TOWN OF ORLAND, MAINE

Sewer System Ordinance

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TOWN OF ORLAND

SEWER SYSTEM ORDINANCE

ARTICLE I - DEFINITIONS

Sec. 101 Terms Defined

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance will be as follows:

ASTM shall mean American Society for Testing and Materials.

Benefited Users shall mean all owners of real estate which are either connected to the public sewer or, if not connected, have buildings within 200 feet of the public sewer.

Builder shall mean any person, persons, or corporation who undertakes to construct, either under contract or for resale, a habitable building.

Building Drain shall mean the part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer beginning five (5) feet outside the inner face of the building wall.

Building Sewer shall mean the extension from the building drain to the public sewer or other place of disposal.

Combined Sewer shall mean a sewer receiving both surface runoff and sewage.

DEP shall mean Maine Department of Environmental Protection.

Developer shall mean any person, persons, or corporation who undertakes to construct simultaneously more than one housing unit on a given tract of land subdivision.

Engineer shall mean an individual who is licensed to practice as a registered Professional Engineer in the State of Maine and who shall be retained by the Town.

Governing Body shall mean the duly elected Board of Selectmen of the Town of Orland or its authorized deputy or representative.

Industrial Wastes shall mean the high strength liquid wastes from industrial processes as distinct from sewage.

Manager shall mean the individual designated by the Governing Body to perform this function, or the authorized deputy, agent, or representative of this individual.

Owner shall mean any individual, firm, company, association, society, or group having title to real property.

Person shall mean any individual, firm, company, association, society, or group.

Property Line shall mean the property boundary line if the building sewer is to connect with the public sewer in a public street. Property Line shall mean the edge of a sewer right-of-way in those instances where the building sewers connect to the public sewer in a right-of-way.

Public Sewage Works Service Area -- All buildings served by a public sewer and buildings within 200 feet of public sewer.

Public Sewer shall mean a sewer in which all owners of abutting property have equal rights and which is controlled by public authority.

Rates shall mean charges for connection to the public sewer and charges for use thereof.

Sanitary Sewer shall mean a sewer which carries only sewage and to which storm, surface, and ground waters are not intentionally admitted.

Shall is mandatory; May is permissive.

State Plumbing Code shall mean the State of Maine Plumbing Code, as amended from time to time.

Storm Sewer or Storm Ditch shall mean a pipe or conduit which carries storm and surface waters and drainage, but excludes sewage and industrial wastes.

Superintendent shall mean the individual retained or designated by the Board of Selectmen to supervise and oversee the operation and maintenance of the municipal sewer system.

Town shall mean the Town of Orland.

Utility Access Hole shall mean 'manhole' as commonly defined.

ARTICLE II - USE OF PUBLIC SEWERS REQUIRED

Sec. 201 Unlawful Discharges

It shall be unlawful to discharge to any watercourse, either directly or through any storm sewer, within the Town or to any area under the jurisdiction of the Town, any sewage, industrial wastes, or other polluted waters, except where suitable treatment has been provided in accordance with federal, state, and local laws.

Sec. 202 Unlawful Sewage Disposal Facilities

Except as hereinafter provided, it shall be unlawful to construct any privy, privy vault, septic tank, cesspool, leaching pit, or other facility intended or used for the disposal of sewage, in the public sewer works service area.

Sec. 203 Connection to Public Sewer Required

The owner of any house, building, or property used for human occupancy, employment, recreation, or other purpose involving human occupancy, situated within the public sewer works service area and abutting on any street, alley, or right-of-way in which there is now located a public sanitary sewer of the Town is hereby required, at their expense, to install suitable toilet facilities therein, and to connect such facilities to the proper public sewer, in accordance with the provisions of this ordinance, within ninety (90) days after the date of official notice to do so, provided that said public sewer is within 200 feet of the building to be served by said sewer. Provided, however, that where excavation of the public highway is otherwise prohibited by state law or regulations, or where unusual hardship exists due to the presence of ledge, incompatible elevations, or other causes, the Governing Body may grant exceptions upon specific application of the owner or lessee of such properties, with such conditions as the said Governing Body may impose.

Sec. 204 Connection Waivers

The owner of any house, building, or property within the public sewer works services area may petition the Board of Selectmen in writing to waive the requirement for connection to the public sewer. The applicant for a waiver must certify that their current wastewater disposal system meets present Maine State Plumbing Code standards for design and installation and that the system is functioning properly. A written report of compliance to this effect prepared by the Orland Plumbing Inspector or other professional approved by the Board of Selectmen must be submitted with the waiver petition. The maximum duration of a waiver will be two years, after which time a renewal may be granted provided a written certification that the system is still functioning properly is submitted.

If the disposal system malfunctions or fails during the approved waiver period, the waiver will be immediately rescinded and connection to the public sewer will be required within 30 days.

ARTICLE III - PRIVATE SEWAGE DISPOSAL

Sec. 301 Public Sewer Unavailable; Private System Required

Where a public sanitary sewer is not available under the provisions of Section 202, the building sewer shall be connected to a private sewage disposal system complying with the provisions of this article and the State Plumbing Code.

Sec. 302 Compliance with State Plumbing Code

Construction of private sewage disposal systems shall comply in all respects with requirements of the State Plumbing Code.

Sec. 303 Compliance with Regulations of Department of Human Services

The type, capacities, location, and layout of a private sewage disposal system shall comply with all regulations of the Department of Human Services, State of Maine.

Sec. 304 Sanitary Maintenance Required

The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times, at no expense to the Town.

Sec. 305 Availability of Public Sewer

At such time as a public sewer becomes available, as provided in Section 203, to a property served by a private sewage disposal system, connection shall be made to the public sewer in compliance with this chapter.

Sec. 306 Malfunctioning Facilities

Any private sewage disposal facility which malfunctions where a public sanitary sewer is available, the building sewer shall be connected to the public system, at the cost of the building owner To minimize safety hazards, any septic tank or cesspool which is abandoned shall be filled with suitable material. Connection ot the public sewer will be required within thirty (30) days.

ARTICLE IV - BUILDING SEWERS AND CONNECTIONS TO PUBLIC SEWERS

Sec. 401 Relation to State Plumbing Code

The provisions of this article shall be deemed to supplement the provisions of the State Plumbing Code with respect to building sewers and connections thereof to public sewers. In the event of conflicts between this article and the State Plumbing Code, the provisions of this article shall be deemed to apply. Permits and fees stipulated hereunder are additional to any permits or fees, or both, required under the State Plumbing Code.

Sec. 402 Connection and Costs of Maintenance

The connection of the building sewer into an existing public sewer shall be made at the public sewer. The connection of the building sewer from the property line to the public sewer will be done by the Town, at the cost of the building owner. The cost of maintenance of the building sewer from the building drain to the edge of the road right-of-way will be by the Owner and the cost of maintenance of the building sewer within the Town road right-of-way will be by the Town.

Sec. 403 Permit Required

No unauthorized person(s) shall uncover, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Local Plumbing Inspector. Any person proposing a new discharge into the system or a substantial change in the volume or character of pollutants that are being discharged into the system shall notify the Town at least forty-five (45) days prior to the proposed change or connection, and shall comply with Maine Revised Statutes Annotated, Title 38, Chapter 3, Subchapter I, §361.

Sec. 404 Classes of Building Sewer Permits; Costs of Installation

1. There shall be one (1) class of building sewer permit for both residential and commercial services. In either case, the owner or his/her agent shall make application on a special form furnished by the Local Plumbing Inspector. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the Town. Permit, connection, and inspection fees shall be paid to the Town at the time an application is filed. The Board of Selectmen shall fix a permit, connection, and inspection fee for each residential, commercial, other non-residential, and other residential building after recommendation of the Engineer or Local Plumbing Inspector based on the size and nature of the operation proposed in such buildings.

2. All costs and expenses incident to the installation and connection of the building sewer, from the building to the public sewer, shall be borne by the owner. The owner shall indemnify the Town from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

Sec. 405 Separate Sewers Required

A separate and independent building sewer shall be provided for every building, except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, in which case the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

Sec. 406 Use of Existing Sewers

Existing building sewers may be used in connection with new buildings only when they are found, on examination and test, to meet all requirements of this ordinance.

Sec. 407 Size, Slope of Building Sewer

The size and slope of the building sewer shall be subject to the approval of the Local Plumbing Inspector, but in no event shall the diameter be less than four (4) inches. The slope of a four-inch pipe shall not be less than one-quarter (1/4) inch per foot, except as permitted in the State Plumbing Code.

Sec. 408 Connections to Buildings

Whenever possible, the building sewer shall be brought to the building at an elevation no less than eighteen (18) inches from the basement floor. No building sewer shall be laid parallel to or within three (3) feet of any bearing wall which might thereby be weakened. The depth shall be sufficient to afford protection from frost. The building sewer shall be laid at uniform grade and in straight alignment insofar as possible. Changes in direction shall be made only with approved pipe and fittings.

Sec. 409 Artificial Lifting of Sanitary Sewage

In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such drain shall be lifted by approved means and discharged to the building sewer.

Sec. 410 Prohibited Connections

No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, cellar drains, or other sources of surface runoff inflow or groundwater infiltration to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer. The Owner shall provide separate private conveyance and disposal facilities for any surficial runoff inflow or groundwater infiltration generated on his/her property or flowing from his/her property.

Sec. 411 Excavations

All excavations required for the installation of a building sewer shall be open trench work unless otherwise approved by the Local Plumbing Inspector. Pipe laying and backfill shall be performed in accordance with ASTM Specification C12, except that no backfill shall be placed until the work has been inspected by the Local Plumbing Inspector or his/her authorized designee. A contractor or individual doing excavations for the installation of a building sewer into the public sewer is limited to two (2) open excavations.

Sec. 412 Joints and Connections

The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the Town, or the procedures set forth in appropriate specifications of the ASTM and Water Pollution Control Federation Manual of Practice No. 9. All such connections shall be made gastight and watertight and verified by proper testing. Any deviation from the prescribed procedures and materials must be approved by the Local Plumbing Inspector before installation.

Sec. 413 Plans Required

After the completion of all sewers, and before final acceptance, as-built drawings shall be furnished to the Town consisting of a set of reproducibles.

Sec. 414 Compliance Required

All work shall comply with all federal, state and local laws, ordinances and regulations.

Sec. 415 Town Property

All sewer extensions constructed within accepted public ways at the property owner's, building contractor's, or developer's expense, after final approval and acceptance by the Superintendent, shall become the property of the Town and shall thereafter be maintained by the Town. Said sewers, after their acceptance by the Town, shall be guaranteed against defects in material or installation for twelve (12) months. The guarantee shall be in a form provided for by the Town; at the sole discretion of the Town, a maintenance bond or certified check may be demanded as part of the guarantee.

Sec. 416 Inspection by Local Plumbing Inspector

The applicant for the building sewer permit shall notify the Local Plumbing Inspector when the building is ready for inspection and connection to the public sewer. No public sewer shall be disturbed except under the supervision of the Local Plumbing Inspector. The Local Plumbing Inspector shall be available to supervise and inspect the connection within twenty four (24) hours of notification of readiness.

Sec. 417 Safeguards Required: Restoration

All excavations for building sewer installations shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the Town.

Sec. 418 Utility Access Holes

Any building sewer serving an Owner which in the opinion of the Local Plumbing Inspector, will receive sewage of such volume or character that frequent maintenance of said building sewer is anticipated, then such building sewer shall be connected to the public sewer through a utility access hole. If required, a new utility access hole shall be installed in the public sewer at the Owner's expense and the location of this utility access hole and the building sewer connection to it or to an existing utility access hole shall be as specified by the Local Plumbing Inspector.

Sec. 419 Special Situations

The Town may consider special situations pertaining to this Ordinance. The owner shall request a review of any special situation in writing, to the Local Plumbing Inspector. The Local Plumbing Inspector's approval or disapproval shall be in writing.

Sec. 420 Route 46 Water Meter Requirement

For all Orland users located along Route 46 who are connected to the gravity sewer line flowing toward Bucksport (whose flow does not pass through the Fish Point Road Pump Station), water flow meters must be installed on their water supply. It will be the responsibility of the property owner to install these meters prior to connecting to the sewer. The property owner must allow access by Town staff to read the meters at intervals set by the Board of Selectmen.

The meters will be used to determine the amount of flow discharged to the Bucksport Treatment Plant from the Orland users on Route 46, in accordance with the Orland-Bucksport Intermunicipal Agreement regarding wastewater treatment. The meters will not be used for the purpose of generating individual sewer bills for the structures which are metered.

ARTICLE V - SEWER EXTENSIONS

Sec. 501 Construction by Town; Costs

Sewer extensions, including individual building sewers from the sewer to the property line, may be constructed by the Town under public contract, if in the opinion of the Board of Selectmen, the number of properties to be served by such extension warrants its cost. Under this arrangement, the property owner shall pay for the installation of the building sewer from the public sewer to his/her residence or place of business in accordance with the requirements of Article IV. Developers will pay the total cost of all sewer extensions. Property owners may propose sewer extensions within the Town by drafting a written petition, signed by a majority of the benefiting property owners, and filing it with the Town. The cost of such extensions will be assessed to the benefited property owners. The Board of Selectmen may recommend that the Town participate in the cost of construction of the petitioned sewer extension.

Sec. 502 Private Construction; Design Standards

If the Town does not elect to construct a sewer extension under public contract, the property owner, building contractor, or developer may construct the necessary sewer extension, if such extension is approved by the Board of Selectmen in accordance with this Ordinance. He, she, or they must pay for the entire installation, including all expenses incidental thereto. Each building sewer installed must be installed and inspected during construction as previously required in Section 411; and the permit connection inspection fee shall be set by the Board of Selectmen. Design of sewers shall be as specified in this Ordinance and according to accepted standards of care of engineering profession. All designs shall be conducted by a registered professional engineer. Plans and specifications shall be submitted to the Town for review. The Town may elect to retain its own Engineer, at the expense of the party requesting the sewer extension, to conduct an independent review of the proposed plans and specifications. The party requesting the sewer extension shall bear all costs related to the above review and all costs to implement any modifications to the proposed sewer design that occur as the result of the Town's review. Guidelines for Design and Construction of Sewer Mains in Orland are attached as Appendix I to this Ordinance. The installation of the sewer extension shall be subject to periodic inspection by the Engineer, and the expense for this inspection shall be paid for by the owner, building contractor, or developer. The Engineer's decisions shall be final in matters of quality and methods of construction. The sewer, as constructed, shall pass all leakage tests required by the Engineer before it is to be used. The cost of sewer extension thus made shall be absorbed by the developers or the property owners, including all building sewers. All extensions to the sanitary sewer system owned and maintained by the Town shall be properly designed in accordance with this Ordinance and with prevailing professional standards of practice and care. Guidelines for Design and Construction of Sewer Mains in Orland are attached as Appendix I to this Ordinance. Plans and specifications for sewer extensions shall be submitted for the approval of the Engineer before construction may proceed. The design of sewers must anticipate and allow for flows from all possible future extensions or developments within the immediate drainage area.

ARTICLE VI - USE OF PUBLIC SEWER

Sec. 601 Storm Water; Cooling Water

Storm water, cooling water, cellar drains, roof drains, and all other unpolluted drainage shall not be discharged to the Town's sewers, but may be discharged, upon written approval of the Local Plumbing Inspector, to a storm sewer or natural outlet, provided that such discharge shall be in accordance with all state and federal regulations, and MRSA Title 38, §413.

Sec. 602 Certain Discharges Prohibited

Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers.

1. Any liquid or vapor having a temperature higher than 150°F.

2. Any water or waste which may contain more than 100 parts per million, by weight, of fat, oil, or grease.

3. Any gasoline, benzene, naptha, fuel oil, lubricating oils, or other flammable or explosive liquids, solids, or gases.

4. Any garbage that has not been properly shredded.

5. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, or any other solid or viscous substance capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works.

6. Any waters or wastes having a pH lower than 6.5 or higher than 8.5, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewer system or downstream treatment plant.

7. Any waters or wastes containing a toxic or poisonous substances of any kind.

8. Any waters or wastes containing Total Suspended Solids (TSS) and/or Biochemical Oxygen Demand (BOD) of such character and quantity that unusual attention or expense is required to handle such materials in the sewer system or at the sewage treatment plant.

9. Any noxious and malodorous gas or substance capable of creating a public nuisance.

10. Any high strength process wastewater of industrial or heavy manufacturing origin.

Sec. 603 Interceptors

Grease, oil, and sand interceptors or traps shall be provided when, in the opinion of the Superintendent, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Superintendent and shall be located so as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors or traps shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight. Where installed, all grease, oil, and sand interceptors or traps shall be maintained by the owner, at his/her expense, in continuously efficient operation at all times.

ARTICLE VII - PRELIMINARY TREATMENT FACILITIES

Sec. 701 Preliminary Treatment Required

(a) Any waste discharged to the sewer system containing a five-day Biochemical Oxygen Demand (BOD) greater than 400 parts per million by weight, or (b) containing more than 450 parts per million by weight of suspended solids, or (c) containing any quantity of substances having the characteristics described in Section 602, or (d) having an average daily flow greater than 2% of the average daily flow of the Town shall be subject to a review and approval of the Superintendent. Where necessary in the opinion of the Superintendent, the owner shall provide, at his/her own expense, such preliminary treatment as may be necessary to (a) reduce the BOD to 400 parts per million, or (b) reduce the suspended solids to 450 parts per million by weight, or (c) reduce objectionable characteristics or constituents to within the maximum limits provided for in Sections 602 and 603, or (d) control the quantities and rates of discharge of such waters or wastes. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the Superintendent and the Department of Environmental Protection of the State of Maine. No construction of such facilities shall be commenced until said approvals are obtained in writing.

Sec. 702 Maintenance of Preliminary Treatment Facilities

Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his/her expense.

Sec. 703 Monitoring of Discharges; Records

All entities with preliminary treatment requirements discharging into a public sewer shall perform such monitoring of their discharges as the Superintendent and/or other duly authorized employees of the Town may reasonably require, including installation, use, and maintenance of monitor equipment, keeping records and reporting the results of such monitoring to the Superintendent. Such records shall be made available upon request by the Superintendent to other agencies having jurisdiction over discharges to the receiving waters.

Sec. 704 Measurement, Test and Analyses Standards

All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in Sections 602 and 701, shall be determined in accordance with "Standard Methods for the Examination of Water and Wastewater," and shall be determined at the control utility access hole provided for in Section 418, or at other suitable sampling location approved by the Superintendent.

Sec. 705 Unusual Wastes

For any wastes of unusual volume, strength, or character, special agreements shall be required between the Town and the entity concerned providing for the acceptance of such wastes in the municipal system.

ARTICLE VIII - PROTECTION FROM DAMAGE

Sec. 801 Actions Prohibited

No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenances, or equipment which is a part of the municipal sewage works. Any person violating this provision shall be subject to prosecution to the full extent of the law.

Sec. 802 Liability Insurance

A contractor or individual must present a certificate showing proof of liability insurance in an amount acceptable to the Local Plumbing Inspector before a permit will be issued for construction of building sewers, sewer extensions, or private sewage disposal.

ARTICLE IX - POWERS AND AUTHORITY OF INSPECTORS

Sec. 901 Authority to Inspect

The Local Plumbing Inspector and other duly authorized employees of the Town bearing proper credentials and identification shall be permitted to enter upon all properties, at reasonable times, for the purpose of inspection, observation, measurement, sampling, and testing in accordance with the provisions of this Ordinance.

ARTICLE X - PENALTIES

Sec. 1001 Notice of Violations

Any person found to be violating any provision of this Ordinance except Section 801, shall be served by the Town with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.

Sec. 1002 Penalty

Any person who fails to comply with the provisions of this chapter other than those provisions pertaining to the payment of charges for service established herein, shall upon conviction, be subject to a fine for each offense as determined by the Board of Selectmen not to exceed $100.00 per day. The continued violation of any provision of any section of this Ordinance, other than those pertaining to the payment of charges for services established herein, shall constitute a separate offense for each and every day such violation of any provision hereof shall continue.

Sec. 1003 Other Appropriate Action

Upon violation of this Ordinance, the proper authorities of the Town, in addition to other remedies, may institute any appropriate action or proceedings, including an injunction to prevent such unlawful use, construction, or maintenance of cesspools, septic tanks, sewage disposal systems, pipes, or drains, to restrain, correct, or abate such violations, or to prevent the occupancy of any building, structure, or land where said violations of this Ordinance are found.

Sec. 1004 Liability to the Town

Any person violating any of the provisions of this Ordinance shall become liable to the Town for any expense, loss, or damage occasioned by the Town by reason of such violation including the cost of correcting, repairing or replacing any defective or substandard portion of the sewer system.

ARTICLE XI - SEWER USE CHARGES

Sec. 1101 Revenue Collection

The source of the revenues for retiring debt services, capital expenditures, replacement costs, and operation and maintenance of the sewerage system and wastewater treatment facilities shall be a Sewer Use Charge assigned to owners of property located within the limits of the Public Sewage Works Service Area whose residence or place of business is connected to the public sewer system. Sources of revenues for retirement of debt services for the wastewater treatment facilities shall also be assigned by a Sewer Use Charge to owners of property located within the limits of Town whose properties are provided with building service connections to the public sewer system.

Sec. 1102 Sewer Rate Determination

Sewer Use Charge rates shall be determined by the Selectmen on a year to year basis. In general, charges will be calculated on a general use basis as established by the Town. The Sewer Use Charge will be computed and billed on a quarterly basis or other regular interval established by the Selectmen.

Sec. 1103 Unusual Wastes

The Sewer Use Charge assigned to any property owner who contributes a significant quantity of unusual, untypical, or high strength wastes to the public sewers shall be determined on a special rate structure as set by the Board of Selectmen.

Sec. 1104 Changes of Charges

The Governing Body reserves the right from time to time to change Sewer Service Charges originally or previously assigned to any property owner.

Sec. 1105 Collection

Pursuant to Title 30, MRSA. §4355, there shall be a lien on real estate served or benefited by the municipal sewer or sewer disposal system to secure the payment of service charges duly established hereunder. This lien shall take precedence over all claims on such real estate, excepting only claim for taxes. The Treasurer of the Town of Orland shall have the authority and power to collect such service charges granted by the laws of the State of Maine.

ARTICLE XII - LICENSE

Sec. 1201 Bond

As part of the application for license to do work in the Town, the applicant may be required to present a license bond written by an indemnity or bonding company lawfully doing business in the State of Maine in a form provided by the Governing Body.

Sec. 1202 Prohibition of License

If, in the opinion of the Governing Body, the work performed by the contractor within the Town violates the provisions of this chapter or any other ordinance of the Town, or if the contractor's work is, in the opinion of the Governing Body, substandard, then in that event, the Governing Body may prohibit the contractor from doing such work within the Town of Orland.

ARTICLE XIII - VALIDITY

Sec. 1301 Validity

All ordinances or parts of ordinances in conflict herewith are hereby repealed.

The invalidity of any section, clause, sentence, or provision of this ordinance shall not affect the validity of any other part of this ordinance which can be given effect without such invalid part or parts. In references to sections of Maine Revised Statutes Annoted are later repealed and replaced with new statutory references, this ordinance adopts the replaced section to repeal ordinances.

APPENDIX I

TOWN OF ORLAND

GUIDELINES FOR DESIGN AND CONSTRUCTION OF SEWER MAINS

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TOWN OF ORLAND
GUIDELINES FOR DESIGN AND CONSTRUCTION OF SEWER MAINS

1. Sewer design shall be in accordance with the following:

   a. Pipe material shall be PVC made from virgin plastic conforming to ASTM D 1784, Type 1, Grade 1, and manufactured in accordance with ASTM D 3034, SDR 35 or ASTM F-789; ductile iron conforming to ANSI Specification A 21.51, with iron Grade 60-42-10, and cement lining meeting ANSI Specification A 21.4, but twice the thickness specified; or other material approved by the Superintendent.

   b. All joints shall be prepared and installed in accordance with the manufacturer's recommendations, and shall be gastight and watertight. Joint materials shall be as follows:

      1. PVC - ASTM D 3212
      2. Ductile Iron - ANSI Specification A 21.11.

   c. Minimum internal pipe diameter shall be eight (8) inches.

   d. Branch fittings for house services shall be PVC wyes or tee-wyes, or ductile iron saddles with stainless steel straps and "O-ring" seal set in mastic to affect a watertight connection.

   e. Minimum slope of sewer pipe shall be as in the following table:

Pipe Diameter	Minimum Slope in Feet Per 100 Feet
8"	0.40
10"	0.28
12"	0.22
14"	0.17
15"	0.15
16"	0.14

   f. Sewer pipe shall be laid on 6" of screened gravel or crushed stone bedding material, and the screened gravel shall be shaped to a height of 1/2 of the pipe diameter so as to give uniform circumferential support to the pipe.

   g. Screened gravel shall have the following gradation:

Sieve Size	% By Weight Passing
1 inch	100
3/4 inch	90 - 100
3/8 inch	20 - 55
#4 mesh	0 - 10
#8 mesh	0 - 5

h. 3/4" Crushed Stone: Durable, clean angular rock fragments obtained by breaking and crushing rock material. Sieve analysis by weight:

Sieve Size	% Passing by Weight
1"	100
3/4"	95 - 100
1/2"	35 - 70
3/8"	0 - 25
No. 200	0 - 2

i. The screened gravel shall be brought to the pipe mid-diameter.

j. Trench sand shall be placed over pipe to a height one (1) foot over the top of the pipe. Trench sand shall be hard, durable particles of granular material with 100% passing the 1/2" sieve and 0-15% passing the #200 sieve. (Percentages are by weight).

k. Backfill material shall then be placed and compacted. Suitable backfill material shall be the following or a combination of the following:

1. Excavated material that will compact to the compaction requirements.

2. Native material that does not contain rocks larger than 6" in any dimension.

3. Dry clay backfill free from lumps.

4. Wet clay that alone would pump, but when mixed with sand and/or gravel will be stable and will compact.

l. Compaction densities specified herein shall be the percentage of the maximum density obtainable at optimum moisture content as determined and controlled in accordance with AASHTO T-99, Method C, depending on the material size. Field density tests shall be made in accordance with AASHTO T-191. Each layer of backfill shall be moistened or dried as required, and shall be compacted to the following densities:

1.	Bedding material and trench sand	95%
2.	Suitable backfill under paved or shoulder areas	95%
3.	Gravel base:	
	(a) Under paved areas	95%
	(b) In shoulder areas	95%
4.	Loam areas	90%
5.	All other areas	85%

m. Pipe classes shall be determined according to W.P.C.F. Manual of Practice No. 9 or No. FD-5.

Pipe thickness shall be calculated on the following criteria:

Safety Factor	2.0
Load Factor	1.7
Weight of Soil	120 lbs./cu. ft.
Wheel Loading	16,000 lbs.

n. All excavations required for the installation of sewer extensions shall be open trench work unless approved by the Local Plumbing Inspector. No backfill shall be placed until the work has been inspected.

o. Utility access holes shall be constructed at all changes in slope or alignment or at intervals not exceeding 400 linear feet, unless acceptable to the Superintendent, and shall be precast concrete.

(1) Precast utility access hole sections shall conform ASTM C 478; cement shall be Type II with a minimum compressive strength of 4,000 psi.

(2) Precast base and barrel sections shall have tongue and groove joints, with butyl base joint sealant that permits installation in temperatures from -20°F to 120°F, and meets Federal Specification SS-S-00210.

(3) Each section of the precast utility access hole shall have two (2) holes for the purpose of handling and setting. These holes shall be tapered and shall be plugged with nonshrink mortar or grout in combination with concrete plugs after installation.

(4) Pipe to utility access hole joints shall be Lock-Joint flexible utility access hole sleeve, Kor-N-Seal joint sleeve, or equivalent.

(5) Utility access hole invert bricks shall conform to ASTM C 32, Grade SS, hard brick (made from clay or shale).

(6) Dampproofing for concrete shall be semi-mastic type Horn "Dehydratine #4," "RIW Marine Emulsified Liquid" by Toch Bros., Inc., "Hydrocide 600" by Sonneborn, or equivalent.

(7) Utility access hole rungs shall be copolymer polypropylene steps reinforced with 3/8" Grade 60 steel rebar throughout. Rungs shall be placed 12" on center in concrete and shall not be subjected to any loads for a minimum of seven (7) days.

(8) After the excavation has been done and leveled, one (1) foot of bedding material shall be placed in the bottom of the excavation, leveled, and thoroughly compacted.

(9) Precast concrete utility access hole sections shall be set so as to be vertical and with sections in true alignment, 1/4-inch maximum tolerance to be allowed.

(10) The top of the precast reinforced concrete unit shall be set at a grade that will allow a minimum of one and a maximum of three precast concrete risers before setting the cast iron frame and cover.

(11) The inside and outside of the masonry work of all utility access holes shall be plastered with a 1:2 Portland cement mortar. The thickness of the mortar shall be one-half (1/2) inch, and the mortar shall be carefully spread and thoroughly troweled, leaving a smooth, substantially water proof surface. The mortar shall be extended to completely cover the outside and inside surfaces of all masonry work.

(12) The concrete utility access holes shall have a channel passing through the bottom which corresponds in shape with the lower two-thirds of the pipe. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius. The top of the shelf shall slope to drain towards the flowing through channel. Where concrete is used for utility access hole inverts, it shall be 3,000 psi concrete.

(13) Utility access holes shall be constructed as the sections of the pipelines between them are completed, and, unless this is done, the Superintendent shall have the authority to stop trenching and pipe laying until utility access hole construction is brought up properly. All ground water shall be kept away from any newly placed concrete or freshly laid masonry work until new cement has properly set and a watertight job is obtained.

(14) All surfaces to be dampproofed shall be clean, smooth, dry, and free from loose material. Brush the dampproofing onto the outside concrete utility access hole

surface and fill all voids. Apply in two (2) coats and conform to the covering capacity of the material used in strict accordance with the manufacturer's recommendations and directions and applied by the manufacturer of the utility access holes. Contractor shall apply dampproofing to masonry. Do not apply dampproofing in freezing or wet weather.

(15) Iron castings for utility access hole frames and covers shall be the same as used on the Town's existing interceptor sewer system or equivalent.

(a) Utility access hole frames and covers shall be ductile iron free from cracks, holes, swells, and cold shuts. The quality shall be such that a blow from a hammer will produce an indentation on an edge of the casting without flaking the metal. Frames and covers shall be machine seated and provided with a gasket so as to provide a tight, even fit.

(b) Covers shall be solid and shall have the word "SEWER" (3" high) cast on the top. Frames and covers shall be certified as meeting H-20 loading and shall be compatible with existing frames and covers.

(c) Casting shall be given one (1) coat of cold-tar pitch varnish at the factory before shipment, and said coating shall be smooth and tough and not brittle.

(d) Frames shall be set concentric with the top of the masonry and in full bed of mortar so that the space between the top of the utility access hole masonry and the bottom flange of the frame shall be complete filled and made watertight. A thick ring of mortar extending to the outer edge of the masonry shall be placed all around and on top of the bottom flange. Mortar shall be smoothly finished and have a slight slope to shed water away from the frame.

2. All sewers shall satisfy requirements of a leakage test before they are accepted by the Town. The leakage test shall be as follows:

(a) For each size of pipeline, an initial leakage test shall be made on the first section of the pipeline complete between two adjacent utility access holes. Thereafter, the leakage tests shall be made on sections of approved lengths of completed pipeline, which in no case shall exceed 1,000 feet.

(b) Each section shall be tested upon its completion.

(c) Air checking of sewer lines shall be as follows:

(1) After backfilling sewer line from utility access hole to utility access hole, the Contractor shall conduct an air leakage test in the presence of the Superintendent, using low pressure air.

(2) The equipment used shall meet the following minimum requirements:

(a) Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.

(b) Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.

(c) All air used shall pass through a single control panel.

(d) Three individual hoses shall be used for the following connections:

(1) From control panel to pneumatic plugs for inflation.

(2) From control panel to sealed line for introducing the low pressure air.

(3) From sealed line to control panel for continually monitoring air pressure rise in the sealed line.

(3) Procedures:

(a) All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to 25 psig. The sealed pipe shall be pressurized to 5 psig. The plugs must hold against this pressure without having to be braced.

(b) After a utility access hole to utility access hole reach of pipe has been backfilled and cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each utility access hole and inflated to 25 psig. Low pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure of any ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize.

(c) After the stabilization period (3.5 psig minimum pressure in the pipe), the air hose from the control panel to the air supply shall be disconnected. The portion of line being tested shall be termed "Acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any groundwater that may be over the pipe) shall not be less than:

$$T = 0.085 \frac{DK}{Q}$$

Where:
- T = Shortest time, in seconds, allowed for the air pressure to drop 1.0 psig,
- K = 0.000419 DL, but not less than 1.0,
- Q = 0.0015 cubic feet/minute/square feet of internal surface,
- D = Nominal pipe diameter in inches, and
- L = Length of pipe being tested in feet.

Table 1 indicates the time required for various lengths and pipe sizes.

TABLE 1

SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q = 0.0015

1 Pipe Diameter (in)	2 Minimum Time (min sec)	3 Length for Minimum Time (ft)	4 Time for Longer Length (sec)	Specification Time for Length (L) Shown (min:sec)							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	3:46	397	.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:.20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46

(d) In areas where groundwater is known to exist, the contractor shall install a 1/2 inch diameter capped pipe nipple, approximately 10" long, through the utility access hole wall on top of one of the sewer lines entering the utility access hole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of this leakage test, the groundwater shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The plastic tube shall be held vertically and a measurement of the height in feet of water over the invert of the pipe shall be taken after the water has stopped rising in this plastic tube. The height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings. (For example, if the height of water is 11 1/2 feet, then the added pressure will be 5 psig. This increases the 3.5 psig to 8.5 psig, and the 2.5 psig to 7.5 psig. The allowable drop of one pound and the timing remain the same.)

(e) If the installation fails to meet this requirement, the Contractor shall, at his/her own expense, determine the source of the leakage. He/she shall then repair or replace all defective materials and/or workmanship.

(d) Utility access holes shall be tested by plugging the pipes and filling the utility access holes with water for an exfiltration test, or by an air vacuum test.

(1) Water exfiltration test:

(i) Fill utility access hole to allow for concrete absorption, and leave overnight.

(ii) Following morning, fill utility access hole to a level no less than one (1) foot above the beginning of the utility access hole taper, and test for 8 hours.

(iii) Water level shall be carefully marked, and at end of following 8-hour period, sufficient water shall be added to bring water level back to mark. Water added shall be supplied from a metered source and quantity so added shall be converted to gallons per day lost through utility access hole leakage.

(iv) The loss of water shall be less than one (1) gallon per day per foot of depth of utility access hole.

(v) If the measured exfiltration exceeds the allowable rate, the necessary repairs shall be made by the Contractor, to reduce the leakage.

(vi) In areas with a high groundwater table, the Superintendent may require a visual infiltration test rather than an exfiltration test. In this case, all leaks or weepings visible from the inside of the utility access hole shall be repaired, and the utility access hole made watertight.

(2) Air vacuum test:

(i) Utility access holes shall be tested by a vacuum test immediately after assembly of the utility access hole and connecting pipes and before any backfill is placed around the utility access holes, and again after backfilling.

(ii) All lift holes shall be plugged with nonshrink grout and all pipes entering the utility access hole shall be plugged, taking care to securely brace the plugs and pipe.

(iii) The test shall be made using an inflatable compression band, vacuum pump and appurtenances specifically designed for vacuum testing utility access holes. Test procedures shall be in accordance with the equipment manufacturer's recommendations.

(iv) After the testing equipment is in place, a vacuum of 10" of Hg shall be drawn on the utility access hole. The utility access hole will be considered to have passed the test if the vacuum does not drop more than 1" of Hg in one minute.

(v) If the utility access hole fails the initial test, the Contractor shall locate the leakage and make proper repairs as directed by the Superintendent, and re-tested until a satisfactory test result is obtained.