**Section 370.350 Protection of Water Supplies**

a) Water Supply Interconnections

There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable supply.

b) Location Relative to Water Works Structures

1) Location and Soil Condition

A) The engineering plan documents shall show the location of all existing water works structures (basins, wells, other treatment units, etc.) that are within 200 feet of the proposed sewer.

B) Soil conditions in the vicinity of the water works structures shall be investigated and depicted on the plans.

2) Minimum Distances

The following minimum distances apply to clay and loan soils and, as a minimum, shall be doubled for sand. In areas where creviced limestone or gravel may be encountered, the Agency shall be contacted for a determination as to what minimum separation distances and special construction will be required.

A) Non-watertight sewers and sewer appurtenances such as manholes and wetwells shall not be located closer than 50 feet from water works structures.

B) Sewers located closer than 50 feet to water works structures shall be constructed with water main quality pipe and joints that comply with 35 Ill. Adm. Code 653.119. All such pipe shall be pressure tested in accordance with "AWWA Standard for Installation of Ductile-Iron Water Mains and their Appurtenances," ANSI/AWWA C600-93 (1994), (no later editions or amendments) for a working pressure equal to or greater than the maximum possible surcharge head to assure watertightness prior to backfilling. No sewer shall be located closer than 10 feet from water works structures.

c) Relation to Water Mains

1) Horizontal and Vertical Separation

A) Whenever possible, a sewer must be at least ten feet horizontally from any existing or proposed water main.

B) Should local conditions exist which would prevent a lateral separation of ten feet, a sewer may be closer than ten feet to a water main provided that the water main invert is at least eighteen inches above the crown of the sewer, and is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.

C) If it is impossible to obtain proper horizontal and vertical separation as described above, both the water main and sewer must be constructed with water main quality pipe and joints that comply with 35 Ill. Adm. Code 653.119 and shall be pressure tested in accordance with "AWWA Standard for Installation of Ductile-Iron Water Mains and their Appurtenances," ANSI/AWWA C600-93 (1994) (no later editions or amendments) for a working pressure equal to or greater than the maximum possible surcharge head to assure watertightness before backfilling.

2) Water-Sewer Line Crossings

A) Whenever possible, sewers crossing water mains shall be laid with the sewer below the water main with the crown of the sewer a minimum of 18 inches below the invert of the water main. The vertical separation shall be maintained on each side of the crossing until the perpendicular distance from the water main to the sewer is at least 10 feet. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Adequate support shall be provided for the water mains to prevent damage due to settling of the sewer trench. Refer to Appendix H, Drawing No. 1.

B) Where a sewer crosses under a water main and it is not possible to provide an 18-inch vertical separation, the following special construction methods shall be specified (refer to Appendix H, Drawing No. 2):

i) The sewer shall either be constructed with water main pipe and joints that comply with 35 Ill. Adm. Code 653.119 and shall be pressure tested in accordance with "AWWA Standard for Installation of Ductile-Iron Water Mains and their Appurtenances," ANSI/AWWA C600-93 (1994) (no later editions or amendments) for a working pressure equal to or greater than the maximum possible surcharge head or shall be encased in a carrier pipe with the ends sealed, that, along with the joints, complies with 35 Ill. Adm. Code 653.119.

ii) The water main quality sewer or carrier pipe shall extend on each side of the crossing to a point where the perpendicular distance from the water main to the sewer is at least 10 feet.

iii) For the required length of the water main quality sewer or carrier pipe, omit the select granular cradle and granular backfill to one foot over the crown of the sewer and use selected excavated material (Class IV) and compact to 95% of Standard Proctor maximum density.

iv) Point loads between the sewer or sewer casing and the water main are prohibited.

v) Adequate support shall be provided for the water main to prevent damage due to settling of the sewer trench.

C) Where it is not possible for a proposed sewer to cross under an existing water main, the specifications shall require the construction methods set out in subsection (c)(2)(B) above and shall require that any select granular backfill above the crown of the water main be removed within the width of the proposed sewer trench and be replaced with select excavated material (Class IV) compacted to 95% of Standard Proctor maximum density. Where a proposed sewer must cross over a proposed water main, an 18-inch vertical separation shall be maintained. Refer to Appendix H, Drawing No. 3.

3) Sewer Manhole Separation From Water Main

No water pipe shall pass through or come into contact with any part of a sewer manhole.

(Source: Amended at 21 Ill. Reg. 12444, effective August 28, 1997)