

Grangeville Public Works Specification



Details Manual

GENERAL CONSTRUCTION NOTES

1. All construction work shall be done in accordance with the current version of the Idaho Standards for Public Works Construction (ISPWC) and the City of Grangeville Specifications. All Contractors, Subcontractors and Utility Contractors shall attend a pre-construction conference (or an on-site meeting with the City of Grangeville Public Works Foreman/Supervisor prior to start of work in any Public Right of Way.
2. Contractors shall notify the appropriate agency when materials are on site or inspection of the work is required. Public Works Dept. shall be notified prior to actual work beginning
3. All material furnished on, or for the project must meet the minimum requirements of the approving agencies. At the request of the City, Contractors shall furnish proof that all materials installed on this project meet the specification requirements set forth in General Construction Note No. 1.
4. Work subject to approval by any governmental agency must be approved prior to (A) backfilling trenches for pipe; (B) placing of aggregate base; (C) placing of concrete; (D) placing of asphalt paving.
5. Inspection, approval and final acceptance of all water and sewer construction shall be by the Public Works Department, and their decision shall be final. Such inspections shall not relieve the contractor from the responsibility of performing the work in an acceptable manner in accordance with the DEQ/QLPE approved construction plans.
6. Any deviation from the approved plans and specifications must have the applicable agency approval in writing prior to construction.

WATER

1. Construction of the water system shall conform to the standards in the "Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08)" as well as the standards and specifications referred to in General Construction Note No. 1.
2. The horizontal separation of potable water mains and non-potable water mains (sanitary sewer, storm drain, and irrigation) shall be a minimum of ten (10) feet. Where it is necessary for a potable water main and non-potable water main to cross with less than eighteen (18) inches of vertical separation, the crossing shall be constructed in accordance with Section 542.07 of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08) and Section 430.02 of the Wastewater Rules (IDAPA 58.01.16).
3. The horizontal separation of non-potable services and potable water services or potable water mains shall be a minimum of six (6) feet. Where it is necessary for a potable water main and non-potable water main to cross with less than eighteen (18) inches of vertical separation, the crossing shall be constructed in accordance with Section 542.07 of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08) and Section 430.02 of the Wastewater Rules (IDAPA 58.01.16).
4. Place water service lines in a two (2) inch diameter pipe wherever the service line crosses a storm water treatment facility (i.e. seepage beds, drainage swales). The pipe material used for sleeving must be impervious to contamination from petroleum products and must be approved by the Idaho Department of Environmental Quality.
5. The Contractor shall be responsible for providing continuous water service to all existing water users

affected by construction.

6. All water works components shall be ANSI/NSF 61 Certified, and must meet all AWWA and standard requirements of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08).

DRAINAGE

1. The Contractor shall have plans stamped "Approved for Construction" by City of Grangeville Public Works Department on site at all times.
2. Any change from the plans shall be approved by the design Engineer and the City of Grangeville Public Works Department.
3. The Contractor shall contact the City of Grangeville Public Works Department for inspection of all storm water facilities prior to the placement of filter fabric. Minimum 24-hour notice is required. Approval is contingent upon inspection.

Use one of the following notes depending on whether a Soils Report is required to be submitted to the City.

Without a Soils or Geotechnical Report:

- 4a. The Contractor shall excavate a minimum of one test hole to determine if impermeable layers or groundwater exist within 4 feet of proposed bottom of drainage facility. Contact the Engineer for revised beds if either condition is found. Contact Grangeville Public Works for inspection of test hole prior to backfill.

With a Soils or Geotechnical Report:

- 4b. Separation from the bottom of the drainage facility to seasonal high groundwater shall be a minimum of 3'. Contact Engineer for revised drainage facility design if bottom of facility is within 3' of seasonal high Ground water elevation. Re-designed facility shall be approved by the Public Works Director.

SEWER

1. Construction of the sewer system shall conform to the standards in the Wastewater Rules (IDAPA 58.01.16) as well as the standards and specifications referred to in General Construction Note No. 1.
2. The horizontal separation of potable water mains and non-potable water mains (sanitary sewer, storm drain, and irrigation) shall be a minimum of ten (10) feet. Where it is necessary for a potable water main and non-potable water main to cross with less than eighteen (18) inches of vertical separation, the crossing shall be constructed in accordance with Section 542.07 of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08) and Section 430.02 of the Wastewater Rules (IDAPA 58.01.16).
3. The horizontal separation of non-potable services and potable water services or potable water mains shall be a minimum of six (6) feet. Where it is necessary for a potable water main and non-potable water main to cross with less than eighteen (18) inches of vertical separation, the crossing shall be constructed in accordance with Section 542.07 of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08) and Section 430.02 of the Wastewater Rules (IDAPA 58.01.16).
4. Place sewer service lines in a six (6) inch diameter water class pipe wherever the service line crosses a stormwater treatment facility (i.e., seepage beds, drainage swales).
5. When cover over a sewer pipe is less than three (3) feet from top of pipe to subgrade or top of pipe to natural ground, use "Class 200 water pressure pipe", ASTM D 2241, SDR 21, including service lines and fittings.
6. The Contractor shall conduct an air pressure test and television inspection after all underground utilities have been installed. The Contractor shall provide a videotape of the inspection prior to final acceptance of the sewer.
7. All CCTV inspections shall be completed by third party testing firm.

CITY OF GRANGEVILLE
QUICK REFERENCE
For

TRENCHING

This quick reference highlights some of the requirements for Public Works Construction within the jurisdiction of the City of Grangeville. This quick reference is intended for use only as a guide for the Designer and Contractor and not as a replacement to the Idaho Standards for Public Works Construction (ISPWC) or the City of Grangeville's Supplemental Specifications for the ISPWC. Please refer to those documents for more complete specifications.

1. Secure a permit to use right-of-way and/or public easements prior to any work in public right-of-way or easements. Applications are available at Grangeville City Hall.
2. Tunneling under sidewalks, driveways and curbs for utility installation is not allowed unless approved by the City.
3. Trench excavation shall conform to ISPWC Section 301.
4. Rock excavation shall conform to ISPWC Section 302.
5. Trench foundation stabilization shall conform to ISPWC Section 304. If required in the Contract Documents, or if directed by the Public Works Director, trench stabilization materials shall be wrapped in geotextile fabric meeting the requirements of the City of Grangeville requirements and ISPWC Section 304.2.4.
6. Only class B-2 bedding system is allowed for pressure sewer, water and pressure irrigation pipes. Other bedding system applications shall be as specified in ISPWC Section 305.3.11.
7. Type A-2 compaction (water settling) for trench backfill, is not allowed.
8. Boring and Jacking: Commercially fabricated casing spacers per Grangeville Standard Drawing T-307 or as approved by the Public Works Director shall be used instead of redwood skids.

W-400
WATER DETAIL DWGS



CITY OF GRANGEVILLE
QUICK REFERENCE
For

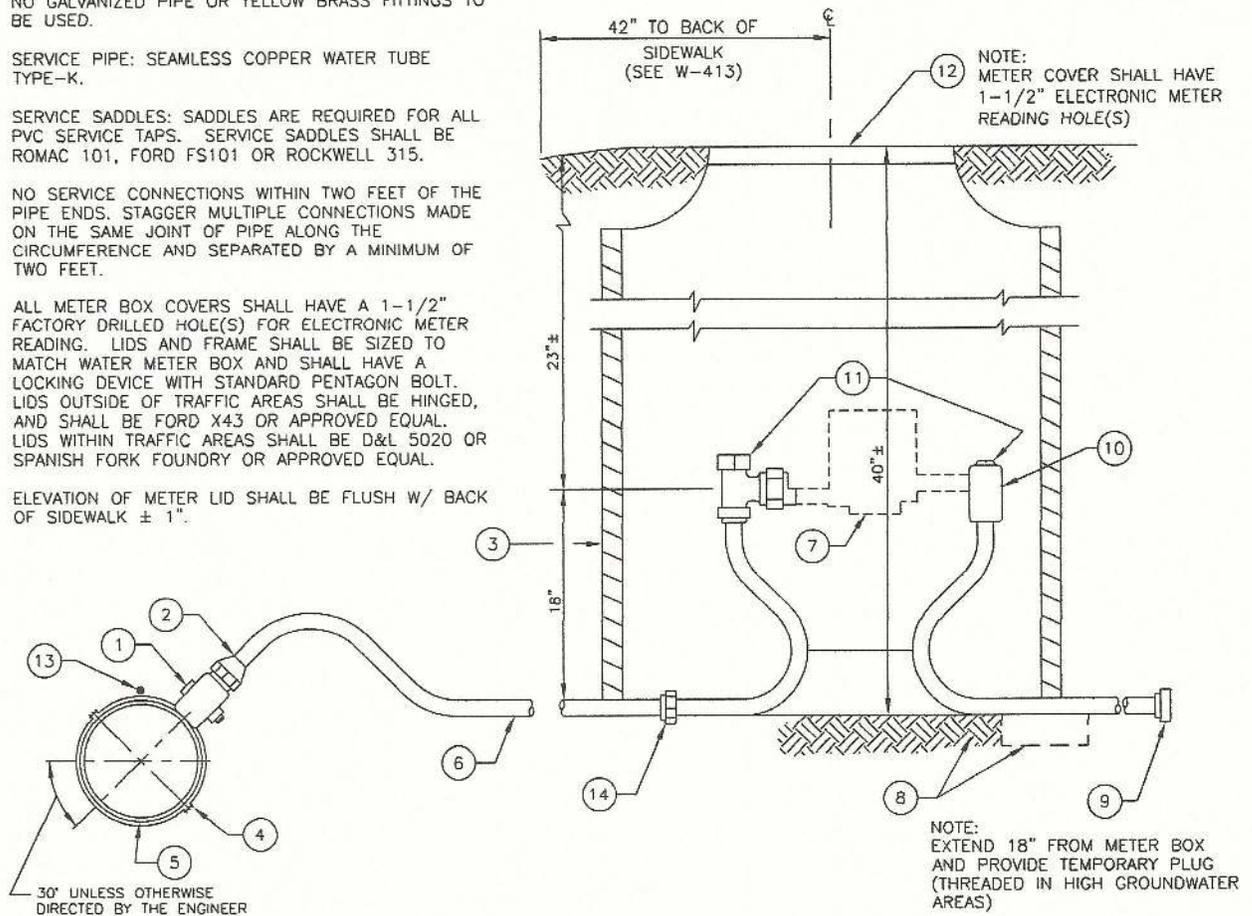
DIVISION 400 – WATER

This quick reference of specifications highlights some of the requirements for Public Works Construction within the jurisdiction of the City of Grangeville. This quick reference is intended for use only as a guide for the Designer and Contractor and not as a replacement to the Idaho Standards for Public Works Construction (ISPWC) or the City of Grangeville's Specifications. Please refer to those documents for more complete specifications.

1. PVC pressure fittings (size 4-inch through 8-inch) are not acceptable.
2. Polyethylene pipe and fittings are not acceptable.
3. Water mains shall have 42-inches of cover minimum. Water mains shall have 60-inches of cover maximum without prior approval.
4. Mark mainline stub-outs with water service markers per Grangeville Standard Drawing W-409.
5. Permanent blow-off assemblies shall conform to Grangeville Standard Drawing W-405.
6. Temporary blow-off assemblies shall conform to Grangeville Standard Drawing W-405A.
7. Fire hydrant assemblies shall be constructed per Grangeville Standard Drawing W-404. Mechanical joint restraint is required on all mechanical or push-on joints in fire hydrant assemblies.
8. Pipe for water services shall be Type K copper or Type L hard copper.
9. Water meter services shall conform to W-401, W-402 or W-414. Water meters will be furnished and installed by the City. Center of meter pits shall be located 42-inches behind the sidewalk (24-inches behind mailbox widening) and 24-inches from the side lot line. See Grangeville Standard Drawing W-413.
10. Install isolation valves on all water lines to be extended in the future. Install fire hydrants or temporary blow-off at the ends of all water mains to be extended in the future.
11. Backflow devices are required for all systems with auxiliary supplies, cross connections, pressurized cooling or process piping, or facilities with toxic or hazardous materials. Backflow devices Required:
 - 1) Hazardous or toxic facilities: Air gap separation or reduced pressure principle.
 - 2) Non-potable liquids: Double check valve assembly.
 - 3) Off-season irrigation, without shut off valves: Atmospheric vacuum breaker.
 - 4) Off-season irrigation, with shut off valves down stream: Pressure vacuum breaker.

NOTES:

1. ALL PRODUCTS AS LISTED.
2. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS TO BE USED.
3. SERVICE PIPE: SEAMLESS COPPER WATER TUBE TYPE-K.
4. SERVICE SADDLES: SADDLES ARE REQUIRED FOR ALL PVC SERVICE TAPS. SERVICE SADDLES SHALL BE ROMAC 101, FORD FS101 OR ROCKWELL 315.
5. NO SERVICE CONNECTIONS WITHIN TWO FEET OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE ALONG THE CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF TWO FEET.
6. ALL METER BOX COVERS SHALL HAVE A 1-1/2" FACTORY DRILLED HOLE(S) FOR ELECTRONIC METER READING. LIDS AND FRAME SHALL BE SIZED TO MATCH WATER METER BOX AND SHALL HAVE A LOCKING DEVICE WITH STANDARD PENTAGON BOLT. LIDS OUTSIDE OF TRAFFIC AREAS SHALL BE HINGED, AND SHALL BE FORD X43 OR APPROVED EQUAL. LIDS WITHIN TRAFFIC AREAS SHALL BE D&L 5020 OR SPANISH FORK FOUNDRY OR APPROVED EQUAL.
7. ELEVATION OF METER LID SHALL BE FLUSH W/ BACK OF SIDEWALK ± 1".



WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND:

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| <ul style="list-style-type: none"> ① FORD FB-1100 OR MUELLER 15008 CORPORATION STOP FOR 3/4" OR 1" SERVICE ② PACK JOINT OUTLET FOR COPPER ③ 20"Ø METER BOX BY 36" DEEP FOR 3/4" SERVICE, 24"Ø METER BOX BY 36" DEEP FOR 1" SERVICE, (NOTCH FOR SERVICE LINES), METER BOXES SHALL BE PVC PIPE OR PRE-FABRICATED BOX BY MID STATES PLASTICS OR APPROVED SUBSTITUTION ④ SERVICE SADDLE ⑤ WATER MAIN ⑥ 3/4" OR 1" COPPER TYPE-"K" OR TYPE-"L" SERVICE LINE (TYP.) NO SPLICING IS ALLOWED ⑦ FUTURE METER INSTALLED BY GRANGEVILLE WATER DEPT | <ul style="list-style-type: none"> ⑧ FIRM UNDISTURBED EARTH. (SET TILE ON 2" THICK PRECAST CONCRETE BLOCKS IF OVER EXCAVATION OCCURS) ⑨ PROVIDE TEMPORARY PLUG (THREADED IN HIGH WATER AREAS) ⑩ SINGLE CHECK VALVE (INTEGRAL W/ METER SETTER) ⑪ METER SETTER: 3/4" SHALL BE FORD VBH92-18W-11-33B OR MUELLER H-1404-2A, 1" SHALL BE FORD VBH94-18W-11-44B OR MUELLER H-1404-2A ⑫ METER BOX COVER W/ 1-1/2" ELECTRONIC METER READING HOLE(S) ⑬ LOCATING WIRE ⑭ M.I.P. X C.P.S. ADAPTER |
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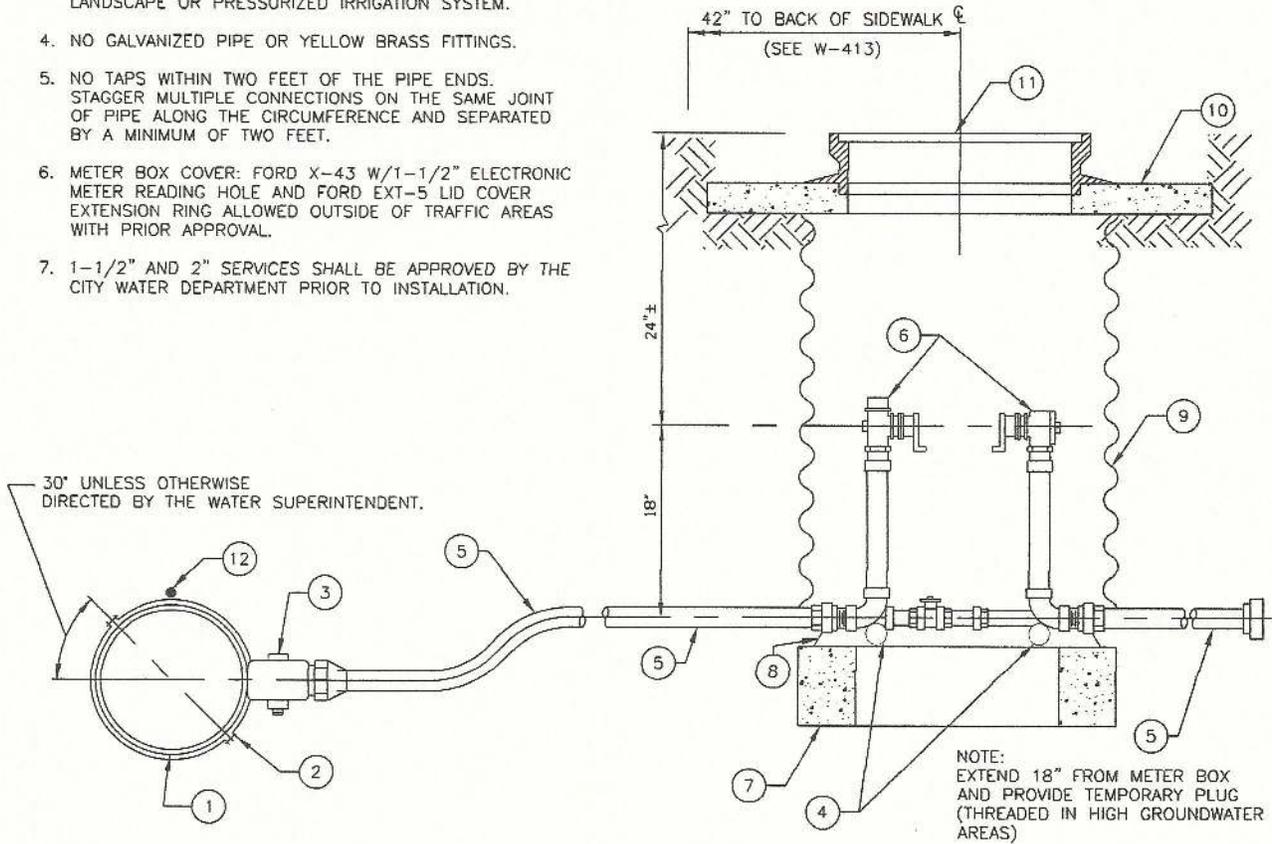


WATER SERVICE
CONNECTION (3/4" - 1")

DATE:		W-401
REV. #		
ACAD FILE:	W-401.DWG	STANDARD DRAWING NO.

NOTES:

1. ALL PRODUCTS AS NOTED.
2. THE DIAMETER (1-1/2" OR 2") OF EACH APPURTENANCE SHOWN HEREON IS THE SAME AS THE METER SIZE.
3. NO BY-PASS ALLOWED ON METER SETTERS FOR LANDSCAPE OR PRESSURIZED IRRIGATION SYSTEM.
4. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS.
5. NO TAPS WITHIN TWO FEET OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS ON THE SAME JOINT OF PIPE ALONG THE CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF TWO FEET.
6. METER BOX COVER: FORD X-43 W/1-1/2" ELECTRONIC METER READING HOLE AND FORD EXT-5 LID COVER EXTENSION RING ALLOWED OUTSIDE OF TRAFFIC AREAS WITH PRIOR APPROVAL.
7. 1-1/2" AND 2" SERVICES SHALL BE APPROVED BY THE CITY WATER DEPARTMENT PRIOR TO INSTALLATION.



WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND:

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|---|---|
| <ul style="list-style-type: none"> ① WATER MAIN PER SECTION 401 ② SADDLE WITH IP THREAD AND STAINLESS STEEL STRAP. FORD FS202 OR ROMAC 2025 ③ FORD FB1100 OR MUELLER 15008 CORPORATION STOP FOR 1-1/2" OR 2" SERVICE ④ 1" DIA. GALVANIZED BRACE PIPE, 2 REQUIRED ⑤ SERVICE LINE: 1-1/2" OR 2" SEAMLESS COPPER WATER TUBE, TYPE-"K". BRASS OR TYPE-"L" HARD COPPER PIPE IS ACCEPTABLE (NO SPLICING IS ALLOWED) ⑥ METER SETTER: KEY VALVE INLET AND OUTLET MUELLER H-1422-2 FOR 1-1/2" AND 2", FORD VBH 76-18B-11-66 FOR 1-1/2" AND FORD VBH 77-18B-11-77 FOR 2" METERS | <ul style="list-style-type: none"> ⑦ 4"x12"x12" CONCRETE BLOCKS ⑧ NOTCH METER BOX AS REQUIRED ⑨ 36" DIA. X 42" MIN. LENGTH 18 GA. CMP OR CONCRETE TILE METER BOX ⑩ 4"x48" OD MIN. CONCRETE GRADE RING OR PRE-CAST LID. (SEE NOTE 6) ⑪ STANDARD 24" DIA. MANHOLE FRAME & WATER COVER, HS-25 LOAD RATED WITHIN TRAFFIC AREAS, COVER SHALL HAVE 1-1/2" ELECTRONIC METER READING HOLE (SEE NOTE 6) ⑫ LOCATOR WIRE |
|---|---|

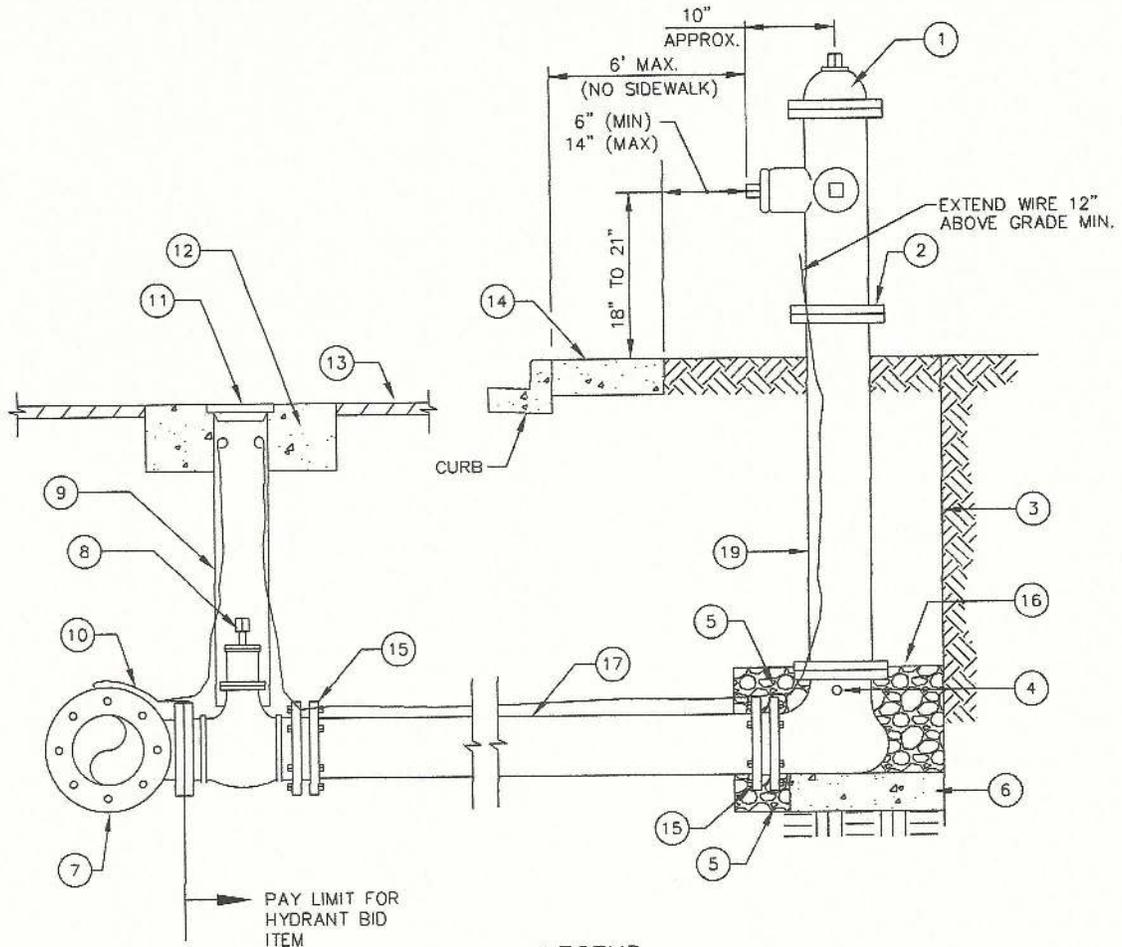


WATER SERVICE
CONNECTION (1-1/2" - 2")

DATE:	
REV #:	
ACAD FILE:	W-402

W-402

STANDARD DRAWING NO.



FIRE HYDRANT DETAIL

N.T.S.

NOTES:

1. HYDRANTS THAT ARE TO BE RELOCATED AS CALLED FOR ON THE PLANS SHALL BE REINSTALLED IN ACCORDANCE WITH THIS DETAIL. LOCATION TO BE SET IN ACCORDANCE WITH LOCAL STANDARDS OR AS DIRECTED BY THE CITY.
2. ALL AUXILIARY VALVES TO BE LOCATED AT THE TEE ON THE WATER MAIN AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER. WHERE EXISTING FITTINGS ARE NOT COMPATIBLE WITH NEW MAIN CONSTRUCTION, USE SUITABLE ADAPTERS OR NEW FITTINGS UPON APPROVAL BY THE CITY.
3. ALL MECHANICAL JOINT FITTINGS SHOWN FOR PVC OR DUCTILE IRON PIPE SHALL BE INSTALLED WITH A JOINT RESTRAINT DEVICE WITH A MINIMUM WORKING WATER PRESSURE RATING OF THE PIPE ON WHICH IT IS INSTALLED. MECHANICAL JOINT RESTRAINT FOR PVC PIPE SHALL BE EBAA IRON SERIES 2000 PV OR EQUAL. MECHANICAL JOINT RESTRAINT FOR DUCTILE IRON PIPE SHALL BE EBAA IRON SERIES 1100 OR EQUAL. INTERMEDIATE PUSH-ON JOINT PVC PIPE BELLS SHALL BE RESTRAINED WITH A EBAA IRON SERIES 1600 OR APPROVED EQUAL.
4. PLACE LOCATOR WIRE DIRECTLY ABOVE PIPE. SECURE FINDER WIRE UNDER (MJ) BOLT. EXTEND FINDER WIRE INSIDE OF RISER TO (1) FOOT ABOVE FINISH GRADE, THEN SECURE TO SAME (MJ) BOLT AT MAIN. AVOID CROSS-OVER OF WIRES IN RISER.

LEGEND:

- ① FIRE HYDRANT (PAINT RED)
- ② BREAK AWAY BOLTS
- ③ END OF TRENCH
- ④ DRAIN - KEEP CLEAR
- ⑤ 2'x2'x2' OF 1" DRAIN ROCK. TOP OF ROCK SHALL BE 6" ABOVE HYDRANT DRAIN HOLE
- ⑥ PRECAST CONCRETE BLOCK 1' X 1' X 6" THICK
- ⑦ TEE (MJ X MJ X FLANGE) WITH MECHANICAL RESTRAINED CONNECTIONS, (SEE NOTE 4)
- ⑧ 6" C.I. AUXILIARY VALVE (MJ X FLANGE)
- ⑨ CAST IRON VALVE BOX
- ⑩ NO. 12 AWG. COPPER WIRE FINDER. SEE SD-514 FOR SPLICING, (SEE NOTE 5)
- ⑪ 5 1/4" LID, (SEE W-406)
- ⑫ 24"Ø X 6" CONCRETE COLLAR PER GRANGEVILLE STANDARD DRAWING W-406(IF REQUIRED)
- ⑬ FINISHED GRADE
- ⑭ SIDEWALK
- ⑮ MECHANICAL JOINT CONNECTION WITH JOINT RESTRAINT DEVICE, (SEE NOTE 4)
- ⑯ WRAP DRAIN ROCK WITH FILTER FABRIC, (TOP AND SIDES)
- ⑰ 6" DIAMETER PIPE, IF LENGTH IS GREATER THAN 20 FEET, RESTRAIN INTERMEDIATE JOINTS WITH APPROVED JOINT RESTRAINT, (SEE NOTE 4)



FIRE HYDRANT
DETAIL

DATE:

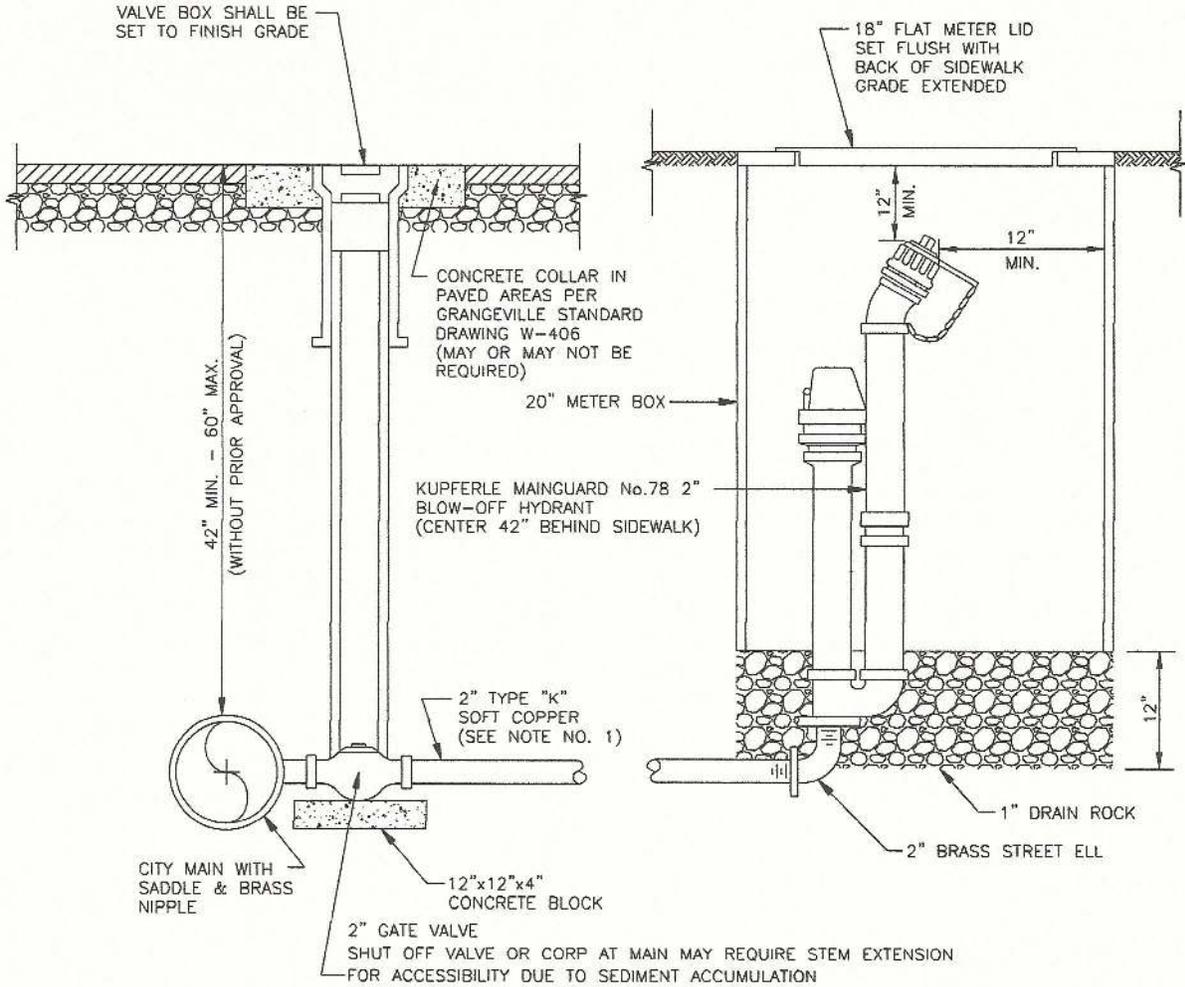
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W-404

STANDARD DRAWING NO.

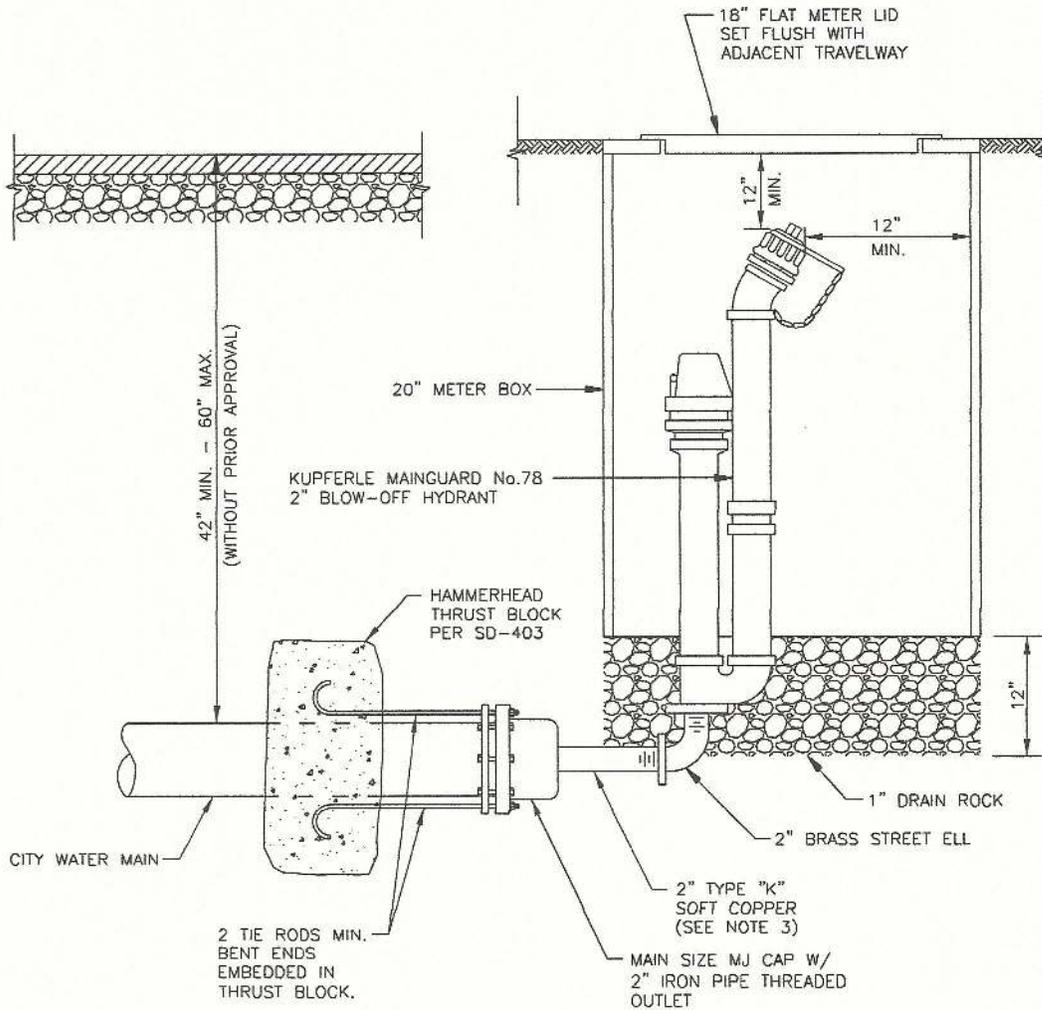


DETAIL
N.T.S.

- NOTES:**
1. BRASS OR TYPE-"L" HARD COPPER PIPE IS ACCEPTABLE. (NO SPLICING ALLOWED).



<p>PERMANENT BLOW-OFF DETAIL</p>	DATE:	<p>W-405 STANDARD DRAWING NO.</p>
	REV #:	
	ACAD FILE: W-405	



DETAIL

N.T.S.

NOTES:

1. TEMPORARY BLOW-OFFS ARE FOR "PHASE" WATER LINES THAT ARE TO BE EXTENDED IN THE FUTURE.
2. LOCATE BLOW-OFF OUTSIDE OF TRAVEL WAY.
3. BRASS OR TYPE-"L" HARD COPPER PIPE IS ACCEPTABLE. (NO SPLICING ALLOWED).



TEMPORARY BLOW-OFF
DETAIL

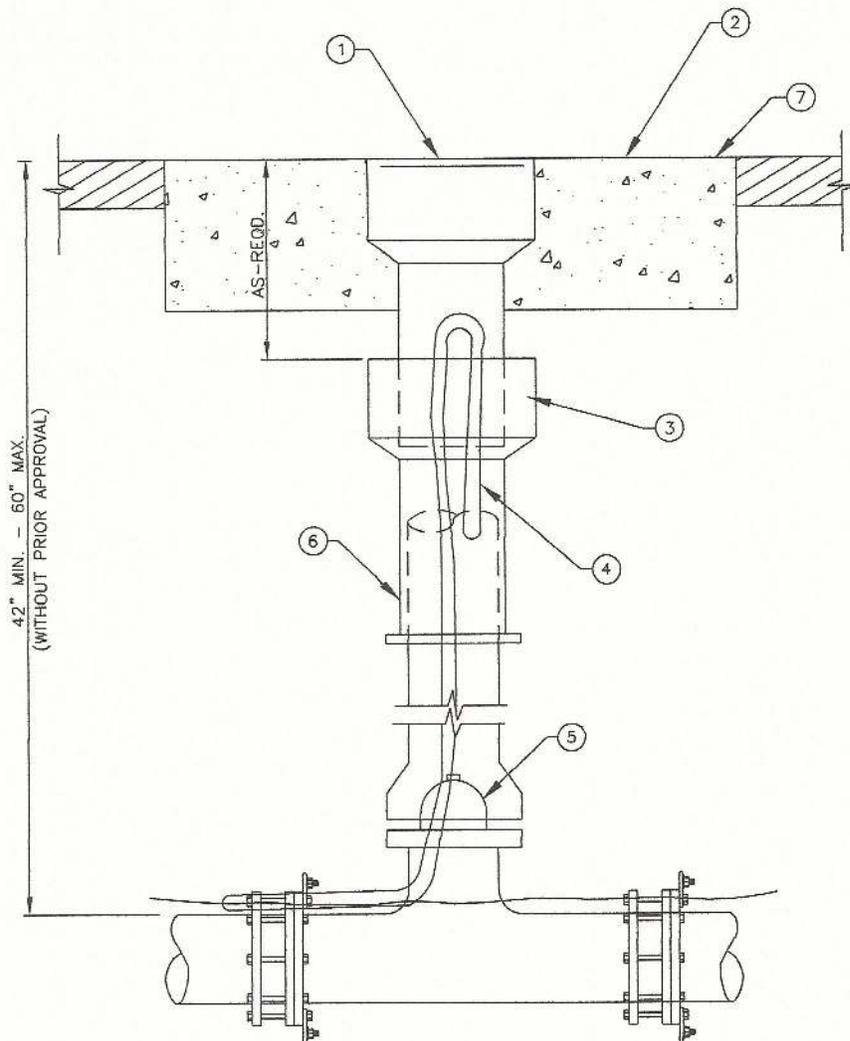
DATE:

REV #:

ACAD FILE: W-405A

W-405A

STANDARD DRAWING NO.



TYLER VALVE BOX AND LID REQUIRED

N.T.S.

LEGEND:

- ① 5 1/4" LID (IF LOCKING REQUIRED, TYLER NO. 6855)
- ② 24"Ø X 8" CONCRETE COLLAR(MAY OR MAY NOT BE REQUIRED)
- ③ PACK VOID WITH RUBBER SILICONE
- ④ NO. 12 AWG. COPPER WIRE FINDER
- ⑤ VALVE
- ⑥ CAST IRON VALVE RISER
- ⑦ FINISHED GRADE

NOTE:

- 1. ALL PRODUCTS SHALL BE AS INDICATED OR APPROVED EQUAL.
- 2. VALVE BOX TO BE CENTERED OVER VALVE.



VALVE BOX AND LID
DETAIL

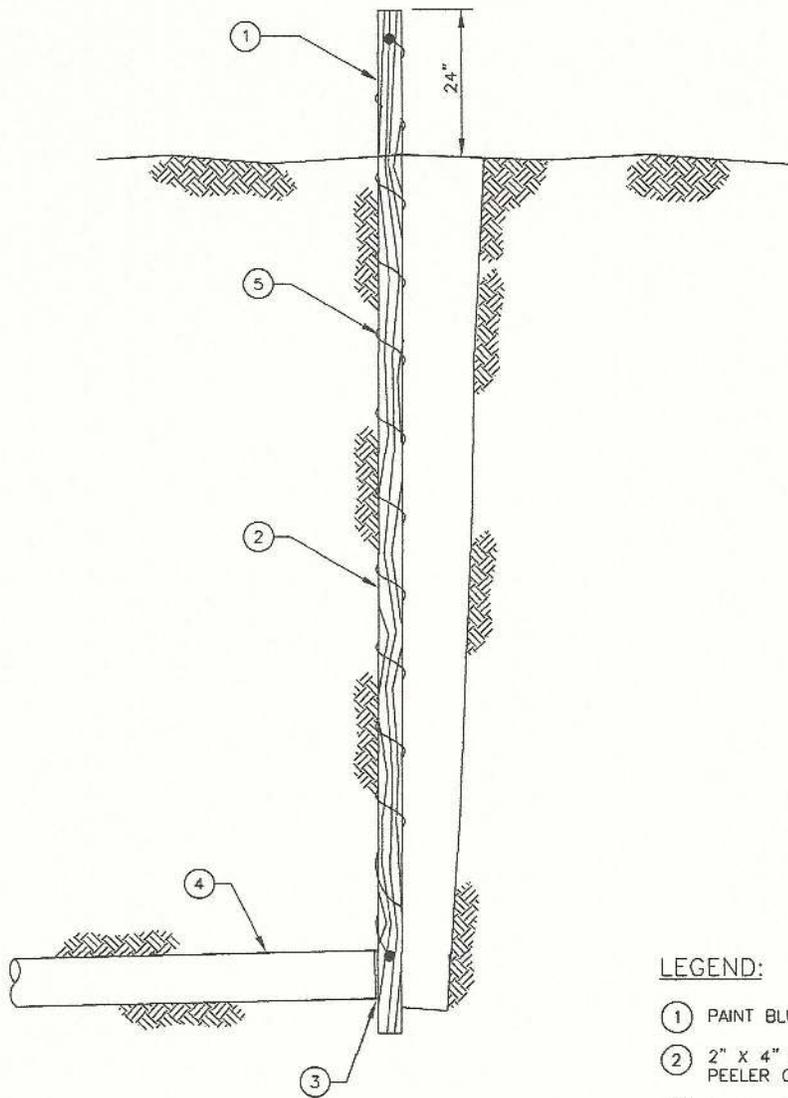
DATE:

REV. #

ACAD FILE:

W-406

STANDARD DRAWING NO.



LEGEND:

- ① PAINT BLUE
- ② 2" X 4" MARKER OR 4"-5" DIAMETER PEELER CORE POST
- ③ PLUG OR CAP
- ④ WATER MAIN OR SERVICE PIPE
- ⑤ NO. 12 AWG. GALVANIZED FINDER WIRE, (FASTEN TO BOTTOM AND TOP OF WOODEN MARKER AND WRAP AROUND ENTIRE LENGTH)

DETAIL

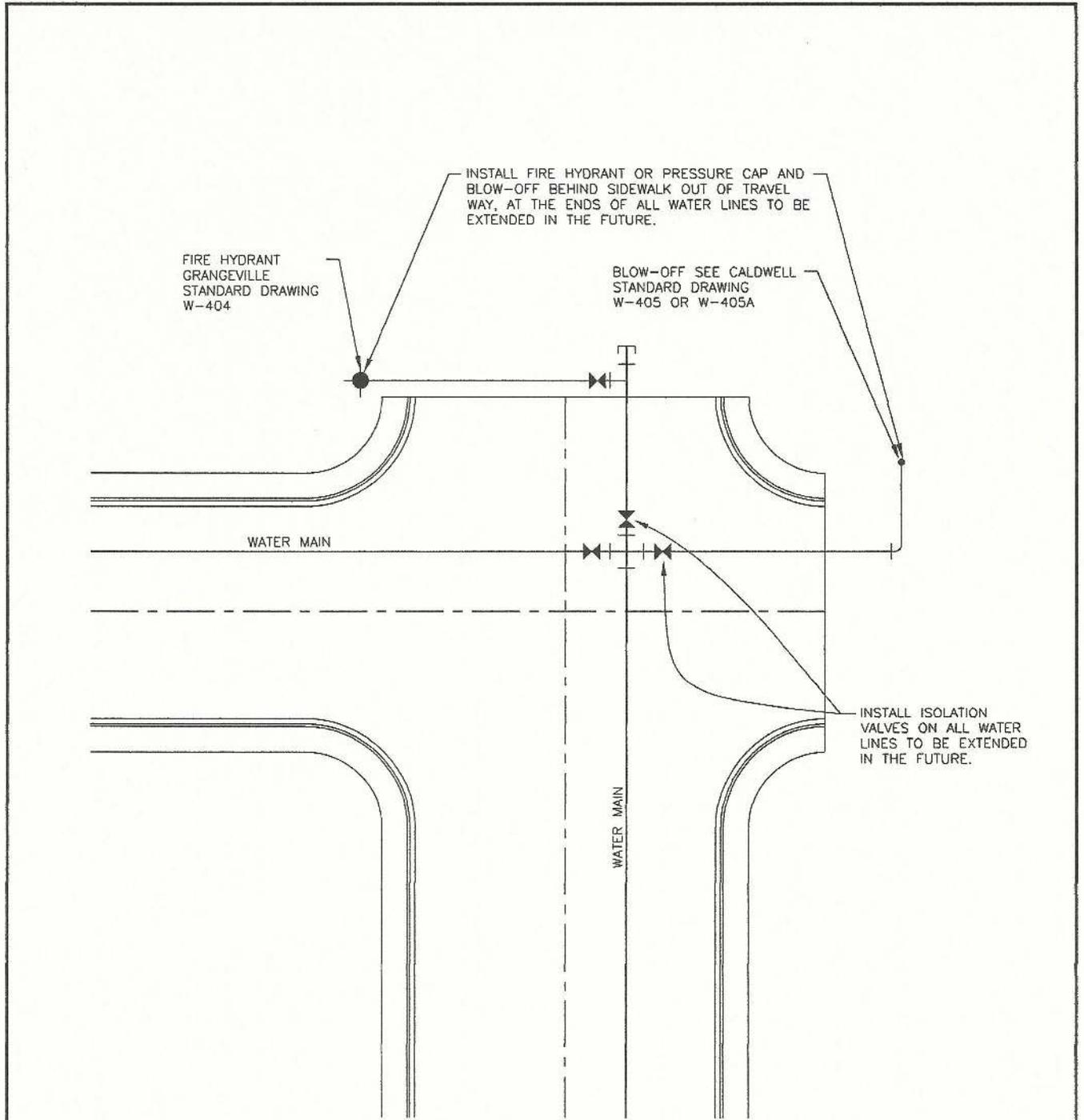
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STANDARD MARKER
WATER SERVICE

DATE: _____
REV. # _____
ACAD FILE: W-409.DWG

W-409
STANDARD DRAWING NO.



PLAN
N.T.S.



WATER STUBS
FOR FUTURE EXTENSION

DATE:	
REV. #	
ACAD FILE:	

W-410
STANDARD DRAWING NO.