

PUBLIC SERVICES CONSTRUCTION STANDARDS

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PERTINENT PHONE NUMBERS

City of Oakbrook Terrace	630-941-8300
Police Department (Non-emergency)	630-941-8320
CBBEL Engineering	847-823-0500
DuPage County Health Department	630-682-7979
Emergency	911

GENERAL ITEMS

All work shall comply with all applicable sections of the Code of Ordinances and these Public Services Construction Standards.

BACKFILL OF TRENCHES

Trenches under or within 2 feet laterally of paved surfaces shall be backfilled as soon as practicable with trench backfill conforming with either coarse aggregate conforming to IDOT gradations CA-6, fine aggregate conforming to IDOT gradation FA-6 or controlled low strength material (flowable fill). Trench backfill shall be used to fill the trench to the top of the subgrade elevation. The backfill material shall be mechanically backfilled in lifts with a thickness no greater than 12" beginning 12" above the top of the pipe. Compaction by use of water jetting will only be allowed with the permission of an authorized City representative. Trenches falling outside of these limits can be backfilled with materials removed during excavation for the pipeline, but only after 12" of trench backfill has been placed over the top of the pipe.

The cost of correcting settlement of any restored area that occurs within one (1) year from the date of completion of the permanent restoration, if not corrected by the permittee upon forty-five (45) days written notice from the City to either correct such settlement or submit proof satisfactory to the Public Works Superintendent, or Water Superintendent that the settlement was not due to defective backfilling will be construed as non-performance by permittee in violation of Chapter 95 of the City's Code of Ordinances and subject to forfeiture of Security Deposit.

CONSTRUCTION NOISE

Construction activities generating noise are restricted to the hours between 7:00 a.m. and 6:00 p.m, Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on Saturday, and no work on Sunday; provided however that such work shall not be performed on any State, Federal, or designated City holiday unless the permittee obtains written consent from the Director of Public Services to perform such work at an earlier time or hour. Such permission shall only be granted in case of emergency or in the event that the work is to be performed in a traffic congested area.

CONSTRUCTION SCHEDULE

A construction schedule shall be required for all work. The Director of Public Services shall review any schedule submitted and shall approve it or require revisions as he/she deems necessary and appropriate.

MAILBOXES AND POSTS

Mailboxes are a permitted encroachment within the public right-of-way provided that they are constructed of materials that will break away upon impact with a vehicle. Mailbox enclosures constructed of brick or other solid materials that are not considered break away are not allowed unless the City grants a permit or license.

OPERATIONAL RESTRICTIONS

Erosion and sediment control in and around work sites shall be in accordance with City Code Section 152 and the approved permit requirements. Inlet protection shall be provided at all storm sewer structures within all areas of the work site.

The materials used in constructing facilities within rights-of-way shall be those meeting the accepted standards of the appropriate industry, the applicable portions of IDOT's Standard Specifications for Road and Bridge Construction, the Requirements of the ILCC, AWWA, DuPage County Health Department, I.E.P.A. or the standards established by other official regulatory agencies for the appropriate industry.

Material Storage on Right -of-Way: If material is to be stored on right-of-way, prior approval must be obtained from the City, all Pipe, conduit, wire, poles, cross arms, or other materials shall be distributed along the right-of-way prior to and during installation in a manner to minimize hazards to the public or an obstacle to the right-of-way maintenance or damage to the right-of-way and other property.

The City may, in its sole discretion, require that construction operations on rights-of-way be discontinued or restricted when such operations would create hazards to traffic or the public health, safety, and welfare, or when conditions are such that construction would result in extensive damage to the rights-of-way or other property.

No opening or excavation in any right-of way shall extend beyond the centerline of the roadway before being backfilled or before the surface of the street is temporarily restored, and no more than two hundred fifty feet (250') measured longitudinally shall be opened in any right-of-way at any one time unless the roadway has been completely closed to traffic or unless the City has given specific written permission for an exception to this restriction.

Emergency Repairs: If an emergency, the owner of any facility in the rights-of-way of the City shall, as soon as possible, notify the Public Services Director, or his or her duly authorized agent, of the emergency, informing him or her as to what steps have been taken for the protection of the traveling public and what will be required to make the necessary repairs according to Section 95.48 or the City's Code of Ordinances. The owner of any facility in the rights-of-ways of the City must file in writing with the City a description of the repairs undertaken in the right-of-way within forty-eight (48) hours after an emergency repair. If an emergency creates a hazard on the traveled portion of the right-of-way, the owner of the facility shall take immediate steps to provide all necessary protection safety and welfare of the City

Maintenance: Care must be taken in job site parking to avoid damage to sidewalks, pathways, driveways, or landscaping. Parked vehicles and equipment shall not restrict private property access nor hinder sight distances for traffic or pedestrians.

Erosion: sediment control in and around work sites shall be in accordance with City Code Section 152 and the approved permit. Inlet protection shall be provided at all inlets (within paved or unpaved areas). Under no circumstances shall material be washed into storm drains. Excess material/sediment shall be allowed to dry and then removed by vacuum sweeper or shoveling and hauled away.

OBJECTS WITHIN PARKWAYS

- A. Items that are relatively mobile and have low mass and low height are allowed within parkways as a matter of right and do not require a permit. Examples include grass, flowers, flexible reflectors, wooden lathe stakes (often used to mark driveways in the winter), and normal mailbox posts.
- B. Items that are more permanent than those contemplated in section A might be allowed within the parkway under a permit issued pursuant to a license agreement with the City. This section addresses those objects that are substantial enough to require a permit and justify engineering review and City control over what they are and where they go. Examples include sprinkler lines, light posts, small identification walls, ornate/substantial mailbox structures, "mirror" ornate mailbox-type structures, and trees/shrubs.

Except for those items discussed in the preceding paragraph, a private clear zone of 8 feet adjacent to the back of curb or edge of pavement (shoulder if one exists) should be maintained. This does not include items that are or become City property such as hydrants, street trees, etc.

- C. Items that pose safety hazards or interfere with the private clear zone within parkways are prohibited within the parkway. Examples include larger boulders (greater than 8 inches above ground and exceeding 25 inches in circumference), vertical pipes, berms (as defined in City Ordinance), and private retaining walls.

RESTORATION OF GRASS AREAS

All areas covered with grass prior to construction shall be sodded after construction. The City may allow seed depending upon the unique circumstances of a particular site.

STORMWATER

All permittee's must have prior approval and meet all requirements of Chapter 152 of the City's Code of Ordinances before performing any work related to or affecting stormwater management.

CITY REVIEW & INSPECTION

The City will review permit applications as expeditiously as possible and correspond with applicants, either by telephone or in person, to correct any deficiencies so that a permit can be approved as soon as possible. Submittal of correct and complete application documents by the applicant will speed the review and approval process.

Inspection services will be provided by the City as necessary and upon request by permittees. Twenty-four (24) hours advance notice must be given. Also see "General Permit Conditions – Construction Permits Only" for further information.

Patches will be approved based on their general appearance, compliance with these Public Works Standards, and their "rideability". Rideability is defined as a leveling tolerance to within one quarter (1/4") inch at any point across the patch as it relates to the surrounding pavement surface.

Inspection by the City does not relieve the permittee of its responsibilities to perform and meet its permit requirements and conditions.

1. The contractor or developer will provide a weekly construction schedule prior to the start of each week's construction. Inspections must be scheduled at least 48 hours prior to its need. All work areas shall be properly barricaded and cleaned each night in accordance with the "Manual on Uniform Traffic Control Devices".

GENERAL APPLICATION REQUIREMENTS

ANNUAL REGISTRATION REQUIRED

Every person owning facilities that occupy any right-of-way within the City shall register on January 1 of each year with the Office of the City Administrator, providing its name, address and regular business telephone and telecopy numbers, the name of one or more contacts who can act on a behalf of such person in connection with emergencies involving its facilities in the right-of-way and a twenty-four (24)-hour telephone number for each such person, and evidence of insurance required in Section 95.37 of the City Code of Ordinances.

PERMIT REQUIRED

No person shall construct any facility on, over, above, along, upon, under, across, or within any City right-of-way which (1) changes the location of the facility; (2) adds a new facility; (3) disrupts the right-of-way; or (4) materially increases the amount of area or space occupied by the facility, without first filing an application with the Director of Public Services through the Building and Zoning Department and obtaining a permit from the City.

COMMENCEMENT OF WORK

Work for which a permit has been issued shall commence within thirty (30) days after issuance of the permit. If not so commenced, the permit shall be automatically terminated unless permittee applies to the Public Works Superintendent or Water Superintendent, in writing, for an extension of time within which to commence work. Any permit that terminates for lack of work within (30) days or any extension thereof may be renewed only upon the payment of an additional permit fee of fifty dollars (\$50.00), except that any such extension requires different plans, then the extension fee shall be equal to the initial fee

Sufficient sets of plans and specifications shall be submitted to the City to allow Public Services and Building Department, the opportunity to review the documents and to approve their contents. The appropriate preliminary plans must be brought to the Building Department, which distributes the applications and plans to the appropriate persons for review.

PERMIT FEE AND SECURITY DEPOSIT SCHEDULE

<u>Type of Permit</u>	<u>Permit Fee</u>	<u>Security Deposit</u>
Water Service Connection Or Replacement – Up to 1”	See Code 52.08 (B) (1)	\$2,000.00
Water Service Connection Or Replacement – More than 1” Up to 4”	See Code 52.08 (B) (1)	\$5,000.00
Water Service Connection Or Replacement – Over 4”	See Code 52.08 (B) (1)	\$10,000.00

ALL OTHER DISRUPTIONS OF THE RIGHT-OF-WAY

In Residential Districts:

Pavement Cuts	\$50.00	\$1,000 per Single-Family Lot or \$2,500.00 for every 250’
Other than Pavement Cuts	\$50.00	\$500.00 Per Single-Family Lot or \$1,200 for every 250’

In Commercial Districts:

Pavement Cuts	\$100.00	\$10,000.00 for every 250’
Other Than Pavement Cuts	\$50.00	\$5,000.00 for Every 250’

Form of Security Deposit: The permittee shall provide the security deposit to the City, in the form, at the permittee’s election, of cash, or a certified or cashier’s check from a bank or savings institution.

PAVEMENT AND SIDEWALKS

GENERAL STANDARDS

All new pavement or sidewalk/pathway construction and repair and/or alteration of existing pavement or sidewalks/pathways shall conform to the requirement set forth in these standards. Design and construction shall comply with the latest Illinois Department of Transportation standards except as modified herein.

Pavement and sidewalk/pathway work shall also comply with the requirement of the Subdivision Site Grading, Roadway and Pedestrian/Bicycle Path Construction section of the Public Works Construction Standards.

Pavement cuts – Open cutting of pavements is generally not permitted. The Water Superintendent and the Public Works Superintendent may allow open cutting of pavements when he/she deems it necessary or appropriate.

When permitted, only one-half of any road pavement may be closed to traffic and have an open trench at any time unless special permission is obtained from the Public Works Superintendent or Water Superintendent. All saw cuts should be full depth.

At locations where the proposed utility must be installed across an existing roadway and open cut construction for this location has been approved by the City, the limits of the trench shall be initially saw cuts. The disturbed pavement within the trench area and any additional pavement width weakened by the trench (all such additional areas shall be saw cut) shall be restored in kind using equal or better materials to lines and grades equal to or better than that which existed prior to construction subject to the following:

All pavement edges shall be vertical, clean, and structurally sound for restoration. This may require saw cutting just prior to restoration activities. The restoration of roadways shall be in conformance with the Oakbrook Terrace Pavement Restoration Detail:

- Concrete pavement: a rich mix/high early strength Portland Cement (Type1) Concrete, 8” (200mm) thick.
 - Bituminous Pavement: 2” (50mm) Bituminous Concrete Surface Course, Class I, (lift thickness shall depend upon compaction equipment – 2” with vibrating plate; 4” with self-propelled roller).

Restoration of pavement shall be accomplished as soon as practicable (in no event shall it be longer than 15 calendar days, except only during winter months when the bituminous plants have shut down.), and temporary repair with bituminous mixture (2” minimum thickness) shall be provided within one calendar day and maintained until restoration takes

place. Any subsequent failure of either the temporary repair or the restoration shall be rebuilt by the permittee, at his/her sole expense, upon notification by the City.

In cases where work disturbs a significant portion of a pavement, the City may require overlay of an area larger than the work area of insure a smooth, rideable surface.

In cases where a trench edge is within 5 feet of an existing patched area, the City may require the entire 5-foot area to be removed and replaced.

Directional Borings

Borings over 6" (150mm) in diameter shall be accomplished with an auger and following pipe and the diameter of the auger shall not exceed the outside diameter of the proposed conduit by more than 1" (25mm).

Borings of 6" (150mm) or less in diameter may be accomplished by either auguring, jacking, or directional bore.

If contractor or Plumber installs lines by means or augering or boring, then they shall verify the locations by actual digging at each and every utility crossing and at intervals every (200) feet where lines run parallel with installation.

When notified by the City of an unsafe opening, the responsible party (usually a permittee) shall respond and repair said opening within 12 hours. Failure to do so may cause the City to undertake such repairs as is necessary and bill the responsible party for its expenses.

STREETS

The Design period for all pavement shall be 20 years. A soil report CBR value of two and one-half (2-1/2) may be assumed. Higher CBR value must be verified by laboratory analysis. Residential traffic volumes may be computed by assuming 12 trips per dwelling unit per day for R-1, R-2, R-3, and R-4 zoning districts.

WATER SYSTEM

All new water system construction and repair and/or alteration of existing water system infrastructure shall conform to the requirements set forth in these standards. Design and construction shall comply with the latest “ Standard Specifications for Water and Sewer Construction in Illinois”, The Illinois Environmental Protection Agency Division of Public Water Supplies “ Technical Policy Statements”, State of Illinois Rules and Regulations specified under “ Title 35: Environmental Protection –Public Water Supplies, Illinois State Plumbing Code, DuPage County Health Department, and all City ordinances pertaining to the project.

SECTION 1: Purpose:

These are the design and construction specifications that are applicable to all improvements to be made to the water distribution system of the City of Oakbrook Terrace. The general construction requirements are specified and the procedures for having the improvements accepted by the City are outlined in detail. Various drawings and charts for details for critical phases of construction work and detail for certain material items are outlined in this pamphlet.

Compliance with Building Codes: All connections (tap ins) or additions to the Water system of the City and all matters relating thereto, including but not limited to, applications for service or for connections for Tap-in permits and issuance of such permits, permit fees, materials used and inspections shall be governed by the applicable provisions of the City building codes, and Water Department Policies.

NOTIFICATIONS: Prior to the start of construction, sufficient notice shall be given to J.U.L.I.E to allow for all known underground utilities within the vicinity of the proposed construction to be located and clearly marked with visible flagging, staking, and painted lines. The Water Department shall be notified a minimum of two (2) days prior to the start of construction. All other Governmental agencies from whom permits were necessary in order for the project to be constructed should be given adequate notice of the start of construction in accordance with the conditions outlined in the permits.

WATER MAIN SYSTEM DESIGN AND CONSTRUCTION

- 1: The application for a water system connection and or extension permit shall be in writing and include the following information.
 - a. Name and address of applicant
 - b. Name and address of owner or the premises where said connection or expansion is to be made or where the water line is to be laid, if different from above.
 - c. Description of use to be served
 - d. Such other information as the City may reasonably require; including all conditions as may be necessary to ensure compliance with all applicable provisions of state and federal law, including the Illinois Plumbing Code, and DuPage County Health Codes and requirements of these standards and all other pertinent municipal ordinances.
2. The City shall prescribe the mode of piercing or tapping; excavation procedures; the form, size, and materials for all connections and extensions to be made to the City's water system; and shall supervise the work of making such connections and extensions and the restoration thereof.
3. Where parkways are available in the street right-of- way, water main placement shall be along a line within the parkway and at an average distance of ten feet (10') from the right-of-way line or within the parkway at an average distance of four feet (4') back of the curb line. Easements are required to be provided for water main installation in the amount of twenty (20') feet that are permanent. The form of the easement shall be prescribed by the City Attorney.
4. Water main extension to the City's water system shall have a minimum size of Eight (8) inches in diameter. Whenever possible, no water main shall be non-circulating (Dead-ended) unless there is an anticipated extension of the water main within one (1) year. Sizing of the water main will be determined by the City. All new water main extensions shall have a minimum cover of five feet (5') from the top of the pipe.
5. The approval of a drawing and issuance of a permit may not, under any circumstances, be construed as an approval of any violation of City regulations, and further, shall not relieve any party from full compliance with all building codes and ordinances. This shall apply even if the drawing were approved by the City's agent or an employee.

6. If so requested by the City, a Pre-construction conference shall be held prior to the start of any construction. If the Pre-construction conference is requested by the contractor or developer, the City shall be notified a minimum of five working days prior to the date of the meeting.
7. When working on private property or in easements, all property owners shall be notified in writing one week prior to starting work. Such notification shall include the following: A) estimated start date, B) estimated completion date, C) estimated restoration date, D) description of work, E) name and number of contractor and 24 hour emergency phone number. Copies of this notification shall be submitted to the City prior to starting work.
8. At least 48 hours prior to the start of any excavation, the contractor shall call J.U.L.I.E. 1-800-892-0123. Except in emergencies, no locates will be performed between 1:00pm on Friday and 8:00am on Monday by City Personnel.

Disclaimer: *The City will attempt to locate its utilities as accurately as possible. However, the contractor is advised that due to the age and material of the lines and the accuracy of “ the as-built” drawings, the City cannot guarantee the accuracy of the field locates. The contractor shall field verify the location of the lines. If the contractor fails to notify the City prior to commencing work, the contractor shall assume full responsibility for any damages to City property. If the contractor installs lines by means of auguring or boring, then they shall verify the locations by actual digging at each and every crossing of the lines or at 200 ft intervals where the City’s lines run parallel with the installation.*

9. No roadway cuts are permitted without the express written permission of the City. Any patches shall be saw cut to full depth prior to final restoration. Trenches under or within 2 feet of the roadway/pathways/driveways resulting from water main or water service construction shall be backfilled, as soon as practicable, to two feet outside edge of curb or pathway with CA-6 to C-10 trench backfill, mechanically compacted in 1 foot lifts starting 1 foot above the top of the pipe.
10. All water mains, tees, bends, hydrant barrels, hydrant leads valves, etc. shall be wrapped in polyethylene materials 8mm in thickness and taped, and shall conform to the requirements of ASTM D1248 and ANSI/AWWA.
11. Hydrants shall be installed on water mains at intervals of approximately 300’ feet and shall be located whenever possible so as to be adjacent to a common lot-line or in the middle of a lot.
12. Hydrants to be installed on street parkways a minimum of 4’ feet to a maximum of 8’ feet back of curb line. Except when abutting a designated state highway in which case they shall be placed as approved by the Water Department and the Fire Districts. It shall be the policy of the City to comply with Illinois state law 85-343 which requires a

48-inch clearance around all fire hydrants. Hydrants may be used only by the City or Fire Protection Districts or by such persons specifically authorized by the City.

It shall be the policy of the City that any water used for construction by use of a hydrant, shall have a meter issued by the City and an approved backflow device. A Hydrant meter can be used at City hall for such purposes by obtaining a permit through the Water Department for a \$850.00 deposit plus water usage charges which are billed monthly.

13. All water lines to be constructed shall have proper separation requirements in place before submittal of plans will be accepted . It will be the responsibility of the developer/contractor to replace all existing and new pipe with water main quality pipe to maintain separations. Field exposure of any existing structure will be the responsibility of the Contractor/Developer to replace properly. No trench or excavation will be allowed to be backfilled without inspections.
14. Meter Vaults. Water meters shall be located in heated spaces indoors except upon written approval of the Water Department. Whenever a water meter is located underground, it shall be housed within a meter vault. Meter vaults may be similar to valve vaults provided a sump is installed within the vault and all metering equipment can be accessible within the vault. Meters with extensive by-pass piping may require special pre-cast or cast-in-lace concrete vaults having sufficient interior height and width to allow working room. These larger vaults shall include such accessories as sump pump facilities, electric power, lockable roof entrance hatches, and access steps.

Materials

1. Water mains shall be secured to resist movements at all fittings, hydrants and valves using restrained joint pipe and fittings as follows: Restrained joint pipe and fittings shall be manufactured by A) American Ductile Iron Pipe Co.-lok ring or flex joints; or (B) U.S. Pipe Company- TR flex joints; (C) Griffin Pipe Products-snap-lok joint; or (D) EBBA Iron, Inc- Mega Lugs. The EBBA, Inc Mega Lugs shall be used only with mechanical joint pipe and fittings. The required length of restrained pipe shall be in accordance with the table at the end of this pamphlet. Half of the total restrained length for elbows as shown in the table shall be installed on each side of the elbow. Plugs only require restraint in one direction. Tees require the perpendicular branch to be restrained. Both plugs and tees shall be restrained to the distances provided by the City.
2. The length of restrained pipe at valves shall be the same as for plugs or dead ends; this restrained length shall be installed on both sides of each valve. The length of restrained pipe at tees shall be based on the size of the run of the tee.

3. All water main shall be constructed of cement lined ductile iron pipe, class 52 with restrained joint, mechanical with mega lugs, or push on joints. Refer to (1) above. Water main shall conform to ANSI A21.51/AWWA C151.
4. All water main valves will be American Flow Control 2500 resilient wedge or comparable type AWWA C509 and suitable for buried service. In circumstances where gate valves cannot be used, Henry Pratt or equivalent Butterfly valves shall be used. All bonnet bolts, studs, and nuts shall be made of "304" stainless steel per ASTM F593 and F594. All valves bodies; bonnets and gates shall be ductile iron per ASTM A 536, valves to open in a counter clockwise direction.
5. The water main shall be subjected to a pressure and leakage test according to the standard specifications except the water main shall be subjected to minimum hydrostatic pressure of 150psi for a minimum of two hours, and leakage shall not exceed one (1) P.S.I. of loss. This test must be scheduled 48 hours in advance and witnessed by a member of the City Water Department.
6. No water service connection tap shall be made until the newly constructed main has been tested, chlorinated and found to be acceptable by the City and the I.E.P.A. operating permit has been issued. New material shall be used for the entire service to be constructed.
7. Fire hydrants shall be only American Flow Control/ Waterous Pacer model WB67-250, complying with AWWA standard C-502. Hydrants shall have two 2-1/2" inch hose nozzles and one 4-1/2" pumper nozzle and each nozzle shall have National Standard threads(N.S.T.) on nozzles and caps. Hydrants shall have "304" stainless steel shoe bolts and nuts, trim for the shoe bolts connection shall be bronze. All hydrants must be visible in area clear of trees, bushes, vegetation etc. All hydrants shall be yellow in color and shall be designed to withstand a 300psi test pressure and 150psi working pressure. (see hydrant detail). Finished grade must be 2" below breakaway flange. Each auxiliary valve shall be place 24" away from barrel with minimum 16" spool piece . Each valve box shall be provided with a rubber insert in the base of the valve box and this rubber insert shall be the Valve Box Adapter II as manufactured by Adapter Inc. West Allis, WI, or equivalent.

Water Services

1. All water service lines shall be one (1") minimum copper water service pipe, type "K", soft temper, conforming to ASTM B88 and B251. Water service shall be laid at a depth so that the service line has a minimum of four feet six inches (4'-6") of cover. No solder or sweat joints are allowed. Dielectric unions shall be placed on water heaters and on adjoining dissimilar metals.

2. Water service taps into a water main shall be made at an upward angle of forty-five (45) degrees. Along a street right-of-way, the preferred location for the curb valve (Buffalo Box) shall be on line eight feet (8') within the right-of-way.
3. Water Service boxes and hydrant boxes shall be adjusted to the elevations of the finished ground surface as soon as construction operations permit. Any boxes damaged or backfilled during construction, and prior to written acceptance by the City shall be replaced by the contractor/developer at his or her own expense.
4. The exact location of the Buffalo Box shall be determined in the field by the City at the time of construction. Upon completion of water main and service lines, the developer/contractor shall furnish to the City "As Built Drawings" of the water system in a form acceptable to the City. These locations shall be dimensioned from the property corners.
5. Meters will be provided one at a time and will not be issued additionally until first inspection has been completed. Meters will not be issued until well determination has been made by the DuPage County Health Department. No commercial properties will be allowed to maintain a well on site. Well must be capped at owners expense. Large meters must be ordered 30 days in advance of need.
6. Valve Vaults shall be installed over all valves located on the water mains providing the distribution of water throughout the system. Valves having a diameter of 10" inches or less shall be housed in valve vaults having an inside diameter of forty-eight (48"). All valves twelve inches (12") or larger shall be placed in valve vaults sixty inches (60") in diameter. Vaults shall be constructed of precast concrete units conforming to section 44 in the "Standard Specifications for Water and Sewer in Illinois". Valve basins shall be provided on all valves except for hydrant valves. Valve basins shall be constructed of precast concrete, with cut and fit for pipe. Each valve basin shall provide KOR-N-SEAL A-Lock gaskets, or approved equal, to seal around pipe openings.
 6. (a). Valves shall be installed at the following locations:
 - a. on each branch of the water main.
 - b. At each water main connection, not exceeding six hundred feet.
 - c. At intervals of 1500 feet on all principle feeder mains.
 - d. Valves to be installed at junctions of mains in a manner that will allow any section of water main to be isolated by closing of no more than three valves.
 - e. The City will ultimately decide the number and placement of each valve.
All joints of valve vaults shall be sealed in a bituminous mastic bed. Mortar is not allowed.
7. Corporations and Curb Stops shall be Mueller: Corp stops shall be model H-15000. Curb Stops shall be model H-15154. Curb box/stop key Model-10302 for one inch (1) Curb stops and Model 10304 for two inch (2") Curb Stops.

8. Tapping shall be done by direct tap or by using tapping saddle; Model BR2B conforming with AWWA C800. Corporation stops and curb stops shall be brass and suitable for copper connections. Curb stops shall be round way type.
9. All sampling of water mains will be collected by The Water Department and sent to a Certified Laboratory for analysis. This will be done after chlorination of the main has been accomplished with chlorine gas-water mixture to at least 50 ppm, and must maintain at least 25 ppm after 24 hours to be acceptable. Each portion of the chlorination process must be witnessed by a representative of the City to be valid. Isolation of the portion to be chlorinated must be sealed by valve to isolate. Samples will be collected by the City Water Department on two consecutive days not less than 24 hours apart. This must be scheduled at least 48 hours in advance. This portion of the main will not be placed into service until I.E.P.A. has issued an operating permit. All construction water use will be monitored by the City's Water Department. Any hydrant or main used for construction purposes must have prior approval from the City and must be properly metered with provisions made for backflow prevention. See fee schedule for meter use and Hydrant flow test.
10. Fire protection systems need not be chlorinated and bacteriologically tested provided the system is not for potable use and an approved backflow device separates the system and has been tested. All other backflow devices must be installed and tested before acceptance by the City.

ADDITIONAL WATER PERMIT DETAILS

1. Water customers that may be affected in any manner during the start and progress of the construction shall be given sufficient advance notice of any disruption that may take place during construction.
2. Water main extensions to the City's water distribution system require that an application for permission to install such extensions be approved by the Illinois Environmental Protection Agency Division of Public Water Supplies. No construction may begin until an I.E.P.A. construction permit has been issued. A signed City building and or water permit must be signed and dated before any approval for construction in the City will be permitted. This will include all signatures from all responsible parties including the City.
3. The plans will be reviewed and determination will be made in a reasonable amount of time if plans submitted have followed all the necessary steps outlined in this pamphlet, with consideration given to Legal and Governmental agency responses. It shall be the responsibility of the developer / contractor to review all City rules contained in this document with all sub-contractors and parties associated with this project and to make all necessary changes at the request of the City or it's designee's.

4. The final inspection for the approval by the Water Department of any water main extension work shall be conducted after the total project work has been completed. If the project work consists only of water main extensions, the final inspection shall be conducted after all of the water main work has been completed, the water main is pressure tested and chlorinated, and the water main extensions are ready to be placed into service. If the project work consists of other phases of improvements in addition to the water main extensions, the final inspection shall be conducted after all of the improvements have been completed.

Fire Flow Policy

Policy: During new buildings construction or renovation it is required by Fire Code for hydraulic flow calculations to be performed. This is done to ascertain proper fire protection within the structure. (i.e. Fire sprinkler systems). This test is performed by the water department or an approved fire protection service requiring the operation of at least two hydrants located within the site specified by the owner/developer of the property. This test is performed for either new construction or an addition to an existing building.

A permit must be acquired through the Building Department before fire flow testing can be scheduled. The fee's are as follows.

Hydrant flow test shall not be performed from November 1 through April 1st of each year without the authorization of the Water Superintendent. Also for safety concerns, scheduled testing may be canceled due to inclement weather. Testing shall be scheduled at least one week prior to appointment.

STANDARD DETAILS