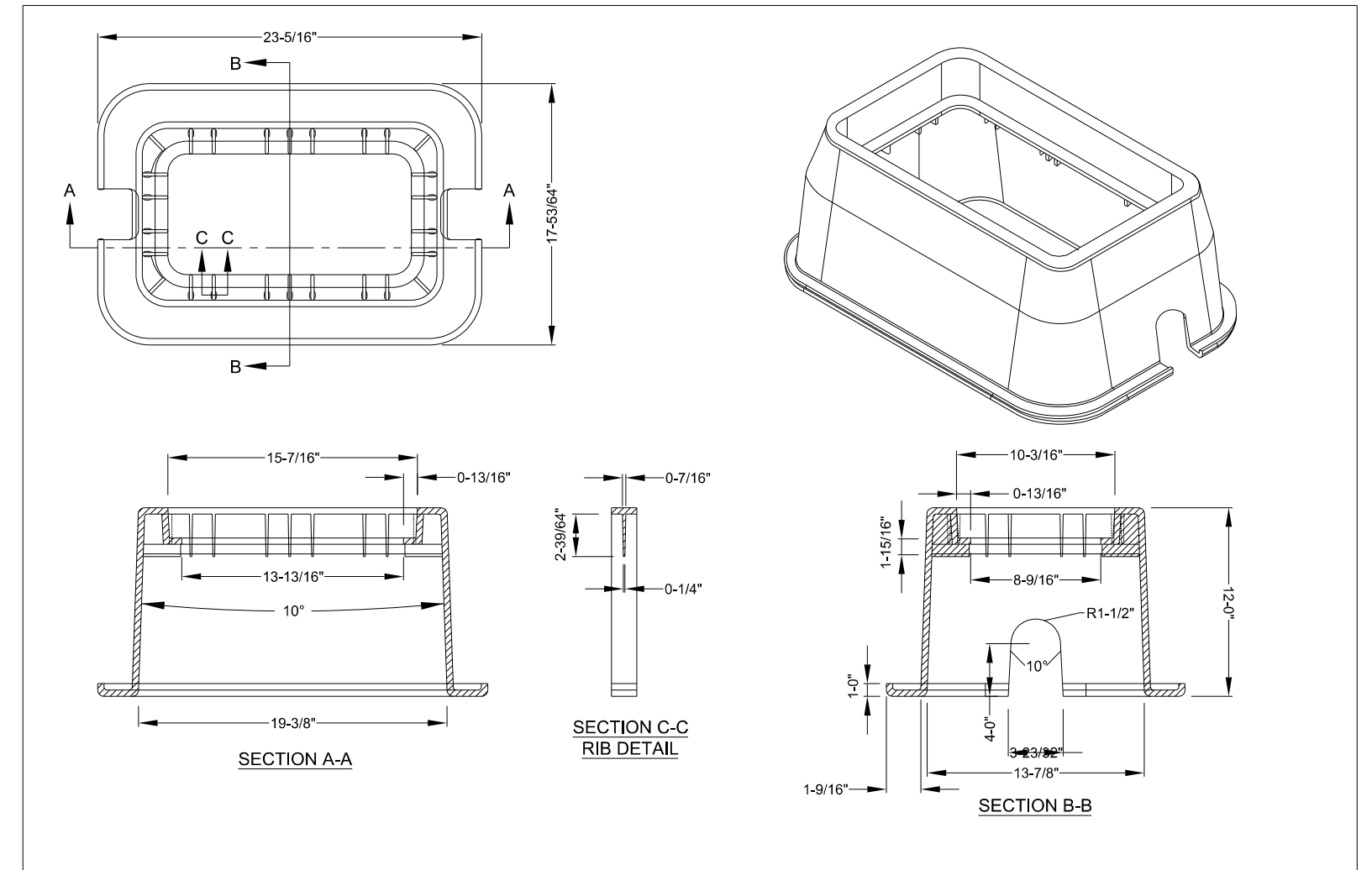




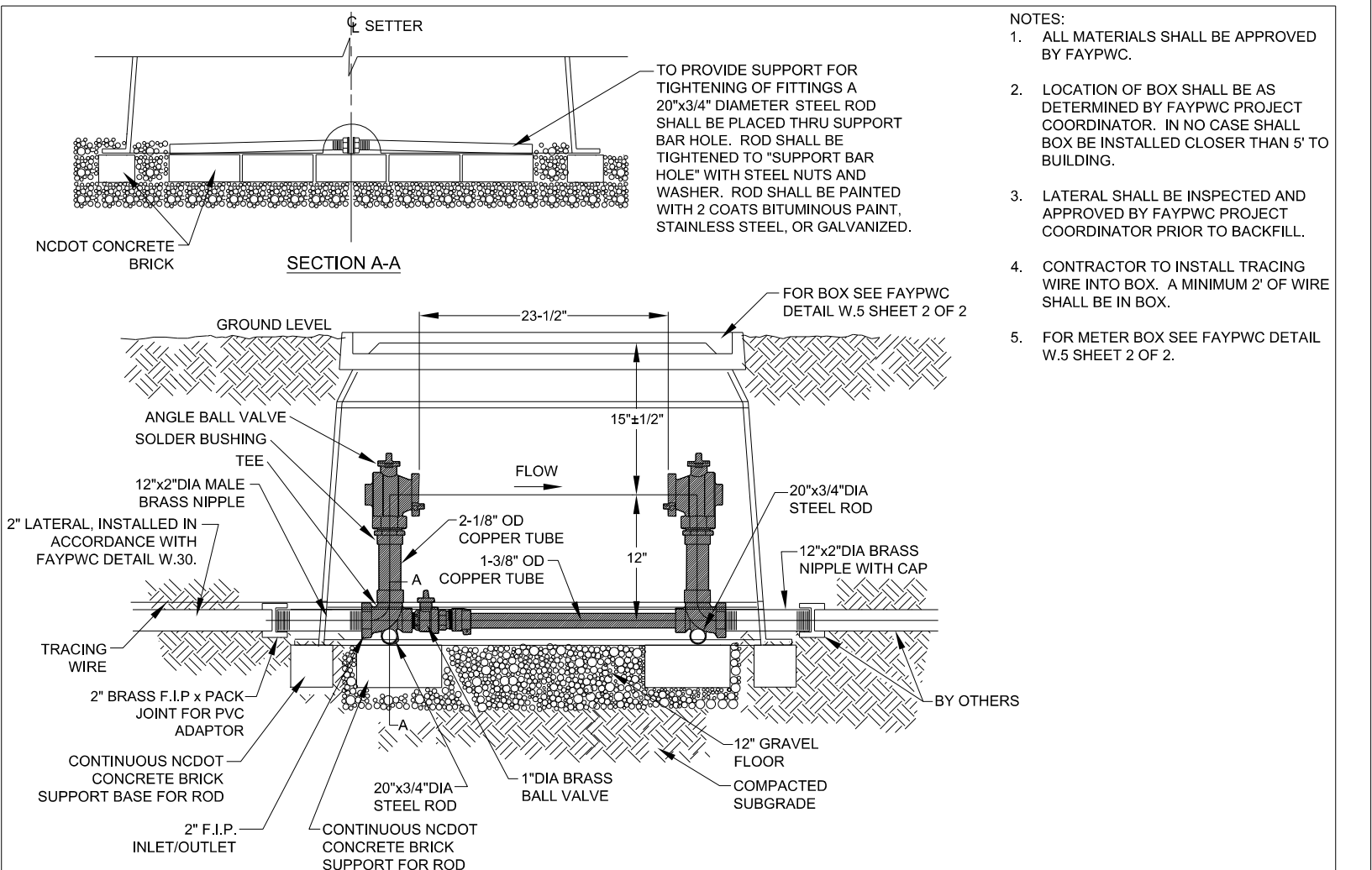




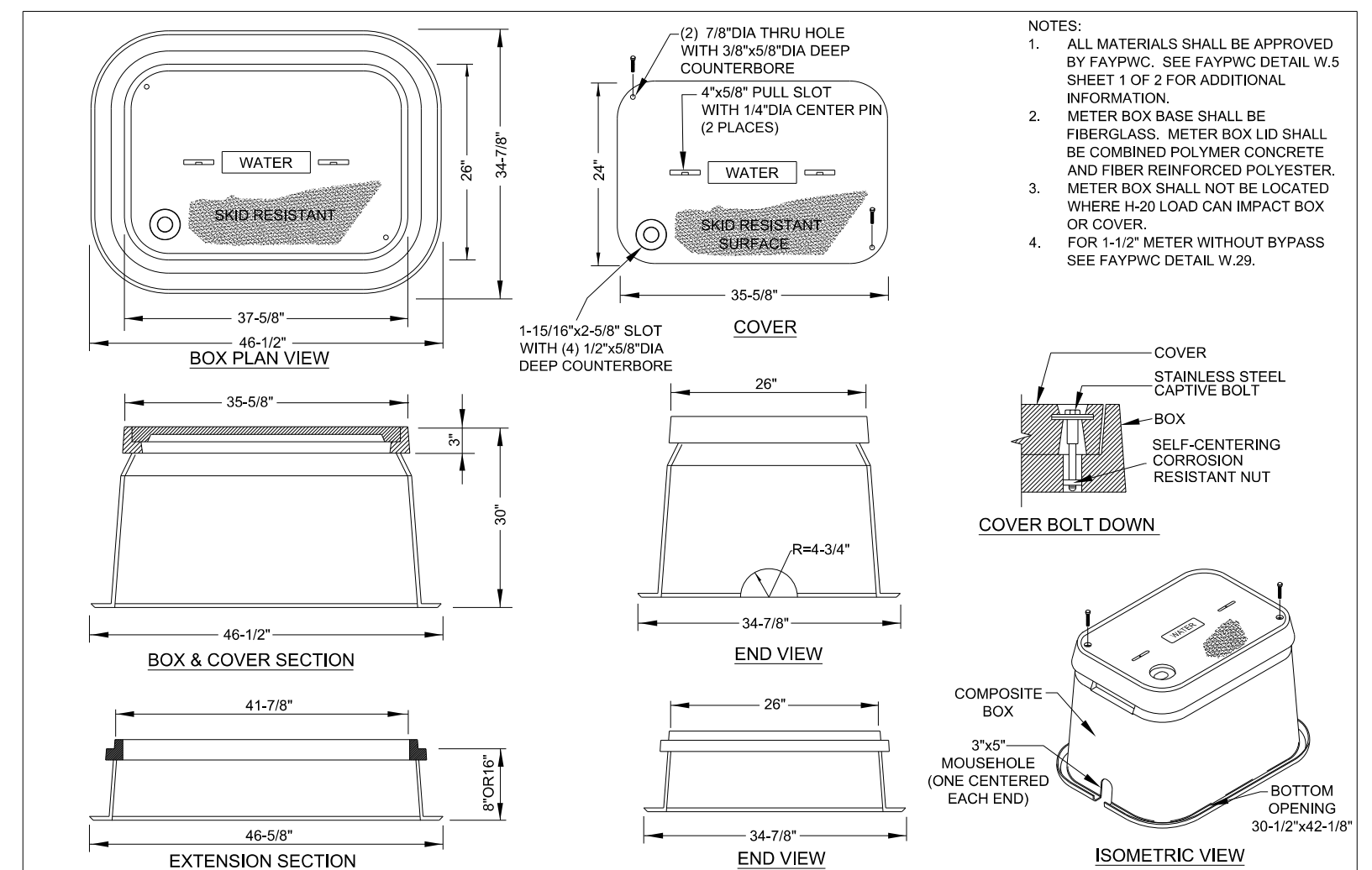
5/14/2024 11:55 AM C:\Users\mccdot\OneDrive\Public\Works\Commission\20150170700RA RefForRoad NCDOT U 4405\CADD\NCDOT PLANS\Utilities\Engineering\UC\Proj\U4405B\U4405B.ut.dtl UC03D\_psh.dwg



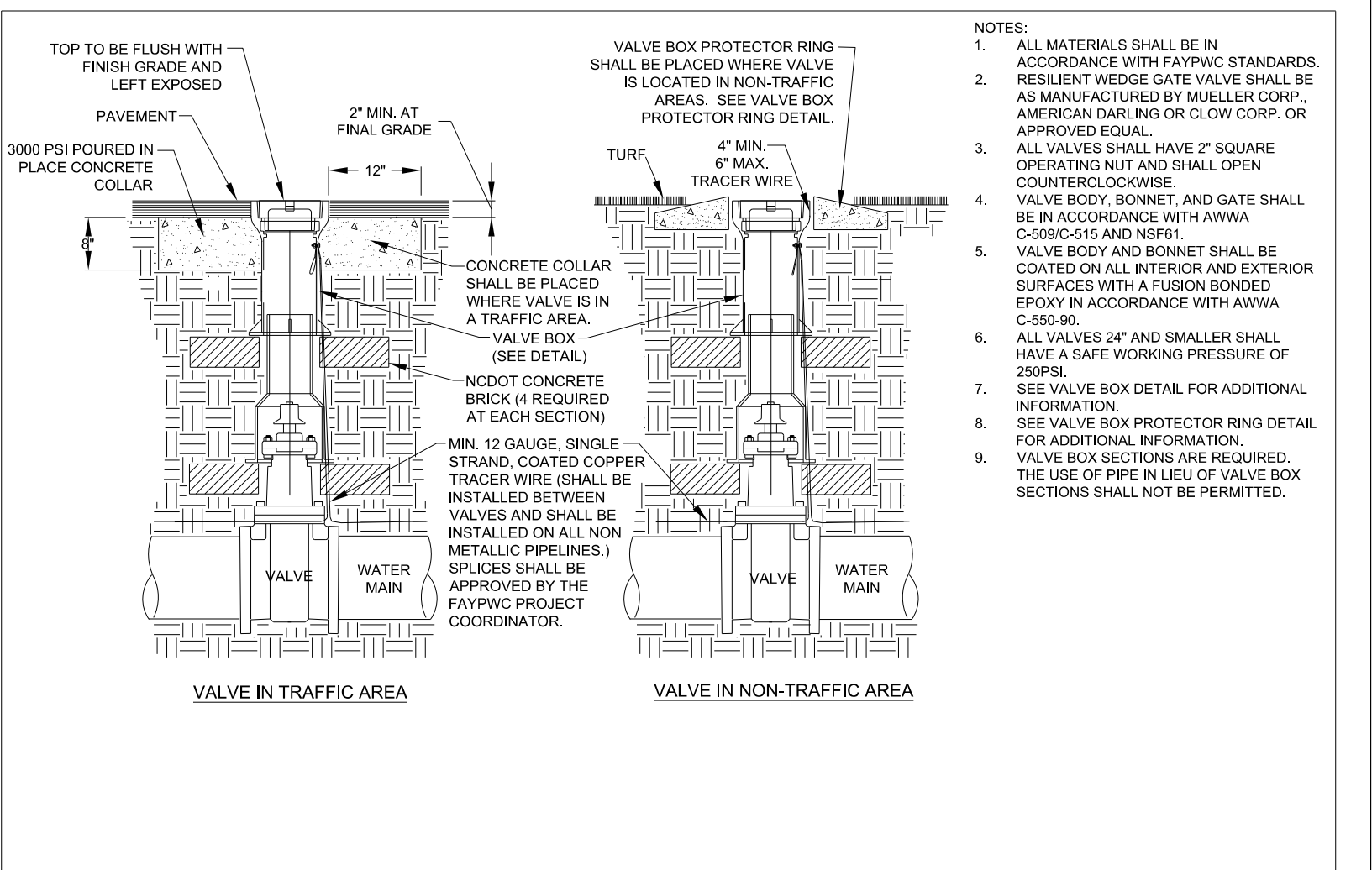
1-INCH COMPOSITE METER BOX & COVER N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 2 OF 2		DWG. NO. W.4B DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 12/15 REPLACED CI BOX WITH COMPOSITE BOX	



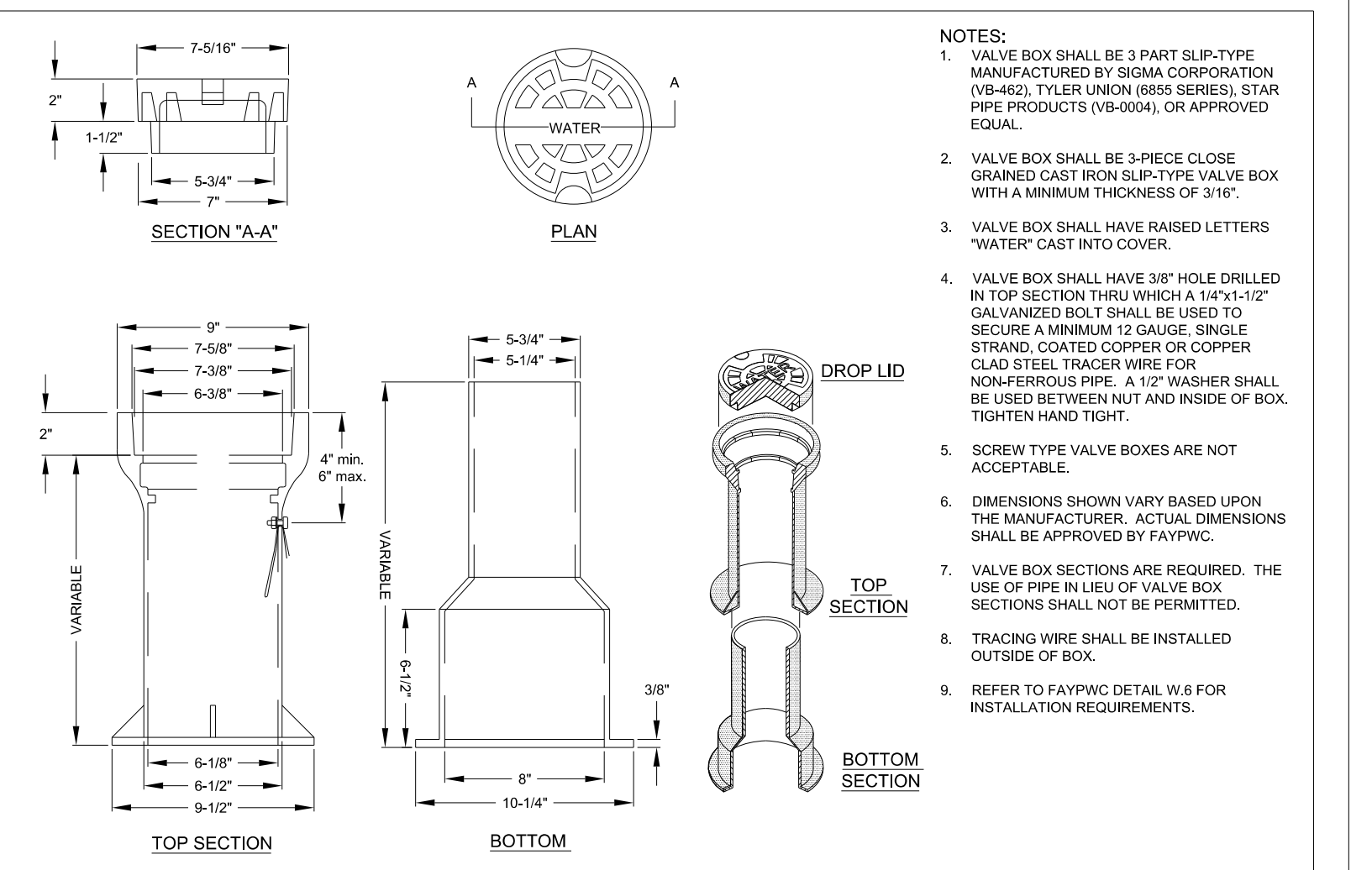
2" COPPER SETTER WITH BY-PASS 23-1/2" METER SPACING N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 2		DWG. NO. W.5 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 07/13 REVISED, UPDATED NOTES 2 07/17 UPDATED NOTES	



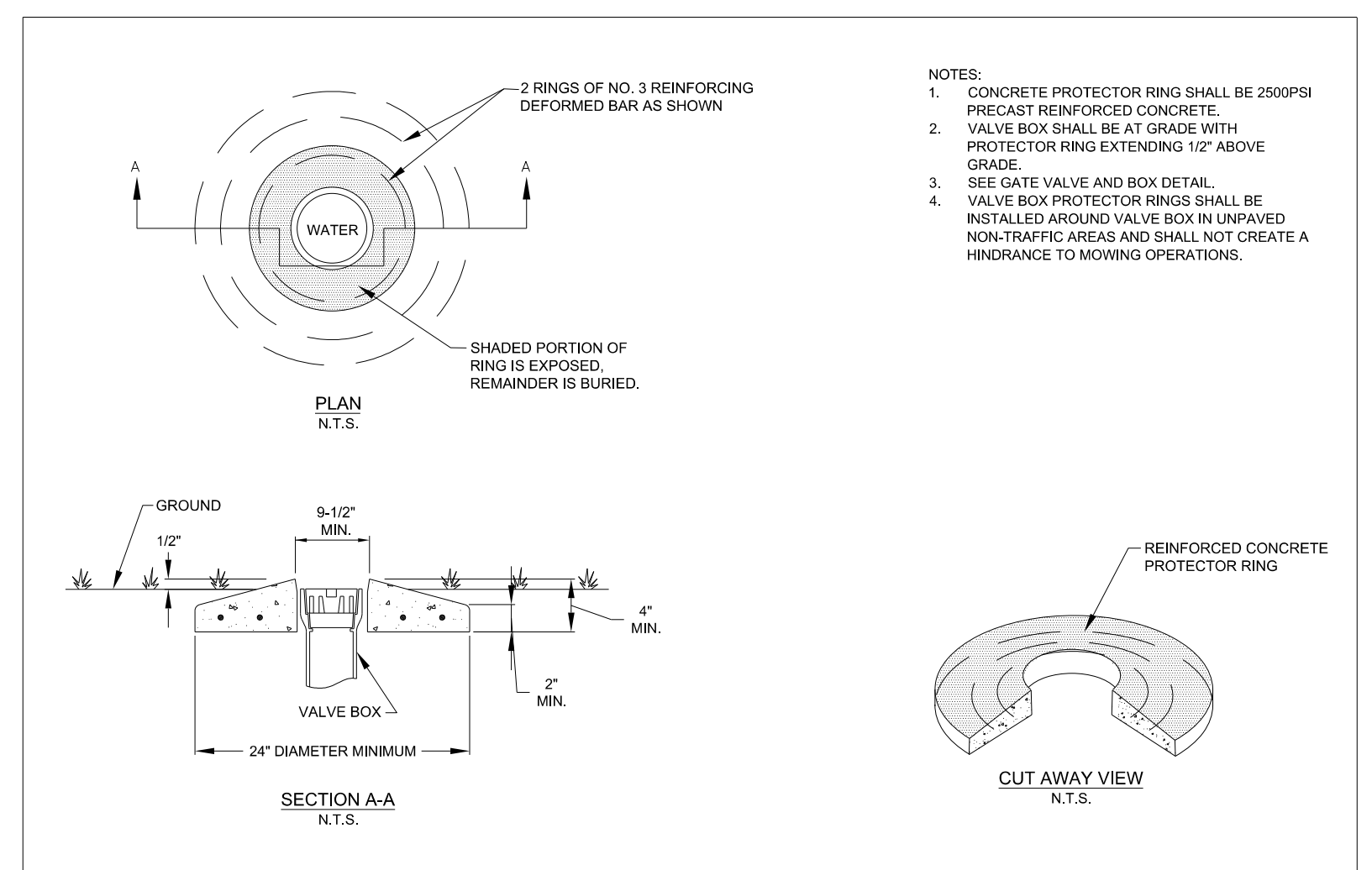
1-1/2" AND 2" BY-PASS METER BOX N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 2 OF 2		DWG. NO. W.5 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 12/15 REVISED LID	



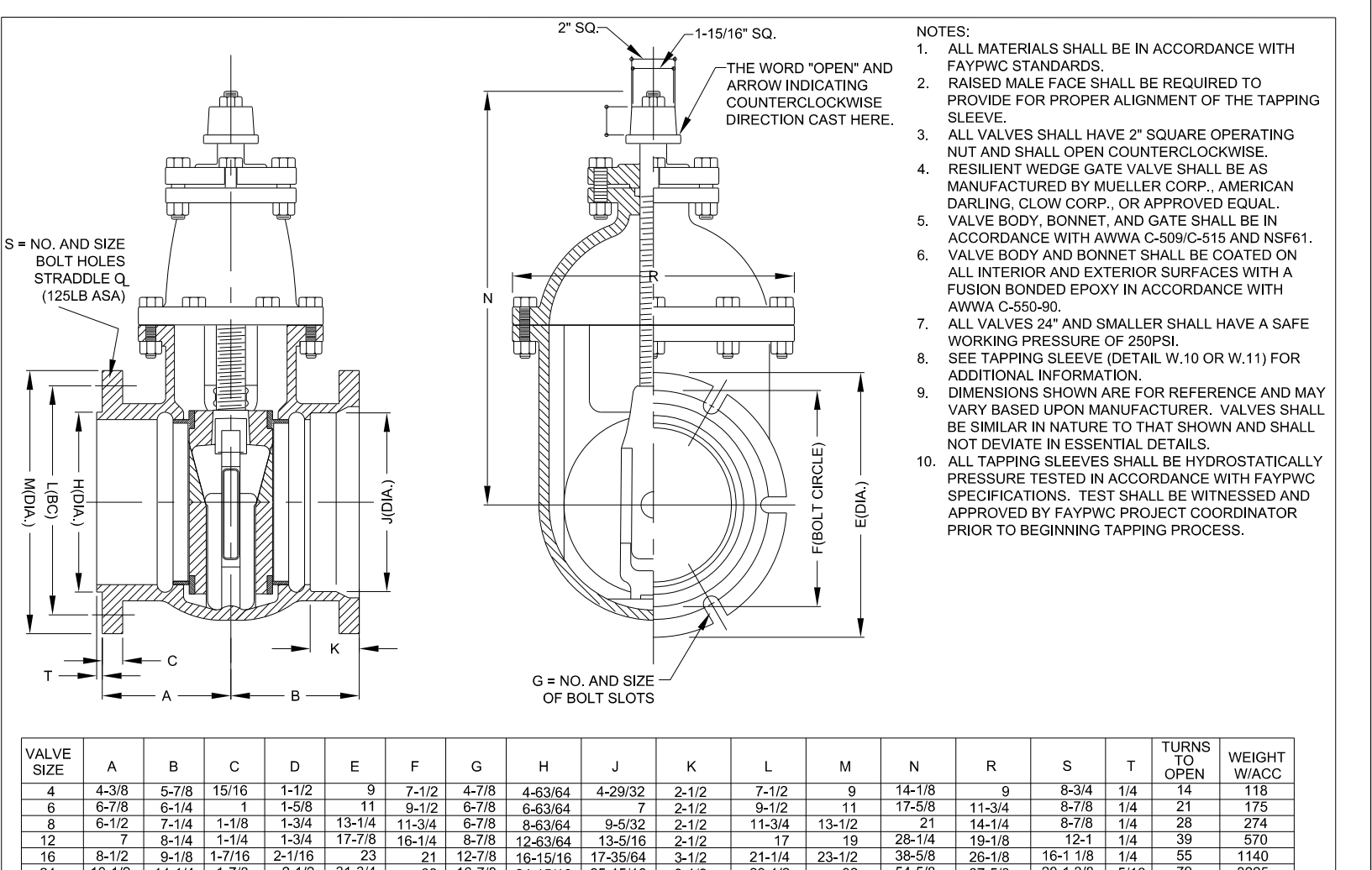
GATE VALVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 1		DWG. NO. W.6 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 8/06 ADDED NOTE NO. 9 2 7/09 CLARIFIED NOTES	



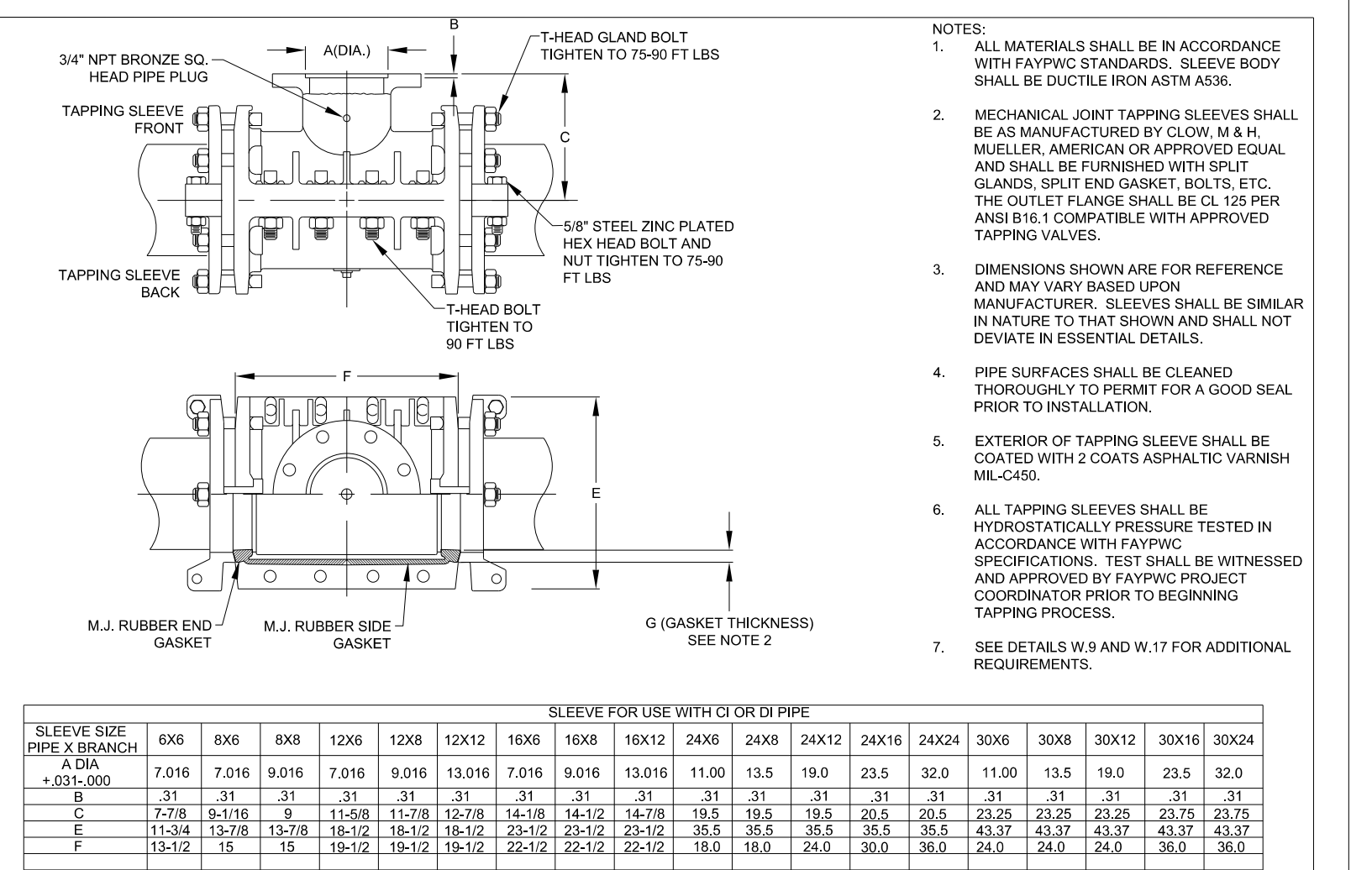
VALVE BOX N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 1		DWG. NO. W.7 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 07/09 ADDED NOTES 7, 8, AND CLARIFIED NOTES 2 01/14 REVISED NOTES 1, 4, 6	



VALVE BOX PROTECTOR RING N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 1		DWG. NO. W.8 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 07/09 REVISED NOTE 10, REVISED 4 AND 5 2 07/13 REVISED NOTES 4, 8, 10	



TAPPING VALVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 1		DWG. NO. W.9 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 07/09 ADDED NOTE 10, REVISED 4 AND 5 2 07/13 REVISED NOTES 4, 8, 10	



DUCTILE IRON TAPPING SLEEVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
SHEET NO. 1 OF 1		DWG. NO. W.10 DWG. BY: FAYPWC DATE: JAN 01, 2023 APPROVED BY: M.M.M.		1 07/09 REVISED NOTE REMOVED NOTE 8 2 07/13 REVISED NOTES 6, 7	

Prepared in the Office of:  
**W.K. DICKSON**  
AN ARDURRA COMPANY  
720 CORPORATE CENTER DRIVE,  
RALEIGH, NC 27607  
(919) 782-0495 | NCBELS #F-0374

PROJECT REFERENCE NO. U-4405B  
SHEET NO. UC-03D

DESIGNED BY: AAA  
DRAWN BY: DM  
CHECKED BY: RA  
APPROVED BY: BRO

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

UTILITY CONSTRUCTION PLANS ONLY

11/26/2024

DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

# UTILITY CONSTRUCTION



SLEEVE SIZE PIPE X BRANCH	6X6	8X8	8X8	12X8	12X8	12X12	16X8	16X8	16X12	24X8	24X8	24X12	24X16	24X24	30X6	30X8	30X12	30X16	30X24
A DIA	7.016	7.016	9.016	7.016	9.016	13.016	7.016	9.016	13.016	11.000	13.5	19.0	23.5	32.0	11.000	13.5	19.0	23.5	32.0
B DIA	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
C	7.78	9.116	9	11.508	11.778	12.778	14.178	14.178	14.178	19.5	19.5	19.5	20.5	20.5	23.25	23.25	23.25	23.75	23.75
E	11.24	13.78	13.78	18.12	18.12	18.12	23.12	23.12	23.12	35.5	35.5	35.5	35.5	35.5	43.37	43.37	43.37	43.37	43.37
F	13.12	15	15	19.12	19.12	19.12	26.12	26.12	26.12	39.0	39.0	39.0	39.0	39.0	47.0	47.0	47.0	47.0	47.0



**STAINLESS STEEL TAPPING SLEEVE**  
N.T.S.

NOMINAL PIPE SIZE (INCH)	BRANCH SIZE	APPROX. WT. LBS.
4"	3"4"	28.30
6"	3"4"	36.38.45
8"	3"4"	42.44.48.65
10"	3"4"	45.48.55.70.80
12"	3"4"	50.52.60.81.98.143
16"	3"4"	76.80.85.100.115.172
24"	3"4"	85.87.90.100.145.230

ANSI CLASS 150 LB. DRILLING FLANGE. DI FLANGE SHALL BE COATED TO PROTECT AGAINST CORROSION.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	07/09	ADDED NOTES 2, 12, AND CLARIFIED NOTES
2	07/13	REVISED NOTES 3, 12, 14

NO. DATE REVISION  
1 10/23/03 REVISED NOTE NO. 4  
2 07/01/09 REVISED NOTE NO. 2, REMOVED NOTE NO. 3 AND ALTERED RESTRAINT DETAIL  
3 07/01/16 REVISED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W11-SS-TAPPING-SLEEVE.dwg

**FIRE HYDRANT AND VALVE INSTALLATION**  
N.T.S.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	10/23/03	REVISED NOTE NO. 4
2	07/01/09	REVISED NOTE NO. 2, REMOVED NOTE NO. 3 AND ALTERED RESTRAINT DETAIL
3	07/01/16	REVISED NOTES

NO. DATE REVISION  
1 10/23/03 REVISED NOTE NO. 4  
2 07/01/09 REVISED NOTE NO. 2, REMOVED NOTE NO. 3 AND ALTERED RESTRAINT DETAIL  
3 07/01/16 REVISED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W13-FHCC.dwg

**FIRE HYDRANT AND VALVE INSTALLATION**  
N.T.S.

NOTES:  
1. FIRE HYDRANT SHALL BE MODELS MANUFACTURED BY MUELLER CO. (CENTURIAN), AMERICAN VALVE AND HYDRANT CO. (MODEL MARK 73), CLOW MEDALLION OR APPROVED EQUAL.  
2. ALL VALVES AND HYDRANTS SHALL HAVE M.J. CONNECTIONS WITH IRON RETAINING GLAND M.J. RESTRAINT.  
3. HYDRANT VALVE SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE MAIN, BUT DO NOT PLACE VALVE IN PROPOSED OR EXISTING CURB AND GUTTER. IF THE STREET IS SOIL AND NO PAVING IS TO BE DONE AT THIS TIME, THE LOCATION OF THE VALVE IS TO BE DETERMINED BY THE FAYPC PROJECT COORDINATOR.  
4. HYDRANT BRANCH SHALL NOT BE BACK FILLED UNTIL INSPECTED AND APPROVED BY FAYPC PROJECT COORDINATOR.  
5. GATE VALVE AND BOX SHALL BE IN ACCORDANCE WITH FAYPC STANDARD DETAIL.  
6. HYDRANT EXTENSIONS AND/OR OFFSETS SHALL BE APPROVED BY FAYPC PROJECT COORDINATOR.  
7. FIRE HYDRANT CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE USING A TAPPING SLEEVE AND VALVE BY WET TAP CONNECTION. THE TAPPING SLEEVE AND VALVE SHALL BE HYDROSTATICALLY TESTED PRIOR TO STARTING THE TAP IN THE PRESENCE OF THE FAYPC PROJECT COORDINATOR.  
8. THE PROPOSED LOCATION MAY BE RELOCATED BY THE FAYPC PROJECT COORDINATOR IF CONFLICTS EXIST (IE. GAS SERVICES, UGE, TELEPHONE, ETC.).  
9. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING WATER MAIN MATERIAL, SIZE, AND DEPTH FOR EACH FIRE HYDRANT LOCATION PRIOR TO ORDERING MATERIALS. THE CONTRACTOR WILL BE REQUIRED TO SUPPLY VARIOUS LENGTHS OF BARRELS AND HYDRANT EXTENSIONS (NO MORE THAN ONE HYDRANT EXTENSION MAY BE USED PER HYDRANT). ADDITIONAL FITTINGS AND/OR HYDRANT EXTENSIONS OR OFFSET CONNECTORS MAY BE REQUIRED TO MAINTAIN PROPER COVER AS APPROVED BY THE FAYPC PROJECT COORDINATOR.

10. CONTRACTOR SHALL NOTIFY THE APPROPRIATE FIRE DEPARTMENT OF OUT OF SERVICE FIRE HYDRANTS PRIOR TO CONSTRUCTION.  
11. FIRE HYDRANT SHALL BE FIELD PAINTED IN ACCORDANCE WITH FAYPC STANDARDS. BEFORE PROJECT IS ACCEPTED, HYDRANTS SHALL BE PAINTED WITH A GREEN BONNET AND YELLOW BODY. PAINT SHALL BE IN ACCORDANCE WITH FAYPC REQUIREMENTS. THE CONTRACTOR SHALL PAINT ALL EXPOSED EXTERIOR FIRE HYDRANT SURFACES PRIOR TO FINAL ACCEPTANCE BY FAYPC. ALL PAINTING SHALL BE DONE IN STRICT ACCORDANCE WITH THE PAINT MANUFACTURER'S RECOMMENDATIONS AND SHALL BE SATISFACTORY TO THE FAYPC.  
12. PROTECTIVE COVERING SHALL BE UTILIZED, AS NECESSARY FOR PROTECTION OF ADJACENT AREAS, EQUIPMENT, SHRUBBERY, OR OTHER ITEMS. AFTER PAINTING IS COMPLETE, THE ENTIRE AREA SHALL BE THOROUGHLY CLEANED UP.  
13. ALL PAINT MATERIALS SHALL BE IN THE ORIGINAL SEALED CONTAINERS BEARING THE MANUFACTURER'S NAME.  
14. WHERE NECESSARY, THINNING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AND AS APPROVED BY FAYPC.  
15. ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND DRY.  
16. THE BONNET OF THE FIRE HYDRANT SHALL BE PAINTED A DARK GREEN, UTILIZING AN ALKYL OR POLYURETHANE ENAMEL, WITH A FINAL DRY MIL THICKNESS OF 4 TO 6 MILS. MULTIPLE COATS MAY BE NECESSARY TO ACHIEVE THE FINAL REQUIRED DRY MIL THICKNESS. THE PAINT SHALL BE FOREST GREEN. SAMPLES SHALL BE SUBMITTED TO FAYPC.  
17. THE REMAINDER OF THE FIRE HYDRANT SHALL BE PAINTED SAFETY YELLOW, UTILIZING AN ALKYL OR POLYURETHANE ENAMEL, WITH A FINAL DRY MIL THICKNESS OF 4 TO 6 MILS. MULTIPLE COATS MAY BE NECESSARY TO ACHIEVE THE FINAL REQUIRED DRY MIL THICKNESS. THE PAINT SHALL BE YELLOW. SAMPLES SHALL BE SUBMITTED TO FAYPC.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	10/23/03	REVISED NOTE NO. 4
2	07/01/09	REVISED NOTE NO. 2, REMOVED NOTE NO. 3 AND ALTERED RESTRAINT DETAIL
3	07/01/16	REVISED NOTES

NO. DATE REVISION  
1 10/23/03 REVISED NOTE NO. 4  
2 07/01/09 REVISED NOTE NO. 2, REMOVED NOTE NO. 3 AND ALTERED RESTRAINT DETAIL  
3 07/01/16 REVISED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W13-FHCC.dwg

**RESTRAINED JOINT FIRE HYDRANT OFFSET CONNECTOR (STEEP BANK)**  
N.T.S.

SIZE	6" DIA. x OFFSET
A	18" 30" 41"
B	6" 12" 24"

NOTES:  
1. SEE FIRE HYDRANT DETAIL W.13 FOR ADDITIONAL REQUIREMENTS.  
2. ALL VALVES AND HYDRANTS SHALL HAVE M.J. CONNECTIONS WITH IRON RETAINING GLAND M.J. RESTRAINT.  
3. FIRE HYDRANT OFFSET CONNECTOR SHALL BE PLACED AS APPROVED BY THE FAYPC PROJECT COORDINATOR.  
4. OFFSET CONNECTOR SHALL NOT BE BACK FILLED UNTIL INSPECTED AND APPROVED BY FAYPC PROJECT COORDINATOR.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	07/09	REVISED NOTES 1, 2, AND 3

NO. DATE REVISION  
1 07/09 REVISED NOTES 1, 2, AND 3

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W14-FH-OFFSET.dwg

**RESTRAINED JOINT FIRE HYDRANT OFFSET CONNECTOR AT DITCH**  
N.T.S.

SIZE	6" DIA. x OFFSET
A	18" 30" 41"
B	6" 12" 24"

NOTES:  
1. SEE FIRE HYDRANT DETAIL W.13 FOR ADDITIONAL REQUIREMENTS.  
2. ALL VALVES AND HYDRANTS SHALL HAVE M.J. CONNECTIONS WITH IRON RETAINING GLAND M.J. RESTRAINT.  
3. FIRE HYDRANT OFFSET CONNECTOR SHALL BE PLACED AS APPROVED BY THE FAYPC PROJECT COORDINATOR.  
4. OFFSET CONNECTOR SHALL NOT BE BACK FILLED UNTIL INSPECTED AND APPROVED BY FAYPC PROJECT COORDINATOR.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	01/05	ADDED NOTES
2	07/09	REVISED NOTES 1, 2, AND 3

NO. DATE REVISION  
1 01/05 ADDED NOTES  
2 07/09 REVISED NOTES 1, 2, AND 3

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W14-FH-OFFSET.dwg

**2" BLOW OFF**  
N.T.S.

NOTES:  
1. ALL MATERIAL SHALL BE APPROVED BY FAYPC.  
2. WHEN INSTALLED IN A PAVED AREA METER BOX SHALL BE SET 1/4" ABOVE FINISHED PAVEMENT GRADE AND PAVEMENT FEATHERED TO TOP OF BOX.  
3. COMPOSITE METER BOX (FAYPC DETAIL W.48) SHALL BE USED IN PAVED AREAS.  
4. CENTER 2" SDR-21 PIPE IN METER BOX.  
5. METER BOX SHALL BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.17.  
6. BLOW-OFF ASSEMBLY NOT TO BE RE-USED UNLESS APPROVED BY FAYPC.  
7. REMOVE ENTIRE ASSEMBLY FROM BELL OF WATER MAIN PIPE WHEN EXTENDING THE MAIN.  
8. VALVE BOX TO BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.7.  
9. VALVE BOX TO BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.7.

BE INSPECTED AND APPROVED BY FAYPC PROJECT COORDINATOR PRIOR TO BACKFILL.  
CONTRACTOR SHALL INSTALL TRACING WIRE INTO THE BOX. A MINIMUM OF 2" OF WIRE SHALL BE IN BOX.  
VALVE BOX TO BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.7.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	08/06	CHANGED FITTINGS TO SCHED 80
2	11/06	REVISED CONFIGURATION
3	07/17	REVISED NOTES

NO. DATE REVISION  
1 08/06 CHANGED FITTINGS TO SCHED 80  
2 11/06 REVISED CONFIGURATION  
3 07/17 REVISED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W15-2-BLOWOFF.dwg

**2" VALVE INSTALLATION**  
N.T.S.

CONCRETE COLLAR IN PAVED AREAS INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.8. CONCRETE PROTECTOR RING IN NON-TRAFFIC AREAS INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.8. VALVE BOX TO BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.7.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	06/06	ADDED NOTE ON CONCRETE COLLAR
2	07/17	UPDATED NOTES

NO. DATE REVISION  
1 06/06 ADDED NOTE ON CONCRETE COLLAR  
2 07/17 UPDATED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W15-2-VALVE-INSTALLATION.dwg

**2" WET TAP**  
N.T.S.

CONCRETE COLLAR IN PAVED AREAS INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.8. CONCRETE PROTECTOR RING IN NON-TRAFFIC AREAS INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.8. VALVE BOX TO BE INSTALLED IN ACCORDANCE WITH FAYPC DETAIL W.7.

**FAYETTEVILLE PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.  
**WATER RESOURCES ENGINEERING DEPARTMENT**

NO.	DATE	REVISION
1	06/06	ADDED NOTE ON CONCRETE COLLAR
2	01/07	REVISED VALVE LOCATION
3	07/17	REVISED NOTES

NO. DATE REVISION  
1 06/06 ADDED NOTE ON CONCRETE COLLAR  
2 01/07 REVISED VALVE LOCATION  
3 07/17 REVISED NOTES

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

W15B-2-WET-TAP.dwg

Prepared in the Office of:

**WK DICKSON**  
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720 CORPORATE CENTER DRIVE,  
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(919)782-0495 | NCBELS #F-0374

DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

PROJECT REFERENCE NO. U-4405B  
SHEET NO. UC-03E

DESIGNED BY: AAA  
DRAWN BY: DM  
CHECKED BY: RA  
APPROVED BY: BRO

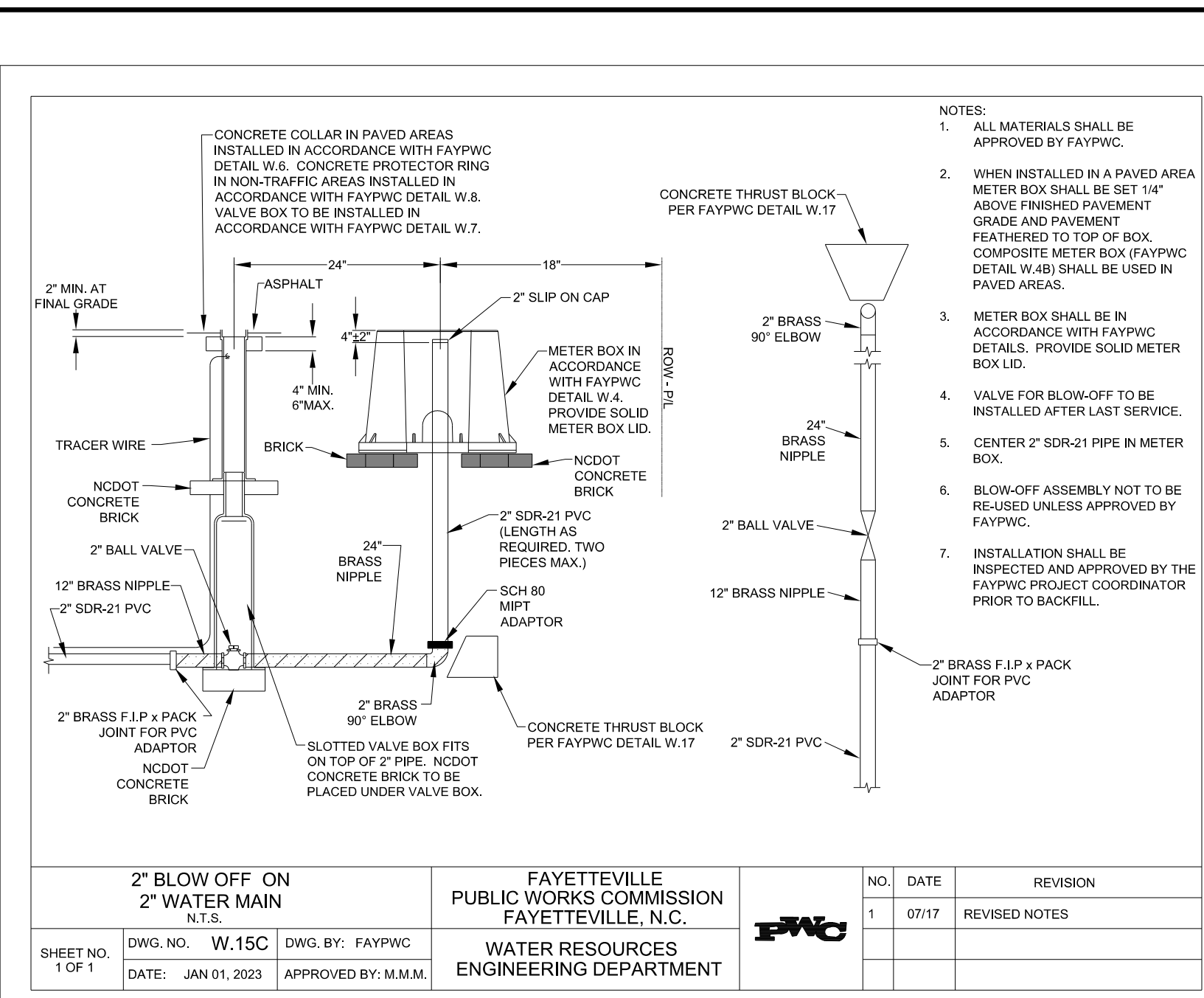
REVISED:  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

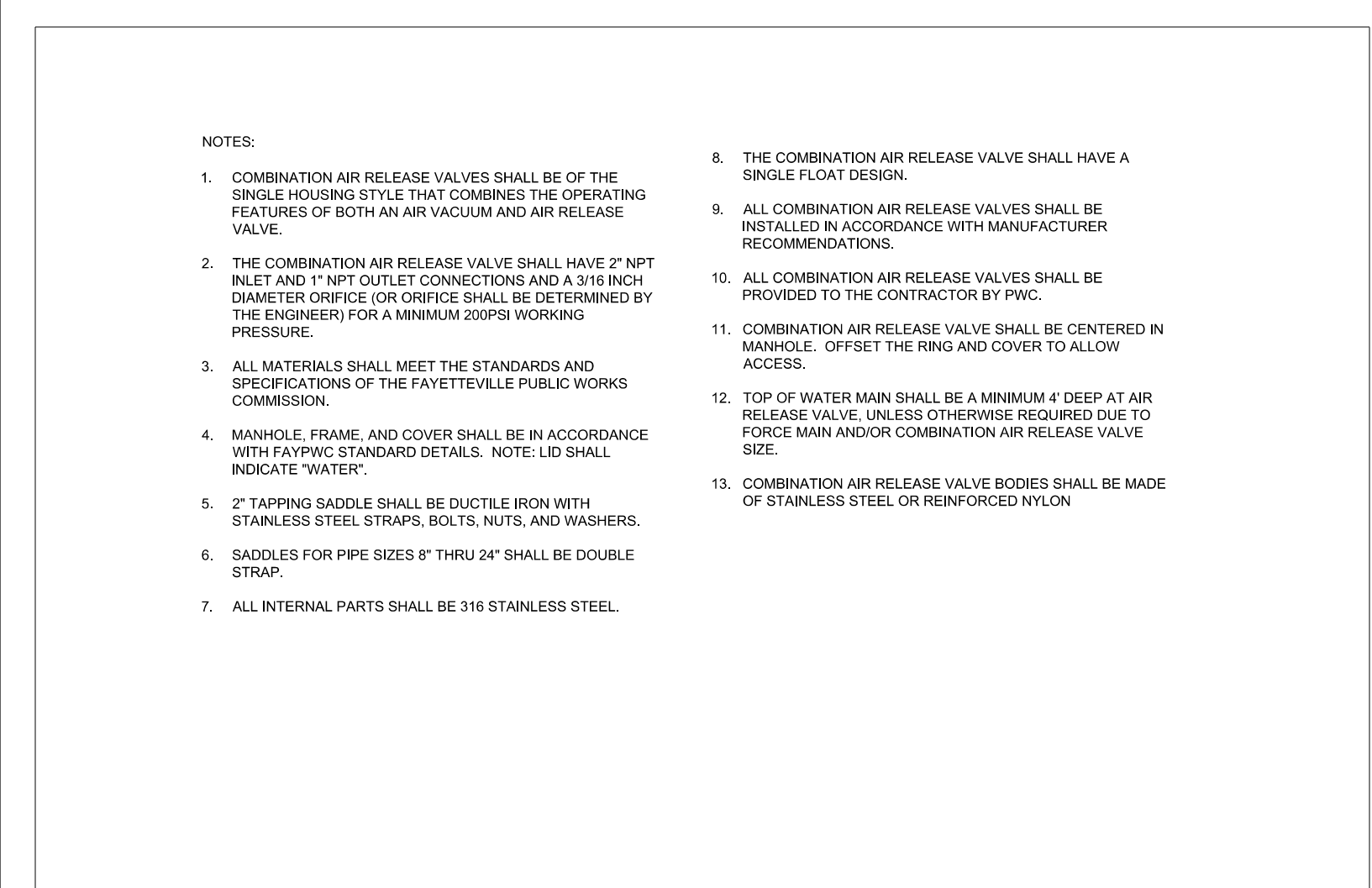
11/26/2024

# UTILITY CONSTRUCTION

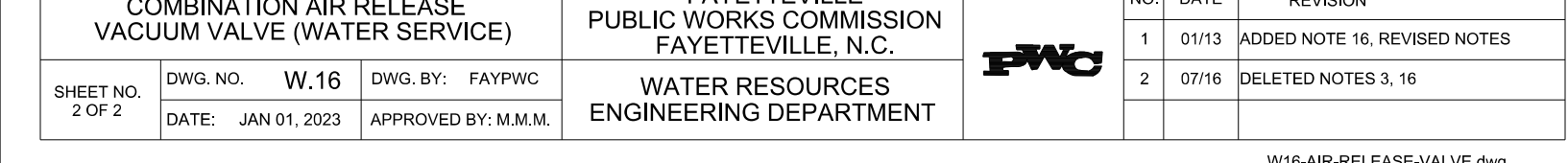




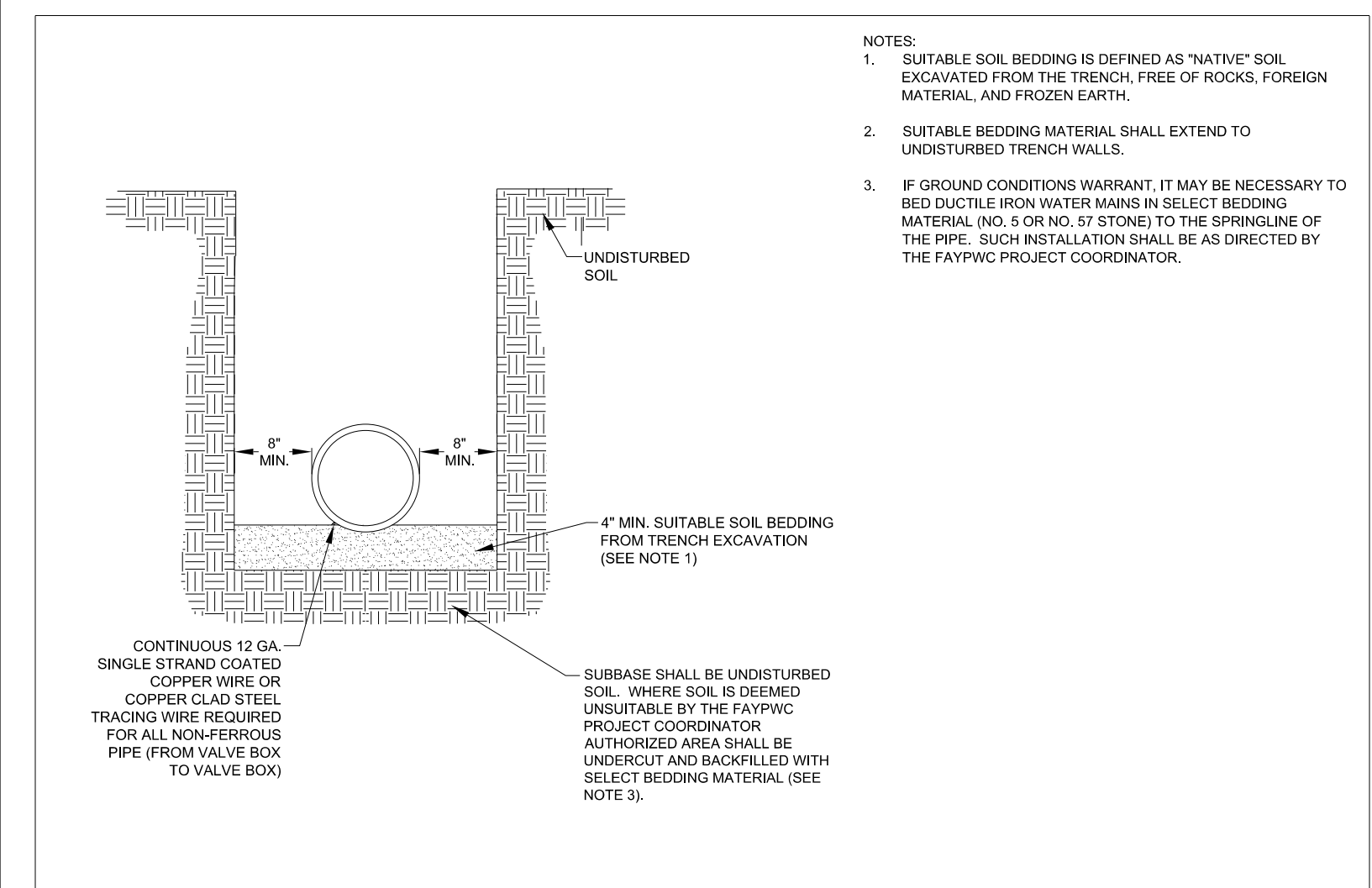
W15C-2-BLOWOFF.dwg



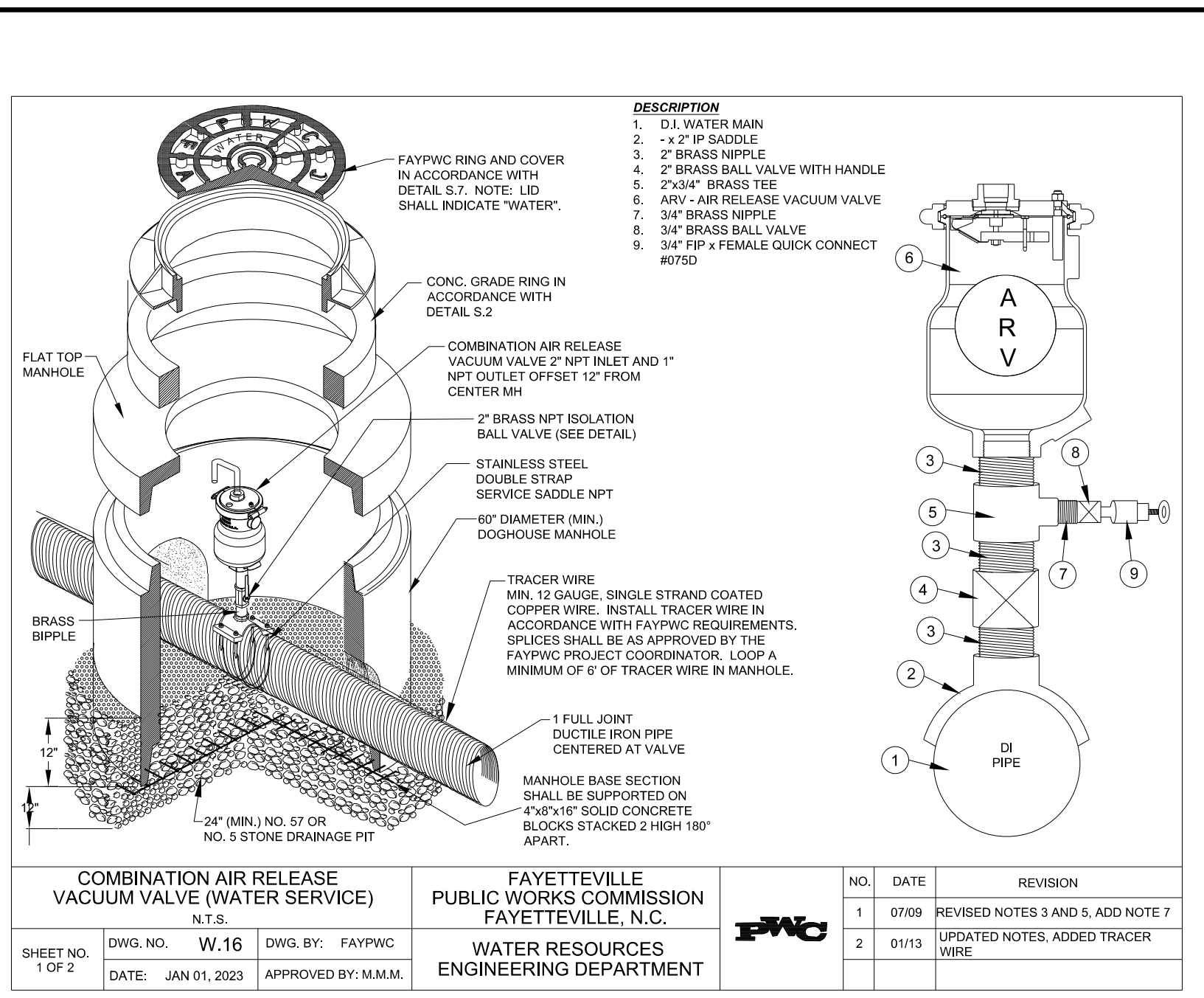
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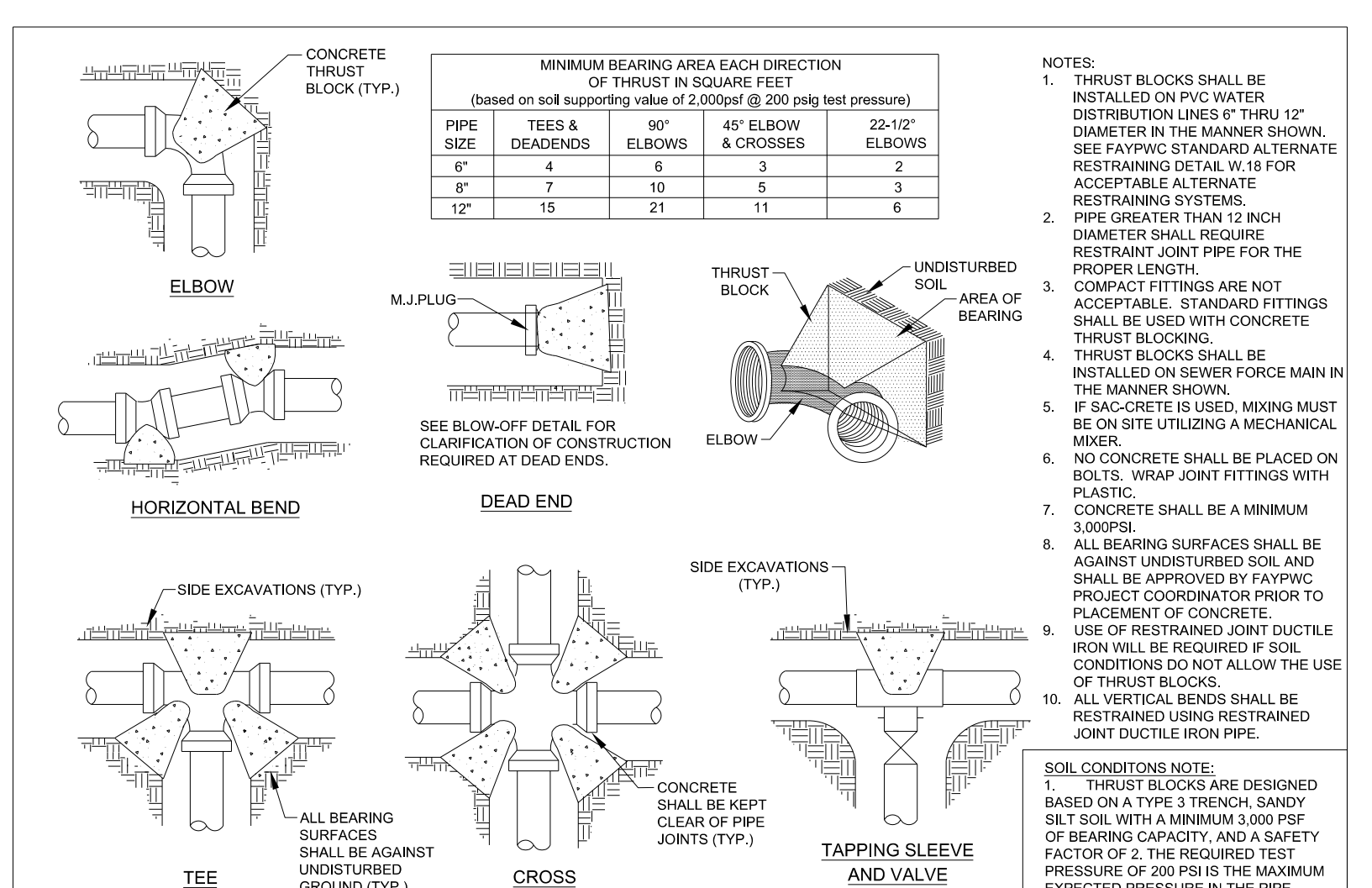
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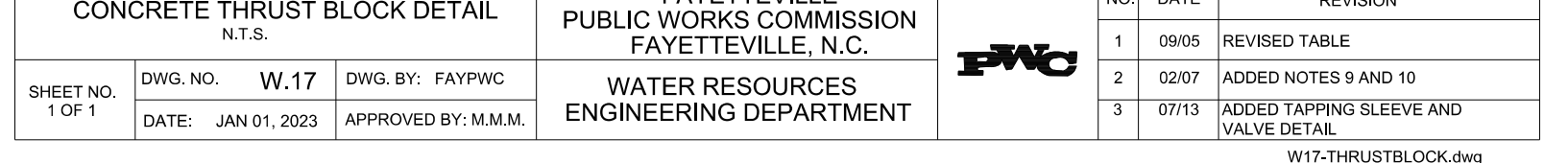
W19-WATER-BEDDING.dwg



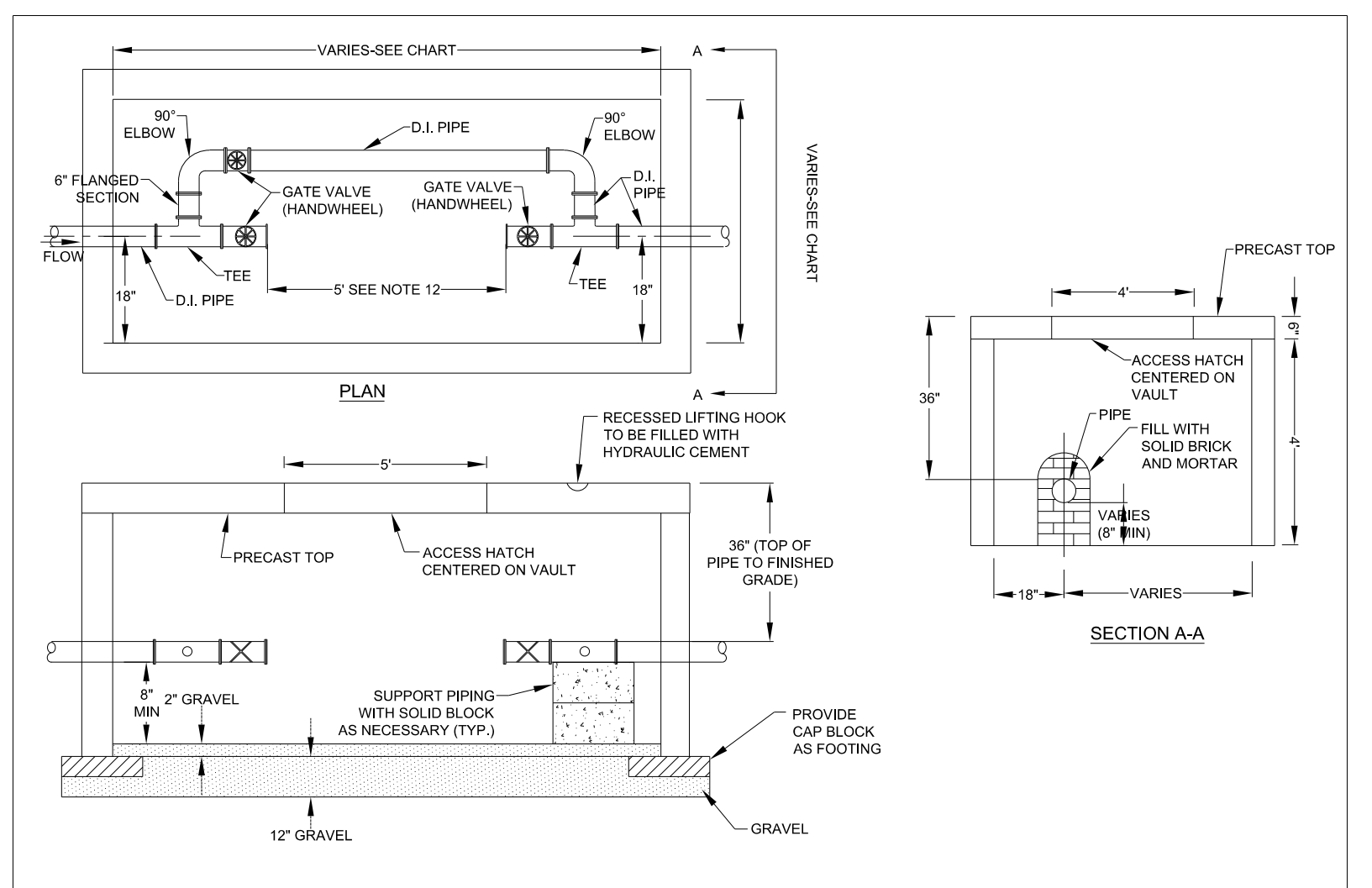
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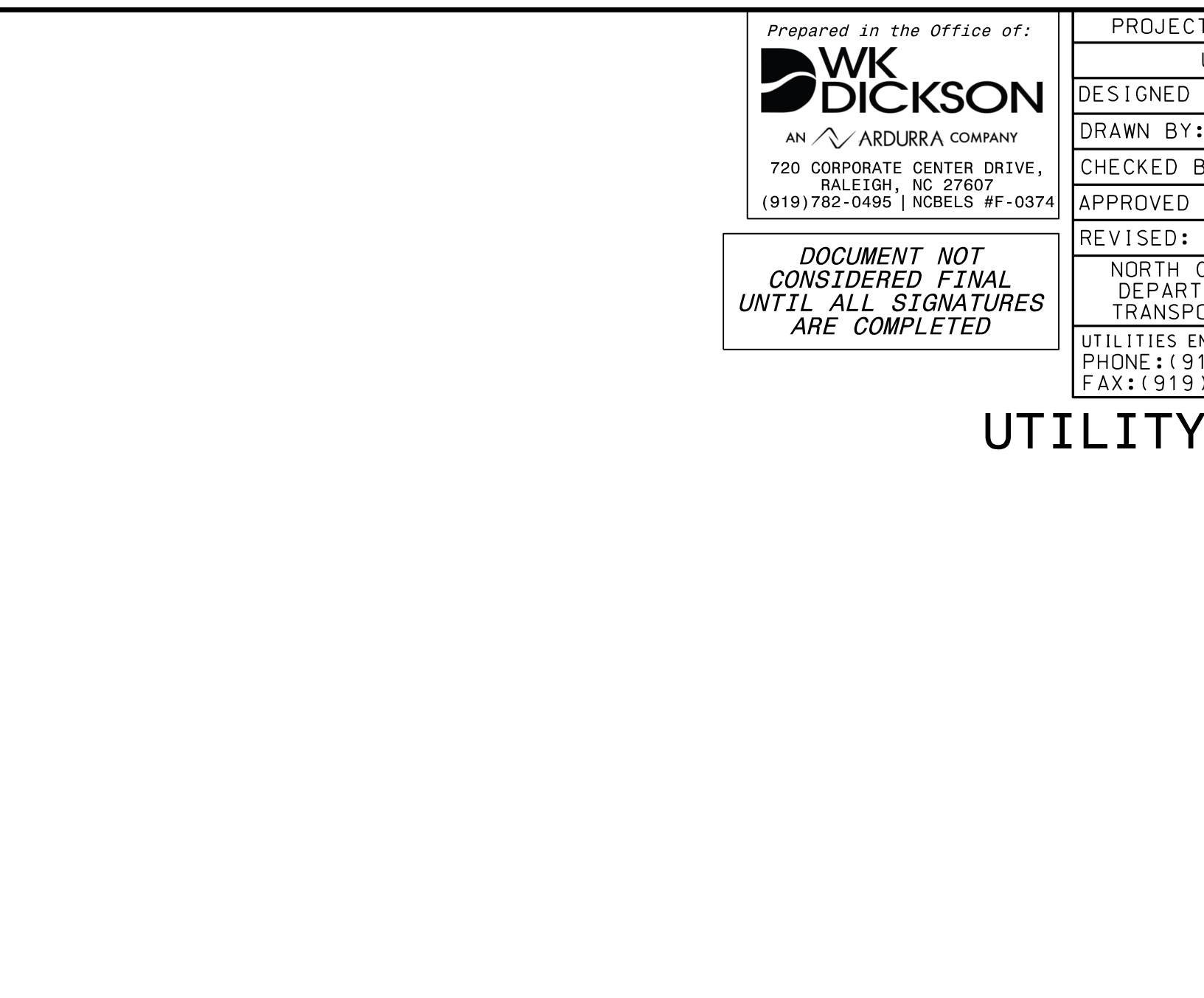
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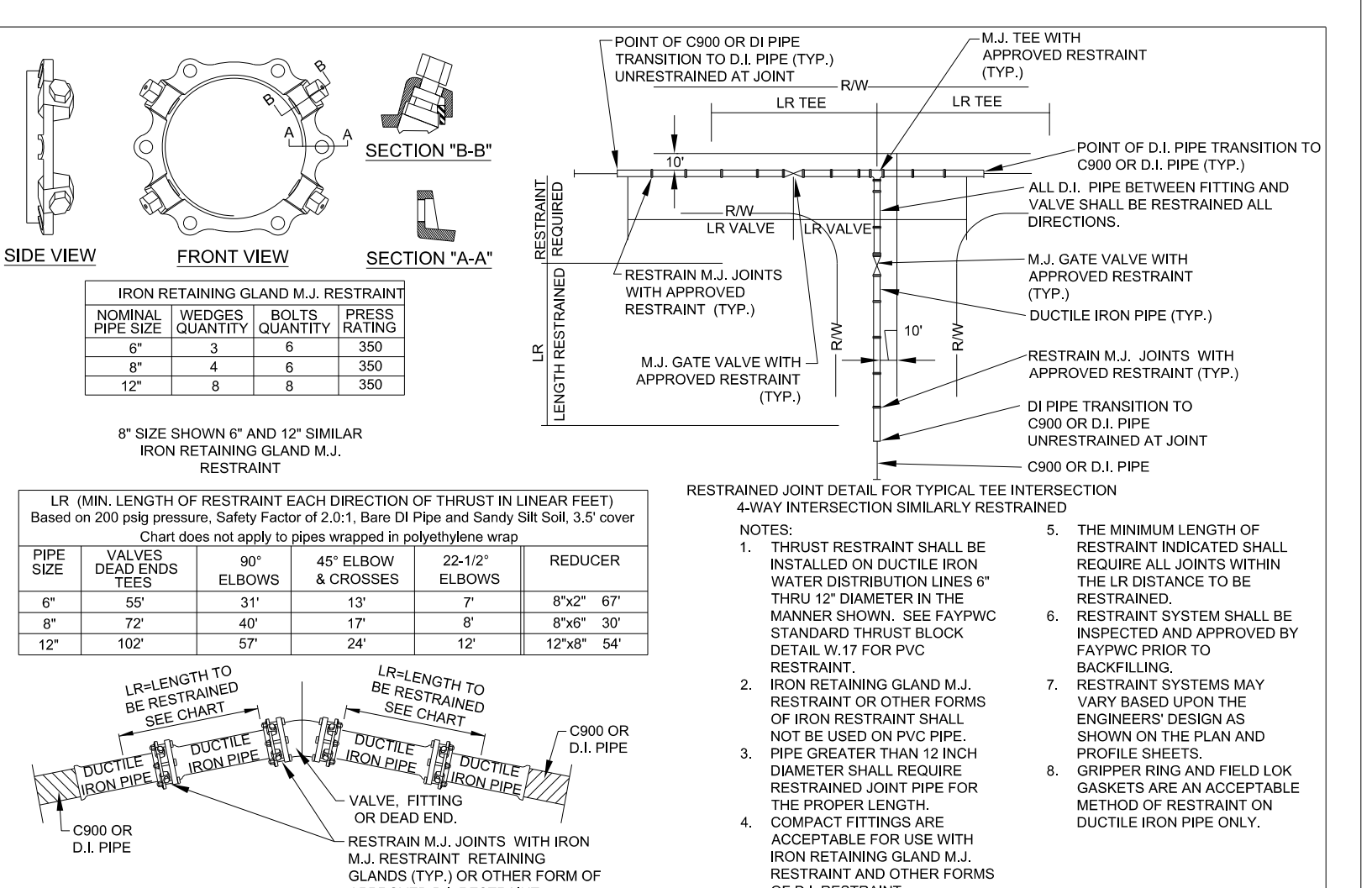
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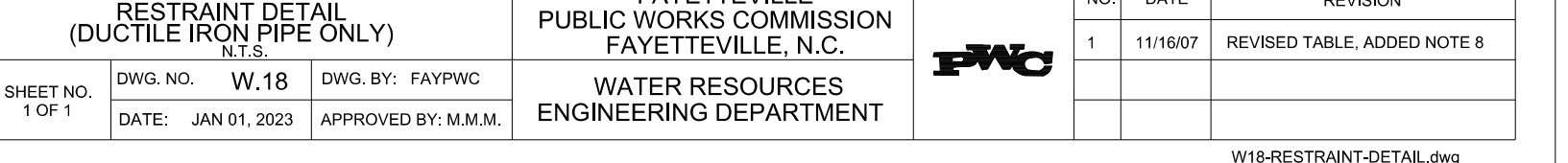
W20-METER-VAULT.dwg



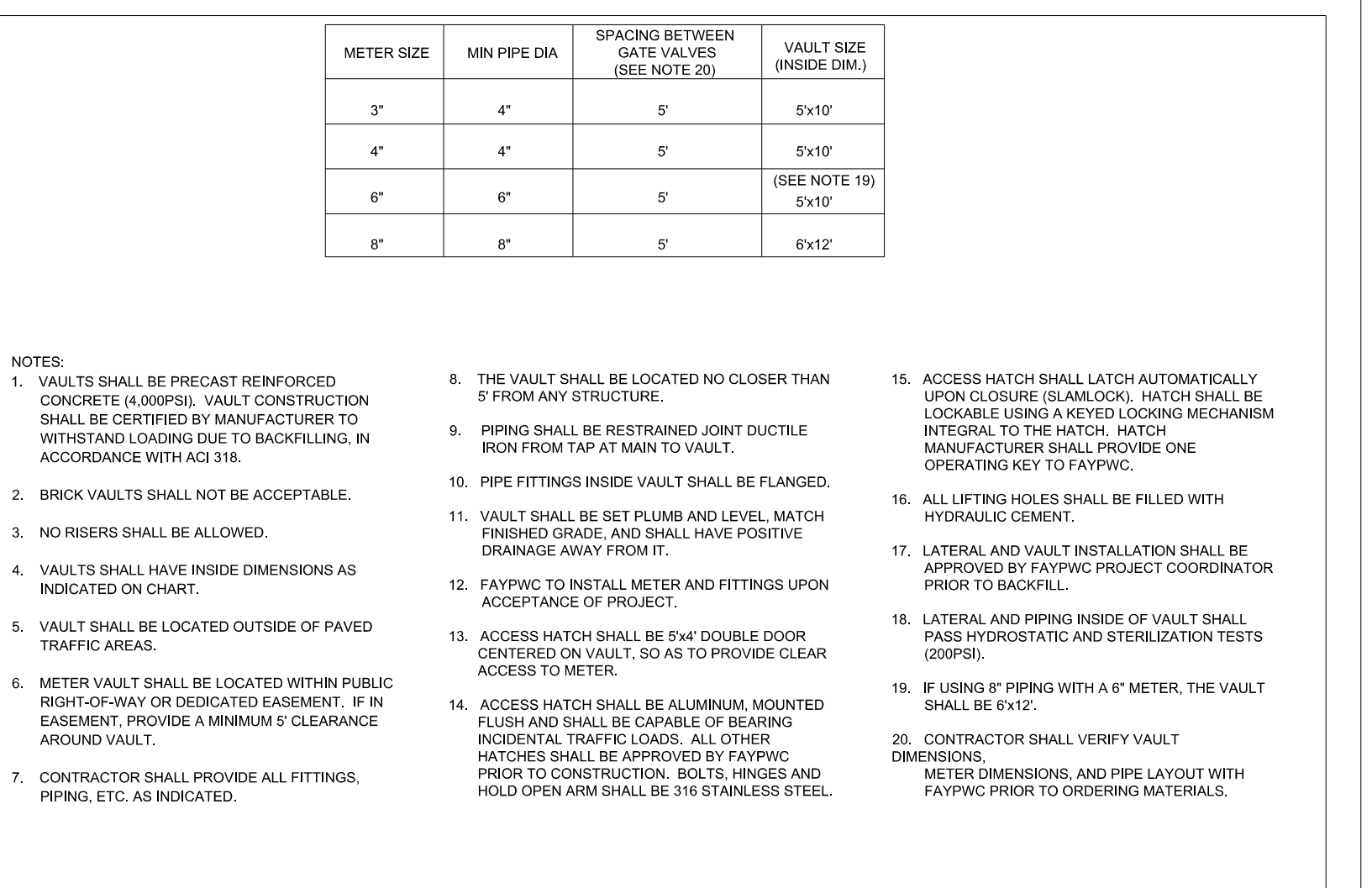
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W18-RESTRAINT-DETAIL.dwg



W18-RESTRAINT-DETAIL.dwg



W20-METER-VAULT.dwg

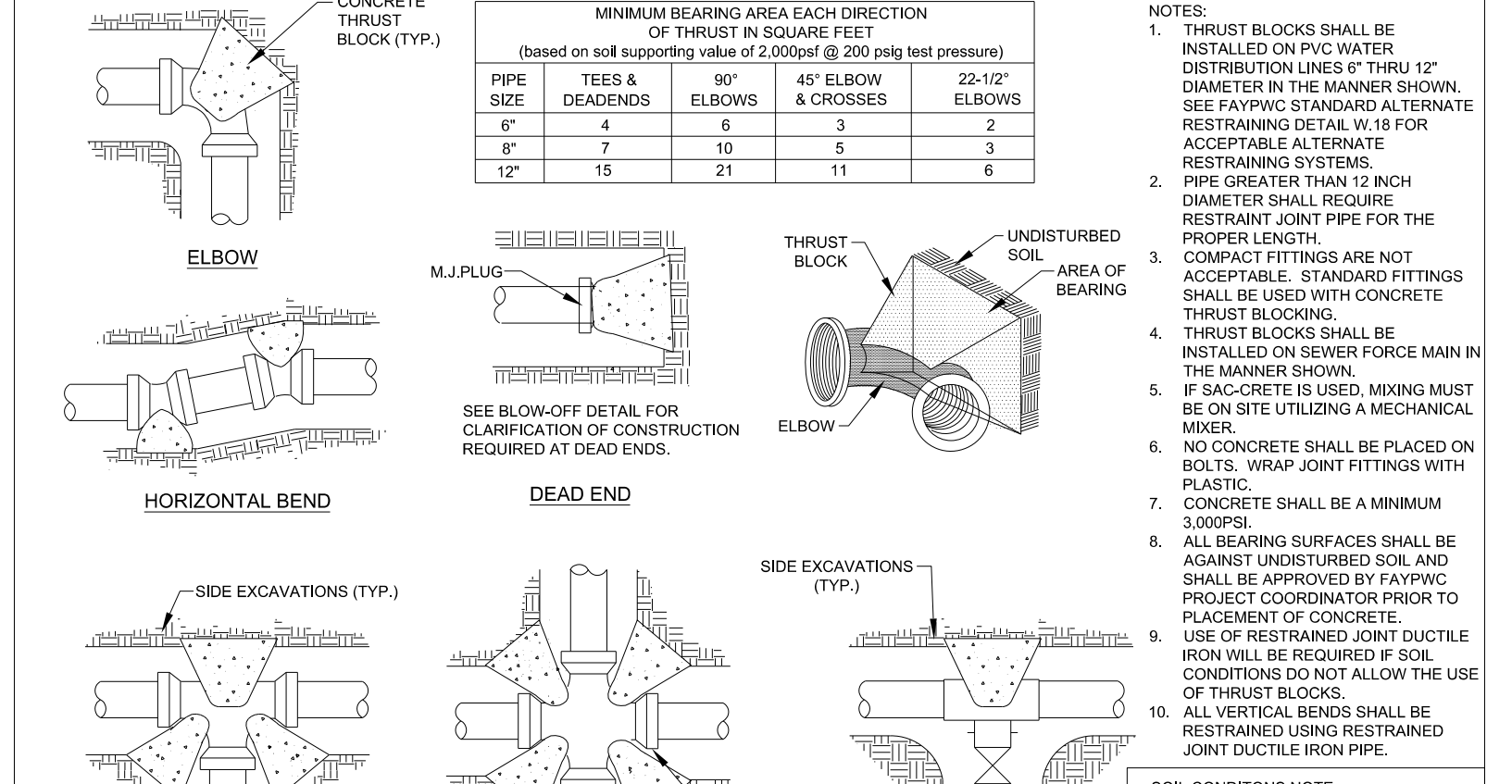
Prepared in the Office of:  
**DK DICKSON**  
 AN ARDURRA COMPANY  
 720 CORPORATE CENTER DRIVE,  
 RALEIGH, NC 27607  
 (919) 782-0495 | NCBELS #F-0374

**DOCUMENT NOT  
 CONSIDERED FINAL  
 UNTIL ALL SIGNATURES  
 ARE COMPLETED**

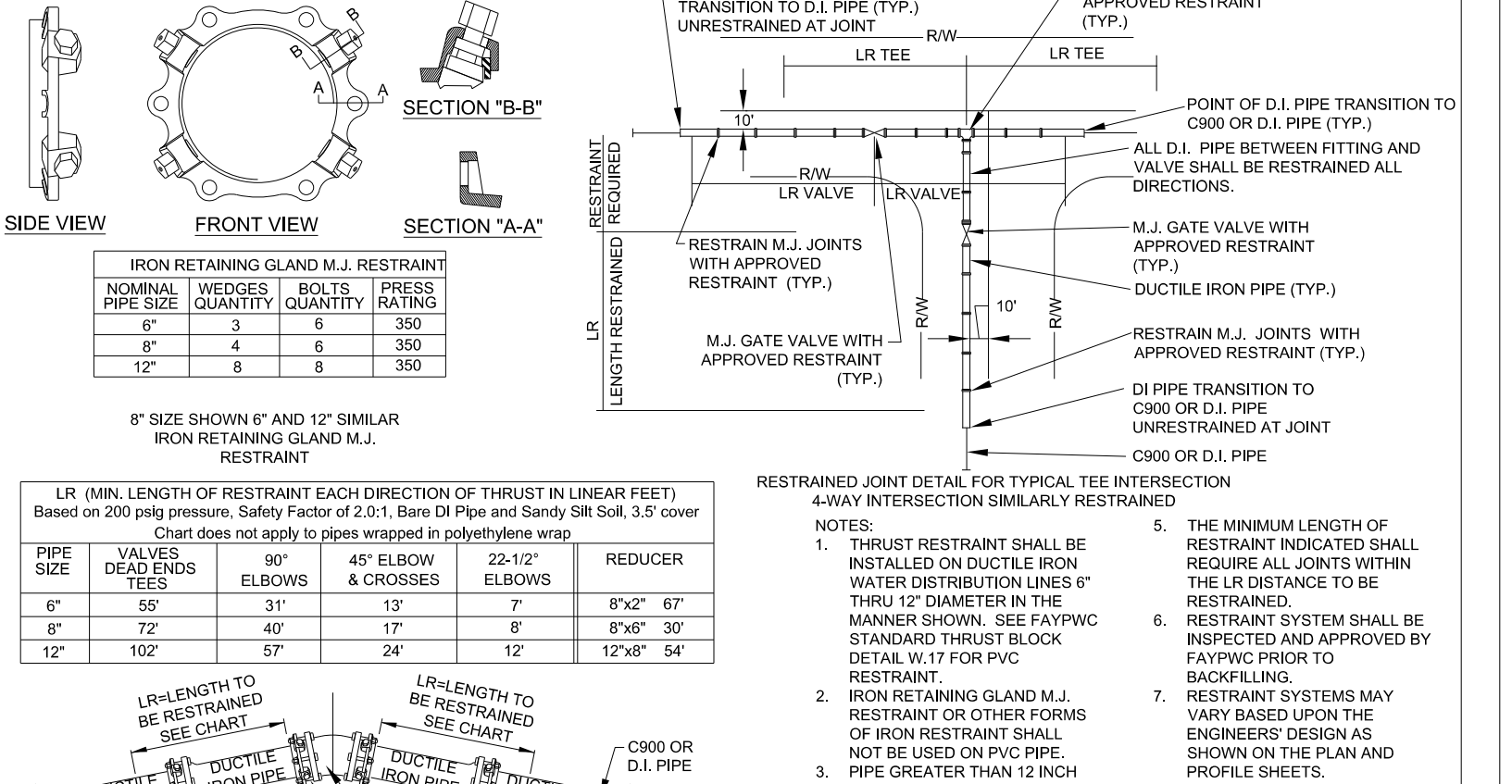
PROJECT REFERENCE NO.	U-4405B	SHEET NO.	UC-03F
DESIGNED BY:	AAA		
DRAWN BY:	DM		
CHECKED BY:	RA		
APPROVED BY:	BRO		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

# UTILITY CONSTRUCTION

- NOTES:**
- COMBINATION AIR RELEASE VALVES SHALL BE OF THE SINGLE HOUSING STYLE THAT COMBINES THE OPERATING FEATURES OF BOTH AN AIR VACUUM AND AIR RELEASE VALVE.
  - THE COMBINATION AIR RELEASE VALVE SHALL HAVE 2" NPT INLET AND 1" NPT OUTLET CONNECTIONS AND A 3/16" INCH DIAMETER ORIFICE (OR ORIFICE SHALL BE DETERMINED BY THE ENGINEER) FOR A MINIMUM 200PSI WORKING PRESSURE.
  - ALL MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE FAYETTEVILLE PUBLIC WORKS COMMISSION.
  - MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH FAYFWC STANDARD DETAILS. NOTE: LID SHALL INDICATE "WATER".
  - 2" TAPPING SADDLE SHALL BE DUCTILE IRON WITH STAINLESS STEEL STRAPS, BOLTS, NUTS, AND WASHERS.
  - SADDLES FOR PIPE SIZES 8" THRU 24" SHALL BE DOUBLE STRAP.
  - ALL INTERNAL PARTS SHALL BE 316 STAINLESS STEEL.
  - THE COMBINATION AIR RELEASE VALVE SHALL HAVE A SINGLE FLOAT DESIGN.
  - ALL COMBINATION AIR RELEASE VALVES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
  - ALL COMBINATION AIR RELEASE VALVES SHALL BE PROVIDED TO THE CONTRACTOR BY FAYFWC.
  - COMBINATION AIR RELEASE VALVE SHALL BE CENTERED IN MANHOLE. OFFSET THE RING AND COVER TO ALLOW ACCESS.
  - TOP OF WATER MAIN SHALL BE A MINIMUM 4' DEEP AT AIR RELEASE VALVE. UNLESS OTHERWISE REQUIRED DUE TO FORCE MAIN AND/OR COMBINATION AIR RELEASE VALVE SIZE.
  - COMBINATION AIR RELEASE VALVE BODIES SHALL BE MADE OF STAINLESS STEEL OR REINFORCED NYLON.



COMBINATION AIR RELEASE VACUUM VALVE (WATER SERVICE)		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
1	01/13	ADDED NOTE 16, REVISED NOTES				
2	07/16	DELETED NOTES 3, 16				



CONCRETE THRUST BLOCK DETAIL		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
1	01/13	ADDED NOTE 16, REVISED NOTES				
2	07/16	DELETED NOTES 3, 16				

WATER MAIN BEDDING DETAIL		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
1	01/01/17	REVISED NOTES				
2	07/01/13	REVISED NOTE RE: TRACER WIRE				

METER VAULT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
1	09/10	REVISED PIPE BURY DEPTH				
2						
3						

METER VAULT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
1	09/10	REVISED NOTES				
2						
3						




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Prepared in the Office of:

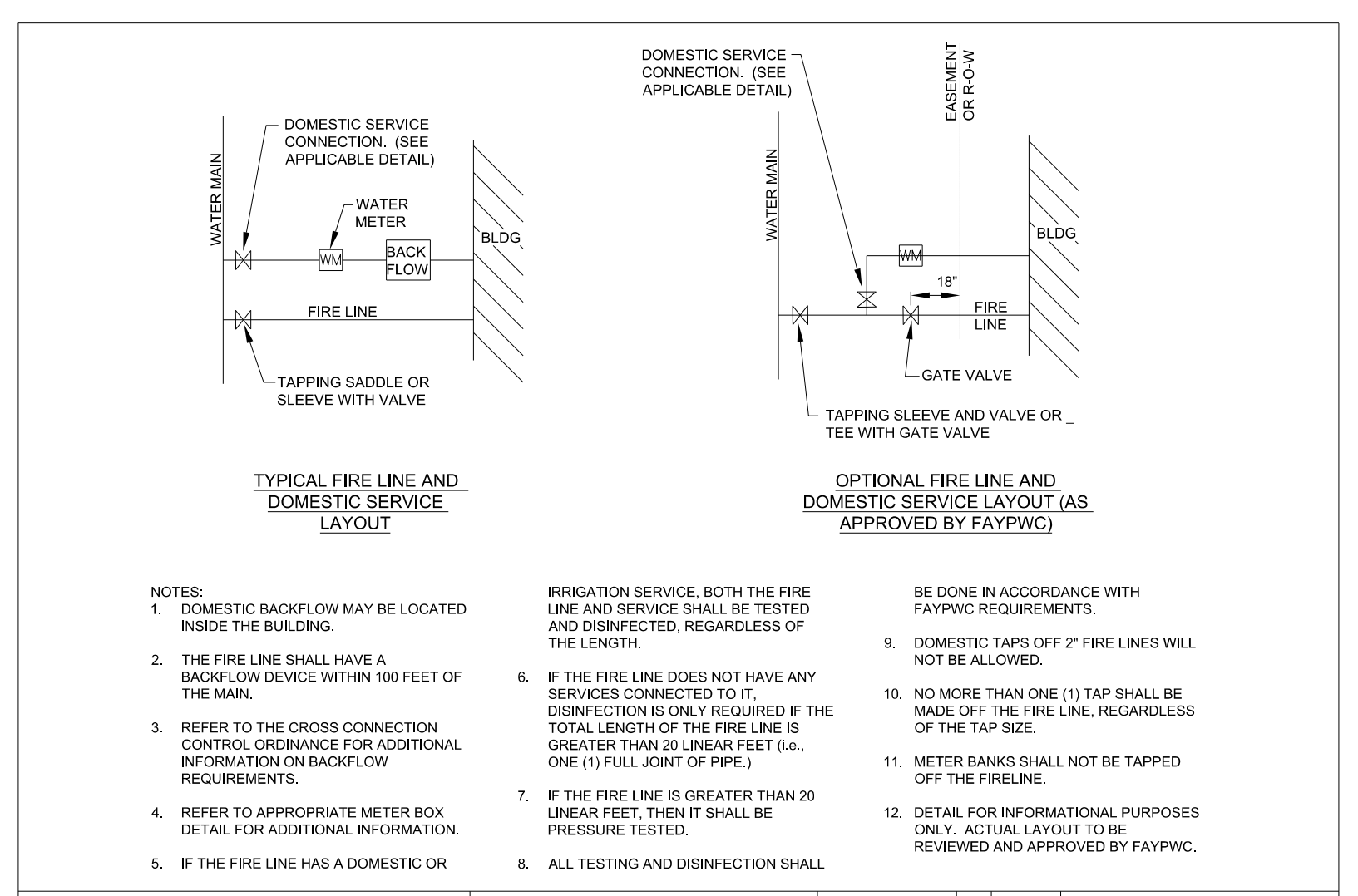


AN ARDURRA COMPANY  
720 CORPORATE CENTER DRIVE, RALEIGH, NC 27607  
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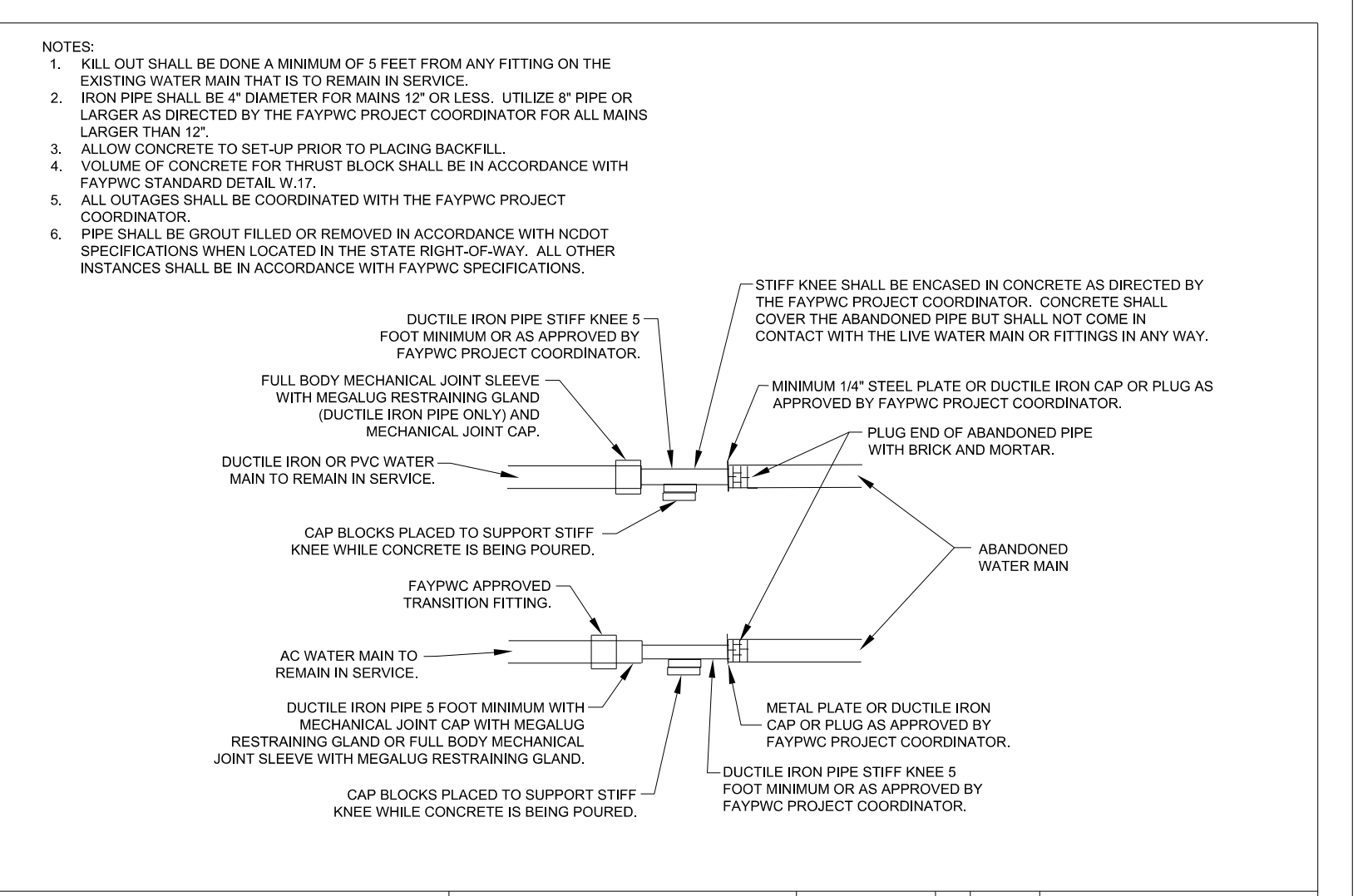
**DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED**

PROJECT REFERENCE NO.	U-4405B	SHEET NO.	UC-03G
DESIGNED BY:	AAA	 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 11/26/2024 UTILITY CONSTRUCTION PLANS ONLY	
DRAWN BY:	DM		
CHECKED BY:	RA		
APPROVED BY:	BRO		
REVISED:			
UTILITIES ENGINEERING SEC.	PHONE: (919) 707-6690	UTILITY CONSTRUCTION PLANS ONLY	
FAX:	(919) 250-4151		

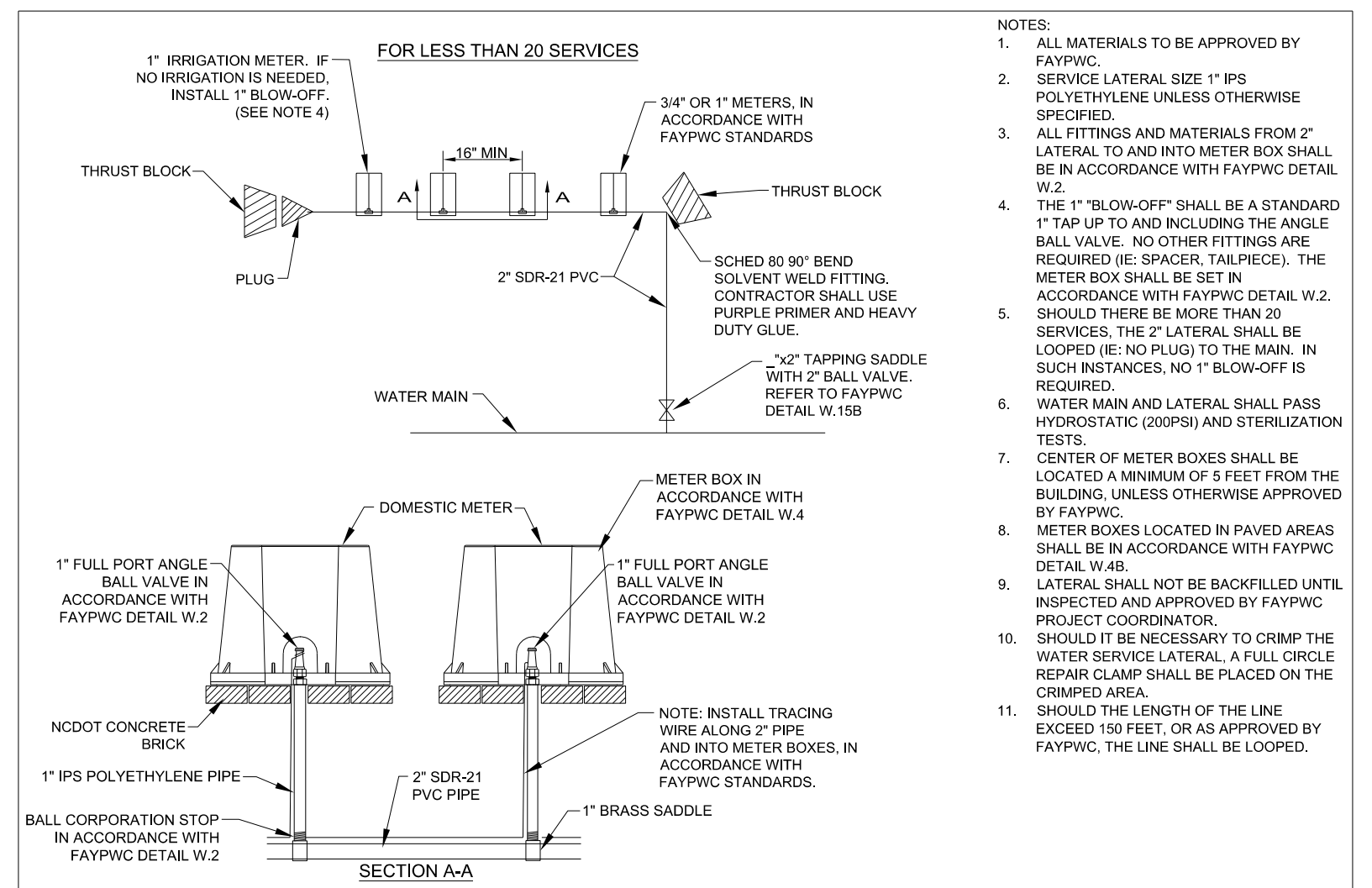
# UTILITY CONSTRUCTION



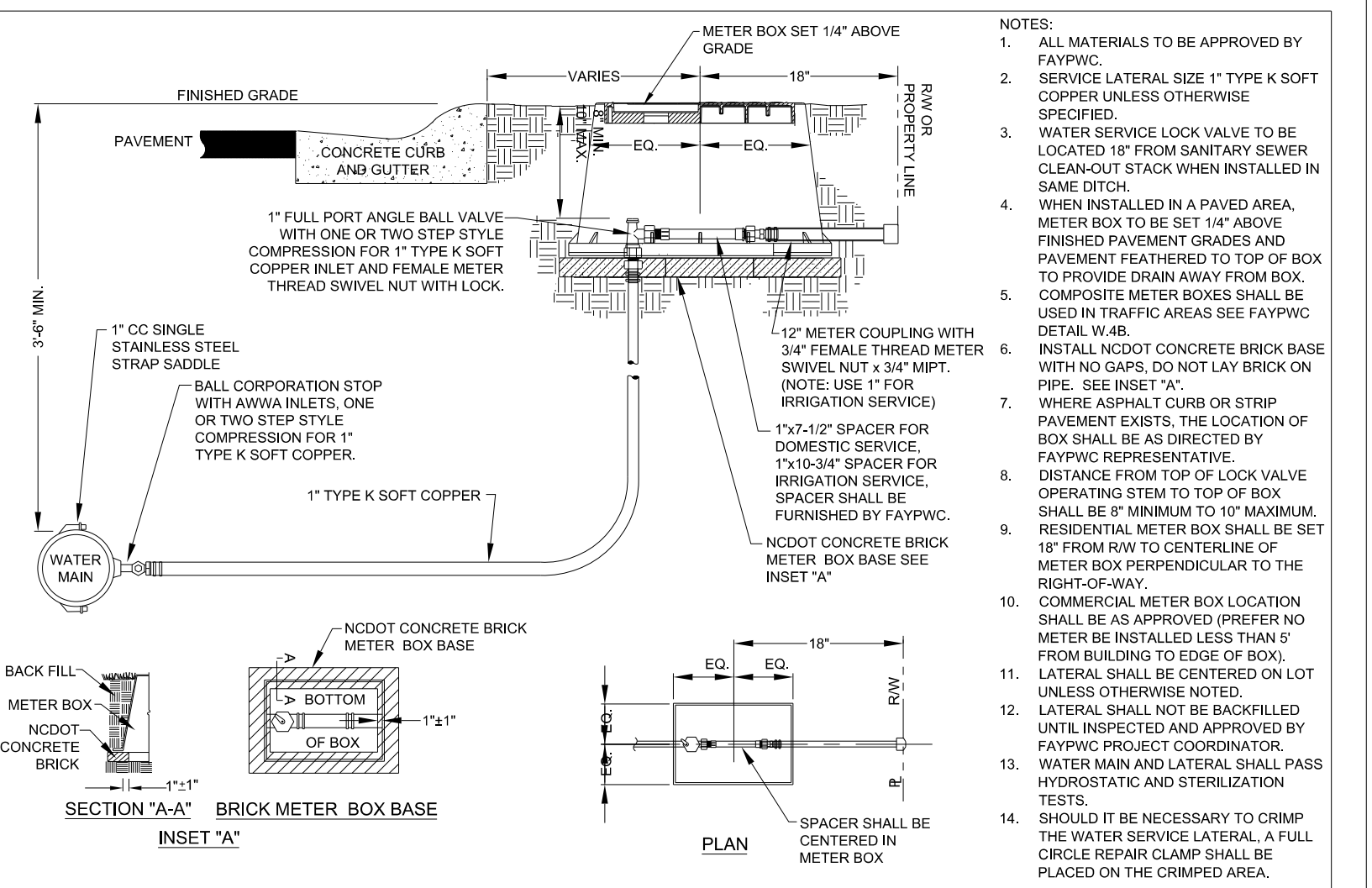
<b>FIRE LINE SERVICES</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 1017 ADDED NOTES 4, 5, 6, 7, 8.	
DWG. NO. W.21		DWG. BY: FAYPWC		2 1019 ADDED NOTES 9, 10 AND 11.	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



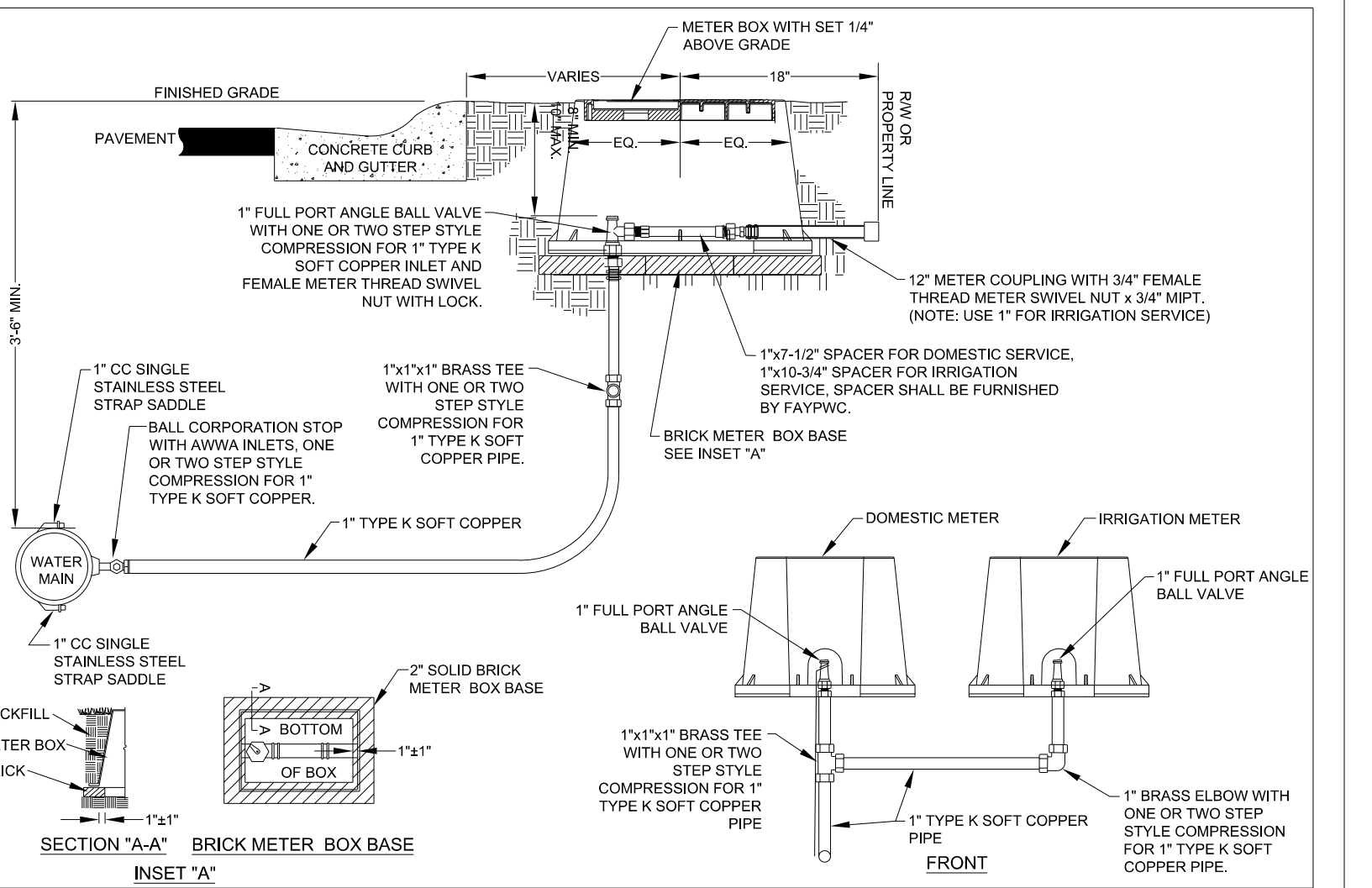
<b>WATER MAIN KILL-OUT</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 1017 ADDED NOTES 4, 5, 6, 7, 8.	
DWG. NO. W.22		DWG. BY: FAYPWC		2 1019 ADDED NOTES 9, 10 AND 11.	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



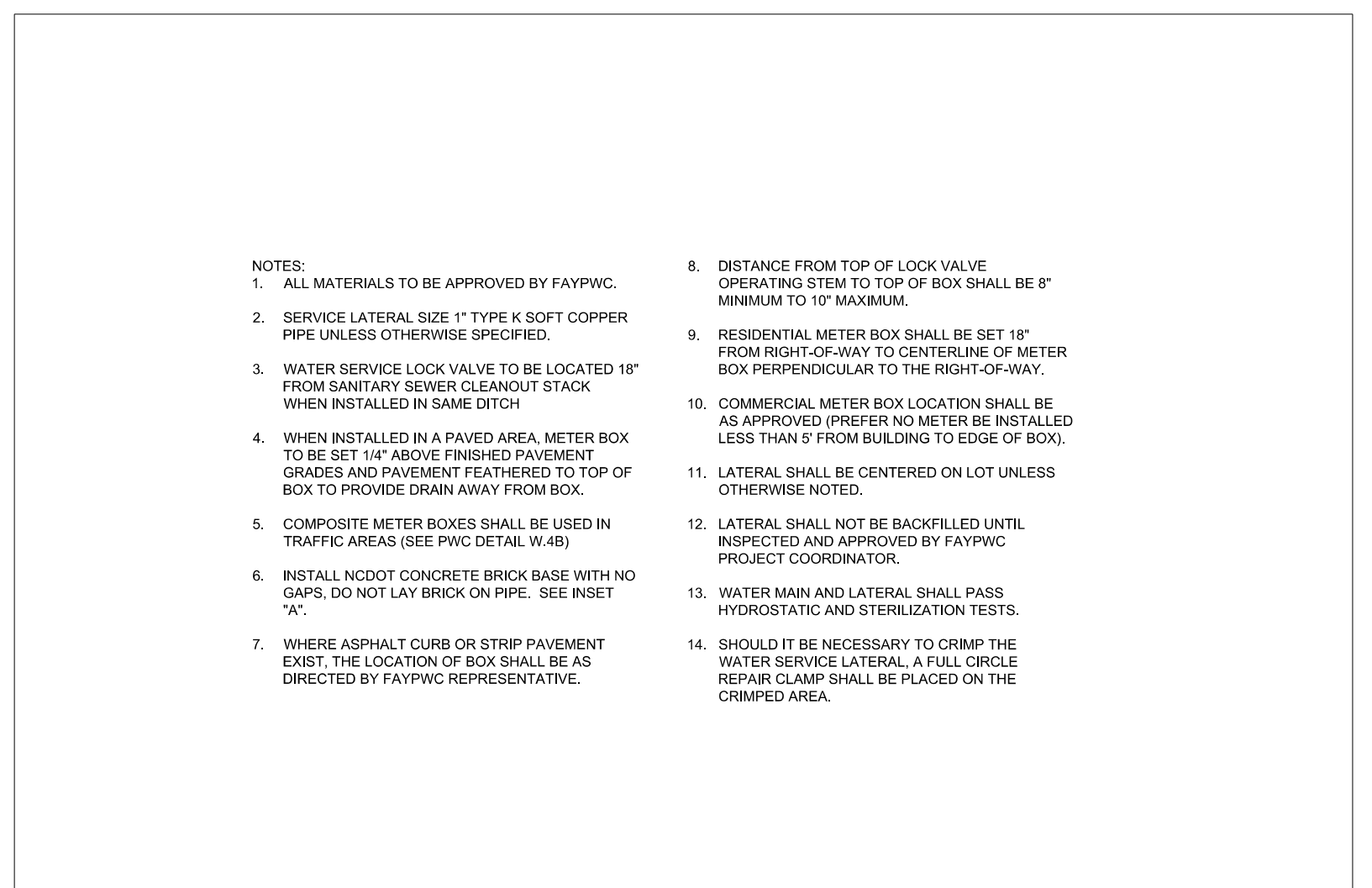
<b>1" COPPER WATER SERVICE LATERAL</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0716 REVISED TITLE, NOTES	
DWG. NO. W.24		DWG. BY: FAYPWC		2 0717 REVISED NOTES	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



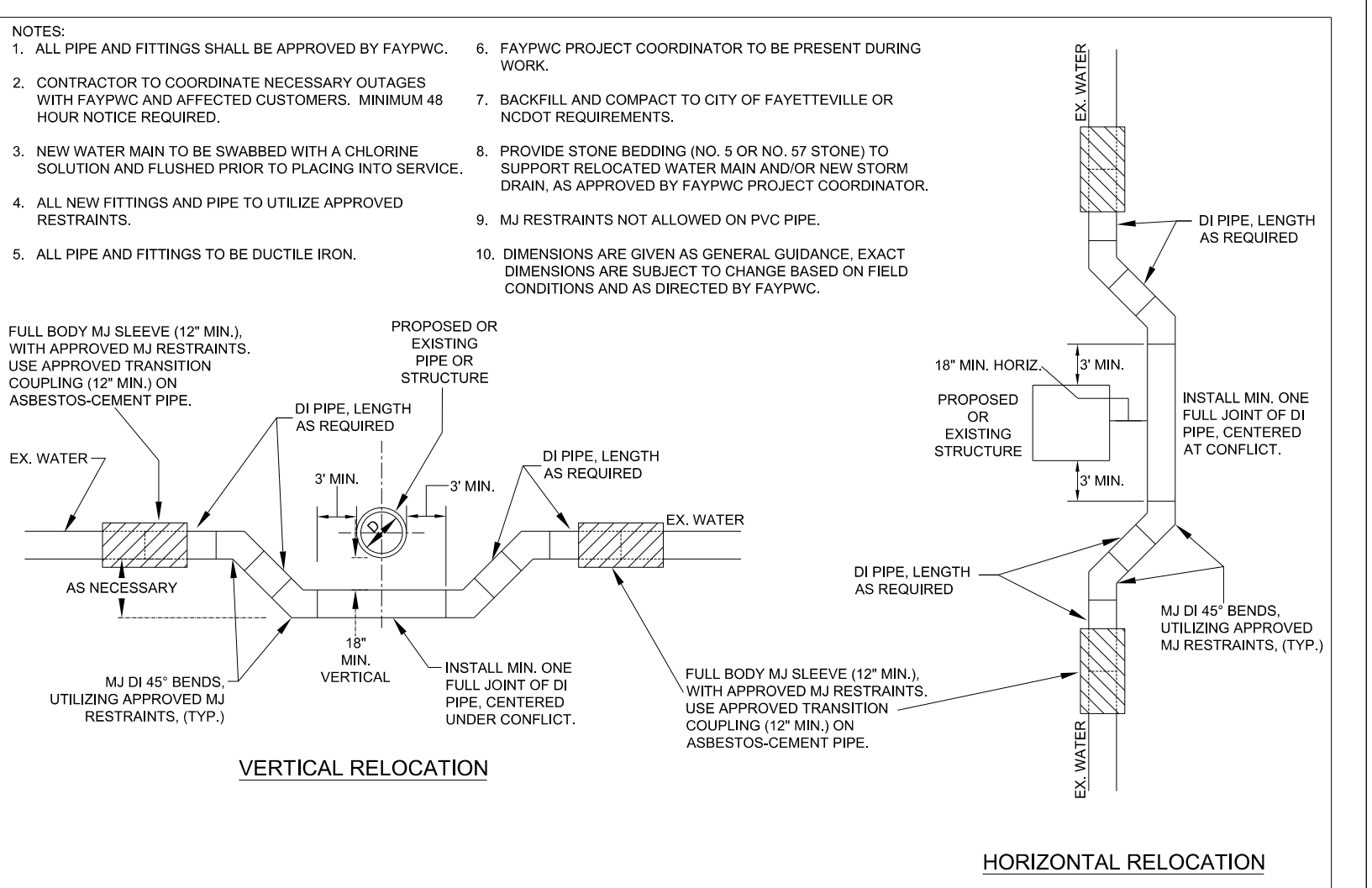
<b>1" SPLIT WATER SERVICE LATERAL FOR TYPE K SOFT COPPER PIPE</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0505 VALVE CHANGE, ADD NOTE 16	
DWG. NO. W.25		DWG. BY: FAYPWC		2 0505 VALVE CHANGE, ADD NOTE 17	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		3 0706 ADDED FRONT VIEW AND MOVED NOTES TO SHEET 2	



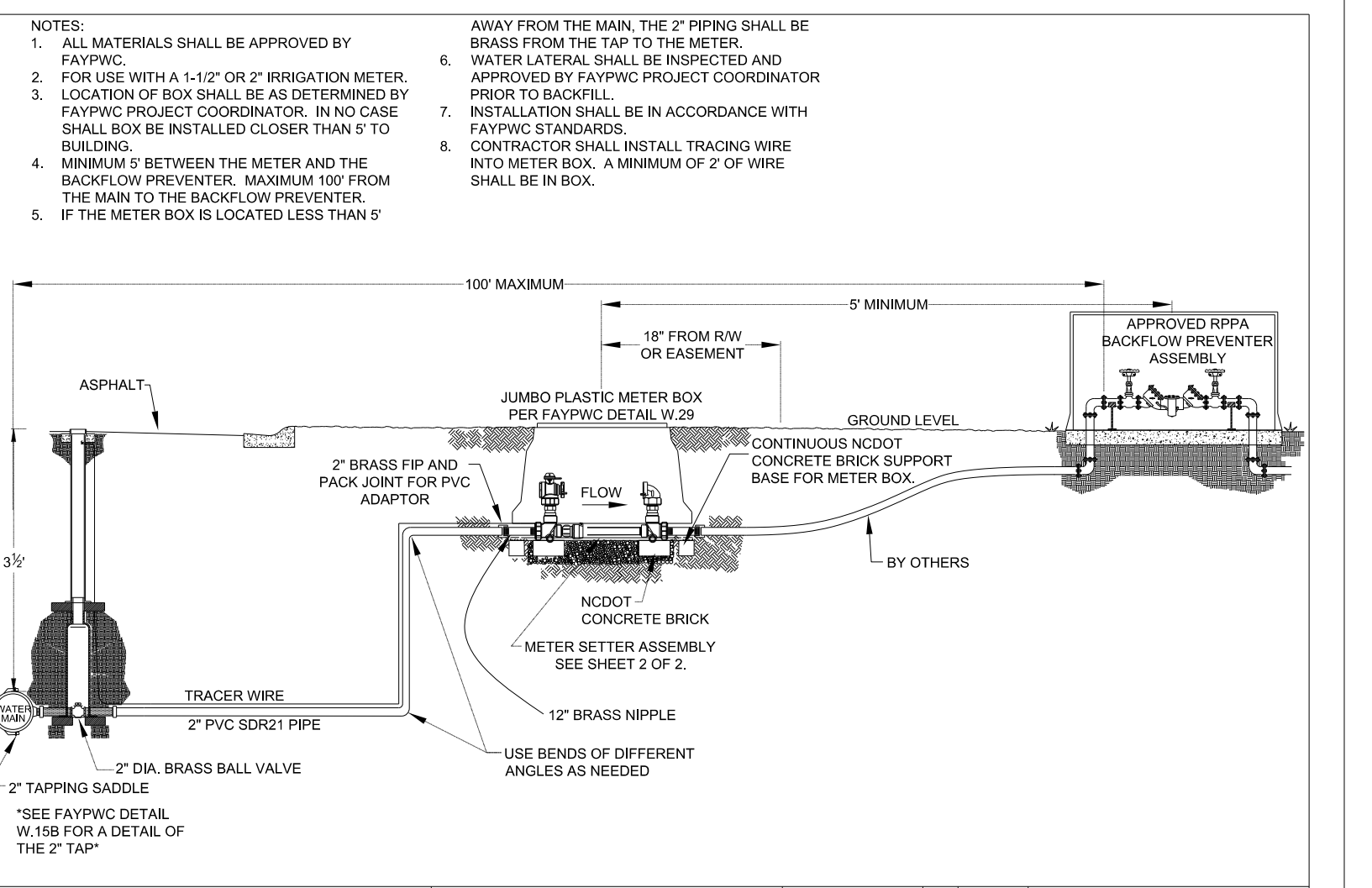
<b>2" IRRIGATION LATERAL</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0717 REVISED NOTES, ADDED SHEET 2	
DWG. NO. W.28		DWG. BY: FAYPWC		1 0717 REVISED NOTES, ADDED HORIZONTAL RELOCATION	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



<b>VERTICAL RELOCATION</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0717 REVISED NOTES, ADDED HORIZONTAL RELOCATION	
DWG. NO. W.26		DWG. BY: FAYPWC		1 0717 REVISED NOTES, ADDED HORIZONTAL RELOCATION	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



<b>HORIZONTAL RELOCATION</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0717 REVISED NOTES, ADDED SHEET 2	
DWG. NO. W.25		DWG. BY: FAYPWC		1 0717 REVISED NOTES, ADDED SHEET 2	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	



<b>2" IRRIGATION LATERAL</b>		<b>FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.</b>		<b>NO. DATE REVISION</b>	
N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		1 0717 REVISED NOTES, ADDED SHEET 2	
DWG. NO. W.28		DWG. BY: FAYPWC		1 0717 REVISED NOTES, ADDED SHEET 2	
DATE: JAN 01, 2023		APPROVED BY: M.M.M.		WATER RESOURCES ENGINEERING DEPARTMENT	

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