SEWERAGE ORDINANCE

2-501 DEFINITIONS

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

(1) "City" shall mean the City of Calais, Maine.

(2) "Sewage Works" shall mean all facilities for collecting, pumping, treating, and disposing of sewage.

(3) "Superintendent" shall mean the Superintendent of Public Works or Wastewater Treatment Plant Operator of the City of Calais, or his authorized deputy, agent or representative.

(4) “Engineer” shall mean the Professional Engineer retained as City Engineer for the "City Council", City of Calais. In the event the City has not retained a City Engineer, the term "Engineer" as used herein will be construed to mean the Superintendent of Public Works or Wastewater Treatment Plant Operator.

(5) "City Council" shall mean the duly elected City Council of the City of Calais, or their authorized deputy or representative.

(6) "Sewage" shall mean a combination of the watercarried wastes from residences, business buildings, institutions and industrial establishments, together with such ground, surface, and storm waters as may be present.

(7) "Sewer" shall mean a pipe or conduit for carrying sewage.

(8) "Public Sewer" shall mean a sewer in which all owners of abutting properties have equal rights, and is controlled by the City.

(9) "Sanitary Sewer" shall mean a sewer which carries sewage and to which storm, surface, and groundwaters are not intentionally admitted.

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

(11) "Combined Sewer" shall mean a sewer receiving both stormwater and sewage.

(12) "Sewage Treatment Plant" shall mean any arrangement of devices and structures used for treating sewage.

(13) "Industrial Wastes" shall mean the liquid or solid wastes from industrial or manufacturing, trade or business processes, as distinct from sewage.

(14) "Garbage" shall mean solid wastes from the preparation, cooking, and dispensing of food, and from the handling, storage, and sale of produce.

(15) "Properly Shredded Garbage" shall mean the wastes from the preparation, cooking, and dispensing of food that has been shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than 1/2 inch in any dimension.

(16) "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 5 feet outside the inner face of the building wall.

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

(18) "B.O.D." (denoting Biochemical Oxygen Demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in 5 days at 20 degrees C., expressed in parts per million by weight.

(19) "pH" shall mean the logarithm of the reciprocal of the concentration of hydrogen ions in grams-ionic weights per liter of solution.

(20) "Suspended Solids" shall mean solids that either float on the surface of, or are in suspension in water, sewage, or other liquids; and which are removable by laboratory filtering.

(21) "Natural Outlet" shall mean any outlet into a watercourse, pond, ditch, lake or other body of surface or groundwater.

(22) "Watercourse" shall mean a channel in which a flow of water occurs, either continuously or intermittently.

(23) "Person" shall mean any individual, firm, company, association, institution, society, corporation, government entity, group, or any other legal entity.

(24) "Owner" shall mean any individual, firm, company, association, society, person, or group having title to real property.

(25) "Developer" shall mean any person, persons, or corporation who undertake to construct simultaneously more than one housing unit on a given tract or land subdivision.

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

(27) "Shall" is mandatory. "May" is permissive.

(28) "Contractor" shall mean any person, firm, or corporation approved by the City Council to work in the City.

(29) "Property Line" shall mean the edge of a public right-of-way in those instances where the building sewer connects to the public sewer that is located in a right-of-way.

(30) "A.S.T.M." shall mean American Society for Testing and Materials.

(31) "D.E.P." shall mean Maine Department of Environmental Protection.

(32) “Standard Methods” shall mean the latest edition of the publication Standard Methods for the Examination of Water and Wastewater, published by A.P.H.A., A.W.W.A., and W.P.C.F.

(33) “Sanitary Wastewater” shall mean the liquid waste discharged from a building's or structure's sanitary fixtures, such as toilets, washrooms, urinals, sinks, showers, small laundries, and from kitchens and cafeterias essentially free of industrial wastes or toxic materials. Sanitary wastewater may or may not be discharged separately from industrial wastewater. For a combined discharge the City shall determine if a wastewater discharge meets the definition "sanitary wastewater".

(34) "Septage" shall mean the mixture of liquids and solid matters removed from septic tanks during normal cleaning.

(35) "Slug" shall mean any discharge of water or wastewater in which the rate of discharge, or the mass or concentration of any given constituent exceeds, in the opinion of the City, the ability of the sewage works to function efficiently or properly.

(36) “Local Plumbing Inspector” shall mean the authorized representative of the Maine State Department of Health.

(37) “Structural Maintenance” means those construction, pipe repair and pipe replacement activities required to correct cracked, broken or crushed pipe and preserve the structural integrity and watertight conditions of the building sewer.

(38) “Corrective or routine building sewer maintenance” means activities required to preserve or restore functional operation and the free-flowing condition of the building sewer. These activities include, but are not limited to, inspection, blockage removal and cleaning.

2-510 USE OF PUBLIC SEWERS REQUIRED

2-511

It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner upon public or private property within the City, or in any area under the jurisdiction of said City, any human or animal excrement, garbage, or other objectionable waste. This does not apply to the application of reasonable amounts of composted manure, bone meal or other soil amendments utilized for lawns, gardening or farming.

2-512

It shall be unlawful to discharge to any watercourse, either directly or through any storm sewer, within the City, or in any area under the jurisdiction of the City, any sewage, industrial wastes, or other polluted waters. Use of separate storm sewers and sanitary sewer is mandatory for all future construction in the City. No combined sewers will be allowed to be constructed in the future.

2-513

Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

2-514

The Owner of any house, building, or property, used for human occupancy, employment, recreation, or other purpose, situated within the City and abutting on any street, alley or right-of-way in which there is now located or may in the future be located, a public sanitary sewer of the City, is hereby required at his expense, to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this local law, within ninety (90) days after the date of official notice to do so, provided that said public sewer is located within two hundred (100) feet of the property line to be served by said sewer. Provided however that where excavation of the public highway is otherwise prohibited by State Law or regulation or where no connecting tee is or will be provided in said sewer, or where unusual hardship exists due to the presence of ledge or height problems. In such cases the City Council may grant exceptions upon specific applications of the owner or lessee of such properties, which such conditions as said City Council may impose.

2-520 PRIVATE SEWAGE DISPOSAL

2-521

Where a public sanitary sewer is not available under the provisions of Section 2-514, the building sewer shall be connected to a private sewage disposal system complying with the requirements of the State of Maine Plumbing Code, Part II, Maine Subsurface Wastewater Disposal Rule, 144A CMR 241 and/or City Ordinances as may be amended from time to time.

2-522

Before commencement of construction of a private sewage disposal system, the owner shall first obtain a written permit signed by the Local Plumbing Inspector. The application for such permit shall be made on a form furnished by the City, which the applicant shall supplement by any plans, specifications, and other information as are deemed necessary by the Local Plumbing Inspector. A permit and inspection fee shall be paid at the time the application is filed. The amount of this fee shall be set by the City Council and/or by the State of Maine.

2-523

A permit for a private sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Local Plumbing Inspector (LPI). The LPI shall be allowed to inspect the work at any stage of construction and, in any event, the applicant for the permit shall give the Local Plumbing Inspector 24 hour notice of when the work is ready for final inspection, and before any underground portions are covered.

2-524

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

2-525

At such time as a public sewer becomes available, to a property served by a private sewage disposal system, as provided in Section 2-514, direct connection shall be made to the public sewer within ninety (90) days after date of official notice and septic tanks, cesspools, and similar private sewage disposal facilities shall be cleaned of sludge and filled with clean bank run gravel or dirt. Upon inspection and to the satisfaction of the LPI, the City may allow the continued use of a private wastewater disposal system for the duration of its useful life up to a period not exceeding 10 years from the date a public sewer became available.

2-526

No statement contained in this article shall be construed to interfere with any additional requirements that may be imposed by the Local Plumbing Inspector.

2-527

The contents from septic tanks of Calais properties may be discharged to the sewage treatment plant upon approval from the Superintendent of the treatment plant. A fee per 1000 gallons shall be paid to the City prior to discharge. The amount of the fee shall be set annually by the City Council.

2-530 BUILDING SEWERS, CONNECTIONS AND FEES

2-531

No unauthorized person shall uncover, make any connections with or opening into use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the City Council or authorized representative. All work related to the installation of building sewers and the connection to the public sewer shall be performed by persons qualified in this class of work and acceptable to the City of Calais.

2-532

There shall be two (2) classes of building sewer permits: (1) for residential and commercial service, and (2) for service to establishments producing industrial wastes. In either case, the Owner or his agent shall make application on a special form furnished by the City. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the Engineer. A permit, tap-in, and inspection fee is required for a single residential sewer permit, plus an additional fee for each additional living unit incorporated in the same residential structure, shall be paid to the City Clerk at the time an application is filed; provided, however, that not more than four (4) living units may be connected to a single tap. The amount of said fee shall be set annually by the City Council. The City Council shall fix a permit, tap-in, and inspection fee for each commercial, industrial, or other non-residential building, after recommendation of the Engineer based on the size and nature of the operation proposed in such commercial, industrial, or other non-residential building as compared to the demands of a single residential structure.

In the case of multiple building units or connections, connections involving sewer extensions, or industrial discharge, the City may require a monetary deposit sufficient to cover the cost of review of the application, including any expert advice deemed necessary by the City. The amount of deposit shall be estimated by the City and upon payment by the applicant, kept in a non-interest bearing account. Upon completion of the review process, the unused portion, if any, will be refunded. If the initial deposit is not sufficient to pay for the costs incurred by the City, a second deposit shall be made and handled in the same manner as the first.

All costs and expenses incidental to the installation, connection, repair, and testing of the building sewer shall be borne by the owner. The owner shall indemnify the City from any loss and damage that may directly or indirectly be occasioned by the installation of the building sewer.

2-533

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, courtyard, or driveway. The building sewer from the front building may be extended to the rear building and the whole considered as one building sewer. Where building sewers are to serve multiple dwelling structures, there shall be provided at least one (1) separate building sewer for each group of four (4) living units.

2-534

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

2-535

The building sewer shall meet one of the following specifications: 1) PVC Sewer SDR 35 - ASTM-D3034, 12 1/2 foot or 20 foot lengths; neoprene ring lockin, max. allowable deflection-5.0 percent; 2) PVC Water Pipe class 200, SDR-21, for maximum 2 inch diameter pressure service, 20 foot lengths ASTM-D2241 and D3139, neoprene ring in grooved bell max., allowable deflection-5.0 percent; 3) Extra heavy cast iron soil pipe ASTM-A74, rubber ring in grooved bell, ASTM-C564; or 4) Ductile iron push-on joint sewer pipe, Class 51, ASTM-A746, 13 foot or 20 foot lengths.

The inside diameter of the building sewer shall not be less than four (4) inches nor shall the slope of the pipe beginning 8 feet outside any building or structure exterior wall be less than one quarter (1/4) inch per foot unless approved by the Superintendent. For building sewers over 100 feet in length, from the interior building wall to the connection point to the public sewer, the minimum inside diameter shall be six (6) inches.

The building sewer shall be laid at uniform grade an in straight alignment insofar as possible. Changes in direction shall be made only with properly curved fittings. The ends of building sewers shall be sealed against infiltration by a suitable stopper, plug, or other approved means. All joints, connections, or plugs shall be made gas tight and watertight. The building sewer shall be laid on a firm bed (6 inch compacted depth) of 1/2 inch crushed stone or gravel. The backfill shall be placed around the pipe and over it

to a compacted depth of at least 6 inches over the pipe. Backfill up to 6 inches over the pipe shall be tamped. The remainder of the trench may be backfilled by machine with no stone greater than 3 inches. Reconstruction of pavement surface, including gravel base courses, shall be in accordance with MDOT or City of Calais specifications and ordinances as appropriate.

All excavations required for installation of a building sewer shall be open trench work unless otherwise approved by the Superintendent. 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.

The transition joint between pipes of different materials shall be made with Fernco type couplings or equal as approved by the Superintendent. One transition of different pipe materials shall be permitted beneath the road or street pavement or shoulder to allow connection of building sewer to the existing public sewer.

Premolded gasket joints shall be used and shall be neoprene compression type gaskets which provide a positive seal in the assembled joint. The gasket shall be a premolded, one piece unit designed for joining the pipe material used. The assembled joint shall be sealed by compression of the gasket between the exterior surface of the spigot and the interior surface of the hub. The joint shall be assembled following the manufacturer's recommendations using acceptable lubricant and special pipe coupling tools designed for that purpose.

Lead and oakum joints and solvent weld joints are not permitted except with written permission of the Superintendent. These joints, when permitted, shall be installed by licensed master plumbers.

Building sewer cleanouts shall be installed at intervals not to exceed 100 feet in straight lines and at all bends greater than 22 1/2 degrees. The cleanouts shall consist of wyes and 45 degree elbows.

Whenever possible the building sewer shall be brought to the building at an elevation below the basement floor. No building sewer shall be laid parallel to and within three (3) feet of any bearing wall, which might thereby be weakened. The depth shall be sufficient to afford protection from frost, but in no event shall be less than five (5) feet unless properly insulated at shallower depths. The building sewer shall be laid at uniform grade and in straight alignment insofar as possible. Changes in direction shall be made only with properly curved pipe and fittings. The ends of building sewers which are not connected to the building drain of the structure for any reason, shall be sealed against infiltration by a suitable stopper, plug, or other approved means.

2-537

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

2-538

The connection of the building sewer into an existing public sewer shall be made at the property line or edge of the right-of-way except as provided under Section 2-552 and 2-553. All costs and expense between the building and property line incidental to the installation, connection, replacement and repair of the building sewer shall be borne by the Owner. All costs between the building and the public sewer related to corrective or routine building sewer maintenance, cleaning, root removal, inspection, and that can be completed from within the building shall be borne by the Owner.

The City is responsible for all maintenance and repairs of the public sewer and structural maintenance of the building sewer within the City's right-of-way. The Owner shall indemnify the City from any loss or damage that may directly or indirectly be occasioned by the installation or repair of the building sewer. The method of connection of the building sewer to the public sewer shall be dependent upon the type of pipe material used and in all cases shall be approved by the Superintendent.

2-539

The applicant for the building sewer permit shall notify the Superintendent at least forty-eight (48) hours prior to when the building sewer is ready for inspection, testing and connection to the public sewer. The testing and connection shall be made under the supervision of the Superintendent, or his representative.

When trenches are opened for the laying of building sewer pipes, such trenches shall be inspected by the Superintendent before the trenches are filled; and the person performing such work shall notify the Superintendent when the installation of the building sewer is completed. If the trench is filled before inspection, the Superintendent shall require it to be reexcavated for inspection.

2-540

All excavations for building sewer installation 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 City. All excavating work will conform to 23 M.R.S.A. s 3360-A, more commonly known as the Dig Safe Law.

2-541

When any building sewer is to serve a school, hospital, or similar institution or public building, or is to serve a complex of industrial or commercial buildings, or which, in the opinion of the Superintendent, will receive sewer or industrial wastes 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 manhole. The Superintendent shall determine if and where this type of connection to the public sewer is required. Connections to existing manholes shall be made as directed by the Superintendent. If required, a new manhole shall be installed in the public sewer pursuant to Section 2-554, and the building sewer connection made thereto as directed by the Superintendent.

2-542

Where permitted by the plumbing code or other appropriate laws or regulations of the State of Maine, other types of material and construction methods may be used notwithstanding any provisions of this ordinance to the contrary.

2-543

All parts of new building drains and sewers shall withstand, under test without observable leakage, a ten foot head of water for a minimum period of fifteen minutes at a temperature above the freezing point of water.

2-544

No persons shall make connections of roof drains, downspouts, foundation drains, areaway drains, basement drains, sump pumps, or other sources of surface runoff or groundwater, to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer.

2-545

The covers of all building drain and building sewer manholes, inspection chambers, cleanouts, and the like shall be watertight and shall be capable of withstanding, without damage or displacement, any traffic loads to which they may be subject.

2-546

The building drain system shall be so vented that under no circumstances will the seal of any appliance be subjected to a pressure differential in excess of one inch of water. All appliances connected directly or indirectly to the building drain shall have traps with a liquid seal not less than two inches in depth.

2-547

No connection of any kind shall be made directly from any private property to a City pressurized force main sewer.

2-548

All connections made to the public sanitary sewer from a building utilizing a groundwater well water supply shall be required to install an in-line water meter supplied, installed, and maintained by the Owner at Owner's expense.

2-550 SEWER EXTENSIONS

2-551

All extensions to the sanitary sewer system owned and maintained by the City shall be properly designed in accordance with the Recommended Standards for Sewage Works, as adopted by the "NEIWPCC TR-16, ASCE/WEF FD-5, or equivalent standard of care design manual". Plans and specifications for sewer extensions shall be submitted to and approval obtained from 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.

2-552

Sewer extensions, including individual building sewers from the sewer to the property line, may be constructed by the City under public contract if, in the opinion of the City Council, the number of properties to be served by such extension warrants its cost and if the Sewage Treatment Plant has the capacity to handle said extension. Under this arrangement, the property owner shall pay for and install the building sewer from the public sewer to the residence or place of business in accordance with the requirements of Section 2-530. Under its discretion, on public sewer replacement work, the City may elect to pay for the replacement of building sewer stubs from the public sewer to the property line. Property owners may propose sewer extensions within the incorporated City by drafting a written petition, signed by a majority of the benefiting property

owners, and filing it with the City Council. The cost of such extensions may be assessed to the benefited property owners in any manner determined by the City Council.

2-553

If the City does not elect to construct a sewer extension under public contract, the property owner, builder or developer may construct the necessary sewer extension, if such extension is approved by the City Council in accordance with the requirements of Section 2-551. He or they must pay for the entire installation, including all expenses incidental thereto. Each building sewer installed must be installed and inspected as previously required and the inspection fees shall be paid. Design of sewers shall be as specified in Section 2-554. The installation of the sewer extension must be subject to periodic inspection by the Engineer and the expenses for this inspection shall be paid for by the owner, builder or developer. The Engineer's decisions shall be final in matters of quality and methods of construction. The sewer, as constructed, must pass the exfiltration test required in Section 2-555 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.

2-554

Sewer design shall be in accordance with the following provisions:

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 create a watertight connection. For all new sewer extensions only wye and tee connections are to be used.

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 screen gravel or crushed stone bedding material and the bedding shall be shaped to a height of ½ 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 bedding shall be brought across the full trench width to the pipe mid-diameter.

j. Trench sand or bedding 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 ½” 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 materials 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.

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 Superintendent. No backfill shall be placed until the work has been inspected by the City.

o. Manholes shall be constructed at the end of all lines, 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 manhole sections shall conform to 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 manhole 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 manhole joints shall be Lock-Joint flexible manhole sleeve, Kor-N-Seal joint sleeve, or equivalent.

(5) Manhole invert bricks shall conform to ASTM C 32, Grade SS, hard brick (made from clay or shale). Precast or field poured concrete manhole inverts are also acceptable.

(6) Dampproofing for concrete shall be coal-tar epoxy, bitumastic, or Conseal coating, 15 mil minimum thickness, or equivalent.

(7) Manhole 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 manhole excavation has been done and leveled, one (1) foot of bedding materials shall be placed in the bottom of the excavation, leveled and thoroughly compacted.

(9) Precast concrete manhole sections shall be set so as to be vertical and with sections in true alignment, ¼-inch maximum tolerance to be allowed.

(10) The top section 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 manholes 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.

a. Before backfill, all manholes shall be wrapped twice with 6 mill plastic.

(12) The concrete manholes shall have an invert 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 inverts, it shall be 3,000 psi concrete minimum.

(13) Manholes 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 manhole construction is sequenced properly. All groundwater 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. Dampproofing shall be brushed onto the outside concrete manhole surface to fill all voids. Two (2) coats minimum shall be applied to conform to the covering capacity of the material used in strict accordance with the manufacturer's recommendations. No application of dampproofing in freezing or wet weather shall be allowed.

(15) Iron castings for manhole frames and covers shall be the same as used on the City's existing sewer system or equivalent.

(a) Manhole frames and covers shall be 26" ductile iron, free from cracks, holes and swells. 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 without perforations and shall have the word "SEWER" cast on the top in three (3) inch high letters. Frames and covers shall be certified as meeting H-20 loading and shall be compatible with existing frames and covers.

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

(d) Frames shall be set concentric with the top of the masonry and in a full bed of mortar so that the space between the top of the manhole's masonry and the bottom flange of the frame shall be completely 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.

Alternate materials for pipe or manholes may be approved for use if, in the opinion of the Superintendent, the resulting construction will be of acceptable standards.

2-555

Leakage in the gravity sewers shall not exceed 100 gals. per in. dia. per day per mile of pipe when tested by either internal pressure or external pressure means. Where ground water is high the Superintendent may elect to accept infiltration measurements in lieu of exfiltration tests. All manholes shall be tested as to water tightness, if required by the Superintendent as follows:

The inlet and outlet of the manhole shall be plugged by watertight plugs and the manhole shall have 4 feet of water placed therein. The water shall remain for sufficient time to allow for absorption into concrete pipe. The amount of water loss from the manhole shall then be determined. The rate shall not exceed 5 gals. per manhole per 24 hours for 4 ft. dia. manholes. All leaks shall be repaired by excavation outside of the manhole if required.

If approved by the Superintendent, a low pressure air test may be used to test the gravity sewers. The test shall be performed using the equipment stated below, according to stated procedures and under the supervision of the Superintendent.

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 pressure without requiring external bracing or blocking.

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

(d) Three individual holes 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 continuously monitoring the air pressure rise in the seal line.

After a manhole to manhole reach of pipe has been back-filled and cleaned, the plugs shall be placed in the line at each manhole and inflated to 25 psig. Low pressure air shall be introduced into the 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. After this 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 ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table.

Pipe Diameter (inches)	Minutes
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5

In areas where ground water is known to exist its height over the invert of the pipe shall be determined. The height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings (i.e., if the height of water is 11 ½ ft. then the added pressure will be 5 psig). The allowable drop of 1 lb. and the timing remain the same.

All testing of sewer shall be conducted in the presence of the Superintendent. If the installation fails any test, the source of leakage shall be found and repaired and all defective materials shall be replaced.

2-556

All sewer extensions constructed at the property owner's, builder's, or developer's expense, after final approval and acceptance by the Engineer, shall become the property of the City and shall thereafter be maintained by the City. Said sewers, after their acceptance by the City, shall be guaranteed against defects in materials or workmanship for eighteen (18) months. The guarantee shall be in a form provided by the City. At the sole discretion of the City a completion bond or certified check may be demanded as part of the guarantee.

2-557

No builder or developer shall be issued a building permit for a new building or structure requiring sanitary facilities within the City, unless a suitable and approved method of waste disposal is proposed. All new developments shall be provided with an approved system of sanitary sewers.

2-560 USE OF THE PUBLIC SEWERS

2-561

No person shall discharge or cause to be discharged any storm water, surface waste, ground water, roof runoff, subsurface, drainage, cooling water or unpolluted industrial process water to any sanitary sewer.

2-562

Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm sewers, or to a watercourse approved by the Superintendent. Industrial cooling water or unpolluted process waters may be discharged, upon approval of the Superintendent, to a storm sewer, or natural outlet.

2-563

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

(a) Any liquid or vapor having a temperature higher than 150 degrees Fahrenheit (65 degrees Centigrade).

(b) Any waters or wastes which contain grease or oil or other substances that will solidify or become discernibly viscous at temperatures between 32 and 150 degrees Fahrenheit.

(c) Any waters or wastes containing fats, grease, or oils, whether emulsified or not, exceeding an average of 50 parts per millions (417 pounds per million gallons) ether soluable matter.

(d) Any gasoline, benzine, naptha, fuel oil, mineral oil, or other flammable or explosive liquid, solid, or gas.

(e) Any noxious or malodorous gas such as hydrogen sulfide, sulfur dioxide or nitrous oxide or other substance, which either singly or by inter-action with other wastes, is capable of creating a public nuisance or hazard to life or of preventing entry into sewers for their maintenance and repair.

(f) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of ¾ horsepower or greater shall be subject to the review and approval of the Superintendent.

(g) Any ashes, cinder, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastic, cardboard, wood, paunch manure, hair and fleshings, entrails, lime slurry, lime residues, beer or distillery slops, Whey, chemical residues, paint solids, cannery waste, bulk solids, or any other solid or viscous substance capable of causing obstruction to the flow of the sewers, or other interference with the proper operation of the sewage works.

(h) Any waters or wastes, acid and alkaline in reaction, having corrosive properties capable of causing damage or hazard to structures, equipment and personnel of the sewage works. Free acids and alkalies must be neutralized at all times, within a permissible pH range of 6.0 to 9.5.

(i) Any cyanides, in excess of 2 parts per million by weight as CN.

(j) Any long half-life (over 100 days) of toxic radio-active isotopes, without a special permit.

(k) Quantities of flow, or concentrations of any wastewater constituent, or both, which would constitute a slug loading or which might hinder, upset, damage or pass through untreated the public sewage works.

(l) Any storm water, roof drains, spring water, cistern or tank overflow, footing drain, discharge from any vehicle wash rack or water motor, or the contents of any privy vault, septic tank or cesspool, or the discharge or effluent from any air conditioning machine or refrigeration unit.

(m) No person shall discharge or cause to be discharged any waters or wastes containing a toxic or poisonous substance, a high chlorine demand, high oxygen demand or suspended solids in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals or create any hazard or violation in the receiving waters or the effluent of the City's Sewage Treatment Plant or contaminate or restrict the final end use of the Sewage Treatment Plant's sludge residuals.

(n) Waters or wastes containing phenols, or other taste or odor producing substances, in such concentrations exceeding limits which may be established by the City as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal, or other public agencies or jurisdiction for such discharge to the receiving waters.

(o) Waters or wastes containing substances which are not amendable to treatment or reduction by the waste treatment processes employed, which may inhibit treatment plant processes or sludge quality or disposal, or are amenable to the treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over the discharge to the receiving waters.

(p) Any waters or wastes containing color, dissolved solids, or dye which would cause a visible discoloration of the treatment plant's effluent or receiving water.

(q) Any waters or wastes containing suspended solids, whether inert or organic, which would cause visible turbidity of the treatment plant's effluent or receiving water.

(r) Any waters, wastes or substance which would cause the treatment plant's effluent to exceed the City's toxicity testing limits as may be required by applicable State or Federal law.

(s) Any septage or septic process discharge without the express written approval of the Superintendent.

2-564

Grease, oil and sand interceptors shall be provided when the above set limits for those substances are exceeded or when, in the opinion of the Engineer, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, and 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 Engineer, and shall be located as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperatures. They shall be of substantial construction, watertight, and equipped with easily removable covers which when bolted in place shall be gas-tight and watertight.

2-565

Where installed, all grease, oil, and sand interceptors or traps shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

2-566

The admission into the public sewers of any waters or wastes having:

(a) a 5-day B.O.D. greater than three hundred (300) parts per million by weight, or

(b) containing more than three hundred fifty (350) parts per million by weight of suspended solids, or

(c) containing any quantity of substances having the characteristics described in section 2-563, or

(d) having an average daily flow greater than two percent (2%) of the average daily flow of the City;

shall be subject to the review and approval of the Superintendent. Where necessary in the opinion of the Superintendent, the owner shall provide, at his expense, such preliminary treatment as may be necessary to:

(a) reduce the Biochemical Oxygen Demand to three hundred (300) parts per million, or

(b) reduce the suspended solids to three hundred fifty (350) parts per million by weight, or

(c) reduce objectionable characteristics or constituents to within the maximum limits provided for in Section 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 approval of the Superintendent and of 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.

2-567

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 expense.

2-568

When required by the Superintendent, the owner of any property served by a building sewer carrying industrial wastes shall install a suitable control structure in the building sewer to facilitate observation, sampling, and measurement of wastes. Such structure, when required, shall be accessible and safely located and shall be constructed in accordance with plans approved by the Superintendent.

2-569

All requirements, tests, and analyses of the characteristics of waters and wastes to which reference is made in Sections 2-563 and 2-566 shall be determined in accordance with "Standard Methods for the Examination of Water and Sewage," and shall be determined at the control manhole provided for in Section 2-568, or upon suitable samples taken at said control structure.

2-570

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

2-571

All of the preceding standards are to apply trial wastes as discharged into the public sanitary sewerage system and any chemical or mechanical corrective treatment required must be accomplished to practical completion before the wastes reach that point. The laboratory methods used in the examination of all industrial wastes shall be those set forth in the latest edition of "Standard Methods for the Examination of Water and Sewage" published by the American Public Health Association, for the analysis of industrial wastes may be used subject to mutual agreement between the City Council and the producer of such wastes. The frequency and duration of the sampling of any industrial waste shall not be less than once every three months for a 24-hour period. However, more frequent and long periods may be required at the discretion of the City Council.

2-580 PROTECTION FROM DAMAGE

2-581

No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure appurtenance, or equipment which is a part of the City sewerage works. Such person shall, upon conviction, be subject to the payment of any actual damages incurred by the City or may be otherwise punished as State law provides.

2-582

A Contractor must present a certificate of insurance showing minimum liability coverage of $1,000,000/$2,000,000 for bodily injury and a $300,000 limit for property damage including collapse and underground coverage before a permit will be issued for construction of building sewers or sewer extensions. Sewer extensions may require higher coverage if so recommended by the Engineer.

2-590 POWERS AND AUTHORITY OF INSPECTORS

2-591

The Superintendent, the Engineer, and other duly authorized employees of the City bearing proper credentials and identifications shall be permitted to enter upon all properties for the purpose of inspection, observation, measurement sampling and testing, in accordance with the provisions of this ordinance.

2-592

The Superintendent and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all private properties through which the City holds a duly negotiated easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair and maintenance of any portion of the sewage works lying within said easement. All entry and subsequent work, if any, on said easement, shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.

2-593

The Superintendent shall have the authority to set up, on the user's property, or require installation of, such devices as are necessary to conduct sampling and/or metering of the user's waste discharge. The user shall bear the costs of such setup or installation.

The Superintendent may require the user to install monitoring equipment as the Superintendent deems necessary. The user's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the user at its own expense. All devices used to measure wastewater flow and quality shall be calibrated at least quarterly to ensure their accuracy.

Users subject to the reporting requirements of the Ordinance shall retain, and make available for inspection and copying, all records or information obtained pursuant to any monitoring activities required by this Ordinance and any additional records or information obtained pursuant to monitoring activities undertaken by the user independent of such requirements.

2-594

If the Superintendent has been refused access to any building, structure or property, or any part thereof, for the purpose of inspecting, sampling, or otherwise monitoring compliance with this Ordinance, the Superintendent shall seek to secure an Administrative Inspection Warrant pursuant to M.R.Civ.P. 80E. The warrant, if issued by the District Court, shall be executed pursuant to M.R.Div.P. 80E and the Superintendent shall be accompanied by a uniformed City police officer during said execution.

2-600 SEWER SERVICE CHARGE

2-601

The source of the revenues for debt services, capital expenditures, operation, maintenance, and replacement costs of the public Sewerage Works shall be a sewer service charge assigned to owners of property located within the limits of the city whose residence or place of business is connected to the public sewer system.

Each user shall pay for the services provided by the Sewage Works based on their use of the treatment works as determined by water meter readings.

2-602

Two separate rates shall be determined on an annual basis by the City Council. The first rate shall be for operation, maintenance, and replacement costs. This rate shall be calculated by dividing these total costs by the estimated annual cubic feet of sewerage treated by the Sewerage Works.

The second rate shall be for debt services, capital expenditures and a portion of the balance owed to the General Fund by the Sewer Fund. This rate shall be calculated by dividing these total costs by the estimated annual cubic feet of sewerage treated by the Sewerage Works.

Each user will be billed a minimum charge of 1200 cubic feet, unless usage exceeds this limit.

The sewer service charge will be billed at regular intervals throughout each calendar year, as established by the City Council.

2-603

The Sewer Service Charge assigned to any property owner who contributes a significant quantity of industrial wastes to the public sewers, or who contributes a combination of sewage and industrial wastes to the public sewers, shall be determined on a flat rate structure based on water consumption. The property owners to be charged in this manner will be determined by the City Council on a year to year basis.

2-604

A special Sewer Service Charge shall be assigned to any industrial firm or organization who, by virtue of the volume, strength or unusual characteristic of their waste alone, would overload or upset the capacity of efficiency of the Sewerage Works or

any part thereof if such waste entered the public sewer, or whose waste disposal situation is such that it would be in the public interest to waive the requirements of Sections 2-602, 2-603, 2-604, and 2-605. The City Council, after appropriate study, and advice from the Engineer, shall assign a Special Sewer Service Charge to the industrial firm by separate agreement with said firm. The applicable portions of the preceding sections, as well as the equitable rights of the public shall be the basis for such an arrangement.

2-605

The City Council reserves the right, from time to time, to change Sewer Service Charges originally or previously assigned to any property owner.

2-606

All property owners who are outside the City limit who, by their own request, are served by sanitary sewers must pay a sewer service charge established by the City Council.

2-607

Each sewer charge levied pursuant to the ordinance is herby deemed delinquent if not paid within 30 days after it shall be due and payable and will be subject to interest at a rate set by the City Council annually but not to exceed the highest lawful rate set by the Treasure of State for municipal taxes. Title 30-A M.R.S.A. § 3406

2-608

A sewer lien procedure will be used for the collections of delinquent sewer bills according to Title 38 Sections 1208 et. Seq. M.R.S.A.

2-700 PENALTY

2-701

Any person found to be violating any provision of this Ordinance except 2-581 shall be served by the City 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. Any such notice shall not be a prerequisite to bringing legal action to enforce any provision of this Ordinance.

2-702

Any person who violates or fails to comply with any provision of this Ordinance shall be subject to civil penalties pursuant to 30-A M.R.S.A 4452. Each day of violation shall constitute a separate offense. Pursuant to 30-A M.R.S.A. 4452 and Rule 80K of the Maine Rules of Civil Procedure, the City may seek reasonable attorney fees, court costs, expert witness fees and costs and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by the City.

2-703

The City, in addition to other remedies, may institute any appropriate action or proceedings to prevent such unlawful use, construction or maintenance of cesspools, septic tanks, sewage disposal systems, pipes or drains, to prevent the occupancy of any building structure or land where a violation of this Ordinance is found, or to restrain, correct or abate any violation of this Ordinance.

2-704

Any person violating any of the provisions of this Ordinance shall be liable to the City for any expense, loss, or damage occasioned the City by reason of such violation.

2-710 APPEALS

2-711

Any person aggrieved by a decision of the Superintendent to deny a wastewater discharge permit application, to impose terms and conditions on a wastewater discharge permit, or to revoke or suspend a wastewater discharge permit may appeal any such decisions to the City Manager. An appeal may be taken by filing a written petition with the Clerk within 15 days of the Superintendent's action. The petitions must state the decision that is being appealed and the grounds for the appeal. Failure to submit a timely petition for review shall be deemed to be a waiver of any appeal. The City Manager shall conduct an administrative hearing with 35 days of the receipt of a petition by the Clerk. The City Manager shall conduct the hearing so as to develop an adequate administrative record, and the petitioner shall bear the burden of proof to demonstrate that the Superintendent's decision was unreasonable or contrary to the law. The City Manager

shall issue its written decision within 45 days of the hearing. Any person aggrieved by the decision of the City Manager may appeal the same to Superior Court pursuant to Rule 80B of the Maine Rules of Civil Procedure.

2-720 VALIDITY

2-721

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 part of this Ordinance which can be given effect without such invalid part or parts.

2-730 EFFECTIVE

2-731

This Ordinance was adopted by the City Council on July 28, 1994 and modified by the City Council on July 10, 2008.

Amended 6/30/2011 2-607 & 2-608