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NOTICE:

Akron Water Works (AWW) Rules and Regulations shall apply for all project review including AWW Standard Construction Drawings and Specifications, subject to change or as revised without prior notice.

Building permit will not be released until all drawings have been received with all corrections made and the complete set of plans are approved, including fire protection drawings (see Exception Note No. 5).

The following requirements and notes are not intended as a complete list of AWW Rules and Regulations, but to be used as a guide to clarify some of the minimum information necessary for plan review.

1. Parking Lots/Landscaping/Signage/Miscellaneous Projects
   A. Site Plan
   B. Landscape Plan
   C. Lawn Irrigation - with meter and backflow preventer shown
   D. Underground Utilities Plan - includes private fire hydrants

2. Building Remodeling and/or Alterations (interior construction only)
   A. Site Plan
   B. Floor Plan
   C. Plumbing/Mechanical Plans
      1. Plan and Isometric View - existing and proposed fixtures
      2. Plan and Section View - existing and proposed meter setting and backflow preventer
   D. Fire Protection Plan

3. New Building Construction, Expansion and/or Additions
   A. Site Plan
   B. Utilities Plan
   C. Lawn Irrigation
   D. Plumbing/Mechanical Plans
      1. Plan and Isometric View - existing and proposed fixtures
      2. Plan and Section View - existing and proposed meter settings and backflow preventers
   E. Fire Protection Plans

NOTES:

(1) The site plan requirement may be waived in most cases as determined by AWW. A complete address with the property owner's name may be substituted.

(2) The existing fixtures plan may be waived as determined by the AWW, where it is impractical for large commercial/industrial type buildings with extensive piping systems.

(3) The existing meter setting and backflow preventer drawings may not be required, as determined by the AWW if there is an existing backflow preventer and it has been tested within the last year and the report is on file. For projects with existing backflow preventers that have not been tested within the last year, retest and send in test report to the Backflow Program. Projects that require new backflow preventers shall be shown on the plans with existing and/or proposed meter settings. Label all pipe, fittings, make/model, size and type of all assemblies.

(4) Shall include existing and/or proposed meter settings and backflow preventers detailing the following items:
   A. Meter vault or interior water entry detail with meter setting.
   B. Label size/type of meter, backflow preventer, piping, including valves and fittings.
   C. Show distances and dimensions to walls, floor, drains, etc.
   D. Width, length, ceiling height of interior mechanical room or meter vault.

(5) Interior fire sprinkler drawings may be submitted at a later date for only those projects that require a new water service installation. The building permit will be conditionally released subject to receipt of the sprinkler drawings. Plans must be received for review and approval prior to the service installation.
No water service will be installed until all requirements of the Akron Water Works are met, including but not limited to the following:

1. Review and approval of all building plans.
2. Receipt of the applicable fees.
3. Approval of the houeline installation and appurtenances.
4. Approval of the fire system which includes review and approval of sprinkler plans.

All on-site water line piping and appurtenances shall be installed according to Water Department specifications and must be inspected and approved by the Water Distribution Division (375-2420) prior to backfilling.

All underground pipe 2 inches and smaller shall be Type "K" soft copper with flared fittings. Compression fittings may be used on 1 1/2 inch and 2 inch pipe. All brass fittings used shall be lead free per NSF61-G. Pipe shall be installed with 4 feet 6 inches of cover.

All underground straight lengths of pipe larger than 2 inches shall be Class 53 cement lined ductile iron with push-on joints. Pipe shall be installed with 4 feet 6 inches of cover. See detailed specifications for approved pipe, fittings, bolts, etc., for water line installation (Acc. #14908).

Maintain a 10 foot horizontal clearance from edge of water line to edge of sanitary and storm sewer pipes.

Maintain an 18 inch minimum vertical clearance from edge of water line to edge of sanitary and storm sewer pipes where the cross.

Maintain a 12 inch vertical clearance from edge of water line to edge of gas, electric, etc.

Maintain a 5 foot minimum horizontal clearance from edge of water line to edge of gas line(s), electric line(s), communication line(s), etc.

Requirements for an Inside Meter Setting:

1. Easily accessible
2. Adequate headroom
3. Properly heated
4. Floor drain within five feet of meter
5. Houeline not longer than 200 feet
6. Meter must be set within one foot of where line enters building.
7. In buildings with interior meter setting without basements, houeline must be installed in an AWW approved Schedule 40 conduit from a minimum of one foot outside footer to 1" above floor slab (houeline 2 inch and smaller).
8. Buildings with interior meter settings not on outside wall, the houeline must be installed in a continuous AWW approved Schedule 40 conduit from a minimum of 1 foot outside building footer up through floor slab 1 inch (houeline 2 inch and smaller).
9. Houeline installed under paved areas for inside meter setting must be in an AWW approved Schedule 40 casing.

If the interior meter setting does not meet all the above requirements, then the meter must be installed at the street in a curb meter pit or an approved above ground heated enclosure.
### APPROVED PIPE, FITTINGS, BOLTS, ETC.
#### FOR AKRON SYSTEM WATER LINE INSTALLATIONS

<table>
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<tr>
<th>Component</th>
<th>Specification Details</th>
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<tr>
<td>Pipe</td>
<td>Class 53 ductile iron per AWWA C151 specifications, with cement-lining per AWWA C104, labeled polyethylene encasement per AWWA C105 is required.</td>
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<tr>
<td>Pipe Joints</td>
<td>Push-on joints (Tyton, Fastite, etc.), per AWWA C151 specifications with plain or restraining rubber gaskets per AWWA C111 specifications.</td>
</tr>
<tr>
<td>Fittings</td>
<td>Class 350 ductile iron compact fittings per AWWA C153 or full thickness castings per AWWA C110 are acceptable, with mechanical joint ends and ductile iron follower glands. Anchor pipe is required on all hydrant runs between the tee and hydrant run valve. Anchor tee may be substituted provided there is no conflict with valve location. Refer to Hydrant detail Page 23.</td>
</tr>
<tr>
<td>Restrained pipe systems</td>
<td>Push-on joint with Field Lock (4 through 16 inch only), Sure Stop 350 (3 through 16 inch only), or Fast Grip gaskets (4 through 16 inch only), or mechanical joint with restrained follower glands, and 6 ounce zinc anode caps on every bolt thread. TR Flex or Flex-Ring required on all 16 inch or larger pipe diameters when specified on the plans.</td>
</tr>
<tr>
<td>Restrained fitting devices</td>
<td>All valves, bends, offsets, hydrant inlets, caps, plugs, and branches of tees and wyes must be restrained using mechanical joint with restrained follower glands or restraining gaskets. All threads with ductile iron lug are required on all vertical bends and /or as required by the engineer. Hardwood blocking is required for all diameters 4 through 8 inch, concrete blocking and strapping for all diameters 12 inches and larger. Concrete blocking is required on all fire lines and on all diameters in areas over 100 psi. Restrained joints for diameters 12 inches and under shall use Field-Lock or Fast-Grip restraining gaskets or mechanical joint with restrained follower glands. All ductile iron water mains shall be restrained for a length of 30 feet on each side of a valve, bend or offset using mechanical joint with restrained follower glands.</td>
</tr>
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<td>Mechanical Joint T-head Bolts</td>
<td>All mechanical joints shall be made with Cor-Ten or construction-grade alloyed ductile iron T-head bolts. T-head bolts shall be ½ inch longer than standard length and must include a 6 oz. zinc anode cap on every bolt thread.</td>
</tr>
<tr>
<td>Gate Valves</td>
<td>Resilient-seat wedge (RSW) valves with restrained mechanical joints. Valves shall have non-rising stems and shall open to the right (clockwise).</td>
</tr>
<tr>
<td>Butterfly Valves, 16 Inch and up</td>
<td>Restrained mechanical joint. Rubber seals in the valve must be replaceable. Flanged end or wafer-style valves are not acceptable.</td>
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<td>Valve Boxes</td>
<td>Only Bibby, Tyler, East Jordan, or Star (heavy duty only), brands acceptable for compatibility.</td>
</tr>
<tr>
<td>Curb Boxes</td>
<td>Riser pipe must be of yoloy corrosion resistant material. Plug must be cast iron and threaded into a brass ring.</td>
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Revised - 3/16

Page #3

Acc. 2017-009-03
WE RECOMMEND FOR A HOME OF AVERAGE SIZE THESE PIPE SIZES TO SUPPLY WATER FIXTURES

WATER FIXTURES

SILL FAUCET (HOSE) .................................................. 3/4"
SINK ........................................................................... 1/2"
LAVATORY .................................................................. 1/2"
LAUNDRY TRAY ............................................................... 1/2"
HOT WATER TANK ....................................................... 3/4"
BATH TUB ...................................................................... 1/2"
SHOWER BATH ......................................................... 1/2"
SHOWER BATH - NEEDLE TYPE .................................. 3/4"
WATER CLOSET - TANK TYPE .................................... 1/2"
WATER CLOSET - FLUSHOMETER ............................... 1"
URINAL - TANK TYPE ............................................... 1/2"
URINAL - FLUSHOMETER TYPE .................................. 3/4"

RISER OR RUNS SERVING 2 FIXTURES ......................... 3/4"
RISERS OR RUNS SERVING 3 OR MORE FIXTURES ........ 1"
RISERS OR RUNS SERVING FLUSHOMETER VALVE ........ 1"
BASEMENT SUPPLY LINE ........................................... 1"
TYPE "K" HOUSE LINE ................................................ 1"

PROPERTY LINE

COPPER SERVICE PIPE

BY WATER DEPARTMENT

AT OWNER'S EXPENSE

PROPERTY LINE - NEW CONSTRUCTION

BY OWNER/CONTRACTOR *

AT OWNER'S EXPENSE

STREET

SETTING FOR CURB METER WHERE REQUIRED

SIDWALK

COPPER STOP AND OPERATING ROD

WATER MAIN

WATER MAIN

1" COPPER SERVICE

CURB STOP AND OPERATING ROD

CORP. COCK

WATER MAIN

* THE OWNER/CONTRACTOR PORTION OF WORK
MUST BE INSTALLED AND INSPECTED FOR
APPROVAL BY WATER DEPARTMENT PERSONNEL
PRIOR TO BACK FILLING AND THE
SERVICE INSTALLATION

APPROVED

DATE
STANDARD 1" CURB METER PIT DETAIL

MAXIMUM FLOW RATE:
5/8" METER - 20 GPM
3/4" METER - 30 GPM
1" METER - 50 GPM

The City of Akron, Ohio
Department of Public Service - Water Supply Bureau
Jeffrey Bronowski P.E. - Bureau Manager

PAGE #6
2017-009-06

REVISED BY CAS 3/18

NOT TO SCALE
NOTE: 1" minimum "L" or "K" copper with solder or screw fittings with brass nipples for 1" meter setting.

Interior hose bibbs are prohibited.

Piping downstream of meter shall be secured to wall or joist.

Pipe size reduction permitted after meter.

For hose connection manifold, see dwg 2017-009-07

DISTANCE BETWEEN FEMALE NPT BUSHING
5/8" METER - 11 3/4" SPACE
3/4" METER - 13 1/4" SPACE
1" METER - 15" SPACE

FEMALE NPT BUSHING DIAMETERS
5/8" METER: 1/2"
3/4" METER: 3/4"
1" METER: 1"

Minimum area required for meter setting:
4' W X 6' L X 6' H

MAXIMUM FLOW RATE:
5/8" METER - 20 GPM
3/4" METER - 30 GPM
1" METER - 50 GPM
ELEVATION VIEW

NOTES:

TYPE "L" OR "K" COPPER PIPE WITH SOLDER, PRESS, OR SCREW FITTINGS WITH A BRASS NIPPLE AND 2 BOLT OVAL COMPANION FLANGE.

WHEN JOINING DISSIMILAR METALS A WATER DEPARTMENT APPROVED BRASS TRANSITION FITTING OR AN ELECTROLYSIS INSULATED FLANGE IS REQUIRED.

THE METER ASSEMBLY WILL BE SUPPLIED BY THE CITY OF ACRON AND PURCHASED BY OWNER.

AN AIR GAP MUST BE MAINTAINED BETWEEN THE RPZ RELIEF VALVE OPENING AND ANY DISCHARGE PIPING. THE AIR GAP MUST BE AT LEAST TWICE THE DIMENSION OF THE SUPPLY PIPE, BUT NEVER LESS THAN 1 INCH.

FOR METER SETTINGS LARGER THAN 2" SEE 2017-009-11

OVAL COMPANION FLANGES SHALL ADHERE TO AWWA STANDARD C701, SECTION 4.3.4

EMERGENCY BYPASS:

IF A EMERGENCY BYPASS IS DESIRED, THEN A PARALLEL METER MUST BE INSTALLED ACCORDING TO CITY SPECIFICATIONS.

MINIMUM AREA REQUIRED FOR METER SETTING - 4'W x 6'L x 6'H

PROVIDE AN 18" CLEARANCE FROM THE EDGE OF PIPE TO THE WALL OF THE HOTBOX OR BUILDING.

APPROVED 9-21-18
SECTION A-A

1" TEST TEE AND BALL VALVE

NEENAH R-1653-A OR EJW 1040 FRAME W/ HEAVY DUTY SOLID COVER MARKED "METER" WITH TWO PICK HOLES

GRADE

24"

FOAM INNER FROST LID

1-1/2" OR 2" FLANGED POS. DIS. METER

INLET CONNECTION COMPRESSION OR FLARED

BALL VALVE

BYPASS (MIN. DIA.) 1-1/4" FOR 1-1/2" METER 1-1/2" FOR 2" METER

PVC METER PIT FORD PFBL-688-C2738 MUELLER V3648FAB

OUTLET CONNECTION COMPRESSION OR FLARED

LOCK NUTS

BRACING BAR

WASHED BROWN GRAVEL BED 1' BELOW PIT

BLOCKING

BRASS FITTINGS, BRASS, TYPE L OR K COPPER PIPE, BALL VALVES

METER PIT MUST BE INSTALLED BY CONTRACTOR ON OWNER'S PROPERTY, NOT WITHIN RIGHT-OF-WAY

The City of Akron, Ohio
Department of Public Service - Water Supply Bureau
Jeffrey Bronowski P.E. - Bureau Manager

STANDARD FOR 1 1/2" AND 2" METER PIT DETAIL

REVISED BY CAS 3/17

NOT TO SCALE
NOTES:
1. Optional emergency bypass may be installed per city of Akron specifications with parallel meter and valves.
2. Meter settings shall be ductile iron with flanged fittings.
3. The required upstream spool piece length for the HBmag is minimum 5X the pipe diameter (includes lay length of inlet valve). Upstream spool to be sized accordingly or may be eliminated if straight pipe requirement is met. The upstream pipe to be sized and provided by contractor.
4. When joining dissimilar metals, a water department approved brass transition fitting or an approved electrolysis insulated flange is required.
5. Wood blocking is prohibited under meter assembly.
6. Meter settings for 1 1/2" & 2" meters see DWG. 2017-009-09.
7. The meter and test tee assembly will be supplied by the city of Akron and purchased by owner.
8. An air gap must be maintained between the RPZ relief valve opening and any discharge piping. The air gap must be at least twice the dimension of the supply pipe, but never less than 1 inch.

HB MAG METER DETAIL*

* See manufacturer's installation instructions

MAX. FLOW RATE FOR HBmag
3" = 550 GPM
4" = 880 GPM
6" = 2200 GPM
8" = 3465 GPM
10" = 5500 GPM
12" = 8800 GPM
FOR 3" AND LARGER SETTING
SEE STANDARD 2017-009-11
FOR 1 1/2"-2" SETTING
SEE STANDARD 2017-009-09
FOR 5/8", 3/4", 1" SETTING
SEE STANDARD 2017-009-05

NOTE: ALL VALVES WITHIN METER AND BACKFLOW ASSEMBLIES
SHALL BE OS&Y RISING STEM GATE VALVE (RESILIENT
SEATED)

NOTE: OPTIONAL EMERGENCY BYPASS
MUST BE INSTALLED PER CITY OF AKRON
SPECIFICATIONS WITH PARALLEL METER AND VALVES.

DOUBLE CHECK DETECTOR
ASSEMBLY (DCDA)
APPROVED BY CITY OF AKRON

REDUCER IF REQUIRED OR
TAPPED BLIND FLANGE

REDUCED PRESSURE ZONE (RPZ)
BACKFLOW PREVENTER APPROVED
BY CITY OF AKRON

AIR GAP
SEE NOTE 5

FLOOR

DI CLASS 53
WATER MAIN

METER TO BE
INSTALLED INSTALL IN
HORIZONTAL POSITION

FLOOR DRAIN

PVC DISCHARGE PIPING
TO FLOOR DRAIN WITH
APPROVED AIR GAP

APPROVED SUPPORT UNDER
METER REQUIRED

RESTRRAIN WITH
ALL THREAD

NOTES: 1. 4" AND LARGER PIPE SHALL BE DI WITH FLANGED FITTINGS.
2. FIRE SUPPRESSION SYSTEM SHALL BE ALL WATER—NO ADDITIVES.
3. 1-FOOT WALL CLEARANCE FROM ALL PIPING, FITTING, & ASSEMBLIES.
4. DISTANCE A.F.F. OF METER & BACKFLOW ASSEMBLIES NOT TO EXCEED 3'-0".
5. AN AIR GAP MUST BE MAINTAINED BETWEEN THE RPZ RELIEF VALVE OPENING AND ANY DISCHARGE
PIPING. THE AIR GAP MUST BE AT LEAST TWICE THE DIMENSION OF THE SUPPLY PIPE, BUT NEVER
LESS THAN 1 INCH.

WATER ENTRY DETAIL
NOT TO SCALE

APPROVED

DATE 9-21-18
WATER ENTRY DETAIL

1. 4" AND LARGER PIPE SHALL BE DI WITH FLANGED FITTINGS
2. FIRE SUPPRESSION SYSTEM ALL WATER—NO ADDITIVES
3. 1-FOOT WALL CLEARANCE FROM ALL PIPING, FITTING, & ASSEMBLIES
4. VALVES ON DCDA MAY BE ROTATED OUT UP TO 45° TO CLEAR THE SETTING ABOVE
5. AN AIR GAP MUST BE MAINTAINED BETWEEN THE RPZ RELIEF VALVE OPENING AND ANY DISCHARGE PIPING. THE AIR GAP MUST BE AT LEAST TWICE THE DIMENSION OF THE SUPPLY PIPE, BUT NEVER LESS THAN 1 INCH.

FOR 3" AND LARGER SETTING
SEE STANDARD 2017-009-11
FOR 1 1/2"-2" SETTING
SEE STANDARD 2017-009-09
FOR 5/8", 3/4", 1" SETTING
SEE STANDARD 2017-009-05

D.I. CLASS 53 WATER MAIN

ALL VALVES WITHIN METER AND BACKFLOW ASSEMBLIES 4" & LARGER — OS&Y RISING STEM GATE VALVE (RESILIENT SEATED)

NOT TO SCALE
APPROVED
DATE
**CONCRETE THICKNESS & MIN. STEEL REQUIREMENTS**

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<tr>
<th></th>
<th>TOP SLAB</th>
<th>SIDEWALL</th>
<th>FLOOR</th>
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<tr>
<td>STEEL L1</td>
<td>8&quot;</td>
<td>6&quot; 16&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>STEEL L2</td>
<td>8&quot;</td>
<td>6&quot; 16&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>STEEL T</td>
<td>6&quot;</td>
<td>8&quot; 28&quot;</td>
<td>6&quot;</td>
</tr>
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</table>

* INSIDE DIMENSION
** BOTTOM SLAB T-TOP SLAB
+ STEEL IS EXTENDED FROM WALLS
L1 & L2 FOR FLOOR SAME AS FOR TOP SLAB
COVER ON ALL REBAR SHALL BE 1 1/4"

**CONCRETE STRENGTHS**

- 4500 PSI

STEEL YIELD STRENGTH: 60,000 PSI
VAULT DESIGNED FOR AASHTO HS20 LIVE LOAD.

NEW WATER VAULT INSTALLATION PROHIBITED.
ABOVE GROUND ENCLOSURE REQUIRED. SEE STANDARD 2017-009-15

**SECTION A**

- Owner's responsibility to provide adequate drainage of vault. 8" sewer connection is permitted with an approved single check valve.
- Sump pump installation or dry well may be acceptable if approved by the city.

**SECTION B**

- Permanently anchored steps 18" on ctrs.

---

**NOT TO SCALE**

**PAGE #14**

4-12-17

**APPROVED**

[Signature]

**UTILITIES ENGINEER**
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY

Installation Requirements

1. All piping to conform to Akron Water Works Standard Construction Drawings and Specifications.

2. Bypassing of this assembly is specifically prohibited.

3. Installation of this assembly in vaults is specifically prohibited.

4. Unions prior to backflow prevention assemblies are prohibited.

5. Installed directly after the meter setting ahead of any outlets.

6. Installed so as to be readily accessible for inspection, testing, and maintenance.

7. Provided with adequate space for inspection, testing, maintenance, and disassembly.

8. Protected from freezing by installation within a heated building.

9. Mounted in a horizontal position with abutting shut-off valves, as supplied with the assembly, three feet above finished floor.

10. Provided with adequate drainage.

11. Installed so that there is a visible free discharge from the relief port with no extension piping.

12. Installed per manufacturer's specifications. Where manufacturer's specifications conflict with these guidelines, these guidelines shall govern.

13. Because of their design, backflow prevention assemblies create a closed system and a detectable pressure loss. Because of these facts, the installation may alter the hydraulics of the internal plumbing system. The owner should contact a mechanical designer prior to installation.

14. Upon installation, assemblies must be tested by a backflow prevention assembly tester, certified by the Ohio Department of Commerce. The assembly must be dismantled, inspected internally, cleaned, and repaired, if necessary.

15. The bypass meter for a reduced pressure detector assembly shall be approved by the City of Akron Water Department, furnished and installed by the owner.
DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY

Installation Requirements

1. All piping to conform to Akron Water Works Standard Construction Drawings and Specifications.

2. Bypassing of this assembly is specifically prohibited.

3. Installed directly after the meter setting ahead of any outlets.

4. Unions prior to backflow prevention assemblies are prohibited.

5. Installed so as to be readily accessible for inspection, testing, and maintenance.

6. Provided with adequate space for inspection, testing, maintenance, and disassembly.

7. Protected from freezing by installation within a heated building.

8. Mounted in a horizontal position with abutting shut-off valves, as supplied with the assembly, three feet above finished floor.

9. Installations above ground level are preferred. Where above ground installations are not reasonably practical, a vault may be used with the approval of the Public Utilities Bureau.

10. Installed per manufacturer's specifications. Where manufacturer's specifications conflict with these guidelines, these guidelines shall govern.

11. Because of their design, backflow prevention assemblies create a closed system and a detectable pressure loss. Because of these facts, the installation may alter the hydraulics of the internal plumbing system. The owner should contact a mechanical designer prior to installation.

12. Upon installation, assemblies must be tested by a backflow prevention assembly tester, certified by the Ohio Department of Commerce. The assembly must be dismantled, inspected internally, cleaned, and repaired, if necessary.

13. The bypass meter for a double check valve assembly on the bypass line shall be approved by the City of Akron Water Department, furnished and installed by the owner.
1 5/8”–1” Backflow Assembly Installation

2 5/8”–1” Parallel Backflow Assembly Installation

3 1 1/2”–2” Parallel Meter & Backflow Assembly Installations

PAGE #18

The City of Akron, Ohio
Department of Public Service – Water Supply Bureau
Jeffrey Bronowski P.E. – Bureau Manager

Approved Installations of Backflow Prevention Assemblies

REVISED BY CAS 9/18
TYPICAL CONCRETE THRUST BLOCKING

PLUG

PLAN VIEW OF TEE

SECTION VIEW X-X

HORIZONTAL BEND (UPWARD)

VERTICAL BEND (DOWNWARD)

MINIMUM VOLUME OF CONCRETE FOR TOP VERTICAL BENDS

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NOTES:
- HORIZONTAL BENDS:
  - 90°, 45°, 22½°, TEE, PLUG
- VERTICAL BENDS:
  - Tamped backfill

NOTE: IN AREAS OVER 100 PSI PLEASE CALL 330-375-2369 FOR THRUST BLOCK SIZING
MECHANICAL JOINT DUCTILE IRON RESTRAINING GLANDS

The City of Akron, Ohio
Department of Public Service - Water Supply Bureau
Jeffrey Bronowski P.E. - Bureau Manager

2017-009-20

NOT TO SCALE
T-HEAD BOLT AND NUT

6 oz. Zinc anode cap meeting ASTM B418-09 on every bolt thread.

Mechanical joint ductile iron restraining gland.

C153 Compact Fittings T-Head Bolt Length

Pipe Bolt

4" 4 1/4" 4 3/4" 5" 5 1/4" 5 1/2"

* Note: ADD 1/2" TO LENGTHS FOR C110 Full Body Fittings.

The City of Akron, Ohio
Department of Public Service - Water Supply Bureau
Jeffrey Bronowski P.E. - Bureau Manager

T-Head Bolt and Nut

2017-009-21

Revised by Cas 3/17

Not to Scale
AMERICAN FLOW CONTROL B62B WITH 6" INLET,
AMERICAN FLOW CONTROL BB4B WITH 8" INLET,
EAST JORDAN MODEL CD-250,
KENNEDY GUARDIAN MODEL K-81,
MUELLER "CENTURIAN" MODEL A423.
HYDRANTS SHALL HAVE
AKRON THREADS AND
5" BURY.

OPERATING NUT
OPEN TO LEFT

(2)2-1/2" HOSE NOZZLES
(1)4" PUMPER NOZZLE

CURB

LARGE BONNET
REstrained INLET

D.I. PIPE NIPPLE

REstrained BRANCH

ANCHOR PIPE REQUIRED
GATE VALVE WITH RESTRAINED ENDS
OPENS TO RIGHT

WHERE NEEDED, PROVIDE HYDRANT WITH
DRAIN RING WITH THREADED OUTLET, ADAPTER,
AND 1/2" TYPE K COPPER TUBING WITH
RELOCATED DRAIN BED

HYDRANT RUN & INSTALLATION

RK-08-23

2017

4-12-17

JAWS

Utilities Engineer

DATE

CONCRETE OR
HARDWOOD THRUST
BLOCKING TO
UNDISTURBED SOILS.
ALL BLOCKING MUST
BE CONCRETE FOR
FIRE LINES AND
AREAS OVER 100 PSI

NOTE: CONTACT THE ENGINEERING
OFFICE FOR BLOCK SIZING
IN AREAS OF LOOSE SOIL.

Joints may be MECHANICAL JOINTS WITH
RESTRAINED FOLLOWER Gland or PUSH-ON
WITH FIELD LOCK or FAST GRIP GASKET.

AS REQUIRED

#57 WASHED
GRAVEL 6" ABOVE
WEEP HOLES

HARDWOOD BLOCKING
BEARING ON
UNDISTURBED SOIL

HARDWOOD, SUITABLE STONE OR PRECAST
CONCRETE BLOCKING NOT LESS
THAN 1' SQ., 4" THICK AS REQUIRED (TYP.)

*AN ANCHOR TEE MAY BE
SUBSTITUTED PROVIDED
NO CONFLICT WITH
VALVE LOCATION

Tee with
UNRESTRAINED
RUN ENDS OR
TAPPING SLEEVE*
STANDARD VALVE BOX

VALVE BOX RISER
2" SIZE & LARGER

VALVE BOX RISER
1" & 1/4" SIZE

COVER
APPROXIMATE WEIGHT - 15 lbs.

SECTION A-A

BASE
APPROXIMATE WEIGHT - 33 lbs.

29" CENTER SECTION
APPROXIMATE WEIGHT - 35 lbs.

NOTE: CENTER SECTIONS ALSO MADE IN 36" LENGTHS

VALVE BOX RISER DIMENSIONS

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<td>4 1/4&quot;</td>
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NOTE: EXTENSION ALSO MADE TO 14" OVERALL LENGTH.
NOTE: TOP SECTION ALSO MADE IN 24" LENGTHS.

VALVE BOXES AND PARTS SHALL BE MADE FROM CAST IRON MEETING LATEST REVISION ASTM A-126. EACH CASTING SHALL BE COATED INSIDE AND OUT WITH COAL TAR PITCH VARNISH, SIMILAR TO THAT USED FOR COATING CAST IRON PIPE. APPROXIMATE WEIGHT OF BOX COMPLETE, (BASE, CENTER SECTION, TOP SECTION AND COVER) - 110 lbs. A CLEARANCE OF 3/16" SHALL BE MAINTAINED BETWEEN SECTIONS AT ALL POINTS.

APPROVED
UTILITY ENGINEER
DATE 4-12-77
LAWN IRRIGATION
(CURB METER PIT AND R.P.Z. ABOVE GROUND)

ABUTTING BALL TYPE SHUT-OFF VALVES
SUPPLIED WITH BACKFLOW PREVENTER

APPROVED TYPE REDUCED PRESSURE
PRINCIPLE BACKFLOW PREVENTER

FOR 1" CURB METER
PIT DETAIL SEE
STANDARD DRAWING
2017-009-06

FOR 1 1/2" & 2" CURB
METER PIT DETAIL SEE
STANDARD DRAWING
2017-009-10

1" PVC

12"

GRADE

PROPERTY LINE

SIDEWALK

4'-6"

CURB METER PIT

1" TYPE "K" SOFT COPPER
BY OWNER/CONTRACTOR*

BY WATER DEPARTMENT
AT OWNER'S EXPENSE

TO CITY WATER SUPPLY

* THE OWNER/CONTRACTOR PORTION OF WORK
MUST BE INSTALLED AND INSPECTED FOR
APPROVAL BY WATER DEPARTMENT PERSONNEL
PRIOR TO BACK FILLING AND THE
SERVICE INSTALLATION

APPROVED

4-12-17

UTILITY ENGINEER
DATE

NOT TO SCALE
ABUTTING BALL TYPE SHUT-OFF VALVES SUPPLIED WITH BACKFLOW PREVENTER

APPROVED TYPE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

FOR 1" Curb Meter Pit Detail See Standard Drawing 2017-009-06

FOR 1 1/2" & 2" Curb Meter Pit Detail See Standard Drawing 2017-009-10

36"

FLOOR DRAIN AS REQUIRED

GRADE

PROPERTY LINE

SIDEWALK

4' - 6"

CURB METER PIT

1" TYPE "K" SOFT COPPER
BY OWNER/CONTRACTOR* BY WATER DEPARTMENT
AT OWNER'S EXPENSE

TO CITY WATER SUPPLY

* THE OWNER/CONTRACTOR PORTION OF WORK MUST BE INSTALLED AND INSPECTED FOR APPROVAL BY WATER DEPARTMENT PERSONNEL PRIOR TO BACK FILLING AND THE SERVICE INSTALLATION

APPROVED

DATE
WOODFORD SANITARY YARD HYDRANT MODEL #S53 WITH SINGLE CHECK VACUUM BREAKER MODEL 34 HF (OR APPROVED EQUAL)

4" 6" COVER

1" "K" SOFT COPPER BY OWNER/CONTRACTOR

LINE PROPERTY

BY WATER DEPT. AT OWNER'S EXPENSE

BY OWNER/CONTRACTOR * PORTION OF WORK MUST BE INSTALLED AND INSPECTED FOR APPROVAL BY WATER DEPARTMENT PERSONNEL PRIOR TO BACK FILLING AND THE SERVICE INSTALLATION

Curb Meter Pit

1" SERVICE

W.M.
**SERVICE SADDLE DETAIL**

**NOTE:**
1. A TAPPING SADDLE IS REQUIRED FOR SERVICES SIZES 1 1/2" AND ALL PLASTIC PIPE.
2. SERVICE SADDLES SHALL BE EITHER A.Y. MCDONALD 3825, POWER SEAL 3409 OR APPROVED EQUAL.
3. 1-1/2" CURB BOXES OR CURB BOXES IN POOR CONDITION SHALL BE REPLACED WITH 2" YOLOY CURB BOX.
4. CURB BOX SHALL BE INSTALLED IN LAWN STRIP, AVOID INSTALLING BOX IN PAVED OR CONCRETE AREAS.
NOTES

A BACKFILL REQUIREMENT FOR EXCAVATIONS WITHIN 8 FEET OF EDGE OF PAVEMENT = ALL 304 LIMESTONE.

B BACKFILL REQUIREMENT FOR EXCAVATIONS GREATER THAN 8 FEET FROM EDGE OF PAVEMENT = 304 LIMESTONE BELOW A 45° STARTING AT EDGE OF PAVEMENT.

C RESTORE EQUIPMENT DAMAGED BERM TO ORIGINAL OR BETTER CONDITION WITH THE MINIMUM MATERIAL BEING 304 LIMESTONE.

D EXISTING DRAINAGE DITCHES TO BE MAINTAINED AND FULLY RESTORED.

E ITEMS 653 & 659 - TOPSOIL, SEEDING AND MULCHING OF ALL DISTURBED AREAS.

APPROVED COMPACTED BACKFILL PER AKRON 551.09 AND 251.03

ITEM 304 GRANULAR BACKFILL

SEE NOTE B

SEE NOTES D & E
NOTE: 1" METER AND YOKE TO BE SUPPLIED BY THE CITY OF AKRON WATER DEPARTMENT. CORPORATION VALVE SHALL BE INSTALLED BY CITY OF AKRON. CONTRACTOR IS RESPONSIBLE FOR ALL COPPER PIPING, FITTINGS AND BALL VALVES AS REQUIRED PER INSTALLATION AND WILL BE PAID FOR AS THE UNIT PRICE BID FOR ITEM SPECIAL, BYPASS METER, COMPLETE.
NOTE: AFTER WATER MAIN HAS BEEN INSTALLED, DRY SAND SHALL BE BLOWN IN FROM BOTH ENDS.

8" D.I.W.M. CARRIER PIPE
18" O.D. STEEL SLEEVE
0.312" WALL THICKNESS
REFER TO CMS. FOR ADDITIONAL PIPE SIZES

SEE TYPICAL THRUST BLOCKING DETAIL.
SEE STANDARD 2017-009-19

CARRIER PIPE MUST HAVE RESTRAINED JOINTS.

NOTE: STEEL CASING SLEEVE SHALL BE INSTALLED AS TO PREVENT FORMATION OF A WATERWAY UNDER THE CHANNEL BED AND WITH AN EVEN BEARING THROUGHOUT ITS LENGTH AND SLOPED TO ONE END. THE CASING PIPE JOINTS ARE TO BE WELDED WATER TIGHT.

NOTE: STEEL CASING PIPE, SPACERS, AND DRY SAND ARE TO BE INCLUDED IN UNIT PRICE BID FOR ITEM 264 - STEEL CASING PIPE PER LIN. FT.

APPROVED 4-12-17

UTILITIES ENGINEER DATE
C.I. MANHOLE FRAME & SELF-SEALING LID. (ONE LID SHALL BE CENTERED ABOVE AIR VALVE. NEENAH NO. 1740-B, OR EQUAL)

DISCONNECT FITTING- 1' ABOVE GROUND

3" PVC SCHEDULE 40 OR PAINTED GALVANIZED IRON

PROVIDE STAINLESS STEEL INSECT SCREEN

1 1/2" GALVANIZED CAP TO BE FINGER TIGHT
1"-1 1/2" ADAPTOR - FEMALE COPPER TO IRON PIPE THREAD

GROUND LINE

GROUNDCOMBINATION

AIR VALVE

2" GATE VALVE WITH WHEEL

SEAL OPENING WITH NON-SHRINK GROUT OR LINK SEAL.

BRASS NIPPLE RISERS

VARIES AS DIRECTED BY THE ENGINEER

CI ACCESS STEP @ 12" C.C.

CLASS C CONCRETE FILL, TYP.

NOTE:

THE COMBINATION AIR VALVES SHALL HAVE A 2" IRON PIPE THREADS.

2" AUTOMATIC AIR RELEASE VALVE DETAIL

NOT TO SCALE

1" MANUAL AIR RELEASE VALVE DETAIL

NOT TO SCALE

THE HOUSING ASSEMBLY SHALL BE A VALVE BOX ASSEMBLY IN THE PAVEMENT OR A 24" DIA. METER PIT BEHIND THE CURB.

APPROVED

UTILITIES ENGINEER

DATE