#### DWG NO.

#### TITLE/DESCRIPTION

WT-17 (1 of 9) - INDEX AND GENERAL NOTES

WT-17 (2 of 9) - VAULT ARRANGEMENT SCHEMATICS

WT-17 (3 of 9) - VAULT SECTIONAL PLAN VIEW

WT-17 (4 of 9) - COVER SLAB PLAN VIEW

WT-17 (5 of 9) - VAULT SECTION "A"

WT-17 (6 of 9) - VAULT SECTIONS "B" AND "C"

WT-17 (7 of 9) - PIPING AND EQUIPMENT SCHEDULE

WT-17 (8 of 9) - SPECIFIC EQUIPMENT NOTES

WT-17 (9 of 9) - VAULT DIMENSIONS SCHEDULE

ALL NINE (9) PRV DRAWINGS SHALL BE INCLUDED ON THE CONSTRUCTION PLANS.

- THE VALVE SIZE AND LAYOUT SCHEME SHALL BE DETERMINED BY THE OWNER; APPROVAL WILL BE BY THE UTILITIES DEPARTMENT. PLANS MUST BE PREPARED, SEALED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS.
- THE VAULT PIPING LAYOUT SHALL BE SHOWN IN DETAIL WT-17 (2 OF 9).
- THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR APPROVAL BY THE OWNER FOR ALL VAULT, PIPING, EQUIPMENT AND MATERIALS PRIOR TO ANY CONSTRUCTION.
- D. FIELD VERIFY THE DEPTH OF THE ADJACENT PIPING TO BE CONNECTED TO AND ADJUST THE VERTICAL DIMENSIONS OF THE VAULT AS REQUIRED.
- FIELD VERIFY THE MATERIAL AND PRESSURE CLASS OF THE ADJACENT PIPING TO BE CONNECTED TO AND PROVIDE APPROPRIATE PIPE CONNECTION FITTINGS AS REQUIRED.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ANY EXISTING UTILITIES, STRUCTURES AND EQUIPMENT WHICH PERTAIN TO AND/OR AFFECT THE CONSTRUCTION OF THE VAULT.
- G. ANY EXISTING UTILITIES, PAVEMENT, FENCING, CURBS, SIDEWALKS, STRUCTURES, ETC., THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
- THE LOCATION AND ORIENTATION OF THE VAULT SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.
- DIMENSIONS AND ELEVATIONS SHOWN WITH AN ASTERISK (\*) SHALL BE DETERMINED AND/OR VERIFIED AFTER FINAL EQUIPMENT SELECTION AND LOCATION HAVE BEEN MADE.
- VERIFY ALL PIPING DIMENSIONS AND ELEVATIONS FOR EQUIPMENT AND PIPING MATERIALS ACTUALLY FURNISHED FOR THIS PROJECT.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED TO A MINIMUM OF PRE-CONSTRUCTION CONDITIONS.
- ALL SITE AND VAULT PIPING SHALL BE DUCTILE IRON PIPE (D.I.P.) WITH BITUMINOUS COATING AND CEMENT LINING.
- M. ALL BURIED PIPING SHALL BE POLYWRAPPED, AND SHALL ALSO HAVE RESTRAINED JOINTS INSTALLED TO A MINIMUM DISTANCE OUTSIDE OF THE VAULT WALL AS SHOWN FOR NOTE NO. "29" ON DETAIL WT-17 (7 of 9).

  N. ALL BURIED PIPING SHALL BE INSTALLED WITH 4-FEET MINIMUM COVER.
- THE CONTRACTOR SHALL PROVIDE COUPLINGS, EXPANSION JOINTS AND THRUST RESTRAINTS AS REQUIRED FOR ALL PIPING.
- ALL VALVES, FITTINGS AND PIPE NOT DESIGNATED OTHERWISE SHALL BE EPOXY LINED AND SHALL BE NATIONAL SANITATION FOUNDATION (NSF) STANDARD 61 CERTIFIED.
- Q. CONFINED SPACE ENTRY PLAQUE REQUIRED ON OUTSIDE OF ACCESS HATCH.

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**APPROVED** 

03-01-18 DATE

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

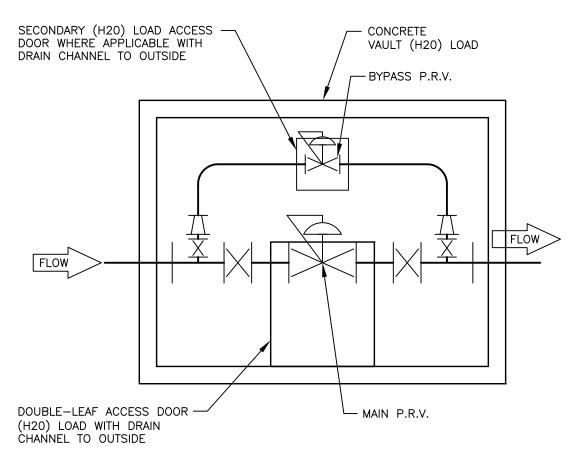
#### OF ROUND ROCK CITY

PRESSURE REDUCING VALVE VAULT LAYOUT INDEX AND GENERAL NOTES



DRAWING NO:

WT - 17 (1 of 9)



SCHEMATIC LAYOUT

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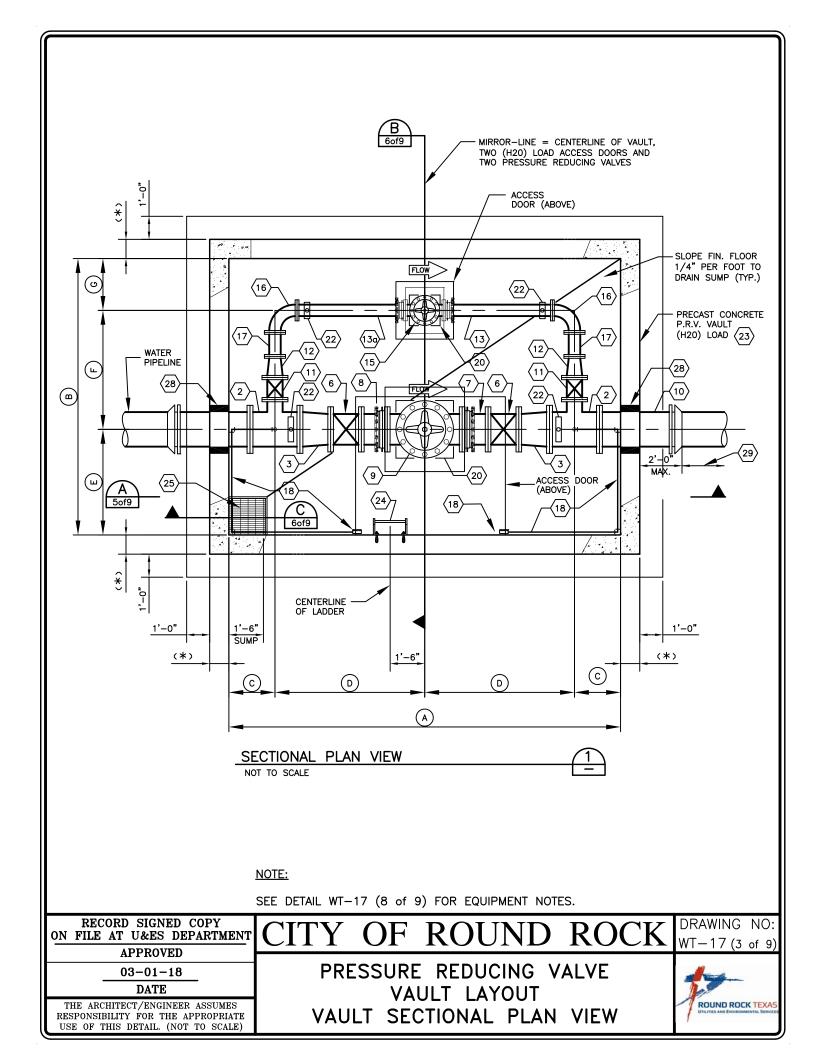
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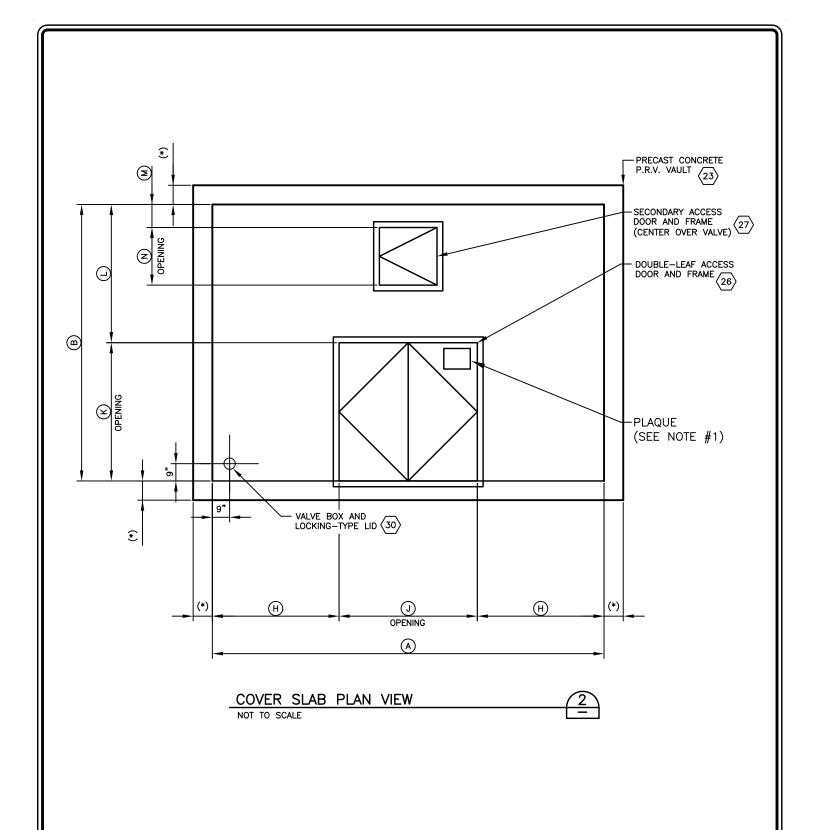
# CITY OF ROUND ROCK

DRAWING NO: WT-17 (2 of 9)

PRESSURE REDUCING VALVE
VAULT LAYOUT
VAULT ARRANGEMENT SCHEMATIC







### NOTE:

- 1. ATTACH CONFINED SPACE ENTRY PLAQUE TO OUTSIDE OF THE ACCESS HATCH. (SEE NOTE Q ON DETAIL WT-17 (1 of 9)). (\*) SEE NOTE "I" ON DETAIL WT-17 (1 of 9).

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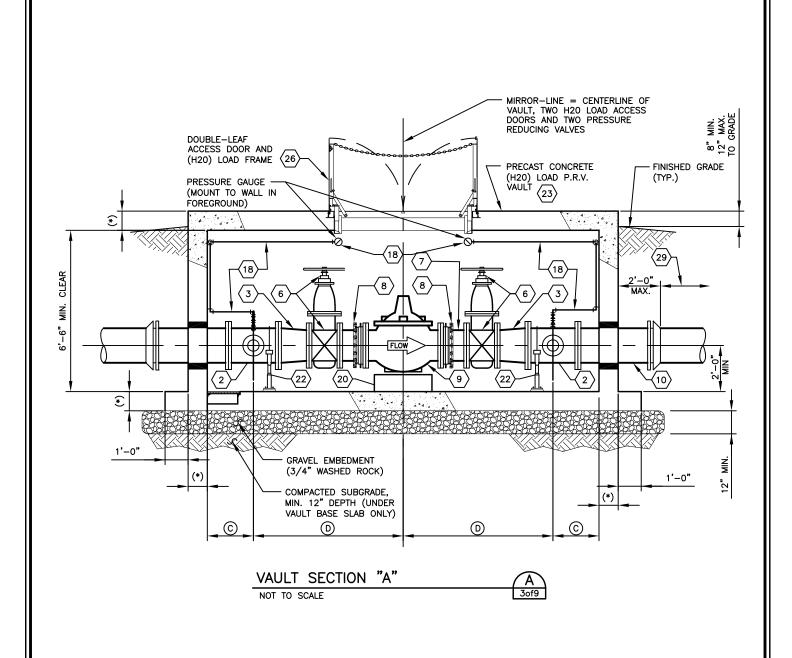
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PRESSURE REDUCING VALVE

VAULT LAYOUT COVER SLAB PLAN VIEW



DRAWING NO:



NOTE:

(\*) SEE NOTE "I" ON DETAIL WT-17 (1 of 9).

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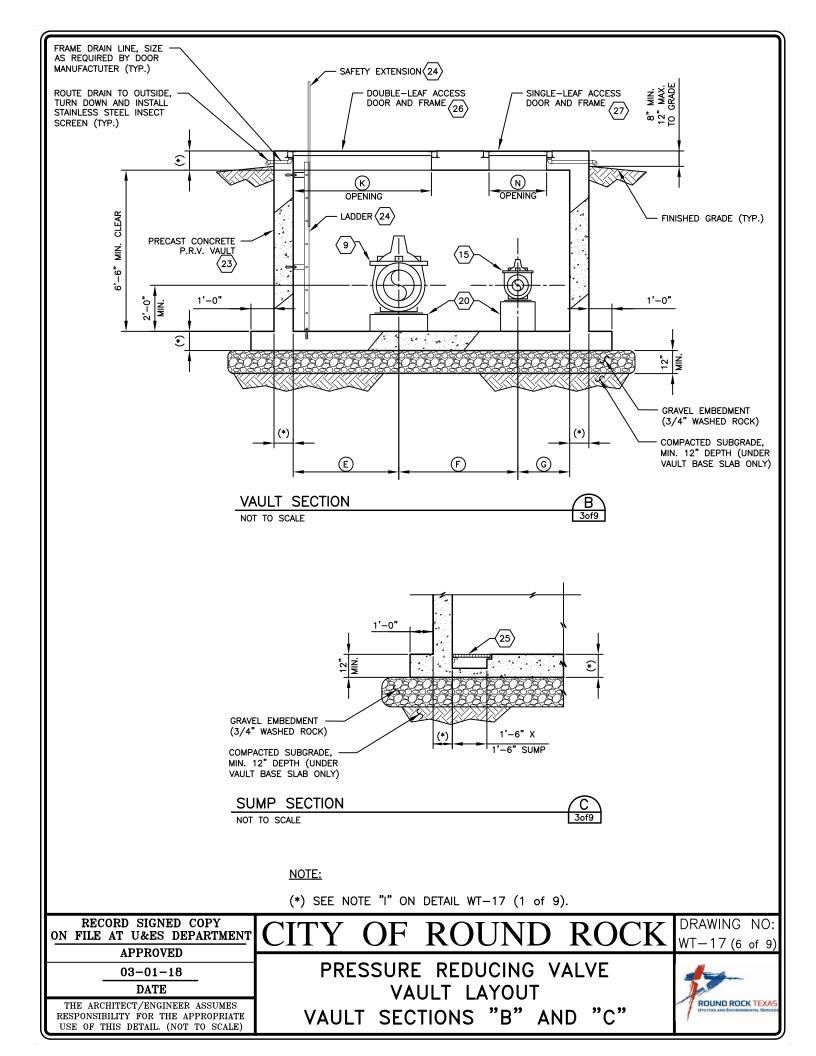
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### CITY OF ROUND ROCK

PRESSURE REDUCING VALVE
VAULT LAYOUT
VAULT SECTION "A"

DRAWING NO: WT-17 (5 of 9)





TAG	DESCRIPTION	NOMINAL SIZE					FITTING TYPE	SPECIFIC NOTES (SEE DRAWING
NO.		VAULT NO. 1	VAULT NO. 2	VAULT NO. 3	VAULT NO. 4	VAULT NO. 5	FILLING TIPE	DWG. WT-24)
1.	SPOOL PIPE	8"	10"	12"	16"	24"	M.J. x FL.	1, 2, 3
2.	TEE W/1-1/2" THREADED TESTING PORT	8" × 4"	10" x 4"	12" x 4"	16" x 6"	24" x 12"	FL. x FL.	2, 3
3.	CONCENTRIC REDUCER	N.A.	N.A.	N.A.	N.A.	24" x 16"	FL. x FL.	2, 3
4.	SPOOL PIPE	8"	10"	12"	16"	16"	FL. x FL.	2, 3
5.	90° ELBOW	8"	10"	12"	16"	16"	FL. x FL.	2, 3
6.	RESILIENT WEDGE GATE VALVE	8"	10"	12"	16"	16"	FL. x FL.	3, 4
7.	SPOOL PIPE	8"	10"	12"	16"	16"	FL. x P.E.	2, 3
8.	DRESSER DISMANTLING JOINT	8"	10"	12"	16"	16"		5, 6
9.	PRESSURE REDUCING VALVE	8"	10"	12"	16"	16"	FL. x FL.	3, 7
10.	SPOOL PIPE	8"	10"	12"	16"	24"	FL. x P.E.	2, 3
11.	RESILIENT WEDGE GATE VALVE	4"	4"	4"	6"	12"	FL. x FL.	3, 4
12.	CONCENTRIC REDUCER	4" × 3"	4" × 3"	N.A.	N.A.	N.A.	FL. x FL.	2, 3
13.	SPOOL PIPE	3"	3"	4"	6"	12"	FL. x P.E.	2, 3
14.	DRESSER DISMANTLING JOINT	3"	3"	4"	6"	12"		5, 6
15.	PRESSURE REDUCING VALVE	3"	3"	4"	6"	12"	FL. x FL.	3, 7
16.	90° ELBOW	3"	3"	4"	6"	12"	FL. x FL.	2, 3
17.	SPOOL PIPE	3"	3"	4"	6"	12"	FL. x FL.	2, 3
18.	PRESSURE GAUGE ASSEMBLY							8, 9
19.	CONCRETE PEDESTAL PIPE SUPPORT							10
20.	CONCRETE PEDESTAL VALVE SUPPORT							11
21.	PIPE STANCHION SADDLE SUPPORT							12
	PIPE STANCHION SADDLE SUPPORT							
22.	WITH YOKE							13
23.	PRE-CAST CONCRETE VALVE VAULT							14
24.	ALUMINUM LADDER W/SAFETY EXTENSION							15
25.	GRATING AND FRAME							16
26.	DOUBLE-LEAF ACCESS DOOR (H20)	60" x 60"		17				
27.	SECONDARY ACCESS DOOR (H20)	N.A.	N.A.	N.A.	36" x 36"	42" x 42"		18
28.	WALL PENETRATION SEAL	8"	10"	12"	16"	24"		19
	BURIED PIPING WITH	8" DIA. x	10" DIA. x	12" DIA. x	16" DIA. x	24" DIA. x		
29.	RESTRAINED JOINT FITTINGS	114 L.F., MIN.	141 L.F., MIN.	167 L.F., MIN.	220 L.F., MIN.	318 L.F., MIN.		
30.	VALVE BOX AND LOCKING LID	5 1/4" DIA.		20				

#### **VAULT DESCRIPTION NOTE:**

THE DESCRIPTION FOR THE PRESSURE REDUCING VALVE (P.R.V.) VAULTS IS AS FOLLOWS:

VAULT NO. 1 = VAULT WITH 8" P.R.V. AND 3" P.R.V. BYPASS

VAULT NO. 2 = VAULT WITH 10" P.R.V. AND 3" P.R.V. BYPASS VAULT NO. 3 = VAULT WITH 12" P.R.V. AND 4" P.R.V. BYPASS VAULT NO. 4 = VAULT WITH 16" P.R.V. AND 6" P.R.V. BYPASS

VAULT NO. 5 = VAULT WITH 16" P.R.V. AND 12" P.R.V. BYPASS

ALL VAULTS AND ACCESS DOORS SHALL BE DESIGNED TO WITHSTAND (H20) LOADING. CITY OF ROUND ROCK DETAIL NO. WT-17 (8 OF 9) MUST BE INCLUDED WITH P.R.V. AND VAULT DETAILS.

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03-01-18 DATE

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### ROUND

DRAWING NO: WT-17 (7 of 9)

PRESSURE REDUCING VALVE VAULT LAYOUT PIPING AND EQUIPMENT SCHEDULE



#### **NOTES:**

- 1. FULLY RESTRAINED JOINT FITTING.
- 2. DUCTILE IRON PIPE.
- 3. 200 P.S.I. WORKING PRESSURE MINIMUM.
- 4. NON-RISING STEM WITH HANDWHEEL OPERATOR, A.W.W.A. C509 (CLOW, MUELLER, OR APPROVED EQUAL).
- 5. 200 P.S.I. WORKING PRESSURE MINIMUM.
- 6. FULLY RESTRAINED (EBAA IRON SALES INC. SERIES 2100 MEGAFLANGE, OR APPROVED EQUAL).
- 7. GLOBE—STYLE, FULL—PORT WITH STEM INDICATOR AND 4 1/2", OIL FILLED, GUAGES ON THE INLET AND OUTLET PORTS. (WATTS ACV 115, CLA—VAL, OR APPROVED EQUAL). SEE NOTE 21 FOR REQUIRED LAYING LENGTHS.
- 8. PRESSURE GAUGE ASSEMBLY TO INCLUDE 1" DIAMETER THREADED TAP; 1/2" X 1" BUSHING; 1/2" QUARTER-TURN BALL VALVE; AND STAINLESS STEEL 316 GAUGE WITH 4 1/2" DIAL, OIL FILLED, 0-160 P.S.I. RANGE, AND 1/2" GAUGE CONNECTION; INSTALLED WITH 1/2" COPPER PIPING ROUTED ALONG WALL TO WITHIN 6" OF TOP OF VAULT, WITH GAUGE MOUNTED IN A LOCATION THAT IS READABLE BY OPENING THE ACCESS DOOR. COORDINATE INSTALLATION WITH THE OWNER'S REPRESENTATIVE.
- 9. SUPPORT COPPER TUBING WITH PIPE STRAP AND 3/8" EXPANSION ANCHORS, INSTALLED AT MAXIMUM 3-FEET O.C. EQUAL SPACING (ANVIL INTERNATIONAL INCORPORATED FIG. 262, OR APPROVED EQUAL).
- 10. CONCRETE PEDESTAL PIPE SUPPORT WITH STEEL STRAP; MINIMUM 10" THICK CONCRETE PEDESTAL (WIDTH TO BE PIPE O.D. PLUS 10" EACH SIDE), WITH 3/4" THICK X 6" WIDE STAINLESS STEEL STRAP AND TWO 1 1/4" DIAMETER ANCHOR BOLTS. CONCRETE REINFORCING SHALL BE NO. 5 VERTICAL REBARS AND NO. 4 HORIZONTAL HOOPS PLACED AT 8" ON—CENTERS (ALL VERTICAL BARS TO BE EMBEDDED INTO SLAB TO A DEPTH RECOMMENDED BY EPOXY SYSTEM MANUFACTURER).

  11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE DIMENSIONS AND ANCHOR BOLT SIZE,
- 11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE DIMENSIONS AND ANCHOR BOLT SIZE, LENGTH AND LOCATIONS TO BE DETERMINED BY THE VALVE MANUFACTURER TO FIT THE VALVE MOUNTING BASE SUPPLIED WITH THE VALVE. VERIFY ALL DIMENSIONS WITH THE VALVE MANUFACTURER. CONCRETE REINFORCING SHALL BE NO. 5 VERTICAL REBARS AND NO. 4 HORIZONTAL HOOPS PLACED AT 8" ON—CENTERS (ALL VERTICAL BARS TO BE EMBEDDED INTO SLAB TO A DEPTH AS RECOMMENDED BY EPOXY SYSTEM MANUFACTURER).
- 12. PIPE STANCHION SADDLE SUPPORT (ANVIL INTERNATIONAL, INC., FIG. 258 AND FIG. 62, OR APPROVED EQUAL) WITH EXPANSION ANCHORS AS RECOMMENDED BY SUPPORT MANUFACTURER.
- 13. PIPE STANCHION SADDLE SUPPORT WITH YOKE (ANVIL INTERNATIONAL, INC., FIG. 259 AND FIG. 62, OR APPROVED EQUAL) WITH EXPANSION ANCHORS AS RECOMMENDED BY SUPPORT MANUFACTURER.
- 14. PRECAST CONCRÉTE VAULT INSTALLED ON TOP OF CRUSHED ROCK BED. DUE TO THE CONSTRAINTS OF THE CONSTRUCTION, THE CONTRACTOR MAY ELECT TO PROVIDE A CAST—IN—PLACE CONCRETE VAULT. IN EITHER CASE, SEALED AND SIGNED DRAWINGS BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SHALL BE MINIMUM 4000 P.S.I. 28—DAY COMPRESSION STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL DESIGNED FOR AASHTO H—20 WHEEL LOAD AND GROUNDWATER AT 0—FEET BELOW FINISHED GRADE. (CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL).
- 15. LADDER PER DETAIL WT-18, ALL ALUMINUM CONSTRUCTION, WITH 7" STAND-OFF (FOR FLAT WALL) AND FLOOR MOUNTING BRACKETS AND SAFETY EXTENSION (HALLIDAY PRODUCTS SERIES L1D LADDER AND SERIES L1E EXTENSION). LADDER TO EXTEND TO VAULT FLOOR.
- 16. REMOVABLE FRP GRATING WITH FRP FRAME AND STAINLESS STEEL ANCHORS.
- 17. ALUMINUM DOUBLE-LEAF ACCESS DOOR, RATED FOR AASHTO H-20 WHEEL LOAD (HALLIDAY PRODUCTS SERIES H2W ACCESS DOOR, OR APPROVED EQUAL).
- 18. ALUMINUM ACCESS DOOR, RATED FOR AASHTO H-20 WHEEL LOAD (HALLIDAY PRODUCTS SERIES H1W ACCESS DOOR, OR APPROVED EQUAL).
- 19. WALL PENETRATION SHALL BE INSTALLED WITH MECHANICAL COMPRESSION—TYPE ANNULAR SEAL (THUNDERLINE—LINK—SEAL, BY PIPELINE SEAL AND INSULATOR INCORPORATED, OR APPROVED EQUAL).
- 20. VALVE BOX AND LOCKING LID, 5 1/4" DIAMETER CAST IRON RISER SECTION OF VALVE BOX, LENGTH AS REQUIRED FOR COVER SLAB THICKNESS AND LOCKING LID WITH "PLAIN" MARKING (TYLER/UNION MODEL 148241 AND MODEL 145462, OR APPROVED EQUAL).
- 21. GLOBE VALVE SHALL HAVE THE FOLLOWING LAY LENGTHS: 2"-9.38", 3"-12.00", 4"-15.00", 6"-20.00", 8"-25.38", 10"-29.75", 12"-34.00", 14"-39.00", 16"-41.38", 18"-48.00", 20"-48.00" AND 24"-48.00".

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03-01-18 DATE

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# CITY OF ROUND ROCK

PRESSURE REDUCING VALVE VAULT LAYOUT SPECIFIC EQUIPMENT NOTES



DRAWING NO:

WT-17 (8 of 9)

	NOMINAL SIZE								
TAG	VAULT NO. 1	VAULT NO. 2	VAULT NO. 3	VAULT NO. 4	VAULT NO. 5				
Α	12'-0"	14'-0"	14'-6"	16'-0"	20'-0"				
В	10'-0"	10'-0"	10'-0"	12'-0"	13'-6"				
С	1'-6"	2'-0"	2'-0"	2'-0"	2'-0"				
D	4'-6"	5'-0"	5'-3"	6'-0"	8'-0"				
Е	4'-6"	4'-6"	4'-6"	4'-9"	4'-9"				
F	3'-6"	3'-6"	3'-6"	5'-0"	6'-3"				
G	2'-0"	2'-0"	2'-0"	2'-3"	2'-6"				
Н	3'-0"	4'-0"	4'-3"	5'-0"	7'-0"				
	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"				
J	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"				
К	6'-0"	6'-0"	6'-0"	6'-0"	7'-6"				
L	N.A.	N.A.	N.A.	1'-0"	9"				
М	N.A.	N.A.	N.A.	2'-6"	3'-6"				
N	N.A.	N.A	N.A	2'-6"	3'-6"				
0	N.A.	N.A.	N.A.	6'-9"	8'-3"				

#### VAULT DIMENSIONS NOTE:

VAULT DIMENSIONS SHOWN ARE MINIMUM AND MUST BE VERIFIED FOR EQUIPMENT AND PIPING MATERIALS ACTUALLY FURNISHED FOR THE PRESSURE REDUCING VALVE VAULT TO BE CONSTRUCTED.

#### VAULT DESCRIPTION NOTE:

THE DESCRIPTION FOR THE PRESSURE REDUCING VALVE (P.R.V.) VAULTS IS AS FOLLOWS:

VAULT NO. 1 = VAULT WITH 8" P.R.V. AND 3" P.R.V. BYPASS VAULT NO. 2 = VAULT WITH 10" P.R.V. AND 3" P.R.V. BYPASS VAULT NO. 3 = VAULT WITH 12" P.R.V. AND 4" P.R.V. BYPASS VAULT NO. 4 = VAULT WITH 16" P.R.V. AND 6" P.R.V. BYPASS VAULT NO. 5 = VAULT WITH 16" P.R.V. AND 12" P.R.V. BYPASS

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# CITY OF ROUND ROCK

DRAWING NO: WT-17 (9 of 9)

PRESSURE REDUCING VALVE
VAULT LAYOUT
VAULT DIMENSIONS SCHEDULE

