

### 13.22.016 – Construction methods and materials

#### A. Standards and Requirements for Particular Types of Construction Methods.

1. Boring or Jacking.
  - a. Pits and Shoring. Boring or jacking under rights-of-way shall be accomplished from pits located at a minimum distance specified by the Director of Public Works from the edge of the pavement. Pits for boring or jacking shall be excavated no more than forty-eight (48) hours in advance of boring or jacking operations and backfilled within forty-eight (48) hours after boring or jacking operations are completed. While pits are open, they shall be clearly marked and protected by barricades. Shoring shall be designed, erected, supported, braced, and maintained so that it will safely support all vertical and lateral loads that may be imposed upon it during the boring or jacking operation.
  - b. Wet Boring or Jetting. Wet boring or jetting shall not be permitted under the roadway.
  - c. Borings with Diameters Greater Than 6 Inches. Borings over six inches (0.15 m) 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 following pipe by more than one inch (25 mm).
  - d. Borings with Diameters 6 Inches or Less. Borings of six inches or less in diameter may be accomplished by either jacking, guided with auger, or auger and following pipe method.
  - e. Tree Preservation. Any facility located within the drip line of any tree designated by the City to be preserved or protected shall be bored under or around the root system.
2. Trenching. Trenching for facility installation, repair, or maintenance on rights-of-way shall be done in accordance with the applicable portions of Section 603 of IDOT's "Standard Specifications for Road and Bridge Construction."
  - a. Length. The length of an open trench shall be kept to the practicable minimum consistent with requirements for pipe-line testing. Only one-half of any intersection may have an open trench at any time unless special permission is obtained from the Director of Public Works.
  - b. Open Trench and Excavated Material. Open trench and windrowed excavated material shall be protected as required by Chapter 6 of the Illinois Manual on Uniform Traffic Control Devices. Where practicable, the excavated material shall be deposited between the roadway and the trench as added protection. Excavated material shall not be allowed to remain on the paved portion of the roadway. Where right-of-way width does not allow for windrowing excavated material off the paved portion of the roadway, excavated material shall be hauled to an off-road location.
  - c. Drip Line of Trees. The utility shall not trench within the drip line of any tree designated by the City to be preserved.
3. Backfilling.
  - a. Any pit, trench, or excavation created during the installation of facilities shall be backfilled for its full width, depth, and length using methods and materials in accordance with IDOT's "Standard Specifications for Road and Bridge Construction." When excavated material is hauled away or is unsuitable for backfill, suitable granular backfill shall be used.
  - b. For a period of three (3) years from the date construction of a facility is completed, the utility shall be responsible to remove and restore any backfilled area that has settled due to construction of the facility. If so ordered by the Director of Public Works, the utility, at its sole expense, shall remove any pavement and backfill material to the top of the installed facility, place and properly compact new backfill material, and restore new pavement, sidewalk, curbs, and driveways to the proper grades, as determined by the Director of Public Works.
4. Pavement Cuts. Pavement cuts for facility installation or repair shall be permitted on a highway only if that portion of the highway is closed to traffic. If a variance to the limitation set forth in this paragraph is permitted under Section 13.22.021, the following requirements shall apply:
  - a. Any excavation under pavements shall be backfilled and compacted as soon as practicable with granular material of CA-6 or CA-10 gradation, as designated by the Director of Public Works.
  - b. Restoration of pavement, in kind, shall be accomplished as soon as practicable and temporary repair with bituminous mixture shall be provided immediately. Any subsequent failure of either the temporary repair or the restoration shall be rebuilt upon notification by the City.
  - c. All saw cuts shall be full depth.
  - d. For all rights-of-way which have been reconstructed with a concrete surface/base in the last seven (7) years, or resurfaced in the last three (3) years, permits shall not be issued unless such work is determined to be an emergency repair or other work considered necessary and unforeseen before the time of the reconstruction or unless a pavement cut is necessary for a J.U.L.I.E. locate.

5. Encasement.
  - a. Casing pipe shall be designed to withstand the load of the highway and any other superimposed loads. The casing shall be continuous either by one-piece fabrication or by welding or jointed installation approved by the City.
  - b. The venting, if any, of any encasement shall extend within one foot (0.3 m) of the right-of-way line. No above-ground vent pipes shall be located in the area established as clear zone for that particular section of the highway.
  - c. In the case of water main or service crossing, encasement shall be furnished between bore pits unless continuous pipe or City approved jointed pipe is used under the roadway. Casing may be omitted only if pipe is installed prior to highway construction and carrier pipe is continuous or mechanical joints are of a type approved by the City. Bell and spigot type pipe shall be encased regardless of installation method.
  - d. In the case of gas pipelines of sixty (60) psig or less, encasement may be eliminated.
  - e. In the case of gas pipelines or petroleum products pipelines with installations of more than sixty (60) psig, encasement may be eliminated only if: (1) extra heavy pipe is used that precludes future maintenance or repair and (2) cathodic protection of the pipe is provided;
  - f. If encasement is eliminated for a gas or petroleum products pipeline, the facility shall be located so as to provide that construction does not disrupt the right-of-way.
6. Minimum Cover of Underground Facilities. Cover shall be provided and maintained at least in the amount specified in the following table for minimum cover for the type of facility:

<b>TYPE OF FACILITY</b>	<b>MINIMUM COVER</b>
<b>Electric Lines</b>	<b>30 Inches (0.8 m)</b>
<b>Communication, Cable or Video Service Lines</b>	<b>18 to 24 Inches (0.6 m, as determined by City)</b>
<b>Gas or Petroleum Products</b>	<b>30 Inches (0.8 m)</b>
<b>Water Line</b>	<b>Sufficient Cover to Provide Freeze Protection</b>
<b>Sanitary Sewer, Storm Sewer, or Drainage Line</b>	<b>Sufficient Cover to Provide Freeze Protection</b>

- B. Standards and Requirements for Particular Types of Facilities.
  1. Electric Power or Communication Lines.
    - a. Code Compliance. Electric power or communications facilities within City rights-of-way shall be constructed, operated, and maintained in conformity with the provisions of 83 Ill. Adm. Code Part 305 (formerly General Order 160 of the Illinois Commerce Commission) entitled "Rules for Construction of Electric Power and Communications Lines," and the National Electrical Safety Code.
    - b. Overhead Facilities. Overhead power or communication facilities shall use single pole construction and, where practicable, joint use of poles shall be used. Utilities shall make every reasonable effort to design the installation so guys and braces will not be needed. Variances may be allowed if there is no feasible alternative and if guy wires are equipped with guy guards for maximum visibility.
    - c. Underground Facilities. (1) Cable may be installed by trenching or plowing, provided that special consideration is given to boring in order to minimize damage when crossing improved entrances and side roads. (2) If a crossing is installed by boring or jacking, encasement shall be provided between jacking or bore pits. Encasement may be eliminated only if: (a) the crossing is installed by the use of "moles," "whip augers," or other approved method which compress the earth to make the opening for cable installation or (b) the installation is by the open trench method which is only permitted prior to roadway construction. (3) Cable shall be grounded in accordance with the National Electrical Safety Code.
    - d. Burial of Drops. All temporary service drops placed between November 1 of the prior year and

March 15 of the current year, also known as snowdrops, shall be buried by May 31 of the current year, weather permitting, unless otherwise expressly approved by the City. Weather permitting, utilities shall bury all temporary drops, excluding snowdrops, within ten (10) business days after placement.

2. Underground Facilities Other than Electric Power or Communication Lines. Underground facilities other than electric power or communication lines may be installed by:
  - a. the use of "moles," "whip augers," or other approved methods which compress the earth to move the opening for the pipe;
  - b. jacking or boring with vented encasement provided between the ditch lines or toes of slopes of the highway;
  - c. open trench with vented encasement between ultimate ditch lines or toes of slopes, but only if prior to roadway construction; or
  - d. tunneling with vented encasement, but only if installation is not possible by other means.
3. Gas Transmission, Distribution and Service. Gas pipelines within rights-of-way shall be constructed, maintained, and operated in a City approved manner and in conformance with the Federal Code of the Office of Pipeline Safety Operations, Department of Transportation, Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards (49 CFR §192), IDOT's "Standard Specifications for Road and Bridge Construction," and all other applicable laws, rules, and regulations.
4. Petroleum Products Pipelines. Petroleum products pipelines within rights-of-way shall conform to the applicable sections of ANSI Standard Code for Pressure Piping. (Liquid Petroleum Transportation Piping Systems ANSI-B 31.4).
5. Waterlines, Sanitary Sewer Lines, Storm Water Sewer Lines or Drainage Lines. Water lines, sanitary sewer lines, storm sewer lines, and drainage lines within rights-of-way shall meet or exceed the recommendations of the current "Standard Specifications for Water and Sewer Main Construction in Illinois."
6. Ground Mounted Appurtenances. Ground mounted appurtenances to overhead or underground facilities, when permitted within a right-of-way, shall be provided with a vegetation-free area extending one foot (305 mm) in width beyond the appurtenance in all directions. The vegetation-free area may be provided by an extension of the mounting pad, or by heavy duty plastic or similar material approved by the Director of Public Works. With the approval of the Director of Public Works, shrubbery surrounding the appurtenance may be used in place of vegetation-free area. The housing for ground-mounted appurtenances shall be painted a neutral color to blend with the surroundings.

### C. Materials.

1. General Standards. 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 "Standards Specifications for Road and Bridge Construction," the requirements of the Illinois Commerce Commission, or the standards established by other official regulatory agencies for the appropriate industry.
2. Material Storage on Right-of-Way. No material shall be stored on the right-of-way without the prior written approval of the Director of Public Works. When such storage is permitted, 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 right-of-way maintenance or damage to the right-of-way and other property. If material is to be stored on right-of-way, prior approval must be obtained from the City.
3. Hazardous Materials. The plans submitted by the utility to the City shall identify any hazardous materials that may be involved in the construction of the new facilities or removal of any existing facilities.

### D. Operational Restrictions.

1. Construction operations on rights-of-way may, at the discretion of the City, be required to be discontinued when such operations would create hazards to traffic or the public health, safety, and welfare. Such operations may also be required to be discontinued or restricted when conditions are such that construction would result in extensive damage to the right-of-way or other property.
2. These restrictions may be waived by the Director of Public Works when emergency work is required to restore vital utility services.
3. Unless otherwise permitted by the City, the hours of construction are 7:00 a.m. to 6:00 p.m.

### E. Location of Existing Facilities. Any utility proposing to construct facilities in the City shall contact J.U.L.I.E. and ascertain the presence and location of existing above-ground and underground facilities within the rights-of-way to be occupied by its proposed facilities. The City will make its permit records available to a utility for the purpose of identifying possible facilities. When notified of an excavation or when requested by

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the City or by J.U.L.I.E., a utility shall locate and physically mark its underground facilities within forty-eight (48) hours, excluding weekends and holidays, in accordance with the Illinois Underground Facilities Damage Prevention Act (220 ILCS 50/1 et seq.)