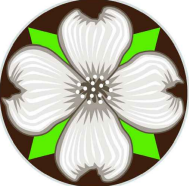



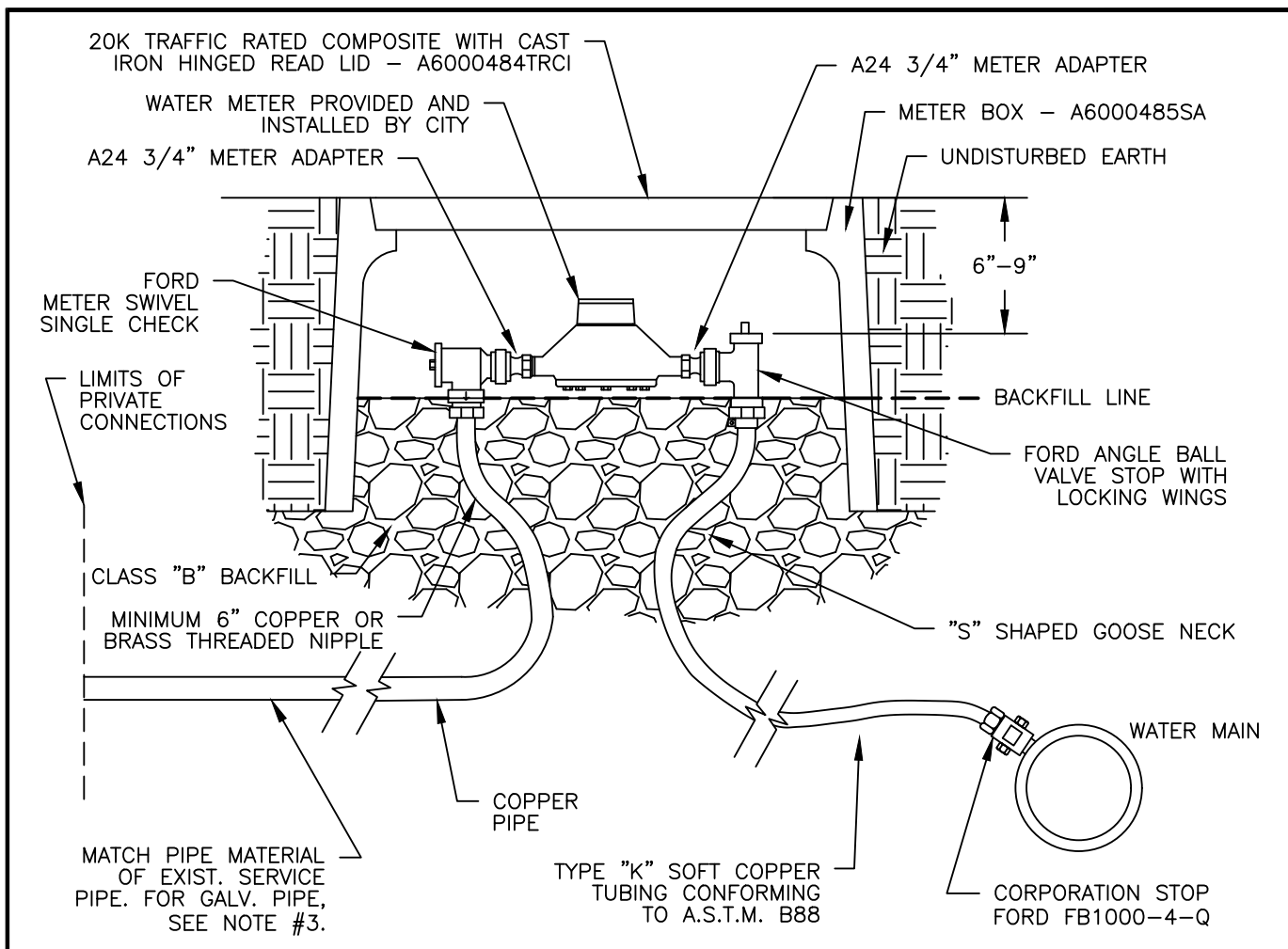
THE FOLLOWING LATEST VERSION OF THE OREGON STANDARD DRAWINGS
PUBLISHED BY APWA/ODOT TO BE USED AS A CITY OF MILWAUKIE
STANDARD WITH MILWAUKIE SPECIFIC REQUIREMENTS AS NOTED

OREGON STANDARD DRAWING NUMBER	OREGON STANDARD DRAWING NAME	MILWAUKIE EXCEPTION TO DRAWING
RD250	THRUST BLOCKING	NO EXCEPTION TAKEN
RD262	TYPICAL MAIN DEAD-END BLOWOFF ASSEMBLY	MEGALUG RESTRAINED JOINT
RD270	COMBINATION AIR RELEASE AIR VACUUM VALVE ASSEMBLY (2" AND SMALLER)	NO EXCEPTION TAKEN
RD282	WATER SAMPLING STATION	KUPFERLE ECLIPSE 88-SS WITH "CITY OF MILWAUKIE" LOGO CAST INTO ACCESS DOOR

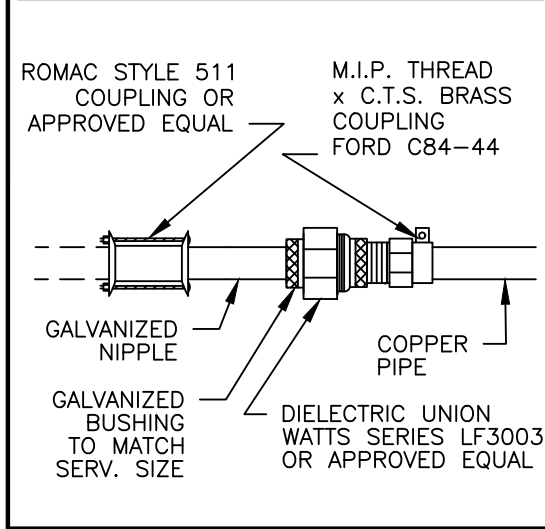
NOTES:

- STANDARD DRAWING PUBLISHED BY APWA/ODOT NOT LISTED MUST NOT BE USED WITHOUT PRIOR APPROVAL BY THE PUBLIC WORKS DEPARTMENT

	CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.				DRAWING NO. 400		
	ACCEPTABLE OREGON STANDARD DRAWINGS, WATER						
	APPROVED	 03/2024	NO.	REVISIONS		DATE	BY
	CITY ENGINEER	DATE	1	NEW DRAWING		11/18	TAP
		2	NOTE CHANGED	08/19	TAP		



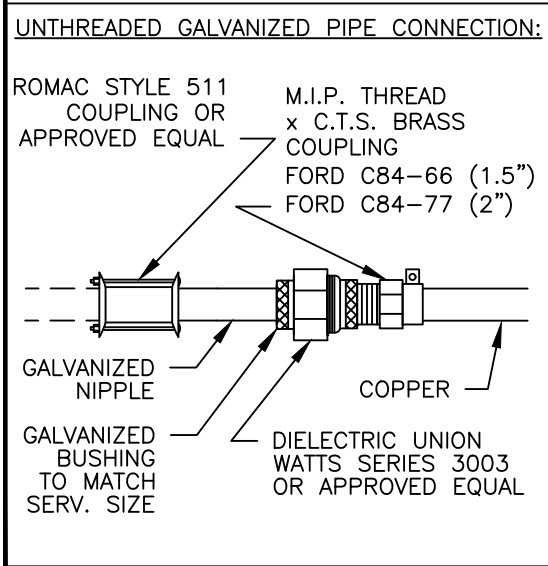
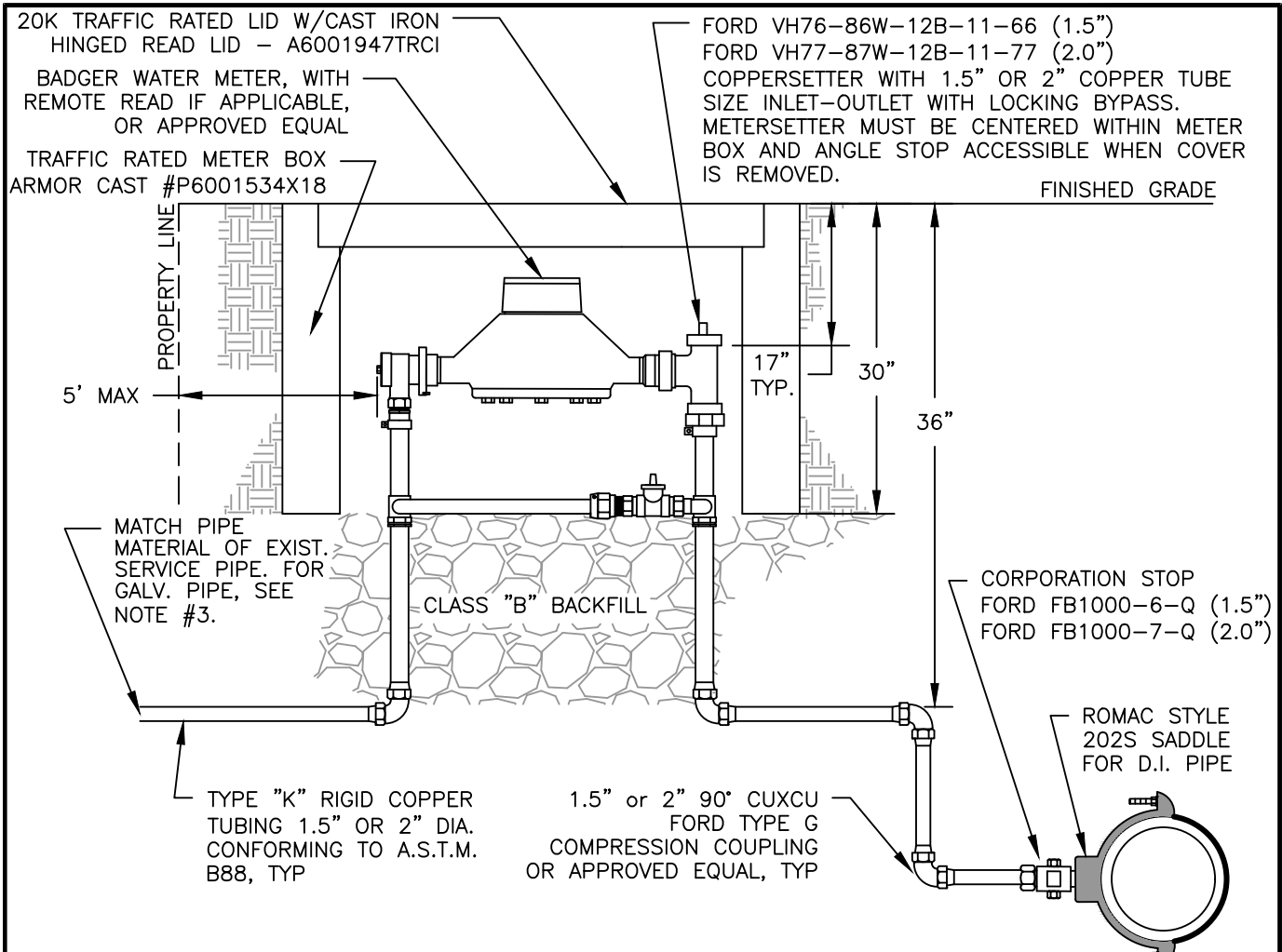
UNTHREADED GALVANIZED PIPE CONNECTION:



NOTES:

1. IF COPPER TUBING CROSSES CATHODICALLY PROTECTED LINE, ENCASE COPPER IN POLYETHYLENE TUBING FOR 24" (CENTERED AT THE CROSSING LINE) AND FASTEN WITH 2" WIDE ADHESIVE TAPE THAT IS COMPATIBLE WITH POLYETHYLENE.
2. PLACE METER BOXES (1) LOCATED BEHIND THE SIDEWALK WHERE THERE IS SUFFICIENT RIGHT-OF-WAY, (2) WITHIN THE PLANTER STRIP, EXCLUDING WATER QUALITY FACILITIES, (3) WITHIN THE SIDEWALK WITH THE BACK OF THE METER BOX AT THE BACK EDGE OF THE SIDEWALK.
3. CONNECT GALVANIZED SERVICE PIPE; (1) AT EXISTING THREADED FITTING WITHIN 5 FEET OF WATER METER; (2) RETHREAD EXISTING GALVANIZED SERVICE PIPE; (3) IF EXISTING PIPE IS IN POOR CONDITION AND CANNOT BE RETHREADED, USE UNTHREADED GALVANIZED PIPE CONNECTION DETAIL.
4. IF METER BOX IS LOCATED IN THE SIDEWALK, DIELECTRIC UNION WILL BE INSTALLED (1) 6" FROM BACK OF METER INSIDE OF METER BOX, (2) BEHIND BACK OF SIDEWALK.

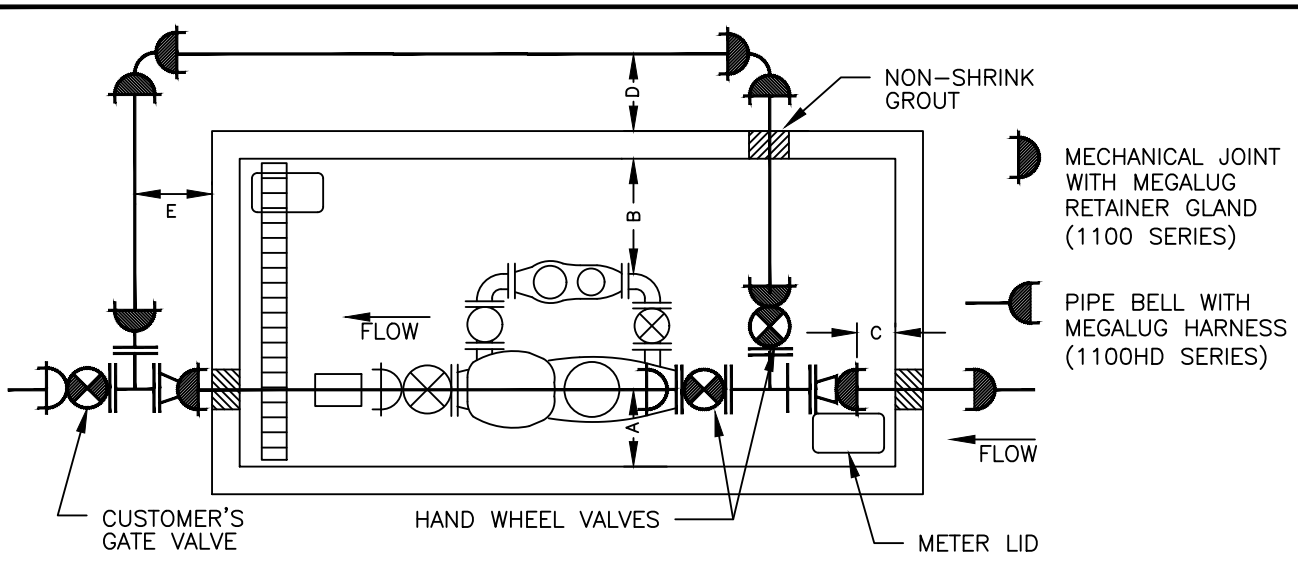
	CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.				DRAWING NO. 401
	3/4 to 1 Inch Water Service				
APPROVED	 03/2024	NO.	REVISIONS	DATE	BY
CITY ENGINEER	DATE	6	ADDED 3/4" WATER SERVICE	11/18	TAP
		7	TITLE CHANGE	08/19	TAP
		8	NOTE CHANGE	11/23	TAP



- NOTES:**
- IF COPPER TUBING CROSSES CATHODICALLY PROTECTED LINE, ENCASE COPPER IN POLYETHYLENE TUBING FOR 24" (CENTERED AT THE CROSSING LINE) AND FASTEN WITH 2" WIDE ADHESIVE TAPE THAT IS COMPATIBLE WITH POLYETHYLENE.
 - PLACE METER BOXES (1) IN LINE WITH THE PROPERTY LINE BEHIND THE SIDEWALK WHERE THERE IS SUFFICIENT RIGHT-OF-WAY, (2) WITHIN THE SIDEWALK WITH THE BACK OF THE METER BOX AT THE BACK EDGE OF THE SIDEWALK (3) WITHIN THE PLANTER STRIP, EXCLUDING WATER QUALITY FACILITIES.
 - CONNECT GALVANIZED SERVICE PIPE; (1) AT EXISTING THREADED FITTING WITHIN 5 FEET OF WATER METER; (2) RETHREAD EXISTING GALVANIZED SERVICE PIPE; (3) IF EXISTING PIPE IS IN POOR CONDITION AND CANNOT BE RETHREADED, USE UNTHREADED GALVANIZED PIPE CONNECTION DETAIL.
 - IF METER BOX IS LOCATED IN THE SIDEWALK, DIELECTRIC UNION WILL BE INSTALLED (1) 6" FROM BACK OF METER INSIDE OF METER BOX, (2) BEHIND BACK OF SIDEWALK.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.				
1.5 – 2 Inch Water Service				DRAWING NO.
402				
APPROVED	<i>Jennifer Jankel</i>	NO.	REVISIONS	DATE
		6	ADDED DIELECTRIC UNION NOTE	12/14
		7	TITLE CHANGED	08/19
		8	DRAWING & NOTES REVISED	11/23
CITY ENGINEER	DATE			



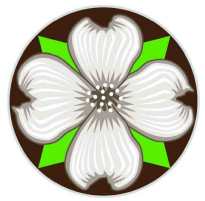
METER	INCOMING LINE SIZE	BYPASS LINE SIZE	UTILITY VAULT NUMBER	A*	B*	C*	D*	E*
4 x 2	6"	4"	810-LA	24"	36"	12"	24"	24"
6 X 3	8"	4"	712-LA	18"	36"	12"	24"	28"
8 X 4	10"	6"	816-LA	18"	36"	12"	26"	30"
3' COMPOUND	4"	2" CU	687-LA	24"	24"	12"	24"	24"

* MEASUREMENTS A-E ARE MINIMUMS AND MUST BE MET FOR APPROVAL.

NOTES:

ALL SERVICE PIPING WILL BE CHLORINATED AND TESTED TO CITY SPECIFICATIONS. METER TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR AFTER PIPING IN VAULT HAS PASSED ALL TESTS. METER TO BE COMPOUND BADGER METERS. 3" AND ABOVE MAY ALSO BE SENSUS COMPOUND AND TURBO METERS. REMOTE METERS MUST BE VISIBLE FROM LID HATCH.

1. ALL VAULT WALL OPENINGS TO BE SEALED WITH NON-SHRINK GROUT. TOP OF VAULT SHALL BE 1" ABOVE PROPOSED GRADE WITH 2% SLOPE AWAY FROM VAULT. VAULT MUST BE CLEAN AND FREE OF DEBRIS PRIOR TO METER INSTALLATION. INSTALL A MINIMUM OF 3 PIPE SUPPORTS IN VAULT, GRINNELL NO. 264 OR ELCEN NO. 50. INSTALL 4" DRAIN FROM VAULT TO DAYLIGHT OR APPROVED DRYWELL OR STORM DRAIN WITH A BACKWATER CHECK VALVE ACCESSIBLE FROM VAULT. COORDINATE DRAINAGE SYSTEM WITH BACKFLOW DEVICE VAULT INSTALLATION. ALL VAULT DOORS TO BE UTILITY VAULT NO. 3-332P WITH 2 METER LID OPENINGS. VAULT TO BE EQUIPPED WITH AN APPROVED LADDER. IF VAULT DEPTH IS GREATER THAN 6 FT., AN APPROVED EXTENSION LADDER MUST BE INSTALLED.
2. SERVICE LINE INTO VAULT MUST HAVE A MINIMUM OF 40 FEET OF RESTRAINED JOINT PIPE BETWEEN DISTRIBUTION WATERLINE AND VAULT. SERVICE LINE INTO VAULT TO BE COMPLETELY BACKFILLED WITH SELECT BACKFILL BETWEEN DISTRIBUTION LINE AND VAULT. PIPE TO BE A MINIMUM OF 12" AND A MAXIMUM OF 48" ABOVE THE FLOOR OF THE VAULT.
3. ALL MECHANICAL JOINTS WITH MEGALUG RESTRAINER GLANDS AS SHOWN. PIPE BETWEEN THE TWO TEES MUST BE ONE CONTINUOUS PIECE - NO JOINTS.
4. ONLY APPROVED RESILIENT SEAT GATE VALVES ARE ALLOWED. ALL VALVES INSIDE VAULTS MUST HAVE HAND WHEELS.



CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Water Meter > 2"

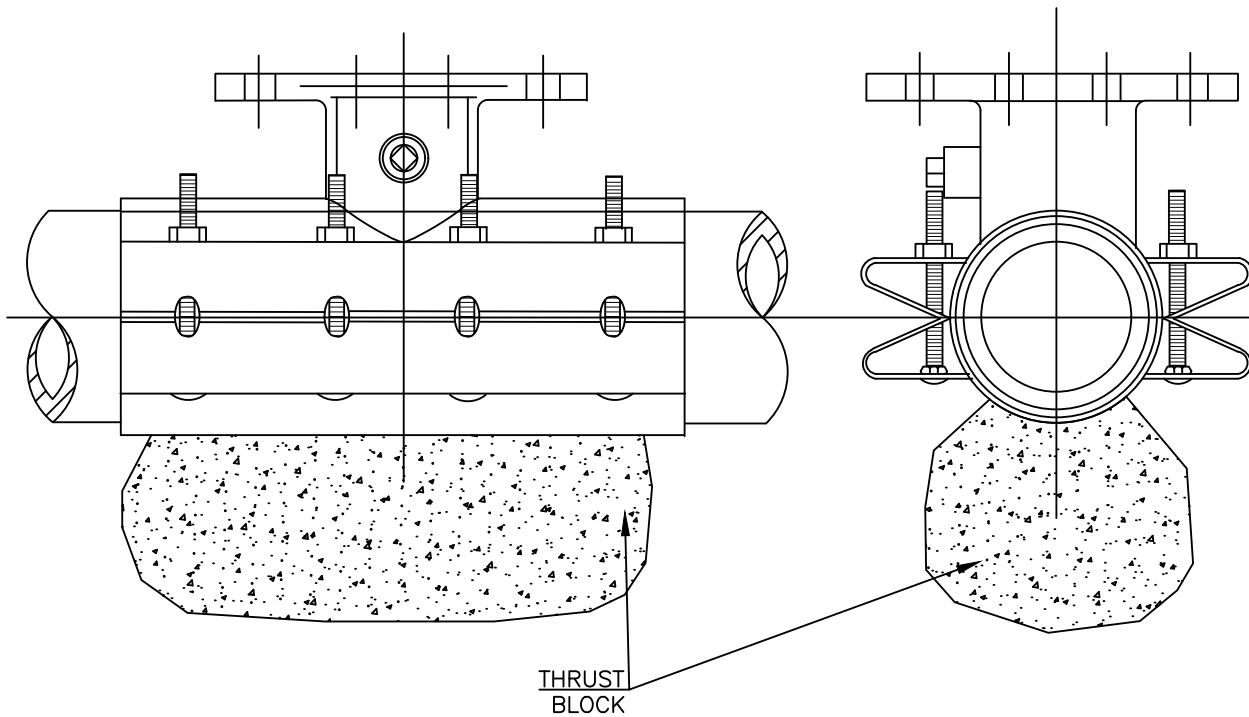
DRAWING NO.

403

APPROVED <i>Janice Darby</i> CITY ENGINEER	NO.	REVISIONS	DATE	BY
	1	DRAWING NUMBER AND TITLE CHANGED	11/13	AJR
	2	NOTES ADDED TO SHEET	11/18	TAP
	DATE	03/2024		
	3	NOTES CHANGED	08/19	TAP

FRONT VIEW

SIDE VIEW



NOTES:

1. WATER MAIN MUST BE CLEANED BEFORE ATTACHING SLEEVE.
2. SLEEVE AND VALVE MUST BE PRESSURE TESTED BEFORE MAKING TAP. PRESSURE TEST AND TAP TO BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE. PROPER TAPPING MACHINE MUST BE USED TO MAKE TAP AND TAP TO BE MADE NO CLOSER THAN 18 INCHES FROM THE NEAREST JOINT.
3. THRUST BLOCKING REQUIREMENTS TO BE DETERMINED BY OSSC DRAWING RD250.
4. SLEEVE AND VALVE TO BE WRAPPED IN 8 MIL PLASTIC.
5. SLEEVES TO BE USED ARE JCM OR MUELLER STAINLESS STEEL TAPPING SLEEVES. SLEEVE TO BE AS LEVEL AS POSSIBLE.
6. ALL NUTS AND BOLTS TO BE STAINLESS STEEL. ALL BOLTS TO HAVE NEVER-SEIZE ON THREADS.
7. FOR TAPS SMALLER THAN 2.5", SEE MILWAUKIE STANDARD DETAILS 401 AND 402.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Wet Tap 2.5 Inch and Larger

DRAWING NO.

404

APPROVED

Janice Darby

03/2024

CITY ENGINEER

DATE

NO.

REVISIONS

DATE

BY

3 ADDED THRUST BLOCK

12/14

AJR

4 DRAWING NUMBER CHANGED, NOTES REVISED

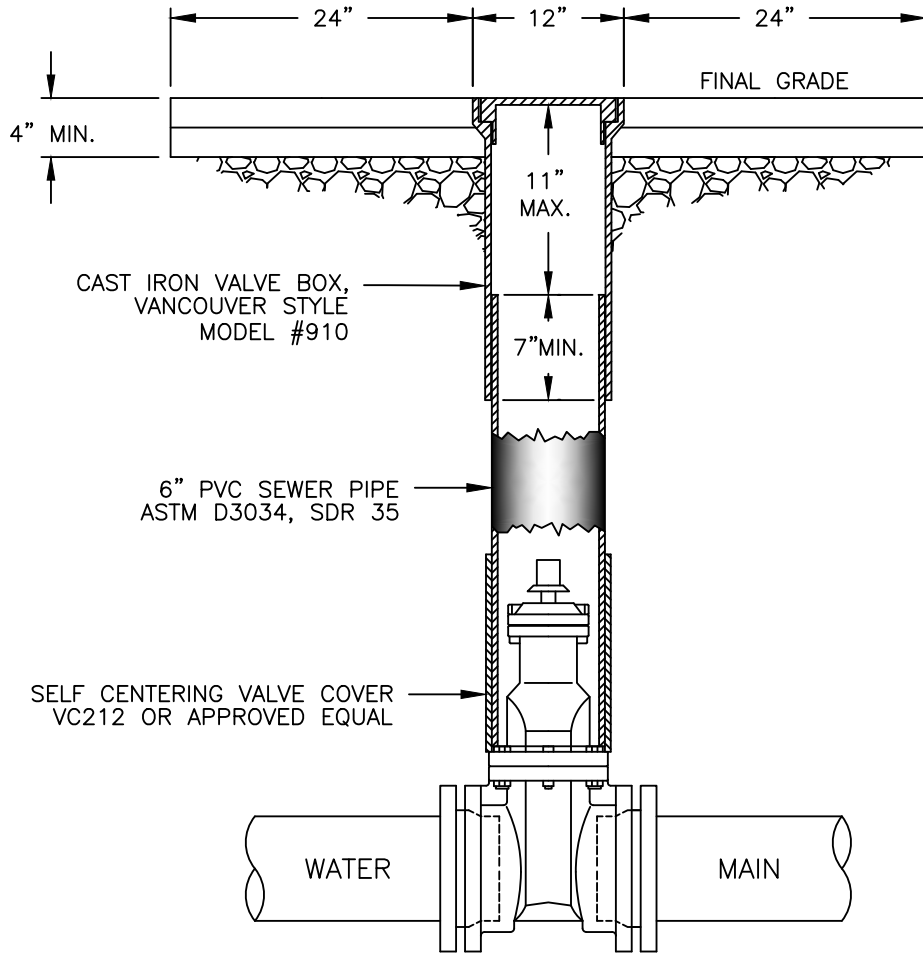
11/18

TAP

5 TITLE AND NOTE CHANGED

08/19

TAP



CAST IRON VALVE BOX,
VANCOUVER STYLE
MODEL #910

6" PVC SEWER PIPE
ASTM D3034, SDR 35

SELF CENTERING VALVE COVER
VC212 OR APPROVED EQUAL

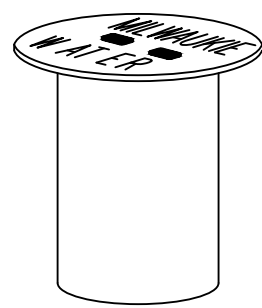
WATER

MAIN

NOTES:

1. VALVE BOXES MUST BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP TO BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC MUST BE ONE CONTINUOUS PIECE – NO BELLS OR COUPLERS.
4. VALVE NUT EXTENSIONS TO BE USED TO BRING VALVE NUT WITHIN 4 FEET OF FINAL GRADE.
5. VALVE CAN MUST BE ENCASED IN 2'x2' PAD IN UNIMPROVED AREAS. REPAIRS WITHIN PAVED STREET REQUIRE A MINIMUM 5'x5' ASPHALT PATCH.

"MILWAUKIE WATER"
STANDARD LID BY
EAST JORDAN FOUNDRY
OR APPROVED EQUAL



18" TALL VALVE BOX



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Valve Box

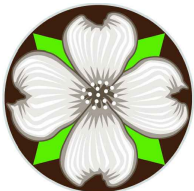
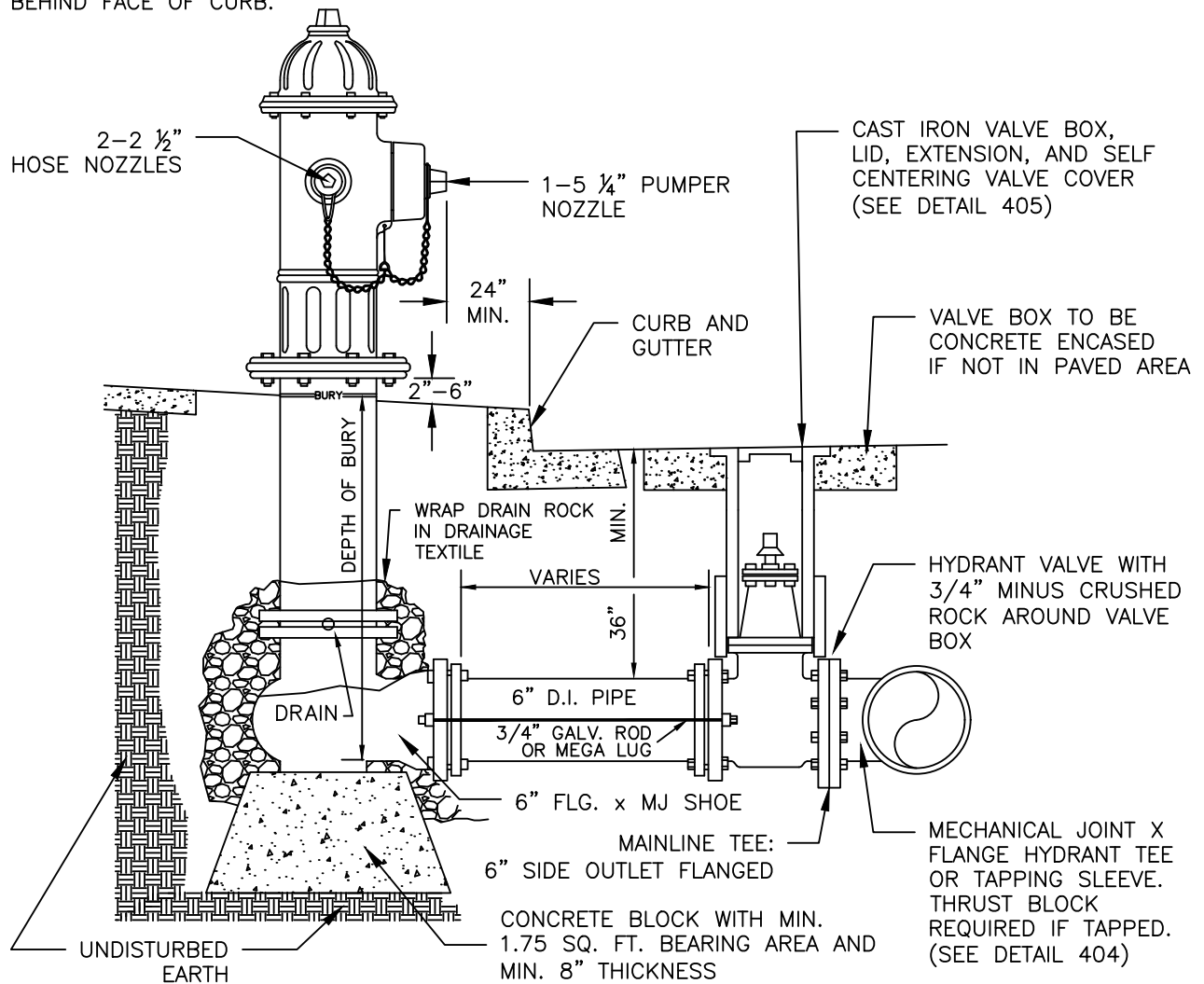
DRAWING NO.

405

APPROVED	<i>Janice Darby</i>	03/2024	NO.	REVISIONS	DATE	BY
			3	DRAWING NUMBER CHANGED	12/13	AJR
			4	DRAWING NUMBER CHANGED	11/18	TAP
CITY ENGINEER		DATE	5	TITLE AND NOTE CHANGED	08/19	TAP

NOTES:

1. HYDRANTS TO BE WATEROUS WB67, MUELLER CENTURION A423, M&H 929 RELIANT, OR CLOW MEDALLION F2545 WITH 1 1/2" OPERATING NUTS.
2. HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL OE 40 (SAFETY YELLOW).
3. JOINTS TO BE RESTRAINED BY 3/4" DIA. GALVANIZED STEEL RODS OR MEGA LUGS.
4. ALL FITTINGS IN CONTACT W/ CONCRETE TO BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
5. MIN. 4 CU. FT. OF 2"-1" CLEAN DRAIN ROCK MUST BE PLACED AROUND SHOE UP TO A MIN. OF 6" ABOVE DRAIN OUTLETS.
6. WHERE PLASTIC STRIP EXISTS, HYDRANT TO BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. WHERE INTEGRAL SIDEWALK AND CURB EXISTS, HYDRANT TO BE PLACED AT BACK OF SIDEWALK, OR AS DIRECTED BY ENGINEER.
8. BURY OF HYDRANT TO BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE.
9. HYDRANT VALVE TO BE AMERICAN FLOW CONTROL SERIES 2500 OR APPROVED EQUAL.
10. WHERE NO SIDEWALK EXISTS, PLACE A 5'x5'x4" THICK CONCRETE APRON AROUND HYDRANT.
11. NO VERTICAL EXTENSIONS ALLOWED WITHOUT APPROVAL.
12. NO UTILITY FACILITIES SHALL BE CLOSER THAN 5' TO THE HYDRANT.
13. WHEN NECESSARY, GUARD POSTS WILL BE REQUIRED FOR PROTECTION FROM VEHICLES.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Fire Hydrant Installation

DRAWING NO.

406

APPROVED

Janice Jankley

03/2024

CITY ENGINEER

DATE

NO.	REVISIONS	DATE	BY
3	REMOVED THRUST BLOCKS	12/14	AJR
4	RENUMBERED DRAWING, NOTE CHANGED	08/19	TAP
5	NOTES CHANGED	11/23	TAP