CONCRETE THRUST BLOCK SIZE IS DETERMINED BY SIZE OF PIPE USED.

NOTES:
1) BLOCK HEIGHT SHALL BE EQUAL TO OR LESS THAN ONE HALF OF TOTAL DEPTH FROM GROUND SURFACE TO BLOCK BASE.

2) BLOCK SIZE BASED ON 250 PSI TEST PRESSURE.

3) WRAP FITTINGS WITH POLYETHYLENE PLASTIC BEFORE POURING CONCRETE THRUST BLOCK.

<table>
<thead>
<tr>
<th>FITTING SIZE (INCHES)</th>
<th>BEARING AREA OF BLOCK IN SQUARE FEET*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TEES &amp; PIPE ENDS</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
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<tr>
<td>10</td>
<td>10</td>
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<tr>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>18</td>
<td>32*</td>
</tr>
</tbody>
</table>

2000 PSF SOIL BEARING STRENGTH

MAXIMUM BEARING AREA ALLOWED IS 25 S.F. BEARING AREA MAY BE REDUCED BY USING RODS, RESTRAINED JOINT PIPE OR CONDUCTING SOILS TEST TO CONFIRM HIGHER SOIL BEARING

APPROVED BY CITY OF BONNEY LAKE: DATE: 2/8/02
APPROVED BY CITY OF AUBURN: DATE: 2/11/02
WATER MAIN BLOCKING

CITY OF AUBURN, WASHINGTON - DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL: LSBL-01
NOTES:

1) HYDRANT SHALL BE LOCATED WITHIN THE R.O.W. OR WATER EASEMENT.
2) WHERE NO CURB & GUTTER IS INSTALLED, FIRE HYDRANT SHALL BE LOCATED (IN RELATION TO STREET CENTER LINE) AS INDICATED ON THE DRAWINGS.
3) INSIDE CITY LIMITS & AREA WITHIN FIRE DISTRICT No. 44, HYDRANTS SHALL HAVE 2-2 1/2" NATIONAL STANDARD THREAD (NST) HOSE PORTS & 1-4 1/2" NST PUMPER PORT WITH A 5" STORZ ADAPTER AND CAP.
4) MEGA-LUGS MAY BE USED IN PLACE OF SHACKLE RODS WITH PRIOR APPROVAL OF THE ENGINEER.
5) INSURE 5' MINIMUM CLEARANCE TO OBSTACLES FROM CENTERLINE OF HYDRANT.
LAKELAND SOUTH  
BONNEY LAKE WATER SERVICE AREA

METER BOX TO BE FOG TITE  
NO. 1-D FOR 3/4" METER,  
NO. 8-10 FOR 1" METER, AND  
NO. 2 FOR 1 1/2" & 2" METER.

BOX TO BE AMETEK NO. 17010 FOR  
3/4" & 1", NO. 19011 FOR 1 1/2" &  
2" (GREEN IN COLOR) OR APPROVED  
EQUAL.

QUICK COUPLER  
(BLOW OUT)

SWING JOINT

UNION

4" MIN.  
6" MIN.

4" MIN.  
6" MINIMUM  
PEA GRAVEL.

6" MINIMUM  
PEA GRAVEL.

IRRIGATION MAIN  
LINE (SIZE VARIATES)

ELEVATION  
NOT TO SCALE

E. R.O.W., OR  
EASEMENT LINE

TO WATER  
MAIN

INSTALL TEE  
AFTER UNION

DOMESTIC  
WATERLINE

TO LANDSCAPE  
IRRIGATION

BACK FLOW  
ASSEMBLY

DEDUCT METER

DOMESTIC WATER  
SERVICE METER

TYPICAL DEDUCT INSTALLATION PLAN  
NOT TO SCALE

NOTES:

1) BACK FLOW ASSEMBLY SHALL HAVE A MINIMUM OF 12" CLEARANCE FROM ANY  
OBSTRUCTION ON THE TEST COCK SIDE. THERE SHALL BE A MAXIMUM OF 12"  
FROM TOP OF BOX TO TOP OF BACK FLOW ASSEMBLY.

2) DOUBLE CHECK VALVE ASSEMBLY SHALL INCLUDE TWO RESILIENT SEATED SHUT  
OFF VALVES WITH TEST COCKS, AND BE ON THE LATEST D.S.H.S. AND CITY OF  
AUBURN APPROVED LIST.

3) TEST COCKS SHALL BE PLUGGED WITH BRASS OR PLASTIC PLUGS.

4) BACK FLOW ASSEMBLY SHALL BE TESTED BY A CERTIFIED TESTER UPON  
INSTALLATION AND ANNUALLY THEREAFTER AT OWNERS EXPENSE.

APPROVED BY CITY OF BONNEY LAKE:  DATE:  
[Signature]  2/01/02

APPROVED BY CITY OF AUBURN:  DATE:  
[Signature]  2/1/02

DEDUCT METER WITH DOUBLE CHECK  
VALVE ASSEMBLY UP TO 2"
NOTES:

1) EACH VALVE BOX SHALL BE ADJUSTABLE CAST IRON OF 5" INSIDE DIAMETER, HAVE A TOP SECTION OF 18" MINIMUM LENGTH, AND SHALL BE RICH NO. 940 OR APPROVED EQUAL. EARS SHALL BE PLACED IN LINE WITH PIPE IT SERVES.

2) DEPTH OF OPERATING NUT SHALL BE 15" MINIMUM TO 36" MAXIMUM, INCLUDING EXTENSION WHEN REQUIRED.

3) SEAL CONCRETE COLLAR AND ASPHALT CONCRETE SEAMS WITH AR 4000.
LAKELAND SOUTH
BONNEY LAKE WATER SERVICE AREA

NOTE:
TEMPORARILY INSTALL "SPACER" IN METER SETTER UNTIL METER IS INSTALLED

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MAKER OR RATING</th>
<th>1 1/2&quot;</th>
<th>2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Double Strap Saddle</td>
<td>Romac or Equal</td>
<td>202 IPT</td>
<td>202 IPT</td>
</tr>
<tr>
<td>2 Gate Or Ball Valve w/ 2&quot;</td>
<td>Ford or equal</td>
<td>Ball Valve B11-666 with Qt67</td>
<td>Resilient Seat Gate</td>
</tr>
<tr>
<td>3 Operating Nut</td>
<td>SDR7(200PSI)</td>
<td>C84-66</td>
<td>C84-77</td>
</tr>
<tr>
<td>4 Pipe – High Molecular Polyethylene Pipe (I.P.S.)</td>
<td>Ford or Equal</td>
<td>1 1/2&quot; x 6&quot;</td>
<td>2&quot; x 6&quot;</td>
</tr>
<tr>
<td>5 Coupling Male</td>
<td>Rich or Equal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Valve Box</td>
<td>Fogtite#2 w/H2O Load</td>
<td>VFH 66-12B</td>
<td>VFH 77-12B</td>
</tr>
<tr>
<td>7 Nipple Brass</td>
<td>Ford or Equal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Meter Box</td>
<td>14 Ga. Copper Wire</td>
<td>1-1/2&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td>9 Meter Setter w/Lockable Bypass</td>
<td>PVC-Sch. 80</td>
<td>Solid</td>
<td>Solid</td>
</tr>
<tr>
<td>10 Brass 90° Elbow</td>
<td></td>
<td>4&quot;φ</td>
<td>4&quot;φ</td>
</tr>
<tr>
<td>11 Tracer Wire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 PVC Sleeve Beneath Pavement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 SENSUS TOUCH–READ METER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 8&quot; to 10&quot; of 5/8&quot; Minus Crushed Rock Top Course</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 1/2" & 2" WATER SERVICE and MATERIAL LIST

CITY OF AUBURN, WASHINGTON – DEPARTMENT OF PUBLIC WORKS
STANDARD DETAIL: LSBL-07
LAKELAND SOUTH
BONNEY LAKE WATER SERVICE

2" GALV. IRON
PIPE, FIELD
LOCATE

2" OPEN
PATTERN, RETURN
BEND

2" BEEHIVE
STRAINER

2" 90° ELBOWS, GALV.
WITH 1/4" Ø (DRILLED) HOLE
IN ONE & CLOSE NIPPLE
BETWEEN

27.5' ON 44' CITY ROAD
22.5' ON 34' CITY ROAD

2" GALV.
IRON PIPE

2" UNION

2" GALV.
IRON PIPE

2" 90°
ELBOW

2" NIPPLE

2" COMBINATION AIR
RELEASE/AIR VACUUM
VALVE ASSEMBLY,
SCREWED APCO #143C
OR EQUAL.

ELEVATION
Not to Scale

SEE NOTE 1

HAND VALVE BOX

NOTE:
FOR LOCATIONS IN THE COUNTY,
THE AIR RELEASE/AIR VACUUM VALVE
ASSEMBLY SHALL BE LOCATED ON
PROPERTY SIDE OF DITCH. IF NO ROOM
IS AVAILABLE, INSTALL CULVERT IN
DITCH WITH THE ASSEMBLY ON FILL
OVER CULVERT.

SEE NOTE 1

2" BRONZE
GATE VALVE

1% MIN.

2" BRASS PIPE,
12' MAX. LENGTH

2" SWING
JOINT

2" SWING
JOINT

NOTES:
1) COMBINATION AIR RELEASE/AIR VACUUM VALVE ASSEMBLY TO BE INSTALLED IN
17" x 28" CONC. METER BOX WITH 3/8" STEEL DIAMOND PLATE COVER, FOG-TITE
METER SEAL CO. #2 METER BOX OR EQUAL.
2) BED WITH WASHED GRAVEL, PASSING 1 1/2" AND RETAINED ON 1/4" MESH.
3) GATE VALVE SHALL BE AWWA RESILIENT SEAL, FIPT. X FIPT. WITH HANDWHEEL.
4) ALL PIPING BETWEEN DOUBLE STRAP SADDLE AND INLET SIDE OF COMBINATION
AIR RELEASE/AIR VACUUM VALVE ASSEMBLY SHALL BE BRASS.
5) TAP MAIN AT SYSTEM'S HIGHEST POINT, LOCATION TO BE APPROVED BY THE CITY.

APPROVED BY CITY OF BONNEY LAKE: 2/8/02

APPROVED BY CITY OF AUBURN: 2/14/02

TYPICAL 2" COMBINATION AIR RELEASE/AIR
VACUUM VALVE ASSEMBLY DETAIL

CITY OF AUBURN, WASHINGTON - DEPARTMENT OF PUBLIC WORKS  STANDARD DETAIL: LSBL-08
LAKELAND SOUTH
BONNEY LAKE WATER SERVICE AREA

DOUBLE SERVICE STRAP, ROMAC SADDLE WITH 2’ TAP & 3’ LONG BRASS NIPPLE TO VALVE

WATER MAIN

SWING JOINTS

2’ BRASS PIPE, LENGTH VARIES

17 1/4” x 28 5/8” METER BOX WITH 3/8” PLATE STEEL COVER, FOOTITE METER CO., NO. 2 METER BOX OR APPROVED EQUAL.

CONCRETE BLOCKING AS REQUIRED

UNDISTURBED GROUND

PLAN
Not to Scale

VALVE BOX, SEE DETAIL LSSL-5 FOR DETAIL.

2” GATE VALVE WITH OPERATING NUT

2” BRASS SWING JOINTS

ELEVATION
Not to Scale

2 C.F. OF 1 1/2” WASHED ROCK

10 CU. FT. WASHED GRAVEL PASSING 1 1/2” AND RETAINED ON 1/4” MESH FOR DRAIN.

NOTE:
1) THE OUTLET SHALL BE BRONZE 2 1/2 N.S.T. AND BE LOCKABLE TO PREVENT UNAUTHORIZED USE.

APPROVED BY CITY OF BONNEY LAKE:    DATE:

APPROVED BY CITY OF AUBURN:    DATE:

2” BLOWOFF ASSEMBLY DETAIL

CITY OF AUBURN, WASHINGTON – DEPARTMENT OF PUBLIC WORKS  STANDARD DETAIL: LSBL-09
NOTES:

1) ABOVE DESIGN APPLICABLE TO SINGLE FAMILY.

2) CONNECTION TO CITY WATER MAIN PER CITY OF AUBURN REQUIREMENTS.

3) DOUBLE CHECK VALVE ASSEMBLY REQUIRED ON FIRE SPRINKLER LINE.

4) PLANS FOR SEPARATE FIRE SPRINKLER LINE MUST BE SUBMITTED AND APPROVED BY FIRE MARSHAL PRIOR TO INSTALLATION.
LAKELAND SOUTH
BONNEY LAKE WATER SERVICE AREA

17 1/4" x 28 5/8" METER BOX WITH 3/8" PLATE STEEL COVER, FOSSITE METER CO., NO. 2 METER BOX OR APPROVED EQUAL.

PLAN
NOT TO SCALE

2" F.I.P.T. (FEMALE) x 2 1/2" N.S.T. (MALE) AND STANDARD FIRE HYDRANT CAP WITH 1 1/4" PENTAGON NUT

ELEVATION
NOT TO SCALE

2"-90°, GALVANIZED ELBOW WITH 1/4"Ø (DRILLED) DRAIN HOLE.

2" RESILIENT WEDGE GATE VALVE, FIPT

10 CU. FT. WASHED GRAVEL PASSING 1 1/2" AND RETAINED ON 1/4" MESH FOR DRAIN.

NOTE:
1) TEMPORARY BLOWOFFS SHALL BE USED ON ALL DEAD END WATERLINES WITH LOCATION OF BLOWOFF BOX AS SHOWN ON THE PLAN OR WHERE DIRECTED BY THE ENGINEER.

APPROVED BY CITY OF BONNEY LAKE:  DATE:  
APPROVED BY CITY OF AUBURN:  DATE:  

TEMPORARY BLOWOFF DETAIL

CITY OF AUBURN, WASHINGTON - DEPARTMENT OF PUBLIC WORKS  STANDARD DETAIL: LSLB-10
NOTE:
DOUBLE CHECK VALVE ASSEMBLY REQ'D FOR BACKFLOW PREVENTION WITHIN BUILDING

R.O.W. LINE

2" CHECK VALVE

2" BALL VALVE

BRASS TEE

DOMESTIC METER PER DETAIL W--10 OR W--11

DOMESTIC WATER SERVICE SIZE PER APPROVED PLANS

BRASS 90° BEND

2" GATE VALVE W/ BOX

2" POLYETHYLENE

CITY WATER MAIN

CONNECT TO MAIN W/ DOUBLE SERVICE STRAP ROMAC SADDLE W/ 2" TAP AND 3" LONG BRASS NIPPLE TO VALVE.

FINISHED GRADE

14"-18"

METER BOX

DEPTH VARIES

TEE FOR DOMESTIC SERVICE

BRASS 90° BEND (TYP.)

2" BALL VALVE

2" CHECK VALVE UNION

SECTION A-A

LAKELAND SOUTH
BONNEY LAKE WATER SERVICE
FIRE SPRINKLER LINE WITH DOMESTIC SERVICE

CITY OF AUBURN, WASHINGTON - DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL: LSLB-11