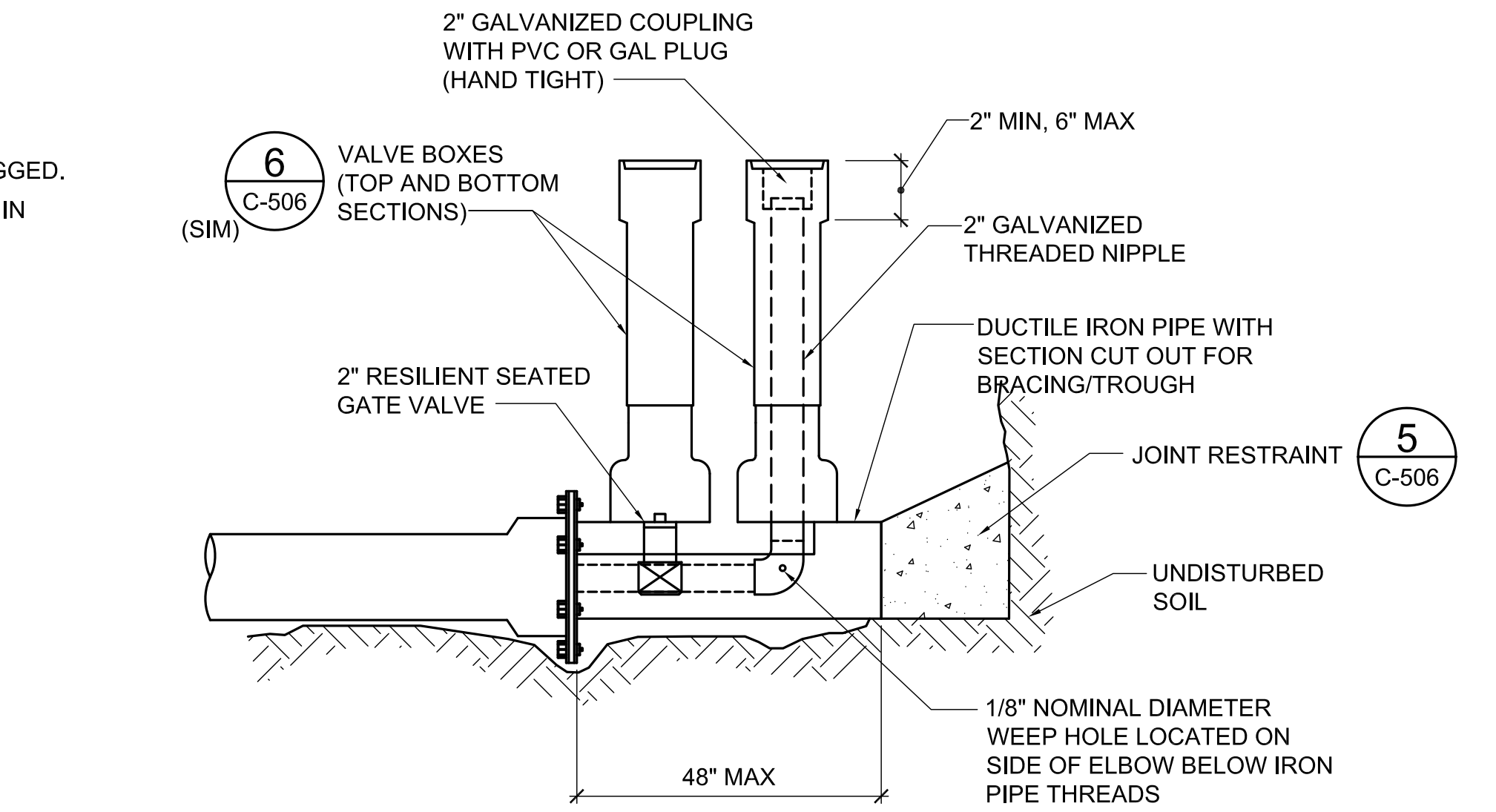
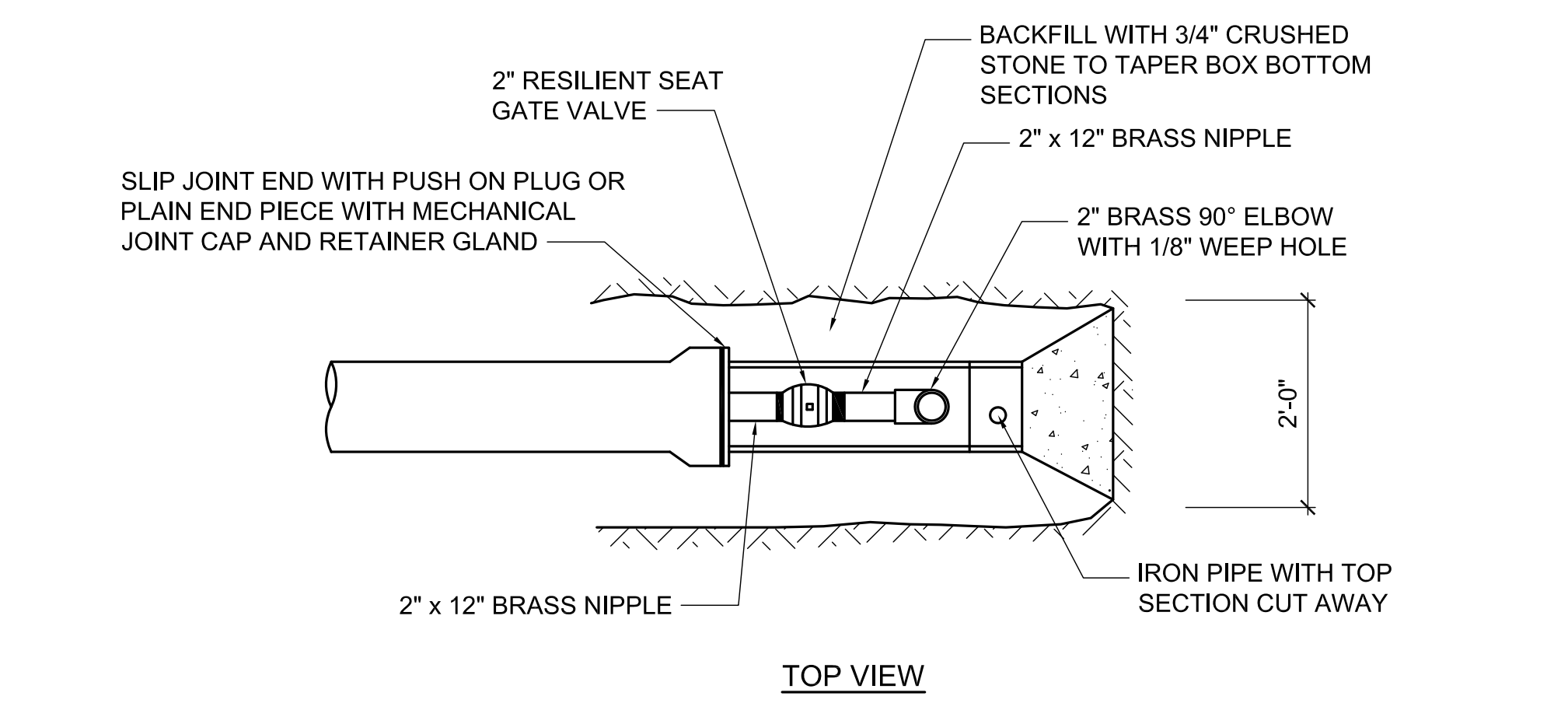
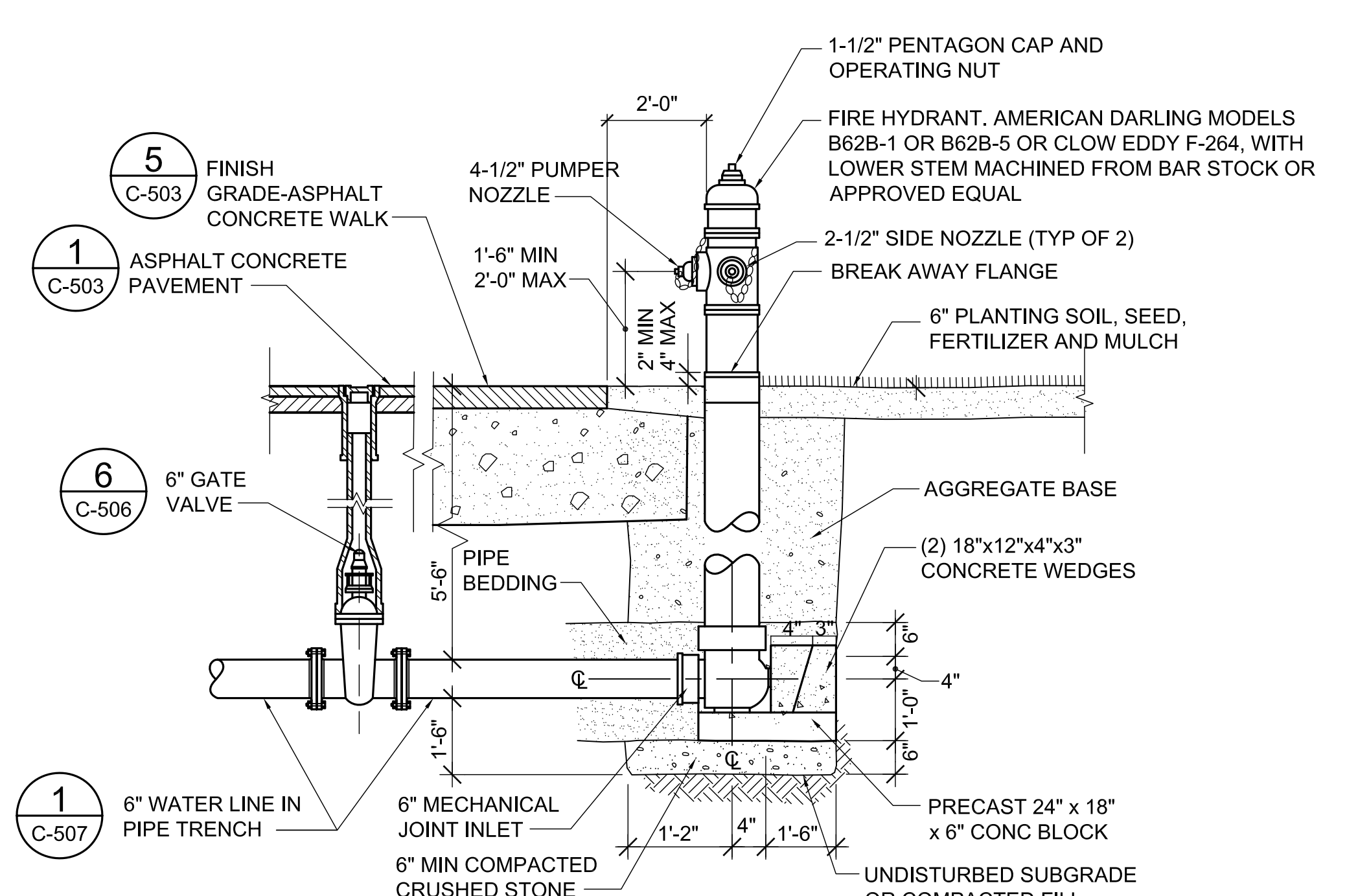
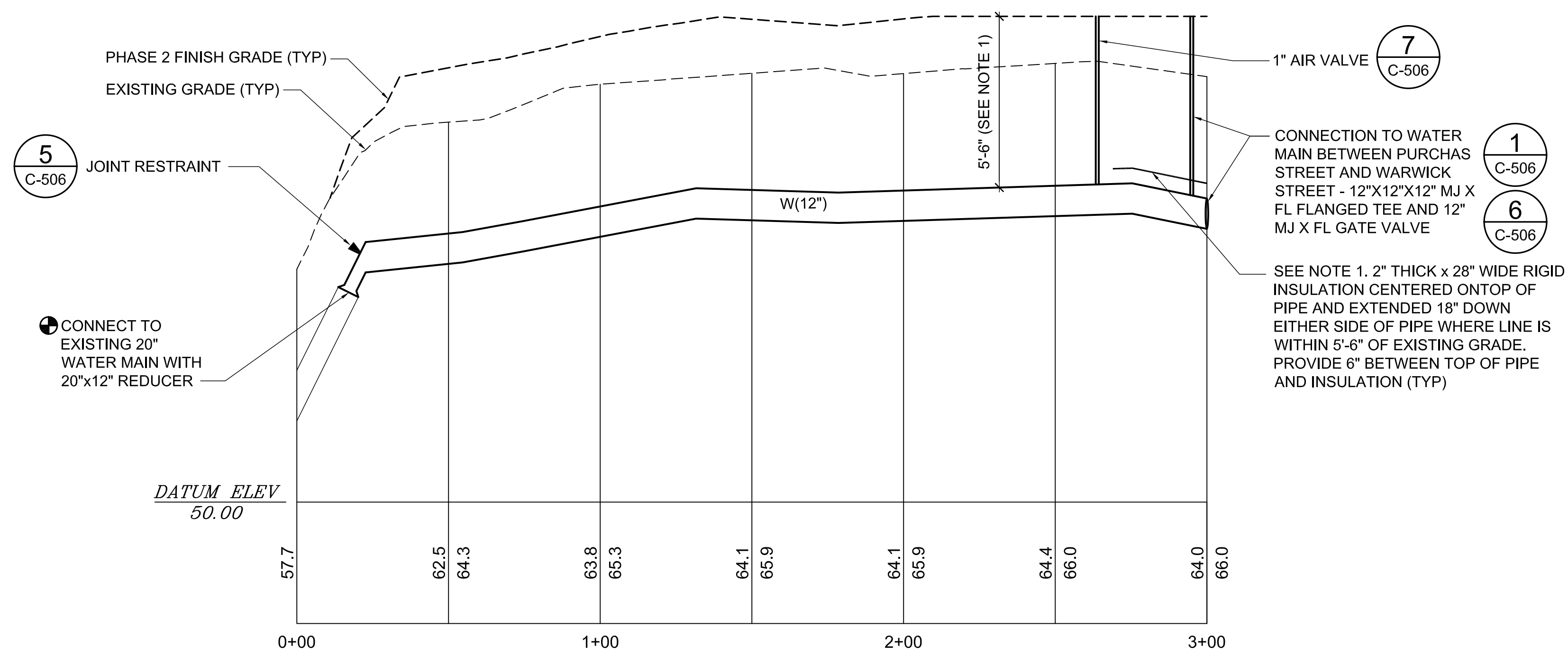


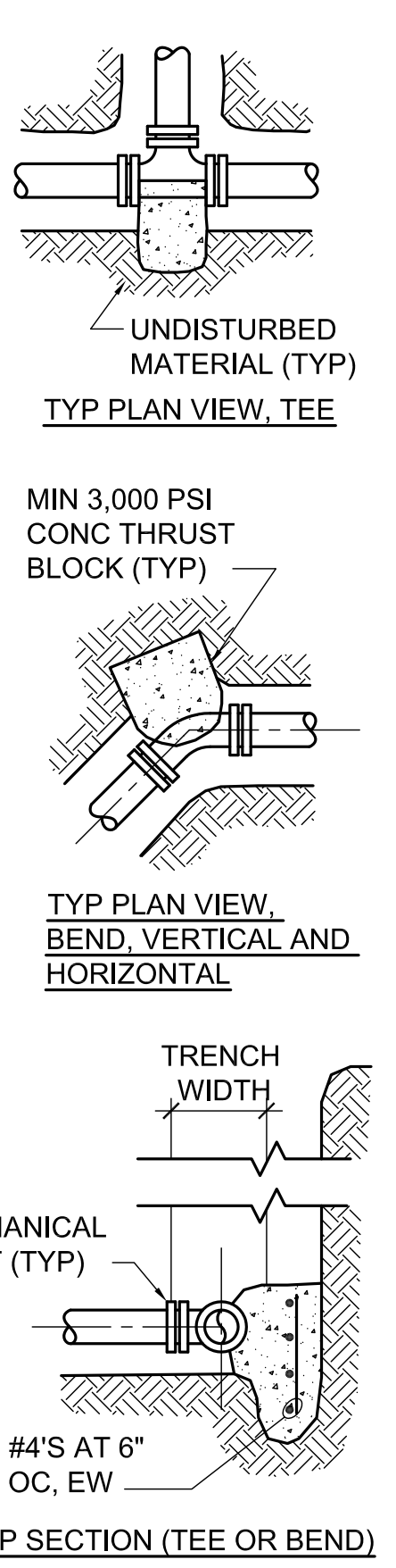
- WATER MAIN PROFILE NOTES:**
- NORMAL DEPTH OF COVER OVER WATER MAIN SHALL BE 5'-6", AND THE MAXIMUM COVER SHALL BE 6'-0" UNLESS APPROVED IN WRITING BY PORTLAND WATER DISTRICT. IN AREAS INDICATED (WHERE COVER IS LESS THAN 5' FROM EXISTING GRADE), PROVIDE 4'-0" MINIMUM COVER OVER LINE AND 2" THICK RIGID INSULATION DO NOT PROVIDE REDUCED COVER IN AREAS OTHER THAN AS INDICATED WITHOUT ARCHITECT'S WRITTEN PERMISSION. SEE SHEET CG101 FOR ADDITIONAL ELEVATION INFORMATION.
 - LOCATION AND ELEVATION OF LATERALS FROM HOUSES INTO SEWER MAIN INDICATED ARE APPROXIMATE. USE TEST PITS TO VERIFY LOCATION AND INVERT ELEVATION PRIOR TO INSTALLING WATER MAIN. NOTIFY PORTLAND WATER DISTRICT AT LEAST 5 BUSINESS DAYS IN ADVANCE OF CONDUCTING EXPLORATORY EXCAVATIONS AND DO NOT INSTALL WATER LINE WITHOUT PORTLAND WATER DISTRICT'S WRITTEN APPROVAL (BASED ON FIELD VERIFIED LOCATION OF SEWER LATERALS). PROVIDE 12" MINIMUM VERTICAL SEPARATION BETWEEN LATERALS/SEWER LINES AND WATER MAIN WITH ONE LENGTH OF PIPE (18') BE CENTERED AT THE POINT OF CROSSING. PROVIDE ADEQUATE SUPPORT OF SEWERS TO PREVENT EXCESSIVE DEFLECTION OF JOINTS.



- WATER MAIN PROFILE NOTES:**
- NORMAL DEPTH OF COVER OVER WATER MAIN SHALL BE 5'-6", AND THE MAXIMUM COVER SHALL BE 6'-0" UNLESS APPROVED IN WRITING BY PORTLAND WATER DISTRICT. DO NOT INSTALL WATER LINE WITH LESS THAN 5'-6" OF COVER WITHOUT ARCHITECT'S WRITTEN PERMISSION.

- FIRE HYDRANT NOTES:**
- PROVIDE 8" SEPERATION BETWEEN HYDRANT AND EXISTING EDGE OF PAVEMENT.
 - HYDRANT VALVE SHALL BE TURN RIGHT TO OPEN.
 - HYDRANT SHALL HAVE 5 1/4" VALVE OPENING WITH NON-DRAINING BRONZE SEAT THAT IS PERMANENTLY PLUGGED.
 - WRAP ALL PIPE AND FITTINGS IN MIN 8 MIL POLYETHYLENE SHEETING AND TAPE SECURELY BEFORE BURYING IN ACCORDANCE WITH PWD'S WRITTEN REQUIREMENTS.
 - HYDRANT, FITTINGS AND PIPE SHALL CONFORM TO CURRENT PORTLAND WATER DISTRICT STANDARDS.

- BLOW-OFF VALVE NOTES:**
- BLOW OFF VALVE AND CONNECTIONS SHALL BE IN ACCORDANCE WITH PORTLAND WATER DISTRICT'S WRITTEN REQUIREMENTS.



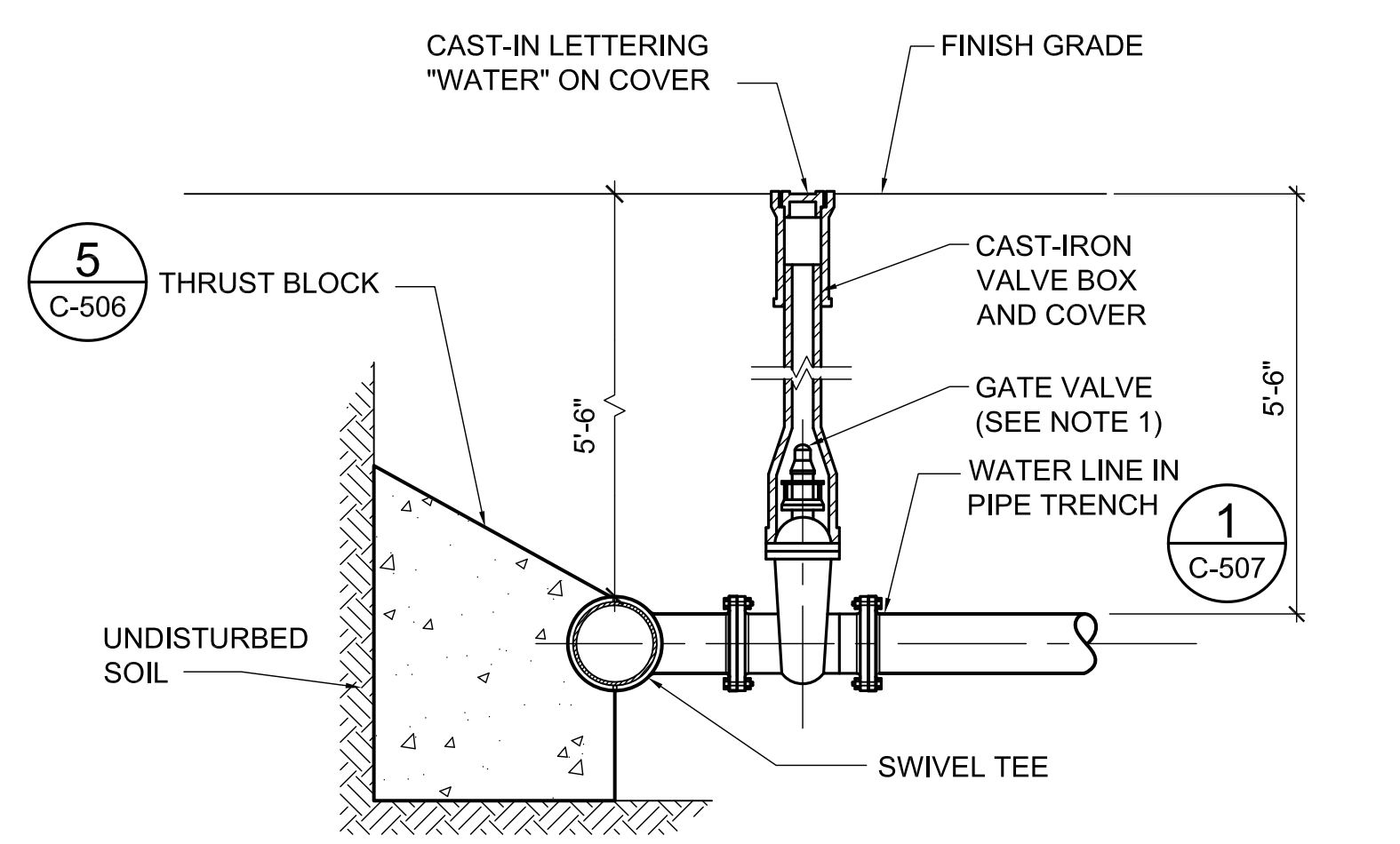
THRUST BLOCK SCHEDULE
 BASED ON 100 PSI WORKING PRESSURE
 (SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL)

REACTION TYPE	PIPE SIZE (INCHES)				
	4"	6"	8"	10"	12"
90° BEND	1.9	4.0	6.8	10.3	14.5
TEE	1.4	2.8	4.8	7.3	10.3
45° BEND	1.0	2.2	3.7	5.6	7.9
22.5° BEND	0.5	1.1	1.9	2.8	4.0
11.25° BEND	0.3	0.6	1.0	1.4	2.0

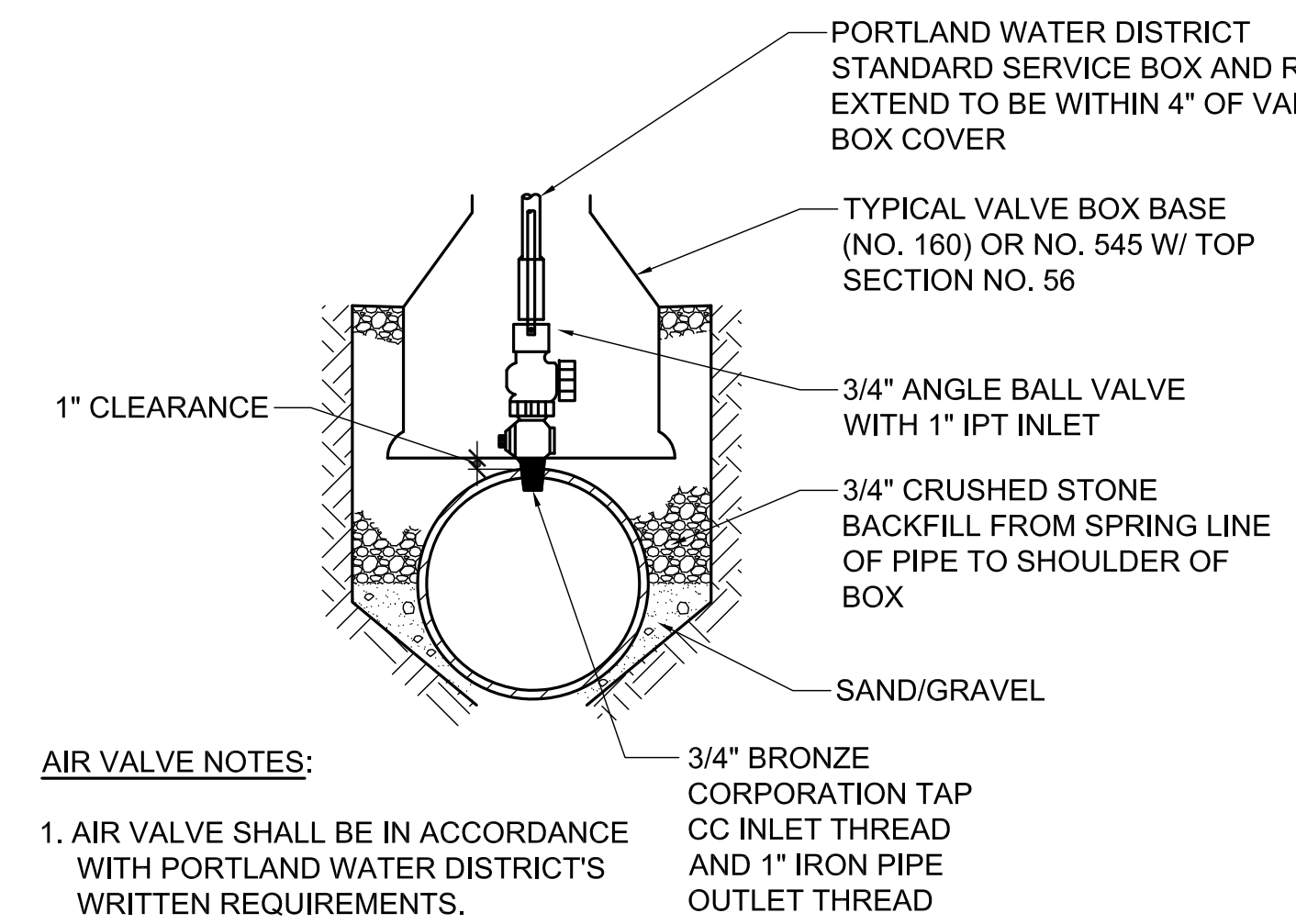
NOTES:

- FOR OTHER PRESSURES, AREA OF CONCRETE THRUST BLOCKING IS DIRECTLY PROPORTIONAL TO AREAS SHOWN IN ABOVE TABLE.
- AREA OF THRUST BLOCKS SHOWN ARE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT AND 1.5 SAFETY FACTOR. BEARING CAPACITY MAY BE ALTERED BY THE OWNER/ARCHITECT BASED ON CONDITIONS ENCOUNTERED.

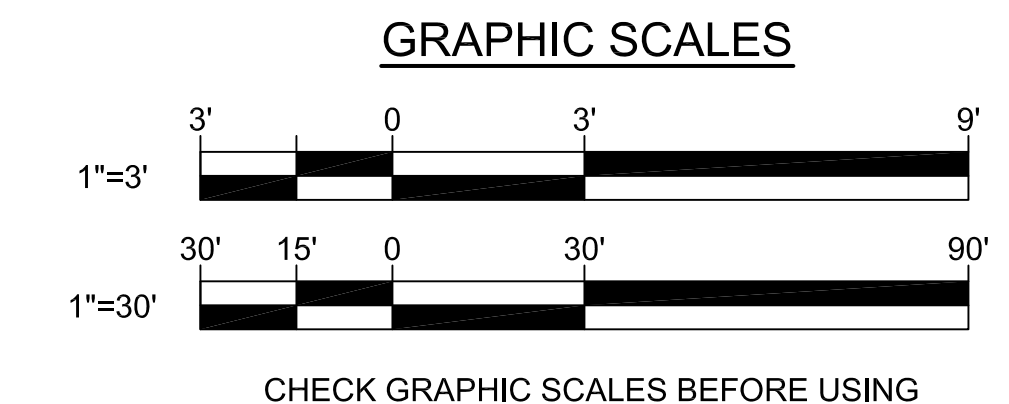
- THRUST BLOCK NOTES:**
- PROVIDE CONCRETE THRUST BLOCKING IN ACCORDANCE WITH NFPA 24.
 - CONCRETE THRUST BLOCKING (MIN 3,000 PSI) IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, AND PLUGS.
 - PLACE CONCRETE PAVERS OR BRICK IN FRONT OF ALL PLUGS BEFORE PLACING THRUST BLOCKS.
 - WRAP FITTINGS IN POLYETHYLENE PRIOR TO INSTALLATION OF CONCRETE THRUST BLOCKING.
 - PLACE THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND CONCRETE THRUST BLOCK TO UNDISTURBED MATERIAL.
 - EXTEND CONCRETE THRUST BLOCKING THE ENTIRE LENGTH OF THE FITTING. DO NOT COVER ANY PART OF THE JOINT WITH CONCRETE.
 - INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
 - GRIP-RING RESTRAINT SYSTEMS ARE REQUIRED FOR ALL MECHANICAL JOINTS, THESE SYSTEMS DO NOT REDUCE THE REQUIREMENTS FOR THRUST BLOCKING.
 - PROVIDE ADDITIONAL JOINT RESTRAINT WHERE INDICATED ON DRAWINGS.



- GATE VALVE NOTES:**
- VALVE SHALL BE TURN RIGHT TO OPEN.
 - WRAP ALL PIPE AND FITTINGS IN MIN 8 MIL POLYETHYLENE SHEETING AND TAPE SECURELY BEFORE BURYING IN ACCORDANCE WITH PWD'S WRITTEN REQUIREMENTS.
 - VALVES, FITTINGS AND PIPE SHALL CONFORM TO CURRENT PORTLAND WATER DISTRICT STANDARDS.



- AIR VALVE NOTES:**
- AIR VALVE SHALL BE IN ACCORDANCE WITH PORTLAND WATER DISTRICT'S WRITTEN REQUIREMENTS.



STATE OF MAINE PUBLIC SCHOOL PROJECT

NEW FRED P. HALL ELEMENTARY SCHOOL
 23 ORONO ROAD, PORTLAND, ME

WATER MAIN PROFILE AND WATER DETAILS

DRAWN BY: JSD
 CHECKED BY: JLG

DATE: 03/17/17

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