

NOTES:

1. THE WATER SERVICE OFFSET FROM CENTRE LINE WILL VARY DEPENDING ON DRIVEWAY WIDTH. ENSURE THAT THE SERVICE BOX IS PLACED OUTSIDE OF THE DRIVEWAY.
2. SERVICES MAY BE INSTALLED IN A COMMON TRENCH PROVIDED THAT THEY HAVE THE REQUIRED VERTICAL / HORIZONTAL SEPARATIONS PER MECP AND OBC.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

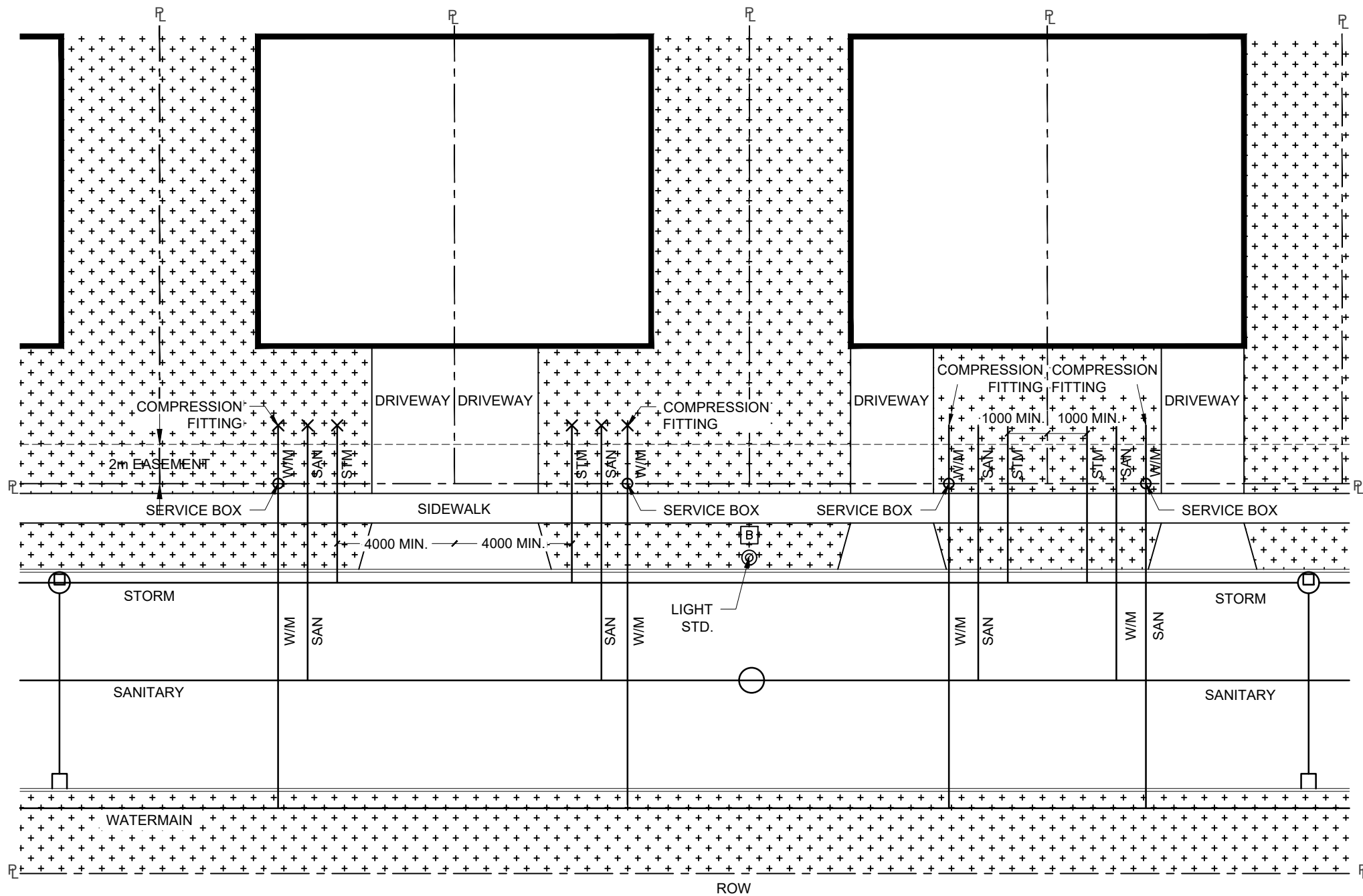
REV 1

MAY 2023

**SERVICE CONNECTION LOCATION
SINGLE LOT**



CW-301



NOTES:

1. THE WATER SERVICE OFFSET FROM CENTRE LINE WILL VARY DEPENDING ON DRIVEWAY WIDTH. ENSURE THAT THE SERVICE BOX IS PLACED OUTSIDE OF THE DRIVEWAY.
2. SERVICES MAY BE INSTALLED IN A COMMON TRENCH PROVIDED THAT THEY HAVE THE REQUIRED VERTICAL / HORIZONTAL SEPARATIONS PER MECP AND OBC.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

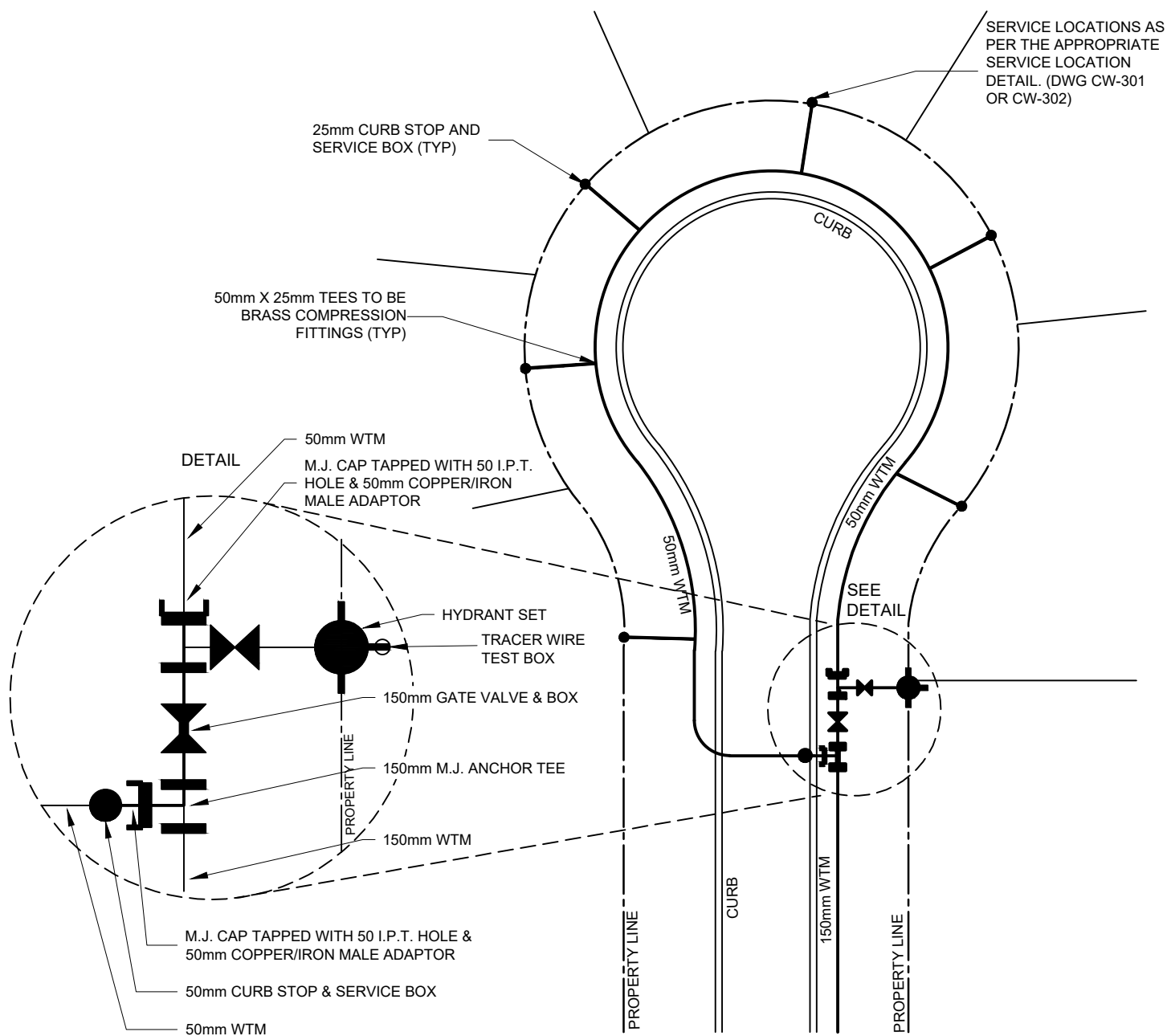
STANDARD DRAWINGS

SERVICE LOT CONNECTION - SEMI DETACHED LOT

REV 1 MAY 2023



CW-302



NOTES:

1. PROVIDE 25mm DIA. SERVICES FOR LOTS.
2. TRACER WIRE TO BE INSTALLED PER THE CITY OF WATERLOO TRACER WIRE SPECIFICATION.
3. ALL MECHANICAL JOINTS TO BE MECHANICALLY RESTRAINED.
4. CORROSION PROTECTION TO BE AFFIXED AS PER THE DGSSMS.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

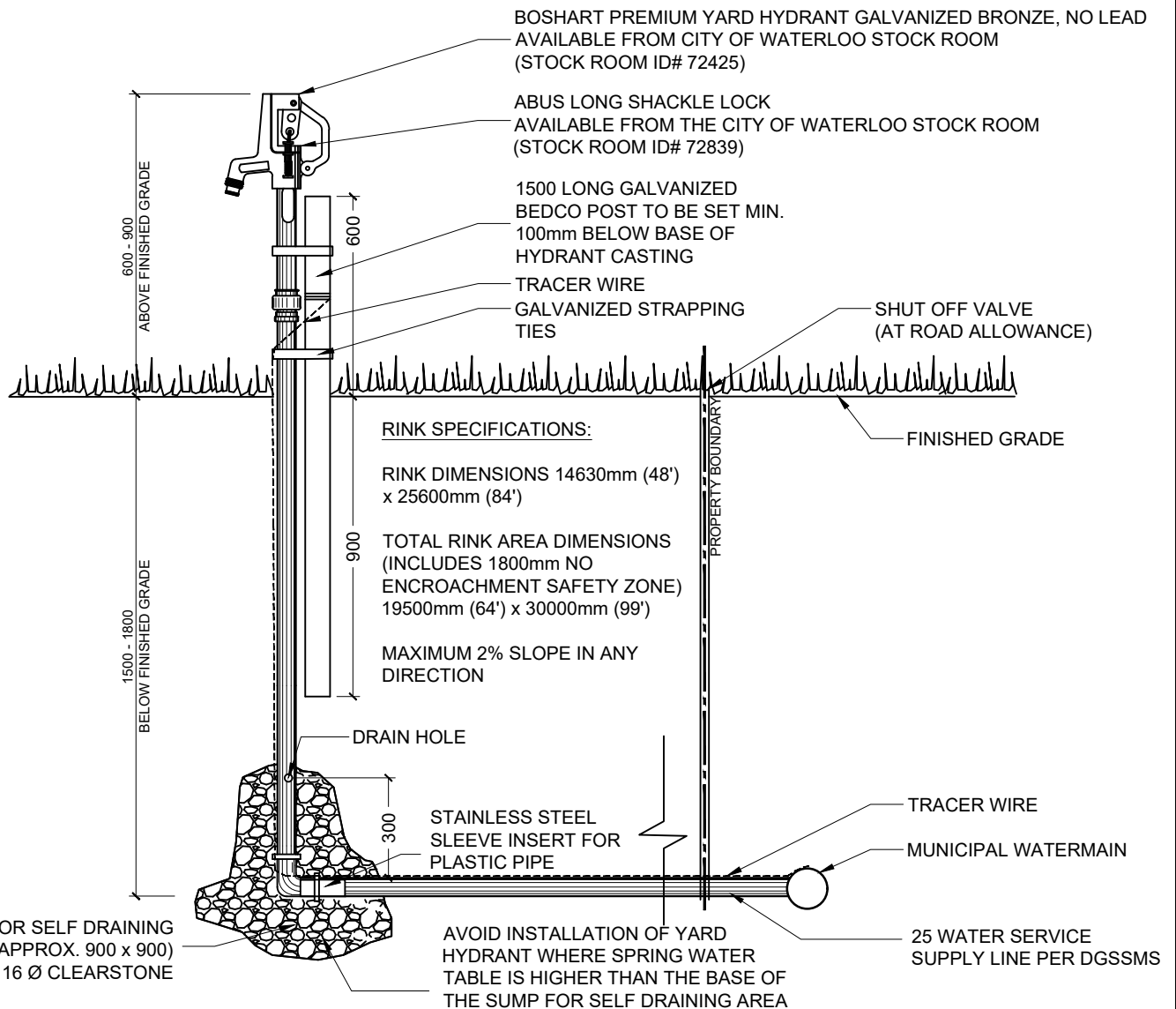
STANDARD DRAWING

REV 1 MAY 2023

CUL-DE-SAC WATER SERVICING DETAIL



CW-311



NOTES:

1. BOTH YARD HYDRANT AND MASTER 2126 LOCK ARE AVAILABLE FOR PURCHASE FROM CITY OF WATERLOO STOCK ROOM (STOCK ROOM ID# 72425 AND ID# 72839). PHONE 519-747-8752 TO ORDER.
2. INSTALLATION OF THE WATER SERVICE REQUIRES A BUILDING PERMIT AND ENGINEERING ACCEPTANCE
3. ENSURE LINE ON WHICH HYDRANT IS TO BE INSTALLED HAS BEEN THOROUGHLY FLUSHED TO WASH OUT FOREIGN PARTICLES. DRAIN HOLE IN CLEAR STONE SELF DRAINAGE AREA.
4. ENSURE THE HYDRANT IS INSTALLED AND TESTED WITH PROVISION FOR OPTIMAL DRAINAGE BELOW THE FROST LINE.
5. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS AS APPROVED BY CITY OF WATERLOO.
6. YARD HYDRANT IS TO BE LOCATED MINIMUM 3000 FROM RINK SITE AND MAXIMUM 7500 FROM RINK SITE.
7. ENSURE THE HYDRANT SPOUT IS FACING THE IDENTIFIED RINK SITE
8. FOR OUTDOOR COMMUNITY PARK HYDRO PANEL DETAILS CONTACT THE CITY PROJECT MANAGER FOR THE LATEST STANDARDS.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

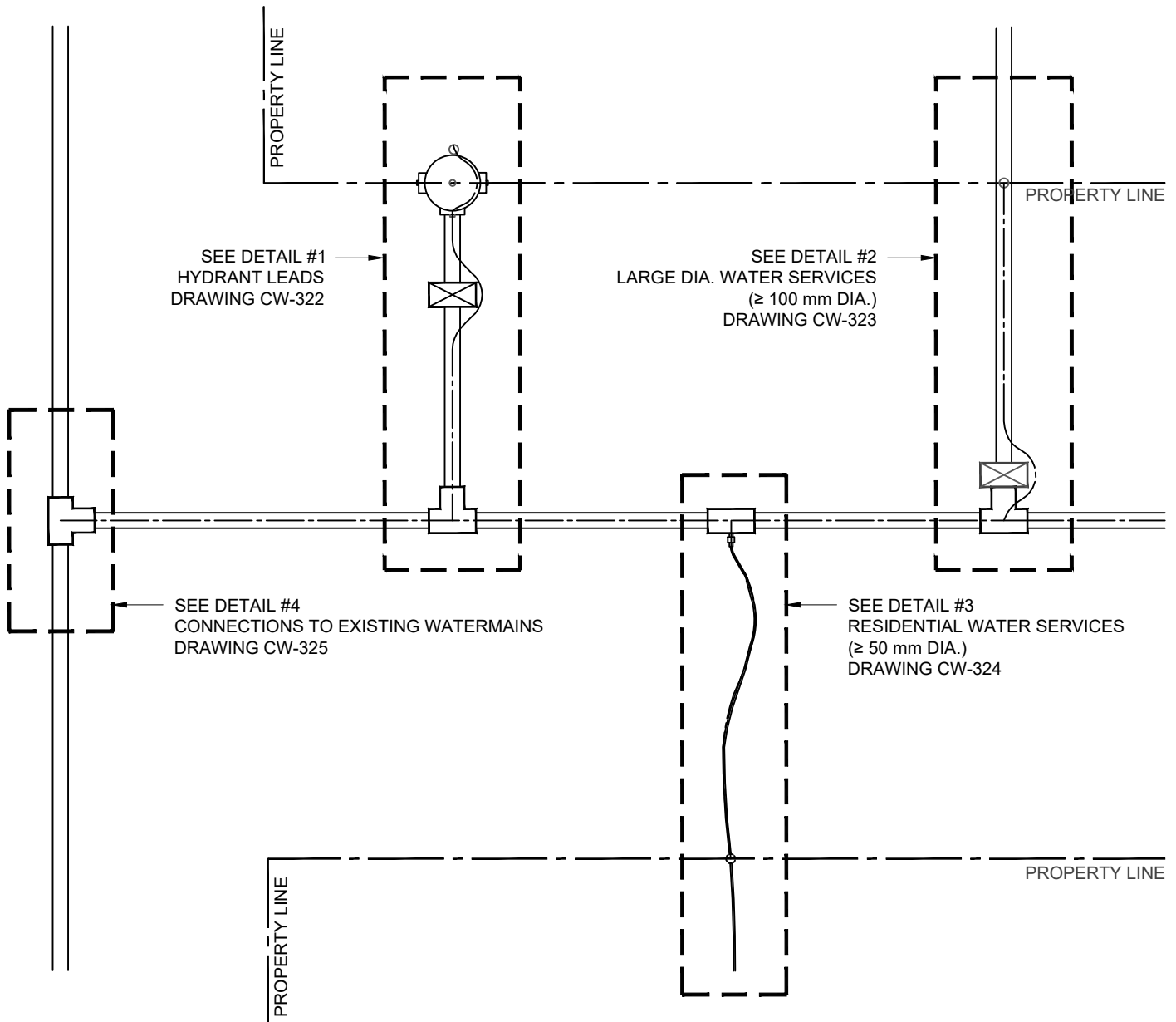
REV 1

MAY 2023

STANDARD YARD HYDRANT

THE CITY OF
Waterloo

CW-312



PLAN VIEW

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

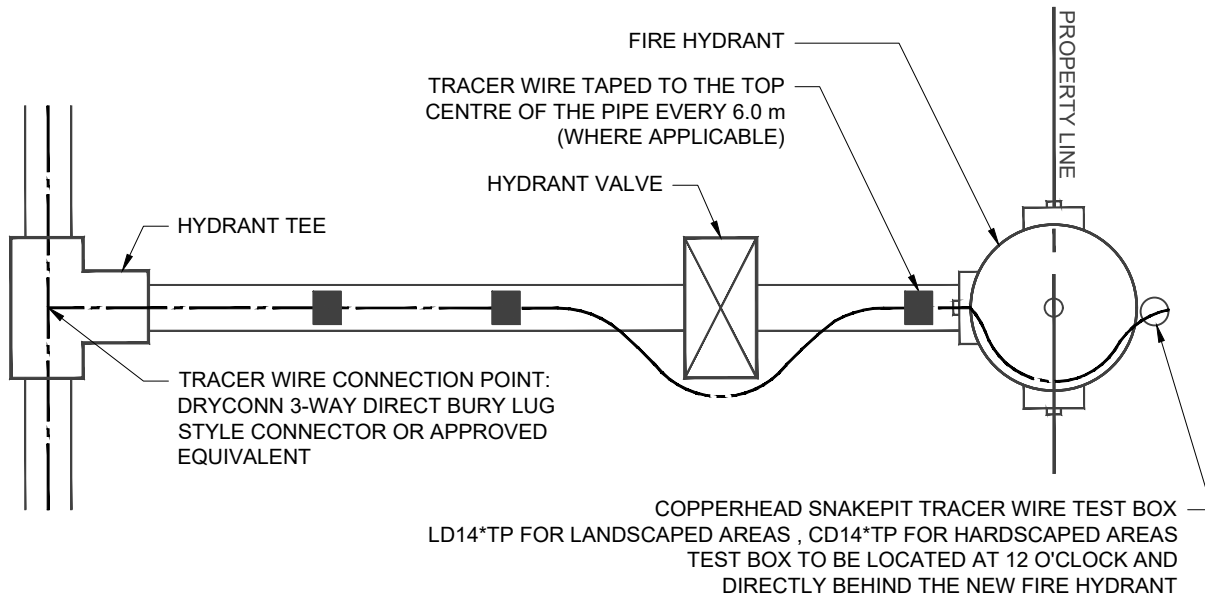
REV 4

MAY 2023

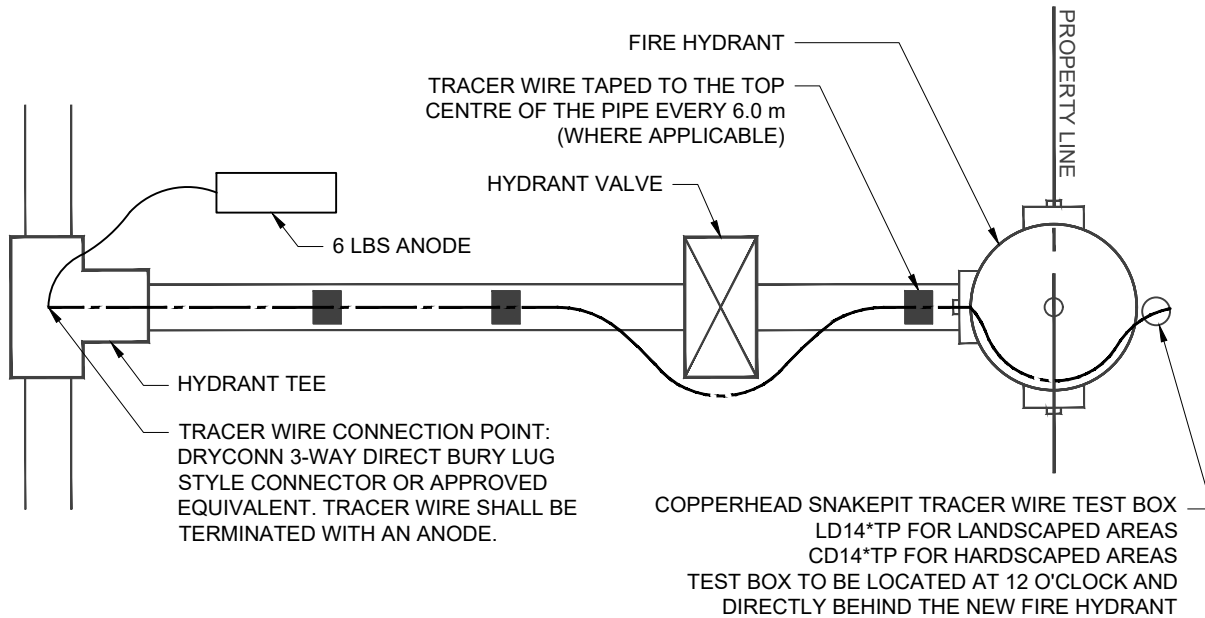
**TRACER WIRE
GENERAL LAYOUT**

THE CITY OF
Waterloo

CW-321



CONNECTION TO NEW NON-METALLIC WATERMAIN



CONNECTION TO EXISTING METALLIC WATERMAIN

NOTES:

1. REFER TO STANDARD DRAWING CW-321 FOR GENERAL OVERVIEW OF TRACER WIRE DETAIL.
2. REFER TO CONSTRUCTION SPECIFICATION FOR TRACER WIRE INSTALLATION IN THE CITY OF WATERLOO.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

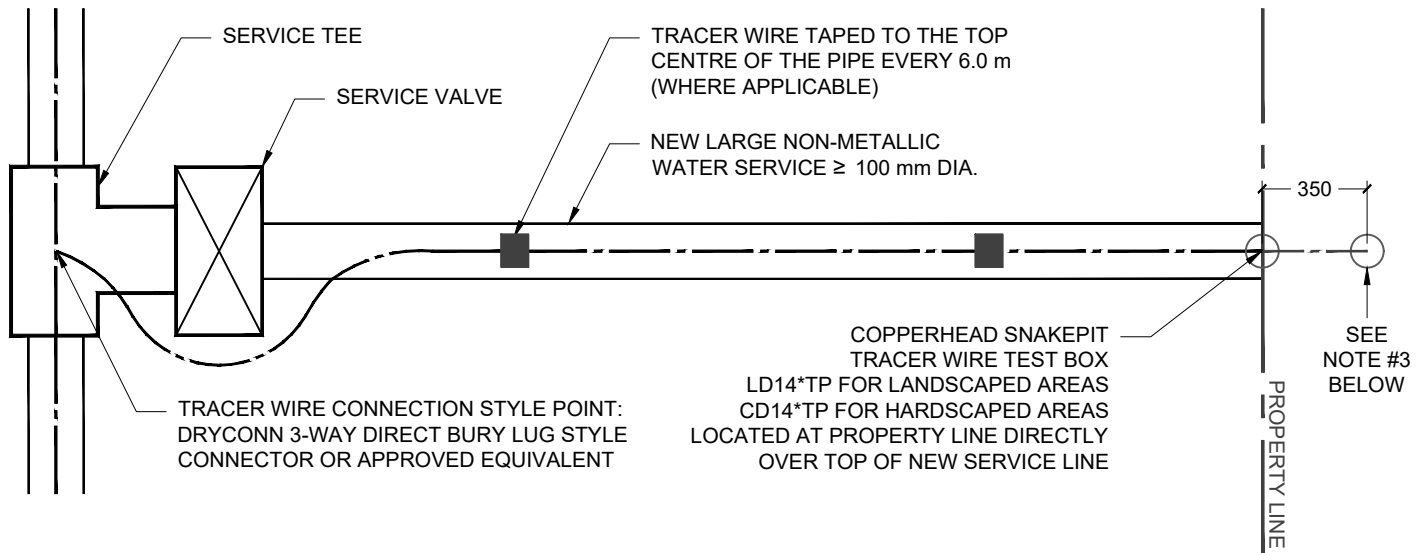
REV 4

MAY 2023

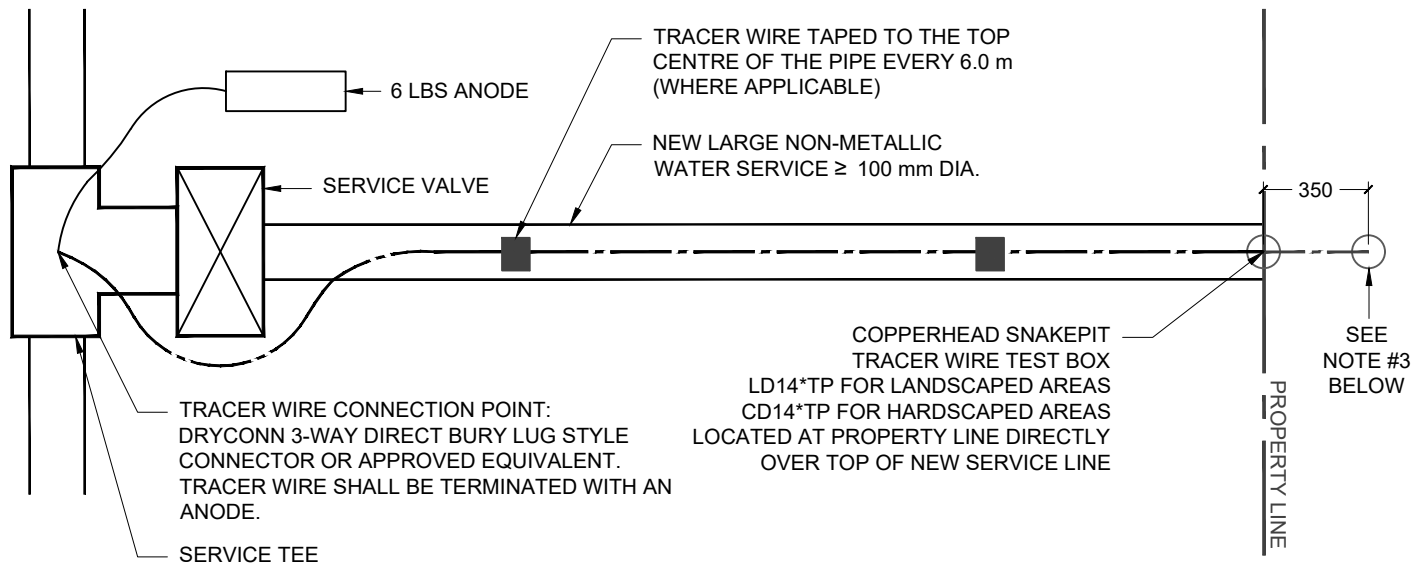
TRACER WIRE - DETAIL #1
HYDRANT LEADS

THE CITY OF
Waterloo

CW-322



CONNECTION TO NEW NON-METALLIC WATERMAIN



CONNECTION TO EXISTING METALLIC WATERMAIN

NOTES:

1. REFER TO STANDARD DRAWING CW-321 FOR GENERAL OVERVIEW OF TRACER WIRE DETAIL.
2. REFER TO CONSTRUCTION SPECIFICATION FOR TRACER WIRE INSTALLATION IN THE CITY OF WATERLOO.
3. IF SERVICE VALVE IS LOCATED AT PROPERTY LINE, TEST BOX SHALL BE INSTALLED 350 MM BEHIND PROPERTY LINE VALVE BOX.
4. FOR SITE SERVICING PROJECTS (I.E. INFILL OR NEW SITE SERVICES), THE NEW SERVICE TRACER WIRE IS TO BE INSTALLED AS PER THE ABOVE SITUATIONS BASED ON THE EXISTING WATERMAIN MATERIAL, BUT INSTEAD OF INSTALLING A TEST BOX FOR ACCESS TO THE TRACER WIRE, A SEPARATE PIECE OF TRACER WIRE (I.E. A BRANCH WIRE) SHALL BE CONNECTED TO THE SERVICE TRACER WIRE WITH AN APPROVED CONNECTOR AND THEN DIRECTED UP THE OUTSIDE OF THE VALVE BOX (WHETHER TAPPING VALVE OR PROPERTY LINE VALVE IS USED) AND INSIDE THE GROMMET HOLE FOR ACCESS FROM THE SURFACE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

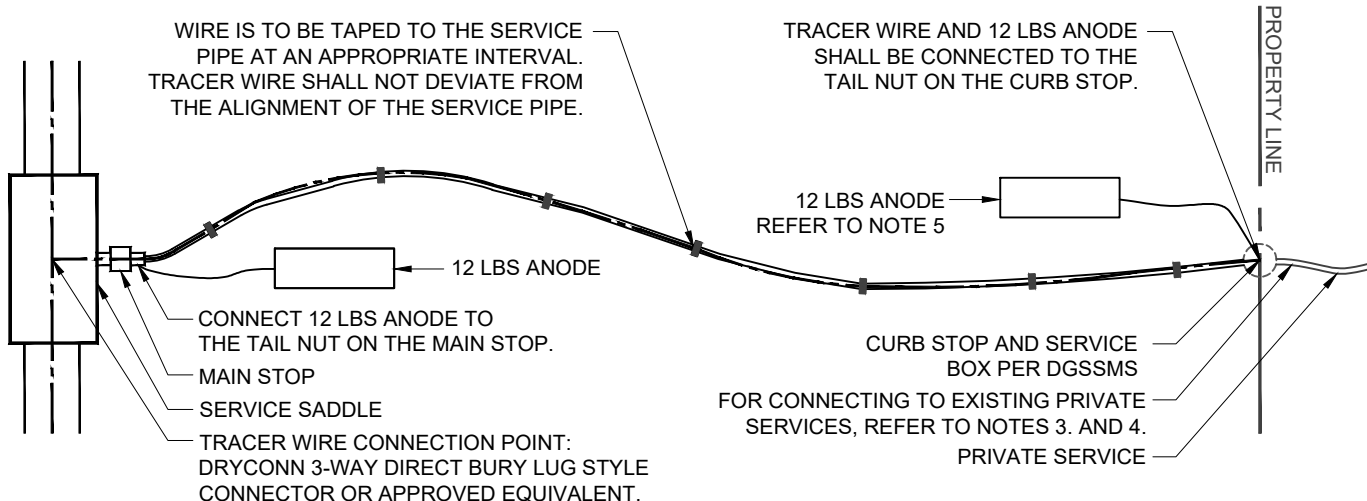
REV 4

MAY 2023

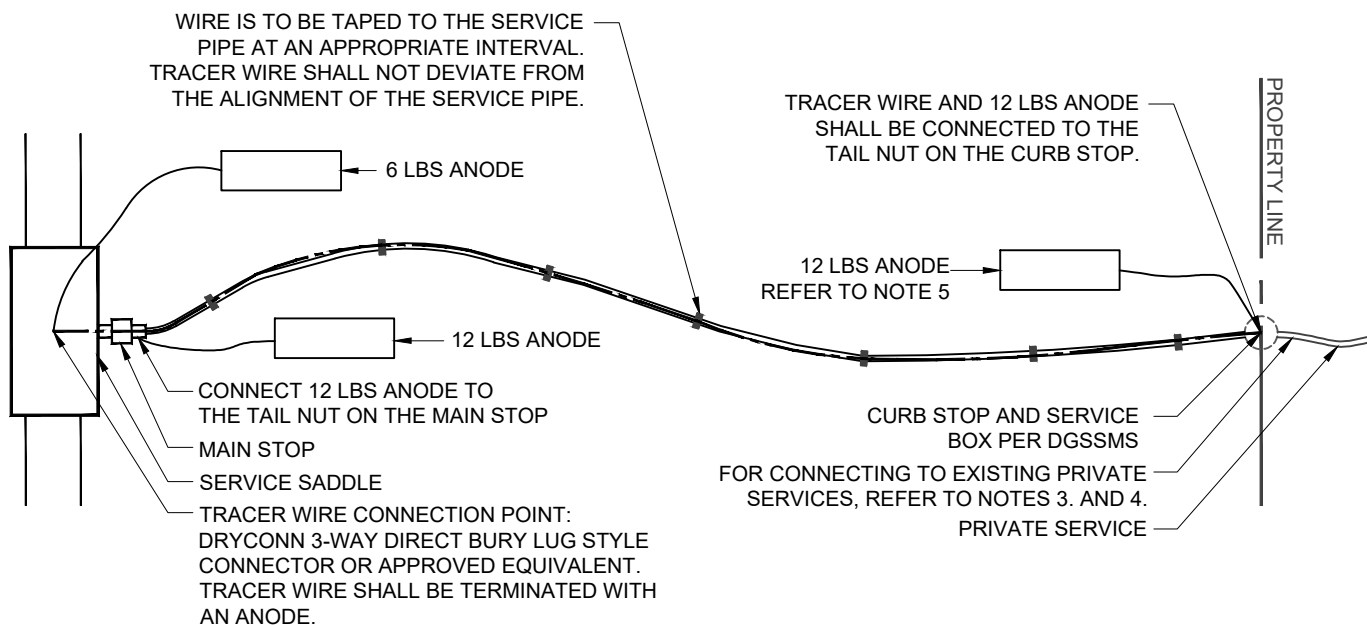
THE CITY OF
Waterloo

CW-323

**TRACER WIRE - DETAIL #2
LARGE DIA. WATER SERVICES (≥100 mm)**



CONNECTION TO NEW NON-METALLIC WATERMAIN



NOTES:

CONNECTION TO EXISTING METALLIC WATERMAIN

1. REFER TO STANDARD DRAWING CW-321 FOR GENERAL OVERVIEW OF TRACER WIRE DETAIL.
2. REFER TO CONSTRUCTION SPECIFICATION FOR TRACER WIRE INSTALLATION IN THE CITY OF WATERLOO.
3. WHEN A REDUCER IS REQUIRED TO CONNECT TO AN EXISTING METALLIC SERVICE, THE SERVICE WILL BE EXTENDED FROM THE CURB STOP TO THE REDUCER USING COPPER PIPING.
4. IF THE EXISTING SERVICE IS NON-METALLIC AND A TRACER WIRE IS FOUND, IT SHALL BE EXTENDED (IF REQUIRED) USING A PIECE OF NEW 12 GAUGE AWG TRACER WIRE AND APPROVED CONNECTORS, AND ALSO CONNECTED TO THE TAIL NUT ON THE CURB STOP.
5. IF A METALLIC WATER SERVICE IS CONNECTED TO THE CURB STOP FROM THE PRIVATE SIDE, ATTACH A 12 LBS ANODE TO THE CURB STOP.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

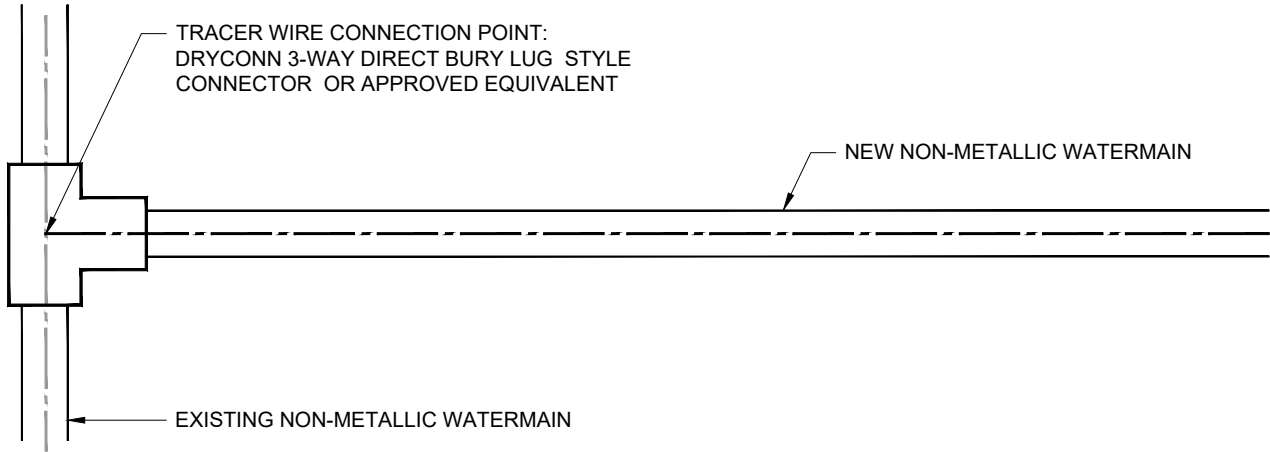
REV 5

MAY 2023

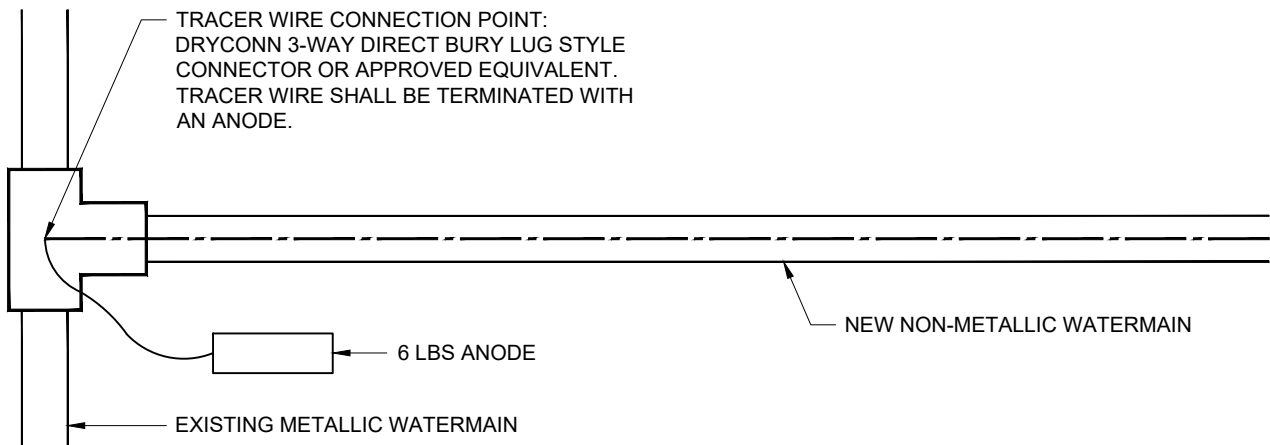
**TRACER WIRE - DETAIL #3
RESIDENTIAL WATER SERVICES (≤50 mm)**

THE CITY OF
Waterloo

CW-324



CONNECTION TO EXISTING NON-METALLIC WATERMAIN



CONNECTION TO EXISTING METALLIC WATERMAIN

NOTES:

1. REFER TO STANDARD DRAWING CW-321 FOR GENERAL OVERVIEW OF TRACER WIRE DETAIL.
2. REFER TO CONSTRUCTION SPECIFICATION FOR TRACER WIRE INSTALLATION IN THE CITY OF WATERLOO.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

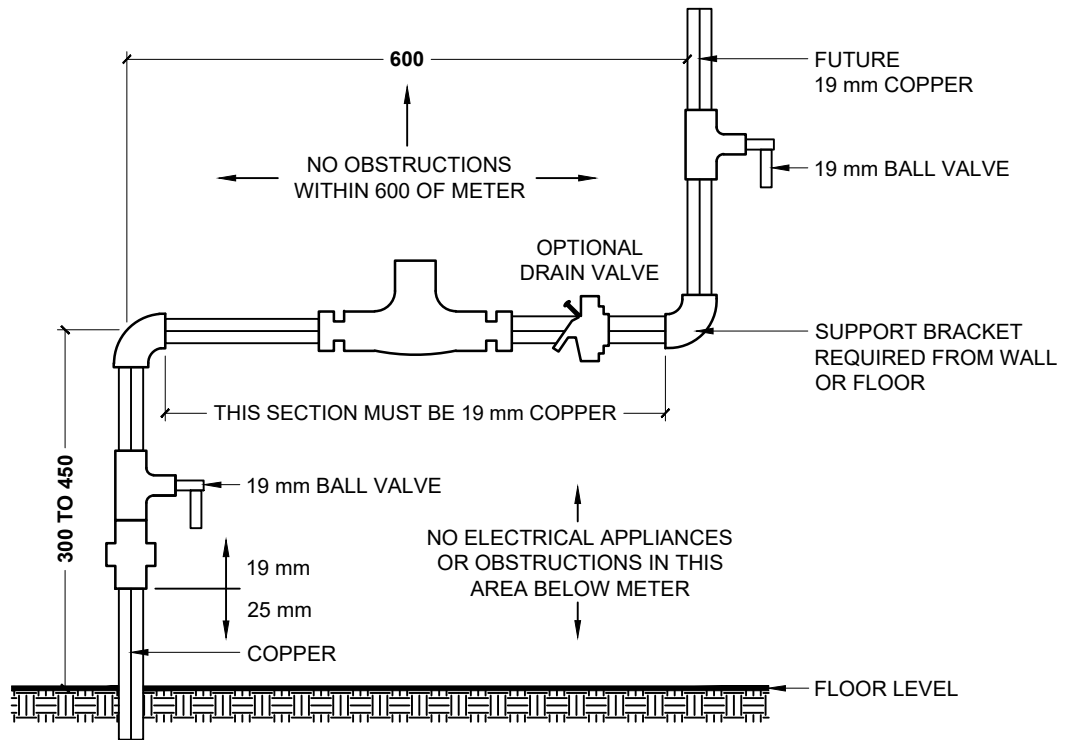
REV 3

MAY 2023

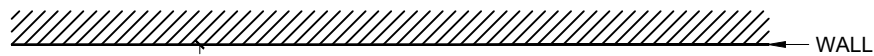
**TRACER WIRE - DETAIL #4
CONNECTIONS TO EXISTING WATERMAINS**

THE CITY OF 
Waterloo

CW-325



ELEVATION VIEW



PLAN VIEW

NOTES:

1. METER TO BE INSTALLED BY BUILDER/PLUMBER WITHIN 1 m FROM WHERE THE WATER SERVICE ENTERS THE DWELLING.
2. BRING 25 mm COPPER SERVICE INTO ALL RESIDENTIAL DWELLINGS AND REDUCE TO 19 mm COPPER AT THE FIRST STOP.
3. ALL METERS MUST BE ACCESSIBLE FOR READING AND MAINTENANCE FUNCTIONS. ANY OBSTRUCTIONS WILL BE BASIS FOR TERMINATION OF THE WATER SUPPLY.
4. ALL METERS ARE MARKED WITH A WATER FLOW DIRECTIONAL ARROW. PLEASE MAKE SURE ARROW CORRESPONDS WITH WATER FLOW.
5. REMOVE COUPLINGS & GASKETS FROM METER BEFORE SOLDERING, HEAT WILL DAMAGE THE INTERIOR OF THE METER.
6. ALL METER SETTINGS MUST HAVE A SHUT OFF VALVE BEFORE AND AFTER THE METER.
7. ALL METERS MUST BE INSTALLED USING THE SUPPLIED METER COUPLINGS AND GASKETS. NO OTHER MATERIAL WILL BE ACCEPTED.
8. NO CONNECTIONS SUCH AS BUT NOT LIMITED TO, CHECK VALVES, PRESSURE REDUCING VALVES, GAUGES PERMITTED UPSTREAM OF WATER METER.
9. FOLLOW WIRING DIRECTIONS THAT ARE PROVIDED WITH METER.
10. FOR ASSISTANCE CALL THE METER SHOP @ 519-886-2310 EXT 30250.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

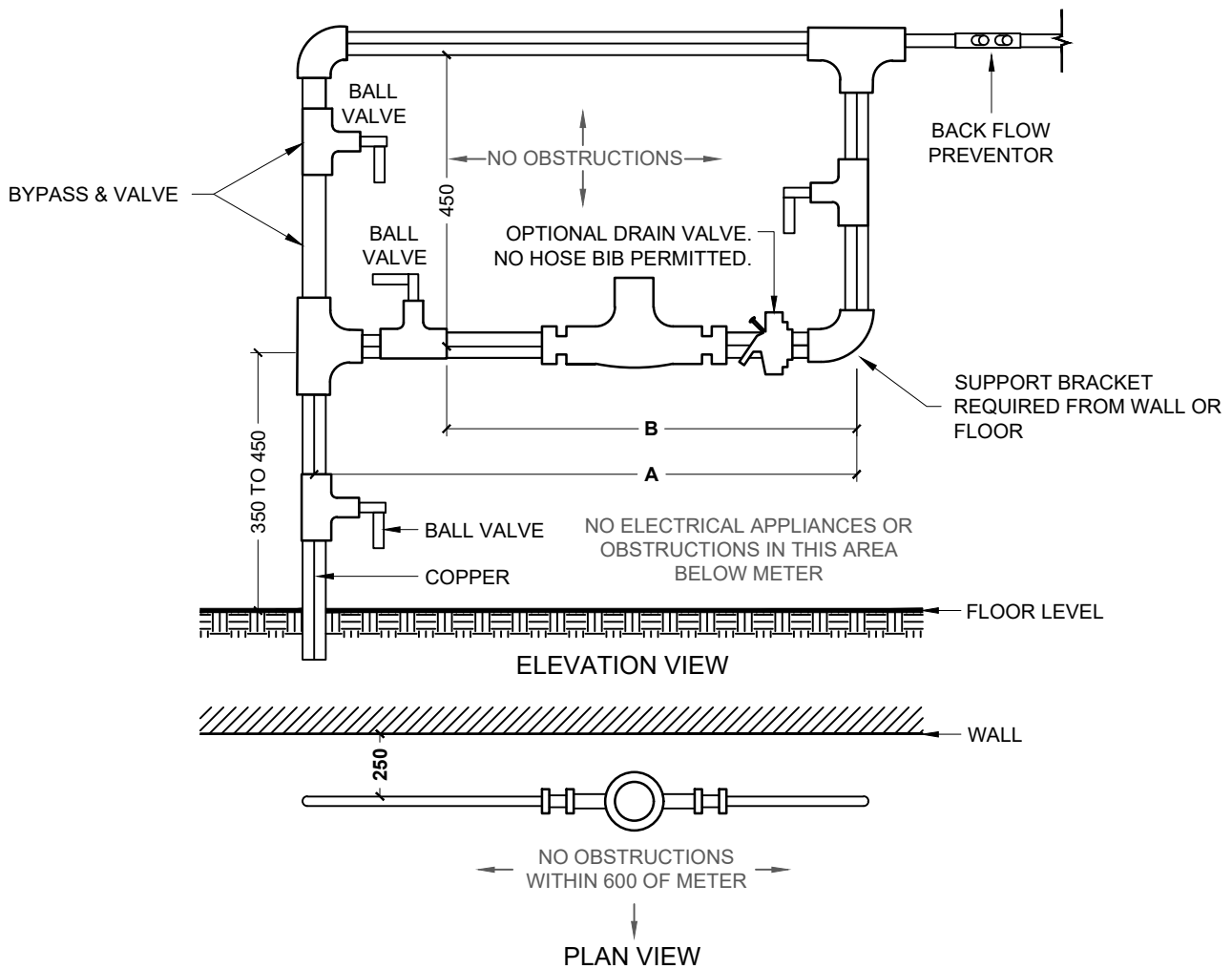
REV 1

MAY 2023

STANDARD 15mm METER ASSEMBLY DETAIL



CW-331



NOTES:

1. WATER METERS ARE TO BE PICKED UP AT:

*THE CITY OF WATERLOO SERVICE CENTER
265 LEXINGTON CT. WATERLOO*

2. METER TO BE INSTALLED BY BUILDER/PLUMBER WITHIN 1 m FROM WHERE THE WATER SERVICE ENTERS THE DWELLING.
3. METER TO BE INSTALLED WITHIN 2.0 m FROM WHERE THE SERVICE ENTERS THE BUILDING.
4. ALL 38 mm AND LARGER METER INSTALLATIONS ARE REQUIRED TO HAVE A BYPASS & VALVE. FOR 25 mm METER INSTALLATIONS, CONTACT THE METER SHOP TO CONFIRM IF A BYPASS IS REQUIRED FOR YOUR SCENARIO.
5. ALL METERS MUST BE ACCESSIBLE FOR READING AND MAINTENANCE FUNCTIONS. ANY OBSTRUCTIONS WILL BE BASIS FOR TERMINATION OF THE WATER SUPPLY.
6. ALL METERS ARE MARKED WITH A WATER FLOW DIRECTIONAL ARROW. PLEASE MAKE SURE ARROW CORRESPONDS WITH WATER FLOW.
7. REMOVE COUPLINGS & GASKETS FROM METER BEFORE SOLDERING. HEAT WILL DAMAGE THE INTERIOR OF THE METER.
8. ALL METER SETTINGS MUST HAVE SHUT OFF BALL VALVES BEFORE AND AFTER THE METER.

9. ALL METERS MUST BE INSTALLED USING THE SUPPLIED METER COUPLINGS AND GASKETS. NO OTHER MATERIAL WILL BE ACCEPTED.
10. NO CONNECTIONS SUCH AS BUT NOT LIMITED TO CHECK VALVES, PRESSURE REDUCING VALVES, GAUGES PERMITTED UPSTREAM OF WATER METER.
11. BACKFLOW PREVENTION PREMISE VALVE (IF REQUIRED) MUST BE INSTALLED WITHIN 3.0 m OF THE WATER METER AND EXCESSIVE PIPING BETWEEN THESE DEVICES MUST BE LABELED "NO CONNECTION PERMITTED". BACKFLOW DEVICES TO BE INSTALLED IN ACCORDANCE WITH THE CITY'S BACKFLOW PREVENTION.
12. FOLLOW WIRING DIRECTIONS THAT ARE PROVIDED WITH METER.
13. FOR ASSISTANCE CALL THE METER SHOP @ 519-886-2310 EXT 30250.

SIZE OF METER	A	B
25mm	810 mm	560 mm
38mm	920 mm	660 mm
50mm	1000 mm	760 mm
75mm	1150 mm	860 mm

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWING

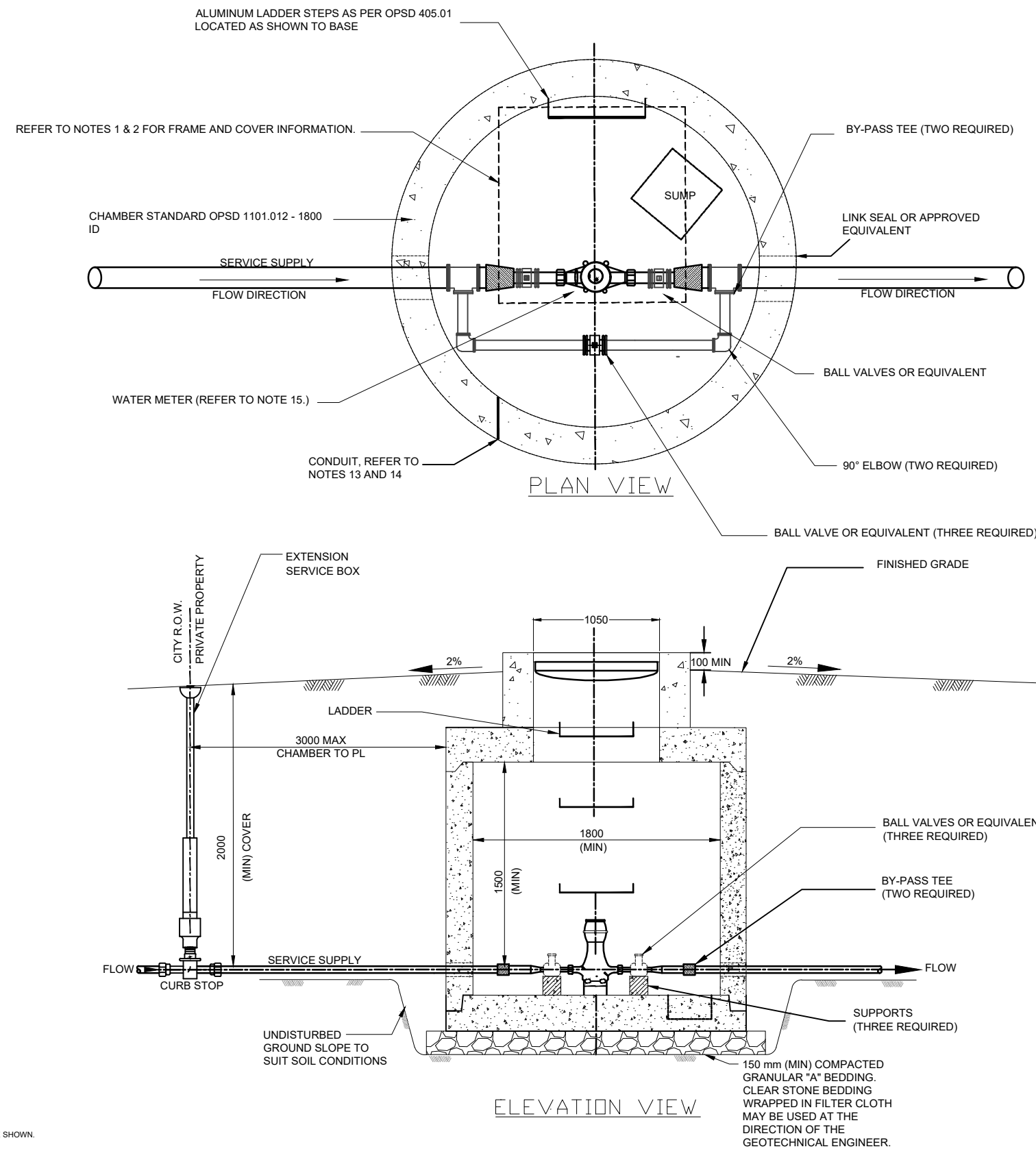
REV 1

MAY 2023

**STANDARD 25mm, 38mm, 50mm, 75mm
METER WITH BYPASS**

THE CITY OF
Waterloo

CW-332



ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

NOTES:

1. CONCRETE CHAMBER AS PER OPSD 1108.010 OR PRECAST EQUIVALENT.
 - ADJUSTMENT UNITS FOR FRAME INSTALLATION WILL NOT BE PERMITTED, ONE PIECE CONSTRUCTION ONLY (MAX HEIGHT 1.0 m)
 - ONE PIECE ADJUSTMENT UNIT MUST EXTEND MINIMUM 100 mm TO MAXIMUM 300 mm ABOVE FINISHED GRADE.
 - FRAME TO BE POURED INTO CONCRETE RISER.
2. ACCESS FRAME MUST BE LOCKABLE WITH PADLOCK AND COVER SHALL BE BILCO TYPE J-AL (1050 mm x 1050 mm MIN.) OR APPROVED EQUIVALENT. DRAIN MUST BE INSTALLED TO ENSURE LOCK DOES NOT FREEZE. 2.0 m CLEARANCE TO BE MAINTAINED AROUND ENTRANCE FRAME.
3. CONCRETE CHAMBER TO BE APPROPRIATELY SIZED AND INSTALLED IN A LANDSCAPED AREA.
4. 350 mm CLEARANCE TO BE MAINTAINED FROM CHAMBER FLOOR.
5. CONCRETE SUPPORTS TO BE UNDER ALL VALVES AND METER.
6. BY-PASS LINE SIZE TO BE SAME SIZE AS THE METER LINE, BE IN CLOSED POSITION, AND SEALED BY THE CITY.
7. METER CHAMBER MUST BE WATERPROOF AND PROVIDED WITH A 300 mm x 300 mm x 250 mm (DEEP) SUMP.
8. NO CONNECTION FOR AN IRRIGATION SYSTEM OR OTHER TYPES OF EQUIPMENT ARE PERMITTED WITHIN CHAMBER.
9. IF A BACKFLOW DEVICE IS REQUIRED, A SEPARATE CHAMBER IS REQUIRED.
10. A FLUSH MOUNT ACCESS HATCH IS AN ACCEPTABLE INSTALLATION WITHIN A WALKWAY, PROVIDING A BILCO LU-2 GALVANIZED LADDERUP SAFETY POST IS INSTALLED AT THE ENTRANCE.
11. VEHICLES MAY NOT PARK WITHIN 2.0 m OF THE CHAMBER.
12. ALL NEW PIPE FITTINGS SHOULD BE RATED TO 150 PSI.
13. REMOTE READER TO BE MOUNTED INSIDE THE CHAMBER JUST BELOW THE LID. REMOTE READER AND WIRING WILL BE INSTALLED BY CITY UTILITIES.
14. IF THE ACCESS IS INSTALLED WITHIN A DRIVEWAY OR PARKING LOT, THE REMOTE READER IS TO BE MOUNTED ON A PERMANENT STRUCTURE WITHIN 5 m OF THE CHAMBER. REMOTE READER AND WIRING WILL BE INSTALLED BY CITY UTILITIES. THE CONTRACTOR IS TO INSTALL A 19 mm DIA. PVC CONDUIT WITH PULL STRING FROM THE CHAMBER TO THE STRUCTURE. THE CONDUIT IS TO BE TURNED UP THE SIDE OF THE STRUCTURE AND TEMPORARILY CAPPED A MIN. OF 300 mm ABOVE GRADE. CONDUIT & CONNECTIONS ARE TO BE IP68 RATED AND ALL BENDS ARE TO BE SWEEPING BENDS.
15. THE CITY INSTALLS METER UP TO AND INCLUDING 50 mm IN SIZE. TO ARRANGE FOR METER INSTALLATION CONTACT THE METER SHOP 519-886-2310 EXT . 30250

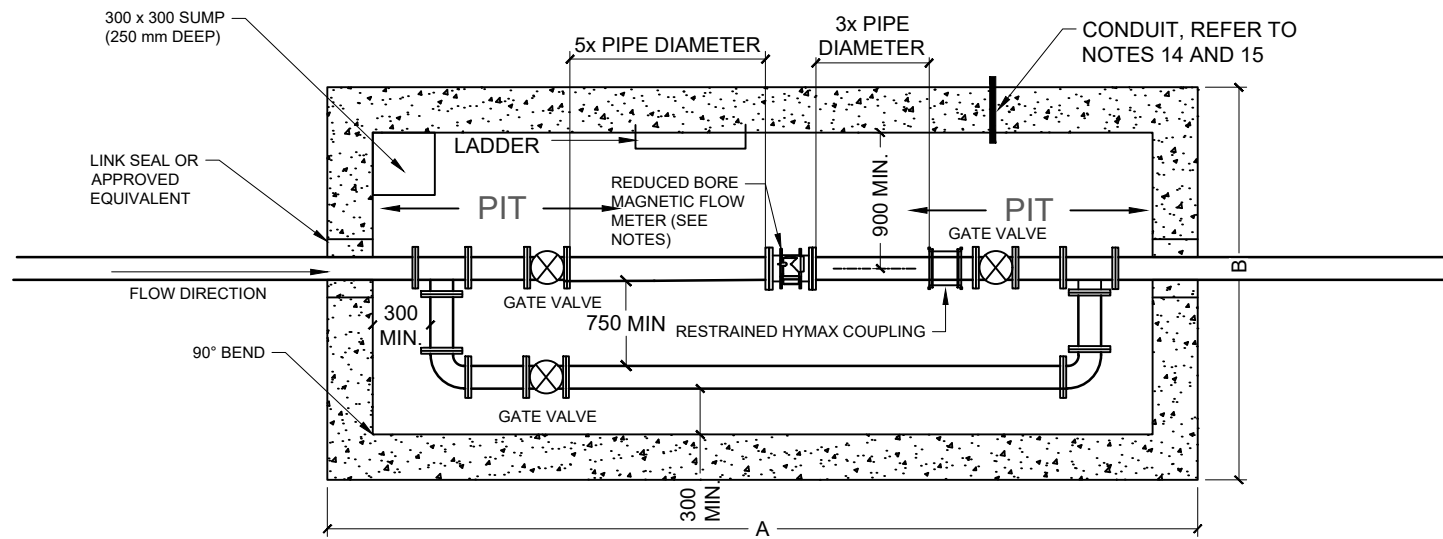
STANDARD DRAWINGS

25mm - 50mm INLINE FLOW WATER METER CHAMBER

REV. 1 MAY 2023

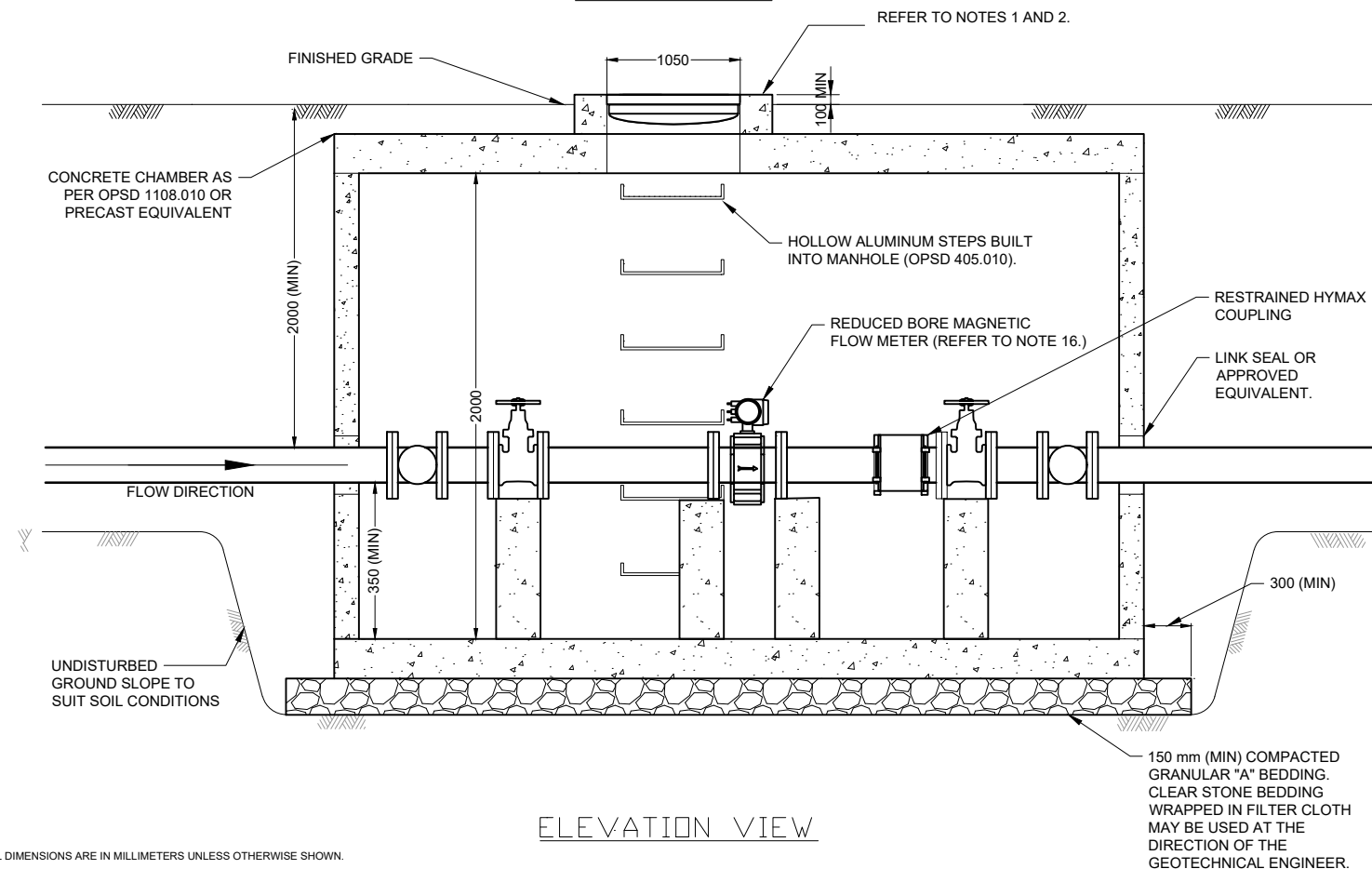


CW-333



PIPE SIZE	MINIMUM INTERIOR DIMENSIONS	
	A (m)	B (m)
75 mm AND 100 mm	3.900	2.400
150 mm	4.500	2.400
200mm	5.700	2.400
250 mm	6.300	2.700
300 mm	6.600	2.700
GREATER THAN 300 mm	DESIGNED TO SUIT	

PLAN VIEW



NOTES:

- CONCRETE CHAMBER AS PER OPSD 1108.010 OR PRECAST EQUIVALENT.
 - ADJUSTMENT UNITS FOR FRAME INSTALLATION WILL NOT BE PERMITTED, ONE PIECE CONSTRUCTION ONLY (MAX HEIGHT 1.0 m)
 - ONE PIECE ADJUSTMENT UNIT MUST EXTEND MINIMUM 100 mm TO MAXIMUM 300 mm ABOVE FINISHED GRADE.
 - FRAME TO BE POURED INTO CONCRETE RISER.
- ACCESS FRAME MUST BE LOCKABLE WITH PADLOCK AND COVER SHALL BE BILCO TYPE J-AL (1050 mm x 1050 mm MIN.) OR APPROVED EQUIVALENT. DRAIN MUST BE INSTALLED TO ENSURE LOCK DOES NOT FREEZE. 2.0 m CLEARANCE TO BE MAINTAINED AROUND ENTRANCE FRAME.
- CONCRETE CHAMBER TO BE APPROPRIATELY SIZED AND INSTALLED IN A LANDSCAPED AREA.
- 350 mm CLEARANCE TO BE MAINTAINED FROM CHAMBER FLOOR.
- CONCRETE SUPPORTS TO BE UNDER ALL VALVES AND METER.
- BY-PASS LINE SIZE TO BE SAME SIZE AS THE METER LINE, BE IN CLOSED POSITION, AND SEALED BY THE CITY.
- METER CHAMBER MUST BE WATERPROOF AND PROVIDED WITH A 300 mm x 300 mm x 250 mm (DEEP) SUMP.
- NO CONNECTION FOR AN IRRIGATION SYSTEM OR OTHER TYPES OF EQUIPMENT ARE PERMITTED WITHIN CHAMBER.
- IF A BACKFLOW DEVICE IS REQUIRED, A SEPARATE CHAMBER IS REQUIRED.
- A FLUSH MOUNT ACCESS HATCH IS AN ACCEPTABLE INSTALLATION WITHIN A WALKWAY, PROVIDING A BILCO LU-2 GALVANIZED LADDERUP SAFETY POST IS INSTALLED AT THE ENTRANCE.
- VEHICLES MAY NOT PARK WITHIN 2.0 m OF THE CHAMBER.
- ALL NEW PIPE FITTINGS SHOULD BE RATED TO 200 PSI.
- FLANGE MATERIAL: AWWA C207 CLASS D RINGS.
- REMOTE READER TO BE MOUNTED INSIDE THE CHAMBER JUST BELOW THE LID. REMOTE READER AND WIRING WILL BE INSTALLED BY CITY UTILITIES.
- IF THE ACCESS IS INSTALLED WITHIN A DRIVEWAY OR PARKING LOT, THE REMOTE READER IS TO BE MOUNTED ON A PERMANENT STRUCTURE WITHIN 5 m OF THE CHAMBER. REMOTE READER AND WIRING WILL BE INSTALLED BY CITY UTILITIES. THE CONTRACTOR IS TO INSTALL A 19 mm DIA. PVC CONDUIT WITH PULL STRING FROM THE CHAMBER TO THE STRUCTURE. THE CONDUIT IS TO BE TURNED UP THE SIDE OF THE STRUCTURE AND TEMPORARILY CAPPED A MIN. OF 300 mm ABOVE GRADE. CONDUIT & CONNECTIONS ARE TO BE IP68 RATED AND ALL BENDS ARE TO BE SWEEPING BENDS.
- METERS LARGER THAN 50mm IN SIZE ARE PROVIDED BY WATER SERVICES AT THE DEVELOPER'S COST. DEVELOPER'S CONTRACTOR WILL INSTALL ALL LARGER METERS AS SOON AS POSSIBLE AND ENSURE CITY INSPECTION OF INSTALLATION CONTACT THE METER SHOP @519-886-2310 EXT. 30250 TO ARRANGE FOR PURCHASE AND PICK UP OF METER.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

STANDARD DRAWINGS

75mm-300mm INLINE FLOW WATER METER CHAMBER

REV. 1 MAY 2023



CW-334