SEEKINS PRECISION BUILDING EXPANSION PROJECT

DETAILS

PROJECT NO.
18056
DRAWN BY
B. WALDEMARSON
APPROVED BY
W. WATTS
DATE
04/18/19
SCALE
NONE
DRAWING NO.
C6.0

#	DATE	REVISIONS

THRUST BLOCK AND DETAILS

IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION

STANDARD DRAWING NO. SD-403

SOIL BEARING PRESSURE = 2000 PSF
WORKING PRESSURE RATING = 150 PSI
SAFETY FACTOR = 1.5

PIPE SIZE	TEE, PLUG OR VALVE	90° BEND	45° BEND	22.5°, 11.25° BENDS OR REDUCER
3	0.8	1.1	0.6	0.3
4	1.4	2.0	1.1	0.6
6	3.2	4.5	2.4	1.2
8	5.7	8.0	4.3	2.2
10	8.8	12.5	6.8	3.4
12	12.7	18.0	9.7	5.0
14	17.3	24.5	13.2	6.8
16	22.6	32.0	17.3	8.8
18	28.6	40.5	21.9	11.2

TABLE 1
THRUST AREA FOR HORIZONTAL BENDS***

MINIMUM SQUARE FEET OF THRUST AREA
ONTO UNDISTURBED EARTH*

* MUST BE INCREASED BASED ON DIFFERENT CONDITIONS (HIGHER WORKING PRESSURE OR LOWER SOIL BEARING STRENGTH).
** THRUST BLOCK DEPTH TO BE A MINIMUM OF 12" FOR PIPE SIZES 3"-8" AND 18" FOR PIPE SIZES 10"-18" OR THE SQUARE ROOT OF THE REQUIRED BEARING AREA, WHICHEVER IS GREATER.
*** OR TEE FACING AT A 90° BEND.

VERTICAL BEND DETAIL

REDUCER

PLUG DETAIL

VALVE ANCHOR DETAIL

TEE DETAIL

TYP. BEND DETAIL

LEGEND

1. FOR HORIZONTAL PIPE BENDS, BEARING THRUST BLOCKS MUST PROVIDE 2500 P.S.I. CONCRETE POURED AGAINST UNDISTURBED EARTH PER TABLE 1.
2. FOR VERTICAL PIPE BENDS, GRAVITY THRUST BLOCKS MUST PROVIDE A VOLUME OF CONCRETE POURED AGAINST UNDISTURBED EARTH WHICH IS SIZED FOR EXPECTED FORCES WITH A MINIMUM 1.5 FACTOR OF SAFETY.
3. NO. 12 COPPER FINDER WIRE. SEE SD-514 FOR SPLICING.
4. CL VALVE BOX WITH COVER.
5. CL GATE VALVE (M.J.).
6. PRECAST BLOCK FOR OUT IN TEE AND VALVE OR CAST IN PLACE. WITH 2 1/2" # MIN. REBAR.
7. TRENCH SIDE.
8. PIPE.
9. PLUG.
10. HAMMERHEAD THRUST BLOCKING.
11. ANCHOR BARS (1/2"# MIN.)

NOTES:
A. ANCHOR ALL VALVES CONNECTED TO P.V.C. PIPE AS SHOWN.
B. COVER BOLTS AND FLANGES WITH PLASTIC TO PROTECT FROM CONCRETE ADHERENCE DURING CONSTRUCTION OF THRUST BLOCKS.
C. SEE CHART FOR MIN THRUST BLOCKS BEARING AREAS.
D. ALL CONCRETE TO BE 2500 P.S.I.
E. PROVIDE 6 MIL POLYPROPYLENE BETWEEN FITTINGS AND CONCRETE.
F. NOTIFY ENGINEER FOR ANY CONDITION OR PIPE SIZE NOT INDICATED.
G. ALL BLOCKS TO BE CENTERED AROUND PIPE SPRING LINE.

FIRE HYDRANT DETAIL

IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION

STANDARD DRAWING NO. SD-404

2015

NOTES:
A. ALL AUXILIARY VALVES TO BE LOCATED AT THE TEE ON THE WATER MAIN AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER.
B. ALL AUXILIARY VALVES SHALL BE RESTRAINED AS ACCORDANCE WITH THIS DETAIL. LOCATION TO BE SET IN ACCORDANCE WITH LOCAL STANDARDS OR AS DIRECTED BY THE ENGINEER.
C. ALL ANCHORS AND BLOCKING TO BEAR AGAINST UNDISTURBED SOIL.
D. IF WATER SERVICE TO HYDRANT IS TO COMMENCE PRIOR TO SETTING OF CONCRETE THRUST BLOCKING USE A COMBINATION OF CONCRETE AND UNI-FLANGE SERIES 1300 JOINT RESTRAINT.
E. PLACE LOCATOR WIRE DIRECTLY ABOVE PIPE. SECURE UNDER WIRE UNDER (M.J) BOLT AT MAIN.
F. JOINT RESTRAINT DEVICES MAY BE USED AS AN ALTERNATE TO THRUST BLOCK WITH ENGINEER'S APPROVAL.

FIRE HYDRANT DETAIL
N.T.S.

LEGEND
1. FIRE HYDRANT (PAINT IN ACCORDANCE WITH LOCAL STANDARDS).
2. BREAK AWAY BOLTS.
3. END OF TRENCH, EDGE OF RIGHT-OF-WAY.
4. DRAIN – KEEP CLEAR.
5. CAST IN PLACE CONCRETE THRUST BLOCK (4 SQ. FT. OF THRUST BLOCK REQUIRED) (SEE NOTE D).
6. 3" DRAIN ROCK EXTENDS 12" HORIZONTALLY FROM EACH SIDE OF CONCRETE BASE AND THRUST BLOCK AND VERTICALLY TO 2" ABOVE HYDRANT DRAIN WALL.
7. PRECAST CONCRETE BLOCK 1' X 1' X 6" THICK.
8. VALVE SUPPORT (PRECAST OR CAST IN PLACE).
9. TEE (24 X 24 X 6 FLANGE) WITH THRUST BLOCK.
10. 6" CL. AUXILIARY VALVE (24 X FLANGE).
11. CAST IRON VALVE BOX.
12. NO. 12 AWG. COPPER WIRE PINDER. SEE SD-514 FOR SPLICING (SEE NOTE E).
13. 5 1/4" LOCKING LID (TYLER NO. 6855).
14. 24"ø X 6" CONCRETE COLLAR WITH (2) #4 REBAR HOOPS.
15. FINISH GRADE.
16. SIDEWALK.
17. MECHANICAL CONNECTION.
18. COVER DRAIN ROCK WITH FILTER FABRIC.
19. 6" DIAMETER PIPE.

EXTEND WIRE 12" ABOVE GRADE AND WRAP WIRE AROUND HYDRANT.

PUMP UNIT FOR HYDRANT BID ITEM

VALVE BOX AND LID DETAIL

IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION

STANDARD DRAWING NO. SD-406

2015

ELEVATION VIEW
VALVE BOX AND LID
N.T.S.

PLAN VIEW

LEGEND
1. 5 1/4" LOCKING LID IF REQUIRED (TYLER NO. 6855).
2. 24"ø x 6" CONCRETE COLLAR.
3. (2) #4 REBAR HOOPS WITH #4 VERTICALS.
4. PACK VOID WITH RUBBER SILICONE.
5. NO. 12 AWG. COPPER WIRE FINDER.
6. VALVE.
7. CAST IRON VALVE RISER.
8. FINISHED GRADE.
9. REDWOOD BLOCKS.
10. RECYCLED POLYPROPYLENE FIBER (ADDED PER MANUFACTURER'S RECOMMENDATIONS) MAY BE USED IN LIEU OF #4 REBAR IN CONCRETE COLLARS.

NOTE:
A. ALL PRODUCTS AS INDICATED OR APPROVED SUBSTITUTION.
B. AUTHORIZED BY THE ENGINEER.
C. HEAVY (10 GAUGE STEEL VALVE BOX AND CAN MAY BE USED IN LIEU OF CAST IRON BOX AND LID.

2" STANDARD WATER SERVICE CONNECTION

CITY OF LEWISTON, IDAHO
PUBLIC WORKS DEPARTMENT

APPROVED FOR PUBLICATION
City Engineer — Date 3/5/13

DWG. NO. 1-6

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BACKFILL CLASS "D"

CITY OF LEWISTON, IDAHO
PUBLIC WORKS DEPARTMENT

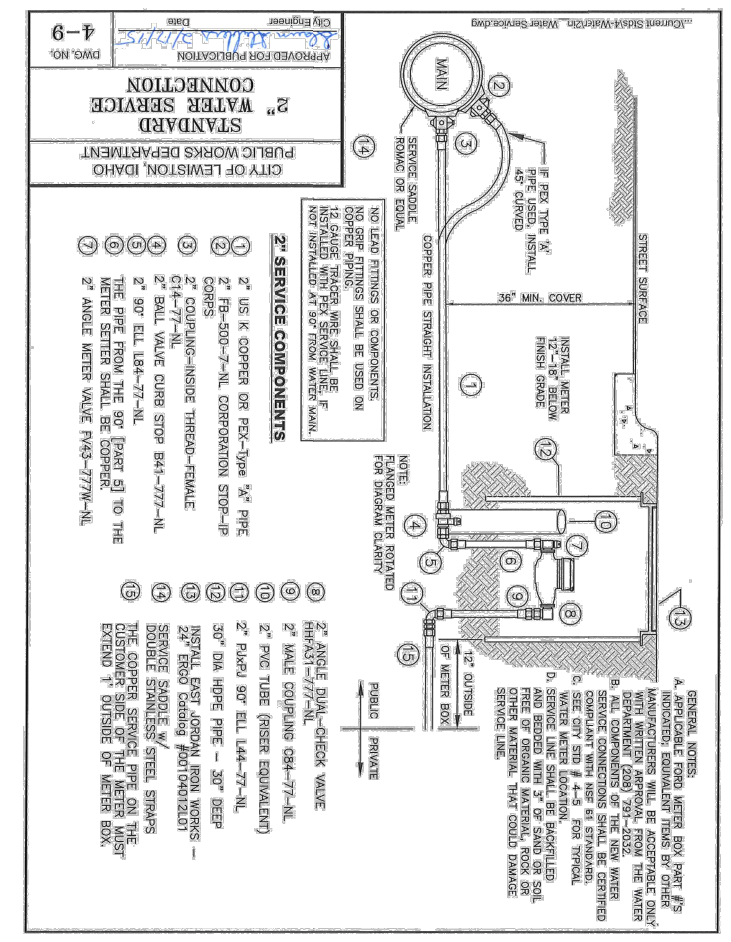
APPROVED FOR PUBLICATION
City Engineer — Date 3/5/13

DWG. NO. 1-6

NOTES:
1. CONTRACTOR SHALL COMPLY WITH THE MOST CURRENT OSHA REQUIREMENTS FOR EXCAVATIONS.
2. CLASS 'D' BACKFILL SHALL COMPLY WITH REQUIREMENTS OF THE CITY'S STANDARDS CONSTRUCTION SPECIFICATIONS.
3. TRENCH MATERIAL SHALL BE PLACED IN MAX. OF 6" LIFTS.
4. IN EXISTING RIGHT-OF-WAY TRENCH EXCAVATION SHALL NOT BE MORE THAN 100 FEET AHEAD OF THE PIPE LAYING OPERATION.
5. TRENCHES ARE TO BE BACKFILLED AT THE END OF EACH DAY.
6. ANY ALTERATIONS TO THIS STANDARD MUST HAVE WRITTEN APPROVAL BY CITY ENGINEER.

CLASS 'D' BACKFILL SHALL CONSIST OF SAND, GRAVEL OR CRUSHED GRAVEL MEETING THE REQUIREMENTS OF ISPWC SECTION 802 AND SHALL BE FREE OF ORGANIC MATERIAL, ROCK OR OTHER MATERIAL THAT COULD DAMAGE SERVICE LINE.

GENERAL NOTES:
A. METER BOX PART #'S INDICATED EQUIVALENT ITEMS BY OTHER MANUFACTURERS WILL BE ACCEPTABLE ONLY WITH WRITTEN APPROVAL FROM THE WATER DEPARTMENT.
B. ALL COMPONENTS OF THE NEW WATER SERVICE CONNECTIONS SHALL BE CERTIFIED "LEAD FREE" BY THE MANUFACTURER.
C. WATER METER LOCATION: SEE CITY STD # 4-5 FOR TYPICAL METER LOCATION.
D. SERVICE LINE SHALL BE BACKFILLED WITH SELECT BACKFILL SOIL FREE OF ORGANIC MATERIAL, ROCK OR OTHER MATERIAL THAT COULD DAMAGE SERVICE LINE.



2" STANDARD WATER SERVICE CONNECTION

CITY OF LEWISTON, IDAHO
PUBLIC WORKS DEPARTMENT

APPROVED FOR PUBLICATION
City Engineer — Date 3/5/13

DWG. NO. 4-9

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NO LEAD FITTINGS OR COMPONENTS SHALL BE USED ON COPPER PIPING.

12 GAUGE TRACER WIRE SHALL BE INSTALLED WITH ALL PIPING THAT IS NOT INSTALLED AT 90° FROM WATER MAIN.

2" SERVICE COMPONENTS

1. 2" US K COPPER OR PEX-Type "A" PIPE
2. 2" Fb-500-7-NL CORPORATION STOP-IP CORPS
3. 2" COUPLING-INSIDE THREAD-FEMALE C14-77-NL
4. 2" BALL VALVE CURB STOP B43-777-NL
5. 2" 90° ELL L84-77-NL
6. THE PIPE FROM THE 90° [PART 5] TO THE METER SETTER SHALL BE COPPER.
7. 2" ANGLE METER VALVE FV43-777W-NL
8. 2" ANGLE FUNL-CHECK VALVE FH43-777-NL
9. 2" MALE COUPLING C84-77-NL
10. 2" PVC TUBE (RISER EQUIVALENT)
11. 2" FlxFU 90° ELL L44-77-NL
12. 30" DIA HDPE PIPE – 30" DEEP
13. 2" METER BOX – CARSON 1730 SERIES INSTALL EAST JORDAN IRON WORKS – 24" DIA. (Catalog #30104012L01 SERIES) WITH (2) DOUBLE STAINLESS STEEL STRAPS
14. THE COPPER SERVICE PIPE ON THE CUSTOMER SIDE OF THE METER MUST EXTEND 1' OUTSIDE OF METER BOX.

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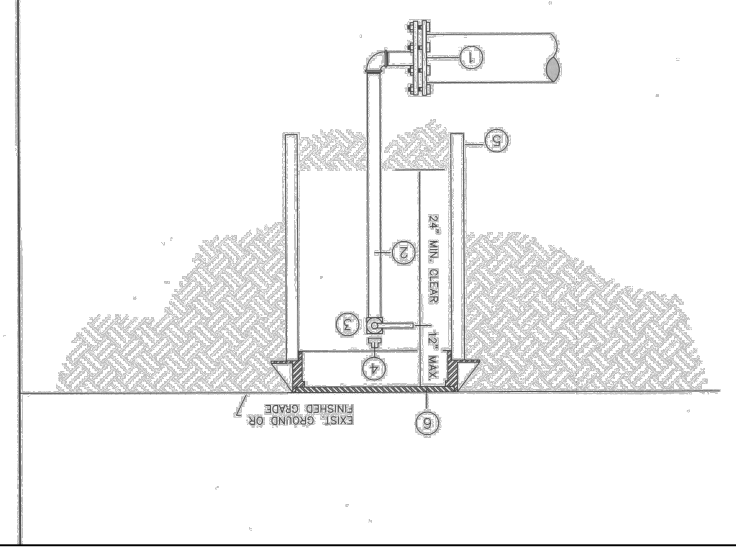
COMBINATION BLOWOFF AND SAMPLING TAP

CITY OF LEWISTON, IDAHO
PUBLIC WORKS DEPARTMENT

APPROVED FOR PUBLICATION
City Engineer — Date 3/5/13

DWG. NO. 4-3

REQUIRED COMPONENTS

1. CAP OR PLUG ON WATER MAIN
2. 2" GALVANIZED PIPE
3. 2" BALL VALVE
4. 2" THREADED PLUG
5. 24" HDPE PIPE
6. OLYMPIC FOUNDRY MH-23 MANHOLE & COVER
7. THRUST BLOCK OR RESTRAINTS (NOT SHOWN)