

Rural Lorain County Water Authority
Subdivision Regulations & Specifications

As Revised September 6, 2018

1. A pre-construction meeting with RLCWA, their inspection firm, the developer and their contractor shall be conducted at the RLCWA office or a mutually agreed upon mutual site prior to the commencement of all phases of construction.
2. All water main shall be installed a minimum of 6' from edge of pavement, sidewalks, or other utilities. Water lines under existing or future pavement shall be in casing pipe and be Certa-Lok Brand, Yelomine Integral Bell, Restrained-Joint PVC Pipe, I.P.S. with a minimum 200 PSI rating. Trenches shall be bedded and back filled with approved granular material to pavement base. All other backfill to be excavated spoil, or crushed granular fill that meets with RLCWA staff approval.
3. Minimum depth of cover shall be 48 inches not to exceed 60 inches.
4. Any damage to the existing distribution system shall be the sole responsibility of the contractor.
5. The contractor shall assume full responsibility for making all necessary arrangements with the other utility companies. The developer will obtain all necessary highway permits and right of way easements.
6. RLCWA will make all tie-ins to existing water main.
7. Prior to installation of water main, the contractor shall submit to RLCWA three (3) copies of detailed engineering drawings, at one of the following scales: 1"=50', 1"=40' or 1"=20', showing the proposed water main. These must be received before the inspector is scheduled.
8. All water main shall be a minimum of 8" PVC pipe meeting the following:
 - C909 (Steel Pipe Size), 20 foot minimum length
 - Health properties seal of the National Sanitation Foundation testing laboratory
 - Jointing material must be non-toxic
 - Joints must be made with rubber O-rings and bell and spigot
9. Water system shall be disinfected and bacteriologically tested prior to use in accordance with AWWA C-651. Bacteria samples will be collected by RLCWA. Bacteria sampling stations will be installed by RLCWA. Pressure testing shall be done by the developer/contractor in accordance with RLCWA regulations. All new mains, including service connections up to and including the curb stop, must maintain a pressure of 50 psi over static pressure for a period of 4 hours with 0.0 psi loss. RLCWA will provide and install a data logger device to monitor and record the pressure test. Costs for pressure testing shall be borne by the Developer.
10. A RLCWA representative shall inspect all water main installations. RLCWA requires a minimum of 2 working days' notice by contacting the General Manager or appointed staff to complete the scheduling. Failure to contact RLCWA for scheduling could result in the contractor exposing any line and fittings at their expense that was installed without a RLCWA representative observing the installation. Any RLCWA representative has the authority to stop any and all water main work for non-compliance with these Regulations & Specifications. ALL INSPECTION SCHEDULING MUST BE COORDINATED THROUGH RLCWA.
11. Water mains are not to be installed under cul-de-sacs. The main is to be installed around the cul-de-sac so that all lots can be served without boring under the cul-de-sac. Care needs to be taken not to exceed the pipe manufacturer's maximum allowable joint deflection.
12. Any required blow off assemblies must be provided by the Developer and installed in accordance with RLCWA Standard Blow Off Assembly Drawing.
13. Water valves shall be resilient seat NRS complying with AWWA standard C-509. Non-rising stems opening left, 2" operating nut, MJ by MJ ends, O-ring sealed stuffing box, 200 PSIG maximum working pressure and 400 PSIG test pressure and shall be epoxy coated with stainless steel bolts.
14. Valve boxes shall be 6-inch PVC SDR-21 pipe. The valve box lid and frame shall be made of cast iron as manufactured by Sigma Corporation or approved equal. The word WATER must be an integral part of the lid.
15. All mechanical joint fittings must comply with AWWA specification C-153 and C-111. They are to have a working pressure of 350 PSI and be made of SSB ductile iron. All MJ fittings are to be installed with concrete thrust blocks and Meg-A-Lug restraint as manufactured by Ebba Iron, Series 2000 PV. (Certa-Lok Brand, Yelomine Integral Bell, Restrained-Joint PVC Fittings, I.P.S. with a minimum 200 PSI rating, are recognized as an approved equal. Concrete thrust blocks are still required.) Mechanical joint fittings must be covered with polyethelene sheets in accordance with AWWA C105/A21.5-88 specifications.

16. Hydrants shall conform in all respects to the requirement of AWWA C-502. Hydrants shall have a 6 inch MJ shoe connection, two (2) 2 1/2" discharge nozzles and one 4 1/2" inch pumper nozzle National Standard Thread. Main valve shall be 5 1/4 inch full opening. Hydrants shall be Mueller Company model A-423 or a RLCWA approved equal. Manufacturer's recommended bury depth must be met after final grading has been completed. The 4 1/2" pumper nozzle must face toward the street unless otherwise directed by RLCWA.
17. No person shall install or maintain a water service connection to any one, two or three family dwelling where a booster pump has been installed, unless an air gap separation is provided.
18. These specifications are to appear as part of the project drawings. No deviations or amendments to the specifications will be accepted without written authorization from RLCWA prior to any construction. It is the developer's responsibility to ensure that all water mains are installed in accordance with the RLCWA Subdivision Regulations & Specifications in effect at the time of the start construction, and at the start of each subsequent phase of construction, and to update the project construction plans accordingly.
19. All waterlines that dead end that will or may be extended in future phases must be constructed so as to allow said extension to be made without depressurizing the original waterline.
20. Certa-Lok Brand, Yelomine Integral Bell, Restrained-Joint PVC Pipe, I.P.S. with a minimum 200 PSI rating shall be installed a minimum of 2 joints (40 ft. minimum) back from the end of the proposed waterline and at any and all fittings and valves. The Bell of ASTM F1483 or ASTM D2241 can be installed over like sized SDR 17 or 21 Certa-Lok Yelomine pipe (with other plain end or with spline groove cutoff). The Certa-Lok Yelomine pipe coupling or bell shall not be installed over top of or with the plain end of either ASTM F1483 or ASTM D2241 pipe pushed inside, an approved transition coupling must be used.
21. Service lines shall be of adequate size as approved by RLCWA with a minimum size of 1", Polyethylene (PE) DR-9 (200psi) CTS and conform to AWWA C901, ASTM F 741 with a pipe designation of 3408 defined ASTM D 2737.
22. Prior to the start of any water main installation the developer/contractor shall be required to provide sufficient survey staking with the proposed final grade elevations and the centerlines of all water mains and appurtenances clearly marked so that RLCWA's project inspector can verify that the maximum and minimum depth requirements and all offset/alignment requirements have been met.
23. Underground detectable marking tape, 2 inches in width, with a minimum 5.0 mil overall thickness shall be installed a minimum of 18 inches but no more than 24 inches above the top of all water mains and laterals. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. Tape shall be printed using a diagonally striped design for maximum visibility and meet APWA Color-Code standard for identification of buried utilities.
24. A tracer wire shall be installed on the bottom, center of all water mains and laterals in accordance with the attached tracer wire details.
25. On trenched installations tracer wire shall be Copperhead brand, 1230-HS, 12-gauge high strength 452 lb. break strength 30 mil HDPE jacket, copper-clad, steel reinforced tracer wire.
26. On bored or drilled installations tracer wire shall be Copperhead brand, 1245-EHS, 12-gauge extra high strength 1150 lb. break strength 45 mil HDPE jacket, copper clad, steel reinforced wire.
27. Tracer wire shall be fastened to pipe in a minimum of three places per pipe section using plastic tape.
28. Extend tracer wire to ground surface with a minimum of ten (10) feet of coiled wire at all valves, meter vaults and intermediate test stations in accordance with the attached tracer wire details.
29. Extend tracer wire the full length of all service laterals with a minimum of ten (10) feet of coiled wire at the curb stop end of lateral. The tracer wire and curb stop shall be buried bagged to prevent contamination.
30. Splice wires using Copperhead brand LSC12 weatherproof underground wire connectors.
31. Connect all lateral line wires to main line wires using Copperhead brand 3WB-01-Blue weatherproof underground wire connectors.
32. Intermediate Test Stations shall be installed at intervals not to exceed 1500 feet. Stations shall be Copperhead brand, Lite Duty-XL, LDXL36, with blue cast iron cover. Splice wires using Copperhead brand LSC12 weatherproof underground wire connectors. A "Water Test Station" marker post must be installed within 12" of every test station site. Marker posts to be provided by RLCWA.

33. All new tracer wire installations shall be test located by the contractor using typical low frequency (512Hz) line tracing equipment and witnessed by RLCWA prior to acceptance of the project. Contractor shall notify RLCWA a minimum of 2 working days prior to test.
34. Contractor shall repair all deficiencies using Copperhead brand LSC12 weatherproof underground wire connectors and Copperhead brand, 1230-HS, 12-gauge high strength 452 lb. break strength 30 mil HDPE jacket, copper-clad, steel reinforced tracer wire as necessary to restore continuity.
35. Continuity testing in lieu of actual line locating shall not be accepted.
36. Tracer wire must be properly grounded using a Copperhead brand ANO-1005, Drive-in Magnesium Grounding Anode Rod at all valve risers, test stations, and at the ends of all water mains.
37. No water service can be provided until these regulations are met in full.

Subdivision Residential Water Taps & Connections

1. Developer to install the service lines from the main including the saddle, corporation stop, polyethylene service line and a properly marked curb stop. The service line, saddle and the curb stop will be of adequate size as approved by RLCWA with a minimum size of 1" CTS. The saddle, corporation stop and curb stop shall be Ford or Mueller Brand parts. Curb stops shall be a minimum size of 1" CTS compression by compression fitting, be marked with a 4"x4" wooden post painted blue in color, clearly marked with the word "WATER", and be at least 36" in height above final grade
2. All curb stops shall be located on the structure side of any proposed or existing sidewalks or be a minimum of 16' from the back of the curb. Curb boxes on corporation stops and curb stops are not required.
3. Service lines to be installed to RLCWA specifications and inspection.
4. RLCWA will provide and install the required meter and meter vault upon payment of the then current tap fee.
5. Should the above described developer installed services lines and /or appurtenances be required to be relocated due to conflicts with developer or property owner construction the service lines and/or appurtenances shall be relocated by and at the expense of the developer.

SHOP DRAWINGS

1. Shop drawings, product data and other work-related submittals are required and shall be submitted to RLCWA by the Developer in 3 copies and shall be checked and reviewed by the Developer before submission to RLCWA. The review of the submittals by RLCWA shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Review of such submittals by RLCWA will not relieve the Developer of the responsibility for any errors which may exist as the Developer shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work.
2. The Developer shall coordinate the preparation and processing of submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery and similar activities that require sequential activity.
3. Shop drawings shall be prepared by a qualified detailer. Details shall be identified by reference to sheet and detail numbers shown on the Construction Drawings. Where applicable, show fabrication, layout and setting details.
4. The Developer shall allow sufficient time so that the installation will not be delayed as a result of the time required to properly process submittals, including time for resubmittal, if necessary.

5. The Developer shall mark each submittal with a permanent label for identification. The label shall contain the following information:
 - 5.1. Project name.
 - 5.2. Date.
 - 5.3. Name and address of Developer.
 - 5.4. Name and address of supplier.
 - 5.5. Name of manufacturer.
 - 5.6. Number and title of appropriate specification section.
 - 5.7. Drawing number and detail references, as appropriate.
 - 5.8. Similar definitive information as necessary.
6. Where manufacturer's brand names are given in the specifications for materials and products, the Developer shall submit names and descriptive literature of such materials and products he proposes to use for this project.
7. Begin no work, and have no material or products fabricated or shipped unless the applicable drawings or submittals have been reviewed by RLCWA and returned to the Developer.