# LAKE COUNTY NOTES FOR WATER MAIN IMPROVEMENTS

#### GENERAL

- 1. All sewer and water mains shall be constructed in accordance with the standard specifications and construction details and ordinances of Lake County Public Works (LCPW), Illinois Recommended Standards for Sewage Works, latest edition and the Standard Specifications for Sewer and Water Construction in Illinois, latest edition, and the Standard Specifications for Road and Bridge Construction in Illinois, latest edition.
- Contractor shall notify LCPW at least two (2) working 2. days (48 hours) prior to the start of water and/or sewer construction at 847-377-7500.
- LCPW shall be granted access to all parts of the construction site and shall have the authority to inspect, approve, and/or reject all water main, water service, sanitary sewer and sanitary service improvements.
- All sanitary sewer and water main shall be inspected and 3. approved by LCPW prior to backfill.

### WATER MAIN

- Water main shall be polyvinyl chloride (PVC) pressure rated pipe conforming to ASTM D1784 and AWWA C900, having a minimum wall thickness corresponding to a DR of 18. In lieu of PVC pipe, Ductile Iron Class 52 pipe confomring to AWWA C151, with cement mortor lining conforming to AWWA C104 and push on type jonits conforming to AWWA C111.
- 2. Water main fittings shall be ductile iron conforming to ANSI A21.11 and AWWA C110 and AWWA C110 and AWWA C111. Ductile iron fittings shall be cement lined conforming to ANSI A21.4 and AWWA C104.
- All water main fittings shall have mega-lug glands with 3. stainless steel nuts and bolts. All fasteners shall be type 304, austenitic, stainless steel installed with anti-seize coating (TS Moly-Lubricants, TS74 or approved
- For open cut construction, a continuous, insulated, 12-gauge copper wire suitable for direct burial shall be taped on top of all piping to provide for locating following construction. A mechanically secure or soldered connection shall be provided for all wire splices. Where construction is by directional drilling or similar trenchless technology the tracer wire shall be 3/16" 7x19 PVC coated stainless steel aircraft cable with minimum breaking strength of 3,700 lbs. (Lexco, Chicago, IL). Before acceptance and final approval of any water main, there will be a LCPW monitored tracer wire continuity test performed by the contractor to confirm that a signal can be observed the entire length of the tracer wire. (See applicable details for tracer wire access and terminations)
- 5. All water mains shall be flushed prior to pressure testing and disinfection. All water mains shall be pressure tested at 150 psi for a period of 2 hours with the allowable leakage calculated per section 41-2.13c of the Standard Specifications for Water and Sewer Main Construction in Illinois, latest dition. All water mains shall be disinfected in accordance with section 41-2.14 of the Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition.
- A minimum of 15 feet of restrained pipe length shall be provided on each side of every fitting, bend and valve.
- All fittings, bends and valves shall have Megalugs EBAA Iron, inc. Series 2000 PV for PVC pipe with stainless steel nuts and bolts.
- 8. All fittings, bends and valves shall be blocked horizontally and vertically.
- Water main under other utilities shall be a full length of pipe centered under the utility.
- Transition couplings shall be Total Piping Solutions. Inc. TX3 Extended Range Transition Coupling.
- 11. Restraining Harness shall be EBAA Iron Series 1900 with stainless steel rods, bolts and nuts or approved equal.
- 12. Gate valves shall be resilient wedge epoxy coated gate valves for all water mains less than 16-inch diameter. Gate valves (12 $^9$ <sub>32</sub> and smaller) shall be Mueller A2361 or Waterous 2500 meeting AWWA C509 or C515.

# CORD DRAWINGS

1. Drawings shall be verified by the Engineer.
2. Submitted drawings shall be no smaller than 11" x 17" or larger than  $24^{\prime\prime}$  x  $36^{\prime\prime}$ . The scale shall be  $1^{\prime\prime}$  =  $50^{\prime}$  or

- areater. State Plane Coordinates, Eastern Zone, NAD 83 NSRS2007, with minimum sub foot accuracy. Vertical datum shall be NAVD88.
- The drawings shall include any and all approved field chanaes.
- All structures (manholes, valve vaults, valve boxes, hydrants, b-boxes) shall have GPS coordinates including northing, easting and vertical elevation.

### WATER MAIN IMPROVEMENTS - RECORD DRAWINGS

- 1. All valve vaults or valve boxes shall be numbered with record rim and top of pipe elevations.
- All water mains shall be identified by pipe diameter and material type.
- All water services shall be identified by pipe diameter, pipe material, and location of B-Box.
- In addition, any deviations from the approved profile shall be shown on the record drawings.

# LAKE COUNTY STORMWATER MANAGEMENT COMMISSION

a. Sediment control measures shall be installed prior to the commencement of hydrologic disturbance of upland areas.

b. For those developments that require a designated erosion control inspector (deci), inspections and documentation shall be performed, at a minimum: upon completion of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance

or grading. After every seven (7) calendar days or storm event with greater than 0.5 inch of rainfall or liquid equivalent precipitation.

- c. Soil disturbance shall be conducted in such a manner as to minimize erosion, if stripping, clearing, grading, or landscaping are to be done in phases, the permittee shall plan for appropriate soil erosion and sediment control measures.
- d. A stabilized mat of crushed stone meeting idot gradation ca-1 underlain with filter fabric and in accordance with the illinois urban manual, or other appropriate measure(s) as approved by the enforcement officer, shall be installed at any point where traffic will be entering or leaving a construction site. Sediment or soil reaching an improved public right-of-way, street, alley or parking area shall be removed by scraping or street cleaning as accumulations warrant and transported to a controlled sediment disposal
- e. Temporary diversions shall be constructed as necessary to direct all runoff from hydrologically disturbed areas to an appropriate sediment trap or basin.
- f. Disturbed areas shall be stabilized with temporary or permanent measures within seven (7) calendar days following the end of active hydrologic disturbance or redisturbance.
- g. All stockpiles shall have appropriate measures to prevent erosion. Stockpiles shall not be placed in flood prone areas or wetlands and designated buffers.
- h. Slopes steeper than 3h:1v shall be stabilized with appropriate measures as approved by the enforcement officer.
- i. Appropriate erosion control blanket shall be installed on all interior detention basin side slopes between the normal water level and high water level.
- j. Storm sewers that are or will be functioning during construction shall be protected by an appropriate sediment control measure.
- k. If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion and sedimentation. discharges shall be routed through an approved anionic polymer dewatering system or a similar measure as

approved by the enforcement officer. Dewatering systems should be inspected daily during operational periods. The enforcement officer, or approved representative, must be present at the commencement of dewatering activities. The Lake County stormwater management commission inspector must be notified prior to the start of any dewatering activities.

- I. If installed soil erosion and sediment control measures do not minimize sediment leaving the development site. additional measures such as anionic polymers or filtration systems may be required by the enforcement officer.
- m. All temporary and permanent erosion control measures must be maintained and repaired as needed. The property owner shall be ultimately responsible for maintenance and repair.
- n. All temporary sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed.

o. The erosion control measures indicated on the plans are the minimum requirements. Additional measures may be required, as directed by the engineer, enforcement officer. or other governing agency.



