### Typical Valve Box Installation

**Connection**

Approved by: Hydrant Locking Tee to be used in lieu of standard M.J. Tee on all fire hydrant.

- Approved backfill material includes 825 B, flowable fill and approved dirt.
- Use mega-lugs between hydrant and gate valve.
- Centered restrained casing spacers shall be spaced at a maximum of two spacers per joint of pipe. The appropriate length of restraint shall be calculated in accordance with the manufacturer’s recommendations.

### Typical Bend Thrust Block

- All concrete shall be class “C” (1500 psi) in accordance with the city of Auburn standard specifications.
- All concrete shall be class “D” (4000 psi) in accordance with the city of Auburn standard specifications.
- All concrete shall be class “A” (4000 psi) in accordance with the City of Auburn standard specifications.
- All concrete shall be class “B” (4000 psi) in accordance with the City of Auburn standard specifications.

### Typical Concrete Thrust Block Design

- All hydrants shall be painted blue.
- All hydrants shall be painted gray.
- All hydrants shall be painted red.
- All hydrants shall be painted white.

### Typical Concrete Thrust Block Layout

- All concrete shall be class “C” (1500 psi) in accordance with the city of Auburn standard specifications.
- All concrete shall be class “D” (4000 psi) in accordance with the city of Auburn standard specifications.
- All concrete shall be class “A” (4000 psi) in accordance with the City of Auburn standard specifications.
- All concrete shall be class “B” (4000 psi) in accordance with the City of Auburn standard specifications.

### Typical Fire Hydrant Installation

- All fire hydrants shall be painted blue.
- All fire hydrants shall be painted gray.
- All fire hydrants shall be painted red.
- All fire hydrants shall be painted white.

### Bedding Requirements for Trenches

- All bedding materials shall be compacted.
- All bedding materials shall be in place and adjusted to proper elevation.
- All bedding materials shall be in place and adjusted to proper elevation.
- All bedding materials shall be in place and adjusted to proper elevation.

---

### Tables

#### Typical Concrete Thrust Block Design

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Thickness (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class “C”</td>
<td>1500 psi</td>
</tr>
<tr>
<td>Class “D”</td>
<td>4000 psi</td>
</tr>
<tr>
<td>Class “A”</td>
<td>4000 psi</td>
</tr>
<tr>
<td>Class “B”</td>
<td>4000 psi</td>
</tr>
</tbody>
</table>

#### Bedding Requirements for Trenches

<table>
<thead>
<tr>
<th>Bedding Material</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compacted</td>
<td></td>
</tr>
<tr>
<td>Adj. to proper elevation</td>
<td></td>
</tr>
<tr>
<td>Adj. to proper elevation</td>
<td></td>
</tr>
<tr>
<td>Adj. to proper elevation</td>
<td></td>
</tr>
</tbody>
</table>

---

### Diagrams

- **TYPICAL VALVE BOX INSTALLATION**
- **TYPICAL CONCRETE THRUST BLOCK DESIGN**
- **TYPICAL CONCRETE THRUST BLOCK LAYOUT**
- **TYPICAL BORE ENCASEMENT**
- **TYPICAL FIRE HYDRANT INSTALLATION**
- **TYPICAL END OF MAIN BLOWOFF ASSEMBLY**

---

**Note:** All dimensions are in inches. **Diagram credits:** O.C.E.W. (2010).
**TYPICAL REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA)**

**PLAN**

1. **Components:**
   - Meter Box
   - Gate Valve
   - Reduced Pressure Backflow Assembly
   - Expansion Joint
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Mass of Service Line
   - Concrete Slab
   - Expansion Joint
   - Service Line
   - Service Line Access Door

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The reduced pressure backflow assembly shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The gate valve shall be protected by a protective cover.

**TYPICAL FIRE PROTECTION SYSTEM (RPBA)**

**PLAN**

1. **Components:**
   - Meter Box
   - Gate Valve
   - Reduced Pressure Backflow Assembly
   - Expansion Joint
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Mass of Service Line
   - Concrete Slab
   - Expansion Joint
   - Service Line
   - Service Line Access Door

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The reduced pressure backflow assembly shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The gate valve shall be protected by a protective cover.

**TYPICAL DOUBLE CHECK BACKFLOW ASSEMBLY (DCBA)**

**PLAN**

1. **Components:**
   - Meter Box
   - Gate Valve
   - Double Check Backflow Assembly
   - Expansion Joint
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Mass of Service Line
   - Concrete Slab
   - Expansion Joint
   - Service Line
   - Service Line Access Door

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The double check backflow assembly shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The gate valve shall be protected by a protective cover.

**TYPICAL FIRE PROTECTION SYSTEM (DCBA)**

**PLAN**

1. **Components:**
   - Meter Box
   - Gate Valve
   - Fire Protection System Assembly
   - Expansion Joint
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Mass of Service Line
   - Concrete Slab
   - Expansion Joint
   - Service Line
   - Service Line Access Door

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The fire protection system assembly shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The gate valve shall be protected by a protective cover.

**TYPICAL LARGE DOMESTIC METER VAULT (1" AND LARGER)**

**PLAN**

1. **Components:**
   - Meter Box
   - Gate Valve
   - Double Check Backflow Assembly
   - Service Line
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Mass of Service Line
   - Concrete Slab
   - Service Line
   - Service Line Access Door

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The double check backflow assembly shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The gate valve shall be protected by a protective cover.

**CONCRETE SERVICE BOX**

**PLAN**

1. **Components:**
   - Concrete Service Box
   - Access Door
   - Service Line
   - Concrete Slab

**PROFILE**

1. **Profile View:**
   - Concrete Service Box
   - Access Door
   - Service Line
   - Concrete Slab

**NOTES:**

1. The service line shall be protected by a protective cover.
2. The concrete service box shall be installed in accordance with standard detail NOS. 12-1/2" to GRADE.
3. The access door shall be protected by a protective cover.

**STANDARD DETAILS WATER - SHEET 2 of 4**

- Double Check Backflow Assembly (DCBA)
- Reduced Pressure Backflow Assembly (RPBA)
- Fire Protection System (FP)
- Large Domestic Meter Vault (1" and Larger)
- Concrete Service Box

**APPROVED EQUAL:**

- Ames, Watts, or an approved equal.
- Approved by AWWB personnel in addition to City of Auburn project.

**DRAWN BY:**

- GM
- EC

**REVIEWED BY:**

- DCB
- MCC

**APPROVED BY:**

- JC-12-2012
- BS-10-25-07
TYPICAL END OF MAIN IN CUL DE SAC

NOTES:
1. THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY
    RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE
    BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWA AND SHALL NOT BE USED IN
    CONJUNCTION WITH MEGA-LUGS OR RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE
    CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

2. VALVE SHALL BE LOCATED WITHIN 24" OF THE BACK OF CURB, MAY BE PLACED IN PAVEMENT.

3. THE BLOW-OFF SHALL BE PLACED WITH AT LEAST 1" CLEARANCE BETWEEN GUTTER AND BOTTOM OF
    PIPE AND SHOULD BE POINTED SLIGHTLY UPWARD.

4. THE BLOW-OFF SHALL BE LOCATED WITHIN 18" OF A PROPERTY LINE AND BE ANGLED TO DIRECT
    FLOW AWAY FROM THE BLOW-OFF AND VALVE, AND TOWARDS A STORM DRAIN INLET.

5. ANNULAR SPACE SHALL BE GROUTED IN IF PRECAST COLLAR IS USED.

6. CONCRETE COLLAR MAY BE CAST-IN-PLACE OR PRECAST AND MAY BE ROUND OR SQUARE IN SHAPE.

7. CONCRETE COLLAR SHALL BE A MIN. 4" THICK.

TYPICAL HOSE TO DUCTILE IRON MAIN TRANSITION

NOTES:
1. TRACER WIRE SHALL BE BROUGHT TO GRADE AT A MINIMUM OF EVERY 500 FEET IN A VALVE BOX.

2. TRACER WIRE SHALL WRAP AROUND GROUNDING ROD/REBAR INSIDE VALVE BOX.

3. A MINIMUM OF 12 INCHES OF EXCESS WIRE SHALL BE COILED AND LEFT IN THE VALVE BOX.

4. TRACER WIRE SHALL BE NO. 14 A.W.G. COPPER CLAD STEEL W/ POLYETHYLENE INSULATION.

5. CONCRETE COLLAR SHALL BE MORTAR BONDED IN.

6. CONCRETE COLLAR SHALL BE MORTAR BONDED IN.

WATER TRACER WIRE (SEE NOTES NO. 1 -4)

CONCRETE COLLAR (SEE NOTES NO. 5 & 6)

FOR PIPING TO CURB

CONTRACTING

MC 2010

STANDARD DETAILS WATER - SHEET 4 of 4