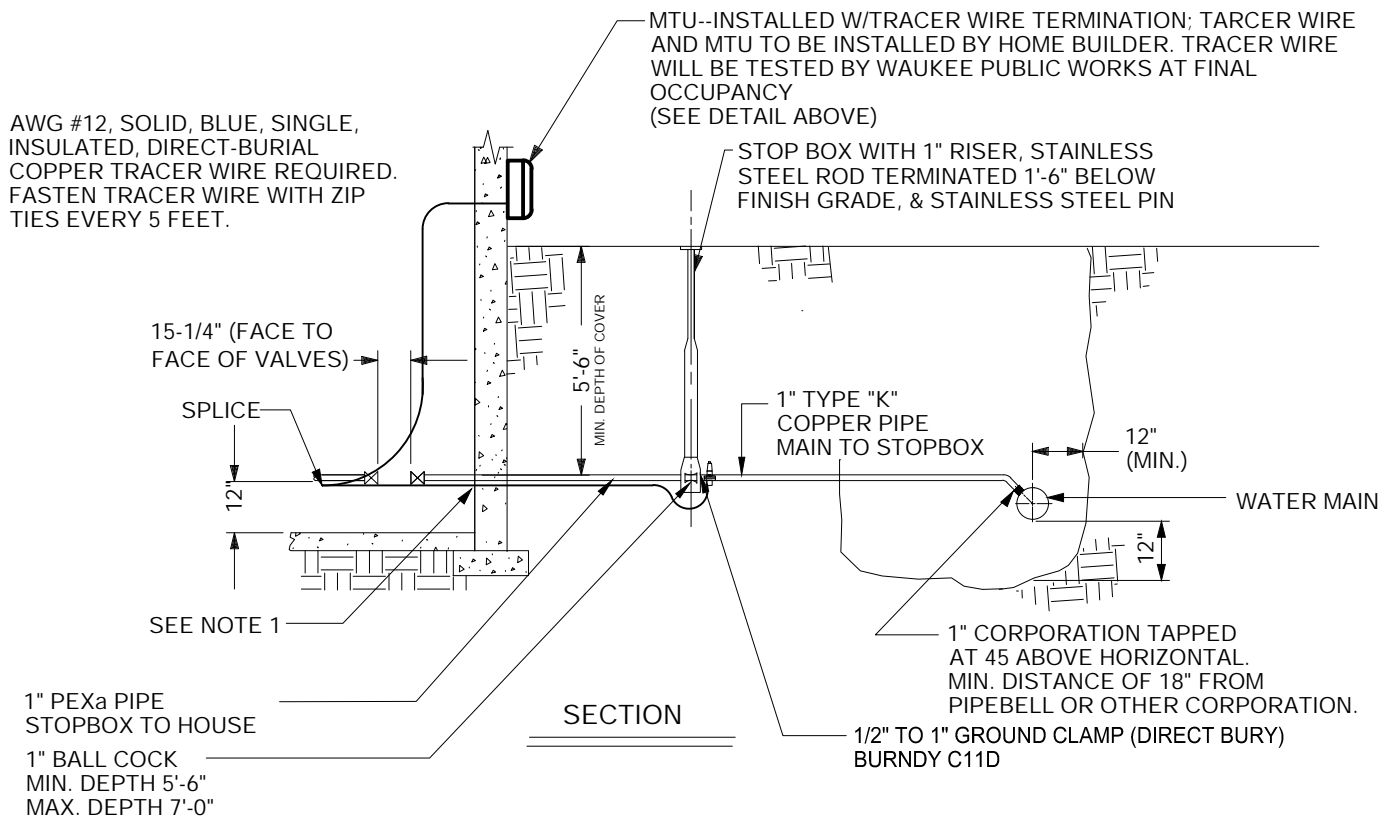
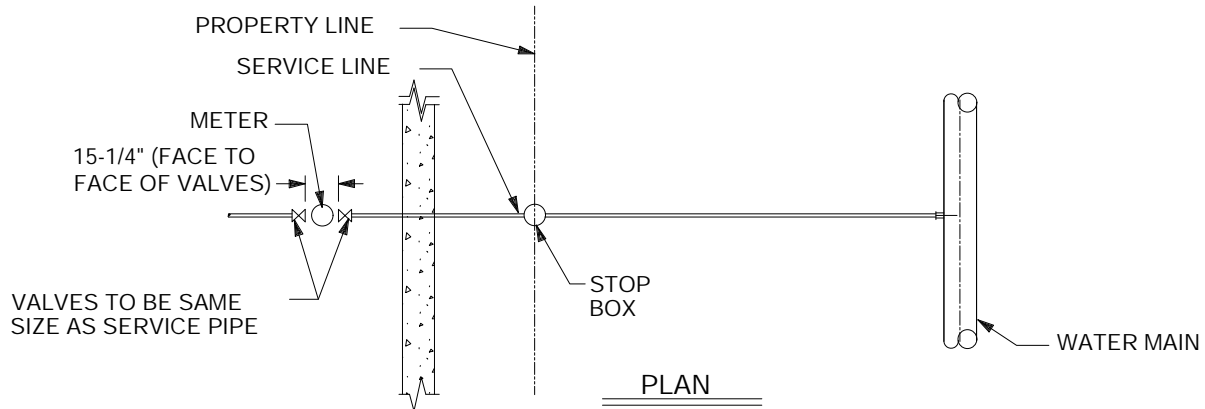
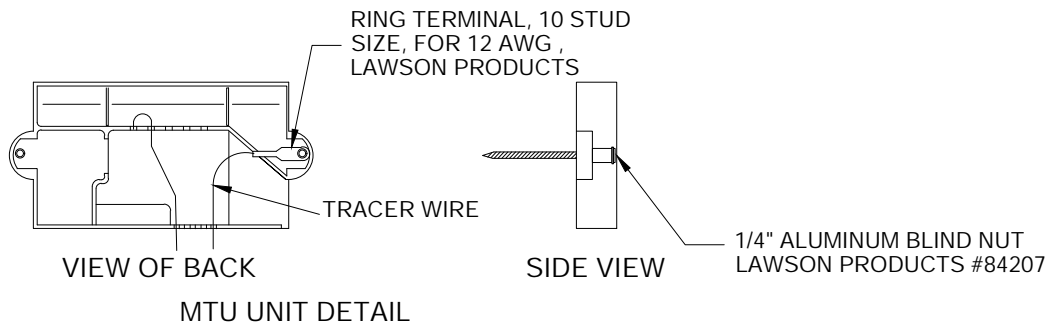


5.2 Services larger than 2":

- 5.2.1 Service pipe: use crosslinked polyethylene (PEXa) pipe or approved equal.
 - 5.2.1.1 Pipe shall be approved by manufacturer for use with AWWA C800 fittings, using stainless steel inserts.
 - 5.2.1.2 Pipe shall be certified to AWWA C 904 "Cross-linked Polyethylene (PEX) Pressure Pipe, 1/2 in. (12 mm) Through 3 in. (76 mm), for Water Service" by approved testing agency. In addition, pipe shall be certified to standards ASTM F876, CSA B137.5, NSF 14, NSF 61 and PPI TR-4, by approved testing agencies, with a standard materials designation code of 3006, as certified by the PPI.
 - 5.2.1.3 Pipe shall be rated for 200 psi @ 73.4°F (1379 KPa @ 23°C) based on a 0.63 design factor.
 - 5.2.1.4 Pipe shall have a co-extruded UV Shield made from UV-resistant high-density polyethylene, color Blue.
 - 5.2.1.5 Pipe shall have minimum recommended UV exposure time of one (1) year when tested in accordance with ASTM F2657, or as per manufacturer's recommendations.
 - 5.2.1.6 Pipe shall be compatible with cold-expansion compression-sleeve fittings certified to ASTM F2080 for installations as cold as -40°F (-40°C).
 - 5.2.1.7 Manufacturer shall warrant the pipe to be free from defects in material and workmanship for a period of twenty-five (25) years.
 - 5.2.1.8 Pipe can be installed on native soil.
- 5.2.2 Connection to main: provide suitable tee if main and service are installed at same time; provide tapping valve and sleeve specified for water main for service connected to existing main; spacing of service connections: not less than 2' apart.

Water Mains and Appurtenances

- 12.10.1 Where sewer crosses over or less than 18" below water main; replace sanitary sewer service or sanitary sewer with 20' length of water main pipe centered on water main; replace storm sewer with reinforced concrete pipe with flexible joint rubber gasket within 10' each way of water main crossings; maintain minimum vertical clearance of 6" from bottom of water main to top of sewer or minimum vertical clearance of 18" from top of water main to bottom of sewer.
- 12.10.2 Adequately support sewer line to prevent settling or breaking of water main or sewer.
- 12.10.3 Backfill trench with low permeability soil for 20' length centered on crossing.
- 12.10.4 Pressure test sewer pipe replaced with water main material as specified herein.
- 12.11 Minimum horizontal separation from sewer force mains: 10' from edge of sewer force main to edge of water main.
 - 12.11.1 If conditions prevent 10' separation, construct force main of water main materials meeting a minimum pressure rating of 150 psi; provide minimum separation of 4'.
- 12.12 Plug or cap and block all pipe ends or fittings left for future connections. Use alternate method thrust block; SUDAS Standard Specifications Figure WM-101.
- 12.13 Use tracer wire for all pvc water mains.
 - 12.13.1 Provide AWG #12, solid, blue, single, insulated, direct-burial copper wire along all pvc water mains; tuck tracer wire under water main at approximate 45° angle below horizontal spring line of water main to protect tracer wire. Use wire with steel core with directional bored pipe.
 - 12.13.2 Insulation: Linear low density polyethylene (LLDPE) suitable for direct burial. Minimum thickness 0.045 inches.



NOTES:

- PROTECT WIRE PASSING THROUGH WALL OR SLAB. SUPPORT PIPE PASSING THROUGH WALL OR SLAB BY ZIP TYING PIPE SECURELY TO ONE OF THE FOLLOWING:
 - 1/2" DIAMETER REBAR EMBEDDED THE FULL DEPTH OF THE CONCRETE FLOOR, OR
 - 1" SQUARE UNISTRUT PIPE ANCHORED TO THE FLOOR WITH A 1/4" THICK STEEL PLATE, OR
 - 1/2" DIAMETER ALL THREAD PIPE ANCHORED TO THE FLOOR WITH A 1/4" THICK STEEL PLATE

CITY OF WAUKEE

**1" WATER SERVICE
COPPER TO STOP
BOX/PEX TO HOUSE**

STD. DWG. NO. 54