

CHAPTER 25 – PUBLIC WATER

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Article 1 – General

2501 General Provisions

- 2501.1 **Intent.** The purpose of this Chapter is to provide minimum standards to safeguard life, limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of the public water system.
- 2501.2 **Scope.** The provisions of this Chapter shall apply to the design, installation, alteration, repair, relocation, replacement, addition to, use or maintenance of the public water system within the Village of Spring Grove.
- 2501.3 **Applicability.** The provisions of this Chapter shall apply to all matters affecting or relating to the public water system as set forth in Sections 2501.1 and 2501.2. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.
- 2501.4 **Design.** Potable water facility design shall be in accordance with the Village's ordinances and the rules and regulations of the IEPA- Division of Public Water Supplies. All water system improvements shall meet the requirements of the latest editions of the Standard Specifications for Water and Sewer Main Construction in Illinois, the American Water Works Association (AWWA), as well as specific requirements of the Village. All service connections, in addition, shall be designed in strict compliance with the State of Illinois Plumbing Code.
- A. **MFP, ISO, EPA.** The water distribution system shall be designed in accordance with the grading schedule for Municipal Fire Protection, Insurance Services Office recommended fire flows; Illinois EPA Division of Public Water Supply Technical Policy statements; and the Engineering Standards and the Plumbing Regulations contained in, appended to, and referred to in this Chapter.
- 2501.5 **Compliance.** No water shall be turned on for service in premises where plumbing has not been installed in full compliance with the requirements in regard thereto as set forth in Village ordinances; provided, however, that water for use in construction work in unfinished buildings or buildings being remodeled may be supplied subject to the provisions of this Chapter. All water being turned on shall be used in strict compliance with; Illinois Department of Public Health (IDPH) regulations, Illinois Environmental Protection Agency (IEPA) regulations, and the Village of Spring Grove ordinances.

2501.6 **Materials.** The required materials and specific standards for water main, and branch construction can be found in the following sections and in the appendices to this Chapter.

2502 Definitions

Unless the context otherwise requires, the following terms as used in this Chapter shall be construed according to the definitions given below.

Accepted Engineering Practice. That which conforms to accepted principles, tests or standards of nationally recognized technical or scientific authorities.

Access (To). That which enables a fixture, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction (see "Ready Access").

Access Cover. A removable plate, usually secured by bolts or screws, to permit access to a pipe or pipe fitting for the purposes of inspection, repair or cleaning.

Adapter Fitting. An approved connecting device that suitably and properly joins or adjusts pipes and fittings which do not otherwise fit together.

Agency. Illinois Environmental Protection Agency (IEPA).

Air Gap (Water Distribution System). The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the receptacle.

Alternative Engineered Design. A system that performs in accordance with the intent of this Chapter and provides an equivalent level of performance for the protection of public health, safety and welfare.

Antisiphon. A term applied to valves or mechanical devices that eliminate siphonage.

Approved. Approved by the code official.

Approved Agency. An established and recognized agency approved by the code official and that is regularly engaged in conducting tests or furnishing inspection services.

Approved Device. Backflow prevention devices or methods approved by the Research Foundation for Cross-Connection Control of the University of Southern California, Association of State Sanitary Engineers, American Water Works Association, American National Standards Institute or certified by the National Sanitation Foundation.

Auxiliary Water System. Any water source or system on or available to the premises other than the public water system. These auxiliary waters may include water from another purveyor's public water-system; or water from a source such as wells, lakes or streams; or process fluids; or used water. These waters may be polluted or contaminated or objectionable or constitute a water source or system over which the water purveyor does not have control.

Backflow. Pressure created by any means in the water distribution system, which by being in excess of the pressure in the water supply mains causes a potential backflow condition.

Backflow Connection. Any arrangement whereby backflow is possible.

Backflow Prevention Device. Any approved device, method, type of construction intended to prevent backflow into a potable water system. All devices used for backflow prevention in Illinois must meet the standards of the Illinois State Plumbing Code, IEPA regulations, and all other applicable codes and/or ordinances.

Backpressure, Low Head. A pressure less than or equal to 4.33 psi (29.88 kPa) or the pressure exerted by a 10-foot (3048 mm) column of water.

Backsiphonage. The backflow of potentially contaminated water into the potable water system as a result of the pressure in the potable water system falling below atmospheric pressure of the plumbing fixtures, pools, tanks or vats connected to the potable water distribution piping.

Base Flood Elevation. A reference point, determined in accordance with the Building Code, based on the depth or peak elevation of flooding, including wave height, which has a 1 percent (100-year flood) or greater chance of occurring in any given year.

Branch. Any part of the piping system except a riser, main or stack.

Building. Any structure occupied or intended for supporting or sheltering any occupancy.

CCCDI. The Cross-Connection Control Device Inspector contracted by the customer and approved by the Village and the IEPA.

Cistern. A small covered tank for storing water for a home or farm. Generally, this tank stores rainwater to be utilized for purposes other than in the potable water supply, and such tank is placed underground in most cases.

Code. These regulations, subsequent amendments thereto, or any emergency rule or regulation that the administrative authority having jurisdiction has lawfully adopted.

Code Official. The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative.

Construction Documents. All of the written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of the project necessary for obtaining a building permit. The construction drawings shall be drawn to an appropriate scale.

Contamination. An impairment of the quality of the potable water that creates an actual hazard to the public health through poisoning or through the spread of disease.

Critical Level (C-L). An elevation (height) reference point that determines the minimum height at which a backflow preventer or vacuum breaker is installed above the flood level rim of the fixture or receptor served by the device. The critical level is the elevation level below which there is a potential for backflow to occur. If the critical level marking is not indicated on the device, the bottom of the device shall constitute the critical level.

Cross Connection. Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas or chemical, whereby there exists the possibility for flow from one system to the other, with the direction of flow depending on the pressure differential between the two systems (see “Backflow”).

Customer. The owner or person in control of any premises supplied by or in any manner connected to a public potable water system.

Customer’s Potable Water System. Any water system located on the customer’s premises. A building plumbing system is considered to be a customer’s water system.

Design Flood Elevation. The elevation of the “design flood,” including wave height, relative to the datum specified on the community’s legally designated flood hazard map.

Developed Length. The length of a pipeline measured along the centerline of the pipe and fittings.

Double Check Valve Assembly. An assembly composed of single, independently acting check valves approved under ASSE Standard 1015. A double check valve assembly must include tight shutoff valves located at each end of the assembly and suitable connections for testing the water-tightness of each check valve.

Effective Opening. The minimum cross-sectional area at the point of water supply discharge, measured or expressed in terms of the diameter of a circle or, if the opening is not circular, the diameter of a circle of equivalent cross-sectional area. For faucets and similar fittings, the effective opening shall be measured at the smallest orifice in the fitting body or in the supply piping to the fitting.

Essentially Nontoxic Transfer Fluids. Fluids having a Gosselin rating of 1, including propylene glycol; mineral oil; polydimethylsiloxane; hydrochlorofluorocarbon, chlorofluorocarbon and carbon refrigerants; and FDA-approved boiler water additives for steam boilers.

Essentially Toxic Transfer Fluids. Soil, waste or gray water and fluids having a Gosselin rating of 2 or more including ethylene glycol, hydrocarbon oils, ammonia refrigerants and hydrazine.

Existing Installations. Any plumbing system regulated by this code that was legally installed prior to the effective date of this code, or for which a permit to install has been issued.

Fixture Supply. The water supply pipe connecting a fixture to a branch water supply pipe or directly to a main water supply pipe.

GPCD. Gallons per capita per day.

Health Hazard. Any condition, device or practice in a water system or its operation resulting from a real or potential damage to the health and well-being of customers. The word “severe” as used to qualify “health hazard” means a hazard to the health of the user that could be expected to result in death or significant reduction in the quality of life.

Horizontal Pipe. Any pipe or fitting that makes an angle of less than 45 degrees (0.79 rad) with the horizontal.

Individual Water Supply. A water supply that serves one or more families and that is not an approved public water supply.

Inspection. A plumbing inspection to examine carefully and critically all materials, fixtures, piping and appurtenances, appliances and installations of a plumbing system for compliance with the requirements of the Illinois Plumbing Code, 77 Ill. Adm. Code 890, and all other applicable codes adopted and enforced by the Village of Spring Grove.

Joint.

- **Expansion.** A loop, return bend or return offset that provides for the expansion and contraction in a piping system and is utilized in tall buildings or where there is a rapid change of temperature, as in power plants, steam rooms and similar occupancies.
- **Flexible.** Any joint between two pipes that permits one pipe to be deflected or moved without movement or deflection of the other pipe.
- **Mechanical.** A connection between pipes, fittings, or pipes and fittings that is not screwed, caulked, threaded, soldered, solvent cemented, brazed or welded. A joint in which compression is applied along the centerline of the pieces being joined. In some applications, the joint is part of a coupling, fitting or adapter.

- **Slip.** A type of joint made by means of a washer or a special type of packing compound in which one pipe is slipped into the end of an adjacent pipe.

Lead-Free Pipe and Fittings. Pipe and fittings containing not more than 8.0-percent lead.

Main. The principal pipe artery to which branches are connected.

Non-Potable Water. Water not safe for drinking, personal or culinary utilization.

Nuisance. Public nuisance as known by the Village Code, the State statutes or regulations, the common law or equity jurisprudence; whatever is dangerous to human life or detrimental to health; whatever structure or premises is not sufficiently ventilated, sewerred, drained, cleaned or lighted, with respect to its intended occupancy; and whatever renders the air, or human food, drink or water supply unwholesome.

Occupancy. The purpose for which a building or portion thereof is utilized or occupied.

Offset. A combination of approved bends that makes two changes in direction bringing one section of the pipe out of line but into a line parallel with the other section.

Open Air. Outside the structure.

Person. Any person, firm, company, corporation, partnership, limited liability company or partnership, or any other business or entity whether legally formed or not.

Plumbing. The practice, materials and fixtures utilized in the installation, maintenance, extension and alteration of all piping, fixtures, plumbing appliances and plumbing appurtenances, within or adjacent to any structure, in connection with sanitary drainage or storm drainage facilities; venting systems; and public or private water supply systems.

Plumbing System. Includes the water supply and distribution pipes; plumbing fixtures and traps; water-treating or water-using equipment; soil, waste and vent pipes; and sanitary and storm sewers and building drains; in addition to their respective connections, devices and appurtenances within a structure or premises.

Pollution. An impairment of the quality of the potable water to a degree that does not create a hazard to the public health but that does adversely and unreasonably affect the aesthetic qualities of such potable water for domestic use.

Potable Water. Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the bacteriological and chemical quality requirements of the Public Health Service Drinking Water Standards or the regulations of the public health authority having jurisdiction.

Private Water Supply. Any means of obtaining water to a parcel, structure or property which does not utilize the public water system.

Process Fluid(S). Any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, pollutional or system hazard if introduced into the public or a customer's potable water system. This includes but is not limited to:

1. Polluted or contaminated waters;
2. Process waters;
3. Used waters originating from the public water system which may have deteriorated in sanitary quality;
4. Cooling waters;
5. Questionable or contaminated natural waters taken from wells, lakes, streams or irrigation systems;
6. Chemicals in solution or suspension; and
7. Oils, gases, acids, alkalis and other processes, or for fire fighting purposes.

Public Water Main. A water supply pipe for public utilization controlled by the Village.

Public Water System. All mains, pipes and structures through which water is obtained and distributed to the public, including wells and well structures, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing water for drinking or general domestic use by the public. A public water system is either a "community water supply" or a "non-community water supply".

Ready Access. That which enables a fixture, appliance or equipment to be directly reached without requiring the removal or movement of any panel, door or similar obstruction and without the use of a portable ladder, step stool or similar device.

Reduced Pressure Principle Backflow Preventer. A backflow prevention device consisting of two independently acting check valves, internally force-loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to the atmosphere, internally loaded to a normally open position between two tightly closing shutoff valves and with a means for testing for tightness of the checks and opening of the relief means.

Registered Design Professional. An individual who is registered or licensed to practice professional architecture or engineering as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

Structure. That which is built or constructed or a portion thereof.

Survey. The collection of information pertaining to a customer's piping system regarding the location of all connections to the public water system and must include the location, type and most recent inspection and testing date of all cross-connection control devices and methods located within the customer's piping system. The survey must be in written form, and should not be an actual plumbing inspection. The survey shall comply with all IEPA standards.

System Hazard. A condition through which an aesthetically objectionable or degrading material not dangerous to health may enter the public water system or a customer's potable water system.

Third-Party Certification Agency. An approved agency operating a product or material certification system that incorporates initial product testing, assessment and surveillance of a manufacturer's quality control system.

Third-Party Certified. Certification obtained by the manufacturer indicating that the function and performance characteristics of a product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification is in the form of identification in accordance with the requirements of the third-party certification agency.

Third-Party Tested. Procedure by which an approved testing laboratory provides documentation that a product, material or system conforms to specified requirements.

Used Water. Any water supplied by a public water system to a customer's water system after it has passed through the service connection and is no longer under the control of the public water system's official custodian.

Vacuum. Any pressure less than that exerted by the atmosphere.

Vacuum Breaker. A type of backflow preventer installed on openings subject to normal atmospheric pressure that prevents backflow by admitting atmospheric pressure through ports to the discharge side of the device.

Vertical Pipe. Any pipe or fitting that makes an angle of 45 degrees (0.79 rad) or more with the horizontal.

Village. The Village of Spring Grove, Illinois.

Water Main. A water supply pipe or system of pipes, installed and maintained by the village, public utility company or other public entity, on public property, in the street or in an approved dedicated easement of public or community use.

Water Service. The opening, including all fittings and appurtenances at the water main, through which water is supplied to the user.

Water Outlet. A discharge opening through which water is supplied to a fixture, into the atmosphere (except into an open tank that is part of the water supply system), to a boiler or heating system, or to any devices or equipment requiring water to operate but which are not part of the plumbing system.

Water Pipe

- **Riser.** A water supply pipe that extends one full story or more to convey water to branches or to a group of fixtures.
- **Water Distribution Pipe.** A pipe within the structure or on the premises that conveys water from the water service pipe or from the meter when the meter is at the structure, to the points of utilization.
- **Water Service Pipe.** The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the building served.

Water Purveyor. The owner of the public water system.

Water Supply System. The water service pipe, water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.

Well

- **Bored.** A well constructed by boring a hole in the ground with an auger and installing a casing.
- **Drilled.** A well constructed by making a hole in the ground with a drilling machine of any type and installing casing and screen.
- **Driven.** A well constructed by driving a pipe in the ground. The drive pipe is usually fitted with a well point and screen.
- **Dug.** A well constructed by excavating a large-diameter shaft and installing a casing.

Article – 2 Water Main

2503 Extension of Water Main

- 2503.1 **Extension.** No person shall uncover, make any connection with or opening into, use, alter or disturb any public water main of the Village for the purpose of extending the same without first making application to the Building Department for making said extension.
- 2503.2 **Application.** Persons desiring such extension of the water supply system shall file with the Building Department four copies of the following documents:
- A. **Plans.** Detailed plans and specifications prepared by a registered professional engineer, registered in the State of Illinois.
 - B. **IEPA.** IEPA permit application with such supporting documents required by the IEPA, completely filled out and ready for Village signature.
 - C. **Estimate.** Detailed estimate of the cost of the extension.
- 2503.3 **Engineer Approval.** After approval of the plans and specifications by the Village Engineer and receipt of an IEPA permit, the person or persons shall submit to the Building Department the following documents prior to starting the extension:
- A. **Accordance with Plans.** Agreement and bond executed by the permittee wherein he agrees to make and install the improvements in accordance with the plans and specifications specifying a completion date not more than six months after the date of the agreement unless the Village Board determines, on the basis of the recommendation of the Village Engineer, that a longer time is necessary.
 - B. **Guarantee for Completion.** The guarantee for completion of the improvements by the permittee shall be in the principal amount of 125 percent of the estimated cost as approved by the Village Engineer; and secured by an irrevocable letter of credit issued by a federally insured bank or savings and loan association approved by the Village and located within 10 miles of the Village limits subject to draw by the Village to complete the improvements if it is not completed within the prescribed time limit. The letter shall be approved by the Village and provide that funds may be drawn only by the Village.

1. **Duration.** The irrevocable letter of credit shall remain in effect for a period of one year after acceptance of the work by the Village Engineer and Building Department, as a guarantee of good faith of the permittee to correct defects. At the discretion of the Village Board the irrevocable letter of credit may be reduced during the maintenance period.

C. **Permits.** Provide copies of all permits, insurance and bonds required for street openings or stream crossings and any other permits required by an agency having jurisdiction.

D. **Protection of Village.** Provide Certificates of Insurance listing the Village as an additional insured against any liability or damage whatsoever from injury, including death, to any person or property. The coverages and amount of the insurance shall be as established by the Village.

2503.4 **Agreement.** The person extending the public water main shall agree as follows:

A. **Plan Review Cost.** Agree to pay all costs of the plan review by the Village Engineer or other consultants. Payment shall be made to the Village prior to the Village signing the IEPA permit applications.

B. **Inspection Fees.** Agree to pay all costs of inspection including resident supervision if deemed necessary by the Village Engineer or other consultants. The estimated cost of inspection, approved by the Village Engineer or other consultants, shall be deposited with the Village Treasurer prior to the start of the work and additional funds shall be added during the work if required. The permittee, however, shall pay only the actual cost of such services based on standard engineering fees. At the completion of the work any unused portion of the amount deposited shall be returned. No interest shall be paid on deposited funds.

C. **Compliance.** Agree that all materials and construction methods shall be in strict compliance with specifications established by the Village.

D. **Drawings.** Agree that the engineer designing the extension shall file as-built drawings at the completion of the work with the Village.

2503.5 **Release of Letter of Credit.** The irrevocable letter of credit will not be released until the following documents are filed with the Village Clerk and approved by the Code Official:

A. **Plans.** As-built drawings: one reproducible set and two sets of prints.

B. **Permits.** Release of all permits.

- C. **Test Reports.** Copies of all tests reports required by the Building Department.
- D. **Capacity.** No extension shall be allowed to the public water system if the Village Board determines that the public water system has inadequate capacity.

2504 Required Extension and Connection

- 2504.1 **New Development.** Any development, property or new structure granted preliminary approval after the effective date of this Ordinance may be required to construct a water distribution system complete with valves, fire hydrants and other appurtenances required by this Chapter.
- 2504.2 **Annexation.** Any parcel and/or building located outside the Village shall be required to be annexed to the Village prior to connection to the public water supply, unless otherwise approved by the Village Board.
- 2504.3 **Abutting Property.** Private water supply shall not be used for domestic purposes for any building to be occupied when a public water main is located on any abutting easement, right of way or across the street. The owner/operator of all buildings, properties or structures situated within the Village abutting any alley, easement, right-of-way, street or across the street where a public water main is located on is required to make a connection to the public water system in accordance with the provisions of this Chapter within 90 days after the date of official notice to do so. Any and all expenses to connect to the public water main shall be totally the owner's expense. The connection shall comply with Section 2512. At such time as the connection is made to the potable water system the use of any private water supply is prohibited.
- 2504.4 **Within 500 Feet.** A private water supply shall not be used for domestic purposes for any building or structure to be occupied when a public water main is located within 500 ft. of said building or structure.
- 2504.5 **Health, Safety, and Welfare.** Where it is determined by the Village, that in the best interest of the health, safety, and welfare of its residents, business owners, and visitors that public water be supplied to a property, parcel, structure, or development, the Village may require extension of the public water main in its sole discretion.
- 2504.6 **Expenses.** Any and all expenses incurred to extend the public water main shall be totally at the owner's expense.

2505 Water Main Design

- 2505.1 **Sizing of Main.** The water main sizes shall be designed to service adequately the developments, and properties for which they are intended for, including fire-flow. All systems must be sized for future expansion and may need to be oversized to provide sufficient regional flow. The design engineer shall submit calculations showing that the flows in the system at various locations are adequate for domestic consumption and fire flow demand, with a required minimum twenty-five (25) pounds per square inch (psi) residual pressure.
- 2505.2 **Design Flows.** For purposes of water main design, maximum day flows shall be based on Table 2505.2.

Table 2505.2

<u>Location or Type</u>	<u>Domestic</u>	<u>Fire Flow</u>
Residential Single Family, detached	100 gpcd	1,500 gpm
Residential Single Family, attached	100 gpcd	2,000 gpm
Residential Multi-Family	100 gpcd	3,000 gpm
Office	50 gpcd	3,000 gpm
Commercial	60 gal/employee/shift	6,000 gpm
Industrial	75 gal/person/shift	6,000 gpm

Flow shall be calculated using a 'C' factor of one hundred, ignoring fittings, and with a minimum residual pressure of twenty-five (25) psi.

- 2505.3 **Minimum Size.** The minimum size of the public water main at any point shall be 8".
- 2505.4 **Location of Valves.** Valves shall be located on water mains so as to be able to isolate sections of main from the entire system with a minimum disruption of service.
- 2505.5 **Valve Distance.** Valves shall be installed so that not over 800 ft. of water main, with services, will be shut off at any time. Transmission lines with no service connections shall have valves located so that not over 1200 ft. of main will be shut off at any time. Valves on water mains servicing single family residential areas shall be installed so that no more than 800 ft. of water main and/or no more than twenty-five (25) units shall be affected when shutting off a section of main, or as approved by the Code Official.

- 2505.6 **Isolation.** Valves shall be located so that no more than four valves are required to be closed to isolate a section of water main.
- 2505.7 **Valve Vaults.** Valve vaults are required on all valves two and one-half inches or larger. Valve vaults shall be sixty inches inside diameter or larger with offset cones or as may be approved by the Village.
- 2505.8 **Thrust Blocks.** Thrust blocks shall be required at all hydrant tees and bends. Where undisturbed earth is not available and not likely to be available to support the thrust blocks, tie rods and or retaining glands (Megalugs) shall be used as approved by the Code Official.
- 2505.9 **Burial Depth.** All water mains shall be constructed a minimum of six feet and a maximum of eight feet below final grade unless otherwise approved by the Code Official.
- 2505.10 **Separation.** Separation and protection of water mains from sewers shall comply with the Illinois EPA Division of Public Water Supplies Technical Policy Statements, latest edition.

2506 Water Main Material

- 2506.1 **Pipe.** All pipe and casings shall be Class 52 Ductile Pipe, Domestic only.
- 2506.2 **Laying Length.** All pipe shall have a minimum laying length of eighteen feet.
- 2506.3 **Joints.** Pipe joints shall be push-on joints or mechanical joints conforming to AWWA C-111 (ANSI 21.11).
- 2506.4 **Sleeved.** Any water main located within a sleeve must use field-lock gaskets.
- 2506.5 **Cement-Mortar.** All pipes and fittings shall be cement-mortar lined in accordance with AWWA C-104 (ANSI A-21.4).
- 2506.6 **Fittings.** All water main fittings shall be ductile iron fittings conforming to AWWA specification C-110 (ANSI 21.10), domestic only. All mechanical joints or water main fittings shall use stainless steel T-bolts and nuts and Megalug restraining devices. No substitutions will be allowed.
- 2506.7 **Valves.** All valves shall be Clow or Mueller resilient wedge valves, parallel set, non-rising stem gate valves conforming to AWWA C-500. Valves shall open counter clockwise. Joints shall be mechanical or push-on type conforming to AWWA C-111.

- 2506.8 **Valves larger than 8".** Valves larger than eight inches shall be ductile-iron body, rubber sealed, tight closure butterfly valves conforming to AWWA C-504. Valves shall be Class 150-8 and shall open counter clockwise and be operated by a two inch square nut. Joints shall be flanged joints. Valves shall be Pratt-Groundhog Butterfly or Mueller Lineseal III. Other valves may be allowed upon review and approval of the Code Official.
- 2506.9 **Vaults.** Valve vaults shall be a minimum sixty inches inside diameter and shall consist of precast reinforced concrete sections meeting ASTM C-478 and ASTM C-433 standards or as approved by the Village.
- 2506.10 **Rings.** Adjusting rings shall be precast concrete rings.
- 2506.11 **Vault Steps.** Vault steps shall be Neenah R-1981-1 or such alternative as may be approved by the Code Official.
- 2506.12 **Stamping.** Frames and grates for valve vaults shall be Neenah or such alternative as may be approved by the Code Official. Frames and grates shall be embossed with "Water" and have a recessed pick-hole.
- 2506.13 **Openings.** All pipe openings shall have a lockjoint flexible manhole sleeve, conforming to ASTM-C, integrally cast into the barrel section.

2507 Water Main Construction Standards

- 2507.1 **Conformance.** Water mains and appurtenances shall be installed in conformance with AWWA C-600, the material manufacturer's recommendations, the standard specifications for Water and Sewer Main construction in Illinois, and this Chapter.
- 2507.2 **Trench Backfill.** Trench backfill shall be required in all locations where the water main trench is under or within two feet of existing or proposed pavement, including but not limited to streets, sidewalks and driveways. The trench backfill shall be placed in lifts not exceeding eight inches and shall be mechanically compacted to not less than ninety-five percent of the standard laboratory density. Verification of density testing shall be provided to the Village.
- 2507.3 **Water in Trench.** Where water is encountered in the trench, it shall be removed during pipe-laying and joint operations. Trench water shall not be allowed to enter the pipe being laid at any time.
- 2507.4 **Water System Connections.** All connections to the existing public water system shall be made under full water service pressure unless otherwise approved by the Village.

2507.5 **Butterfly Valves.** All butterfly valves shall be attached to the water main with a MJ and flange connector to facilitate removal of the valve. The valve vault shall be of sufficient size to accommodate the valve and connector as approved by the Village.

2507.6 **Bedding and Trench Backfill.** Aggregate for bedding when required and for trench backfill shall conform to requirements of Article 704.01 of the “Standard Specifications for Road and Bridge Construction”, State of Illinois, and conform to gradation CA-6. No recycled concrete shall be allowed for use as bedding or trench backfill.

2508 Fire Hydrants

2508.1 **Use.** All hydrants constructed in the Village for the purpose of extinguishing fires are hereby declared to be public hydrants. No persons other than members of a Fire Protection District and those authorized by the Village shall open any such hydrant or attempt to draw water from same or in any manner interfere with or injure any such hydrants.

2508.2 **Protection.** Any connection being made to a fire hydrant shall provide proper backflow protection, except for connection made by members of the Fire Protection District. A backflow prevention device being used as the protection must be certified at time of installation.

2508.3 **Obstruction of Hydrants.** No person shall obstruct the use of any fire hydrant or place any material in front thereof. Any material forming such obstruction may be removed by the Village or by the Fire Protection District. The cost of removal shall be borne by the owner thereof.

A. **Removal.** Any obstruction shall be removed in any manner deemed necessary to obtain access to an obstructed fire hydrant.

2508.4 **Wrenches.** No person shall use any water or fire hydrant wrench without the permission of the Village except for Fire Protection District.

2508.5 **Temporary Use.** The Code Official shall review and approval all applications for connections to a hydrant as a temporary source of water for construction or other purposes in compliance with Sections 2508.1 through 2508.4. Additionally, each temporary user shall be required to install a temporary meter.

A. **Cost.** The user shall make a deposit equal to the replacement cost of the meter which shall be returned, less \$10 per week or portion thereof for meter rental, any cost of maintenance, repair or replacement of to the meter. The user shall also pay the established fee for use of the water and the costs of any damage to the hydrant or other appurtenant structure.

- 2508.6 **Location.** Hydrants shall be installed at all street intersections and at a maximum 300 ft. spacing along the lengths of streets in commercial areas, 500 ft. spacing along the length of streets in a single family residential area and 250 ft. for multi-family residential area. When a building to be occupied will be set back 250 ft. or more from a street or is located more than 300 ft. from a hydrant, additional hydrants shall be installed such that one hydrant shall be located at the entrance to the building and hydrants shall be provided around the perimeter of the building at maximum 250 ft. spacing measured along access roads. Such hydrants shall be installed not more than 50 ft. or less than 25 ft. from the building.
- 2508.7 **Approval.** Fire hydrant spacing and location plans shall be submitted to the Code Official for review and approval.
- 2508.8 **Type.** Fire hydrants shall be Clow Medallion F-2545, or Mueller Centurion A428 (5 ¼" Barrel), Auxiliary Valve, 6" attached installed with three piece valve box with rubber stabilizer.
- 2508.9 **Detail Specifications.** All fire hydrant installation details shall comply with illustration W-5 of this Chapter.
- 2508.10 **Conformance.** Fire hydrants shall be dry barrel type with breaktype flange and auxiliary gate valves and shall conform to AWWA C-502.
- 2508.11 **Color.** All fire hydrants shall be red.
- 2508.12 **Outlets.** Hydrants shall have two and one-half inch (2 ½") hose outlets, and four and one-half inch (4 ½") national standard thread outlets.
- 2508.13 **Drainage.** Fire hydrants shall have a minimum of seven (7) cubic feet of one inch (1") to one and one-half inch (1 ½") washed stone placed at the base of the hydrant to provide drainage at the barrel.
- 2508.14 **Elevation.** The breakline flange of hydrants shall not be less than one inch (1") or more than three inches (3") above finished ground elevation.
- 2508.15 **Right of Way Installation.** Hydrants in street rights of way shall be placed not less than two and a half feet, nor more than five feet from the back of curb.

2509 Pressure Tests and Main Flushing

- 2509.1 **Notice.** As part of the construction of development improvements, all water mains and water services which are three inches or greater shall be pressure tested as described in this Section 2509. Pressure tests shall be scheduled with the Village, with a minimum of forty-eight hours notice prior to the test. Only authorized Village employees with operate valves connected to the existing water system.
- 2509.2 **Procedure.** All newly laid pipe shall be pressure tested utilizing an oil-filled pressure gauge, in two pound increments. The pressure level for the test shall be one hundred pounds per square inch, with no loss or gain. Duration of each pressure test shall be for a period of not less than one hour. Each valve section of pipe shall be filled with water and the specified test pressure shall be applied by means of a pump connected to the pipe. Prior to applying the specified test pressure, all air shall be expelled from the pipe. Any cracked or defective pipes, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced. The test shall be repeated until satisfactory results are obtained.
- 2509.3 **Prior to Connection.** All testing shall take place prior to the installation of any service lines.
- 2509.4 **Hydrants.** All valves, including hydrant auxiliary valves, shall be open to include hydrants in the pressure test and chlorination.
- 2509.5 **Observation.** All pressure tests, chlorination and bacteria samples shall be done in the presence of authorized Village personnel.
- 2509.6 **Preliminary Flushing.** Prior to chlorination, the main shall be flushed as thoroughly as possible with the water pressure and outlets available. Flushing shall be done after the pressure test is made. This flushing removes only the lighter solids and cannot be relied upon to remove heavy material allowed to get into the main during the installation stage. If no hydrant is installed at the end of the main, a tap should be provided large enough to effect a velocity at least two and one-half (2 ½) pounds per second.

2510 Disinfection of Water Main

- 2510.1 **Point of Application.** The preferred point of application of the chlorinating agent shall be at the beginning of the pipeline extension of any valve section of it and through a corporation stop in the top of the newly laid pipe. The injector for delivering the chlorine-gas into the pipe should be supplied from a tap on the pipeline extension side of the gate valve controlling the flow into the pipeline extension.
- 2510.2 **Water Flow.** Water from the existing distribution system or other source of supply shall be controlled to flow slowly into the newly laid pipeline during the application of chlorine-gas. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall be at least fifty ppm, or enough to meet the requirements during the retention period.
- 2510.3 **Backflow.** Valves shall be manipulated so that the strong chlorine solution in the line which is being treated does not flow back into the line supplying the water.
- 2510.4 **Required Time.** The treated water shall be retained in the pipe at least twenty-four hours. After the chlorine-treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points should be at least ten ppm.
- 2510.5 **Valves During Disinfection.** In the process of chlorinating newly laid pipe, all valves and other appurtenances shall be operated while the pipeline is being filled with the chlorinating agent.
- 2510.6 **Conformance.** All water mains shall be disinfected and tested according to the requirements of the "Standard for Disinfection of Water Mains", AWWA C-601 and as required by this Chapter. Disinfection shall be performed by an independent firm exhibiting experience in the methods and techniques of this operation, and shall be done in the presence of the Village. The Village shall be notified of the time of disinfection a minimum of forty-eight hours prior to the start of the disinfection procedure.

2511 Final Flushing and Testing of Water Main

- 2511.1 **Site Plans.** An 8 ½" by 11" site plan shall be submitted to the Building Department which shall show any section of main being pressure tested, chlorinated, or tested for bacteria levels; shall clearly show the sections of main being submitted for permit; and shall clearly indicate the footage.

- 2511.2 **Final Flush.** Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipeline at its extremities until the replacement water, throughout its length shall, upon test, be approved as safe water by the Village. This quality of water delivered by the new main should continue for a period of at least two full consecutive days as demonstrated by laboratory examination of samples taken from a tap located and installed in such a way as to prevent outside contamination. Samples may not be taken from a fire hydrant. Two samples, taken twenty-four hours apart, shall pass requirements of this Chapter. Upon final flushing, the chlorine residual in the new main shall not exceed normal chlorine residual in the existing main.
- 2511.3 **Test Samples.** Samples shall be taken by the firm performing the disinfection of the main and in the presence of the Village personnel. Samples shall be taken to a laboratory approved by the Village for analysis.
- 2512 **Appendices W-1 through W-9**
- 2512.1 **Adopted.** Detail and specifications for compliance with this Chapter are set forth in Appendices W-1 through W-9, attached hereto and made a part hereof.
- 2512.2 **Discrepancy.** Where a discrepancy between this Chapter and the appendices attached exist, the more stringent shall apply.

Article – 3 Water Services

2513 Water Service Design

- 2513.1 **Service Sizing.** The minimum service size shall be one inch (1"). All service lines shall be designed with a minimum diameter necessary to provide adequate domestic and fire flow use.
- 2513.2 **Connection.** One inch service lines shall be direct tapped. Service lines greater than one inch (1") and less than three inch (3") shall be connected with approved service saddle and corporation stop. Service lines three inches (3") and larger shall conform to Article 2 of this Chapter.
- 2513.3 **Valves.** Each service line less than three inches (3") in diameter shall have a curb stop, and B-Box. Service lines three inches (3") and larger shall have gate valves conforming to water main gate valve specifications and conform to Article 2 of this Chapter.
- 2513.4 **Location of Valves.** Curb stops and curb boxes shall not be located in the rights of way. Such curb stops and boxes shall not be located within two feet of any paved area or other hard dust-free surface.
- 2513.5 **Burial Depth.** Water service lines shall have a minimum cover of seventy-two inches.
- 2513.6 **Repair Sleeves.** Repair sleeves shall be full circle, and all stainless steel.
- 2513.7 **Three Inch and Larger.** Water service lines three inches and larger shall be subject to pressure testing and chlorination in conformance with Article 2 of this Chapter.
- 2513.8 **Bedding and Trench Backfill.** Aggregate for bedding when required and for trench backfill shall conform to requirements of Article 704.01 of the "Standard Specifications for Road and Bridge Construction", State of Illinois, and conform to gradation CA-6. No recycled concrete shall be allowed for use as bedding or trench backfill.
- 2513.9 **Prior to Connection.** The installer must have obtained an IEPA permit, and must have submitted it to the Village, prior to installation of any service connections.

2514 Responsibility for Installation; Supervision

- 2514.1 **Service Lines.** All service lines from the mains to the water distribution system of any premises shall be installed by and at the sole cost and expense of the owner of the property to be served or the applicant for the service.
- 2514.2 **Application.** Any person desiring to hook up to the public water system shall make application to do so with the Building Department. Each application shall contain all of the following:
- A. **Plans.** A plat of survey detailing: location of main, point of connection, building entrance point, distances from sewer main, and all other relevant property information.
 - B. **License.** A Copy of Illinois State Plumbing License and State of Illinois Plumbing Registration License for contractor performing work and connection.
 - C. **Letter of Intent.** Provide a letter of intent from contractor who will be performing work and connection.
- 2514.3 **Inspections.** Such installation shall be inspected by and made under the supervision of the Building Department.
- 2514.4 **Specifications for Pipes.** Service pipes shall be in strict conformance with Illinois State Plumbing Code, and all Village Ordinances.
- 2514.5 **Protection.** A backflow prevention device is required for every dwelling or building connected to the water system. This Chapter outlines what type of device is required based on level of hazard.
- 2514.6 **Maintenance Responsibilities.** The Village has no obligation to repair service pipes or plumbing systems of any buildings, structures or other facilities, provided, however, that only authorized personnel of the Village may repair water meters serving any premises. The Village may, in case of emergency, repair any service pipe and, if this is done, the cost of such repair work shall be paid immediately by the owner of the premises served upon receipt of an invoice from the Village. The person who owns or occupies a given premises shall be responsible for all repairs and maintenance of the service connection and water supply system.

2515 Water Service Material

- 2515.1 **Services less than 3".** Service lines less than three inches shall be K copper only. PEX or PEX-AL-PEX water pipe and tubing may be used for hot and cold water distribution systems within an accessory building or municipal building with pre-approval of the Building Department. *(Revised Ord. 2010-08)*
- 2515.2 **Three Inch and Larger.** Service lines three inches and larger shall be ductile iron and shall conform to Article 2 of this Chapter.
- 2515.3 **Corporation Stops.** Corporation stops shall be A.Y. McDonald; 4701 B – Flare or 4701 BQ – Compression.
- 2515.4 **Curb Stops.** Curb stops shall be A.Y. McDonald; 6104 – Flare or 6104 Q - Compression.
- 2515.5 **B-Boxes.** B-Boxes shall be A.Y. McDonald; 5614 – Minneapolis Style with 1 ¼" Upper Sections or 5615 – Minneapolis Style with 1 ¼" Upper Sections. B- Boxes shall have a minimum six foot bury depth (max eight foot under pavement), no risers shall be accepted.
- 2515.6 **Tapping Saddles.** Water services 1 ¼" through 2" shall use approved tapping saddles as follows: Smith Blair #317 or Cascade, CST-EX only.
- 2515.7 **Repair Sleeves.** Repair sleeves shall be full circle, all stainless steel. Approved sleeves are Smith Blair #261 or Cascade CR1 only.

Article – 4 Connections

2516 Permits, Notice Required for Connections; Fees, Supervision, Inspection

- 2516.1 **Permit Required.** No connection with a water main shall be made without a permit being issued and twenty-four (24) hours notice having been given to the Building Department. Application for permits to make such connections shall be made to the Building Department.
- 2516.2 **Permit Fee.** A permit and inspection fee of \$150.00 for a residential water permit and \$300.00 for a commercial or industrial water permit shall be paid to the Village at the time the application is filed. In addition to the permit and inspection fee, the fee for the purchase and installation of the water meter or water meters for the property shall be paid, in full, at the time the application is filed. The connection fee will be determined based on this Chapter.
- 2516.3 **Inspections.** All connections shall be inspected by and made under the supervision of the Building Department.
- 2516.4 **Connection Fees.** The connection fees to be paid by those connecting to the public water system shall be paid prior to the issuance of a building permit for new construction or prior to connection for an existing structure. The connection fee for residential, commercial and industrial properties is \$2,500.00 per RCE, with a minimum 1 RCE per structure. For purposes of this Ordinance, Residential Customer Equivalent (“RCE”) shall mean the average water usage of a single family dwelling unit of 350 gallons per day.
- 2516.5 **Estimation of RCE.** The estimated RCE for a particular unit shall be determined by the Building Department and shall be equivalent to and based upon the average twenty four (24) hour rate of water consumption of comparable building uses. The Building Department may use any available information including usage in other municipalities to determine the RCE.
- 2516.6 **Approved Material.** All water service lines having a diameter of less than 3 inches shall be made of type K copper, shall consist of a continuous uncut length of copper pipe between the two (2) terminal ends and shall be connected with flared couplings at such terminal ends. The use of sweated joints, lead pipe and lead solder is prohibited.
- 2516.7 **Larger than Two Inch.** All water service lines having a diameter of three (3) or more inches shall be made of ductile iron and shall be connected with push-on or mechanical joints.

Article – 5 Other Provisions/Regulations

2517 Fire Sprinkler System

- 2517.1 **Permit Required.** No connection of a fire sprinkler system to a water main shall be made without a permit being issued and twenty-four (24) hours notice having been given to the Building Department. All such connections shall be inspected by and made under the supervision of the Building Department. Application for permits to make such connection shall be made to the Building Department.
- 2517.2 **Bypass Meter.** All fire sprinkler systems shall have a three-quarter (3/4) inch water meter installed at a location designated by the Building Department as a bypass for the purpose of monitoring water leaks and water usage of the sprinkler system.
- 2517.3 **Fees.** A charge, consisting of a permit fee and the cost of the water meter supplied by the Village shall be payable to the Village at the time application is made for a fire sprinkler connection permit.
- 2517.4 **Where Required.** All commercial and industrial buildings, which are connected to the public water system and required by the International Building Code, shall provide an automatic fire sprinkler system. (*Revised Ord. No. 2011-22*)
- 2517.5 **Installation.** All fire sprinkler installations shall comply with all applicable codes, ordinances and national standards.

2518 Accessibility

- 2518.1 **Turning Water On.** No water from the public water system shall be turned on for service into any premises by any person other than a Village employee or agent. If a person turns on water in violation of this provision he shall be subject to a fine of \$250.00 plus additional costs incurred by the Village to turn off the water.

2519 Resale

- 2519.1 **Prohibited.** No water shall be resold or distributed by the recipient thereof from the public water supply to any premises other than that for which application has been made and the meter installed, except in the case of an emergency.

2520 Access to Equipment

2520.1 **Obstruction.** No person shall in any manner obstruct access to any valve, hydrant, stopcock, manhole, flow measuring equipment or any other equipment necessary to the operation of the public water system which is located in any public street, alley or easement. Obstruction may be removed according to Section 2520.1.A.

A. **Inside Location.** No person shall in any manner obstruct access to any meter or any flow measuring equipment located in any building or structure.

2521 Damage to Equipment and Property

2521.1 **Deliberate Action.** It shall be unlawful for any person to maliciously, willfully or negligently break, damage, destroy, uncover, or deface any structure, appurtenance, equipment, or property of the public water system.

2521.2 **Unauthorized Action.** No unauthorized person shall repair, remove or replace any equipment, appurtenance, or property of the public water system.

2521.3 **Tampering.** It shall be unlawful for any person not authorized by the Village Board to tamper with, alter or injure any part of the public water system, including water meters.

2521.4 **Penalty.** Any person violating any provision of this Section shall be subject to immediate arrest under charge of violation of this Section, and upon a plea or finding of guilt shall pay a fine of not less than \$250.00 plus all fees associated with restoring the equipment.

2522 Service Outside of Village

2522.1 **Public Water Service Outside Village Limits.** Public water service may be made available to premises located outside the Village corporate limits at the discretion of the Village Board.

2522.2 **Approval Requirements.** Approval shall require vote of all members of Village Board.

2522.3 **Fees.** In the event such service is furnished, the user, connection and other fees, rates and charges therefore shall be a minimum of one and one-half (1 1/2) times the fees, rates and charges established in this Article for such service provided within the Village corporate limits.

2522.4 **Extension.** The extension of the water main facilities and service lines shall be at the sole cost and expense of the user and the specifications and installation thereof shall be in accordance with this Chapter.

2523 Limitation of Use of Water

2523.1 **Conservation of Water.** The outside use of water is hereby restricted. On even-numbered days of the month those users who have an even-numbered street address may use water for outside purposes; those who have an odd-numbered address are prohibited from using the water on even-number days. Those who have odd-number addresses may use the water for outside purposes on odd-numbered days; those who have even-numbered addresses are prohibited from using the water for outside purposes on odd-numbered days.

2523.2 **Emergency Water Use Restrictions.** Whenever in the judgment of the Village President, or the certified operator in charge of the potable water system, a public emergency may require it, he or she shall have the right and authority by proclamation to limit in respect to time, or wholly suspend or prohibit for as long as the emergency shall, in his or her judgment require, the use of water for any nonessential purpose, and no person shall use or draw water in violation of any such proclamation.

2523.3 **Penalty.** Any person, firm, or corporation violating this Section, shall be fined not less than \$50.00 and no more than \$750.00 and be responsible for the Village's cost of prosecution, including attorney fees. Each day that a violation continues shall be considered a separate offense. In addition, the Village reserves the right to discontinue water service to any premises until the violation is corrected.

Article 6 - Meters and Charges

2524 Meters Required

2524.1 **Occupancy.** Occupancy is hereby prohibited unless premises have metered water. No Temporary or Permanent Occupancy Permit shall be granted to any premises using the public water supply until a water meter and reader shall have been installed thereon as required by this Article.

2524.2 **Meters and Readers Required.** All premises using the public water supply must be equipped with a water meter and reader furnished by the Village and paid for by the property owner.

2524.3 **Non-metered Water System Acquired by Village.** Where a non-metered water distribution system is acquired by the Village and added to its combined sewer and waterworks system, a water meter and reader, furnished by the Village and paid for by the property owner, shall be installed by the owner of each unmetered premises. The owner of the premises furnished by such meter shall pay to the Village its costs for such water meter and reader.

2524.4 **Shut-Off Valves Required.** All water meters shall be installed with shut-off valves on both the inlet and on the discharge sides of the meter.

2524.5 **Bypass Required.** All meters shall be piped with bypass lines to provide for service without interruption of water service. The line side of the bypass shall have a lockable ball valve. The Village shall provide locks.

Exception: Residential water meters.

2524.6 **Prohibited Location.** The installation of water meters inside of crawl spaces, outside of the structure, in concealed spaces, or in confined areas is prohibited.

Exception: The installation of meters and backflow devices may be installed in engineered approved enclosures, i.e. Hot Box, may be permitted with Building Department approval.

2524.7 **Ownership.** All water meters installed pursuant to this Ordinance shall be the property of the Village.

2525 Location of Meters; Easy Opening; By-Pass

- 2525.1 **Location of Meters.** Meters and readers shall be placed in a location of easy access to the Public Works Department and shall be installed, subject to the approval of the Building Department, in such a manner that any part of such meter may be removed without having to remove it from the water line to which it is attached. The owner shall provide a proper opening in the piping provided with the necessary valves, couplings, unions and by-pass required to install the meter.
- 2525.2 **Meter By-Pass.** Where any water meter two (2) inches or larger is to be installed, there shall also be a by-pass. The valve on said by-pass shall be lockable and in no case shall said lock be broken.

2526 Installation, Repair and Replacement Charges and Fees

- 2526.1 **Meter Replacement and Repairs.** The cost of meter replacement and repairs shall be paid by the Village from system generated revenues, except as provide in Section 2526.4.
- 2526.2 **Installation of Outside Reader.** Where an existing meter is replaced and an outside reader is installed, where no previous outside reader existed, the owner shall pay to the Village a service charge of \$37.50. Where a meter is modified rather than replaced and an outside reader is installed, where no previous outside reader existed, the owner shall pay to the Village a service charge of \$15.00. Each of these service charges shall be billed to the owner and shall be due and payable to the Village within 30 days of the billing date. Payment of such service charge after the due date shall subject the owner to an administrative charge in the amount of ten percent (10%).
- 2526.3 **Replacement of Outside Reader.** Where an existing structure having an outside reader is altered in any way, or a fence is installed on the property, so that outside meter reading is no longer conveniently feasible, the owner of such premises shall pay to the Village the entire material and labor costs of relocating the meter or outside reader. Said sum shall be payable at the time the application for building or remodeling permit is obtained or at the time requested by the Village, whichever is sooner.
- 2526.4 **Meter Repairs.** Property owners shall bear the entire expense of all repairs on water meters on their premises due to freezing or from any other cause owing to the negligence of the said property owner or his tenant. The repairs shall be made by the Village and the cost thereof shall be billed to and paid by the property owner as herein required.

A. **Strainers.** Where the need arises for a strainer to be installed in order to protect the water meter from repeated repair, the property owner shall have one installed by a licensed plumber. The requirement for a strainer shall be determined by the Public Works Department. The work shall be inspected by the Building Department.

2526.5 **Replacement and Testing Program.** The Director of Public Works shall initiate and maintain a program to replace all water meters on a ten (10) year cycle. All water and/or sewer users using a water meter who are receiving water and/or discharging wastewater in excess of 750,000 gallons per year shall have their water/sewer meter tested for accuracy at least every two years.

2527 Meter Reading, Billing Rates

2527.1 **Duty of Village Treasurer.** The Village Treasurer shall cause every water meter used in the Village to be read at such time or times as are necessary so that water bills may be sent out at the proper time.

2527.2 **Right of Access to Premises.** The Village, its servants, agents and employees shall have a continuing right of access to premises which are served with public water for the purpose of reading inside and outside water meters and also for the purpose of inspecting, repairing, installing, modifying and replacing water meters and water meter readers. The water supply to any premises may be shut off whenever access has been hindered or denied by the user and/or owner. In addition to such water shut off, any person, firm, or corporation violating this subsection shall be fined not less than \$100.00 nor more than \$750.00 for each day during, or on which such access to the premises has been prevented.

2527.3 **Water Rates.** All property upon which any building has been or may hereafter be erected having a connection with any mains or pipes which may hereafter be constructed and used in connection with the public water system shall pay \$3.00 per thousand gallons of water used per month, with the minimum charge being \$30.00 per quarter.

2527.4 **Calculating.** Metered usage shall be read by the Village to the lowest even increment of 1,000 gallons.

2527.5

Water Sold In Bulk. The rates for water sold in bulk shall be in accordance with Table 2527.5.

Table 2527.5

\$25.00	500 gallons
\$50.00	1,000 gallons
\$75.00	2,000 gallons

Anyone wishing to purchase water in bulk shall be required to make arrangements for connection with the Building Department, and shall comply with this Chapter. Tickets for water to be sold in bulk may be purchased from the Office of the Village Clerk during normal business hours.

2527.6

Water During Construction. During the construction of any building and before any water has been turned on or before any water meter is installed as is herein provided, the contractor so constructing such building may be permitted to use the public water supply by previously making application therefore to the Building Department and by paying a deposit for a water meter as listed in Table 2527.6. All connections to the water system during construction shall provide a RPZ backflow valve, which shall be certified at time of installation. The contractor shall pay the Village the sum of \$4.10 for each 1,000 gallons, or fraction thereof, of water used in connection with the construction project as measured by said water meter. The deposit shall be refunded minus \$25.00 for ¾" and 1" meters and \$50.00 for 2" and 3" meters when the water meter is returned to the Village and is found to be in good working condition. If for any reason the meter is lost or has to be repaired, the cost of repair or replacement shall be deducted from the deposit. Any deficiency shall be paid by the contractor. Connection to water main shall comply with this Chapter.

Table 2527.6

<u>Meter Size</u>	<u>Amount of Deposit</u>
¾ Inch	\$ 175.00
1 Inch	\$ 375.00
2 Inch	\$ 600.00
3 Inch	\$1,550.00

2528 Billing, Collection of Bills

- 2528.1 **Bills.** Rates or charges for service shall be payable quarterly depending on the classification of service for which bills are rendered. The owner of the premises, the occupant thereof and the user of the service shall be jointly and severally liable to pay for the service to such premises. Bills for water service shall be sent out by the Village Treasurer on the first day of the quarter succeeding the period for which the service is billed.
- 2528.2 **Due Date.** All bills are due and payable 15 days after being sent out. A penalty of 10 percent (10%) shall be added to all bills not paid by the 30th day after they have been rendered.
- 2528.3 **Revenues.** All revenues and moneys derived from the operation of the water system shall be deposited in the water account of the water fund. All such revenues and moneys shall be held by the Village Treasurer separate and apart from all other funds of the Village. The Village Treasurer shall receive all revenues from the water system and all other funds and moneys incident to the operation of such system as the same may be delivered to him or her and deposit the same in the account of the fund designated as the "Water Fund of the Village."

2529 Terminating Service for Nonpayment; Turn-On Service Charge

- 2529.1 **Non-Payment.** If the charges for such services are not paid within sixty (60) days of the date it is mailed by the Village, the Village may, in addition to or in lieu of other remedies set forth in this Chapter, or other remedies available to the Village of Spring Grove by law, disconnect the building or structure from the public water system and cease providing that building with water service. If the charges for services are not paid on the 30th day after the date they have been rendered, the Village shall send a final notice that the water will be shut off on or after a final date for payment unless the charges including interest, penalties and a final notice fee of \$25.00 are paid in full. The property owner shall be responsible to pay any and all delinquent bills, disconnect fees, and reconnection fees, as well as any and all other expenses or fees reasonably incurred by the Village to disconnect and reconnect the building before the building will be reconnected to the public water system.

2529.2

Lien Notice of Delinquency. Whenever a bill for water service remains unpaid for 60 days for quarterly service after it has been rendered, the Village Treasurer may file with the County Recorder of Deeds a statement of lien claim. This statement shall contain the legal description of the premises served, the amount of the unpaid bill, and a notice that the Village claims a lien for this amount as well as for all charges subsequent to the period covered by the bill plus all disconnection and filing fees.

A. **Notification.** If the user whose bill is unpaid is not the owner of the premises the Village Treasurer shall send notice of the claim for lien to the owner of the premises, whenever such bill remains unpaid for the period one hundred and five days (105) for a quarterly bill after it has been rendered.

2529.3

Foreclosure of Lien. The Village may foreclose upon property subject to a lien for unpaid charges, as is the case in the foreclosure of statutory liens.

Article – 7 Private Wells and Supplies

2530 Private Water Wells Supply

2530.1 **Availability.** Whenever a public water main is not available pursuant to this Section, the building service pipe shall be connected to a private water supply complying with the provisions of this Chapter.

A. **Abutting Property.** A private water supply shall not be used for domestic purposes for any building to be occupied when a public water main is located on any abutting easement or right of way. The owner/operator of all buildings, properties or structures situated within the Village abutting any alley, easement, right-of-way, street or across the street which has a public water supply main located on any abutting easement or right of way is required to make a connection to the potable water system in accordance with the provisions of this Chapter within 90 days after date of official notice to do so. Any and all expenses to connect to the public water main shall be totally the owners expense. The connection shall comply with Section 2512. At such time as the connection is made to the potable water system the use of any private supply is prohibited.

2530.2 **Operation.** The owner/operator shall maintain and operate the private water supply system at all times in compliance with the IEPA and McHenry County Health Department standards at no expense to the Village.

2530.3 **Application.** Before construction or abandonment of a private water supply system within the Village, the owner shall first obtain a permit from the McHenry County Health Department and the Village of Spring Groves Building Department. A permit for construction/abandonment and inspection fees shall be paid to the Village Treasurer in such amount as shall be established by the Village Board from time to time. No permit shall be issued by the Village without proof of possession of a valid McHenry County permit for the specific private water supply.

Article – 8 Special Use Systems

2531 Non-Potable Water Systems

2531.1 **Non-Potable Uses.** All systems which are intended as non-potable shall make separate application to the Building Department.

A. **Review.** The application shall be reviewed by the Building Department and any office, professional, and authority the Building Department deems necessary to assure safety of the public water supply.

B. **Review Fee.** The owner/operator of a proposed system shall be responsible for all review fees associated with approving the system.

2531.2 **Protection of Water Supply.** Any proposed connection to the public water supply may be denied by the Building Department in order to protect the public water supply and the public health.

A. **Appeals.** Whenever the Building Department shall reject any submittal, the owner shall have the right to appeal to the Village Board, which shall then consult with the Village Engineer as to the propriety of the appeal. The decision of the Village Board with respect to such appeal shall be final.

Article – 9 Backflow Regulations

2532 Cross-Connection Control General Policy

- 2532.1 **Purpose and Regulations.** The purpose and regulations of this Article is to protect the public water system from contamination or pollution by isolating within the customer's water system contaminants or pollutants which could backflow through the service connection into the public water system, to eliminate cross-connections between the public or customer's potable water system and non-potable water systems, and to provide for cross-connection control which will prevent the contamination or pollution of the public and customer's potable water systems.
- 2532.2 **Application.** These rules and regulations shall apply to all structures and premises served by the public water system of the Village.
- 2532.3 **Policy.** The customer shall be responsible for protection of the public water system from contamination due to backflow or back-siphonage of contaminants through the customer's water service connection. If, in the judgment of the Building Department of the Village, a backflow prevention device is necessary for the safety of the public water system, the Village shall give notice to the customer to install a backflow prevention device at each service connection to the structure or premises. The customer shall immediately install such device or devices at his or her own expense. Failure, refusal or inability on the part of the customer to install such device or devices immediately shall constitute grounds for discontinuing water service to the structure or premises until such device or devices have been installed. The customer shall retain records of installation, maintenance, testing and repair as required in Section 2537.4 for a period of at least five years. The Village shall require the customer to submit a cross-connection inspection report to the Building Department to assist in determining whether or not service line protection will be required. All cross-connection inspections shall be conducted by a Cross-Connection Control Device Inspector certified by the IEPA.

2533 Water System

- 2533.1 **Components.** The water system shall be considered as made up of two parts: The public water system and the customer's water system.

2533.2 **Public Water System.** The public water system shall consist of the source facilities and the distribution system, and shall include all those facilities of the potable water system under the control of the Village up to the point where the customer's water system begins. The source shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the public water system distribution system. The public water system distribution system shall include the network of conduits used to deliver water from the source to the customer's water system.

2533.3 **Customer's Water System.** The customer's water system shall include all parts of the facilities beyond the service connection used to convey water from the public water system distribution system to points of use.

2534 Cross-Connection Prohibited

2534.1 **Protection.** Connections between potable water systems and other systems or equipment containing water or other substances of unknown or questionable quality are prohibited except when and where approved backflow prevention devices or methods are installed, tested and maintained to insure proper operation on a continuing basis.

2534.2 **Prohibitions.** No physical connection shall be permitted between the potable portion of a system and any other water system not of equal or better bacteriological and chemical quality as determined by inspection and analysis by the Village. There shall be no arrangement or connection by which an unsafe substance may enter a supply.

2535 Backflow Devices

2535.1 **Types of Devices.** The type of backflow prevention device required by the Village shall be determined by the Building Department. The Department shall use IEPA regulations, IDPH regulations, and any other applicable regulations in determining which device will be required for a particular customer.

2535.2 **Level of Hazard.** The customer shall disclose all necessary information in regards to its use of water in order to determine the level of hazard for connections to the public water system.

2536 Survey and Investigations

2536.1 **Accessibility.** The customer's premises shall be open at all reasonable times to the Building Department or its designee for the inspection of the presence or absence of cross-connections within the customer's premises, and testing, repair and maintenance of cross-connection control devices within the customer's premises.

2536.2 **Information.** On request by the Building Department, the customer shall furnish information regarding the piping system or systems or water use within the customer's premises. The customer's premises shall be open at all reasonable times to the Department for the verification of information submitted by the customer to the Department regarding cross-connection inspection results.

2536.3 **Survey Scheduling.** It shall be the responsibility of the water customer to arrange periodic surveys of water use practices on his or her premises to determine whether there are actual or potential cross-connections to his or her water system through which contaminants or pollutants could backflow into the customer's premises or the public potable water system. All cross-connection control or other plumbing inspections must be conducted in accordance with 225 ILCS 320/3(1).

2536.4 **Responsibility.** It is the responsibility of the water customer to prevent backflow into the public water system by ensuring compliance with this Chapter.

A. **Protection.** All cross-connections shall be removed or approved backflow prevention devices shall be installed for control of backflow and back-siphonage.

B. **Installation.** Backflow prevention devices shall be installed in accordance with the manufacturer's instructions.

C. **Inspection.** Backflow prevention devices shall be inspected at the time of installation and at least annually by a person approved by the Village and IEPA as a CCCDI. The inspection of mechanical devices shall include physical testing in accordance with the manufacturer's instructions.

2537 Testing and Records

2537.1 **Annual Testing.** Each device shall be tested at the time of installation and at least annually or more frequently if recommended by the manufacturer or as requested by the Building Department. Copies of all tests shall be submitted to the Village.

2537.2 **Submittal.** Records shall be submitted to the Building Department and shall be available for inspection by IEPA personnel in accordance with 415 ILCS 5/4(e).

2537.3 **Information Tag.** Each device shall have a tag attached listing the date of most recent test, name of CCCDI and type and date of repairs.

2537.4 **Maintenance Log.** A maintenance log shall be maintained by the customer, affixed to the backflow prevention device and shall include: date of each test; name and approval number of person performing the test; test results; repairs or servicing required; repairs and date completed; and service performed and date completed.