

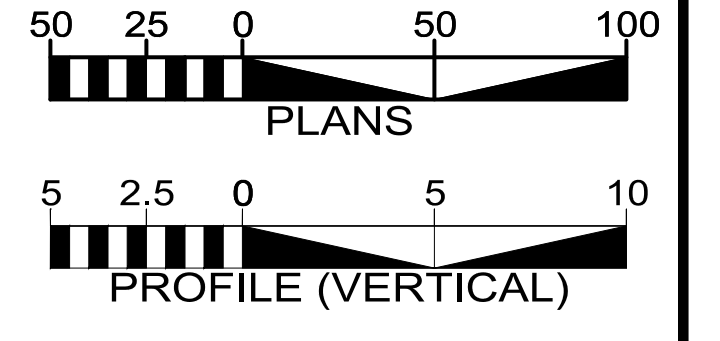
PROJECT REFERENCE NO.	SHEET NO.
BR-0011	UC-3B
DESIGNED BY: JDG	DocuSigned by: <b>Jacob Gray</b>
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
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UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**

**WithersRavenel**  
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**GATE VALVE T.S.**

NOTES:  
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH TOWN OF MURPHY STANDARDS.  
2. RESILIENT WEDGE NON BODY GATE VALVE SHALL BE AS MANUFACTURED BY MUELLER CORP., AMERICAN DARLING OR CLOW CORP.  
3. ALL VALVES SHALL HAVE 2" SQUARE OPERATING NUT AND SHALL OPEN COUNTERCLOCKWISE.  
4. VALVE BODY, BONNET, AND GATE SHALL BE IN ACCORDANCE WITH ANWA C-509C-515 AND NSF1.  
5. VALVE BODY AND BONNET SHALL BE COATED ON ALL INTERIOR AND EXTERIOR SURFACES WITH A FIBRON BONDED EPOXY IN ACCORDANCE WITH ANWA C-550-90.  
6. ALL VALVES 24" AND SMALLER SHALL HAVE A SAFE WORKING PRESSURE OF 250PSI.  
7. SEE VALVE BOX DETAIL FOR ADDITIONAL INFORMATION.  
8. SEE VALVE BOX DETAIL FOR ADDITIONAL INFORMATION.  
9. VALVE BOX SECTIONS ARE REQUIRED. THE USE OF PIPE IN LIEU OF VALVE BOX SECTIONS SHALL NOT BE PERMITTED.

PAVEMENT  
3000 PSI POURED IN PLACE CONCRETE COLLAR  
2" MIN. AT FINAL GRADE  
4" MIN. TRACER WIRE  
CONCRETE COLLAR SHALL BE PLACED WHERE VALVE IS IN A TRAFFIC AREA.  
VALVE BOX (SEE DETAIL)  
MIN. 12 GAUGE, SINGLE STRAND, COATED COPPER TRACER WIRE (SHALL BE INSTALLED BETWEEN VALVES AND SHALL BE INSTALLED ON ALL NON METALLIC PIPELINES). SPLICES SHALL BE APPROVED BY THE TOWN OF MURPHY PROJECT COORDINATOR.

VALVE IN TRAFFIC AREA  
VALVE IN NON-TRAFFIC AREA

NO.	DATE	REVISION

TOWN OF MURPHY  
5 WOFFORD STREET  
MURPHY, NC, 28906

DATE: 9/9/2019  
APPROVED BY: J.S.S.

W5-GATEVALVE.dwg

**DUCTILE IRON TAPPING SLEEVE T.S.**

NOTES:  
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH TOWN OF MURPHY STANDARDS. SLEEVE BODY SHALL BE DUCTILE IRON ASTM A536.  
2. MECHANICAL JOINT TAPPING SLEEVES SHALL BE AS MANUFACTURED BY CLOW, M & H, MUELLER, OR AMERICAN AND SHALL BE FURNISHED WITH SPLIT END GASKET, BOLTS, ETC. THE OUTLET FLANGE SHALL BE CL 150 OR ANSI B16.1 COMPATIBLE WITH APPROVED TAPPING VALVES.  
3. DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. SLEEVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.  
4. PIPE SURFACES SHALL BE CLEANED THOROUGHLY TO PERMIT FOR A GOOD SEAL PRIOR TO INSTALLATION.  
5. EXTERIOR OF TAPPING SLEEVE SHALL BE COATED WITH 2 COATS ASPHALTIC VARNISH MIL-C400.  
6. ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH TOWN OF MURPHY SPECIFICATIONS. TEST SHALL BE WITNESSED AND APPROVED BY A TOWN OF MURPHY PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.

3/4" NPT BRONZE SQ. HEAD PIPE PLUG  
TAPPING SLEEVE FRONT  
TAPPING SLEEVE BACK  
T-HEAD GLAND BOLT TIGHTEN TO 75-90 FT LBS  
5/8" STEEL ZINC PLATED HEX HEAD BOLT AND NUT TIGHTEN TO 75-90 FT LBS  
T-HEAD BOLT TIGHTEN TO 90 FT LBS  
M.J. RUBBER END GASKET  
M.J. RUBBER SIDE GASKET  
G (GASKET THICKNESS) SEE NOTE 2

SLEEVE SIZE PIPE X BRANCH A DIA	4X6	6X6	8X6	12X6	12X8	12X12	16X8	16X12	24X8	24X12	24X18	24X24	30X8	30X12	30X18	30X24			
B	7.016	7.016	9.016	7.016	9.016	13.016	7.016	9.016	13.016	11.00	13.5	19.0	23.5	32.0	11.00	13.5	19.0	23.5	32.0
C	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
D	7.78	8-1/16	9	11-5/8	11-7/8	12-7/8	14-1/8	14-1/2	14-7/8	19.5	19.5	19.5	20.5	20.5	23.25	23.25	23.25	23.75	23.75
E	11-3/4	13-7/8	13-7/8	18-1/2	18-1/2	23-1/2	23-1/2	23-1/2	28-5	28-5	38-5	38-5	43-7	43-7	43-7	43-7	43-7	43-7	43-7
F	13-1/2	15	15	18-1/2	18-1/2	23-1/2	23-1/2	23-1/2	28-5	28-5	38-5	38-5	43-7	43-7	43-7	43-7	43-7	43-7	43-7

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TOWN OF MURPHY  
5 WOFFORD STREET  
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W5-M.J.-TAPPING-SLEEVE.dwg

**VALVE BOX T.S.**

NOTES:  
1. VALVE BOX SHALL HAVE RAISED LETTERS "WATER" CAST INTO COVER.  
2. DIMENSIONS SHOWN VARY BASED UPON THE MANUFACTURER. ACTUAL DIMENSIONS SHALL BE APPROVED BY THE TOWN OF MURPHY.  
3. VALVE BOX SECTIONS ARE REQUIRED. THE USE OF PIPE IN LIEU OF VALVE BOX SECTIONS SHALL NOT BE PERMITTED.  
4. TRACING WIRE SHALL BE INSTALLED OUTSIDE OF BOX.  
5. REFER TO TOWN OF MURPHY DETAIL W.5 FOR INSTALLATION REQUIREMENTS.

CLOSED PICKHOLES (2)  
1" RAISED LETTERING (RECESSED FLUSH)  
BOX SHALL BE CENTERED OVER VALVE  
LID  
ALL PARTS SHALL BE OF THE SAME MATERIAL AND SUPPLIED BY THE SAME MANUFACTURER

COMPLETE BOX

DATE: 9/9/2019  
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TOWN OF MURPHY  
5 WOFFORD STREET  
MURPHY, NC, 28906

W6-VALVEBOX.dwg

**CONCRETE THRUST BLOCK DETAIL T.S.**

MINIMUM BEARING AREA EACH DIRECTION OF THRUST IN SQUARE FEET (based on soil supporting value of 2,000psf @ 200 psig test pressure)

PIPE SIZE	TEES & DEADENDS	ELBOWS	45° ELBOW & CROSSES	22-1/2° ELBOWS
6"	4	6	3	2
8"	7	10	5	3
12"	15	21	11	6

NOTES:  
1. THRUST BLOCKS SHALL BE INSTALLED ON PVC WATER DISTRIBUTION LINES 6" THRU 12" DIAMETER IN THE MANNER SHOWN.  
2. PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.  
3. THRUST BLOCKS SHALL BE INSTALLED ON WATER MAIN IN THE MANNER SHOWN.  
4. IF SAC-CRETE IS USED, MIXING MUST BE ON SITE UTILIZING A MECHANICAL MIXER.  
5. NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.  
6. CONCRETE SHALL BE A MINIMUM 3,000PSI.  
7. ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL AND SHALL BE APPROVED BY THE TOWN OF MURPHY PROJECT COORDINATOR PRIOR TO PLACEMENT OF CONCRETE.  
8. USE OF RESTRAINED JOINT DUCTILE IRON WILL BE REQUIRED IF SOIL CONDITIONS DO NOT ALLOW THE USE OF THRUST BLOCKS.  
9. ALL VERTICAL BENDS SHALL BE RESTRAINED USING RESTRAINED JOINT DUCTILE IRON PIPE.

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TOWN OF MURPHY  
5 WOFFORD STREET  
MURPHY, NC, 28906

W14-THRUSTBLOCK.dwg

**TAPPING VALVE T.S.**

NOTES:  
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH TOWN OF MURPHY STANDARDS.  
2. RAISED MALE FACE SHALL BE REQUIRED TO PROVIDE FOR PROPER ALIGNMENT OF THE TAPPING SLEEVE.  
3. ALL VALVES SHALL HAVE 2" SQUARE OPERATING NUT AND SHALL OPEN COUNTERCLOCKWISE.  
4. RESILIENT WEDGE GATE VALVE SHALL BE AS MANUFACTURED BY MUELLER CORP., AMERICAN DARLING, CLOW CORP., OR APPROVED EQUAL.  
5. VALVE BODY, BONNET, AND GATE SHALL BE IN ACCORDANCE WITH ANWA C-509C-515 AND NSF1.  
6. VALVE BODY AND BONNET SHALL BE COATED ON ALL INTERIOR AND EXTERIOR SURFACES WITH A FIBRON BONDED EPOXY IN ACCORDANCE WITH ANWA C-550-90.  
7. ALL VALVES 24" AND SMALLER SHALL HAVE A SAFE WORKING PRESSURE OF 250 PSIG.  
8. SEE TAPPING SLEEVE DETAILS W.10 OR W.11 FOR ADDITIONAL INFORMATION.  
9. DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. VALVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.  
10. ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH TOWN OF MURPHY SPECIFICATIONS. TEST SHALL BE WITNESSED AND APPROVED BY THE TOWN OF MURPHY PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.

THE WORD "OPEN" AND ARROW INDICATING COUNTERCLOCKWISE DIRECTION CAST HERE.

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TOWN OF MURPHY  
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MURPHY, NC, 28906

W8-M.J.-TAPPING-VALVE.dwg

REVISIONS

V:\1919-09\01\00039-Town of Murphy Water Line Relocation\00\01\00039.dwg - Tuesday, November 10, 2020 9:28:31 AM - GRAY, JACOB