

**RULES, REGULATIONS, AND CONSTRUCTION STANDARDS
VILLAGE OF SALEM WATER SYSTEM**

**VILLAGE OF SALEM
WASHINGTON COUNTY, NEW YORK
RULES, REGULATIONS, AND CONSTRUCTION
STANDARDS
VILLAGE OF SALEM WATER SYSTEM**

ADOPTED BY THE VILLAGE BOARD ON JUNE 4, 2003

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Appendix A - Standard Details

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I. INTRODUCTION

- A. The ensuing rules and regulations are adopted by the Village Board of the Village of Salem, Washington County, New York, and shall be considered part of the contract with any individual, partnership, corporation, or other entity that is or shall be supplied with potable water within the bounds of the Village of Salem. It is further the intent of this document to promote uniformity and standardization of materials and procedures used in the construction and installation of all public water supply facilities built within the bounds of the Village of Salem.
- B. The construction standards presented herein include standards for appurtenances used in the installation of water service lines as well as major distribution system facilities. Source, treatment, and storage facilities are not covered herein.
- C. The Village of Salem reserves the right to modify these regulations and construction standards as deemed necessary.

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II. APPLICATION FOR WATER SERVICE

A. APPLICATION PROCEDURE

1. Prior to connecting into the Village water system, an application for same shall be completed by the applicant on the form provided by the Village of Salem Water Department. Execution of this document and payment of the appropriate fees shall take place prior to the installation.

B. DEFINITIONS

1. For the application of these regulations and construction standards, any water service that serves a dwelling unit or building that contains two or fewer separate dwelling units shall be considered a residential service. Any water service that serves a dwelling unit or building that contains three or more separate dwelling units shall be considered a commercial/industrial water service.
2. All sales, manufacturing, commercial, school, and service facilities shall be classified as commercial/industrial water service.

C. APPROVED ENGINEERING DRAWINGS & SPECIFICATIONS

1. Residential Services and Commercial/Industrial Services Less than 1”
 - a. Residential services and commercial/industrial water services less than 1” in diameter do not require the submittal of engineering drawings. A water service application is required as specified above.
2. Commercial/Industrial Services 1” and Greater
 - a. Permission to make a tap 1” in diameter and greater shall not be granted prior to the presentation of engineering drawings and specifications depicting the exact location and method to be used in making the tap. Said drawings and specifications shall accompany the water service application and be approved by the Village of Salem Water Department prior to making the tap.
3. Backflow Prevention
 - a. A backflow preventor may be required for commercial/industrial services at the discretion of the Village Water Department. The back flow preventor shall be on the approved list generated by the New York State Department of Health (NYSDOH). Installation shall be in accordance with the Cross Connection Control Manual developed by the NYSDOH.

D. NOTIFICATION

1. At least fourteen (14) calendar days prior to connecting into the Village water main, the Village Water Department shall be notified as to the intent of the individual desiring the tap. It shall be that individual's responsibility to arrange a meeting to discuss the connection with the Village Water Department. Prior to this meeting a water supply application and engineering drawings/specifications, if required, shall be submitted to the Village Water Department.

E. ACCEPTABLE MATERIALS AND METHODS

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1. All materials to be used including but not limited to tapping sleeves, valves, corporation stops, curb stops, water services, flexible couplings, tees, and nipples shall be in accordance with the latest version of the American Water Works Association Standards and Section VIII of these regulations.
2. The work shall be performed in a manner acceptable to the Village Water Department and shall be duly supervised by same. Backfilling of work shall not take place until proper inspections have been made and approval of the work has been given by the Village Water Department.

F. ALLOWABLE MINIMUM SIZE

1. The minimum allowable tap for potable water service shall be ¾" in diameter. Larger taps will be required by the Village where lengthy runs are required or where the service point is substantially higher in elevation than the water main.

G. RESPONSIBILITIES DURING INSTALLATION

1. Responsibility of the Owner

- a. The Owner is obligated to install the necessary and required service piping, corporation stop, curb stop, and related materials at their own expense. The Owner shall also be responsible for installing a water meter provided by the Village Water Department.
- b. The Owner is obligated to assure the Village that no water service shall extend from one dwelling unit to another dwelling unit and that no unmetered water shall be expended. Special approval may be granted to service more than one dwelling unit. This may be done if such special approval is granted in writing by the Village Water Department.
- c. At the time of the installation, or prior to, the Owner shall disconnect any pipe carrying water from any other source (e.g., a water well) or piping of any other kind as stipulated in the State Sanitary Code Part 5, Section 5-1.31. The connection of any pipe or conduit servicing the supply of water of the Village of Salem is strictly prohibited.
- d. During the construction of the water service line, the Owner shall at all times be responsible for the trench in which the pipe is placed and any alleged damages resulting from this installation. All restoration work in public rights-of-way shall be completed by the Owner to the satisfaction of the Village Water Department.

2. Responsibility of the Village

- a. The Village shall provide a water meter and remote register for the Owner to install.
- b. The Village Water Department shall approve all locations and routing of water service lines. Water service lines shall be located a minimum of 10 feet horizontally and 18 inches vertically (above or below) from any sewer line.
- c. The installation of all water service lines, taps, and related materials shall be inspected and approved by the Village Water Department prior to being backfilled.

H. PROCESSING FEE

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1. Residential Services and Commercial/Industrial Services Less than 1”
 - a. For residential services and commercial/industrial services less than 1” in diameter, payment for the water service shall consist of any labor/backhoe operation to hook to the curb stop, plus be in the form of a processing fee. The processing fee includes administrative costs and Village inspection costs associated with the tap, water service, and water meter installation. All other costs including, but not limited to, performing the tap into the Village water main, excavation, backfilling, compaction, and installation of corporation stops, curb stops, and water services shall be at the Owner’s expense. All fees shall be paid in full prior to tapping the Village water system. The schedule of current fees for the appropriately sized water meter and transmitter assigned to the owner by the Village is located in Section VI of these regulations.

2. Commercial/Industrial Services 1” and Greater
 - a. For commercial/industrial services 1” in diameter and greater, payment for the water service shall be in the form of a processing fee. The processing fee includes administrative costs and Village inspection costs associated with the tap, water service, and water meter installation. All other costs including but not limited to performing the tap into the Village water main, excavation, backfilling, compaction, and installation of corporation stops, curb stops, and water services shall be at the Owner’s expense. The appropriate fee shall be paid in full prior to tapping the Village water system. The schedule of current fees for the appropriately sized water meter and transmitter assigned to the owner by the Village is located in Section VI of these regulations.

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III. SPECIAL CONDITIONS AND RESTRICTIONS

A. LIMITS OF SINGLE SERVICE USAGE

1. Residential

- a. A service line shall be designed to serve one dwelling unit property. The Owner is obligated to assure the Village that no water service shall extend from one dwelling unit to another dwelling unit and that no unmetered water shall be expended. Special approval may be granted to service more than one dwelling unit. This may be done if such special approval is granted in writing by the Village Water Department.

2. Commercial/Industrial

- a. Service lines which serve commercial/industrial users shall be so designed that no unmetered water may be drawn. In certain cases, protection against backsiphonage may be required as stipulated in the State Sanitary Code Part 5, Section 5-1.31. Generally, fire fighting systems and sprinklers will be fed from separately installed water mains sized larger than service lines. All fire fighting water systems shall be approved by the Village Board prior to being installed.

3. Special Cases

- a. Service lines serving apartment houses, town houses, condominiums and similar facilities shall be treated on an individual basis. The number and size of service lines providing water to such installations shall be approved by the Village Water Department prior to installation.

B. ACQUISITION OF PERMITS

1. Village Right-of-Way

- a. All excavation and other construction work to be performed within the Village's right-of-way shall be done only with the approval of the Village's Department of Public Works Superintendent or their authorized representative. All restoration work shall be performed to the satisfaction of the Village Department of Public Works Superintendent or their authorized representative upon filing required certificates of insurance naming the Village of Salem as an additional insured in such amounts as the Village requires, together with copies of any construction contracts, required surety bonds, performance, payment bonds, or letter of credits.

2. County Right-of-Way

- a. All work within the Washington County right-of-way shall be performed only if permission is granted to do so by the Washington County Department of Public Works (WCDPW). A permit to perform any such construction must be obtained from the WCDPW prior to the commencement of any work. Restoration shall be performed to the satisfaction of the WCDPW.

3. New York State Right-of-Way

- a. All work within the New York State right-of-way shall be performed only if permission is granted to do so by the New York State

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Department of Transportation (NYSDOT). All necessary permits must be obtained and other requirements must be met prior to the commencement of work. The performance of the work and all restoration must be to the satisfaction of the NYSDOT.

4. Other Right-of-Ways

- a. No work in a privately owned right-of-way shall be commenced until permission is obtained for the performance of the work, in writing, from the property owner. The property owner may, at their option, request evidence of proper insurance coverage from the party performing the work. The manner in which the work is performed and the area to be restored shall be satisfactory to the property owner and the Village Water Department.

C. CONSTRUCTION METHODS

1. Public Safety

- a. Proper consideration shall be given to the public safety during construction of water service lines. In order to assure that pedestrians and vehicular traffic is protected, the Owner shall supply the Village with a certificate of insurance that clearly shows the nature and limits of their insurance coverage and shall provide necessary flagmen or other precautionary measures necessary to ensure public safety.
- b. No excavations shall be left open after the conclusion of the work day and all irregularities in the road, walkway, or elsewhere shall be clearly and visibly marked by means of barricades, burning pots or other acceptable means of providing warning that a danger exists.

2. Minimum Cover

- a. Minimum cover over water service lines, to provide protection against frost, shall be at least 5 feet at all points from the main to the entry point (house or building foundation). Care shall be exercised in areas of new construction to assure that grading performed after the service installation does not cause final grading to reduce the cover to less than 5 feet.

D. MAINTENANCE RESPONSIBILITY

1. Main Line to Curb Stop

- a. It shall be the responsibility of the Village to maintain, repair as needed, and keep in good working order, all service lines from the Village main to the curb stop, including the curb stop and box. The expense associated with this work shall be paid by the Village.

2. Curb Stop to Within 5' of the Building Edge

- a. For all those water services installed during the 2003 water project, it shall be the responsibility of the Village to maintain, repair as needed, and keep in good working order, all service lines from the curb stop to within 5' of the building edge. The Owner shall reimburse the Village for this work in accordance with the fee schedule outlined in Section VI of these regulations.

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- b. After the 30-year interest free loan for the project is paid off, it will be the responsibility of the Owner to maintain, repair as needed, and keep in good working order, all service lines from the curb stop to within 5' of the building edge. The expense associated with this work shall be paid by the Owner. The work shall be performed in a manner acceptable to the Village Water Department and shall be duly supervised by same. Backfilling of work shall not take place until proper inspections have been made and approval of the work has been given by the Village Water Department.

3. Within 5' of the Building Edge to Entry Point beyond the Meter

- a. It shall be the responsibility of the Owner to maintain, repair as needed, and keep in good working order, all service lines from within 5' of the building edge to the entry point beyond the meter, with the exception of the water meter. The expense associated with this work shall be paid by the Owner. The work shall be performed in a manner acceptable to the Village Water Department and shall be duly supervised by same. Backfilling of work shall not take place until proper inspections have been made and approval of the work has been given by the Village Water Department.

4. Meters and Interior Valves

- a. Meters shall be purchased by the Village and installed by the Owner. The water meter shall be the responsibility of the Owner; however, all repairs shall be performed by the Village. The Owner is cautioned that tampering with any meter or breaking the seal of any meter is a violation and is punishable by law. Irregularities, leaks, or other problems with meters or remote registers must be brought to the immediate attention of the Village Water Department. Replacement of faulty meters and repair of meters that leak will be performed by the Village at no charge except as hereinafter provided. The cost of repair of any meter with any malfunction attributable to negligence or carelessness on the part of the Owner such as a frozen or abused meter, although repaired by the Village, shall be paid by the Owner in accordance with the fee schedule outlined in Section VI of these regulations.
- b. Valves located inside the dwelling shall be the responsibility of the Owner to maintain and repair as needed. Should repair work be necessary the Village Water Department shall be notified and the system shut-off will be performed by the Village. Repair work will be the responsibility of the Owner.

E. LEAKAGE/DAMAGE

- 1. Damage caused by the rupture or leaking of a water main or service line to the curb box shall be the responsibility of the Village Water Department to repair and replace-in-kind, but shall be limited to events causing damage and areas not within the confines of a dwelling unit. When damage occurs to private property it shall be the responsibility of the Owner to notify their insurance carrier of the damage and for that carrier to assume the burden of payment for damages, whenever possible.

F. SERVICE TAPS

- 1. No person other than an employee of the Village Water Department shall at any time perform a tap on the Village Water System or connect or attach any pipe, conduit or main to any Village pipe unless approval has been granted to

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do so by the Village Water Department and a representative from the Village Water Department is present. No attachment or connection shall be made that permits the use of unmetered water.

G. BACKFLOW PREVENTION

1. Existing Water Wells

a. As discussed previously, the NYSDOH requires a physical disconnection from existing individual water wells to the piping connecting to a public water supply system. The purpose of this requirement is the elimination of potential backsiphonage and possible contamination of the public water supply. Under no circumstances, including valving, check valves, vacuum breakers and other devices, shall a direct connection be made or permitted between a privately owned water well and the public water supply. Inspections shall be made by Village Water Department to assure that this requirement has been carried out. Violators of this requirement shall be immediately shut-off at the curb stop. Service to violators shall not be returned until compliance with this section has been met.

2. Other Potential Contaminants

a. The Village shall require protection against the possibility of backsiphonage in any area deemed appropriate. This shall include, but not limited to, cross or interconnections with sewers, areas where hazardous chemicals are used, manufacturing plants, and any other contaminant considered to be a potential threat to the public water supply.

b. The degree of protection required shall be contingent upon the severity of the situation and may require an air gap, reduced pressure zone device, double check valve assembly or other measure and shall be consistent with the requirements of the NYSDOH.

3. Authority of the Village

a. The Village retains the authority to discontinue immediately water service to any entity, residence, or facility deemed to have potential to cause contamination of any kind to the potable water supply.

H. WATER USE RESTRICTIONS

1. The use of water at any premises or facility shall be consistent with the generally understood intent for use. Water used for the prevention of freezing in piping shall generally be discouraged but may be permitted provided that the Village Water Superintendent agrees to the concept and all water run for this purpose is metered.

2. Water used to flush sewers or soil pipes shall be done only under direct supervision of the Village Water Department and shall be performed in a manner acceptable to the Village Water Department and so as not to provide a cross connection or interconnection of any kind.

3. Unmetered water shall not be used, with the exception of fire fighting usage, without the knowledge and permission of the Village Water Department. Arrangements shall be made to accurately ascertain the amount used. Payment for same, if required, shall be made based upon such determination.

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4. The Village reserves the right to limit the amount of water furnished to any customer should circumstances warrant such action without prior agreement or may discontinue or interrupt water used for manufacturing, cooling, lawn sprinkling, should it become necessary after rendering reasonable notice to the customer.
5. Interruptions in service caused by emergencies will occur from time to time. Prior notification of such interruptions will be attempted but shall not be the responsibility of the Village and the right is reserved by the Village to repair mains as needed.

I. RELEASE FROM RESPONSIBILITY

1. Fluctuation in Pressure

- a. The Village shall not be held responsible for any damages done due to fluctuation in the pressure within the distribution system.

2. Disruption in Water Service

- a. Notification to customers of water outages due to routine construction or other scheduled or planned work will be made by the Village Water Department whenever possible. Emergencies must be repaired immediately, and do not require notification. The Village assumes no responsibility to provide water under emergency conditions. Emergencies include outages due to a break in a water main, pumping equipment failure, war, and acts of god.

J. DISCONTINUED SERVICES

1. Temporary Shut-off - A temporary shut-off shall be defined as water service that has been shut off at the curb stop.

- a. Seasonal - Should the Owner desire to have water service temporarily discontinued, advance notification shall be made to the Village Water Department. Service will be shut off at the curb stop until further notice.
- b. Undetermined Time Period - The procedure established above shall be effective when the temporary time period is not determined.

2. Permanent Shut-off

- a. Responsibility - Once a determination has been made to permanently discontinue water service to a location, the Village Water Department will close the curb stop and make a physical disconnection on the downstream side of the curb stop. The cost of this work shall be paid by the Owner. The service will then be considered eliminated and no further usage charges made.
- b. Return to Service - In the event it should be desired to re-activate a permanently shut-off service, it shall be mandatory for the Owner to re-apply to the Village and pay the associated fees. The excavation to reconnect the service shall be made by the Village Water Department. The Owner shall pay all costs associated with this work.

K. EMERGENCY WORK

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1. Emergency work performed by the Village within a residence or other building shall be done so at the discretion of the Village Water Department. Work performed and materials used shall be billed to the Owner in accordance with the fee schedule outlined in Section VI of these regulations.

L. OBLIGATION OF USER FOR ACCESS

1. It shall be the obligation of the Owner to allow ready access within reasonable hours for the Village Water Department to make routine inspections, perform functions related to the water service, read meters, etc., to all premises being supplied with water.

M. USE OF HYDRANTS, VALVES, AND OTHER DISTRICT FACILITIES

1. No hydrant, valve, or other property of the Village shall be used without permission of the Village Water Department. The use and manner of use shall be described to the Village Water Department in writing. The use of the facility shall be limited to that usage approved.

N. LAWN SPRINKLERS

1. All lawn sprinkling systems shall be approved by the Village Water Department prior to installation.
2. Rain sensors are required on all lawn sprinkler installations. These sensors must override the programmable operation of automatic lawn sprinkler devices. The sensor must be located no less than 3 feet from any building.
3. Outdoor shutoff valves that allow the Village Water Department to manually shutoff the automatic sprinklers in cases of emergency or watering violations must be in place and identified.

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IV. ADMINISTRATION

A. GENERAL

1. In the event payment is not made as required for usage of water and/or miscellaneous fees, that payment shall be added to the tax rolls provided for the next succeeding tax bill. In addition, interest on the unpaid balance shall accrue at the highest legal rate permitted by law for such obligations and the party incurring such expense shall be responsible for all costs of collection, reasonable attorney's fees, disbursements, and expenses incurred in connection with any collection therefore.
2. The Superintendent of Public Works shall be the administrative superintendent in charge of the Village water system, subject to the control and supervision of the Board of Trustees.

B. ENFORCEMENT OFFICER

1. The provisions hereof shall be administered and enforced by a person appointed by the Village Board as the "Enforcement Officer". No permit or authority required hereunder shall be issued, except in compliance with the provisions of these rules and regulations, or as directed by the Village Board of the Village of Salem. The Enforcement Officer or their designated representative shall have the power and authority to make such inspections of buildings or premises necessary to carry out his duties in the enforcement of this rule and regulation.

C. ENFORCEMENT

1. Stop Work Orders

- a. Whenever the Enforcement Officer or their designated representative has reasonable grounds to believe that the work on any tap, lateral, or appurtenance is proceeding without permit or is otherwise in violation of the provisions of any application law, code, ordinance, rules, or regulations, or the work is proceeding in an unsafe or dangerous manner, they shall notify either the Owner of the property or the Owner's agent or the person, firm, or corporation performing the work to immediately suspend all operations. In such instance, any and all persons shall immediately suspend all related activities until the stop-work order has been duly rescinded. In the event that the Owner or representative is unavailable, the Enforcement Officer should post conspicuously upon the property a stop work order and mail a copy of the same by certified mail or send a facsimile thereof to the Owner, the Owner's agent, or the person performing the work at the last known address on record with the Village of Salem for said entity.

2. Penalties for Offenses

- a. It shall be unlawful for any person, firm, or corporation to construct, alter, repair, remove, move, demolish, equip, use, occupy, or maintain any lateral, tap, or line or portion thereof in violation of any of the provisions of these rules and regulations or fail in any manner to comply with any notice, directive, or order of the Enforcement Officer or their designated representative or conduct, alter, or use any

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pipe, line, hydrant, appurtenance, or part thereof in a manner not permitted by an approved permit issued in accordance herewith.

- b. Any individual, partnership, corporation, or other firm owning, operating, occupying, or maintaining property or premises within the scope of these rules and regulations, shall comply with all the provisions of the Village's rules and regulations, subdivision ordinances, zoning ordinances, and all orders, notices, rules, regulations or determinations issued in connection therewith.
- c. Whenever it is found that there has been a violation hereof of any rule or regulation adopted pursuant to the Village's rules and regulations, a violation notice and/or appearance ticket may be issued to the person, individual, partnership, or corporation owning, operating, or maintaining the premises in which such violation has been noted and or the person or entity performing the work.
- d. Violation notices shall be in writing and shall identify the property or premises and shall specify the violation or remedial action to be taken and shall provide that said violation must be corrected within ten (10) days from the receipt of said violation notice unless said ten (10) day period shall be modified in the discretion of the Enforcement Officer or their representative, issuing such violation notice, or unless a shorter period of time has been prescribed for in these regulations.
- e. Violation notices and other orders or notices referred to herein these regulations shall be served on the Owner or the Owner's executors, legal representatives, agents, lessees, or any tenant or other person occupying the premises or other person having a vested or contingent interest in the premises, either personally or by certified mail, addressed to the last known address, can be served by facsimile, if any, of the Owner or one of the Owner's executors, legal representatives, agents, lessees, or other person having a vested or contingent interest in name, as shown by the last preceding completed record of the Receiver of Taxes or in the Office of the County Clerk.
- f. The Enforcement Officer shall have the authority, pursuant to the Criminal Procedure Law, to issue an appearance ticket, directing a designated person to appear in court at a designated time in connection with the commission of a violation of hereof or any order made thereunder.
- g. Any person who shall fail to comply with a written order by the Enforcement Officer or their designated representative, within the time fixed for compliance therewith and any Owner, builder, architect, tenant, contractor, subcontractor, plumber, construction superintendent, or their agent's, or any other person taking part of assisting in the construction or use of any building who shall violate any of the applicable provisions herewith these regulations or any lawful order, notice directive, permit, or certificate of the Enforcement Officer in addition to any other provision of the Village's rules and regulations or any rules or regulations adopted pursuant to this regulation or who shall violate or fail to comply with any order made thereunder shall be guilty of an offense punishable by a fine of not less than fifty dollars (\$50.00) nor more than two hundred fifty dollars (\$250.00) for a first offense or by imprisonment for thirty (30) days, or both and for a second offense within two (2) years, shall be guilty of a misdemeanor punishable by a fine of up to

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five hundred dollars (\$500.00) or a term of imprisonment of up to ninety (90) days. Each day that such violation shall continue shall be a separate violation and is subject to a separate fine, imprisonment, or combination thereof.

- h. Notwithstanding a conviction for an offense against any provisions or sections, an association or corporation convicted of a violation herewith shall be subject to revocation of any permit therein granted without reimbursement of fees paid thereof.
- i. In lieu of, or in addition to, any fine or imprisonment, or both, imposed for a conviction of any offense herewith, each such offense may be subject to a civil penalty not to exceed two hundred dollars (\$250.00) to be recovered in an action or processing in a court of competent jurisdiction. Each day an offense continues shall be subject to a separate civil penalty.
- j. The Village Attorney may maintain an action or proceeding in a court of competent jurisdiction to compel compliance with this Article, notwithstanding the previous provisions of this section, for a penalty or other punishment.

3. Liability of Village and Employees for Damages

- a. The Village's rules and regulations shall not be construed to hold any Enforcement Officer of the Village of Salem or the Village of Salem responsible for any damages to persons or property by reason of the inspection or re-inspection authorized herein or failure to inspect or reinspect as required by the permits under the Village's rules and regulations nor shall it be liable for any damage to persons or property by reason of the Building Inspector, and/or Fire Marshal, or similar person exercising their discretion as provided in the Village rules and regulations.

4. Notification of Violations

- a. Written notice of violation signed by the Enforcement Officer shall be served upon the person or persons committing such violation either personally or by mail addressed to such person or persons at their last known address. Each week's continued violation shall constitute a separate additional violation.

5. Complaints

- a. Whenever an alleged violation of the Village's rules and regulations occurs, any person may file a complaint in regard thereto. All such complaints must be in writing and shall be filed with the Enforcement Officer who shall properly record such complaint and immediately investigate and report thereon. All such complaints shall be signed by and bear the address of the complainant.

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V. EQUIVALENT DOMESTIC UNIT ASSESSMENT

A. BACKGROUND

1. The equivalent domestic unit or EDU assessment system is a commonly used system for apportioning water system debt to the users. The primary goal of this system is to assess properties based on the amount of benefit derived from the existence of a utility. The basis of this system is to assign each property within the service area a rating in proportion to an average single-family residence within the service area. The rating is developed considering such factors as average water usage, peak water usage, and fire protection.
2. An average single-family residence is assessed one (1) EDU. All other properties in service area are then assessed based on this. For example, a two-family residence may be assessed at two (2) EDU's because, in theory, the actual benefit derived from a utility for two-family residence is twice that for a single-family residence (i.e., twice the amount of usage and fire protection).
3. For EDU calculation purposes, parcels of land greater than 1 acre will be rounded to the nearest whole acre. For example, 1.49 acres is rounded to 1 acre and 1.50 acres is rounded to 2 acres.

B. AUTHORITY OF THE VILLAGE

1. The Village Board reserves the right to reassess any parcel which, in its belief, is not assessed in accordance with the actual usage or benefit received by that parcel.
2. The Village Board reserves the right to assess any parcel that contains multiple uses in accordance with the actual water used by each unit or in its discretion based upon the actual uses contained therein. For example, a retail commercial building with apartments or a restaurant will have uses calculated separately to arrive at a total.
3. For EDU evaluation purposes, parcels of land not connected to the municipal water system may be assigned an EDU value based on increased fire protection or derived economic benefit from the system.
4. Business properties not currently operating as economic enterprises may be devaluated to promote a potential future business source.
5. Properties which can not receive water due to elevation or accessibility will be assigned 0 EDU.

C. SCHEDULE

1. The following schedule defines the equivalent domestic unit assessment for all properties within the Village of Salem. Units shall be assessed by the Village of Salem on the basis of the below assessments or based on computed usage by the Village, whichever is greater.

Single Family Residence

Single family residence with less than or equal to 30 acres of land = 1 EDU.

Single family residence with greater than 30 acres of land and less than or equal to 100 acres, add an additional 0.5 EDU.

Single family residence with greater than 100 acres of land, add an additional 0.5 EDU for acreage over 100.

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Two Family Residence

Two family residence with less than or equal to 30 acres of land = 1 EDU per dwelling unit, except that single bedroom dwelling units are counted as 0.5 EDU.

Two family residence with greater than 30 acres of land and less than or equal to 100 acres, add an additional 0.5 EDU.

Two family residences with greater than 100 acres of land, add an additional 0.5 EDU for acreage over 100.

Multiple Family Residence

Multiple family residence with less than or equal to 30 acres of land = 1 EDU per dwelling unit, except that single bedroom dwelling units are counted as 0.5 EDU.

Multiple family residence with greater than 30 acres of land and less than or equal to 100 acres, add an additional 0.5 EDU.

Multiple family residence with greater than 100 acres of land, add an additional 0.5 EDU for acreage over 100.

Mobile Homes

One manufactured/modular home or one manufactured house trailer with less than or equal to 30 acres of land = 1 EDU.

Manufactured/modular home or house trailer with greater than 30 acres of land and less than or equal to 100 acres, add an additional 0.5 EDU.

Manufactured/modular home or house trailer with greater than 100 acres of land, add an additional 0.5 EDU for acreage over 100.

Apartments

Apartment buildings, double duplexes, cottages, and guest homes = 1 EDU per apartment or dwelling unit, unless they are one bedroom units in which case they are counted as 0.5 EDU.

Vacant Land

Less than or equal to 15 acres = 0 EDU unless a water service line (corporation and curb stops) is in place for the property, in which case they are equal to 0.5 EDU.

Greater than 15 acres and less than then or equal to 30 acres = 0.5 EDU.

Greater than 30 acres and less than or equal to 200 acres = 1 EDU.

Commercial Facilities

Including restaurants, retail stores, banks, office spaces, beauty shops, and doctors offices with floor space less than or equal to 600 sq. ft. = 0.5 EDU.

Units with floor space greater than 600 sq. ft. = 1 EDU.

Business Sites

Including lumber yards, fuel tank storage sites, garden supply facilities, and rental storage units distributed over or including a land area less than or equal to 2.5 acres = 0.5 EDU.

Business sites with operations distributed over or including a land area greater than 2.5 acres and less than or equal to 15 acres = 1.0 EDU

Business sites with operations distributed over or including a land area greater than 15 acres = 1.5 EDU.

Markets and Convenience Stores

Food marts are equal to 2 EDU.

Gas Stations/Service Stations

Auto repair and service stations = 1 EDU.

Small engine shops and dealers = 0.5 EDU.

Schools

Salem Central School including bus garage equals 72 EDU.

Dairy Farms/Livestock Breeders and Growers

20 to 100 head of livestock = 5 EDU.

101 to 150 head of livestock add an additional 2 EDU.

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151 to 250 head of livestock add an additional 2 EDU.

Religious

A church with a kitchen facility and bathrooms = 0.5 EDU.

A parsonage connected with the church parcel = 1 EDU.

Police/Fire Protection/Rescue

Police stations, Fire stations, and Rescue Squads = 0.5 EDU

Municipal Buildings

Office buildings = 0.5 EDU.

Correctional facilities = 1.5 EDU.

Municipal Land

Cemeteries and Fairgrounds = 0.5 EDU.

Telephone/Electrical Utility Buildings and Facilities

Buildings containing equipment or used for storage = 1 EDU

Properties containing fenced enclosures for electrical utility equipment = 1 EDU

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VI. FEES

The Village reserves the right to assess any additional fees not outlined below on a case-by-case basis to ensure that the Village regulations are met.

A. WATER METER COST *

Meter Size	Cost
5/8" x 3/4"	\$300
1"	\$450
1½"	\$1,000
2"	\$1,200
COMPONENT PARTS	As Determined by the Superintendent of Public Works

*Prices Subject to Change based on Current Costs

B. **MISCELLANEOUS AND SPECIAL FEES:**

Special Fee	Cost
FEE FOR TESTING METER	\$25
LABOR	\$25 PER HOUR
BACKHOE/OPERATOR	\$60 PER HOUR
DUMP TRUCK	\$60 PER HOUR
TURN OFF WATER	\$25
TURN ON WATER	\$25

C. INSIDE VILLAGE SERVICE AREA PROCESSING FEE

1. Residential Services and Commercial/Industrial Services Less than 1"

- a. See Section II.H of these regulations for further information.
- b. Customers shall be subject to a **\$350** processing fee, which is to be paid prior to the Village issuing approval and/or building permit. This processing fee is in addition to the cost of the water meter and any labor or material charges as outlined in Sections VI.A and VI.B of these regulations.

2. Commercial/Industrial Services 1" and Greater

- a. See Section II.H of these regulations for further information.
- b. Customers shall be subject to a **\$350** processing fee, which is to be paid prior to the Village issuing approval and/or building permit. This processing fee is in addition to the cost of the water meter and any labor or material charges as outlined in Sections VI.A and VI.B of these regulations.

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- c. The Village reserves the right to have the Village Engineer review the drawings and specifications provided by the Owner for any water service equal to or greater than 3” in diameter. All additional costs associated with this review and approval of the design drawings and specifications by the Village Engineer shall be paid for by the Owner.

D. OUTSIDE VILLAGE SERVICE AREA CONNECTION FEE

- 1. The classification of Inside and Outside the Service area will conform to the physical location of the residence or business for water service delivery. By this classification, a residence or business receiving water service and located within the Village boundary is considered “Inside the Village Area” for billing purposes. A residence or business receiving water service located outside the Village boundary is considered to be “Outside the Village Area” for billing purposes. The Water Rate Schedules for Inside and Outside the Village areas shall apply. The classification shall apply whether a physical water connection had been completed or is to be connected at some future time.
- 2. Each outside user will be subject to a minimum connection fee of **\$1,500**, which is to be paid in full prior to the Village issuing approval and/or building permit. All additional costs associated with Village review of the application, approval of the design drawings and specifications by the Village engineer, and attorney fees shall be paid for by the Owner. All costs associated with connecting to the Village system will be paid for by the Owner.
- 3. Extending water service outside of the Village water service area is not guaranteed and each application will be handled on a case-by-case basis. The Village will review each application with regards to the impact on the existing system.
- 4. Additional charges or donations may be collected as deemed in the best interest of the Village based on determination of the Village Board.

VII. WATER RATE SCHEDULE

The Capital Charge and Water Rent per EDU shall be reviewed annually during the budget process, and can be changed by resolution of the Board. Capital Charges will be billed annually on a separate line on the tax bill. Water Rents will be billed annually with a separate postcard bill.

Capital Charge

Inside the Service Area: \$177/EDU
Outside the Service Area: \$195/EDU

<u>Water Rent per EDU for Inside the Service Area</u>	
Water Usage Per Meter	Water Rate
Fewer than 80,000 gallons per year	\$198
80,000 to 100,000 gallons per year	\$3.53 per 1,000 gallons
More than 100,000 gallons per year	\$3.70 per 1,000 gallons

<u>Water Rent per EDU for Outside the Service Area</u>	
Water Usage Per Meter	Water Rate
Fewer than 80,000 gallons per year	\$218
80,000 to 100,000 gallons per year	\$14.20 per 1,000 gallons
More than 100,000 gallons per year	\$16.30 per 1,000 gallons

Bulk water rate (tanker truckload) is a flat rate of \$75 for the first 10,000 gallons or fraction thereof, and \$100 for the next 10,000 gallons or fraction thereof.

BILLING

Water rent bills will be mailed on or about the 10th of June of each year. Water rent shall become due and payable to the Village beginning June 15th of each year. If water rents are not paid on or before July 15 (30 days), a penalty of five (5) percent will be added. Water rents remaining delinquent on May 1 of the following year will be re-levied with an additional four (4) percent in penalties onto the subsequent tax bill.

PAYMENT OF WATER MEASURED

The owner shall pay for the amount of water metered. If a water meter fails to register for any cause, the quantity of water used during that time of such failure shall be determined by the Superintendent of Public Works based on the average current amount registered by the water meter, when in order, for a comparable period of time.

SUPPLY CONNECTION ABANDONMENT

When any supply is abandoned for any premise, the costs incidental to turning off the water supply connection at the water main, shall be charged to the premise.

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VIII. WATER DISTRIBUTION STANDARDS

A. DESIGN AND MATERIAL STANDARDS

1. General

- a. All components of the water system shall comply with the latest edition of the Recommended Standards for Water Works, as adopted by the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers and the requirements of the New York State Department of Health
- b. These specifications apply to all water mains, valves, hydrants, and services installed on public or private properties that are connected directly or indirectly to the Village of Salem Water System.
- c. Village standard detail sheets shall be considered an integral part hereof and are found at the end of this document.

2. Definitions

- a. As used in these water distribution standards, the following words are defined:

Water Superintendent - shall mean the Water Superintendent of the Village of Salem Water Department, Village of Salem, Washington County, New York. Whenever the words “ordered”, “directed”, “required”, “approved”, or “accepted”, or variations thereof are used, they shall refer to action by the Water Superintendent of the Village Water Department, or their designated representative(s), unless otherwise specified. *Note that the Public Works Superintendent shall serve as the Water Superintendent for the Village of Salem.*

Owner or developer - shall mean the Owner or party who is employed by the Owner to design and supervise construction of the water distribution system.

Contractor - shall mean the party who is employed by the Owner or developer to actually construct the water distribution system.

Water Main- shall generally mean pipe 6” in diameter or larger supplying water as part of a system to one or more buildings.

Water Services- shall generally mean pipe smaller than 6” in diameter supplying water to one or more buildings.

3. Water Mains and Fittings

- a. All pipe for water mains 6” through 16” in diameter and water services 3” in diameter and larger shall be ductile iron pipe. All ductile iron pipe 3” in diameter and larger shall be furnished in 18 or 20 feet nominal laying lengths.
- b. All ductile iron pipes shall be centrifugally cast in metal molds or sand lined molds with all details of manufacture and supply in conformance with the latest version of ANSI/AWWA C151/A21.51. All ductile iron pipes shall be designed and selected in accordance with the latest version of ANSI/AWWA C150/A21.50. All ductile iron pipes shall be minimum pipe wall thickness Class 52 per the latest version of ANSI/AWWA C150/A21.50.

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- c. All buried pipe shall have push-on joints in complete conformance with the latest version of ANSI/AWWA C111/A21.11. The pipe manufacturer shall furnish the required rubber joint gaskets with each length of pipe.
 - d. All ductile iron pipe for hydrant connections shall be a minimum size of 6" in diameter and conform to the same specifications as given previously for ductile iron pipe; except that hydrant connection pipe shall have mechanical joints in conformance with the latest version of ANSI/AWWA C111/A21.11. The pipe manufacturer shall furnish the required joint accessories consisting of ductile iron glands, high-strength low-alloy steel tee bolts and nuts, plain rubber gaskets, and required joint lubricant.
 - e. All pipe fittings shall be ductile iron compact fittings in conformance with the latest version of ANSI/AWWA C153/A21.53. The pipe manufacturer shall furnish the required joint accessories consisting of ductile iron glands, high-strength low-alloy steel tee bolts and nuts, plain rubber gaskets, and required joint lubricant.
 - f. All ductile iron pipe and fittings shall be cement mortar lined in conformance with the latest version of ANSI/AWWA C104/A21.4. The thickness of the lining shall be twice the standard and shall be not less than 1/8" thick.
 - g. All buried ductile iron pipe and fittings shall be furnished with a standard bitumastic coating in conformance with ANSI 21.51.
4. Buried Gate Valves
- 1. All gate valves 3" in diameter and larger (including those for hydrant connections) shall conform to the latest version of ANSI/AWWA C509.
 - 2. All gate valves shall have a working pressure of 250 pounds per square inch (psi). Valves shall be tested and certified to ANSI/NSF 61. Each valve seat shall be factory tested at 250 psi and each valve shell shall be factory tested at 500 psi.
 - 3. All gate valves shall have non-rising stems. Stem shall be bronze rolled bar stock with forged thrust collar. Valves shall open left.
 - 4. Non-rising stem gate valves shall open left with a standard 2" square operating nut. All valves shall be furnished with mechanical joint ends complete with ductile iron glands, high-strength low-alloy steel tee bolts and nuts, rubber gaskets and required joint lubricant. Mechanical joint ends shall conform to the latest version of ANSI A21.11.
 - 5. The body and bonnet of all gate valves shall have a wall thickness conforming to AWWA C509. Valves with a reduced wall thickness are not acceptable. Bonnets shall have Type 304 stainless steel nuts and bolts.
 - 6. All gate valves shall be resilient wedge type, and be UL listed and FM approved.
 - 7. All gate valves shall be Model A-2360 as manufactured by Mueller Co.
5. Valve Boxes

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8. Valve boxes shall be of cast iron, slide-type, at least five and one quarter inch (5 1/4") in diameter. Valve boxes shall be two-piece construction and shall be furnished to match the specific valve dimensions and trench depth.
 9. Valve boxes shall be furnished with a cast iron cover, drop style, with both "WATER" and an arrow indicating the direction of the valve opening (open left) cast on the cover in raised characters.
6. Tapping Sleeves and Valves
- a. Tapping sleeves shall be iron body with 3/4" NPT test plug and shall have a minimum operating pressure of 200 psi. Sleeves shall be Model H-615 as manufactured by Mueller Co.
 - b. Tapping valves shall be iron body, bronze mounted, resilient wedge conforming to AWWA C509 and shall have a minimum operating pressure of 200 psi and be factory tested at 400 psi. All tapping valves shall be Model T-2360-19 as manufactured by Mueller Co.
 - c. Other types of tapping sleeves may be required as directed by the Village Water Department on a case-by-case basis.
7. Hydrants
- a. Fire hydrants shall conform to the latest version of AWWA C502 and shall be UL listed and FM approved.
 - b. All fire hydrants shall have a working pressure of 250 psi and factory tested at 500 psi.
 - c. Each fire hydrant shall have a reversible, compression type main valve. Main valve seat shall be 5 1/4" diameter. Main valve shall open against pressure and close with pressure for positive seal. Hydrants shall be non-draining type.
 - d. Hydrants shall be suitable for a 5' minimum depth of bury. Each hydrant shall be provided with one 4 1/2" pumper nozzle and two (2) 2 1/2" hose connections, all with National Standard hose threads and with outlet nozzle caps and cap chains. The outlet nozzle cap nuts shall be the same size as the operating nut.
 - e. All fire hydrants shall be of break flange construction with a safety flange on the lower barrel located slightly above the ground. Hydrants shall be equipped with a stainless steel torque diverting coupling capable of releasing from the stem to prevent damage to the stem and main valve during contact with the hydrant.
 - f. All hydrants shall receive a finish coat of paint above the ground line after installation. Hydrants shall be painted bright red with weather resistant enamel. All hydrants shall be furnished completely shop primed or painted in the same color as that required above for the finish coat of paint. Shop primer or paint shall be chosen so as to be compatible with the type of finish paint specified above.
 - g. Hydrant spacing shall be in accordance with Recommended Standards for Water Works. Hydrants shall be installed within the right-of-way. Proposed hydrant locations are to be field located (staked) and approved by the Village Water Department prior to installation.

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- b. Curb stops shall be ball type in accordance with AWWA C800.
- c. Curb stops shall have a full open round flowway equivalent to the nominal pipe size of the valve's smallest inlet or outlet.
- d. Curb stops shall have an integrally machined stem collar to prevent blow out of the stem. All valves shall have dual o-rings with the stem.
- e. Curb stops shall have a working pressure of 300 psi.
- f. $\frac{3}{4}$ " through 2" curb stops shall be as manufactured by Mueller Co., Model B-25209.

11. Curb Boxes

- a. Curb boxes shall be sliding extension type with stationary rod and arch pattern base.
- b. Lid of curb box for $\frac{3}{4}$ " and 1" services shall be one piece with two holes to fit curb box key.
- c. Lid of curb box for 1 $\frac{1}{2}$ " and 2" services shall be cast iron with integrally cast brass bushing for easy removal of pentagon plug.
- d. Curb boxes for $\frac{3}{4}$ " and 1" curb valves shall be as manufactured by Mueller Co., Model H-10314.
- e. Curb boxes for 1- $\frac{1}{2}$ " and 2" curb valves shall be as manufactured by Mueller Co. Model H-10386.

12. Water Meters

- a. Water meters for all water services must be obtained from and installed by the Village Water Department. All water services must be metered. Persons or companies found utilizing unmetered water will be subject to fines.
- b. All water meters for water services 2" and smaller shall be Recordall® Cold Water Bronze Disc Meter, as manufactured by Badger Meter, Inc. Meters shall be displacement type with nutating disc and magnetically driven. Meters shall be in accordance with the latest version of AWWA C700.
- c. All water meters for water services greater than 2" shall be Recordall® Turbo Series Meter, as manufactured by Badger Meter, Inc. Meters shall be in accordance with the latest version of AWWA C701.
- d. Meters shall have a working pressure of 150 psi.
- e. Meters shall have a permanently sealed local register which shall read in U.S. gallons.
- f. Meters shall be read with the use of an automatic meter reading system. Meters shall be equipped with a remote transmitter which shall be installed high in the basement to avoid possible water damage. The remote transmitter shall also be installed as close to the front of the building as possible.

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13. Pressure Reducing Valves (3/4" to 2")

- a. Pressure reducing valves shall be bronze body type with stainless steel strainer screen and built-in bypass.
- b. Pressure reducing valves shall be rated for a maximum pressure of 300 psi. Valves shall have a spring set at 50 psi with an adjustable range of 25 to 75 psi.
- c. Valves shall have threaded end connections in accordance with ANSI B1.20.1.
- d. Valve shall be suitable for potable water use. Pressure reducing valves shall be Wilkens Model 600 as manufactured by Zurn Industries.

14. Separation Distances

- a. No water main or service line shall be laid in the same trench with a sewer, gas, steam line, or electrical or other conduit.
- b. Water, sewer, and storm lines must be separated to comply with New York State Department of Health regulations and in accordance with the Recommended Standards for Water Works.
- c. There shall be at least ten (10) foot horizontal separation between water mains and storm or sanitary sewer lines and an eighteen (18) inch vertical separation at crossings.

15. Right-of-Way

- a. The installation of water mains and appurtenances that will become part of the municipal water system must be installed within the boundaries of land to be dedicated to the Village of Salem.

16. Drawings and Specifications

- a. The developer and/or engineer for the Owner shall provide the Village of Salem Water Department with a complete set of plans and specifications showing the proposed plan and profile of the water mains and appurtenances, the finished grade of the road plan, and the location of the drainage facilities in relation to the water mains.
- b. Drawings and specifications shall be approved by the Village or their Engineer and the same plans and specifications shall be the same drawings and specifications used by the contractor during construction of the water mains and appurtenances.

B. CONSTRUCTION STANDARDS

4. General

- a. All components shall be of approved, unused materials.
- b. All construction methods must comply with the design standards outlined in the previous section.
- c. Procedures recommended by manufacturers shall be used for handling, storage, and installation.

2. Drawings

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- a. There shall be an approved set of construction drawings on site at all times during construction. Failure to have approved drawings on site will cause work to stop until an approved set is on site.

3. Control

The following are the responsibility of the Owner or Owner's contractor:

- 5. Determine property line
- 6. Establish centerline and grade of pipe
- 7. Establish, set, and maintain control stakes showing:
- 8. Finished grade of the centerline of the right-of-way
- 9. Centerline of the right-of-way

4. Material Handling

- a. All pipe and accessories shall be handled in such a manner as to insure delivery on the work site in a sound, undamaged condition.
- b. Particular handling shall be taken not to injure the pipe coating. Suitable slings shall be used in loading, unloading, and installation of pipe.

5. Water Main Excavation

- a. Trench excavation for piping shall be made by open cut to accommodate the piping at the required depths. Excavation shall be made to such a depth and to the width indicated on the plans to allow a minimum of six (6) inches of pipe bedding to be placed beneath the bottom of all structures and barrels, bells or couplings of all piping installed unless specified otherwise.
- b. The bottom of the trench shall be accurately graded to provide a uniform layer of bedding material, as required for each section of pipe. The trench bottom shall be trimmed, shaped, and left free of irregularities, lumps, and projections.
- c. Excavated subsoil to be reused shall be stockpiled where directed and approved. Excess or unsuitable excavated material shall be removed from the site.
- d. If the existing material below the trench grade is deemed unsuitable for properly placing bedding material and laying pipe, the contractor or developer shall excavate and remove the unsuitable material and replace with an approved fill material properly compacted.
- e. Slope sides of excavation shall comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible due to space restrictions or the stability of the material excavated. Until backfilling is complete, the sides and slopes of excavation shall be maintained in safe condition.
- f. The removal of materials beyond the indicated subgrade elevations and without prior authorization shall be classified as an unauthorized excavation and shall be performed at no additional cost.

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- g. The excavation of the trench shall not advance more than two hundred (200) feet ahead of the pipe installation except where it is necessary to drain wet ground.
 - h. Sidewalks and pavement areas accessible by pedestrians and vehicles shall be in no case blocked or obstructed by excavated material except with prior approval of the Village and only when adequate provisions have been made for a temporary passage. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles.
- 6. Rock Excavation
 - a. Rock excavation shall be evaluated on a case by case basis and as approved by the Village.
 - b. Should rock excavation be necessary the following items shall be submitted for review and approval
 - c. Work plans, including blast plan, rock removal plan, seismic monitoring plan, and site safety plan.
 - d. Pre and post blast surveys.
 - e. Records, including seismic monitoring records, blast hole records, and record of complaints.
 - f. Qualifications, including licenses and certifications.
- 7. Sheeting
 - a. The contractor or developer shall install additional sheeting and bracing as may be required by OSHA, the New York State Department of Labor, adverse soil conditions, or Village. Compliance with such orders, or failure on the part of the Village to exercise its right to give such order, shall in no way release the contractor or developer from the liability for damages caused by weak or insufficient sheeting, nor from the responsibility to protect the work and adjacent property.
 - b. The Village shall reserve the right to increase the minimum requirements set forth, depending on the hazard.
 - c. Sheeting shall be installed whenever excavation in soil exceeds five (5) feet in depth. Where excavations are open and in the opinion of the Village, the materials in place are not adequate for structural stability of the completed work, the Village may order the contractor or developer to carry the excavation to an additional depth and furnish and place concrete cradles, sand or gravel fill and/or timber and piling foundations.
 - d. The contractor or developer shall comply with OSHA 29 CFR1926.652 – Excavation – Requirements for protective systems at all times.
- 8. Water Main Bedding, Backfill, and Suitable Material
 - a. Pipe Zone Bedding (Normal Soil Conditions): Sound, durable sand, gravel, stone, or blends of these materials, free from organic, frozen, or other deleterious materials, conforming to the requirements of NYSDOT Section 304 and meeting the following gradation requirements (NYSDOT Subbase Type 4):

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Sieve	Percent Passing
2"	100
1/4"	30 - 60
No. 40	5 - 40
No. 200	0 - 10

- b. Pipe Zone Bedding (Saturated Soil Conditions): Select mixture of graded crushed stone, free from organic, frozen, or other deleterious materials, conforming to the requirements of NYSDOT Section 703-02 and meeting the following gradation requirements (NYSDOT Size 2):

Sieve	Percent Passing
1 1/2"	100
1"	90 - 100
1/2"	0 - 15

- c. Bedding material shall be placed in the trench after the trench has been excavated a minimum of six (6) inches below the bell of the pipe to permit the placing of not less than six (6) inches of bedding materials unless otherwise specified. Where it is determined that more than six (6) inches of bedding material shall be required, the excavation shall be performed and bedding placed to the depth determined.
- d. Pipe Zone Backfill: Sound, durable sand, gravel, stone, or blends of these materials, free from organic, frozen, or other deleterious materials, conforming to the requirements of NYSDOT Section 304 and meeting the following gradation requirements (NYSDOT Subbase Type 4):

Sieve	Percent Passing
2"	100
1/4"	30 - 60
No. 40	5 - 40
No. 200	0 - 10

- e. Suitable Material: For use in trenches or excavations in roadways, driveways and other paved areas subject to traffic: sound, durable sand, gravel, stone, or blends of these materials, conforming to the requirements of NYSDOT 203-2.02C and meeting the following gradation requirements:

Sieve	Percent Passing
4"	100
No. 20	0 - 70
No. 200	0 - 15

9. Placing and Laying of Water Main

- a. Install all ductile iron piping in accordance with ANSI/AWWA C600.
- b. Prior to installation, all piping shall be examined for cracks, damage or other defects. Defective materials shall be removed from the site immediately, unless materials can be repaired in a manner acceptable to the manufacturer and the Village. Piping found to be broken or

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defective shall be removed, replaced, or repaired at the contractor's or developer's expense.

- c. The interior of all piping and mating surfaces shall be inspected and all dirt, gravel, sand, debris or other foreign materials shall be removed prior to installation. The interior of all piping shall remain clean until acceptance of the completed work and foreign matter shall be prevented from entering joint spaces.
- d. Install buried piping accurately to the line and grade shown on the plans. Unless otherwise noted, minimum depth of piping shall be 5'-0" measured from the top of pipe to the finished grade. Use accurate means of determining and checking the alignment and grade subject. Piping that is installed incorrectly shall be removed and relayed at the contractor's or developer's expense.
- e. Do not lay piping in water, unless otherwise approved. Ensure that the water level in the trench is at least six (6) inches below the bottom of piping. Maintain a dry trench until jointing and backfilling are complete, unless otherwise approved.
- f. Lay piping starting at the lowest point and proceed toward the higher elevations, unless otherwise approved. Slope piping uniformly between elevations shown on the plans.
- g. Install piping so that the barrel of the piping and not the joints receives the bearing pressure from the trench bottom, or other bedding condition.
- h. No piping shall be brought into position until the preceding length, valve, or fitting has been bedded and secured in place. Fittings shall be rotated to place fitting outlets in proper position.
- i. Whenever pipe laying is not actively in progress, the open ends of the piping shall be closed by a temporary water tight plug or cap to prevent soil, water or other foreign matter from entering the piping.
- j. Where required for inserting valves, fittings, and closures, a machine specially designed for cutting piping and in accordance with the manufacturer's instructions shall be used for field cutting pipe. Make cuts carefully, without damage to the piping, so as to leave a smooth end at right angles to the axis of the piping. Taper cut ends and file off sharp edges until smooth. Flame cutting will not be permitted. Damaged piping shall be replaced or repaired.

10. Water Main Joint Connections

- a. Mechanical-joint Connections
 - (1) Thoroughly clean the last eight (8) inches of the outside of the spigot and the inside of the bell with a wire brush to remove foreign matter and paint with a soap solution prior to assembling mechanical-joints.
 - (2) Slip the gland and soaped rubber ring on the spigot end of the pipe immediately after applying the soap solution.
 - (3) Centrally locate the spigot in the bell and push the pipe forward to seat the spigot in the bell. Press the gasket into place evenly within the bells and move the gland along the pipe into position for bolting.

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- (4) Insert bolts and hand tighten nuts. Nuts spaced 180 degrees apart shall be tightened alternately in order to produce an equal pressure on all parts of the gland. Tighten all nuts with a torque-limiting wrench in accordance with the torque recommendations of the manufacturer.

b. Slip-on Connections

- (1) Clean the groove and bell socket and insert the cleaned gasket, ensuring that it is correctly seated prior to assembling the slip-on joints.
- (2) Clean the plain end and apply a sterile lubricant in accordance with the manufacturer's instructions.
- (3) Push the plain end into the bell keeping the joint straight while seating. Use a bar and wood blocking, or backhoe and wood blocking to seat the pipe.

c. Joint Restraint

- (1) Install restrained joints as required by the Village and as recommended by the manufacturer. Assembly of the restrained joints shall be in strict accordance with the manufacturer's recommendations
- (2) Retainer glands shall be installed for joint restraint with all fittings and valves.

d. Joint Deflection

- (1) When it is necessary to deflect pipe from a straight line, in either the horizontal or vertical direction, the allowed deflection shall not exceed 80% of the specified in ANSI/AWWA C600 or in accordance with the manufacturer's installation instructions, whichever is less.
- (2) Mechanical-joints shall be deflected after joint assembly but prior to tightening the bolts.
- (3) Slip-on joints shall be deflected after final joint assembly.

11. Thrust Blocking and Restraint

- a. All plugs, caps, tees, bends and other fittings shall be provide with concrete thrust blocking to resist test pressures or shall be prevented from moving by using suitable metal rods or clamps. All concrete to be 3,000 psi and shall be placed around the fittings to completely fill the space between the fittings and the undisturbed walls of the trench. Concrete shall not overlap any joint and shall be placed so as not to interfere with removing or installing any of the jointing hardware.
- b. Other means of thrust restraint utilizing anchoring fittings and retainer glands may, as outlined previously.

12. Valves

- a. All valves shall be installed in accordance with AWWA C600.

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- b. All materials shall be carefully inspected for defects in workmanship and materials. All debris and foreign material shall be cleaned out of valve openings. Operating mechanisms shall be operated to check for proper operation. All nuts and bolts shall be checked for tightness. Valves and other equipment that do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost.
- c. Buried valves shall be cleaned and manually operated prior to installation. All buried valves shall be set vertically and careful measures shall be taken to ensure that the valves are kept in the vertically aligned position.
- d. Valve boxes shall be set carefully, truly vertical and accurately centered over the valve with the top at the finished grade elevation. Valve boxes shall be set so as not to transmit traffic loads to the valve.
- e. Valve and valve box installation shall conform to the details shown on the plans. All hydrant leads shall incorporate a gate valve, which in general, shall be located as far from the hydrant and as close to the main as possible. Gate valves at main line junctions shall be located four (4) feet away, measured center of the valve to center of the junction or fitting. Gate valves on cast iron or ductile iron water services shall generally be located on the street line. All gate valve locations shall be reviewed and approved by the Village prior to installation. The top of the valve boxes shall be set flush with finished grade.

13. Hydrants

- a. Hydrants shall be installed within the highway right-of-way. The proposed location of the hydrants shall be staked and approved by the Village prior to installation.
- b. Hydrant shall be placed on a 4-inch thick by 15-inch square concrete setting bed. The concrete bed shall be supported by firm undisturbed material or well-consolidated soil.
- c. All hydrant-lead-valve assemblies shall be blocked against movement with cast in place concrete thrust blocks both behind the hydrant and behind the tee. Thrust blocks shall bear against undisturbed material.

14. Services

- a. The Village Water Department shall make all taps on existing water mains, unless otherwise authorized.
- b. A complete $\frac{3}{4}$ " through 2" diameter water service shall consist of the tap, corporation stop, branch connection with extra taps and corporation stops if required, polyethylene service tubing and fittings, curb stop, and curb box. Polyethylene service tubing shall be run in trenches at a minimum depth of 5', as measured from finished grade. The curb stop and box shall generally be located on the property or right-of-way line or where required by the Village Water Department. The top of the curb box shall be set 1" above grade in grassed areas and set flush with grade in paved areas.
- c. A complete service for services 3" in diameter or larger shall generally consist of a main line tee or tapping sleeve and valve, ductile iron service pipe and fittings, gate valve, and valve box. Such

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ductile iron service pipe and fittings shall meet the same specifications that was outlined previously for the main line pipe and fittings, and shall be installed in a trench to provide at least 5' of cover over the barrel of the pipe, as measured from finished grade. The valve and valve box shall generally be located on the property or right-of-way line or where required by the Village Water Department. The top of the valve box shall be set 1" above grade grassed areas and set flush with grade in paved areas. The gate valve and valve box shall meet the same specifications as outlined previously.

- d. Taps shall be installed a minimum distance of twelve (12) inches from the end of a length of cast iron or ductile iron pipe.
- e. Provide service saddles for all 1-½" and 2" service lines as manufactured by Mueller Co., Series BR2. All service saddles shall be bronze, double strap, in accordance with AWWA C800. All service saddles shall have a working pressure of 400 psi.
- f. The Owner or Owner's representative shall provide insurance to the Village of Salem before tapping an existing waterline.

15. Restoration

- a. The contractor or developer shall be responsible for leaving the work site in an equal or better condition than exists prior to construction.
- b. Pavement replacement shall be in accordance with the details shown on the plans and to the satisfaction of the agency having jurisdiction.
- c. Asphalt, crushed stone, and gravel driveways shall be replaced to their existing thickness, but not less than two (2) inches.
- d. **Topsoil**
 - (1) Topsoil shall be applied to all areas disturbed during construction and not receiving other surface treatment. Topsoil shall have a minimum thickness of four (4) inches.
 - (2) Topsoil shall be fertile, friable, natural loam free of subsoil, clay lumps, brush, stones, or other deleterious materials larger than two (2) inches in greatest dimension, conforming to the requirements of NYSDOT Section 713-01 and meeting the following gradation requirements:

Sieve	Percent Passing
2"	100
1"	85 - 100
¼"	65 - 100
No. 200	20 - 80

- (3) Natural topsoil may be amended with approved materials, by approved methods, to meet the above requirements.
- e. **Seeding**
 - (1) Seeding shall be sown from April 1st to June 1st and from September 1st to October 15th, unless otherwise approved.

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- (2) Fertilizer shall be a commercial fertilizer (5-10-5) inorganic, or organic, containing not less than five (5) percent nitrogen, ten (10) percent available phosphoric acid, and five (5) percent water soluble potash. Fertilizer shall be mixed into the top two (2) inches of the topsoil at a rate of 30 pounds per 1000 square feet.
- (3) The contractor or developer may substitute the commercial fertilizer 5-10-5 with another commercial fertilizer with a 1-2-1 ratio with prior approval.
- (4) The following mixture shall be used, unless a special mixture is otherwise indicated or approved:

Species	% by Weight	% by Purity	% by Germination
Kentucky Blue Grass	40	85	80
Red Fescue	35	95	85
Perennial Rye	25	95	85

- (5) Seed shall be applied at five (5) pounds per 1000 square feet and to a depth of 1/8 inch. Seed should only be applied when wind velocities are less than five (5) miles per hour.

f. **Mulching**

- (1) Straw shall be spread over the seeded area with 75% ground coverage and at least 1-1/2 inches loose depth.

16. **Inspection**

- a. During water main installation, an inspector shall be on-site full-time. The inspector shall be employed by the Village; however the contractor or developer is responsible for the expense. All payments from the contractor or developer shall be paid directly to the Village.

17. **Cleaning Water Mains**

- a. At the conclusion of the work, the Contractor shall thoroughly clean all new pipes by flushing with water or other means to remove all dirt, stones, pieces of wood, etc. which may have entered during the construction period. If, after this cleaning, any obstructions remain, they shall be removed to the satisfaction of the Village or their Engineer. Pipes shall be flushed at a rate of 2.5 feet per second (fps) for duration suitable to the Village or their Engineer. The rates of flow required to produce 2.5 fps flushing velocity in different sizes of pipe are as shown in the following table:

Pipe Size (inches)	Flow Required to Produce a Velocity of 2.5 fps (gallons per minute)
6	220
8	390
12	880
16	1,575

18. **Testing**

- a. Hydrostatic acceptance tests, consisting of a pressure test and a leakage test, shall be performed on all sections of all water systems installed after the trench has been backfilled and prior to final

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acceptance. Testing shall conform to AWWA C600, Section 4, unless otherwise directed.

- b. All tests shall be conducted in accordance with the Village's requirements and in the presence of a Village representative.
- c. All costs associated with the testing shall be at the contractor's or developer's expense.
- d. Pressure testing:
 - (1) Test piping at 1.5 times the working pressure or 150 psi, whichever is greater. Measure test pressures at the lowest point in the pipe section and correct to the elevation of the gauge.
 - (2) Relieve trapped air at the section high points through hydrants, or taps installed for this purpose, provided temporary installations are removed and plugged after acceptance.
 - (3) Maintain the test pressure for a period of two (2) hours with a maximum pressure variation of 5 psi.
- e. Leakage testing:
 - (1) Conduct the leakage test concurrently with the pressure test. The maximum allowable leakage is determined by the following formula:
$$L = (N \times D \times P^{1/2})/7,400$$

Where: L = allowable leakage, in gph
 N = number of joints in test section
 D = nominal pipe diameter, in inches
 P = average test pressure, in psig
 - (2) Acceptance shall be determined on the basis of allowable leakage. If any pipe section discloses leakage greater than that specified, locate, repair, and retest until the leakage is within the limits specified.

19. Disinfection

- a. All pipes and fittings connected to and forming a portion of a potable water supply shall be disinfected and flushed in a manner acceptable to the Village Water Department. Disinfection shall be accomplished after the pipe has passed the pressure and leakage tests.
- b. Disinfection shall be performed in accordance with the latest version of ANSI/AWWA C601. Disinfection shall be accomplished by applying a chlorine solution that will give a 50 ppm chlorine residual throughout the main being disinfected. The chlorine solution shall remain in the water mains for a minimum period of 24 hours. At the termination of this period, the chlorine residual shall be a minimum of 25 ppm. If the residual is less than 25 ppm, the entire procedure shall be repeated. The chlorine solution shall be thoroughly flushed out prior to placing the new section of the main in service. The chlorine solution shall be disposed of in a manner that will in no way have a detrimental affect on fish, plant, or animal life.

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- c. After the water mains have been flushed with potable water to the satisfaction of the Village Water Department, two consecutive samples taken 24 hours apart shall be taken by the Contractor for bacteriological analysis.
- d. The number of samples and their collection points shall be reviewed with and be acceptable to the Village Water Department. Cost associated with the testing laboratory that will perform the bacteriological analysis shall be borne by the Contractor. The water samples shall be bacteriologically safe before the water mains are placed in service.
- e. All costs associated with disinfection shall be at the contractor's or developer's expense.

20. Project Closeout

- a. All completed work must be approved by the Village Water Department prior to dedication to the Village, where applicable.
- b. At the conclusion of the water system installation, the Contractor shall prepare detailed record maps of the completed water distribution system. These record maps shall be of a form acceptable to the Village Water Department. The Contractor shall furnish at least three (3) complete sets of 22" x 34" prints of these record drawings to the Village Water Department.
- c. In addition to the record drawings, drawings illustrating the location of water services, including corporation stops and curb stops, shall be provided. The installed items shall be located using two (2) permanent points. Record drawings for these items shall be submitted in 8½" x 11" format.
- d. The contractor or developer shall be responsible for the maintenance of the water mains and appurtenances and guarantee all material and workmanship for a period of one (1) year after the date of the Village's acceptance.

21. Time of Construction

- a. Unless specifically approved by the Village Water Department, water distribution system installation and construction shall not take place during the months from November 1st through April 1st.

22. Water Department Control

- a. All installation and construction of all water mains and services installed in public or private property that are connected directly or indirectly to the Village of Salem Water System shall be subject to the control of the Village Water Department.
- b. Operation of all valves and hydrants under pressure shall be done only by representatives of the Village Water Department or by such responsible person approved by the Village Water Department.
- c. The Village Water Department shall be notified at least 24 hours prior to the start of connecting to the existing water system. In addition, the Village Water Department shall be notified at least 24 hours prior to the start of pressure testing, leakage testing, and disinfection.

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- d. The Village Water Department will not authorize any meter installations, in any subdivision, prior to receiving record drawings and certifications.