HEALDSBURG PUBLIC WORKS STANDARDS
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CITY OF HEALDSBURG

WATER MAIN INSTALLATION

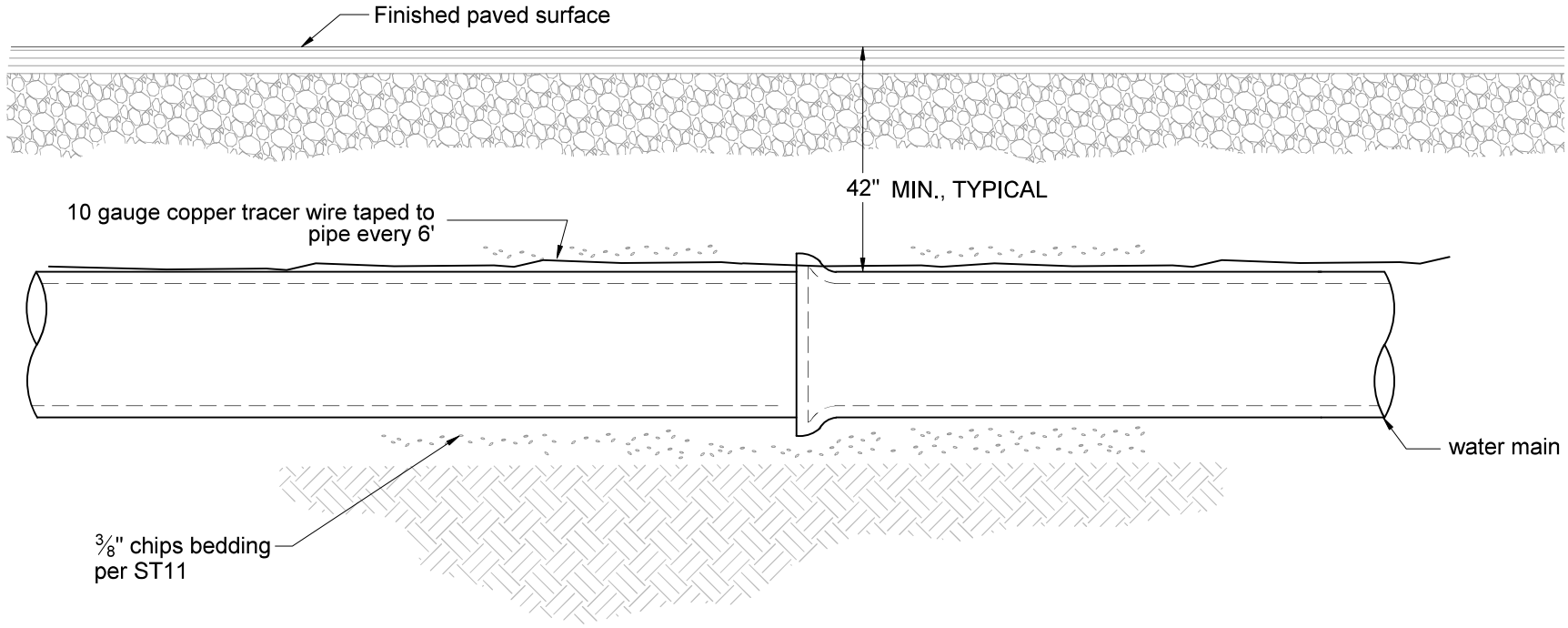
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

STANDARD DETAIL

WL01



NOTES:

1. Water mains shall be parallel with and run 6' on the North or East side of the road centerline.
2. Water mains shall be seperated from sewer mains a minimum of 10 feet and from all other utilites a minimum of 5 feet.
3. Maximum spacing between isolation valves is 500'.
4. Valves shall be provided on all legs of an intersection of mains (i.e. 3 valves for "T" intersection and 4 valves for cross intersection).
5. A mainline valve shall be installed on each side of services to hospitals, schools, and major commercial/industrial sites.
6. Pipes Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 6' intervals and run continuous along all water mains.
7. After backfilling, the water system will be inspected by the City Inspector and shall be leak free under pressure. Any portion of the service line or fittings that have not been inspected or is damaged will not be accepted. Disinfection process shall follow city, state, and federal requirements.
8. Entire water service line is required to be leak free under pressure.
9. Furnish and install 8-mil polyethylenepoly-wrap on all metallic pipe in accordance with AWWA C-105. Epoxy coatings are also an acceptable alternative type of coating system for the pipe subject to the approval of the City Engineer.
10. Where the City Engineer has identified that the water system requires cathodic protection, contractor shall furnish and install cathodic protection system on all metallic components of the water system. Cathodic protection system designs shall be in accordance with NACE Standard RP0169-02 submitted to the City for review and approval prior to installation.

WATER SERVICE

1" Meter

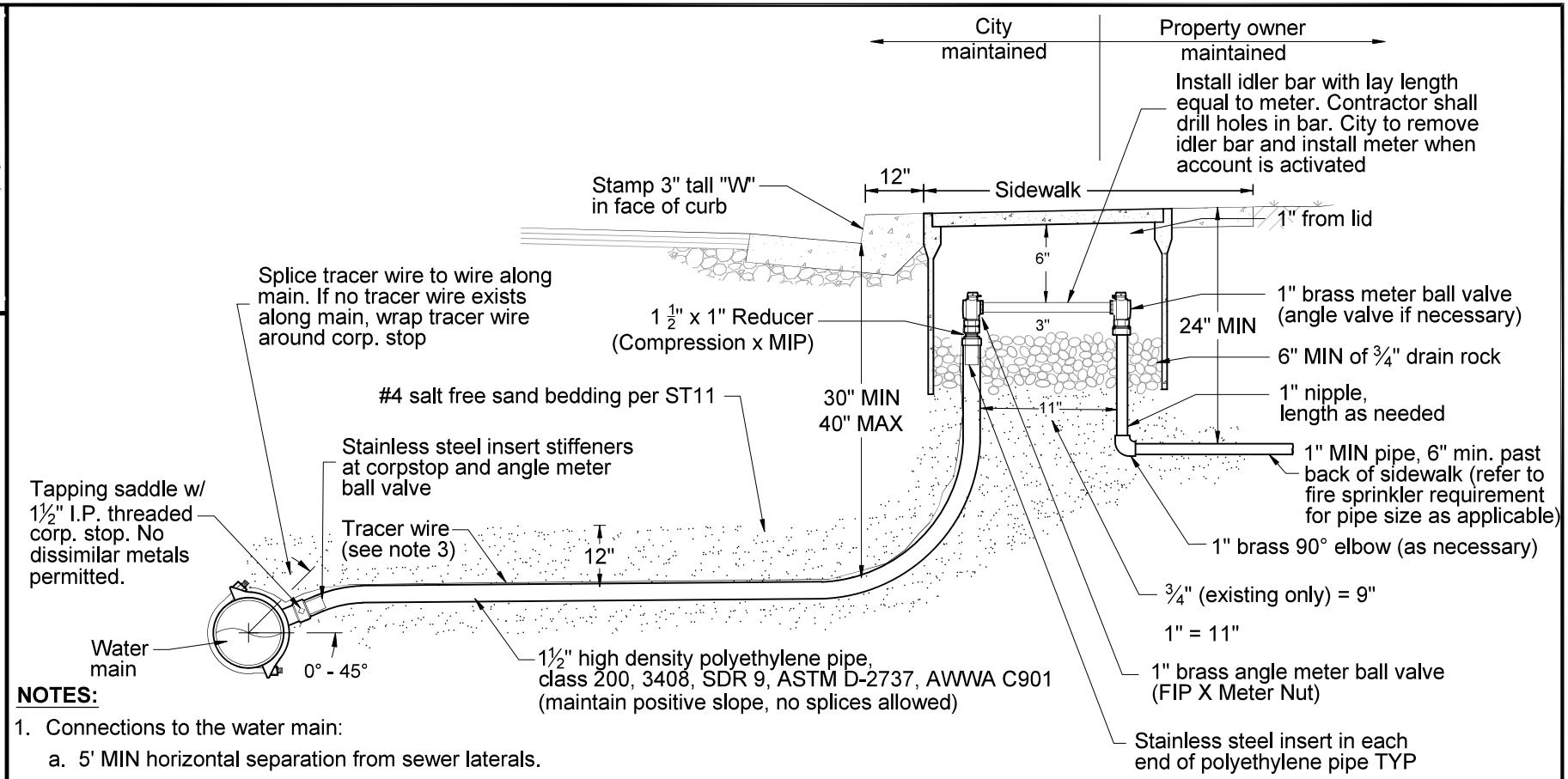
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

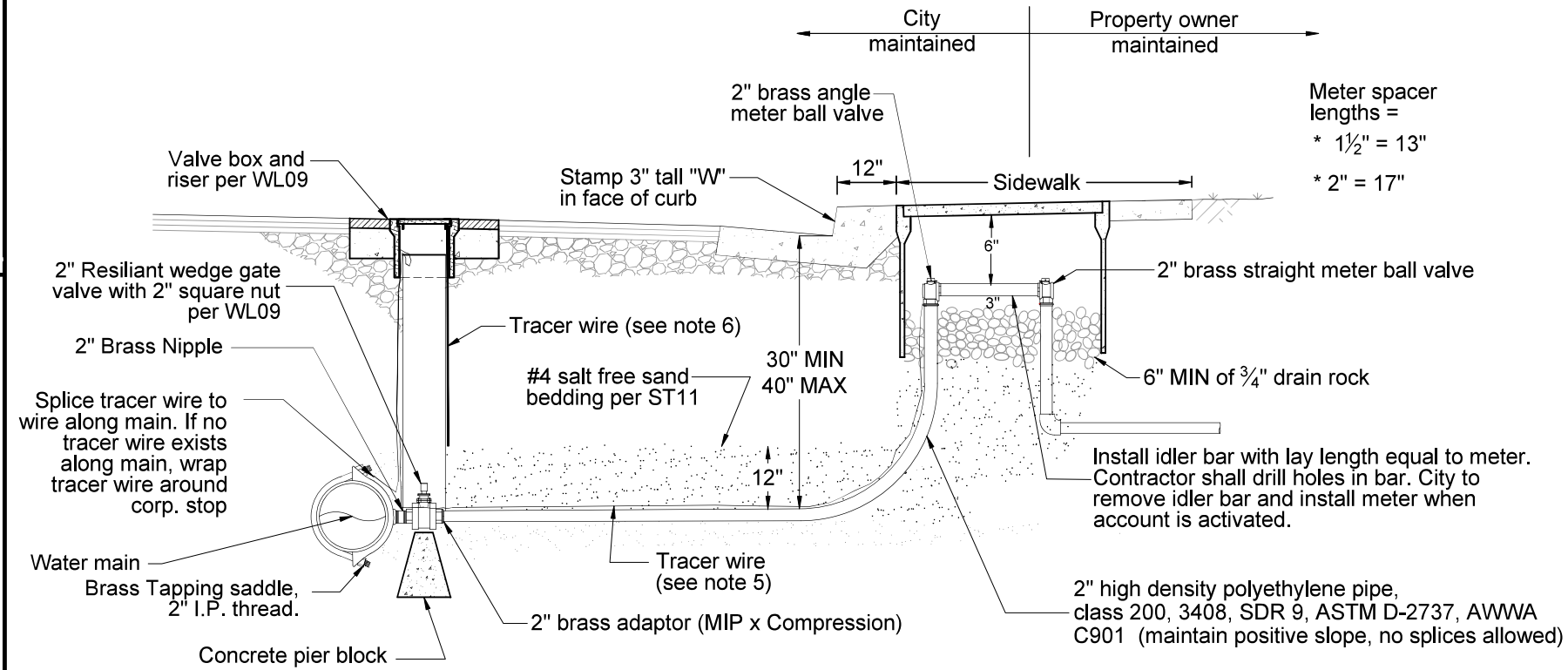
WL02

STANDARD DETAIL



NOTES:

1. Connections to the water main:
   a. 5' MIN horizontal separation from sewer laterals.
   b. 2' MIN separation from an adjacent tap or mainline joint.
2. Boring or trenching under curb, gutter, or sidewalk for installation or repair is prohibited.
3. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 6' intervals and run continuous from the water main and terminate in the meter box. Do not wrap tracer wire around pipe.
4. Prior to backfilling, the entire water service line will be inspected by the City Inspector and shall be leak free under pressure. Any portion of the service line or fittings that have not been inspected or are damaged will not be accepted.
5. Water meter to be furnished and installed by City.
6. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
7. Contractor shall request meter after sewer lateral passes inspection.
8. Meter boxes not located in sidewalk shall have a 6" wide by 4" deep concrete band around the box.
9. A minimum 2-inch diameter service is required for dedicated fire service lines.



NOTES:

1. Connections to the water main:
   a. 5' MIN horizontal separation from sewer laterals.
   b. 2' MIN separation from an adjacent tap or mainline joint.
2. Boring or trenching under curb, gutter, or sidewalk for installation or repair is prohibited.
3. If more than a full length of pipe is required, a compression coupling shall be used.
4. Prior to backfilling, the entire water service line is required to be inspected by the City Inspector and shall be leak free under pressure. Any portion of the service line or fittings not have not been inspected or are damaged will not be accepted.
5. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 6' intervals and run continuous from the water main and terminate in the meter box. Do not wrap tracer wire around pipe.
6. Water meter to be furnished and installed by City.
7. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
8. Meter boxes not located in sidewalk shall have a 6" wide by 4" deep concrete band around the box.
9. A minimum 2-inch diameter service is required for dedicated fire service lines.

WATER SERVICE
1½" and 2" Meters

SCALE: NONE

APPROVED: *Larry Zimmer*
Director of Public Works Larry Zimmer

DATE: June 2024

STANDARD DETAIL

WL03

WATER SERVICE

3" and 4" Meters

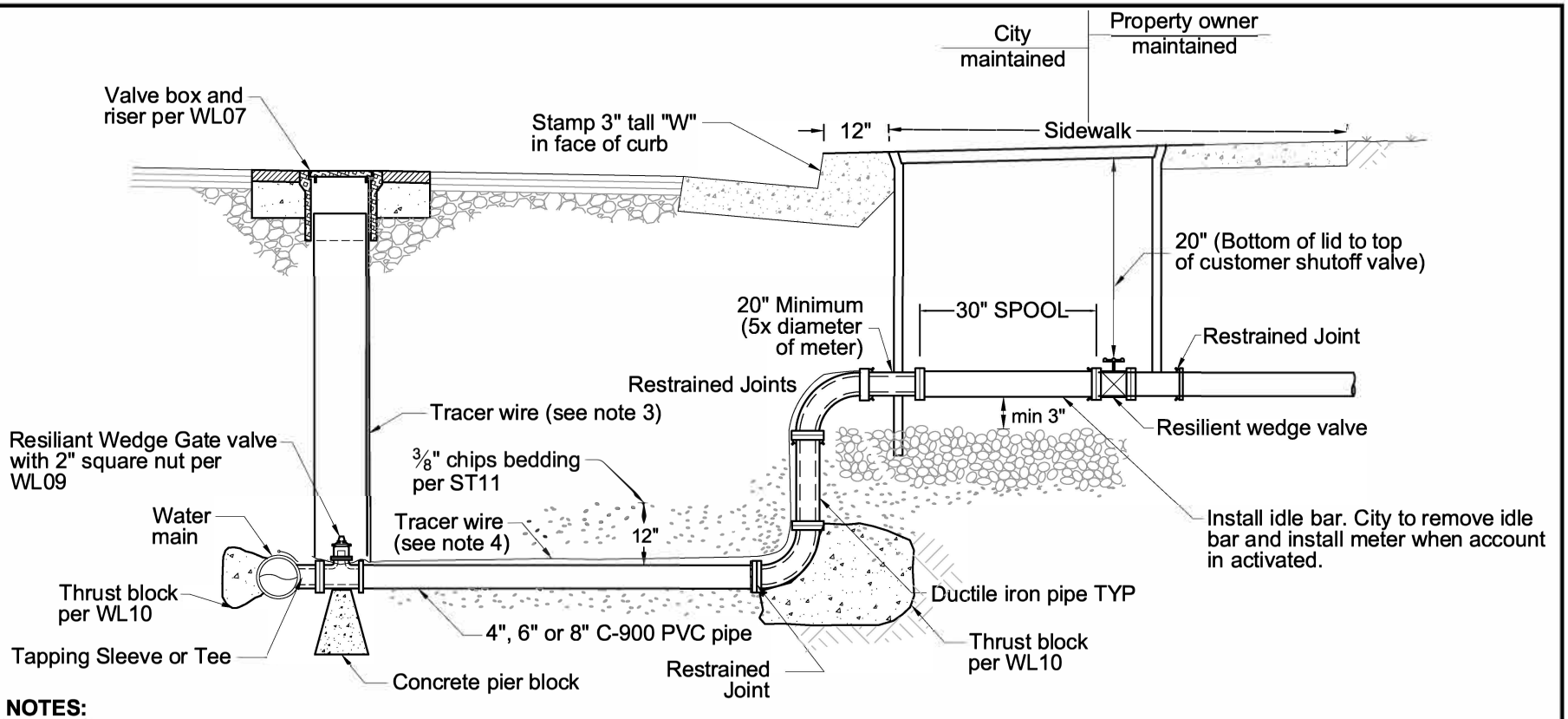
SCALE: NONE

APPROVED: Larry Zimmer Director of Public Works

DATE: June 2024

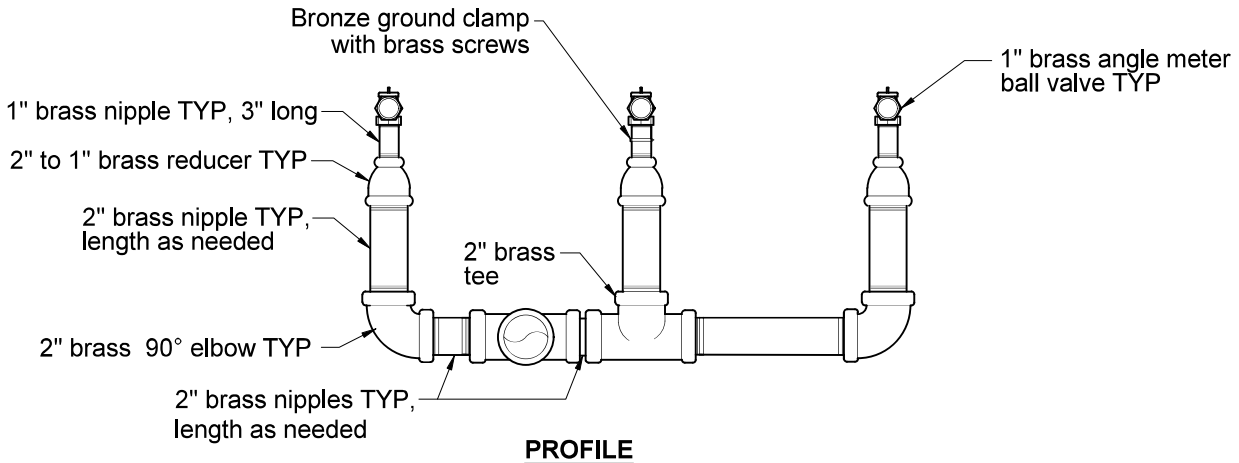
WL04

STANDARD DETAIL

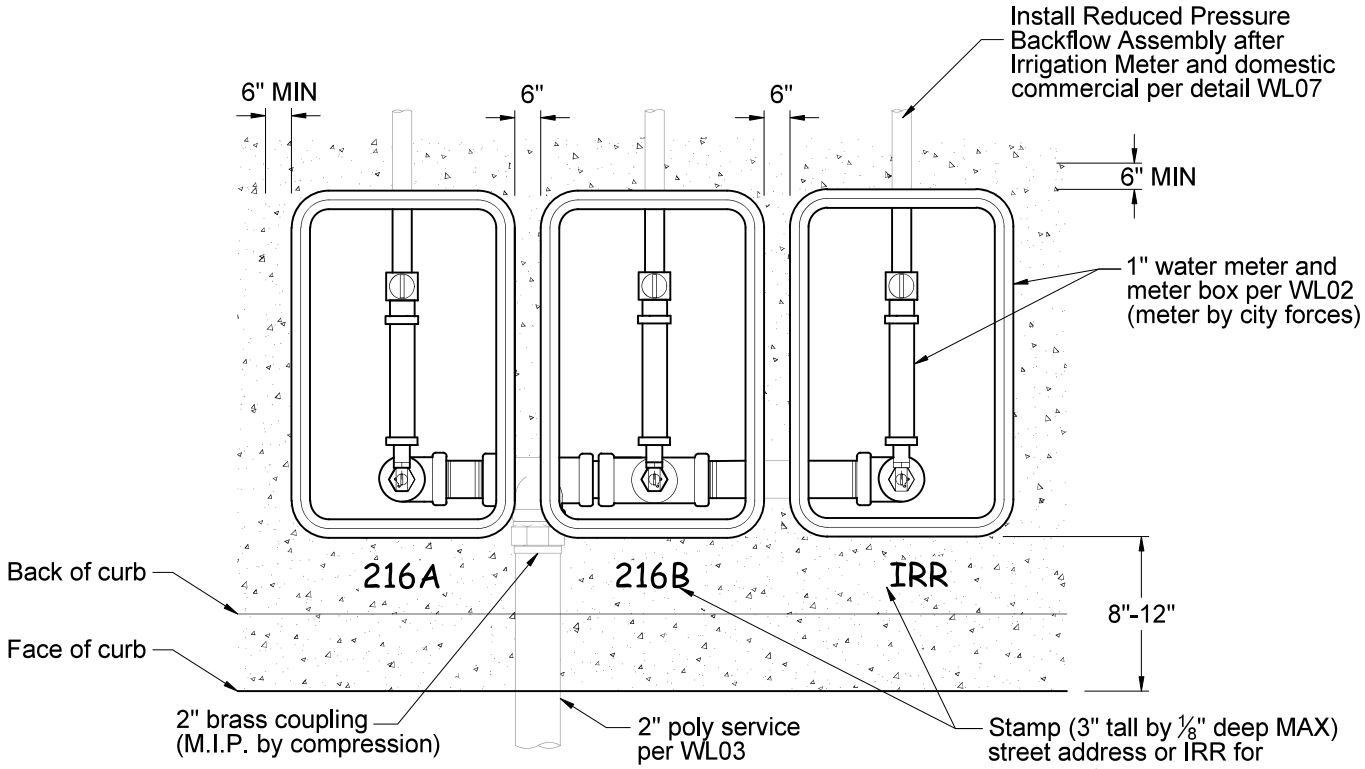


NOTES:

1. Connections to the water main:
   a. 5' MIN horizontal separation from sewer laterals.
   b. 2' MIN separation from an adjacent tap or mainline joint.
   c. Connection to water main shall be with a flanged tee, except where the service size is not more than half the diameter of the main, a tapping saddle may be used.
2. Boring or trenching under curb, gutter or sidewalk for installation or repair is prohibited.
3. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 4' intervals and run continuous from the water main and terminate in the meter box.
4. Bypass line may be required by the City Engineer for critical facilities.
5. After backfilling, the entire water service line will be inspected by the City Inspector and shall be leak free under pressure. Any portion of the service line or fittings that have not been inspected or are damaged will not be accepted.
6. Water meter and test port to be furnished and installed by City forces.
7. All Ductile Iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be stainless steel.
8. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95
9. Meter boxes not located in sidewalk shall have a 6" wide by 4" deep concrete band around the box.



PROFILE



PLAN VIEW

NOTES:

1. Up to four 1" meters may be manifolded off of a 2" poly service line.
2. Manifolds larger than 2" require written approval by the City Engineer.
3. Fittings used in the manifold assembly shall be solid brass, no copper fittings shall be used.
4. Prior to backfilling, the entire water service line and manifold will be inspected by the City Inspector and shall be leak free under pressure. Any portion of the service line, manifold or fittings that have not been inspected or are damaged will not be accepted.
5. Brass manifold shall be bedded in #4 salt free sand per Trench Detail.
6. Backflow prevention device and/or pressure reducing valve may be required.
7. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
8. Meter boxes not located in sidewalk shall have a 6" wide by 4" deep concrete band around the box.

CITY OF HEALDSBURG
CALIFORNIA SINCE 1867

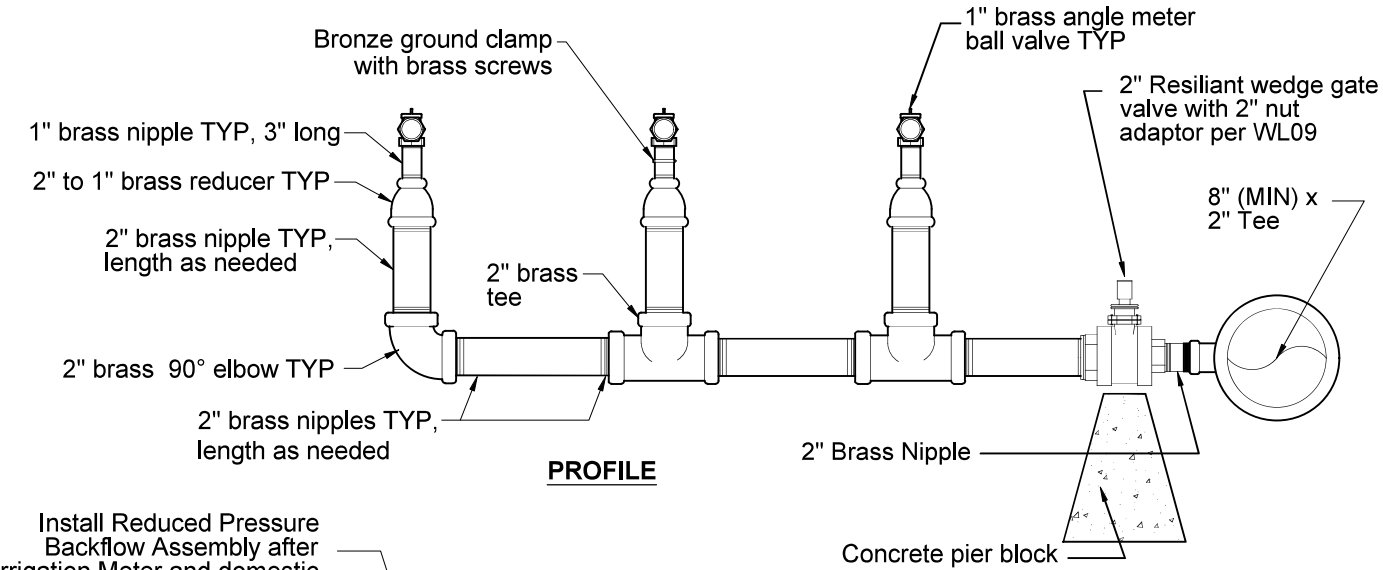
WATER SERVICE

Manifold Multiple Meters off 2" Service

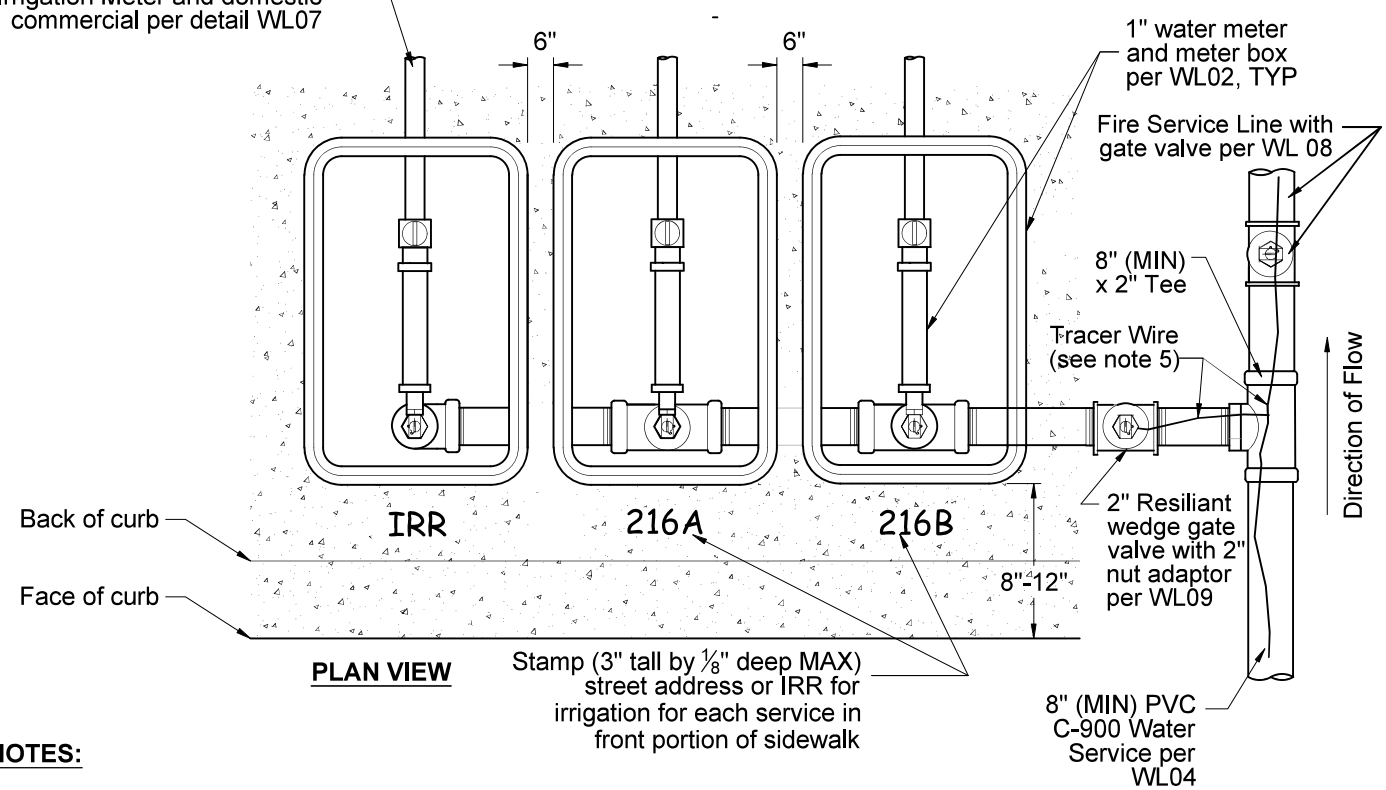
STANDARD DETAIL

WL05

SCALE:	APPROVED:	DATE:
NONE	Larry Zimmer Director of Public Works Larry Zimmer	June 2024



PROFILE



PLAN VIEW

NOTES:

1. Calculations must be provided to show fire service line is of sufficient size to meet both the fire flow and domestic peak demands including irrigation.
2. Permitted only in locations where approved by City Engineer due to difficulty in tapping City water main for domestic service. Tap from Fire Service Line shall occur prior to the backflow assembly.
3. Fittings used in the manifold assembly shall be solid brass, no copper fittings shall be used.
4. After backfilling, the entire water service line and manifold is required to be inspected by the City Inspector and to be leak free under pressure. Any portion of the service line, manifold or fittings not inspected or damaged will not be accepted.
5. The brass manifold shall be tied to the existing tracer wire on the Fire Service Line where available.
6. Brass manifold shall be bedded in #4 salt free sand per Trench Detail.
7. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.

CITY OF HEALDSBURG
CALIFORNIA SINCE 1867

WATER SERVICE

Manifold Meters and Fire Line off Single Lateral

STANDARD DETAIL

WL06

SCALE:	APPROVED:	DATE:
NONE	Larry Zimmer Director of Public Works Larry Zimmer	June 2024

BACKFLOW ASSEMBLY

Reduced Pressure

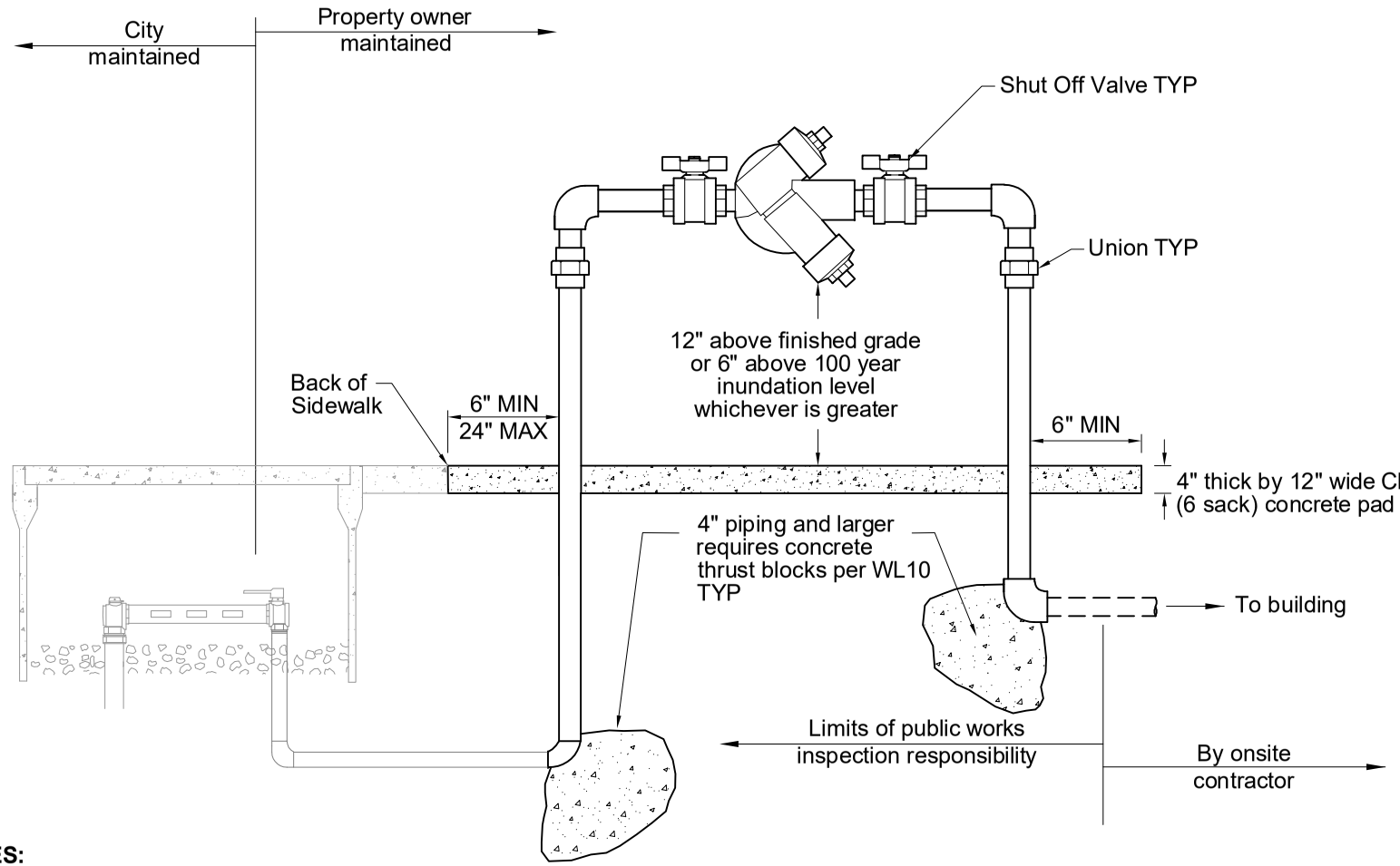
SCALE: NONE

APPROVED: Larry Zimmer Director of Public Works

DATE: June 2024

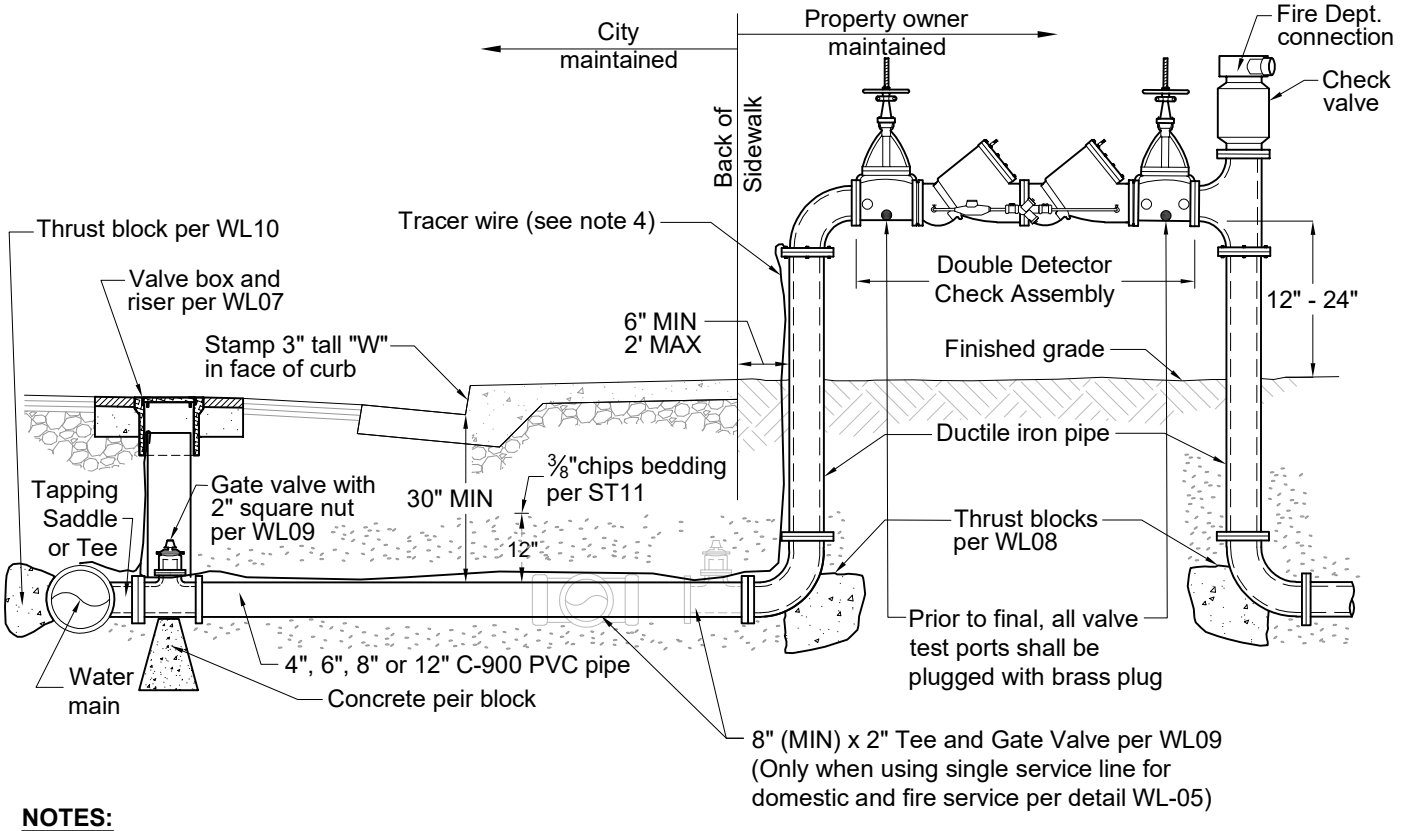
WL07

STANDARD DETAIL



NOTES:

1. Reduced pressure backflow assembly is required on all irrigation laterals and on any domestic water lateral(s) where the City Engineer or Building Official has determined there is a risk of cross contamination such as at an industrial or manufacturing sites. Refer to chapter 13.16 of the Healdsburg Municipal Code for Requirements.
2. Connections or tees between the water meter and the backflow assembly are prohibited.
3. Backflow assemblies shall not be closer than 5' to a driveway, parking space, etc. and shall allow sufficient room for maintenance and testing of the backflow assembly.
4. Backflow assemblies shall be tested in place for the initial installation and on an annual basis thereafter. Test report shall be provided to the Public Works Department prior to acceptance. A list of recognized testers is available from the Public Works Department.
5. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
6. Contractor shall confirm backflow detector is approved be fire sprinkler contractor & fire marshal prior to ordering.
7. Reduced pressure backflow assembly is required on all irrigation laterals and on any domestic water lateral(s), and all commercial services, and all residential mixed-use/multi-family services where the City Engineer or Building Official has determined there is a risk of cross contamination such as at an industrial or manufacturing sites. Refer to chapter 13.16 of the Healdsburg Municipal Code for Requirements.
8. Freeze protection is required and shall be a commercially available insulated blanket with green weather resistant outer covering locked in place.



NOTES:

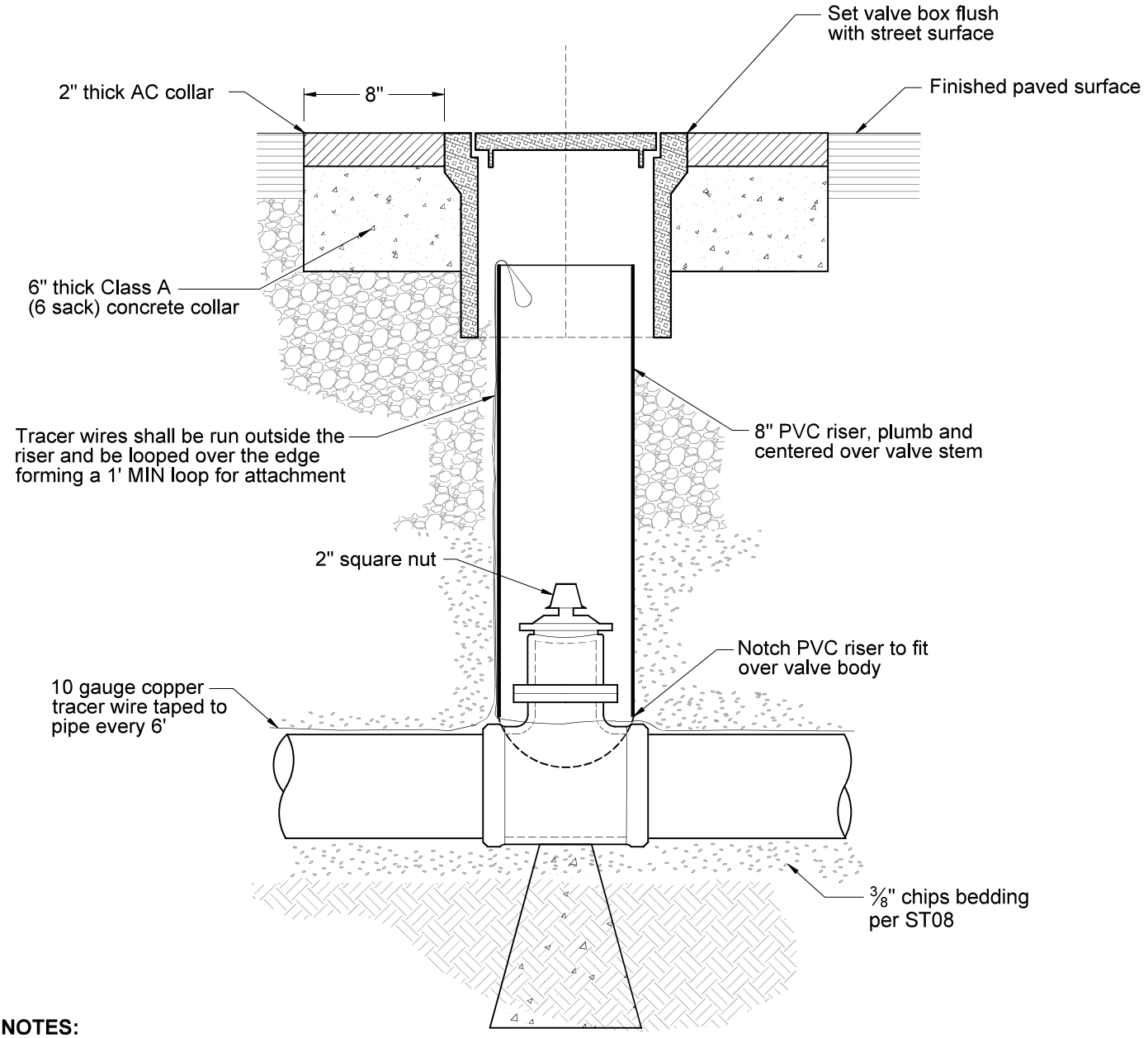
1. Backflow Assembly Requirements:
   a. Located no closer than 5' to a driveway, parking space, etc. and allow sufficient room for maintenance and testing.
   b. Tested in place for the initial installation and on an annual basis thereafter. Test report shall be provided to the Public Works Department prior to acceptance. A list of approved testers is available from the Public Works Department.
   c. Tamper switches, freeze protection and similar objects shall be installed to allow for access to test cocks for testing and maintenance of the assembly.
   d. Valve handles on bypass assembly shall be removed.
2. Connection Requirements:
   a. Connection to water main shall be with a flanged tee, except where the service size is not more than ⅔ the diameter of the main, a tapping saddle may be used.
   b. Connections or tees between the water main and the backflow assembly are prohibited.
3. Copper tracer wire (10 gauge insulated solid wire) shall run continuous from the water main, loop up into the valve box and terminate above grade at a bolted connection on the backflow assembly.
4. Fire Department Requirements:
   a. Fire Dept. connection shall be easily accessible without interference from shut off valves or adjacent objects.
   b. Shut off valves shall be resilient wedge OS&Y, pad locked in open position with tamper switches and monitoring station as approved by the City Fire Department.
5. All Ductile Iron Pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be stainless steel.
6. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
7. Freeze protection is required and shall be a commercially available insulated blanket with green weather resistant outer covering locked in place

CITY OF HEALDSBURG
CALIFORNIA SINCE 1867

Fire Service Line
With Double Detector Check Backflow Assembly

STANDARD DETAIL
WL08

SCALE:	APPROVED:	DATE:
NONE	Larry Zimmer Director of Public Works	June 2024



NOTES:

1. All metallic gate valves shall be epoxy coated from the factory and all steel bolts and accessories shall be stainless only and the entire valve shall be in accordance with AWWA C-105.
2. If valve is in dirt area, install concrete collar around valve can.

CITY OF HEALDSBURG
CALIFORNIA SINCE 1867

VALVE

STANDARD DETAIL

WL09

SCALE:	APPROVED:	DATE:
NONE	Larry Zimmer Director of Public Works Larry Zimmer	June 2024

CITY OF HEALDSBURG

SCALE: NONE

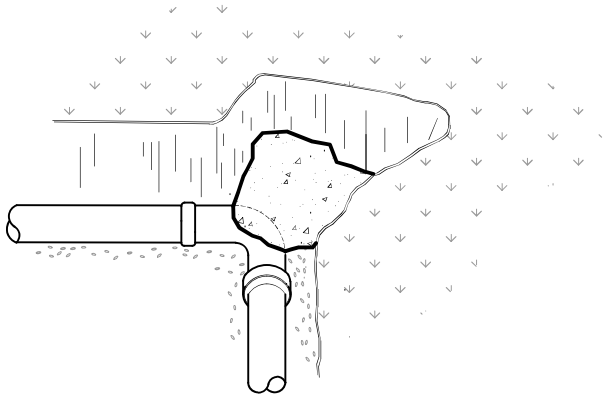
APPROVED: *Larry Zimmer*
Director of Public Works Larry Zimmer

DATE: June 2024

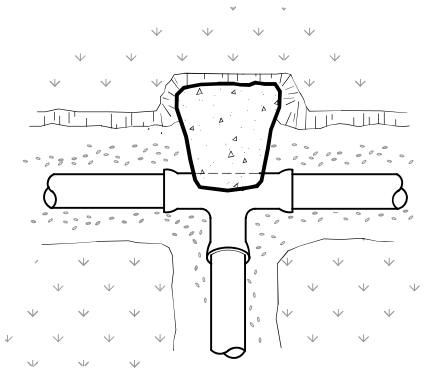
THRUST BLOCKING

WL10

STANDARD DETAIL



BEND



TEE

NOTES:

1. Table of thrust block dimensions at right are calculated for soil bearing capacity of 2,000 lbs. per sq-ft. The Consulting Engineer shall specify thrust blocking requirements for all other soil bearing conditions.
2. Safe bearing load of soil for horizontal thrust shall not be exceeded. Concrete blocking, cast in place, shall extend from bells of pipe to undisturbed ground. Concrete shall not be placed on or around nuts and bolts.
3. For plugged leg(s) of tee or cross use concrete blocking indicated in table to the right. Other additional concrete thrust blocking may be required by City Engineer.
4. All Ductile Iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be coated with bitumastic prior to encasement in the polyethylene bag.
5. Stab fittings not allowed, use mega lug.

Pipe Diameter	Minimum bearing area required (see note 1)				
	90° Bend	45° Bend	22 ½° Bend	Tee	Reducer
4"	3 sq-ft	2 sq-ft	1 sq-ft	2 sq-ft	2 sq-ft
6"	6 sq-ft	3 sq-ft	2 sq-ft	4 sq-ft	3 sq-ft
8"	9 sq-ft	5 sq-ft	3 sq-ft	7 sq-ft	4.5 sq-ft
10"	15 sq-ft	8 sq-ft	4 sq-ft	11 sq-ft	8 sq-ft
12"	22 sq-ft	10 sq-ft	6 sq-ft	15 sq-ft	11 sq-ft

WATER MAIN CROSSING
Over A Structure

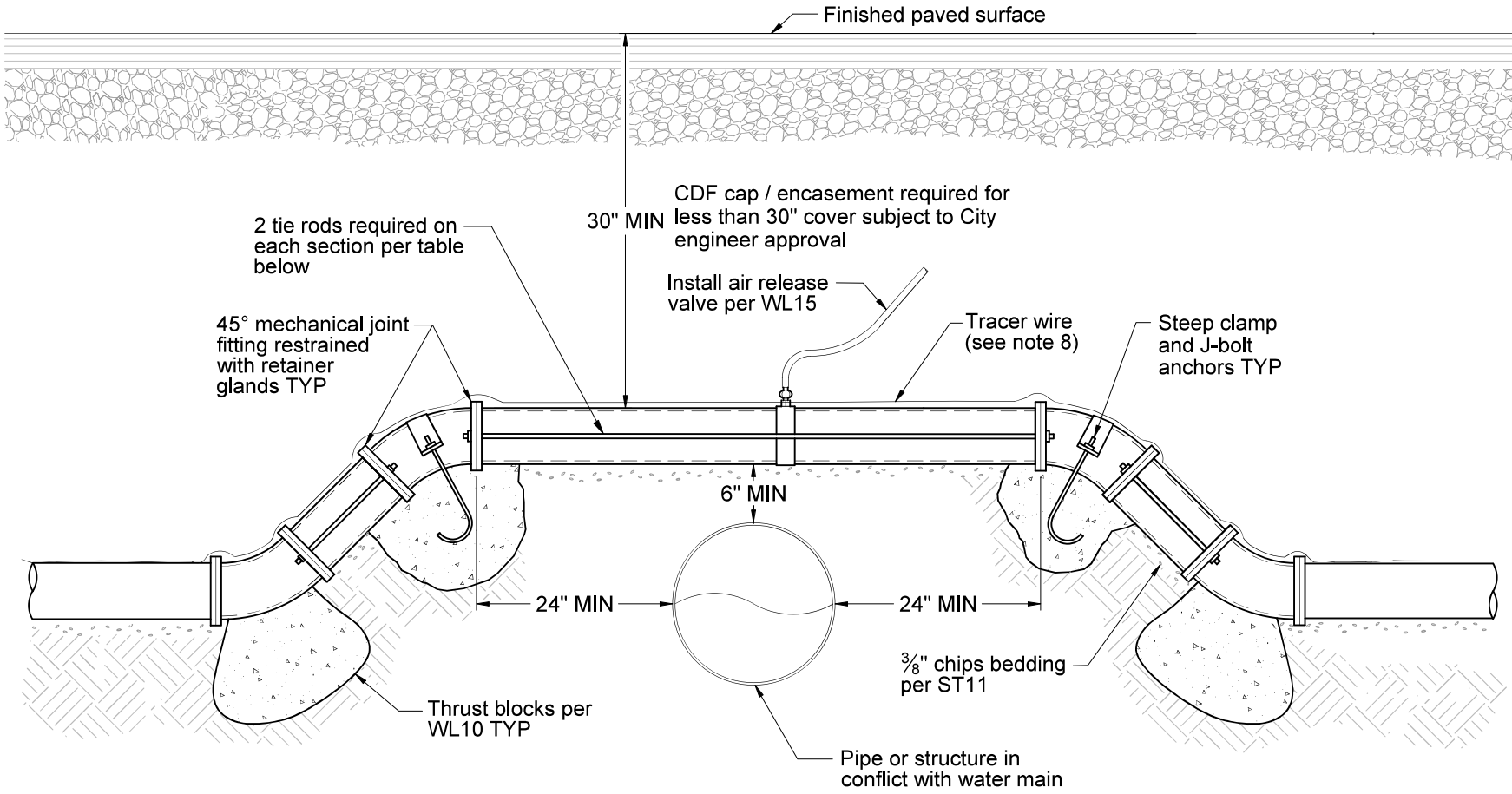
SCALE: NONE

APPROVED: *Larry Zimmer*
Director of Public Works Larry Zimmer

DATE: June 2024

WL11

STANDARD DETAIL



NOTES:

1. To be used only with written approval of the City Engineer.
2. All pipe and fittings in the crossing shall be ductile iron.
3. All hardware (nuts, bolts, tie rods, etc.) on underground fittings shall be stainless steel.
4. All joints shall be flanged or mechanical joint restrained.
5. All bends shall be 45° or less (90° bends prohibited).
6. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 4' intervals and run continuous along the water main crossing.
7. All ductile iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be stainless steel.
8. Bridge and culvert application require city engineer approval. Valves required on both sides of bridge and culvert applications.

Pipe Diameter	Tie Rod Diameter
6"	⅝"
8"	¾"
12"	1 ⅛"

WATER MAIN CROSSING
Under A Structure

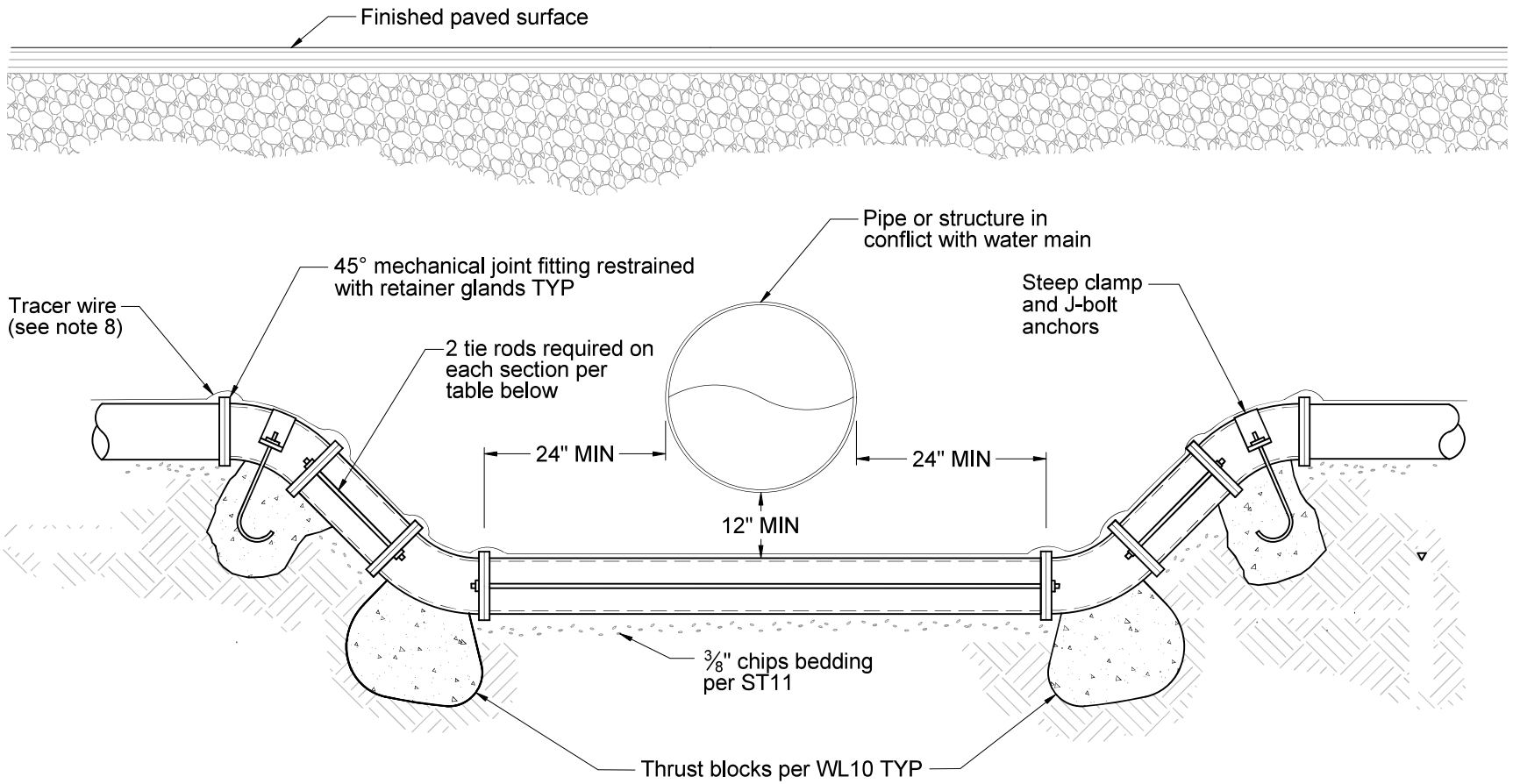
SCALE: NONE

APPROVED: *Larry Zimmer*
Director of Public Works Larry Zimmer

DATE: June 2024

STANDARD DETAIL

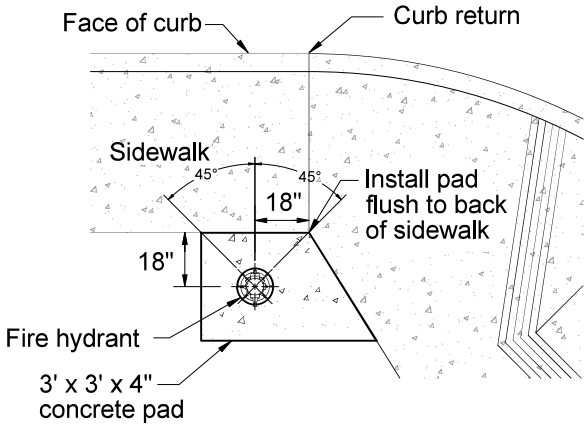
WL12



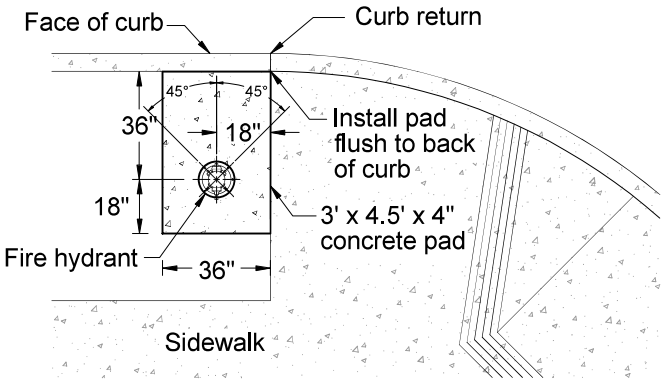
NOTES:

1. To be used only with written approval of the City Engineer.
2. All pipe and fittings in the crossing shall be ductile iron.
3. All hardware (nuts, bolts, tie rods, etc.) on underground fittings shall be stainless steel. All joints shall be flanged or mechanical joint fittings with retainer glands.
4. All bends shall be 45° or less (90° bends prohibited).
5. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 4' intervals and run continuous along the water main crossing and loop up into the valve boxes.
6. All ductile iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be stainless steel.
7. Bridge and culvert application require city engineer approval. Valves required on both sides of bridge and culvert applications.

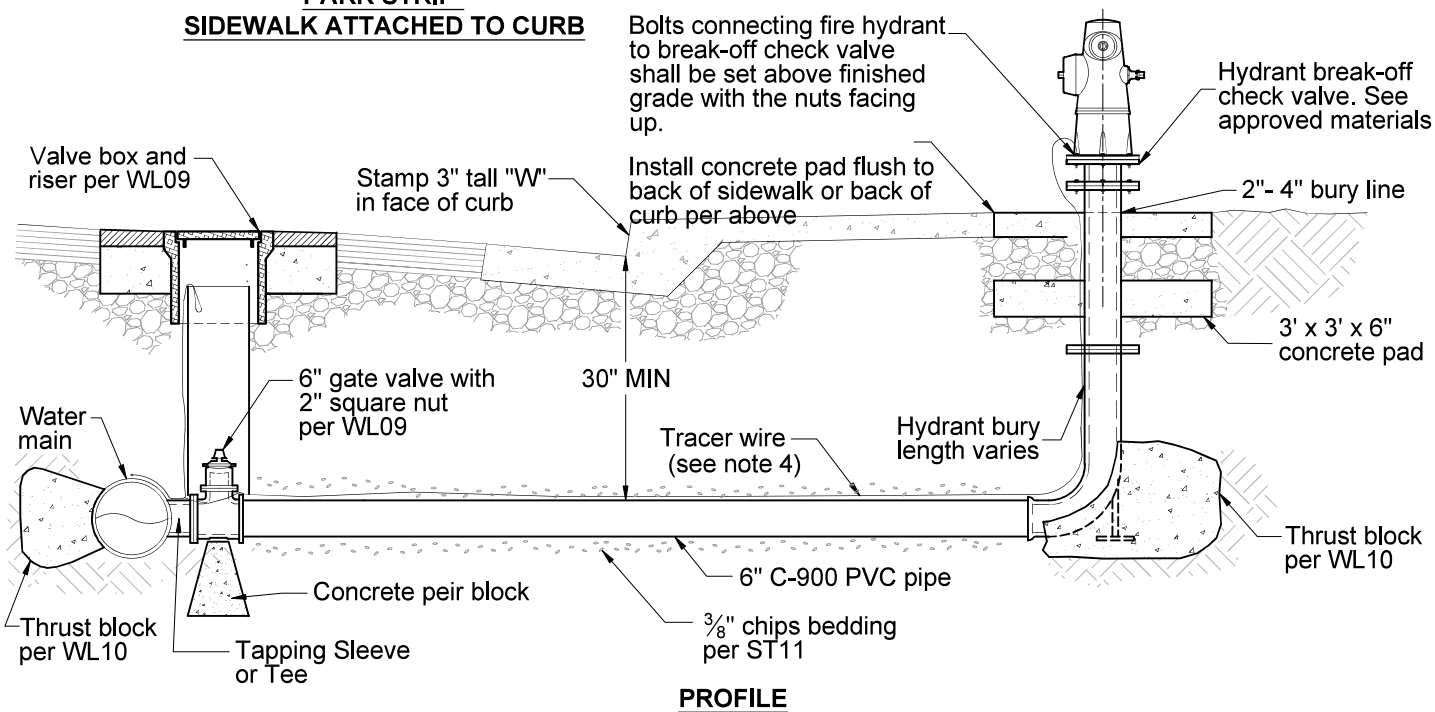
Pipe Diameter	Tie Rod Diameter
6"	5/8"
8"	3/4"
12"	1 ⅛"



**PARK STRIP-
SIDEWALK ATTACHED TO CURB**



SIDEWALK NOT ATTACHED TO CURB



PROFILE

NOTES:

1. Hydrants shall not be closer than 5' to a driveway (as measured from top of transition), parking lot space, etc.
2. Where a bollard, retaining wall, fence, etc. is located near a hydrant, maintain 3' clearance between hydrant and obstruction.
3. Copper tracer wire (10 gauge insulated solid wire) shall be taped every 6' and run continuous from the water main, loop up into the valve box and terminate at fire hydrant. Connect wire to hydrant by flange bolt.
4. Fire hydrant shall be installed so the 4½" outlet is at a right angle to the street and the two 2½"outlets are at 45° angles to the street (see above detail).
5. Place blue-colored reflectorized raised pavement marker, at centerline of street, perpendicular to hydrant. When hydrant is located on a corner, reflectorized markers shall be placed at centerline of both streets, perpendicular to hydrant.
6. All ductile iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be stainless steel.

CITY OF HEALDSBURG
CALIFORNIA SINCE 1867

FIRE HYDRANT

STANDARD DETAIL

WL13

SCALE:	APPROVED:	DATE:
NONE	Larry Zimmer Director of Public Works Larry Zimmer	June 2024

TEMPORARY MAIN LINE BLOW OFF

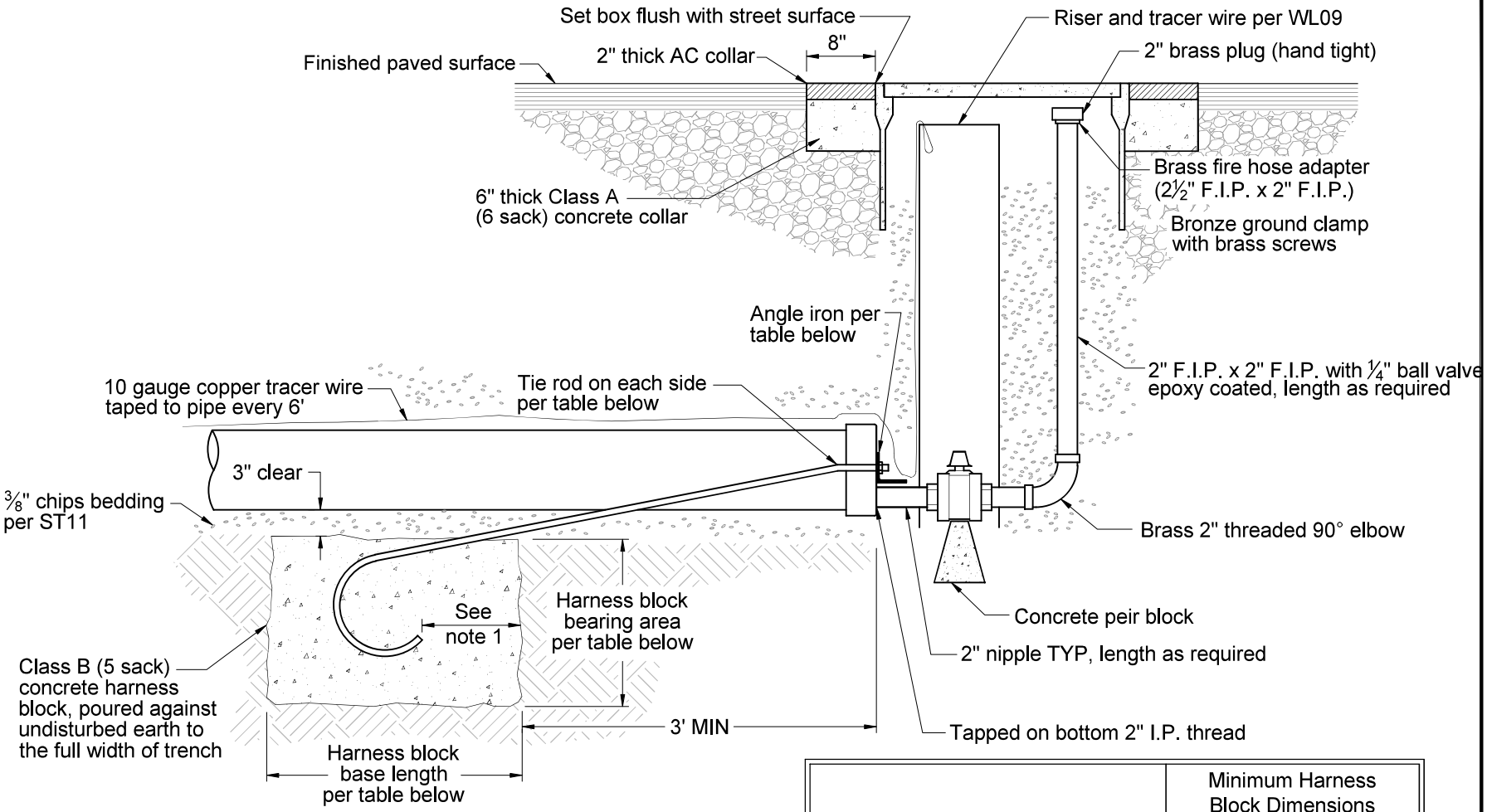
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

WL14

STANDARD DETAIL



			Minimum Harness Block Dimensions	
Pipe Diameter	Tie Rods	Angle Iron	Base Length	*Bearing Area
4"	½"	2½" x 2" x ¼"	2'	2 sq-ft
6"	⅝"	3" x 3" x ¼"	2'	4 sq-ft
8"	¾"	3" x 3" x ¼"	3'	7 sq-ft
10"	1"	4" x 3" x 5/16"	3'	11 sq-ft
12"	1⅛"	4" x 3" x ½"	3'	15 sq-ft
Pipe over 12" diameter - sizes specified by City Engineer				

*Bearing area is the height multiplied by the width of the face of the concrete harness block.

NOTES:

1. Tie rods shall have 6" MIN of concrete cover on all sides.
2. All exposed threads shall be painted with an approved bituminous coating after nuts are tightened.
3. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
4. Temporary blow offs are not allowed if expected to be longer than two years.
5. A fire hydrant shall be installed as permanent blow off.
6. Wood blocking only allowed for specific situations, subject to city engineer approval.

AIR RELEASE VALVE

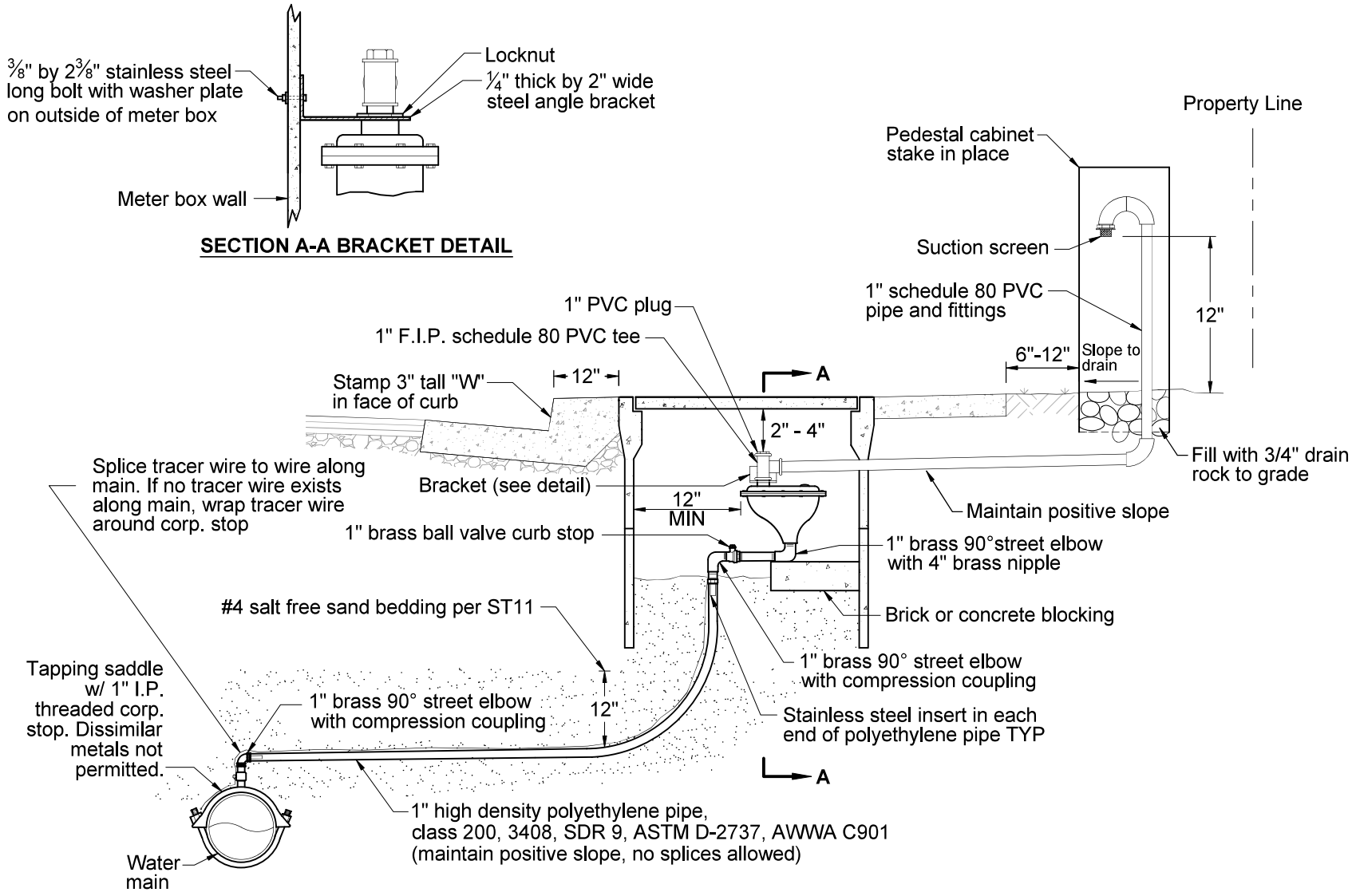
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

WL15

STANDARD DETAIL



NOTES:

1. All nuts, bolts and other exposed threads shall be stainless steel.
2. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.
3. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 6' intervals and run continuous from the water main and terminate in the meter box. Do not wrap tracer wire around pipe.

CITY OF HEALDSBURG
CALIFORNIA
SINCE 1867

WATER SAMPLE STATION

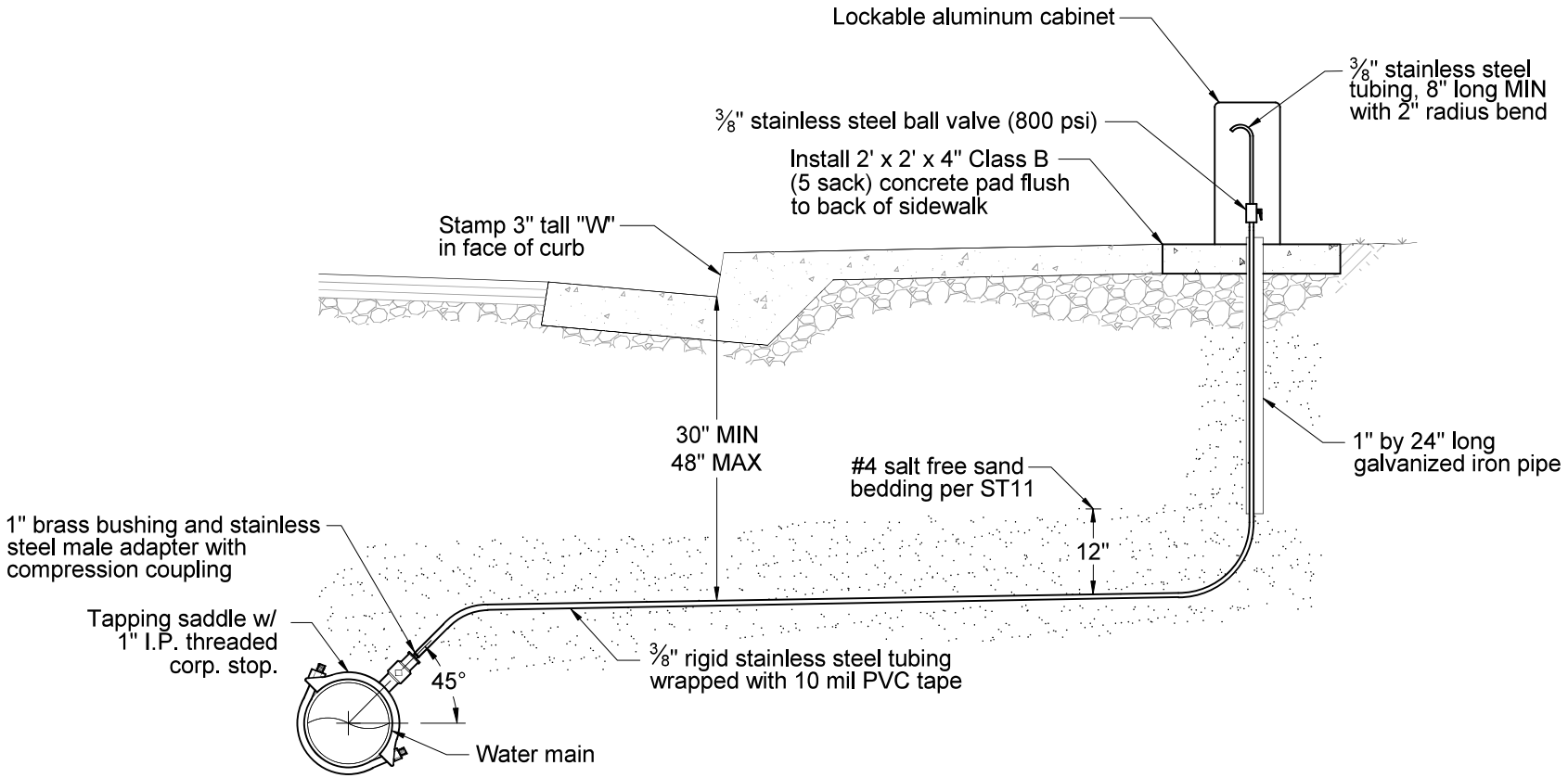
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

WL16

STANDARD DETAIL



NOTES:

1. If more than one length of 3/8" stainless steel tubing is required, stainless steel compression couplings shall be used.
2. Tape coating shall be applied to all buried brass, fittings, connections and sections in accordance with ANSI/AWWA C214-95 and C209-95.

CITY OF HEALDSBURG
CALIFORNIA
SINCE 1867

Recycled Water Service

All Meter Sizes

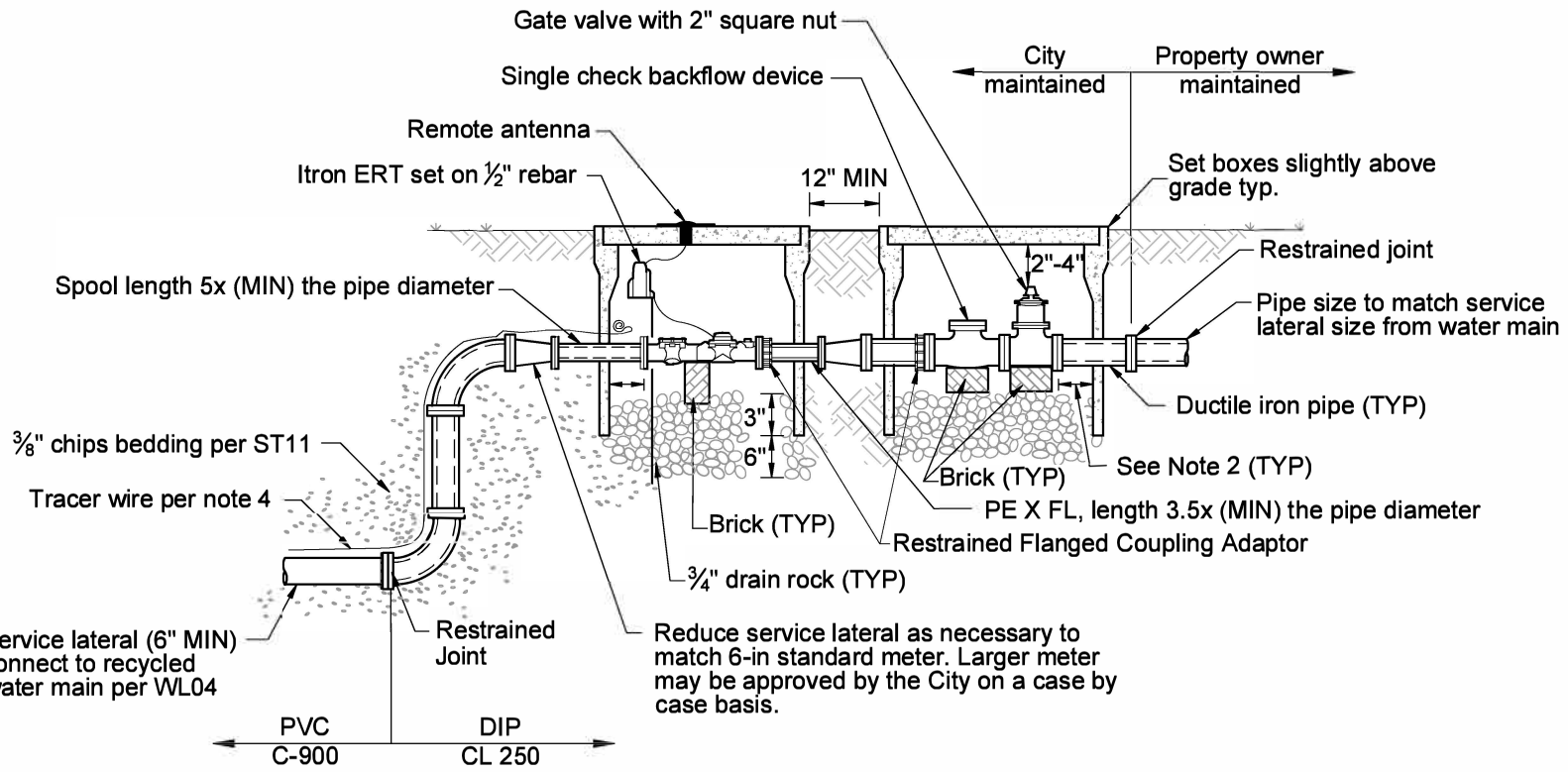
SCALE: NONE

APPROVED: Larry Zimmer
Director of Public Works Larry Zimmer

DATE: June 2024

RW01

STANDARD DETAIL



NOTES:

1. Meter and backflow devices shall be located in a non-paved area where boxes are not subject to traffic loading.
2. Maintain 2"-4" clearance between box wall and pipe fitting (TYP all sides).
3. All Ductile Iron pipe and fittings shall be provided with a bituminous coating from the factory and encased in an 8-mil polyethylene bag in the field in accordance with AWWA C-105. All bolts, restraining rods, etc. shall be coated with bitumastic prior to encasement in the polyethylene bag.
4. Use City approved restrained joints or flanged spools.
5. Copper tracer wire (10 gauge insulated solid wire) shall be taped to pipe at 4' intervals and run continuous from the water main and terminate with 2' MIN length coil exposed in meter box.
6. Water meter and ERT shall be purchased through the City. Purchase includes installation.
7. Prior to backfilling, the entire water service line will be inspected by the City Inspector. Entire water line is shall be leak free under pressure. Any portion of the service line or fittings not inspected or damaged will not be accepted.