

VILLAGE OF EDGERTON

GENERAL RULES, TERMS & CONDITIONS

COVERING THE FURNISHING OF WATER SERVICE TO CONSUMERS OF THE VILLAGE'S WATER UTILITY DEPARTMENT

(REVISED 02/14/2008)

SECTION 1. DEFINITIONS

The following definitions shall apply in the interpretation and enforcement of these Rules and regulations:

1. "Air gap separation" means 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 flow level rim of the receptacle.
2. "Approved" means that a backflow prevention device or method has been accepted by the supplier of water and the Utility as suitable for the proposed use.
3. "Auxiliary water system" means any water system on or available to the premises other than the public water system and includes the water supplied by the system. These auxiliary waters may include water from another supplier's public water system; or water from a source such as wells, lakes, or streams; or process fluids; or used water. They may be polluted or contaminated or objectionable or constitute a water source or system over which the supplier of water does not have control.
4. "Backflow" means the flow of water or other liquids, mixtures, or substances into the disturbing pipes of a potable water supply from any source other than the intended source of the potable water supply.
5. "Backflow Prevention Coordinator" means qualified individual, so selected by and approved by the Village Water/Wastewater Superintendent.
6. "Backflow Prevention Device" means any device, method or type of construction intended to prevent backflow into a potable water system.
7. "Consumer" means the owner or person in control of any premises supplied by or in any manner connected to a public water system.
8. "Consumer's Water System" means any water system, located on the Consumer's premises, supplied by or in any, manner connected to a public water system. A household plumbing system is considered to be a Consumer's water system.

9. "Contamination" means an impairment of the quality of the water by sewage or process fluid or waste to a degree, which could create an actual hazard to the public health through poisoning or through spread of disease by exposure.
10. "Cross-connection" means any arrangement whereby backflow can occur.
11. "Degree of Hazard" is a term derived from an evaluation of the potential risk to health and the adverse effect upon the potable water system.
12. "Director" means the director of the Ohio Environmental protection Agency or his duly authorized representative.
13. "Double Check Valve Assembly" means an assembly composed of two single, independently acting, check valves including tightly closing shutoff valves located at each end of the assembly and suitable connection for testing the water-tightness of each check valve.
14. "Health Hazard" Means any condition, device or practice in a water system or its operation that creates, or may create, a danger to the health and well being of users. The word "severe" as used to qualify "health hazard" means a hazard to health of the user that could reasonably be expected to result in significant morbidity or death.
15. "Interchangeable Connection" means an arrangement or device that will allow alternate but not simultaneous use of two sources of water.
16. "Manufactured Home" means a structure, transportable in one or more sections, which is built on a chassis and designed to be used as a dwelling structure. The structure is built completely in a factory and taken to the place where it will be occupied. (may also be referred to as a "mobile home")
17. "Manufactured Home Community" means a tract of land upon which sites are available with the necessary utilities for two (2) or more manufactured homes to be located on a continual, nonrecreational basis.
18. "Non-Potable Water" means water not safe for drinking, personal or culinary use.
19. "Person" means the state, any political subdivision, public or Private Corporation, individual, partnership or other legal entity.
20. "Pollution" means the presence in water of any foreign substance that tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.
21. "Potable Water" means water, which is satisfactory for drinking, culinary and domestic purposes and meets the requirements of the Ohio Environmental Protection Agency.
22. "Process Fluids" means 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, pollution or system hazard if introduced into the public or a potable consumer's water system. This includes, but is not limited to:

SECTION 2. APPLICATION FOR SERVICE

1. It shall be the responsibility of the Village Administrator to supervise and direct the operation of the Utility, including administration of the following Rules and Regulations.
2. Application for Water Service shall be made in writing at the office of the Utility on its standard form.
3. All applications involving an original or new service line installation shall be made by and only in the name of the property owner. By such Application the property owner shall be deemed to assent, agree and commit himself to all rules and regulations and charges relating to the furnishing and utilization of water service. Subsequent Application may be made by the Tenant occupying the premises to be served with water.
3. Where the Applicant's requirements for water service are unusual, the Utility reserves the right to require a suitable contract from the Applicant for a reasonable period of time so as to protect the Utility's investment required to render the service involved. See Section 14 "Line Extensions".
4. There shall be set forth on the Application the class of service to be furnished (i.e., whether residential, commercial or industrial as defined in the applicable rate schedule).
5. The Residential Service Rate is applicable for individual residences and dwelling units such as single apartments, houses, etc., used strictly for residential or home use purpose.
6. The Commercial Rate shall apply for commercial, business, professional, industrial or other similar non-residential use.
7. Where a single service supplies a combination residential and commercial establishment, the Commercial Rate shall apply. Or, at Applicant's option and expense, the service line may be separated (subject to Utility's approval) and each class of service will be separately metered and billed.
8. The Village reserves the right to require that all future dwelling units be individually metered and plumbed before water service is established. For new installations, the Village further reserves the right to require that each separate building have a separate service and meter. Any new buildings designed for multiple occupancy, that each unit, be separately metered.
9. Each new manufactured home community shall be required to have one master meter installed for metering water usage by the Village.
10. For further definition and applicability of Residential and Commercial and Industrial Service see the Rate Schedule themselves.
11. For Fire Service Line Service see Section 12 "Fire Protection Service". No new or additional Fire Service Line Extension will be made except where consumer purchases 100% of his water requirements from Village.
12. The Applicant shall advise the Utility of the purpose for which the water will be used and the probable quantity required in order that the Utility can properly determine the necessary size of the service line and meter required to adequately serve the Applicant.

- a. Polluted or contaminated waters
 - b. Process waters
 - c. Used water originating from the public water system which may have deteriorated in sanitary quality
 - d. Contaminated natural waters taken from wells, lakes, streams or irrigation systems
 - e. Chemicals in solution or suspension
 - f. Oils, gases, acids, alkalis and other processes, or for fire fighting purposes
23. "Public Water System" has the meaning ascribed to such term in Section 6109.01 and 6109.02 of the Ohio Revised Code.
24. "Reduced Pressure Principle Backflow Prevention Device" means a device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between two check valves. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valves at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device, and each device shall be fitted with properly located test cocks.
25. "Service Connection" means the terminal end of a service line from the public water system. If a meter is installed at the end of the service, then the service connection means the downstream end of the water.
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26. "Supplier of Water" means the owner or operator of a public water system.
27. "System Hazard" means a condition posing an actual or potential threat of damage to the physical properties of the public water system or a potable consumer's water system.
28. "Pollution Hazard" means a condition hazard through which an aesthetically objectionable or degrading material not dangerous to health may enter the public water system or a potable consumer's water system.
29. "Used Water" means any water supplier of water from a public water system to a consumer's water system after it has passed through the service connection and is no longer under the control of the supplier.
30. "Wellhead protection Coordinator" means the designated individual whose aim is to prevent contamination in and around the area of public water supply well field. This person can and will conduct on site surveys of factories and businesses.
31. "Utility" or "Village" means the Water Department of the Village of Edgerton, Ohio.

The size of the line and meter required for any Consumer will be determined by the Utility. The minimum and other Charges shall be determined by the size of the meter and service installation as set forth in the Rate Schedule.

13. Where the Application for Service requires a tap and a new service line, the Applicant will make a cash payment in advance before work is commenced to cover the expense involved.

SECTION 3. SERVICE LINE INSTALLATION

1. The Utility will make the necessary tap and will furnish, install and maintain the service line extending from the main to, and including, the curb stop and meter pit. The curb shut off box will be installed by the Utility at a location to be determined by the Utility. This location is normally at the property line outside of the street right-of-way.
2. The tap and service line fee to be paid in advance by the Applicant for each tap shall be as set by the Village Council.

Diameter Size Tap	Inside Village	Outside Village
0.75"	\$625.00	\$687.50
1.00"	\$687.50	\$812.50
2.00"	\$875.00	\$1062.50

For tap and service line larger than 2.00" in nominal diameter, the charge shall be actual cost of the installation and meter plus 25% when installed within the Village Limits; and actual cost of installation and meter plus 75% when installed outside Village Limits.

For a service larger than 2.00" a cash deposit equal to the estimated cost of same will be required and any excess Deposit over actual cost will be returned to Consumer.

3. In the case of a new multiple lot subdivision or development, all taps and service lines must be installed at the time the water mains are installed. The service line installation shall extend from the main to, and include, the meter pit with approved meter and ERT.
4. In all cases where new water mains are being installed, every property owner will be required at his/her expense to install at that time the tap, service line, meter pit, etc., for each lot – regardless of when the lot is to be occupied. The foregoing tap, service line, etc., installations will also be required prior to the paving or repaving of any street, alley or other thorough-fare.
5. Any Consumer at his/her own expense may elect to have the tap and service line installed by a Contractor approved by the Utility. The installation shall conform to the standards and specifications of, and inspection by, the Utility.
6. For further details as to the other facilities to be installed by Consumer and Utility and use of service by Consumer see Section 10, "Utility's Installation" and Section 11 "Consumer's Installation".

SECTION 4. METER INSTALLATION

1. The consumer shall furnish a suitable frost-free location, normally at the meter pit, for the location of Utility's water meter. The Utility will furnish, install and maintain the meter

and mounting yoke. All other piping and valves on Consumer's side of meter pit or curb box shall be furnished, installed and maintained by Consumer.

2. See Section 10 for "Utility's Installation" and Section 11 for "Consumer's Installation".

SECTION 5. USE OF SERVICE

1. Due to health considerations and concern for the contamination of the Utility's water supply, no cross-connections will be permitted between any other foreign water supply and/or piping system and Utility's water supply and/or piping system. Further, no connections of any kind will be permitted that may allow any other contamination to enter the Utility's water system.
2. The Utility also reserves the right to refuse to furnish service, or to discontinue service once established, where possible water contamination may result from use of the water service by the Consumer.
3. See Section 12 for "Fire Protection Service" and Section 14 for "Line Extensions".

SECTION 6. BILLING AND PAYMENTS

1. All bills for water service shall be rendered monthly and are payable within 10 days from the date of the bill. The schedules of the Utility rate are Net if paid within the 10 day limit. If not so paid, the Gross Rates, as set forth in the applicable schedule, shall apply. Failure to receive a bill will not entitle Consumer to the Net Rates nor to the remission of any charge for non-payment within the time specified.
2. In the event of the stoppage of, or the failure of, any water meter to register the full amount of water consumed, the Consumer will be billed for such billing period on an estimated consumption basis, which will be based upon the Consumer's normal use of water in a similar period during the time the meter was registering correctly.
3. In the case of a question as to the accuracy of the meter, the Consumer shall request the Utility to test the meter. If the meter is found to be correct within 2%, the Utility shall reserve the right to charge the Consumer \$25.00 within the Village Limits and \$50.00 outside the Village Limits, for making such a test; otherwise, the expense of the test shall be borne by the Utility.

Any adjustments to be made where a meter inaccuracy in excess of 2% is found shall not cover a period of water usage in excess of 6 months.

4. All meter readings and billings shall be in units of 100 gallons, depending upon the size of meter.
5. For service involving a partial billing and where the Capacity Charge is not applicable, where either the initial billing period after service is first established or the final billing period up to the time of discontinuance of service by the Consumer is less than the regular billing period, the following billing procedure will apply:
 - a. When service is initially established to the Consumer or where the Consumer's account is being transferred from one location to another and the period of service involves 7 days or less of the Utility's regular billing period, the Consumer's initial usage at the new location will be carried over into the next

succeeding regular billing period at that location and shall be combined with and be considered as part of the same.

- b. For all other service furnished for a partial billing period, including all final bills, the bill shall be calculated in accordance with the rate blocks and charges (including Minimum Charges) as set forth in applicable rate schedule with no proration of rate blocks or Minimum Charge being made.
6. For initial service to Consumers served under Utility's commercial or industrial schedule where the Capacity Charge is applicable, said Capacity Charge will be billed as follows:
 - a. Where the initial period of commercial or industrial service is less than 7 days the billing will be combined and made a part of the succeeding billing period.
 - b. Where the initial period of said Commercial Service is from 8 to 15 days inclusive, the Capacity Charge (if applicable) will be prorated and billed on a 50% basis, the Commodity Charges shall be billed as is actually set forth in the Rate Schedule.
 - c. Where the initial period of Commercial Service is 16 days or more and in all cases where a final bill is involved the billing will be as set forth in Rate Schedule with no proration of capacity or any other charges whatever.
7. A Consumer and/or Property Owner who intends to move from the premises or discontinue the use of water, or in any way terminate his liability hereunder, shall give the Utility reasonable notice of such intention and the Consumer and/or Property Owner shall be liable for all water that may be used upon the premises until such notice is given and the Utility has made the final meter reading.

SECTION 7. DEPOSITS

1. At the request of the Property Owner and without, in any manner implied or otherwise, relieving the Property Owner of any of his responsibility for the payment of all bills for water service, the Utility will bill the Tenant direct. In such event, in order to secure Tenant's Account, the Village may require the tenant to make a suitable deposit. The amount of said deposit shall be based upon the estimated water usage of the premises involved.
2. Where service is billed direct to Property Owner and where payment of water bills has been unsatisfactory, a deposit may be required as provided herein.
3. The Utility shall have a reasonable time, during business hours, in which to read, remove or disconnect the meters after receiving notice from the Consumer. The Utility shall ascertain that all obligations of the Consumer (including all accounts due the Village by the Consumer) have been settled in full prior to the return of any deposits by the Village to the Consumer. Upon discontinuance of service, such deposit as may remain in excess of any such indebtedness owed Village's Water Department will be refunded to Consumer. Should any deficiency exist, same shall be paid by the Property Owner as provided elsewhere herein.
4. In the event that Consumer's and/or Property Owner's past record of payment of accounts and/or water usage indicates that additional deposits are required to properly secure his account, the Village reserves the right to require an additional deposit.

SECTION 8. CHARGES FOR TRANSFER OR RECONNECTION OF SERVICE, SPECIAL SERVICES, ETC.

Description of Special Service Furnished	Charges	
	Inside Village	Outside Village
Transfer of account name – No special meter reading required	None	None
Transfer of account name – Special meter reading required	None	None
Turning off water at curb box – final bill	None	None
Non-payment of account – Trip to premises for purpose of disconnection, reconnection or collection of delinquent account	\$7.50	\$10.00
Turning on or off water at curb box at request of consumer – Transfer of account is not involved	\$10.00 (during regular working hours)	\$15.00 (during regular working hours)
	\$20.00 (during non-regular working hours)	\$25.00 (during non-regular working hours)
Replacement of water meter located in basement or crawl space damaged by freezing or hot water	\$20.00	\$25.00
Fraud or illegal diversion of water, including unauthorized turn on of water after turn off by the Village for non-payment of bill or other violation of Village's Rules and Regulations	\$30.00	\$50.00
Testing of meter at request of Consumer	None (where meter is found more than 2% slow or fast)	None (where meter is found more than 2% slow or fast)
	\$25.00 + cost of meter repairs or new meter, if required (where meter is found 2% or less slow or fast)	\$50.00 + cost of meter repairs or new meter, if required (where meter is found 2% or less slow or fast)
Water meter thawing	\$25.00 (for second time and each time thereafter)	\$25.00 (for second time and each time thereafter)

SECTION 9. ACCESS TO PREMISES

- Any identified representative or employee of the Utility shall have access to the premises of the Consumer during working hours for the purpose of examining pipes, meters, connection and other appurtenances involving the Utility's water supply and for the further purpose of examining, replacing, repairing or removing any meter, piping, instrument or connection that is part of the Utility's Water System; also to ascertain that all requirements as to "Use of Service" as set forth in Section 5 are complied with.

The Village reserves the right to disconnect service to the Consumer if the Village representative is not given access to the premises within ten (10) days from the first notice to the Consumer that access is needed.

SECTION 10. UTILITY'S INSTALLATION

- The Utility will make and install the necessary water service tap as provided in Section 3 "Tap and Service Line Installation" after the required cash payment or deposit has been made.

2. The Utility shall not be required to furnish service to the Consumer until a reasonable time after the Application has been accepted by an authorized agent of the Utility.
3. The Utility will operate, maintain and repair the service line and appurtenances extending from the main to, and including, the meter pit or curb box at the street right-of-way line.
4. No person other than an employee of the Utility shall tap a water main or extend a service in the street from the main to the curb. However, where a developer is making a number of taps, the Village Administrator may, at his/her discretion, permit the developer to make his/her own taps, provided such taps are made in accordance with the Village's Specifications.
5. Service lines from the main to within five (5) feet of the building served shall be of not less than 0.75" inside diameter of Type K soft copper pipe or other pipe approved by the Utility.
6. Normal maintenance and repair of the meter will be done by the Utility at its expense. However, extraordinary maintenance and repairs caused by freezing, backup of hot water through meter or by other negligence on the part of Consumer shall be paid for by Consumer. The cost shall be the Village's total of all materials (including replacement of meter, if necessary) labor, equipment, transportation and any other eligible expense.

SECTION 11. CONSUMER'S INSTALLATION

1. The Utility reserves the right to refuse service or to discontinue service after once established whenever the Consumer's installation is of such nature that it could jeopardize, contaminate or otherwise affect the service of other Consumers.
2. Consumer's installation shall conform to Village Plumbing Code, or other governmental authority having jurisdiction over same, and regular water service shall not be established until Consumer's installation is inspected and approved by Village.
3. All Consumers shall have shut off valves installed at a suitable location to be specified by the Utility before service is established or reconnected.
4. The service line and all connections extending from curb box or meter pit to, and throughout, Consumer's premises shall be installed, owned, operated and maintained by the property owner. Said service line extending to Utility's meter shall conform to and be installed in accordance with Village's specifications.
5. All property owners shall maintain, at their expense, service pipes and connections in good repair. All service lines shall be located below the frost line (4.0 feet below grade) in order to protect them from frost or other damage.
6. Consumer shall have an adequate number of valves and drain valves and the piping shall be so arranged that water can be drained so as to prevent freezing of the meter.
7. Utility reserves the right to require Consumer to install in his/her water piping system a suitable backflow device, the installation of which shall be approved by Utility, so as to prevent hot water or excessive pressures from entering Utility's system.
8. If Utility's meter, or any other metering appurtenance, is damaged by hot water, steam, rough use, neglect or by freezing when located in a basement, crawl space, or meter pit,

or by any cause other than natural wear usage, the Consumer shall be charged the costs of repair. The amount shall be placed upon the water bill of the Consumer for the succeeding month and shall be due and payable within the payment period specified for bills. If said amount of charges is not paid within the time provided for the payment of such bill, the water service may be disconnected as in other cases for non-payment of bill.

9. In order to avoid possible contamination of Utility's water supply; under no condition will any cross connection be permitted between any piping of Consumer and any other sources of water supply or drainage. When any such cross connection exists, Utility reserves the right to immediately shut off, without notice, its water service to the Consumer involved. Service will not be reestablished until the condition, at Consumer's expense, is corrected to Utility's satisfaction.
10. No person, without a written permit from the Utility, is allowed to turn a curb stop, hydrant or valve other than as provided in the Rules and Regulations governing Plumbers, except, however, members of the Fire Department in the performance of their duties. In case trouble occurs between the main and the curb box or meter pit, the Utility should be called immediately. If the trouble is beyond the meter or the curb stop, the water should be shut off and a plumber called.

SECTION 12. FIRE PROTECTION

1. Where water main extensions are required solely for the purpose of providing only fire protection to the Consumer, the Consumer shall pay the entire cost of such special mains, including any special or check meters required, as provided for in the Rate Schedule.
2. No special extensions of water mains will be made to provide fire protection service unless the Consumer agrees in writing to purchase 100% of his/her other water requirements from the utility.
3. Upon the expiration of any such Agreement where such special fire protection has been established and the Consumer subsequently obtains his normal water supply from sources other than the Utility, the charge for the remaining fire protection service shall be in accordance with the Minimum Charges set forth in the Utility's Commercial and Industrial Rate Schedule based, at Utility's option, on the size of the main line required for the fire protection.

SECTION 13. TEMPORARY SERVICE

1. Whenever the service requested by the Consumer is temporary, special short term or emergency, the written application or Contract for such service shall specify the period of service and the character of service. The Consumer shall pay for all extra charges involved with the installation and removal of the service and all material, labor and other expense incidental thereto. Temporary service shall be defined as water service that is to be furnished to establishments for purposes that are, in the opinion of Utility, considered to be non-permanent in character.

SECTION 14. LINE EXTENSIONS

1. Extensions of the Utility's water mains will be made only where the Consumer pays the entire cost of such extensions as provided in Village's Schedule "Line Extension Policy". Where a Consumer or group of Consumers pay for the cost of a special

extension, the terms and security of payments shall be as prescribed and must meet approval of the Utility.

2. The size, specifications and installations of all water main extensions shall be determined by the Utility and no connections will be made by the Utility unless the extensions conform to the Utility's specifications.

SECTION 15. UTILITY'S LIABILITY

1. The Utility will use reasonable diligence in supplying a regular and uninterrupted supply of water but shall not be liable for damages in case such supply should be interrupted or fail by reason of an act of God, the public enemy, accidents, strikes, legal processes, other governmental interferences, breakdowns, or injury to the machinery or water distribution lines of the Village or for extraordinary repairs.

SECTION 16. CONSUMER'S LIABILITY

1. The Consumer as referred to throughout these Rules and Regulations is defined as the Property Owner inasmuch as the property owner is, according to law, responsible for payment of all bills and is the owner of the necessary piping and connections beyond the water meter.
2. The Consumer shall be responsible for any tampering, interfering with or breaking of the seals of meters or other equipment of the Utility installed on the Consumer's premises and will be held liable for same including any illegal diversion of water according to law.
3. The Consumer agrees that no one except the employees of the Utility shall be allowed to make any internal or external adjustments to any meter or any other piece of apparatus, which is the property of the Utility.
4. Only employees of the Utility shall have the authority to turn the water service on or off at the curb box or meter pit and no other person shall be permitted to turn such water on or off without first having authorization or a permit from the proper Utility officer in each and every instance.

SECTION 17. OTHER USE OF WATER SERVICE

1. No person shall take water for private usage from any public building or from any fountain, hydrant, or other opening without the written consent of the Village Administrator.

SECTION 18. DISCONTINUATION OF SERVICE

1. The Utility reserves the right to discontinue the supply of water for any of the following reasons:
 - a. The non-payment of Water Bills, including any other charges referred to herein.
 - b. The non-payment of Sewage Charges.
 - c. For repairs or unavoidable shortage or interruptions in the source of supply.

- d. If the Consumer's water usage or requirements of connection are detrimental to the water service as supplied to other Consumers or to Utility's Water System in general.
 - e. For fraud or illegal diversion of water.
 - f. If the Consumer does not permit access to the Village to their premises within ten (10) days of the Village's notification that such access is needed in accordance with Section 9 above.
2. Whenever service is discontinued for non-payment of accounts, for fraudulent misrepresentation or for not providing access to the premises, a charge will be made by the Utility, as specified in Section 8, to cover the cost of disconnection and reconnecting service when same is again established.

SECTION 19. WATER DISTRIBUTION LINE EXTENSION POLICY

1. Request of Service: Individual(s), partnership(s) and/or companies (hereinafter referred to as the "Petitioner") desiring extension of water mains to provide water service to their property shall submit a written request to the Edgerton Utilities of the Village of Edgerton, Ohio (hereinafter referred to as the "Village") listing the approximate length and location of the extension and benefited property owners.
2. Extension Request Review: The Village will review the Petitioner's request and approve or reject said request within thirty (30) calendar days.
3. Plans: Upon receipt of written approval of the Petitioner's request for extension, the Petitioner shall prepare plans, specifications and an estimate of cost for the proposed water line extension and submit two (2) copies thereof to the Village for approval. Plans shall be prepared by a Professional Engineer, licensed by the State of Ohio, in accordance with the provisions of this Policy and the Water Line Construction and Material Specifications adopted by the Village.
4. Plan Review: After review and approval of the plans, specifications and cost estimate by the Village, the Petitioner shall submit said plans, specifications and cost estimates to the Ohio EPA for review and approval prior to construction.
5. Cost of Construction: The cost of constructing the water line including all fittings, valves, hydrants, repair of roadways and drives and reseeding disturbed areas including engineering fees, legal expenses and cost of easements required for construction shall be paid by the Petitioner except as otherwise specified in this Policy.
6. Extensions Within the Village Corporate Limits: Where properties other than the Petitioner's are to be benefited by the water line extension, the Petitioner may request the Village to prepare the plans, specifications and estimate of cost and construct said water main extension and assess the cost to the benefited properties as hereinafter provided.
7. Extensions Outside the Village Corporate Limits: At the request of the Petitioner, the Village will execute a reimbursement agreement with the Petitioner for properties benefited outside the corporate limits other than Petitioner's property. When properties, other than the petitioner's, request a service connection they shall be charged a connection fee in addition to the tap fee based on the property frontage as defined herein. Said connection fee shall be paid to the Village and reimbursed to the Petitioner.

8. Assessment and/or Reimbursement Basis: The front foot cost and basis for assessment or reimbursement shall be determined by dividing the total cost of construction including, but not limited to, all materials and labor used and related cost such as engineering and legal expenses and cost of acquiring necessary easements and/or right of way required for construction by the benefited footage. Benefited footage is defined as the water line length minus highway, street and alley right-of-way crossed by the water line times a factor of two. The connection charge and reimbursement amount shall be the frontage along the water line times the front foot cost. The connection charge for farm homes located on tracts of land containing ten (10) acres or more shall be two hundred (200) times the front foot cost determined as specified above.
9. Water Line Design Requirements: Water line design shall conform to the provisions of this Policy and material and construction procedures shall conform to the Water Line Construction and Material Specifications adopted by the Village.
 - a. Line Size: Minimum water line size for residential areas shall be six (6) inches where the line will be looped or dead-ends do not exceed six hundred (600) feet. Minimum water line size for commercial and industrial areas shall be eight (8) inches. The Village may require the Petitioner to construct a line larger than that specified above to provide for future extensions and provide the difference in material cost.
 - b. Valve Spacing: Valves with valve boxes shall be provided at intervals of not more than six hundred (600) feet and on all branches of tees and crosses not more than ten (10) feet from the center of the tee or cross. Valves located outside of street rights-of-way shall be marked with three (3) inch diameter pipes, seven (7) feet in length, set three (3) feet in the ground and painted with two (2) coats of fluorescent orange.
 - c. Hydrants: Fire hydrants with watch valves and valve boxes shall be provided at intervals not to exceed six hundred (600) feet in residential areas and intervals not to exceed three hundred (300) feet in commercial and industrial areas. Hydrants shall have one 5 inch Storz adapter and two 2 ½ inch hose connections. Hydrants shall be provided at all dead-ends for line flushing.

SECTION 20. CROSS-CONNECTION CONTROL – GENERAL POLICY

1. Purpose. The purpose of this policy is:
 - a. To protect the public potable water supply from contamination or pollution by isolating within the Consumer's water system contaminants or pollutants which would backflow through the service connection into the public potable water system.
 - b. To promote the elimination or control of existing cross-connections, actual or potential, between the public or Consumer's potable water system and non-potable water systems, plumbing fixtures and sources or systems containing process fluids.
 - c. To provide for the maintenance of a continuing program of cross-connection control which will systematically and effectively prevent the contamination or pollution of the public and consumer's potable water systems.

2. Application. This policy shall apply to all premises served by the public potable water system of the Village of Edgerton.
3. Policy. The Utility shall be responsible for the protection of the public potable water system from the contamination due to backflow of contaminants through the water service connection. If, in the judgment of the Utility, an approved backflow prevention device is necessary at the water service connection to any Consumer's premises for the safety of the water system, the Utility, or his/her Backflow Prevention Coordinator, shall give notice to the Consumer to install such approved backflow prevention device at each service connection to his/her premises. The Consumer shall immediately install such approved device or devices at his/her own expense, and failure, refusal or inability on the part of the Consumer to install such device or devices immediately shall constitute grounds for discontinuing water service to the premises until such device or devices have been installed.
4. No water service connection shall be installed or maintained to any premises where actual or potential cross-connection to the public potable or Consumer's water system may exist unless such actual or potential cross-connections are abated or controlled to the satisfaction of the Utility.
5. No connection shall be installed or maintained whereby water from an auxiliary water system may enter a public potable or Consumer's water system unless such auxiliary water system and the method of connection and use of such system shall have been approved by the Utility and by the Director of the Ohio Environmental Protection Agency as required by Section 6109.13 of the Ohio Revised Code.

SECTION 21. WATER SYSTEM

1. The water system shall be considered as made up of two parts: the public water system and the Consumer's water system.
2. The public potable water system shall consist of the source facilities and distribution system, and shall include all those facilities of the potable water system under the control of the Utility up to the point where the Consumer's water system begins.
3. The source facilities shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the public distribution system.
4. The public distribution system shall include the network of conduits used for delivery of water from the source to the Consumer's water system.
5. The Consumer's water system shall include those parts of the facilities beyond the service connection, which are utilized in conveying water from the public distribution system to points of use.

SECTION 22. SURVEY AND INVESTIGATIONS

1. The Consumer's premises shall be open during business hours to the Utility, or the Utility's authorized representative, for the conduction of surveys and investigations of water use practices within the Consumer's premises to determine whether there are actual or potential cross-connections to the Consumer's water system through which contaminants or pollutants could backflow into the public potable water system.

- d. Sewage treatment plants, sewage pumping stations or storm water pumping stations;
 - e. Food or beverage processing plants;
 - f. Chemical plants;
 - g. Metal plating industries;
 - h. Petroleum processing or storage plants;
 - i. Radioactive material processing plants or nuclear reactors;
 - j. Car washes;
 - k. Others specified by the Utility or the OEPA.
4. An approved backflow prevention device shall be installed at any point of connection between the public potable or Consumer's water system and an auxiliary water system, unless, such auxiliary system is accepted as an additional source by the Utility and the source is approved by the Director of the Ohio Environmental Protection Agency.

SECTION 24. TYPE OF PROTECTION REQUIRED

1. The type of protection required under Section 23 (1), (2) and (3) of these regulations shall depend on the degree of hazard which exists as follows:
 - a. An approved air gap separation shall be installed where the public potable water system may be contaminated with substances that could cause severe health hazard;
 - b. An approved air gap separation or an approved reduced pressure principle backflow prevention device shall be installed where the public potable water system may be contaminated with any substance that could cause a severe health hazard.
 - c. An approved air gap separation or an approved reduced pressure principle backflow prevention device or an approved double check valve assembly shall be installed where the public potable water system may be polluted with substance that could cause a pollution hazard not dangerous to health.
2. The type of protection required under Section 23 (4) of these regulations shall be approved air gap separation or an approved interchangeable connection.
3. Where an auxiliary water system is used as a secondary source of water for a fire protection system, the provisions of Section 24 (2) for an approved air gap separation or an approved interchangeable connection may not be required, provided:
 - a. At premises where the auxiliary water system may be contaminated with substances that could cause a system or health hazard, the public or Consumer's

potable water system shall be protected against backflow by installation of an approved reduced pressure principle backflow prevention;

- b. At all other premises, the public or Consumer's potable water system shall be protected against backflow by installation of either an approved reduced pressure principle backflow prevention device or an approved double check valve assembly;
- c. The public or Consumer's potable water system shall be the primary source of water for the fire protection system;
- d. The fire protection system shall be normally filled with water from the public or consumer's potable water system;
- e. The water in the fire protection system shall be used for fire protection system downstream approved backflow prevention device;
- f. The water in the fire protection system shall contain no additives.

SECTION 25. BACKFLOW PREVENTION DEVICES

1. Any backflow prevention device required by these rules and regulations shall be a model or construction approved by the Utility and the Director of OEPA and shall comply with the following:
 - a. An air gap separation, to be approved, shall be at least twice the diameter of the supply pipe, measured vertically above the top rim of the vessel, but in no case less than one inch.
 - b. A double check valve assembly or a reduced pressure principle backflow prevention device shall be approved by the Utility, and shall appear on the current list of approved backflow prevention devices of the Ohio Environmental Protection Agency.
 - c. An interchangeable connection, to be approved, shall be either a swing type connection or a four-way valve of the lubricated plug type that operates through a mechanism which unseats the plug, turns it ninety degrees and reseats the plug. Four-way valves shall not be used as stop valves but must have separate stop valves on each pipe connected to the valve. The telltale port on the four-way valve shall have no piping connected and the threads or flange on this port shall be destroyed so that a connection cannot be made.
2. Existing backflow prevention devices approved by the Utility at the time of the installation and that are properly maintained shall, except for inspection, testing and maintenance requirements, be excluded from the requirement of Section 25 (1) of this regulation. However, when the Utility determines the device requires more than minimum maintenance or when the Utility finds that the maintenance of the device constitutes a hazard to health, the device shall be replaced by a backflow device meeting the requirements of these regulations.

SECTION 26. INSTALLATION OF BACKFLOW PREVENTION DEVICES

1. Backflow prevention devices required by these rules and regulations shall be installed at a location and in a manner approved by the Utility and at the expense of the owner. In addition, any backflow prevention device required by these regulations shall be installed at a location and in a manner approved by the Director of the Ohio Environmental Protection Agency as required by section 6109.13 of the Ohio Revised Code.
2. Backflow prevention devices installed on the service line to a Consumer's water system shall be located on the Consumer's side of the water meter, as close to the meter as is reasonably practical, and prior to any other connection.
3. Pits or vaults shall be of water-tight construction, be so located and constructed as to prevent flooding and shall be maintained free from standing water by means of either a sump and pump or a suitable drain. Such sump pump or drain shall not connect to a sanitary sewer nor permit flooding of the pit or vault by reverse flow from its point of discharge. An access ladder and adequate natural or artificial lighting shall be provided to permit maintenance, inspection and testing of the backflow prevention device.
4. Reduced pressure principle backflow prevention devices must be installed above ground level or flow level, whichever is higher.

SECTION 27. INSPECTION AND MAINTENANCE OF BACKFLOW PREVENTION DEVICES

1. It shall be the duty of the Consumer at any premises on which backflow prevention devices required by these regulations are installed to have inspections, tests, and overhauls made in accordance with the following schedule, or more often where inspections indicate a need;
 - a. Air gap separations shall be inspected at the time of installation and at least every twelve months thereafter;
 - b. Double check valve assemblies shall be inspected and tested for tightness at the time of installation and at least every twelve months thereafter.
 - c. Reduced pressure principle backflow prevention devices shall be inspected and tested for tightness at the time of installation and at least every twelve months thereafter.
 - d. Interchangeable connections shall be inspected at the time of installation and at least every twelve months thereafter.
2. Inspections, tests and overhauls of backflow prevention devices shall be made at the expense of the Consumer and shall be performed by the Utility or a person approved by the Utility qualified to inspect, test and overhaul backflow prevention devices.
3. Whenever backflow prevention devices required by these regulations are found to be defective, they shall be repaired, overhauled or replaced at the expense of the Consumer without delay.
4. The Consumer must maintain a complete record of each backflow prevention device from the purchase to retirement. This shall include a comprehensive listing that includes a

record of all tests, inspections, repairs and overhauls. Records of inspections, tests, repairs and overhaul shall be submitted to the Utility.

5. Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific authorization by the Utility.

SECTION 28. BOOSTER PUMPS

1. Where a booster pump has been installed on the service line to or within any premises, such pump shall be equipped with a low pressure cut-off device designed to shut off the booster pump when the pressure in the service line on the suction side of the pump drops to tens pounds per square inch gauge or less.
2. It shall be the duty of the Consumer to maintain the low pressure cut-off device in proper working order and to certify to the Utility, at least once a year, that the device is operating properly.

SECTION 29. VIOLATIONS

1. The Utility shall deny or discontinue, after reasonable notice to the Consumer thereof, the water service to any premises wherein any backflow prevention device required by these regulations is not installed, tested and maintained in a manner acceptable to the Utility, or if it is found that the backflow prevention device has been removed or by-passed, or if an unprotected cross-connection exists on the premises, or if a low pressure cut-off required by these regulations is not installed and maintained in working order.
2. Water service to such premises shall not be restored until the Consumer has corrected or eliminated such conditions or defects in conformance with these regulations and to the satisfaction of the Utility.

EDGERTON VILLAGE WELLHEAD PROTECTION PLAN

Part A - Delineation

All delineation of public water *supply* well field as performed by Law by the Ohio Division of The Environmental Protection Agency (OEPA). OEPA also approves existing delineation in place at municipal request barring any changes or discrepancies.

Part B - Inventory

Supply and inventory of Village well field is performed by the Wellhead Protection Coordinator or the Village Water/Wastewater Superintendent. Elements that must be considered are:

1. Monitoring of levels of supply
2. Notification when levels reach critical lows
3. Contingency planning for capacity issues

Part C - Protection Strategies

1. Public Involvement/Education – Water/Wastewater Dept. and Adm.

This may include but not limited to public forums to educate residents, students, etc. of policy and procedures regarding well-head protection as well as location of supplies.

2. Source Control Strategies – Water/Wastewater Dept.

Provide business and residential customers with rules and regulations upon request. Identify potentials and provide necessary data to OEPA.

3. Contingency Plan – water/Wastewater Dept. and Adm.

Response to findings: Source of potable water in event of contamination.

4. Ground Water Monitoring – Water/Wastewater Dept.

Periodic testing per OEPA guidelines: Identify violations. Locate sources. Enforce policy not limited to restriction of access to water supply.

VILLAGE OF EDGERTON

CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR WATERLINE CONSTRUCTION

TABLE OF CONTENTS

SECTION 1: Materials

SECTION 2: Construction Installation

SECTION 3: Testing

SECTION 4: Restoration

SECTION 5: Measurement and Compensation (for use with Village projects only)

SECTION 1: MATERIALS

Waterline

Ductile Iron Pipe

The water main may be of ductile iron pipe in accordance with the following specifications:

The ductile iron pipe shall conform to ANSI A21.51 (AWWA C-150) with a minimum thickness meeting the requirements of ANSI-A21.51, Table 51.4 Thickness Class 50. The pipe shall have a cement mortar lining, conforming to ANSI A21.4 (AWWA C-104), and have a 1/32" coal tar enamel outside coating. Bronze wedge shall be used at all push-on joints (two per joint). The wedge shall be driven into the push-on joint to provide electrical conductivity between pipes.

The manufacturer shall furnish an affidavit indicating that all tests and requirements of the pipe, fittings, and appurtenances have been fully met. The affidavit shall be submitted to, and approved by, the Owner and Engineer prior to the Contractor delivering materials to the job site and/or beginning construction activities.

If ductile iron pipe is used, the entire length of pipe will be required to be wrapped in 8 mil polyethylene in accordance with AWWA C-105 prior to bedding and backfilling.

Polyvinyl Chloride Pipe

The water main may be of Polyvinyl Chloride (PVC) pipe in accordance with the following specifications:

PVC pressure pipe shall conform to the requirements of AWWA Standard C-900 or C-909, latest revision, DR18, Class 150.

The Contractor shall be required to install a detectable tracer tape directly over and on the center of the PVC main for its entire length to provide a reflection path (inductive) to determine pipe alignment and location after installation.

Detectable tracer tape shall consist of a continuous aluminum foil core inseparably bonded to both sides with tough high density cross laminated plastic films pigmented in blue warning colors. Bond strength of the tracer tape must prevent pitting or degradation after 300 hours continuous testing per ASTM B-117. Tracer tape shall have final elongation of three times its original length before parting. Detectable tracer tape on the above project shall be equal to ALARMATAPE as manufactured by Paul Potter Warning Tapes, Inc., Wheaton, Illinois; or equal. Specify catalog numbers #AT-3100-BW, 3" x 1,000 foot rolls with identification "BURIED WATERLINE BELOW". Identifying printing shall be 1 1/2 inch high bold black letters repeated every 21 inches. Three inch (3") wide ALARMATAPE is to be buried 30 inches deep.

Contractor shall install a #12 AWG copper wire along entire length of waterline. This trace wire shall be placed directly under the waterline. The Contractor shall leave five feet of wire coiled in valve boxes and at each hydrant shutoff valve.

The manufacturer shall furnish an affidavit indicating that all tests and requirements of the pipe, fittings, and appurtenances have been fully met. The affidavit shall be submitted to, and approved by, the Owner and Engineer prior to the Contractor delivering materials to the job site and/or beginning construction activities.

Service Pipe

Pipe for service connections shall be Type K copper. All pavement crossings shall be bored or pushed to maintain a minimum road edge clearance of two (2) feet.

Fittings

Fittings shall be of ductile cast iron, shall conform to ANSI/AWWA C-153/A21.53 (Class 250 minimum) and shall be coated and lined as specified for the pipe. Fittings shall be of the mechanical joint type with stainless steel bolts and nuts. The branch of the tees for fire hydrants shall be of the anchoring type, incorporating a follower gland and shall be compatible with the anchoring pipe as shown in the standard drawings. Provide required standard and tapped mechanical joint plugs.

Mechanical joints and push-on joints shall be in accordance with ANSI A21.11, incorporating rubber gaskets. Mechanical joints shall have stainless steel bolts and nuts.

All fitting assemblies shall be wrapped in 8 mil polyethylene in accordance with AWWA C-105 prior to bedding and backfilling.

Valves and Valve Boxes

Gate valves for use as distribution line valves and watch valves shall be resilient seated gate valves conforming to the requirements of the AWWA specifications C-509. Gate valves shall be equipped with mechanical joints, and non-rising systems. The joint, bonnet and seal plate shall be secured with stainless steel bolts and nuts. All bolt assemblies shall be wrapped in 8 mil polyethylene in accordance with AWWA C-105 prior to bedding and backfilling.

Valve packing shall be of the O-ring type. All valves shall have non-rising stems and open to the left (counter-clockwise). Line valves and watch valves shall be designed for a working pressure of 200 lbs. per square inch unless otherwise approved by the Village. Valves shall be Mueller 2360 Series or approved equal.

Valve boxes shall consist of a bottom section, top section and cover. Boxes shall be of the screw type. Valve box covers shall be furnished with "WATER" cast on the top. Covers shall be of "stay-put" weight and dimensions. Valve box lengths shall be suitable for proper placement with the cover flush with grade and sufficient adjustment remaining to permit a plus or minus adjustment of six (6) inches.

Valves shall be equipped with a 2" operating nut. Where valve boxes are installed in locations subject to traffic, they shall be supported so that no load can be transmitted from the valve box to the valve. The base shall be set on compacted backfill. The top of the base section shall be on a line with the nut at the top of the valve stem and the entire assembly shall be plumb.

Valve boxes shall be Tyler 6850 Series, or approved equal.

Fire Hydrants

Fire hydrants shall conform to the provisions of AWWA specifications C-502 and these specifications. Hydrants shall be designed for a working pressure of 150 pounds per square inch. The manufacturer shall furnish an affidavit indicating that all tests and provisions of AWWA C-502 have been met.

All bolts and nuts shall be stainless steel. All underground portions of the hydrant shall be wrapped in 8 mil polyethylene in accordance with AWWA C-105 prior to bedding and backfilling.

Each hydrant shall be given two coats of good weatherproofing paint before leaving the factory and another after installation. The portion of hydrants below ground shall be painted with black paint and the portion above ground shall be painted to match the existing hydrants throughout Village of Edgerton.

Hydrants shall be set plumb and to the grade of the curb, street, alley, highway, or right-of-way as approved by the Village. Excavation for hydrants shall first be backfilled with pea gravel to a minimum depth of two feet. Remainder of excavation shall then be backfilled as specified for the trenches.

The hydrant base and watch valve shall rest on a solid concrete block approximately 8" x 8" x 16".

The inlet connection shall be a mechanical joint for connection to a six (6) inch branch line from the main distribution line. The hydrant barrel length shall be sufficient to provide a four (4) foot minimum cover on the branch line.

Each hydrant connection to the mains shall be made by securing the hydrant and watch valve to the tees with anchoring pipe and/or anchoring couplings as shown or required. All anchoring pipe and fittings shall be of the plain end mechanical joint type incorporating an integral follower gland.

Fire hydrants shall be of the compression type, opening against and closing with the water pressure in the main, having a 5 1/4" valve opening, two 2 1/2" hose nozzles and one 5" Storz adapter. Storz adapter shall always be set toward the centerline of the street, highway, or right-of-way.

Hydrants shall be furnished with an O-ring packing, safety coupling and break flange. Hydrants furnished shall be the Village of Edgerton standard.

Hydrants shall be suitable for setting in trenches of the depths shown or as required. Hydrants shall be furnished with a positive-operating drain valve and shall be installed with the drain valve open. Each hydrant shall be furnished with a 6" mechanical joint base. Hydrants shall open by turning to the left (counterclockwise).

Hydrants shall be Clow-Medallion F-2545, Mueller Super Centurion A-423 or Kennedy Guardian K-81 Series. No equals will be considered.

Service Fittings

Service fittings shall include saddles, corporation stops, curb stops and service boxes.

Double strap saddles shall be provided for service connections and shall be Ford 202B or approved equal.

Corporations stops shall be suitable for use with copper water pipe, shall include a one-eighth bend coupling and be equal to Mueller 300 ball type with 110 compression connection.

Curb Stops shall be suitable for end copper size water service pipe and be Mueller 300 ball type with 110 compression connection.

Service boxes for water shall have a minimum shaft diameter of 2~ inches and be suitable for use at a depth of 42 to 60 inches. Service boxes shall be equal to Tyler 6500 Series and shall include stop holder, bottom section, adjustable top section of the screw type permitting adjustment of box height, cover labeled "WATER" and a brass cover bolt.

Concrete

Concrete shall conform to Item 499 of the Ohio Department of Transportation (ODOT) Construction and Material Specifications. Concrete for pipe encasement shall be Class C. Concrete for pavement replacement, for blocking water line fittings, valves and hydrants and for valve and meter pits shall be Class C.

Asphalt Concrete

Asphalt concrete shall conform to Item 448 of the ODOT Construction and Material Specifications.

Prime, Tack and Seal Coats

Tack, prime and seal coats shall conform to Items 407, 408 and 409 respectively of the ODOT Construction and Material Specifications and the requirements of these Specifications.

Pipe Bedding Material

Pipe embedment shall include granular material placed to a plane six (6) inches above the outside shell of the pipe. Granular material shall be of pea gravel.

Trench Backfill Material

Backfill shall include the material placed above a plane six (6) inches above the top of the pipe. Backfill shall consist of suitable native material obtained from trench excavation for areas considered outside paved areas. Backfill within existing paved or stone streets, alleys, driveways, parking areas and proposed sidewalks, or within five (5) feet of these areas shall consist of a durable gravel, sand, or crushed stone meeting the requirements of ODOT Item 703 Type 2 granular material for backfill. Slag will not be permitted for bedding, backfill, foundations, or any other use.

Aggregate Base

Aggregate for pavement replacement shall conform to Item 304 of the Ohio Department of Transportation Construction and Material Specifications and these Specifications.

SECTION 2: CONSTRUCTION INSTALLATION

Work Required

The work included in this project consists of excavating a trench in accordance with the grades or minimum cover specified by the plans; placing water line pipe encased in concrete, bedded in granular material or bedded in native material; placement and blocking of fittings, valves, hydrants and services; backfill with tamped granular material or native material; pressure and leakage test; chlorination of water line, fittings, valves, hydrants, etc.; replacement of pavement; regrading ditches; seeding highway rights-of-way; ditch banks and lawns; and maintaining the trench backfill for the period specified by these Specifications.

Material Handling

All materials furnished by the Contractor shall be delivered and distributed at the site by the Contractor. In distributing the material at the site, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

Water line pipe, fittings, valves, hydrants and accessories shall be unloaded by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall materials be dropped or rolled against objects with a damaging force. Pipe shall be handled so that the coatings and linings will not be damaged. However, should the coatings be damaged, such damage shall be repaired in a manner subject to the Village and/or the Village's Engineer's approval. Improperly or unsuitable repair shall result in rejection of the damaged item.

Barricades, Guards and Safety Provisions

To protect persons from injury and to avoid property damage adequate barricades, construction signs, torches, red lanterns and guards as required shall be placed and maintained during progress of construction work and until it is safe for traffic to use the highway. All material piles, equipment and pipe that may serve as obstructions to traffic shall be enclosed by barricades and shall be protected by proper lights when visibility is poor.

Maintenance of Traffic

The Contractor shall carry on the work in a manner that will cause the least interruption to traffic and may close to through travel any highway for not more than 8 hours. Said closing of any highway to traffic shall be only after three (3) day written notice to the Owner's Engineer, the County Engineer in which the project is located and the Township Trustees should the highway be designated as a township highway. Where traffic must cross open trenches, the Contractor shall provide steel plates of suitable strength and thickness and anchorage to permit the traffic to cross the open trench. Any trench covered by steel plates for traffic movement shall be thoroughly braced and shored to protect the water line pipe and the traffic using the highway. The Contractor shall post, as directed by the Village's Engineer, suitable signs indicating that the highway is closed and shall post the necessary detour signs for the proper flow of traffic.

Protection of Property and Structures

Trees, shrubbery, fences, poles and all property and surface structures shall be protected unless the removal is shown on the drawings or authorized by the Village and/or the Village's Engineer. When it is necessary to cut roots and tree branches, such cutting shall be done under the supervision and direction of the Village and/or the Village's Engineer and proper procedure for daubing the cuts shall be utilized. Where required by the construction, fences shall be removed within the areas designated for the work and on the completion of construction in that area, the fence shall be reconstructed to a condition equivalent to that existing prior to the construction activity.

Existing underground and surface structures, drains, sewers, and other obstructions encountered in the progress of the work shall be supported temporarily and given other adequate protection and maintenance at the direction of the Village and/or the Village's Engineer. Any structures disturbed shall be restored to original condition upon completion of the work.

Alignment and Grade

The trench shall be dug so that the pipe can be laid to the alignment and depth required and shall be excavated only so far in advance of pipe laying as permitted by the Village and/or the Village's Engineer. The trench shall be braced and drained so that the workman may work in it safely and efficiently. All trench dewatering pumps shall be discharged to natural channels, or existing drains and sewers.

Obstructions

Whenever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that an alternation in the plans is required; the Village and/or the Village's

Engineer shall have the authority to change the plans and order a deviation from the line and grade or arrange with Owners of the structures for the removal, relocation or reconstruction of the obstructions.

Ledge rock, boulders, and large stones shall be removed to provide a clearance of at least 6 inches below and on each side of all pipe, valves and fittings.

Additional Excavation

Where the bottom of the trench at sub grade is found to be unstable or to include ashes, cinders, refuse, vegetable or other organic material, or large pieces or fragments of inorganic materials that in the judgment of the Village and/or the Village's Engineer should be removed, the Contractor shall excavate and remove said unsuitable material to the width and depth ordered by the Village and/or the Village's Engineer. A suitable sub grade shall be constructed by the use of granular bedding placed in 6 inch compacted layers.

Trench Width

The width of the trench shall be ample to permit the pipe to be laid and jointed properly and the backfill to be placed and compacted as required by these Specifications.

Excavated Material

All surface material that in the opinion of the Village and/or the Village's Engineer is suitable for reuse in restoring the surface shall be kept separate from the general excavated material as directed by the Village and/or the Village's Engineer.

All excavated material, other than top soil ordered to be stock piled by the Village and/or the Village's Engineer, shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks, driveways, flow in drainage channels or highways.

Surplus excavated material shall become the property of the Contractor and disposed of by the Contractor at a suitable off-site location.

Trench Preparation

The bottom of the trench which shall be firm and even and excavated in such a manner as to provide continuous support along the barrel of the pipe. Trench excavation shall be made to the outside dimensions and to the depth shown on the drawings or as specified.

Bedding

Pipe embedment shall include granular material placed to a plane six (6) inches above the outside shell of the pipe. The material shall be placed in layers not exceeding six (6) inches in thickness and securely compacted by hand or mechanical tamping to secure a good compaction.

Backfill

Backfill shall include the material placed above a plane six (6) inches above the top of the pipe. The backfill shall be placed in such a manner that the material is not directly dumped on the pipe but shall be

rolled down the backfill slope. Care shall be exercised so that clods exceeding 3 inches in diameter shall not be placed against the barrel of the pipe. Backfill shall consist of finely divided soil free from stones, rubbish, large lumps or other harmful debris. The backfill shall be tamped in six (6) inch layers. Backfill shall be extended at least 18 inches above the surrounding ground in a neat windrow. The trench backfill shall be graded two (2) additional times after the initial backfill as directed by the Engineer.

Backfill within existing paved or stone streets, alleys, driveways, parking areas and proposed sidewalks, or within five (5) feet of these areas shall consist of a durable gravel, sand, or crushed stone meeting the requirements of ODOT Item 703 Type 2 granular material for backfill. Slag will not be permitted for bedding, backfill, foundations, or any other use on this project. The granular backfill shall ONLY be mechanically tamped in six (6) inch layers so that the backfill will have a density equal to a minimum of 95% of that possible under optimum moisture content as determined by Standard Proctor Test. The cost of granular backfill shall be included in the waterline pipe. No jetting of the trench shall be permitted.

The Contractor shall provide the services of a soil testing firm to conduct the necessary tests to insure that the compaction requirements of these specifications are met.

Thrust Blocking

Fittings for horizontal or vertical water line alignment changes shall be blocked with concrete. Concrete for blocking shall be Class "C" concrete. Blocking shall bear on undisturbed soil and shall have the minimum bearing area or volume specified for the particular pipe size.

Mechanical restraints may also be used.

Stream Crossings

Water line crossings of streams and ditches shall be made by deflecting the water line pipe at the joints no more than one-half the maximum deflection recommended by the pipe manufacturer.

Connections to Existing Mains

New mains shall be connected to existing mains, using proper fittings. No cut-ins or connections to existing mains shall be made unless at least forty-eight (48) hours notice of such cut-in or connections is given to the local official in charge of the water works and to the Engineer, and the related portion of the new main has been sterilized and all testing completed, as subsequently specified.

Extreme care shall be taken in making such connections to prevent contamination of the existing mains. All fittings, valves, and pipe shall be washed with clean water and then sterilized by washing with a chlorine solution having a residual chlorine strength of not less than 50 ppm.

Construction by Boring with Casing

The installation of the pipe under the obstacles shall be by the method described and meeting the approval of the Village.

All methods and installation of the lines beneath the structures shown on the plans shall be carried out without disturbance of the structures.

At the location shown on the plans, the waterline shall be encased in accordance with the following:

Boring

Casing pipe shall be installed by use of cutting head and auger equipment. Care shall be exercised in boring the hole so that voids will be kept to a minimum. All operations shall be conducted in such a manner that the flow of overhead traffic will not be impaired. The face of the excavation shall be supported as necessary for safe operations. The general method of construction must meet the approval of the Village. **To this end the Contractor shall submit to the Village, prior to the actual construction, plans of his proposed method of operations which must be approved.** All necessary permits shall be obtained by the Contractor prior to beginning the work.

Casing Pipe

The casing pipe shall be new steel pipe with an asphaltic coating, ASTM A-53, Grade B, and have a minimum yield strength of 35,000 PSI and placed in the location and at the depth shown on the plans. The casing pipe shall be filled with sand material, approved by the Engineer, between the inside casing wall and the outside wall of the waterline. The ends of the casings shall be sealed with block and mortar in accordance with the plans and specifications. All joints shall be field welded.

Casing Pipe Sizes

For	6" carrier pipe	-	casing pipe 16" I.D.
	8" carrier pipe	-	casing pipe 18" I.D.
	10" carrier pipe	-	casing pipe 22" I.D.
	12" carrier pipe	-	casing pipe 24" I.D.
	16" carrier pipe	-	casing pipe 30" I.D.
	18" carrier pipe	-	casing pipe 36" I.D.

Waterline

After the steel pipe has been installed by boring the full length, the waterline shall be winched or jacked into place and supported with stainless steel casing spacers (@10' intervals) as manufactured by Cascade Waterworks Mfg.

Safety Requirements

All operations shall be conducted so as not to interfere with, interrupt, or endanger the operation of traffic nor damage, destroy, or endanger the integrity of roadway facilities.

Construction by Directional Drilling

The Contractor shall dig observation pits at potential points of conflict with other utilities and at other locations as deemed necessary to control the alignment and elevation of the water. The Village will assist the Contractor in determining the horizontal location of water, sanitary, and storm lines.

The Contractor shall determine the method of the directionally bored installation based on the capabilities of his equipment, his standard operating procedures, and his experience with similar installations.

The Contractor shall perform all work necessary to complete the waterline installation within the identified right-of-way and/or easement area.

Products

Pipe installed by the directional boring method shall be Certa-Lok C900/RJ or Fusible C900 PVC, PVC pipe meeting all the requirements of AWWA C-900 Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fittings, 4 In. through 12 In., for Water Distribution. The pipe shall be joined using separate couplings that have beveled edges, built-in sealing gaskets, and restraining grooves or by the fusion method. The restraining splines shall be square and made from Nylon 101. Each pipe and coupling shall be hydrostatically tested at the factory at four times its rated pressure for at least five seconds. Each pipe and coupling shall carry UL and FM listing labels and be approved by the National Sanitation Foundation for use with potable water.

The Contractor's analysis shall include, but not necessarily be limited to, the tensile pull load, pipe sidewall, bending stresses during installation, net longitudinal compressive stress, total longitudinal axial stress, external differential pressure collapse/buckling resistance, and earth loads on the pipe after installation. The SDR used shall then be the lower of SDR 18 or the value calculated by the Contractor. The pipe shall be as manufactured by CertainTeed or an approved equal.

Execution

The water line shall be installed by first drilling a pilot hole to the correct line and grade specified on the plans. Electronic guidance and tracking methods shall be used to provide "real time" information on the location of the pilot hole. The pipe may be installed at greater depths to facilitate the drilling operations if prior approval is obtained from the Engineer.

After drilling of the pilot hole, the drill head shall be pulled back through the pilot hole and the hole enlarged by reaming to a slightly larger diameter than the proposed pipe. The pullback shall also simultaneously pull the entire pipeline through the reamed hole. Drilling fluid with an optional polymer additive shall be used to facilitate the boring operations and to stabilize the reamed hole which should be oversized a maximum of 150% of the pipeline outside diameter.

The location wire required for the water mains shall also be pulled back with the pipe to provide a continuous tracer wire for locating these pipes.

As-built drawings shall be prepared using readings from the electronic guidance and tracking system. Readings of the pipe location shall be obtained and recorded at 50 foot intervals. Any pipe installed with less than 4' of cover shall be rejected and rebored to the correct grade.

All drilling fluid shall be contained to the vicinity of the drill rig and shall be promptly cleaned up at the completion of drilling operations.

SECTION 3: TESTING

Chlorination

Chlorination of the water line, fittings, valves, hydrants and other portions of the distribution system shall be performed in accordance with the American Water Works Association standard specifications AWWA C-651 and these Specifications.

After the line has been pressure tested and flushed; chlorine, in a form and manner approved by the Village and/or the Village's Engineer, shall be applied to the main in accordance with AWWA C-651.

A minimum of 25 ppm application of chlorine shall be applied so that a 10 ppm chlorine residual shall remain after a period of 24 hours throughout the line. Should the initial treatment fail to result in the specified residual, the original chlorination procedure shall be followed, or:

A free available chlorine residual of not less than 0.4 ppm shall be maintained throughout the entire length of the new main. This permits the immediate use of water from the new main so long as an 0.4 ppm free available chlorine residual is present. The treatment shall continue until the sample on two successive days shall be comparable in quality to the water served the public from the existing water supply system, or:

A combined available chlorine residual of not less than 1.0 ppm shall be maintained throughout the entire length of the new main. This permits the immediate use of water from the new main so long as 1.0 ppm combined available chlorine is present. The treatment shall continue until samples on two successive days shall be comparable in quality to the water served the public from the existing water supply system.

In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.

Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water. Check valves shall be used, if required, by the Village and/or the Village's Engineer or at the Contractor's option.

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 proved comparable in quality to the water served the public from the existing water supply system and approved by the public health authority having jurisdiction. This satisfactory quality of water delivered by the new main should continue for a period of at least two (2) full days as demonstrated by laboratory examination of samples taken from a tap located and installed in such a way as to prevent outside contamination.

Pressure and Leakage Tests

All new waterlines shall be pressure and leakage tested in accordance with procedures outlined in AWWA C605-94. When a main has been sterilized and flushed, a leakage test shall be applied to it. The main shall remain isolated from adjacent mains and a pressure of at least 150 pounds per square inch shall be applied by pumping clean water containing 10 ppm chlorine from a cleaned and sterilized container through a 1" corporation stop installed in the ends of the main, with the Contractor to provide an initial pressure of 150-160 psi.

The pressure test shall be maintained for 2 hours by pumping water from the container. A minimum test pressure of 150 psi shall be assured by pumping until a pressure of 150-160 psi is attained. At the end of the 2 hour period, the water shall be measured and the loss by leakage shall not exceed that as determined by the formula:

$$L = \frac{N \times D \times (P)^{1/2}}{7,400}$$

in which the L is the allowable leakage, in gallons per hour; N is the number of joints in the pipe main line being tested; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch gage.

When hydrants are in the test section, the test shall be made against the closed hydrant.

Pressure testing of each side of the intermediate valves shall be done at this time by shutting each valve and exhausting the pressure on one side and then applying the test pressure of 150 psi or more to the main on the opposite side of the valve. This procedure shall be repeated for each intermediate valve.

If the main valves do not pass the leakage test, the leak or leaks shall be located and repaired and the testing procedure repeated.

Upon completion of the leakage tests, the main shall be thoroughly flushed with potable water from the public supply until the water in the main has approximately the same chlorine content as water in the existing main.

The Contractor shall furnish all material, labor and equipment for testing.

Bacteriological Tests

After a water main has been sterilized and tested for leakage, bacteriological samples shall be collected from the extremities and intermediate points along the main by an employee of the Village experienced in the taking of water samples. Bacteriological samples shall not be taken by the Contractor.

If results of two consecutive sets of bacteriological tests show the water to be safe, the main may be placed in service. If bacteriological results show the water to be unsafe, the main shall be completely sterilized and retested again. Sterilizing of the main is the responsibility of the Contractor who shall provide all necessary materials and labor, and the main will not be placed in service and accepted until the bacterial quality of the water has been approved by the Village. The Village will perform two sets of bacteriological tests at no charge to the Contractor. Additional tests will be at the expense of the Contractor.

After the bacteriological tests are satisfactory, a representative of the Village will open all valves to place the line in service.

Completion of Tests

When all tests on the water main have been successfully completed and the main is placed in service by the Village, no further work on the main or valves will be permitted without full knowledge of the work by the Village.

Minor Details

The tests for a suitable chlorination of the water line and the pressure and leakage test shall be supervised by the Village. Water and chlorine for all testing shall be supplied by the Contractor.

SECTION 4: RESTORATION

Pavement Restoration

Aggregate Base

Aggregate shall be placed and compacted in layers of no greater than four (4) inches in thickness with sufficient water and calcium chloride added to maintain the surface until placement of the wearing surface. Placement of water and calcium chloride shall conform to Item 616 of the ODOT Construction and Material Specifications.

Concrete

Concrete pavement shall be broken up with neat straight edges by sawing, using care to preserve the reinforcement wherever possible, so that it can be bent back into place. The concrete shall be removed twelve (12) inches beyond each side of the trench excavation with sawed edge tapering toward the center of the trench.

All surplus material must be removed and disposed of at the Contractor's expense. After the utilities have been installed and the backfilling complete as previously specified, the concrete pavement shall be replaced with Class C concrete. All concrete materials shall be approved by the Village. An approved ready-mix concrete may be used. Concrete finish shall match that of the surrounding pavement. Reinforcement shall be substantially the same as in the existing pavement, but not less than mesh weighing fifty-four (54) pounds per one hundred square feet. Concrete shall be cured with water for at least 72 hours or cured with an approved waterproof membrane. Brick pavements removed shall be replaced with eight (8) inches of Class C concrete. Concrete pavements/bases replaced shall be replaced to a thickness equal to that removed, but no less than eight (8) inches thick.

Bases on non-State highways of brick or concrete, having an asphalt wearing surface, shall be replaced with one and one-half (1½) inch of 448 Intermediate Course and one and one-half (1½) inch of 448 Surface Course asphalt concrete over an eight (8) inch concrete base. A tack coat of bituminous material meeting the requirements of Item 407 of the State of Ohio Department of Transportation Construction and Material Specifications shall be applied at the rate of 0.20 gallons per square yard prior to the laying of the three (3) inches of asphalt concrete.

State highway pavements with brick or concrete bases, having an asphalt wearing surface, shall be replaced with ten (10) inches of 305 Class C concrete sub base. The wearing surface and tack coat shall be the same as previously cited for non-State highways.

Concrete driveway replacement shall consist of six (6) inches of Plain Portland Cement Concrete for residences and eight (8) inches of Plain Portland Cement Concrete for commercial and industrial facilities. Mesh shall always be placed within the concrete and shall be pinned to the existing in all cases.

Concrete sidewalk shall consist of four (4) inches of Class C concrete for residences and six (6) inches in areas of driveways.

Concrete forming for pavement and blocking shall be placed to control the concrete placement and permit vibration to obtain a dense concrete. All concrete shall be troweled to a finish acceptable to the Village and/or the Village's Engineer. Concrete for pavement replacement shall be given a broom finish with the direction of brooming perpendicular to the line of traffic.

Asphalt Concrete

All pavement removal shall be saw cut.

For asphalt or macadam non-State highway replacement there shall be laid eight (8) inches of 304 aggregate base. To the aggregated base shall be applied 408 Prime Coat at a rate of 0.40 gallons per square yard. The prime coat shall be followed by two (2) inches of 448 Intermediate Course Asphalt Concrete, and two (2) inches of 448 Surface Course Asphalt Concrete.

For asphalt State highway replacement, there shall be laid twelve (12) inches of 304 aggregate base with proper compaction. To the aggregate shall be applied 408 Prime Coat at a rate of 0.40

gallons per square yard. The prime coat shall be followed by two and one-half (2½) inches of 448 Intermediate Course Asphalt Concrete, and two and one-half (2½) inches of 448 Surface Course Asphalt Concrete.

Asphalt driveway or sidewalk replacement shall have same amount of aggregate base and prime coat as specified previously for asphalt non-State highway pavement replacement.

Included within this pavement replacement item shall be asphalt related paved berm replacement. Paved berms shall be replaced with eight (8) inches of 304 Aggregate Base followed by a 408 Prime Coat at a rate of 0.40 gallons per square yard. The prime coat shall be followed by two (2) inches of 448 Intermediate Course Asphalt Concrete and two (2) inches of 448 Surface Course Asphalt Concrete.

The thicknesses above are minimum requirements. The asphaltic concrete used for pavement replacement shall be placed using the same thickness as existing.

Tack, Prime and Seal Coats

Tack, prime and seal coats shall conform to Items 407, 408 and 409 respectively of the ODOT Construction and Material Specifications and the requirements of these Specifications.

Seeding

Seeding shall conform to Item 659 of the ODOT Construction and Material Specifications and these Specifications.

Fertilizer shall be applied at a rate of not less than twenty (20) pounds per 1000 square feet. Commercial fertilizer shall conform to the 10 - 6 - 4 designation.

All seed used shall be approved by the State of Ohio, Department of Agriculture, Division of Plant Industry and a certificate to this effect shall be furnished to the Village by the seed supplier prior to seeding operations.

Urban Seeding

Urban seed mix shall be used for residence lawn replacement and shall conform to the following composition:

Kentucky bluegrass	35%
Creeping Red Fescue	5.5%
Red Top (Agrostis Alba)	5%
White Dutch Clover (Trifolium repens)	5%

Highway Seeding

Highway right of way and ditch bank seeding shall conform to the following mixture:

Kentucky Bluegrass (<i>poa pratensis</i>)	30%
Kentucky 31 Fescue (<i>Festuca elatior</i> var. DY. 31)	60%
Alsike Clover (<i>Trifolium hybridum</i>)	10%

The rate of seed application shall not be less than three (3) pounds per 1000 square feet. Alternate seed mixtures may be used subject to the Village's prior approval.

SECTION 5: MEASUREMENT AND COMPENSATION (only for use on Village projects)

Water Line

Full compensation for all items of work including labor, material, supplies and equipment for excavating the water line trench and placing the water line pipe including the cost of the water line pipe and all other items of work including disposal of excess excavated material not specifically included in another pay item shall be included in the unit price bid per lineal foot for each size of pipe and type. Measurement of water line for payment shall be the actual horizontal length of water line constructed from centerline of fitting to fitting with no deduction for fittings or other specials, as measured to the nearest whole foot.

Service Lines

Full compensation for all items of work including labor, material, supplies and equipment for boring the pavement, placing the service line or the service tubing including the disposal of boring cuttings shall be included in the unit price bid per linear foot of bored service line for each size and type of service line.

Full compensation for all items of work including labor, materials, supplies and equipment for excavating, placing service tubing, back filling the trench and disposal of excess excavated material and other items of work not included in another pay item shall be included in the unit price bid per linear foot of service line for each size and type of service line. Service line shall be measured from the centerline of the water line to the curb stop along the centerline of the service line or tubing with no deduction for fittings, less the length paid as bored service line, to the nearest whole foot.

Full compensation for saddles including all labor, material, supplies and equipment for installing said saddles shall be included in the unit price bid for each size saddle or tapped coupling for the specified pipe size and no additional compensation shall be allowed therefore.

Full compensation for supplying, installing and connecting corporation stops including all labor, materials, supplies and equipment necessary shall be included in the unit price bid for each size of corporation stop and no additional compensation shall be allowed therefore.

Full compensation for supplying, installing and connecting the curb stop including the service box and all labor, materials, supplies and equipment necessary shall be included in the unit price bid for each size curb stop and no additional compensation shall be allowed therefore.

Fittings

Full compensation for fittings including all labor, material, supplies, equipment and concrete blocking shall be included in the unit price bid for each size and type of fitting and no additional compensation shall be allowed therefore.

Valves

Full compensation for line valves, including valve box and cover, all labor, material, supplies, equipment shall be included in the unit price bid per line of the specified size and no additional compensation shall be allowed therefore.

Hydrants

Hydrants shall be specified by the size of the hydrant inlet. Watch valve size shall be equal to the hydrant inlet size.

Full compensation for hydrants, including the mechanical joint watch valve, valve box, anchoring couplings or tie rods and all labor, material, supplies and equipment to place the hydrant and watch valve as detailed by the plans shall be included in the unit price bid per hydrant of the specified size and no additional compensation shall be allowed therefore.

Testing and Chlorination

Compensation for chlorination, pressure and leakage test, and flushing of the water line including all labor, materials, supplies and equipment shall be included in other items of work and no additional compensation shall be allowed therefore.

Granular Bedding

Compensation for all labor, materials, supplies and equipment including the additional excavation for the granular bedding beneath the water line pipe and disposal of excess excavated material, shall be included in the unit price bid for waterline.

Granular Backfill

Compensation for all labor, materials, supplies, equipment, disposal of excess excavated material and compaction of the granular backfill shall be included in the unit price bid for waterline.

Concrete Encasement

Compensation for all labor, materials, supplies and equipment for the additional excavation for the 6 inch encasement beneath the water line pipe, the concrete and concrete encasement forming shall be included in the unit price bid for waterline.

Aggregate Base

Compensation for all labor, materials, supplies and equipment and compaction of the aggregate shall be included in the unit price bid for the item requiring the pavement replacement.

Asphaltic Concrete

Payments for asphaltic concrete shall be based on the actual width of the asphaltic concrete measured perpendicular to the water line. No compensation shall be paid for width in excess of the allowable trench width.

Compensation for all labor, materials, supplies and equipment including the placement of the prime coat shall be included in the unit price bid per square yard for asphaltic concrete.

Concrete Pavement

Payment for concrete pavement shall be based on the actual width constructed. No compensation shall be made for width in excess of the allowable trench width.

Compensation for all labor, materials, supplies and equipment including preparation and compaction of the sub grade shall be included in the price bid per square yard of concrete pavement and no additional compensation shall be allowed therefore.

Seeding

The price bid for seeding, mulching and fertilizing shall include all labor, tools, equipment and materials required for restoring and maintaining the areas as specified and shall be a lump sum price, complete, including topsoil.

Other Items of Work

All other items of work normally performed in construction of this nature for which there is no specific pay item shall be performed as necessary and compensation for such items of work shall be included in other items of work and no additional compensation shall be allowed therefore.