SEWER RULES AND REGULATIONS

IN

HINGHAM, MASSACHUSETTS

ADOPTED BY

THE HINGHAM BOARD OF SEWER COMMISSIONERS

AMENDED AND RESTATED

April 5, 2016

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COMMONWEALTH OF MASSACHUSETTS
TOWN OF HINGHAM
BOARD OF SEWER COMMISSIONERS

AMENDED AND RESTATED SEWER RULES AND REGULATIONS

April 5, 2016

INTRODUCTION

In 1987 the Town of Hingham, acting through its Board of Sewer Commissioners, by authority of the Acts of 1946, Chapter 82, Section 13, adopted "Regulations Governing the Public Sanitary Sewer System in the North Sewer District of the Town of Hingham, Massachusetts" governing the construction, extension, maintenance, use, and operation of the sanitary sewerage system in the North Sewer District (since renamed to the Hingham Sewer District) of the Town of Hingham, including any subsequent alterations and extensions thereof, as part of the South Metropolitan Sewer District (now the Massachusetts Water Resources Authority – MWRA) referred to in Chapter 92 of the General Laws, and relative to control of connections to said sanitary sewerage system. Subsequently, the Town created additional sewer districts and adopted certain policies and regulations relative to the system and its various districts.

The Town of Hingham, acting through its Board of Sewer Commissioners hereby amends and restates said rules and regulations, for the purpose of 1) making the language consistent with current best practices as well as state and federal requirements, 2) modifying the approved methodology for establishing, calculating, and assessing sewer assessments and establishing related fees and charges, 3) incorporating the various sewer districts, and 4) formally incorporating amendments and policies adopted since said rules and regulations were adopted in 1987. All actions taken by the Board of Sewer Commissioners subsequent to the adoption of these amended and restated rules and regulations shall be based upon applicable law, these rules and regulations, and any policies adopted consistent herewith.

THEREFORE, all previously adopted rules and regulations governing the public sewer system are hereby amended and restated, as follows:

DIVISION I - USE AND INSTALLATION OF SEWERS

ARTICLE I -- DEFINITIONS

Unless the context specifically indicates otherwise, the meaning of terms used in these Rules and Regulations shall be as follows:

.1 "Act" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. § 1251 et seq., and the regulations promulgated thereunder, as amended from time to time.

.2 "ASTM" shall mean the American Standard Testing Method or American Society for Testing & Materials.

.3 "Bedroom" shall mean a room providing privacy, intended primarily for sleeping and consisting of all of the following:

a. floor space of no less than 70 square feet;
b. for new construction, a ceiling height of no less than 7'3";
c. for existing houses and for mobile homes, a ceiling height of no less than 7'0";
d. an electrical service and ventilation; and
e. at least one window.

Living rooms, dining rooms, kitchens, halls, bathrooms, unfinished cellars and unheated storage areas over garages are not considered Bedrooms. Single family dwellings shall be presumed to have at least three Bedrooms. Where the total number of rooms for a single family dwelling exceeds eight, not including bathrooms, hallways, unfinished cellars and unheated storage areas, the presumed number of Bedrooms shall be calculated by dividing the total number of rooms by two then rounding down to the next largest whole number.

.4 "Biochemical Oxygen Demand" (BOD) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at 20 deg. C, expressed in milligrams per liter (mg/l).

.5 "Board" shall mean the Board of Sewer Commissioners of the Town of Hingham, or any agent or officer duly authorized to act in its place from time to time, including the Director and the Supervisor.

.6 "Building Drain" shall mean that part of the lowest piping of a drainage system which receives the discharge from waste and other drainage pipes insides the walls of the building and conveys it to the Building Sewer, ending five (5) feet outside the inner face of the building wall.

.7 "Building Sewer" shall mean the extension from the Building Drain to the Public Sewer, also called "House Connection".

.8 "Combined Sewer" shall mean a Sewer intended to receive both wastewater and storm or surface water.

.9 “Compatible Pollutant” shall mean Biochemical Oxygen Demand, Suspended Solids, pH, and fecal coliform bacteria.

.10 “Developer” shall mean any individual, group of individuals, trust, corporation or builder who improves the condition of a lot or lots and/or builds on them.

.11 “Director” shall mean the Director of the Hingham Department of Public Works acting on behalf of the Board to carry out the day to day operations of the Public Sewer System to the extent duly authorized by the Board from time to time, or such other individual so authorized by the Board to carry out such duties.

.12 “Drainlayer” shall mean a Person who has an active license to install Building Sewers in the Town.

.13 “Easement” shall mean the legal right for the specific use of land owned by others as evidenced by a recorded instrument setting forth such right.

.14 “Engineer” shall mean the engineer or engineering firm duly authorized to act on behalf of the Board.

.15 “Fats, Oil and Grease” (“FOG”) shall mean a material either liquid or solid, composed primarily of fat, oil, including Floatable Oil, and/or grease from animal or vegetable sources. The terms "fats, oils, and grease, “oil and grease”, or “oil and grease substances” shall all be included within this definition.

.16 “Floatable Oil” shall mean oil, fat or grease in a physical state such that it will separate by gravity from wastewater by treatment in an approved pretreatment facility. A wastewater shall be considered free of Floatable Oil if it is properly pretreated and the wastewater does not interfere with the collection system.

.17 “FOG Regulations” shall mean the Town of Hingham Regulation – “Fats, Oil, & Grease (FOG) Pretreatment System” attached hereto as Appendix D and incorporated into these Rules and Regulations.

.18 “Food Establishment” shall mean any food service facility that prepares and/or packages food or beverages for sale or consumption, on or off site, with the exception of private residences. Food Establishments shall include, but are not limited to: food courts, food manufacturers, food packagers, restaurants, grocery stores, bakeries, lounges, hospitals, hotels, nursing homes, churches, schools and all other food service facilities not listed above.

.19 "Garbage" shall mean solid wastes from the domestic and commercial preparation, cooking, and dispensing of food.

.20 “Garbage Disposal” shall mean a device that shreds or grinds up food waste materials into smaller portions for discharge into the Public Sewer System.

.21 “Grease Trap” shall mean a device located in a Food Establishment or under a sink designed to collect, contain, or remove food wastes and grease from the wastestream while allowing the balance of the liquid waste to discharge to the Public Sewer System by gravity.

.22 “Hingham Sewer District” (formerly named and often referred to as the North Sewer District) shall mean the Sewer District first established by the provisions of Chapter 591 of the Acts of 1945, as amended as set forth in Appendix G attached hereto and incorporated by reference.

.23 “Illegal Discharge” (also “Illegal Connection”) shall mean any connection of sump pumps, roof downspouts, foundation drains, areaway drains, subsurface drains, or other sources of surface runoff or groundwater to a Building Sewer or Building Drain which in turn is connected directly or indirectly to the Public Sewer.

.24 “Incompatible Pollutant” shall mean any pollutant which is not a Compatible Pollutant.

.25 “Industrial/Office Park Sewer District” shall mean that Sewer District created by Article 32 of the 2010 Annual Town Meeting.

.26 “Industrial Wastes” shall mean the wastewater from industrial process, trade, or business as distinct from domestic or sanitary wastes.

.27 “Interceptor” shall mean a device located underground and outside of a Food Establishment designed to collect, contain, or remove food wastes, fats, oils, grease and or sand from the waste stream while allowing the balance of the liquid waste to discharge to the Public Sewer System by gravity.

.28 “Intermunicipal Agreement” shall mean that certain agreement between the Town of Hingham and the Town of Hull governing service to the WRSD, and agreements related thereto as more particularly described in Appendix G.

.29 “Major Contributing Industry” shall mean a user which discharges Industrial Wastes, which has:

a. Flow of 50,000 gallons or more per average workday;
b. Flow or pollutant loading greater than 10 percent of the flow or pollutant loading carried by the Wastewater Facilities;
c. In its wastes a toxic pollutant in toxic amounts, as defined by standards issued under Section 307 (a) of the Act; or
d. A significant impact, either singly or in combination with other contributing industries on the Wastewater Facilities.

.30 The word “may” is permissive (see “shall”).

.31 “Medical Waste” shall mean isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

.32 “Natural Outlet” shall mean any outlet, including Storm Sewers and Combined Sewer overflows, into a Watercourse, pond, ditch, lake, or other body of surface or groundwater.

.33 “North Sewer District” – see Hingham Sewer District.

.34 “Person” shall mean any individual, firm, company, association, society, corporation or group.

.35 “pH” shall mean the reciprocal of the logarithm of the hydrogen-ion concentration. The concentration is the weight of hydrogen ions, in grams per liter of solution. Neutral water, for example has a pH value of 7 and hydrogen-ion concentration of 10-7.

.36 “Properly Shredded” shall mean the wastes from the preparation, cooking and dispensing of food that has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in the Public Sewer System, with no particle greater than ½ inch in any dimension.

.37 “Public Sewer” shall mean a Sewer that is part of the Public Sewer System.

.38 “Public Sewer System” shall mean the system of common Sanitary Sewers and Wastewater Facilities serving the Sewer Districts in the Town of Hingham.

.39 “Saddle” shall mean a fitting used to tap into an existing Sewer.

.40 “Sanitary Sewer” shall mean a Sewer that carries Sewage from residences, commercial buildings, industrial plants, and institutions together with minor quantities of ground, storm, and surface waters that are not admitted intentionally.

.41 “Septage” shall mean excrement and other waste materials contained in or removed from a septic tank.

.42 “Septage Handling Facility” shall mean any portion of the Wastewater Facilities designated by the Board to accept Septage.

.43 “Sewage” shall mean sanitary waste comprised of liquid and water-carried wastes from residences, commercial buildings, industrial plants, institutions and other buildings.

.44 “Sewer” shall mean a pipe or conduit that carries wastewater.

.45 “Sewer District(s)” shall mean any one or more of the separately sewered areas of the Town of Hingham which collectively constitute the Public Sewer System.

.46 The word “shall” is mandatory (see “may”).

.47 “Slug” shall mean any discharge of water or wastewater which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four hour concentration of flows during normal operation system and/or performance of the Wastewater Facilities.

.48 "Storm Drain" (sometimes termed "Storm Sewer") shall mean a conduit for conveying stormwater, groundwater, subsurface water, or Unpolluted Water from any source.

.49 "Supervisor" shall mean the superintendent of the Public Sewer System appointed by the Board to carry out such duties authorized by the Board from time to time.

.50 "Suspended Solids" shall mean total suspended matter that either floats on the surface of, or is in suspension in, water, wastewater, or other liquids, and that is removable by laboratory filtering as prescribed in "Standard Methods for the Examination of Water and Wastewater" and referred to as non-filterable residue.

.51 "Town" shall mean the Town of Hingham, Massachusetts or any duly authorized officer, agent or representative of the Town of Hingham.

.52 "Unpolluted Water" is water of quality equal to or better than the effluent criteria in effect or water that would not cause violation of receiving water quality standards and would not be benefited by discharge to the Sanitary Sewers and Wastewater Facilities provided.

.53 The term "wastewater" shall mean the spent water of the Town. From the standpoint of source, it may be a combination of Sewage together with any groundwater, surface water, and stormwater that may be present.

.54 "Wastewater Facilities" shall mean the structures, equipment, and processes required to collect, carry away, and treat domestic and Industrial Wastes and dispose of the effluent.

.55 "Watercourse" shall mean a natural or artificial channel for the passage of water either continuously or intermittently.

.56 "Weir River Sewer District" or "WRSD" shall mean that Sewer District constructed in two phases [referred to as "Phase I" (including a Phase 1A) and Phase II"] serving the area described in the Town Meeting votes referenced in Appendix G hereto and governed by the Intermunicipal Agreement.

ARTICLE II -USE OF PUBLIC SEWER SYSTEM REQUIRED

.1 It shall be unlawful for any Person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the Town of Hingham, or in any area under the jurisdiction of said Town, any human or animal excrement or objectionable waste.

.2 It shall be unlawful to discharge to any Natural Outlet within the Town of Hingham, or in any area under the jurisdiction of the Town, any wastewater or other polluted waters, except where suitable treatment has been provided in accordance with the provisions of these Rules and Regulations and any other applicable local, state and federal laws and regulations.

.3 Except as hereinafter provided, it shall be unlawful for a property owner whose lot has frontage on a way with a Public Sewer to construct or repair any privy, privy vault,

cesspool or other facility intended or used for the disposal of wastewater. Pursuant to Section 15 of Chapter 82 of the Acts of 1946, the owner of a building upon land within the Hingham Sewer District abutting on any street, alley, or right-of-way in which there is a Sewer which is part of the Public Sewer System shall within a reasonable time after construction of such Sewer in such way connect such building therewith. A reasonable time shall be such time as (a) connection to the Public Sewer System is required pursuant to the provisions of Title 5 of the State Environmental Code or (b) connection is expressly ordered by the Hingham Board of Health pursuant to its authority under applicable Massachusetts law.

ARTICLE III - PRIVATE WASTEWATER DISPOSAL

.1 Where a Public Sewer is not available, the Building Sewer shall be connected to a private wastewater disposal system complying with the requirements of the Board of Health of the Town of Hingham and the Massachusetts Department of Environmental Protection ("Mass DEP").

ARTICLE IV - BUILDING SEWERS AND CONNECTIONS

.1 No unauthorized Person(s) shall uncover (excavate), make any connections to or opening into, use, alter or disturb any Public Sewer or appurtenance thereof without first obtaining a Building Sewer Connection Permit (see Appendix A) from the office of the Board. The permit shall not be issued unless the work is to be done by a Drainlayer licensed by the Board. The permit shall at all times be available for inspection at the site of the work.

.2 Plumbers and drainlayers of established reputation and experience will be licensed by the Board (see application for licensure in Appendix A) as Master Drainlayers authorized to perform work, subject to compliance with the following requirements:

a. All license applications, including renewals, must be filed with the Board by June 30th of each year and, if approved, shall be valid through June 30th of the following year. Licenses are non-transferable. License applications will be approved or disapproved within thirty-one (31) days after filing of a complete application.

b. Applicants for licenses are required to pay a Filing Fee (see Appendix A) payable to the Town, one-half of which will be refunded to the applicant if his application is rejected. The fee for license renewal (see Appendix A) shall be due and payable with the renewal application.

c. Applicants are also required to pass the Hingham Sewer Department Drainlayer Test. Failure to pass will result in rejection of the application. Approved Drainlayers will be required to re-take the test every five years.

d. If approved by the Board, applicants for licenses shall file with the Board a proper and acceptable Performance and Guarantee Bond (see Appendix A), which shall remain in force and in effect for a period of one year from the date of the approval.

e. Applicants for licenses, after approval by the Board, shall file with the Board, a Certificate of Insurance to cover Public Liability and a Certificate of Insurance covering Property Damage (see Appendix A). In addition, a Certificate of Insurance covering Workmen's Compensation shall be filed, all of which shall remain in full force and effect for a period of at least one year from the date of approval. Said Insurance shall indemnify the Board and the Town of Hingham against any and all claims, liability or action for damages, incurred in or in any way connected with the performance of work by a Master Drainlayer, his agents, employees or contractors in the performance of the work.

f. The Board reserves the right to revoke any license if any provision of said license or these Rules and Regulations is violated.

g. A one day license may be applied for once per year, at the same filing fee as a one year license, for one sewer connection. The drainlayer shall file with the Board the same Certificate of Insurance as required for a one year license. Applicants for a one day license will be approved or disapproved by the Director or the Supervisor within five (5) business days after a complete application is filed.

.3 For a Building Sewer permit the owner(s) or his agent shall submit an application on the form furnished by the Board (see Appendix A) at least seven (7) business days prior to the requested service connection work. The permit application shall be supplemented by any plans, specifications or other information in triplicate, considered pertinent in the judgment of the Board. A Permit Fee (see Appendix A) shall be paid to the Town at the time the application is filed.

.4 All plans shall show the proposed Building Sewer, location of utilities, gas and water lines and all buildings to be sewered and be signed by a licensed Drainlayer. Any changes to the plan as submitted and approved by the Board must be resubmitted in writing and approved by the Board.

.5 All costs and expenses incidental to the installation and connection of the Building Sewer shall be borne by the owner(s). The owner(s) shall indemnify and hold the Town harmless from any loss or damage that may directly or indirectly be occasioned by the installation of the Building Sewer.

.6 A separate and independent Building Sewer shall be provided for every building with the following exceptions:

a. 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, the front Building Sewer may be extended to the rear building and the whole considered as one Building Sewer, and;

b. Two or more buildings may use the same Building Sewer if the combination of buildings use the same driveway (common driveway) and the distance from the Public Sewer System to said buildings is great enough to create an unreasonable

expense or hardship to the property owners as determined by the Board in its reasonable discretion.

In each exception above, each building will have an individual "Permit to connect to sewer" on file prior to the installation of sewers and each building will incur, as applicable, its own sewer assessment, sewer fees, and sewer user charge as defined under Division II of these Rules and Regulations. In addition, the Town does not and will not assume any obligation or responsibility for damage caused by or resulting from any such single connection.

.7 An existing Building Sewer may be used for reconnection to a new building on the same lot only when it is found, on examination and test by the Supervisor, to meet all requirements of these Rules and Regulations.

.8 The connection of the Building Sewer into the Public Sewer System shall conform to the requirements of the Hingham Sewer Service Connection Specifications (including typical construction details) attached hereto as Appendix B, the Town Plumbing and Drainage Code, the Rules and Specifications Governing Street Excavations (attached hereto as Appendix E), and other applicable rules and regulations of the Town, or the procedures set forth in appropriate specifications of the ASTM and the Water Pollution Control Federation (WPCF) Manual of Practice No. 7. 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 Supervisor before installation.

In general, connections shall be made as follows:

a. Connections shall be made at the "Y" branch, if such branch is available at a suitable location.

b. If the Public Sewer is twelve (12) inches in diameter or less, and no properly located "Y" branch is available, the owner shall, at his expense, install a "Y" branch in the Public Sewer at the location specified by the Supervisor.

c. Where the Public Sewer is greater than twelve (12) inches in diameter, and no properly located "Y" branch is available, a neat hole may be cut into the Sewer to receive the Building Sewer, with entry in the downstream direction at an angle of forty-five (45) degrees, unless another angle is approved by the Supervisor.

d. A forty-five (45) degree ell may be used to make such connection, with the spigot end cut so as not to extend past the inner surface of the Public Sewer.

e. The invert of the Building Sewer at the point of the connection shall, where possible, be at least twelve (12) inches higher than the invert of the Public Sewer.

f. A smooth, neat joint shall be made, and the connection made secure and watertight by complete encasement in concrete.

g. Special fittings may be used for the connection only when approved by the Board.

h. A minimum of one exterior cleanout shall be installed per service connection.

i. Cleanouts shall be installed at all bends or changes in direction and at intervals no greater than 100 feet.

j. Any Drainlayer that completes a connection and does not submit an as-built within 10 days of completion of the project will have their license revoked.

.9 Whenever possible, the Building Sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any Building Drain is too low to permit gravity flow to the Public Sewer, wastewater carried by such Building Drain shall be pumped by an approved means and discharged to the Building Sewer (see Appendix C – Policy for On-Lot Individual Grinder Pump Unit Installation incorporated herein by reference).

.10 No Person(s) shall make connection of sump pumps, roof downspouts, foundation drains, areaway drains, subsurface drains, or other sources of surface runoff or groundwater to a Building Sewer or Building Drain which in turn is connected directly or indirectly to the Public Sewer System. Such Illegal Connections shall be subject to a civil penalty as defined in Division I, Section 9.3 of these Rules and Regulations. Prior policy or regulations regarding "Illegal Connections" are superseded in their entirety by these Rules and Regulations.

.11 Once a license is issued, the applicant for the Building Sewer permit shall notify the Board at least two (2) business days prior to making the connection to the Public Sewer and before any portion of the work is covered. The connection shall be made during normal working hours, Monday through Friday. The connection and testing shall be made under the supervision of the Board.

.12 All excavations for Sewer installations shall be governed by the Rules and Specifications Governing Street Excavations (attached hereto as Appendix E), Trench Permit (see Appendix A), Street Opening Permit (see Appendix A), and any other applicable laws or regulations.

.13 The requirements of the Town Plumbing and Drainage Code shall be observed with respect to piping and fixtures inside or within ten (10) feet of buildings and within the areas of jurisdiction of said Code. When it is necessary to relocate plumbing within a building in order to connect to the sewer, a permit must be obtained by a licensed plumber from the Town plumbing inspector prior to any sewer work being performed.

ARTICLE V - USE OF PUBLIC SEWER SYSTEM

.1 No Person(s) shall discharge or cause to be discharged by use of sump pumps or any other means, any unpolluted waters such as stormwater, groundwater, roof runoffs, subsurface drainage, or cooling water to any sanitary sewer. Any such Illegal Discharge shall be subject to a civil penalty as defined in Division I, Section 9.3 of these Rules and Regulations.

.2 No Person(s) shall discharge or cause to be discharged any of the following described waters or wastes to any Public Sewers:

a. Any gasoline, benzene, naptha, paint, dye, oil or other flammable or explosive liquid, solid or gas.

b. Any waters containing a toxic pollutant in toxic amounts as defined in standards or guidelines issued pursuant to Section 307 (a) of the Act.

c. Any waters containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any waste treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the Wastewater Facilities.

d. Any waters or wastes having a pH lower than 5.5 or higher than 9.5, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the Wastewater Facilities.

e. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in Sewers, or other interference with the proper operation of the Wastewater Facilities such as, but not limited to, ashes, bones, cinders, sand, mud, straw, shavings, metal, glass rags, feathers, tar, plastics, wood, garbage not Properly Shredded, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, etc., either whole or ground by Garbage Disposals.

f. Any waters from a Major Contributing Industry containing an Incompatible Pollutant in excess of concentrations or amounts allowed under standards or guidelines issued pursuant to Sections 304, 306 and/or 307 of the Act.

g. Medical Wastes, except as specifically authorized in writing by the Board.

h. Any substance containing pathogenic organisms in such quantities as determined by local, state, or federal law as hazardous to the public health of the environment, including but not limited to any "Infectious or Physically Dangerous Medical or Biological Waste", as defined and identified by the Massachusetts Department of Public Health (MDPH) in its regulations entitled "Storage and Disposal of Infectious or Physically Dangerous Medical or Biological Waste, State Sanitary Code Chapter VIII," at 105 CMR 480.010.

In the case of any violation of this Section 5.2 above, the Board shall be notified immediately.

.3 The following described substances, materials, waters or waste shall be limited in discharges to the Public Sewer System to concentrations or quantities which will not harm the Sewers or Wastewater Facilities, will not have an adverse effect on the receiving stream, or will not otherwise endanger lives, limb, public property, or constitute a nuisance. The Board may set limitations lower than the limitations below if in its opinion much more severe limitations are necessary to meet the above objectives. In determining acceptable quantities, the Board will give consideration to such factors as the quantity of subject waste in relation to flows and velocities in

the Sewers, materials of construction of the Sewers, the wastewater treatment process employed, capacity of the Wastewater Facilities, degree of treatability of the waste by the Wastewater Facilities, and other pertinent factors. The limitations or restrictions on materials or characteristics of waste or wastewaters discharged to the Sanitary Sewer which shall not be violated without approval of the Board are as follows:

a. Wastewater having a temperature higher than 150 deg F.

b. Wastewater containing more than 25 milligrams per liter of petroleum oil, nonbiodegradable cutting oils, or product or mineral oil origin.

c. Industrial wastes containing Floatable Oils, fat, or grease.

d. Any Garbage that has not been Properly Shredded. In general, Garbage is not allowed to be discharged to the Sanitary Sewer. Where approved by the Board, Garbage Disposals may be connected to the Public Sewer System from homes, hotels, institutions, restaurants, hospitals, catering establishments, or similar places where Garbage originates from the preparation of food in kitchens for the purpose of consumption on the premises or when served by caterers.

e. Any waters or wastes containing iron, chromium, copper, zinc and similar objectionable or toxic substances exceeding limits which may be established by the Board for such materials.

f. Any waters or wastes containing odor producing substances exceeding limits which may be established by the Board.

g. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Board in compliance with applicable State or Federal regulations.

h. Quantities of flow, concentrations, or both which constitute a Slug.

i. Waters or wastes containing substances which are not amenable to treatment or reduction by the wastewater treatment processes employed, or are amendable to treatment only to such degree that the resulting effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

j. Any water or waste which, by interaction with other water or waste in the Public Sewer System, release obnoxious gases, form Suspended Solids which interface with the collection system, or create a condition deleterious to structures and treatment processes.

k. Contents of septic tanks or equivalent facility, except at locations designated by the Board. Applications for a permit to use a Septage Handling Facility for septic tank waste may be obtained at the office of the Board. Each licensed septage hauler is required to record and submit any such data requested by the Supervisor.

.4 Any Person substantially changing their discharge in terms of volume or character of pollutants shall notify the Board in writing forty-five (45) days prior to such change.

.5 All commercial and industrial establishments shall submit in writing to the Board any information which the Board may request concerning discharge to the Wastewater Facilities. This information shall be submitted to the Board no later than thirty (30) days after so requested and every one hundred-eighty (180) days thereafter until otherwise directed.

.6 If any waters or wastes are discharged or are proposed to be discharged to the Public Sewer System, which waters contain the substances or possess the characteristics enumerated in Section 5.2 of this Article, and which in the judgment of the Board may have a deleterious effect upon the Wastewater Facilities, processes, equipment, or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the Board may:

a. Reject the wastes;

b. Require pretreatment to an acceptable condition for discharge to the Public Sewer System;

c. Require control over the quantities and rates of discharge; and/or

d. Require payment to cover added cost of handling and treating the wastes.

If the Board permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the Board.

.7 Interceptors shall be provided when, in the opinion of the Board, they are necessary for the proper handling of liquid wastes containing floatable 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 Board, and shall be located as to be readily and easily accessible for cleaning and inspection. Interceptors shall have a minimum of two (2) inspection hatches on the top surface to facilitate inspection, cleaning and maintenance by a grease hauler. In the maintaining of these Interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates, and means of disposal which are subject to review by the Board. Any removal and hauling of the collected materials not performed by owner(s)' personnel must be performed by currently licensed disposal firms. Without limiting the foregoing, all Food Establishments shall be subject to the FOG Regulations which are incorporated by reference into these Rules and Regulations.

.8 Where pretreatment or flow equalizing facilities are provided or required for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at the owner's expense.

.9 When required by the Board, the owner of any property serviced by a Building Sewer carrying Industrial Wastes shall install a suitable structure together with such necessary meters and other appurtenances in the Building Sewer to facilitate observation, sampling and

measurement of the wastes. Such structures, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the Board. The structure shall be installed by the owner at the owner's expense and shall be maintained by the owner so as to be safe and accessible at all times.

.10 All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made in these Rules and Regulations shall be determined in accordance with the procedures approved by EPA and specified in 40 CFR Part 136 and amendments thereto, unless otherwise specified in a Pretreatment Standard. If 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed by using validated analytical methods, subject to approval by the Board. Records of all measurements, tests, and analyses shall be maintained by the owner and supplied to the Board when requested.

.11 Notwithstanding any provisions of this Article to the contrary, the Board may enter into a special agreement or arrangement with the owner or operator of an industrial property whereby an Industrial Waste of unusual strength of character may be accepted into the Public Sewer System, subject to payment therefore by the industrial concern, and subject to compliance with applicable Federal and/or State discharge standards and limitations.

ARTICLE VI - DESTRUCTION OF PROPERTY

.1 No Person(s) shall maliciously, willfully or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the Wastewater Facilities. Any Person(s) violating this provision shall be subject to immediate arrest under charge of disorderly conduct and/or vandalism.

ARTICLE VII - POWERS AND AUTHORITY OF INSPECTORS

.1 The Director, Supervisor and other Persons duly authorized by the Board and bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling and testing pertinent to discharge to the Public Sewer System in accordance with the provisions of these Rules and Regulations.

.2 The Director, Supervisor and other Persons duly authorized by the Board are authorized to obtain information concerning industrial processes which have a direct bearing on the kind and source of discharge to the Public Sewer System. The industry may withhold information considered confidential, if the industry establishes that the revelation to the public of the information in question might result in an advantage to competitors.

.3 The Director, Supervisor and other Persons duly authorized by the Board, and bearing proper credentials and identification, shall be permitted to enter all private properties through which the Town holds an Easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the Wastewater Facilities lying within said Easement. All entry and subsequent work, if any, shall be done in full accordance with the terms of the Easement pertaining to the private property involved.

.4 The Board has the authority to:

a. Inspect all public and private residences for violations of these Rules and Regulations;

b. Inspect all public and private residences for condition of service connections;

c. Require owners to repair or disconnect services which violate these Rules and Regulations;

d. Require owners to pay for all work in connection with repairs or disconnections on their service connection; and

e. Assess civil penalties if owners remain non-compliant with these Rules and Regulations.

.5 No owner, occupant, or other Person shall refuse, impede, inhibit, interfere with, restrict or obstruct entry and free access to properties by Persons duly authorized by the Board where inspection is sought in order to assure compliance with applicable ordinances, statutes, codes and/or regulations.

.6 An owner's refusal to grant permission of access will be presumed to be a violation and will constitute a civil penalty, as outlined in Division I, Article IX of these Rules and Regulations.

ARTICLE VIII - ENFORCEMENT

.1 Each user shall provide protection from accidental discharge in violation of these Rules and Regulations.

Users shall notify the Board immediately upon accidentally discharging wastes in violation of these Rules and Regulations. This notification shall be followed, within five (5) days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent future occurrence. Such notification will not relieve users of liability for any expense, loss or damage to the system, or for any fines imposed on the Town on account thereof.

These Rules and Regulations shall be made available to all employees of commercial users. A notice shall be furnished and permanently posted by the user in location visible to all employees advising employees whom to call in case of an accidental discharge in violation of these Rules and Regulations.

.2 When the Board finds that a discharge of wastes has been taking place, or threatens to take place, in violation of prohibitions or limitations of these Rules and Regulations, the Board my issue an order to cease and desist, and direct that those Persons not complying with such prohibitions, limits, requirements, or provisions to:

a. Comply forthwith;

b. Comply in accordance with a time schedule set forth by the Board, or

c. Take appropriate or remedial preventative action in the event of a threatened violation.

.3 When the Board finds that a discharge of wastes has been taking place, or threatens to take place, in violation of prohibitions or limitations prescribed in these Rules and Regulations, the Board may require the user to submit for approval with such modifications as it deems necessary, a detailed time schedule of specific actions that the user shall take in order to prevent or correct a violation of requirements.

ARTICLE IX -PENALTIES

.1 Any Person found to be violating any provision of these Rules and Regulations, except Division I, Article VI or as otherwise provided in these Rules and regulations, shall be served by the Board with written notice stating the nature of the violation and providing a reasonable time limit, as determined by the Board, for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.

.2 Any Person who discharges wastes causing an obstruction, damage, or any other impairment to the Wastewater Facilities may be assessed a charge for the work required to repair the Wastewater Facilities.

Any Person who shall continue any violation beyond the time limit provided for in Section 9.1 above shall be subject to a Sewer Obstruction Penalty of $100 per day for each violation. Each day in which any such violation shall continue shall be deemed as a separate offense.

Whenever a discharge of wastes is in violation of the provisions of these Rules and Regulations or otherwise causes or threatens to cause a condition of contamination, pollution or nuisance, the Board or the Town may also petition the Court for the issuance of a preliminary or permanent injunction or both, as may be appropriate in restraining the continuance of such discharge.

The Board may terminate or cause to be terminated Public Sewer service to any Person if a violation of any provision of these Rules and Regulations is found to exist or if a discharge of wastes causes or threatens to cause a condition of contamination, pollution or nuisance.

.3 Failure to disconnect or redirect Illegal Connections shall result in a Sewer Inflow Penalty of $150 per user charge billing cycle until the Illegal Connection has been disconnected.

ARTICLE X - SEWERS IN NEW SUBDIVISIONS (HINGHAM SEWER DISTRICT)

.1 Any extension of the Public Sewer System to service a subdivision within the Hingham Sewer District shall require the review and approval of the Board, which review and approval shall include, but not be limited to, the following items:

a. The point of discharge into the Public Sewer System will be determined.

b. Privately built Sewers must be constructed with every consideration given to future use by others and to abutters or nearby hookups. Lines passing other potentially connectable properties must leave a stub for such future connections.

c. The Developer will pay to have the Board's Engineer to inspect installation and ascertain that the Sewer construction is in accordance with the plans and specifications.

d. The installer is responsible for securing any municipal or state permits required for the connection.

e. A Sewer Fee for connection of new lots, as detailed in Division II of these Rules and Regulations, is required for all connections.

f. Such other policies and procedures consistent with these Rules and Regulations in effect from time to time.

g. In addition to compliance with these Rules and Regulations, Sewers in new subdivisions shall be installed in accordance with the provisions of the Town of Hingham Planning Board Rules and Regulations adopted under the Subdivision Control Law in effect from time to time.

ARTICLE XI - SEWER CONNECTION APPROVAL CRITERIA

.1 All property owners seeking a sewer connection must first submit a Sewer Account Application and pay all applicable sewer fees. Once an account is open, the property owner must engage a licensed Drainlayer to complete a Sewer Connection Application (see Appendix A).

.2 Hingham Sewer District – The following requirements shall apply:

a. Verify with the Board that the property is in the Hingham Sewer District.

b. The installer is responsible for securing any municipal permits or state permits required for the connection.

c. Choose a Drainlayer licensed by the Board.

d. Application forms including the connection layout and fee must be filed with the Board for authorization before construction or renovation of existing buildings can begin.

e. Easements for connection across private property will not be allowed unless there is absolutely no other connection alternative. In order to proceed with the connection an Easement will be required for the intended route of the line. The

Easement layout and form of Easement instrument must be approved in advance by the Board.

f. A sewer fee will be assessed as further defined in Division II of these Rules and Regulations.

g. After the connection is made, the Drainlayer shall schedule an inspection of the connection by the Board for compliance with these Rules and Regulations before back filling.

h. Such other policies and procedures consistent with these Rules and Regulations in effect from time to time.

.3 Weir River Sewer District (WRSD)

The criteria for considering additional property connections into the Weir River Sewer District not originally connected during the Phase I and II Projects is as follows:

a. Requests must be in writing and are considered in order of receipt.

b. The extension must benefit an existing property with an occupied dwelling or structure in accordance with the Hull Intermunicipal Agreement, or serve a public good as determined by the Board.

c. Priority for connections will be given to properties that have failed onsite systems and cannot meet Title 5 regulations for onsite disposal.

d. Unbuilt house lots are granted 3 Bedrooms per sewer fee as set forth in Division II. Bedrooms are defined as those described in the Title 5 regulations. Additional Bedrooms are a sewer fee as set forth in Division II.

e. Houses in existence as of the creation of the Sewer District are granted service connections as is, subject to the applicable sewer fee. Non-residential buildings may be granted service connections upon a determination by the Board of sufficient capacity based on water usage averaged over the last 3 years or, if none, based on gallons per day for the proposed use as established by Mass DEP under Title 5.

f. The applicant is responsible for the entire sewer fee at the time of grant by the Board, to be paid in accordance with terms to be determined by the Board.

g. The applicant will be responsible for engaging a Drainlayer for the connection to the Sewer. The connection design must be approved by the Board prior to it being constructed, and inspected by the Board prior to becoming active.

h. Sewer to be installed in a right of way by the applicant for making connection to the Public Sewer System must be adequately sized to serve other properties along

the route to the WRSD, and these properties will be provided the ability to connect to this Sewer subject to the provisions of these Rules and Regulations.

i. The applicant will be responsible for any and all costs associated with their connection, including but not limited to engineering and legal fees.

j. The Board will consider applications for connections only to the extent that available capacity exists under the Intermunicipal Agreement, as determined by the Board.

k. Easements for connection across private property will not be allowed unless there is absolutely no other connection alternative. In order to proceed with the connection an Easement will be required for the intended route of the line. The Easement layout and form of Easement instrument must be approved in advance by the Sewer Commission.

l. Such other policies and procedures consistent with these Rules and Regulations in effect from time to time.

The Board is responsible for determining the admission of additional properties in accordance with the above criteria.

ARTICLE XII - PRIVATE EXTENSIONS WITHIN THE HINGHAM SEWER DISTRICT

.1 Any property owner within the Hingham Sewer District may apply to the Board for approval to extend and connect to the Public Sewer System to serve the owner's property. The Board has adopted a Private Sewer Extension Policy, which is attached hereto as Appendix F. This policy is intended to provide procedural guidelines for those interested property owners who are not currently connected to the Public Sewer System and want to investigate options for extending and connecting to the Public Sewer System.

ARTICLE XIII - SEWERS IN FLOOD PRONE AREAS

.1 New or replacement Sanitary Sewers within flood-prone areas shall be designed, located, elevated and constructed as to minimize or eliminate flood damage and to minimize or eliminate infiltration of flood water into the Public Sewers and discharge from the Public Sewers into flood waters. Such installations shall be subject to other applicable local, state and federal laws and regulations applicable to work in a floodplain.

ARTICLE XIV - VALIDITY

.1 All previous regulations of the Town of Hingham Board of Sewer Commissioners are hereby repealed.

.2 The invalidity of any section, clause, sentence, or provisions of these Rules and Regulations shall not affect the validity of any other part of these Rules and Regulations which can be given effect without such invalid part or parts.

ARTICLE XV - APPEALS

15.1 Any person aggrieved by an order, decision or interpretation of these Rules and Regulations by the Board of Sewer Commissioners (including employees or agents of said Board) may appeal said order, decision or interpretation to the Board of Sewer Commissioners. Said appeal shall be in writing and shall be filed with the Board within thirty (30) days from the date of said order, decision or interpretation. The Board shall have the authority to hear and decide said appeal. If the Board fails to act upon said appeal within four months of the date of filing of said appeal, the appeal shall be deemed denied. Any such order, decision or interpretation shall remain in effect during such appeal period.

15.2 Any person (including a Drainlayer) who has been penalized or fined under these Rules and Regulations has ten (10) business days to file an appeal, in writing, with the Board of Sewer Commissioners. The Board shall have the authority to hear and decide said appeal. If the Board fails to act upon said appeal within four months of the date of filing of said appeal, the appeal shall be deemed denied. Any penalties or fines shall be enforced following the conclusion of said appeal, or in the case of no appeal, on the eleventh (11^{th}) business day after written notification of said penalty or fine.

ARTICLE XVI -ASSESSMENTS

.1 The Board shall determine the method of assessment of the cost of use of the Public Sewer Systems to users (see Division II).

ARTICLE XVII - CHANGES IN THESE RULES AND REGULATIONS

.1 These Rules and Regulations may be rescinded or modified or added to by the Board at any time where, in their opinion, such action is in the best interests of the Town of Hingham.

ARTICLE XVIII - REGULATIONS IN FORCE

.1 These Rules and Regulations shall be in full force and effect from and after their passage, approval and publication as provided by law.

.2 Use of the Public Sewer System shall be further subject to, as applicable, (a) the Massachusetts Water Resources Authority (MWRA) Enabling Act (Chapter 372 of the Acts of 1984 – Amended August, 2010) and the regulations promulgated thereunder, (b) the special acts applicable to the Hingham Sewer District, and (c) within the WRSD, the applicable requirements of the "Town of Hull Sewer Use Regulations." In the event of a conflict between a provision of these Rules and Regulations and the foregoing referenced laws and regulations, it is the intent of the Board that such provision shall be interpreted to be no less strict than that of the corresponding provision in such laws and regulations.

DIVISION II - SEWER BETTERMENTS, ASSESSMENTS, SEWER FEES, AND USER CHARGES

ARTICLE I - SEWER ASSESSMENTS (BETTERMENTS, PRIVILEGE FEES, & SEWER FEES)

1.1 General

1. .1 The Board shall assess the owners of land benefitted Public Sewer installed by the Town based upon the method of assessment voted by the Town and allowed by Massachusetts General Laws.

1. .2 The authority to levy assessments, as well as the permitted methodologies for doing so, are described under Massachusetts General Laws Chapter 83 Sewers, Drains, and Sidewalks, Sections 14 through 24, Section 8 of Chapter 82 of the Acts of 1946, Section 2 of Chapter 455 of the Acts of 1955, Chapter 466 of the Acts of 1958, and Chapter 427 of the Acts of 2008.

1. .3 If any provisions of these Rules and Regulations, or the application thereof to any Person or circumstance, are held invalid, such invalidity shall not affect other provisions or applications of these Rules and Regulations which can be given effect without such invalid provisions or applications.

1.2 Unit Method of Sewer Assessments

1. .1 When the Town of Hingham votes that assessments shall be made upon owners of land by a rate based upon a uniform unit method, the provisions of Section 1.2 and Section 1.3 of this Article I shall govern such assessments. Sewer users shall be assessed by a rate proportional to the value assigned to the sewer unit at the time of the assessment or privilege fee. Said rate shall be determined by user class and shall apply to all lands developed and undeveloped abutting the Public Sewer. Sewer unit values are calculated by dividing the applicable local project costs by the total number of sewer units. The total assessments and privilege fees shall cover, and not exceed, 100% of the local share of the total sewer project cost which shall include total costs of engineering survey and design, construction, land acquisitions, construction engineering services, legal services, and all related costs less all state and federal aid received.

The Board shall levy betterment assessments against all properties abutting a Public Sewer that is installed by the Town. In the Order of Assessment they shall designate the owner of each parcel as of the preceding January 1st as liable to assessment as stipulated under the provisions of the Massachusetts General Laws.

1. .2 Time of Assessment

Final betterments for lands abutting the Public Sewer shall be assessed following project completion and when the final sewer project costs, including all phases, are known or can be determined with reasonable accuracy.

As provided in MGL Chapter 83, Section 15B, the Board shall have the right to make partial or estimated assessments before the completion of construction and approval for use of the Public Sewer. Said estimated assessment shall be not more than one-half of the total anticipated project cost, as the Town's liability under all contracts it has entered into for the construction of such facilities.

1. .3 Sewer Unit Value Determination

Sewer unit values shall be equivalent to the local share of the sewer project costs less the amount reserved for assessment as privilege fees, as described under Section 5, divided by the total number of sewer units designated within the Public Sewer System project area.

Sewer unit value determinations for Public Sewer projects shall be calculated on a project by project basis, unless otherwise enacted by the Board.

1.3 Sewer Unit Designation

1. .1 Sewer units shall be designated based upon the user class of those properties to be assessed. Said classes shall include residential and non-residential properties. The non-residential class shall include commercial, industrial, municipal and any or all other non-residential properties. Developed and undeveloped properties receiving direct benefit from the Public Sewer System shall be designated a number of sewer units in accordance with procedures described within this Section. Sewer unit designations are assigned to these properties based upon the user class defined at the time of assessment. Any future change in use within an assessed property may result in an increase in the number of sewer units allocable under these Rules and Regulations. To equitably reflect said change in use, the Board may levy a compensatory sewer privilege fee as provided for under Section 5.

1. .2 Sewer Unit Determinations

a. <u>Residential, Developed Properties</u>

(i) Single family dwellings shall comprise one sewer unit;

(ii) Two-family dwellings shall comprise two sewer units;

(iii) Three-family dwellings shall comprise three sewer units;

(iv) Four-Family dwellings shall comprise four sewer units; and,

(v) Multiple family dwellings (in excess of four dwelling units) shall comprise one sewer unit per dwelling unit.

(vi) Notwithstanding the provisions of this Section 1.3.2(a), the owner of land in zoning districts which allow single family dwellings as of right shall be assessed on the basis of the maximum number of single family

dwellings which may be constructed on such land as of right under the zoning requirements then in effect, without approval of the further subdivision of such land under the Subdivision Control Law.

b. Non-Residential, Developed Properties *[RESERVED]*

c. Residential, Undeveloped Properties

Undeveloped lots shall be converted into dwelling units on the basis of the maximum number of buildable residential lots using the applicable minimum frontage and area requirements as indicated within the Zoning By-Laws in effect at the time of assessment. Each potential dwelling unit shall then comprise one sewer unit.

d. Non-residential, Undeveloped Properties *[RESERVED]*

e. Dual Use Properties

Properties having both residential and non-residential uses shall be assessed based on a total number of sewer units, as calculated under the provisions of Section 1.3.2(a) (Residential, Developed Properties) and Section 1.3.2(b) (Non-Residential, Developed Properties), respectively. If dual-use areas are not separately metered for water, a deduction shall be made for an estimated residential water use in determining non-residential water use for the calculation of non-residential sewer units. Dual use properties shall have a minimum assessment of two sewer units.

1.4 Sewer Assessment Payments

1. .1 Except as herein provided, the provisions of the Massachusetts General Laws relative to the assessment, apportionment, division, re-assessment, abatement, and collection of sewer assessments, to liens therefore, and to interest thereon shall apply to assessments made under these Rules and Regulations, and the Tax Collector of the Town of Hingham shall have all of the powers conveyed by the Massachusetts General Laws.

1. .2 Lump Sum Assessment Payment

The lump sum assessment payment for an assessed property shall be equivalent to the product of the total number of sewer units designated upon said property and the appropriate dollar value for one sewer unit at the time of assessment. Said values shall be determined as described in Section 1.2 (Method of Sewer Assessments) and Section 1.3 (Sewer Unit Designation). Full payment shall be made within thirty (30) days upon written notice of assessment, otherwise payment shall default to the apportionment schedule described under Section 1.4.3 (Apportionment of Assessment Payment).

1. .3 Apportionment of Assessment Payment

Property owners shall have the option to finance assessment payments through apportionment, in which case, the assessments shall bear interest at the rate set by the Town in accordance with Massachusetts General Laws, Chapter 80, Section 13, and Section 2 of Chapter 427 of the Acts of 2008. The betterment assessment shall constitute a municipal lien on said property until the sewer assessment is paid in full. Any assessment may be paid in full at any time within the apportionment period.

1. .4 Assessment Deferral

At the Annual Town Meeting of the Town of Hingham held on April 27, 1998, pursuant to Article 17 of the Warrant, it was voted that the Town accept the provisions of Section 13B of Chapter 80 of the Massachusetts General Laws, as inserted by Chapter 42 of the Acts of 1998, so as to permit deferral of sewer assessments by eligible Persons in accordance with said statute. Therefore, any owner of a bettered property who is deemed eligible for an exemption under the provisions of Massachusetts General Laws, Chapter 59, Section 5, may, upon notice of sewer assessment, enter into a deferral and recovery agreement with the Town of Hingham. The limits and conditions of this agreement as they relate to the deferral of sewer assessments are further described in said Chapter 80, Section 13B of the Massachusetts General Laws.

1. .5 Assessment Payment for Vacant Lots

The Board may, upon written request of the property owner, extend the time of payment of the sewer assessment for vacant lots in accordance with the provisions of Chapter 83, Section 19 of the Massachusetts General Laws. The request must be made to the Town of Hingham within six months of the notice of assessment. Upon approval, the payment shall be extended for 1) a maximum period of five years, or 2) within three months after the issuance of any Certificate of Occupancy for the lot, whichever occurs first. The assessment payment shall be made in full at the conclusion of the extension period. During the extension period the property owner shall pay annually at the interest rate provided for under applicable law.

1. .6 Sewers in Unaccepted Ways

If a property abuts a private or unaccepted way within which a Public Sewer has been installed as part of a municipal Sanitary Sewer project, or if a property lies within one hundred (100) feet of a Public Sewer within a private or unaccepted way (and, if applicable, within the connection area of the Hingham Sewer District), the Town shall assess a sewer privilege fee in lieu of a betterment assessment against said property. The sewer privilege fee shall be equivalent to the betterment assessment for said property as determined by the procedures outlined in this Section. The sewer privilege fee shall be levied at the time of

connection to the Public Sewer System. All provisions governing the payment and method of payment related to betterment assessments as described in this Section shall apply.

1. .7 Abatements

The owner of any real estate upon which a betterment has been assessed may file with the Board a petition for an abatement thereof in accordance with the provisions of Massachusetts General Laws Chapter 80, Section 5.

1.5 Sewer Privilege Fees *[RESERVED]*

1.6 Sewer Fees

1. .1 Application Fee – A $50 application fee shall be due and payable in connection with all applications required under these Rules and Regulations.

1. .2 Hingham Sewer District – These fees shall apply to connections approved under Division I, Section 11.2 of these Rules and Regulations. A discussion of the calculation of sewer fees for the Hingham Sewer District is attached hereto as Appendix H.

a. Residential

(i) An existing residential structure not previously connected, that does not have a capped lateral (stub), will be charged a connection fee of $1,000 plus an inflow fee of $1,174.80 for each Bedroom over three.

Example: A four-bedroom house would be charged $1,000 plus $1,174.80 = $2,174.80.

(ii) An existing residential structure not previously connected, that has a capped lateral (stub), will be charged an inflow fee of $1,174.80 for each Bedroom over three.

Example: A four-bedroom house would be charged $1,174.80.

(iii) For renovations to a residential structure previously connected, will be charged an inflow fee of $1,174.80 for each Bedroom over three.

Example: A four-bedroom house would be charged $1,174.80.

(iv) For new construction, a residential structure will be charged a connection fee of $1,000 plus an inflow fee of $1,174.80 for each Bedroom.

Example: A four-bedroom house would be charged $1,000 plus $4,699.20 = $5699.20.

b. Commercial

(i) For existing commercial properties, the inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5.

(ii) For new construction commercial properties, the connection fee will be $1,500 plus an inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5.

1. .3 Weir River Sewer District - These fees shall apply to connections approved under Division I, Section 11.2 of these Rules and Regulations.

a. Phase I - Residential

(i) For an existing residential structure connecting to Phase I that has not been assessed a betterment, or new residential construction in Phase I, the connection fee shall be $8,153 plus an inflow fee of $2,717.67 for each Bedroom over three.

Example: A four-bedroom house in the Phase I area would be charged $8,153 plus $2,717.67 = $10,870.67.

(ii) For renovations to a residential structure previously connected in Phase I, will be charged an inflow fee of $2,717.67 for each Bedroom over three.

Example: A four-bedroom house would be charged $2,717.67.

b. Phase I - Commercial

(i) For existing commercial properties in Phase I, the inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5.

(ii) For new construction of commercial properties in Phase I, the connection fee shall be $8,153 plus an inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5.

c. Phase II - Residential

(i) For an existing residential structure connecting to Phase II that has not been assessed a betterment, or new residential home construction in Phase II, the connection fee shall be $12,348, plus an inflow fee of $4,116 for each Bedroom over three.

Example: A four-bedroom house in the Phase II area would be charged $12,348., plus $4,116 = $16,464.

(ii) For renovations to a residential structure previously connected in Phase II, will be charged an inflow fee of $4,116 for each Bedroom over three.

Example: A four-bedroom house would be charged $4,116.

d. Phase II - Commercial

(i) For existing commercial properties in Phase II, the inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5.

(ii) For new construction of commercial properties in Phase II, the connection fee shall be $12,348 plus an inflow fee shall be determined based on the gallons per day for the proposed use consistent with gallons per day for such use established by Mass DEP under Title 5

ARTICLE II - USER CHARGES

.1 At the Annual Town Meeting of the Town of Hingham held on April 30, 1990, pursuant to Article 56 of the Warrant, it was voted that the Town accept the provision of Section 16A through 16F of Chapter 83 of the Massachusetts General Laws, so at to permit the assessment and collection of sewer charges and fees in a manner similar to the assessment and collection of real estate taxes.

.2 For all properties connected to the Public Sewer System, a user charge will be levied. The Board is empowered to set this rate annually or as otherwise necessary to recover all costs of operation and maintenance of the Public Sewer System. The costs will be proportioned to all users on the basis of the annual volume of waste treated, which will be computed from the property owners' metered water billing. The user charge may be adjusted each year, as necessary to reflect the annual operation and maintenance costs of the Public Sewer System.

.3 The Board of is empowered to make appropriate adjustments in the user charge in cases where significant quantities of water do not reach the Public Sewer System.

.4 The Board is empowered to establish a flat rate that would be equitable with other similar users in cases where properties do not have metered water records available.

.5 If any user discharges wastewater to the Public Sewer System in excess of normal strength domestic wastewater, the Board is empowered to assess a surcharge for the additional costs for treating such wastewater.

.6 Any marina, boat yard, shipyard, docking or mooring facilities or establishments that shall pump wastewater from any boat, cruiser, yacht or seagoing vessel must discharge this wastewater to the Public Sewer System and shall be required to obtain a permit from the Board. At the time of approval, said permit will have a flat fee assessed against said owner governed by

gallons of wastewater discharged to the Public Sewer System consistent with gallons per day for such use established by Mass DEP under Title 5. The granting of this permit does not relieve said owners of such establishments of their obligations to recognize and obey all rules and regulations of the Town, including all sections of Division I, Article V.

.7 User charges shall be payable by the property owner on a semi-annual basis, commencing from the time of connection to the Public Sewer System. This semi-annual billing shall be assessed against the property owner of record that was connected to the Public Sewer System on the last assessment date after the passage of these Rules and Regulations.

APPENDIX A

STANDARD APPLICATIONS AND PERMITS

SEWER ACCOUNT APPLICATION

SEWER CONNECTION APPLICATION

STREET OPENING PERMIT

TRENCH PERMIT

APPLICATION FOR DRAINLAYER'S LICENSE

ONE TIME APPLICATION FOR DEFERRAL OF SEWER USER CHARGE

ONE TIME APPLICATION FOR DEFERRAL OF SEWER BETTERMENT ASSESSMENT

APPLICATION FOR ABATEMENT OF SEWER BETTERMENT ASSESSMENTS

TOWN OF HINGHAM
OFFICE OF THE SEWER COMMISSION

FORMS REQUIRED FOR CONNECTING TO HINGHAM SEWER

Property Owner to fill out Sewer Account Application and pay applicable sewer fees.

Licensed Drainlayer to fill out Sewer Connection Application

Licensed Drainlayer to submit sewer as-built, on sewer sketch form, within 10-days of completing the project.

25 Bare Cove Park Drive, Hingham, MA 02043 ● Telephone (781) 741-1430 ● Fax (781) 741-1432

SEWER ACCOUNT APPLICATION

HINGHAM SEWER COMMISSION
25 Bare Cove Park Drive
Hingham, MA 02043
781-741-1430

ACCOUNT # _____

SERVICE ADRESS: _____

EFFECTIVE DATE: _____

LAST NAME: _____

FIRST NAME: _____

BUSINESS NAME: _____ (businesses only)

PHONE NUMBER: _____

MAILING/BILLING ADDRESS: _____

_____

As owner of the described premises, I hereby acknowledge and bind myself and any and all successors interest to abide by the Rules and Regulations of the Hingham Sewer Commission and to pay the sewer charges established when due. Payments received after the due date are subject to interest of 14%. Non-payment of the bill will constitute a lien (Section 16 & 27, Ch. 83, G.L.) on the property.

SIGNATURE OF PROPERTY OWNER: _____

DATE: _____

HINGHAM SEWER COMMISSION

SEWER CONNECTION APPLICATION

Connection to the Municipal Sewer System shall be granted when a contractor licensed through this office properly fills out this application, insures that **ALL** fees are paid and any additional required approvals are satisfied. The Drainlayer shall submit a sewer as-built, on attached sewer sketch form, within 10-days of completing the project or forfeit their right to perform future sewer construction until this requirement is met.

DIG SAFE NUMBER: _____ MAP & KEY: _____ ACCOUNT #_____

BOARD OF HEALTH ABANDONMENT PERMIT NUMBER: _____

NEW CONNECTION INFORMATION

OWNERS NAME: _____

SERVICE ADDRESS: _____

OWNERS ADDRESS (if different): _____

TELEPHONE NUMBER: (_____) _____ - _____

CLASS: ____**RESIDENTIAL** - # OF FAMILIES: _____ ____**COMMERCIAL** - DESCRIPTION: _____

DRAINLAYER INFORMATION

LICENSED DRAINLAYER: _____

ADDRESS: _____

TELEPHONE NUMBER: (_____) _____ - _____

LICENSED DRAINLAYER SIGNATURE: _____ DATE: _____/_____/_____

EXCAVATION INFORMATION

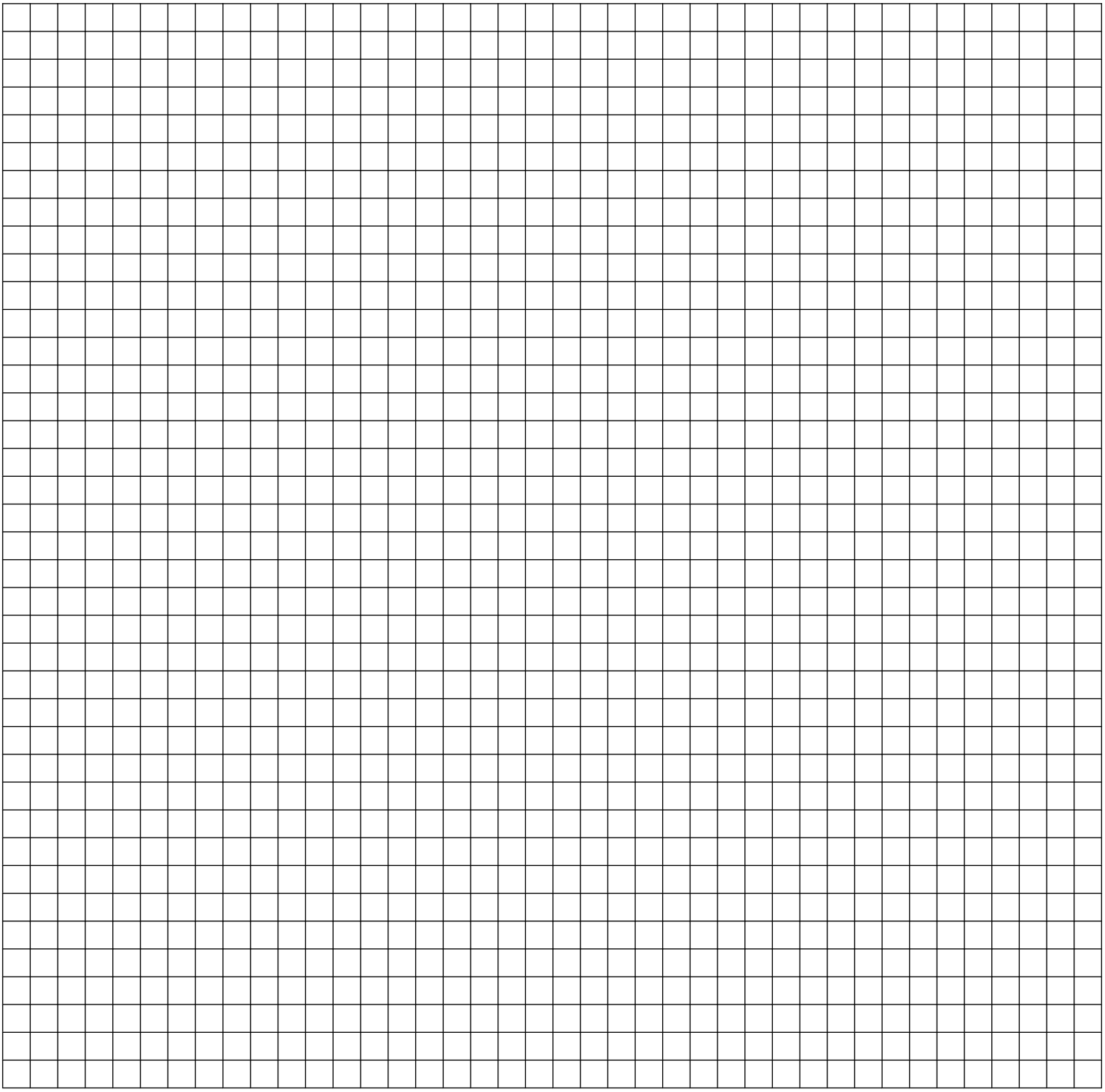
SIDEWALK:____UNDISTURBED ____REPAIRS MADE **STREET**:____UNDISTURBED ____REPAIRS MADE

CONNECTION CONFIRMED

SEWER COMMISSION AUTHORIZATION: _____ DATE: _____/_____/_____

HINGHAM SEWER COMMISSION ADDRESS: _____
SEWER SKETCH FORM

DRAINLAYER: _____ DATE: _____



NOTE: The as-built shall show the sewer work performed and a minimum of three (3) swing ties to all applicable features: public mainline connection, bends, cleanouts, shut off valve, pump chamber and fernco connections.

TOWN OF HINGHAM

Date: _____

Permission is herby granted to open the public way in the Town of Hingham at the location specified below, such opening to be completed in accordance with the regulations prescribed by the Superintendent of Public Works and the By-Laws of the Town of Hingham, subject to the following additional conditions and to such further conditions as this Board may from time to time impose:

1. This permission may not be assigned. No work shall be commenced by an agent, subcontractor, designee or any other party acting by, with or in conjunction with you (however designated) without such party first having executed this letter or a copy hereof, agreeing to be bound by the terms of this letter.
2. All applicable regulations, by-laws, ordinances and statutes with respect to street openings in the Town of Hingham shall be complied with, including without limitation, the provisions of Article X (Public Ways, Common Lands) of the By-Laws of the Town.
3. The following shall be notified in writing at least seven (7) days prior to commencing any excavation, except that in any emergency, the earliest possible telephone notice shall be given:

Department of Public Works	781-741-1430	Aquarion Water Company	781-740-6693
Verizon	781-849-6325	Hingham Municipal Light Plant	781-749-0134
Keyspan Energy	781-794-3500	Hingham Sewer Department	781-741-1451

Notice is hereby given that there are a number of privately owned underground electrical services, on both public and private property, that may not be marked out as a part of the Dig Safe process. You are strongly advised to consult with the Hingham Municipal Light Department and Department of Public Works, as well as adjacent property owners, regarding the possibility of such services before performing any excavations in the Town of Hingham.

The location at which the way is to be opened is as follows: _____

The purpose for which the way is to be opened is as follows: _____

By signing this letter and returning it to the Board of Selectmen, the undersigned agrees to comply with all of the conditions contained in this letter, and further agrees to assume all liability for damage to persons or property which may be caused, in whole or in part, by reason of the exercise of the permission to open the way herby granted. Further, the undersigned hereby agrees to indemnify the Town of Hingham and each officer, agent or employee of said Town, or their personal representative, successors or assigns from and against all claims and demands for damages, costs, expenses or compensation on account of or in any way arising out of the opening of the way herein described.

The Board of Selectmen shall at all times have the right to require from you a proper bond or a deposit of money or negotiable securities or other security sufficient in the opinion of the Board of Selectmen to secure your obligations under this agreement. This permit is valid for thirty (30) days.

COMPANY: _____	**THE BOARD OF SELECTMEN**	**DEPT OF PUBLIC WORKS**
ADDRESS: _____	_____	_____-
_____	DATE: _____	DATE: _____
TEL#: _____	**SEWER DEPARTMENT**	**HINGHAM LIGHT DEPT**
SIGNED: _____	_____	_____
TITLE: _____	DATE: _____	DATE: _____

The section below should be completed by Permitting Authority ONLY

Town of Hingham

Permit issued by:
Department of Public Works
25 Bare Cove Park Drive, Hingham, MA 02043
P: 781 741-1430 / F: 781 741-1432

Permit Number:	
Approval Date:	
Duration of Job/ Expiration Date:	
Permitting Authority Signature	

TRENCH PERMIT

Pursuant to G.L. c. 82A §1 and 520 CMR 7.00 et seq. *(as amended)*

Name:

Address:

Town, State, Zip:

Telephone: Cell: Email:

Initial here if Applicant understands that the Excavator must have a Massachusetts Hoisting License

Street Address:

Telephone: Cell: Email:

Start Date: Finish Date:

If available, please attach a copy of Massachusetts Hoisting License

Excavator Name:

Company:

Address:

Town, State, Zip:

Telephone: Emergency (after hours) #: Cell:

License No.: Expiration Date:

License Grade:

IMPORANT NOTE: POST THIS PERMIT ON SITE

☐ **MUST provide copy of Insurance Certificate, CHECK IF ATTACHED**

***NOTE**: A certificate of insurance with general liability coverage of $100,000 per person and $300,000 per claim. Must name Town of Hingham as additional insured.*

If there is additional insurance, such as home owner's insurance, please use the section below:

Certificate No.: _____ Expiration Date: _____

Insurance Co.: _____

Authorized Rep.: _____

Address: _____

Town, State, Zip: _____

Telephone: _____

☐ **CHECK IF YOU HAVE ATTACHED – Sketch or drawing showing proposed trench work**

(please use reverse side if additional space is needed)

LOCATION of Trench(s)

☐ Front Center Property	☐ Both Sides property	☐ Back Center Property	☐ Within Town ROW
☐ Front Right Side Property	☐ Right Side Property	☐ Back Right Side Property	☐ Within Easement
☐ Front Left Side Property	☐ Left Side Property	☐ Back Left Side Property	☐ Within State Property
☐ Other (briefly describe)			

Purpose (Facilities to Occupy) of Trench(s)

☐ Cables or Conduits	☐ Drain Lines	☐ Water Lines	☐ Tanks
☐ Electric Lines	☐ Septic Lines	☐ Foundation-Structure	☐ Storage Facilities
☐ Gas Lines	☐ Sewer Lines	☐ Pools or Pits	☐ Wells/Tunnels
☐ Other (briefly describe)			

BY SIGNING THIS FORM, THE APPLICANT/EXCAVATOR AND OWNER ALL ACKNOWLEDGE AND CERTIFY THAT THEY ARE FAMILIAR WITH , OR, BEFORE COMMENCEMENT OF THE WORK, WILL BECOME FAMILIAR WITH, ALL LAWS AND REGULATIONS APPLICABLE TO WORK PROPOSED, INCLUDING OSHA REGULATIONS, GL. C. 82A, 520 CMR 7.00 et seq., AND ANY APPLICABLE MUNICIPAL ORDINANCES, BY-LAWS AND REGULATIONS AND THEY COVENANT AND AGREE THAT ALL WORK DONE UNDER THE PERMIT ISSUED FOR SUCH WORK WILL COMPLY THEREWITH IN ALL RESPECTS AND WITH THE CONDITIONS SET FORTH BELOW.

THE UNDERSIGNED OWNER AUTHORIZES THE APPLICANT TO APPLY FOR THE PERMIT AND THE EXCAVATOR TO UNDERTAKE SUCH WORK ON THE PROPERTY OF THE OWNER, AN ALSO, FOR THE DURATION OF CONSTRUCTION, AUTHORIZES PERSONS DULY APPOIINTED BY THE MUNICIPALITY TO ENTER UPON THE PROPERTY TO MONITOR AND INSPECT THE WORK FOR CONFORMITY WITH THE CONDITIONS ATTACHED HERETO AND THE LAWS AND REGULATIONS GOVERING SUCH WORK.

THE UNDERSIGNED APPLICANT/EXCAVAOR AND OWNER AGREE JOINTLY AND SEVERALLY TO REIMBURSE THE MUNICIPALITY FOR ANY AND ALL COSTS AND EXPENSES INCURRED BY THE MUNICIPALITY IN CONNECTION WITH THIS PERMIT AND THE WORK CONDUCTED THEREUNDER, INCLUDING BUT NOT LIMITED TO ENFORCING THE REQUIREMENTS OF STATE LAW AND CONDITIONS OF THIS PERMIT, INSPECTIONS MADE TO ASSURE COMPLIANCE THEREWITH, AND MEASURES TAKEN BY THE MUNICIPALITY TO PROTECT THE PUBLIC WHERE THE APPLICANT OWNER OR EXCAVATOR HAS FAILED TO COMPLY THEREWITH INCLUDING POLICE DETAILS AND OTHER REMEDIAL MEASURES DEEMED NECESSARY BY THE MUNICIPALITY.

THE UNDERSIGNED APPLICANT/EXCAVATOR AND OWNER AGREE JOINTLY AND SEVERALLY TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE MUNICIPALITY AND ALL OF ITS AGENTS AND EMPLOYEES FROM ANY AND ALL LIABILITY, CAUSES OR ACTION, COSTS, AND EXPENSES RESULTING FROM OR ARISING OUT OF ANY INJURY, DEATH, LOSS, OR DAMAGE TO ANY PERSON OR PROPERTY DURING THE WORK CONDUCTED UNDER THIS PERMIT.

_____ _____

Applicant Signature: ***Date:***

Applicant understands he/she must provide a copy of this permit to the property owner.

_____

Excavator Signature *(If different)* ***Date:***

For the Town of Hingham's Use – Do not write in this section

Permitting Authority Approval/Signature:	Date:
Comments:	

☐ Application Fee of $50.00 Received

Type of Payment:
(check or money order only)

☐ Insurance Certificate attached to application

[redacted]

CONDITIONS AND REQUIREMENTS PURSUANT TO G.L.C.82A AND 520 CMR 7.00 et seq. (as amended)
By signing the application, the applicant understands and agrees to comply with the following:

i. No trench may be excavated unless the requirements of sections 40 through 40D of chapter 82, and any accompanying regulations, have been met and this permit is invalid unless and until said requirements have been complied with by the excavator applying for the permit including, but not limited to, the establishment of a valid excavation number with the underground plant damage prevention system as said system is defined in section 76D of chapter 164 (DIG SAFE);

ii. Trenches may pose a significant health and safety hazard. Pursuant to Section 1 of Chapter 82 of the General Laws, an excavator shall not leave any open trench unattended without first making every reasonable effort to eliminate any recognized safety hazard that may exist as a result of leaving said open trench unattended. Excavators should consult regulations promulgated by the Department of Public Safety in order to familiarize themselves with the recognized safety hazards associated with excavations and open trenches and the procedures required or recommended by said department in order to make every reasonable effort to eliminate said safety hazards which may include covering, barricading or otherwise protecting open trenches from accidental entry.

iii. Persons engaging in any in any trenching operation shall familiarize themselves with the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CFR 1926.650 et.seq., entitled Subpart P "Excavations".

iv. Excavators engaging in any trenching operation who utilize hoisting or other mechanical equipment subject to chapter 146 shall only employ individuals licensed to operate said equipment by the Department of Public Safety pursuant to said chapter and this permit must be presented to said licensed operator before any excavation is commenced;

v. By applying for, accepting and signing this permit, the applicant hereby attests to the following: (1) that they have read and understands the regulations promulgated by the Department of Public Safety with regard to construction related excavations and trench safety; (2) that he has read and understands the federal safety standards promulgated by the Occupational Safety and Health Administration on excavations: 29 CMR 1926.650 et.seq., entitled Subpart P "Excavations" as well as any other excavation requirements established by this municipality; and (3) that he is aware of and has, with regard to the proposed trench excavation on private property or proposed excavation of a city or town public way that forms the basis of the permit application, complied with the requirements of sections 40-40D of chapter 82A.

vi. This permit shall be posted in plain view on the site of the trench.

For additional information please visit the Department of Public Safety's website at www.mass.gov/dps

Summary of Section 40-40D

CHAPTER 82. THE LAYING OUT, ALTERATION, RELOCATION AND DISCONTINUANCE OF PUBLIC WAYS, AND SPECIFIC REPAIRS THEREON

FILING OF PETITIONS

Chapter 82: Section 40. Definitions

Section 40. The following words, as used in this section and sections 40A to 40E, inclusive, shall have the following meanings:—
"Company", natural gas pipeline company, petroleum or petroleum products pipeline company, public utility company, cable television company, and municipal utility company or department that supply gas, electricity, telephone, communication or cable television services or private water companies within the city or town where such excavation is to be made.

"Description of excavation location", such description shall include the name of the city or town, street, way, or route number where appropriate, the name of the streets at the nearest intersection to the excavation, the number of the buildings closest to the excavation or any other description, including landmarks, utility pole numbers or other information which will accurately define the location of the excavation.

"Emergency", a condition in which the safety of the public is in imminent danger, such as a threat to life or health or where immediate correction is required to maintain or restore essential public utility service.

"Excavation", an operation for the purpose of movement or removal of earth, rock or the materials in the ground including, but not limited to, digging, blasting, augering, backfilling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, jacking in, trenching, tunneling and demolition of structures, excluding excavation by tools manipulated only by human power for gardening purposes and use of blasting for quarrying purposes.

"Excavator", any entity including, but not limited to, a person, partnership, joint venture, trust, corporation, association, public utility, company or state or local government body which performs excavation operations.

"Premark", to delineate the general scope of the excavation or boring on the paved surface of the ground using white paint, or stakes or other suitable white markings on nonpaved surfaces. No premarking shall be acceptable if such marks can reasonably interfere with traffic or pedestrian control or are misleading to the general public. Premarking shall not be required of any continuous excavation that is over 500 feet in length.

"Safety zone", a zone designated on the surface by the use of standard color-coded markings which contains the width of the facilities plus not more than 18 inches on each side.

"Standard color-coded markings", red - electric power lines, cables, conduit or light cables; yellow - gas, oil, street petroleum, or other gaseous materials; orange - communications cables or conduit, alarm or signal lines; blue - water, irrigation and slurry lines; green - sewer and drain lines; white - premark of proposed excavation.

"System", the underground plant damage prevention system as defined in section 76D of chapter 164.

Chapter 82: Section 40A. Excavations; notice

Section 40A. No excavator installing a new facility or an addition to an existing facility or the relay or repair of an existing facility shall, except in an emergency, make an excavation, in any public or private way, any company right-of-way or easement or any public or privately owned land or way, unless at least 72 hours, exclusive of Saturdays, Sundays and legal holidays but not more than 30 days before the proposed excavation is to be made, such excavator has premarked not more than 500 feet of the proposed excavation and given an initial notice to the system. Such initial notice shall set forth a description of the excavation location in the manner as herein defined. In addition, such initial notice shall indicate whether any such excavation will involve blasting and, if so, the date and the location at which such blasting is to occur.

The notice requirements shall be waived in an emergency as defined herein; provided, however, that before such excavation begins or during a life-threatening emergency, notification shall be given to the system and the initial point of boring or excavation shall be premarked. The excavator shall ensure that the underground facilities of the utilities in the area of such excavation shall not be damaged or jeopardized.

In no event shall any excavation by blasting take place unless notice thereof, either in the initial notice or a subsequent notice accurately specifying the date and location of such blasting shall have been given and received at least 72 hours in advance, except in the case of an unanticipated obstruction requiring blasting when such notice shall be not less than four hours prior to such blasting. If any such notice cannot be given as aforesaid because of an emergency requiring blasting, it shall be given as soon as may be practicable but before any explosives are discharged.

Summary of Section 40-40D - Continued

Chapter 82: Section 40B. Designation of location of underground facilities

Section 40B. Within 72 hours, exclusive of Saturdays, Sundays and legal holidays, from the time the initial notice is received by the system or at such time as the company and the excavator agree, such company shall respond to the initial notice or subsequent notice by designating the location of the underground facilities within 15 feet in any direction of the premarking so that the existing facilities are to be found within a safety zone. Such safety zone shall be so designated by the use of standard color-coded markings. The providing of such designation by the company shall constitute prima facie evidence of an exercise of reasonable precaution by the company as required by this section; provided, however, that in the event that the excavator has given notice as aforesaid at a location at which because of the length of excavation the company cannot reasonably designate the entire location of its facilities within such 72 hour period, then such excavator shall identify for the company that portion of the excavation which is to be first made and the company shall designate the location of its facilities in such portion within 72 hours and shall designate the location of its facilities in the remaining portion of the location within a reasonable time thereafter. When an emergency notification has been given to the system, the company shall make every attempt to designate its facilities as promptly as possible.

Chapter 82: Section 40C. Excavator's responsibility to maintain designation markings; damage caused by excavator

Section 40C. After a company has designated the location of its facilities at the location in accordance with section 40B, the excavator shall be responsible for maintaining the designation markings at such locations, unless such excavator requests remarking at the location due to the obliteration, destruction or other removal of such markings. The company shall then remark such location within 24 hours following receipt of such request.

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facility and any further excavation shall be performed employing reasonable precautions to avoid damage to any underground facilities including, but not limited to, any substantial weakening of structural or lateral support of such facilities, penetration or destruction of any pipe, main, wire or conduit or the protective coating thereof, or damage to any pipe, main, wire or conduit.

If any damage to such pipe, main, wire or conduit or its protective coating occurs, the company shall be notified immediately by the excavator responsible for causing such damage.

The making of an excavation without providing the notice required by section 40A with respect to any proposed excavation which results in any damage to a pipe, main, wire or conduit, or its protective coating, shall be prima facie evidence in any legal or administrative proceeding that such damage was caused by the negligence of such person.

Chapter 82: Section 40D. Local laws requiring excavation permits; public ways

Section 40D. Nothing in this section shall affect or impair local ordinances or by-laws requiring a permit to be obtained before excavation in a public way or on private property; but notwithstanding any general or special law, ordinance or by-law to the contrary, to the extent that any permit issued under the provisions of the state building code or state fire code requires excavation by an excavator on a public way or on private property, the permit shall not be valid unless the excavator notifies the system as required pursuant to sections 40 and 40A, before the commencement of the excavation, and has complied with the permitting requirements of chapter 82A.

Excavation and Trench Safety Regulation (520 CMR 14.00 et seq.)

This summary was prepared by the Massachusetts Department of Public Safety pursuant to G.L.c.82A and does not include all requirements of the 520 CMR 14.00. To view the full regulation and G.L.c.82A, go to www/mass.gov/dps
Pursuant to M.G.L. c. 82, § 1, the Department of Public Safety, jointly with the Division of Occupational Safety, drafted regulations relative to trench safety. The regulation is codified in section 14.00 of title 520 of the Code of Massachusetts Regulations. The regulation requires all excavators to obtain a permit prior to the excavation of a trench made for a construction-related purpose on public or private land or rights-of-way. All municipalities must establish a local permitting authority for the purpose of issuing permits for trenches within their municipality. Trenches on land owned or controlled by a public (state) agency requires a permit to be issued by that public agency unless otherwise designated.

In addition to the permitting requirements mandated by statute, the trench safety regulations require that all excavators, whether public or private, take specific precautions to protect the general public and prevent unauthorized access to unattended trenches. Accordingly, unattended trenches must be covered, barricaded or backfilled. Covers must be road plates at least ¾" thick or equivalent; barricades must be fences at least 6' high with no openings greater than 4" between vertical supports; backfilling must be sufficient to eliminate the trench. Alternatively, excavators may choose to attend trenches at all times, for instance by hiring a police detail, security guard or other attendant who will be present during times when the trench will be unattended by the excavator.

The regulations further provide that local permitting authorities, the Department of Public Safety, or the Division of Occupational Safety may order an immediate shutdown of a trench in the event of a death or serious injury; the failure to obtain a permit; or the failure to implement or effectively use adequate protections for the general public. The trench shall remain shutdown until re-inspected and authorized to re-open provided, however, that excavator shall have the right to appeal an immediate shutdown. Permitting authorities are further authorized to suspend or revoke a permit following a hearing. Excavators may also be subject to administrative fines issued by the Department of Public Safety for identified violations.

1926 CFR Subpart P -OSHA Excavation Standard

This is a worker protection standard, and is designed to protect employees who are working inside a trench. This summary was prepared by the Massachusetts Division of Occupational Safety and not OSHA for informational purposes only and does not constitute an official interpretation by OSHA of their regulations, and may not include all aspects of the standard.
For further information or a full copy of the standard go to www.osha.gov.

- **Trench Definition per the OSHA standard:**
  - An excavation made below the surface of the ground, narrow in relation to its length.
  - In general, the depth is greater than the width, but the width of the trench is not greater than fifteen feet.

- **Protective Systems** to prevent soil wall collapse are always required in trenches deeper than 5', and are also required in trenches less than 5' deep when the competent person determines that a hazard exists. Protection options include:
  - Shoring. Shoring must be used in accordance with the OSHA Excavation standard appendices, the equipment manufacturer's tabulated data, or designed by a registered professional engineer.
  - Shielding (Trench Boxes). Trench boxes must be used in accordance with the equipment manufacturer's tabulated data, or a registered professional engineer.
  - Sloping or Benching. In Type C soils (what is most typically encountered) the excavation must extend horizontally 1 ½ feet for every foot of trench depth on both sides, 1 foot for Type B soils, and ¾ foot for Type A soils.
  - A registered professional engineer must design protective systems for all excavations greater than 20' in depth.

- **Ladders** must be used in trenches deeper than 4'.
  - Ladders must be inside the trench with workers at all times, and located within 25' of unobstructed lateral travel for every worker in the trench.
  - Ladders must extend 3' above the top of the trench so workers can safely get onto and off of the ladder.

- **Inspections** of every trench worksite are required:
  - Prior to the start of each shift, and again when there is a change in conditions such as a rainstorm.
  - Inspections must be conducted by the competent person (see below).

- **Competent Person(s) is:**
  - Capable (i.e., trained and knowledgeable) in identifying existing and predictable hazards in the trench, and other working conditions which may pose a hazard to workers, and
  - Authorized by management to take necessary corrective action to eliminate the hazards. Employees must be removed from hazardous areas until the hazard has been corrected.

- **Underground Utilities** must be:
  - Identified prior to opening the excavation (e.g., contact Dig Safe).
  - Located by safe and acceptable means while excavating.
  - Protected, supported, or removed once exposed.

1926 CFR Subpart P -OSHA Excavation Standard – Continued:

• **Spoils** must be kept back a minimum of 2’ from the edge of the trench.

• **Surface Encumbrances** creating a hazard must be removed or supported to safeguard employees. Keep heavy equipment and heavy material as far back from the edge of the trench as possible.

• **Stability of Adjacent Structures:**
- Where the stability of adjacent structures is endangered by creation of the trench, they must be underpinned, braced, or otherwise supported.
- Sidewalks, pavements, etc. shall not be undermined unless a support system or other method of protection is provided.

• **Protection from water accumulation hazards:**
- It is not allowable for employees to work in trenches with accumulated water. If water control such as pumping is used to prevent water accumulation, this must be monitored by the competent person.
- If the trench interrupts natural drainage of surface water, ditches, dikes or other means must be used to prevent this water from entering the excavation.

• **Additional Requirements:**
- For mobile equipment operated near the edge of the trench, a warning system such as barricades or stop logs must be used.
- Employees are not permitted to work underneath loads. Operators may not remain in vehicles being loaded unless vehicles are equipped with adequate protection as per 1926.601(b)(6).
- Employees must wear high-visibility clothing in traffic work zones.
- Air monitoring must be conducted in trenches deeper than 4’ if the potential for a hazardous atmosphere exists. If a hazardous atmosphere is found to exist (e.g., O_2 <19.5% or >23.5%, 20% LEL, specific chemical hazard), adequate protections shall be taken such as ventilation of the space.
- Walkways are required where employees must cross over the trench. Walkways with guardrails must be provided for crossing over trenches > 6’ deep.
- Employees must be protected from loose rock or soil through protections such as scaling or protective barricades.

CHECKLIST FOR
APPLICATION FOR PERMITTING AUTHORITY:

☐ Application must be filled out completely

☐ 1st page, upper right-hand corner:

- Assign a Permit Number
- Expiration Date (60 days from start date)
- Sign and Approve in two places: Page 1 and Page 3

☐ Insurance Certificate Included with application
(a certificate of insurance with general liability coverage of $100,000 per person and $300,000 per claim) Town of Hingham named as additional insured.

☐ Photo Identification of Permit Holder and/or Photo Identification of Person Performing Excavation

☐ Dig Safe number provided

☐ After hours emergency number provided

□ A Permitting Fee of $50.00 has been collected and noted on application *(cash or check)*

☐ Two Copies of Permit given to Applicant *(one to post at job site, one for property owner)* – Keep original for our files

TOWN OF HINGHAM
COMMONWEALTH OF MASSACHUSETTS
APPLICATION FOR DRAINLAYER'S LICENSE –

The undersigned hereby applies for a license as a Master Drainlayer as per the Sewer Rules and Regulations of Hingham, MA.

Name: _____

Address: _____
(Street) **(City)** **(Zip)**

Telephone: _____
(Office) **(Cell)**

And in consideration of such license the Town of Hingham is exonerated from all liability growing out of this license, and hereby agrees to save the Town harmless from any damage upon doing any work under this license, and, further, that I will in all respects conform to the Rules & Regulations established by the Board of Sewer Commissioners.

License Application: _____ _____
Date Signature of Applicant

LICENSE REQUIREMENTS

Please include copies of the insurance certificates listed below and complete the Worker's Compensation Affidavit attached to this application.

0	General Liability	$1,000,000 (Each Occurrence)	Expiration Date_____
0	Fire Damage	$ 100,000	Expiration Date_____
0	Auto Combined Single	$ 500,000	Expiration Date_____
0	Worker's Comp	$ 100,000	Expiration Date_____
0	Workers Comp Affidavit		Date Signed:_____
0	Performance & Guarantee Bond	$ 1,000.00	Expiration Date_____

LICENSE FEE

Please enclose a check in the appropriate amount payable to the Town Of Hingham along with this application.

0 License Renewal Fee $200.00 **0** New License Fee $200.00

*NEW APPLICANTS MUST PROVIDE THREE WORK REFERENCES WITH THIS APPLICATION (SEE PART TWO FOR NEW APPLICANTS – PAGE ONE).

RECOMMENDED APPROVALS

_____ _____
Date Supervisor-Sewer Department

_____ _____
Date Director - DPW

LICENSE ISSUED BY BOARD OF SEWER COMMISSIONERS LICENSE #

_____ _____
CHAIRMAN DATE

_____ _____

_____ _____

RETURN APPLICATION AND APPROPRIATE FEES AND PAPERWORK TO:

TOWN OF HINGHAM
OFFICE OF THE SEWER COMMISSION
25 BARE COVE PARK DRIVE
HINGHAM, MA 02043

FOR QUESTIONS, CALL: 781-741-1430

TOWN OF HINGHAM
COMMONWEALTH OF MASSACHUSETTS
APPLICATION FOR DRAINLAYER'S LICENSE – PART 2

1. **NO. OF YEARS IN BUSINESS: _____**

2. **PLEASE INDICATE TOWNS AND CITIES YOU CURRENTLY HOLD A DRAINLAYER'S LICENSE IN:**

_____	_____
TOWN/CITY	LICENSE NUMBER
_____	_____
TOWN/CITY	LICENSE NUMBER
_____	_____
TOWN/CITY	LICENSE NUMBER

3. **LIST ADDITIONAL TYPES OF LICENSES HELD (Driver's License, Hoisting License, etc) ALONG WITH THE LICENSE NUMBER:**

_____	_____
LICENSE TYPE	LICENSE NUMBER
_____	_____
LICENSE TYPE	LICENSE NUMBER
_____	_____
LICENSE TYPE	LICENSE NUMBER

4. **PLEASE PROVIDE THREE LETTERS OF RECOMMENDATION FROM BUSINESSES OR TOWNS YOU HAVE RECENTLY COMPLETED WORK FOR AND INCLUDE CONTACT INFORMATION BELOW:**

_____	_____	_____
NAME	COMPANY	TELEPHONE
_____	_____	_____
NAME	COMPANY	TELEPHONE
_____	_____	_____
NAME	COMPANY	TELEPHONE

5. PLEASE LIST OWNED EQUIPMENT SUCH AS TRUCKS, BACKHOES, EXCAVATORS, ETC.

6. LIST MAJOR JOBS YOU HAVE COMPLETED:

THE COMMONWEALTH OF MASSACHUSETTS

COMMISSION USE ONLY
DATE RECEIVED
APPLICATION NO.
PARCEL ID.

HINGHAM

SEWER
ONE TIME APPLICATION FOR DEFERRAL OF SEWER USE CHARGE
General Laws Chapter 83, Section 16G

MAIL APPLICATION TO:

HINGHAM SEWER COMMISSION
25 BARE COVE PARK DRIVE
HINGHAM, MASSACHUSETTS 02043

THIS APPLICATION IS NOT OPEN PUBLIC INSPECTION

Must be filed with Board of Sewer Commissioners within 3 months of the mailing of the actual tax bill on which the betterment charge appears as lien.

In order to qualify for deferral of your sewer betterment you must file an **Application for Property Tax Deferral** (General Laws Chapter 59, Section 5, Clause 41 A) with the Board of Assessors. **Sewer Use Charges can only be deferred if property taxes are deferred**.

INSTRUCTIONS: Complete sections A and B below. (Please print or type**)**

A. IDENTIFICATION

Name of Applicant

Legal Residence

Mailing Address (If different) _____ Tel. No.

Location of Property incurring the charge

Amount of Sewer Use Charge you are seeking to defer

B. SIGNATURE. Sign here to complete application.

Your signature Date

DISPOSITION OF APPLICATION (SEWER COMMISSION/ASSESSOR=S USE ONLY)

Θ Form 41 A filed Θ GRANTED Θ DENIED
Amount of Sewer Use Charge to be deferred

Date voted/Deemed Denied

Board of Sewer Commissioners

Chairman

THE COMMONWEALTH OF MASSACHUSETTS

COMMISSION USE ONLY HINGHAM
DATE RECEIVED

APPLICATION NO.

PARCEL ID.

SEWER
ONE TIME APPLICATION FOR DEFERRAL OF SEWER BETTERMENT ASSESSMENT
General Laws Chapter 80, Section 13B

MAIL APPLICATION TO:

HINGHAM SEWER COMMISSION
25 BARE COVE PARK DRIVE
HINGHAM, MASSACHUSETTS 02043

THIS APPLICATION IS NOT OPEN TO PUBLIC INSPECTION
Must be filed with Board of Sewer Commissioners within 3 months of the mailing of the actual tax bill on which the betterment charge appears as lien.

INSTRUCTIONS: Complete sections A and B below. (Please print or type**)**
Read Section C Terms of Agreement on reverse side

A. IDENTIFICATION

Name of Applicant

Legal Residence

Mailing Address (If different) _____ Tel. No.

Location of Property incurring the charge

Amount of Sewer Assessment you are seeking to defer

B. SIGNATURE. Sign here to complete application.

Your signature Date

DISPOSITION OF APPLICATION (SEWER COMMISSION/ASSESSOR'S USE ONLY)

Θ Form 41 A filed Θ GRANTED Θ DENIED

Amount of Sewer Betterment Assessment to be deferred

Date voted/Deemed Denied

Board of Sewer Commissioners

Commissioner

Section C: Terms of Agreement under Chapter 80, Section 13B Mass General Laws

In order to qualify for deferral of your sewer betterment you must file an **Application for Property Tax Deferral** (General Laws Chapter 59, Section 5, Clause 41 A) with the Board of Assessors. **Sewer Betterment Assessments can only be deferred if property taxes are deferred**.

This deferral agreement shall provide that:

(1) that no sale or transfer of such real property may be consummated unless the betterment assessment which would otherwise have been collected on such real property has been paid, with interest as applied in accordance with the provisions of section thirteen;

(2) that upon the demise of the owner of such real property, the heirs-at-law, assignees or devisees shall have first priority to said real property by paying in full the total betterment assessment which would otherwise have been due, plus interest; provided, however, if such heir-at-law, assignee or devisee is a surviving spouse who enters into a betterment assessment deferral and recovery agreement under this section, payment of the betterment assessment deferral and recovery agreement under this section, payment of the betterment assessment and interest due shall not be required during the life of such surviving spouse;

(3) that if the betterment assessments due, plus interest, are not paid by the heir-at-law, assignee or devisee or if payment is not postponed during the life of a surviving spouse, such betterment assessments and interest shall be recovered from the estate of the owner; and

(4) that any joint owner or mortgagee holding a mortgage on such property has given written prior approval for such agreement, which written approval shall be made a part of such agreement.

TOWN OF HINGHAM
OFFICE OF THE SEWER COMMISSION

APPLICATION FOR ABATEMENT OF SEWER BETTERMENT ASSESSMENTS

Must be filed with the Board of Sewer Commissioners within six months (M.G.L. Ch. 80 Sec. 5) from date of the notice of assessment sent by the Tax Collector.

To the Board of Sewer Commissioners:

NAME OF APPLICANT_____

POST-OFFICE ADDRESS _____

The above-named person aggrieved by a _____ BETTERMENT ASSESSMENT
YEAR
hereby applies for an abatement.

NAME OF PERSON ASSESSED
_____

Location and Description of Property --- No. of Street, Plan, or Lot and Area of Land.
Description must be sufficiently accurate to identify the premises.

_____

_____

Betterment Amount Assessed $_____ Amount Paid _____

Assessment Paid by _____on _____
DATE

IF THE APPLICANT IS NOT THE PERSON ASSESSED, what is the applicant's interest in the property?

_____
SPECIFY PRESENT OWNERSHIP, MORTGAGE ORWHAT OTHER INTEREST

When was such interest acquired? _____
DATE

Complete statement of reasons for this application _____

_____

_____

CONTENTIONS OF LAW RAISED

_____

_____ _____

_____

SUBSCRIBED THIS _____ day of _____, 20_____ UNDER THE PENALTIES OF PERJURY.

SIGNATURE OF APPLICANT _____
NAME IN FULL

THE FILING OF THIS APPLICATION DOES NOT STAY THE COLLECTION OF YOUR ASSESSMENT, IT SHOULD BE PAID AS ASSESSED OR INTEREST WILL ACCRUE. REFUND WILL FOLLOW IF ABATEMENT IS ALLOWED.

APPENDIX B

SEWER SERVICE CONNECTION SPECIFICATIONS

(Including Standard Details)

Town of Hingham, Massachusetts
Board of Sewer Commissioners

Sewer Service Connection Specifications

(Issued May 2015)

TABLE OF CONTENTS

SEWER SERVICE CONNECTION REQUIREMENTS

General Requirements

All work must be completed by a Drainlayer (hereinafter referred to as "Contractor") licensed in the Town of Hingham, which require passing the Hingham Sewer Department Drain Layer Test. If the sewer service connection will require a grinder pump, the licensed Contractor must also be certified by the Town to install the pump.

It shall be the responsibility of the Contractor making the Building Sewer service connection to contact Dig Safe, 1-888-DIGSAFE (344-7233) a minimum of 72 hours before the commencement of work. No Building Sewer connection permit will be issued without a Dig Safe number.

At the time that the permit is issued it will be determined if the property requires a grinder pump. If the property requires a grinder pump and the Contractor is certified to install the pump, the Sewer Division will issue the Contractor a voucher to pick up the pump at the Manufacturer's Representative's warehouse in Rockland, MA.

The Board shall be given a minimum of three (3) working days' notice prior to installation of the sewer service. The Board can be reached at (781) 741-1430. The Board, acting through the Director or Supervisor, will schedule a time for inspection upon completion of the work but prior to backfilling. As part of the inspection, the Board will confirm that no sump pumps or other Illegal Connections are connected to the sewer service connection. If any Illegal Connection exists, the sewer service will not be approved for final connection to the Public Sewer System.

After connection to the Public Sewer System is completed, all existing septic systems must be abandoned and disposed of safely and properly. First, all septic tanks, cesspools, leaching pits and drywells shall be pumped out. All pumping and disposal shall be performed in accordance with state and local codes and regulations. After pumping is completed, all non-concrete type tanks (i.e. steel), shall be collapsed and backfilled. All concrete type tanks shall be completely filled with sand and covers replaced. The Contractor shall certify all work related to the abandonment of existing septic systems as per Hingham Board of Health regulations.

Technical Requirements

1.) All sewer connection piping shall be a minimum of 6-inches in diameter. All pipe and fittings shall be SDR 35 PVC with gaskets. The Sewer Division may require special materials under special conditions.
2.) The minimum allowable pipe slope for gravity sewer connections shall be 2% (1/4" per foot) unless otherwise approved.
3.) Minimum depth of cover shall be 4 feet for gravity connections and 5 feet for pressure connections, as measured from finished grade to top of pipe, unless otherwise approved.
4.) Connections made to building plumbing systems shall be made upstream of any septic tanks or cesspools, as these facilities are to be abandoned.
5.) All existing Building Sewers of non-PVC material(s) shall be removed and replaced with specified PVC pipe, unless otherwise approved.
6.) Sewer services will not be allowed to have more than two (2) angle points, or a total of 180-degree change in direction. Unless otherwise approved, 90-degree bends will not be allowed.
7.) A straight length of pipe (minimum 3-feet) shall be installed between all bends.
8.) Cleanouts (6-inch x 4-inch wye) shall be installed at each change in direction totaling greater than 45-degrees, and at 100-foot intervals (minimum) along the building connection. Cleanouts in paved areas shall have a cast iron valve box, labeled "Sewer", at grade. Cleanouts outside of paved areas shall have detectable threaded caps at 6-inches below finished grade.
9.) Building Sewers shall be installed with a minimum ten (10) foot horizontal separation from existing domestic water services. Where Building Sewer and water service crossings are required, the Building Sewer shall be installed with a minimum 18-inch vertical separation from the water service.
10.) If not previously installed, each building connection shall include the installation of a viewing port for future inspection purposes, to be located at the property line. The viewing port shall be as detailed in the Service Connection Specifications.
11.) PVC-to-PVC connections shall be made with solid sleeve couplings. FERNCO style couplings will only be allowed at connections to existing soil pipe.
12.) Stormwater, surface water, groundwater, roof water runoff, basement sump pumps and/or submerged drainage shall **not** be discharged to the sewer system. If any of these conditions are witnessed to exist, the connection will not be approved until such conditions are removed.
13.) Grease Traps will be required on any commercial/industrial property that has the potential to discharge fats, oils and/or grease (FOG) to the Public Sewer System (as governed by the FOG Regulations). The location of Grease Traps and/or pre-treatment devices shall be as shown on the design drawings stamped by a professional engineer, prepared on behalf of the Owner. Grease Traps shall have a removable lid on the top surface to facilitate inspection, cleaning, and maintenance.
14.) Backfill material shall not include rocks or stones larger than 2-inches in diameter. For gravity connections, compacted ¾" crushed stone shall be installed a minimum of 12-inches all around the new pipe. For pressure connections, a compacted sand bedding shall be required a minimum of 6-inches above and below the pipe.
15.) Detectable tracer tape shall be installed along the installed pipe approximately 12-inches below finished grade.
16.) The Contractor shall be required to pump and crush existing septic systems or cesspools immediately following sewer service installation, per MA-DEP regulations.

INSPECTION CHECKLIST

Date: _____ Permit Number: _____

Property Address: _____

1. Property Owner to fill out Sewer Account Application and pay applicable sewer fees ☐
2. Licensed Drainlayer to fill out Sewer Connection Application ☐
3. All pipe and fittings are SDR 35 PVC with gaskets, 6-inch diameter (min.) ☐
4. Minimum pipe slope of 2% (1/4" per foot) ☐
5. Minimum cover depth of 4 feet for gravity connections and 5 feet for pressure connections (finish grade to top of pipe) ☐
6. Connections made to building plumbing system upstream of SDS components ☐
7. Non-PVC Building Sewers removed and replaced ☐
8. No more than two (2) angle points, or a total of 180-degree direction change and no 90-degree bends ☐
9. Cleanouts at changes in direction greater than 45-degrees or 100-foot intervals (min.) ☐
9. Minimum Building Sewer/water service separations provided ☐
10. PVC to PVC connections made with solid sleeve couplings ☐
11. No stormwater, surface water, groundwater, roof water runoff, basement sump pumps and/or submerged drainage discharges to the sewer system ☐
12. Grease Trap installed (properties with potential to discharge FOG to system) ☐

    Not Applicable ☐
13. Compacted crushed stone installed 6-inches (min.) below pipe and up to the spring line of pipe for gravity connections and compacted sand bedding 6-inches (min.) above and below pressure pipe ☐
14. Backfill material does not include rocks/stones larger than 2-inch diameter ☐
15. Minimum 3-foot straight length of pipe installed between all bends ☐
16. Detectable tracer tape installed, approx. 12-inches below finished grade ☐
17. Existing SDS pumped and crushed following sewer service installation ☐
18. As-built drawing prepared (within 10 days of installation) ☐

Inspected By: _____ Date: _____

INTRODUCTION

The purpose of these Specifications is to set quality standards for the installation of service connection pipelines within the Town of Hingham, Massachusetts. These Specifications govern connections for Residential and non-Residential properties and shall be used in conjunction with the Sewer Rules and Regulations in Hingham, Massachusetts ("Rules and Regulations") and all other state and local permits. This is not intended to serve as a contract document or agreement between an "OWNER" (individual property owner of the connecting lot) and the "CONTRACTOR" (person/company installing the service connection for the connecting lot).

The Specifications and attached details pertaining to the actual pipe installation (i.e. Earthwork, Rock Excavation and Disposal, Precast Manholes, PVC pipe, Tracer Tape) shall act as minimum standards established by the Board. These sections must be complied with in order for the service connection to be approved by the Supervisor. It should be noted that in some instances it may be necessary to use higher standards or stronger materials based on existing conditions. As mentioned in the Specifications, all state standards and requirements, as amended, shall be adhered to.

The Specifications contain sections indirectly related to the pipeline installation (i.e. Paving, Walkway Replacement). These are intended as suggested guidelines. The OWNER and the CONTRACTOR should address these issues in an agreement to clearly define the scope and extent of work to be completed by the CONTRACTOR.

SECTION 02085

POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing and installation of Polyvinyl Chloride (PVC) pipe and fittings, as indicated on the drawings and as specified herein.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02518, TRACER TAPE

1.03 REFERENCES:

A. The following standards form a part of these specifications as referenced:

American Society for Testing and Materials (ASTM)

ASTM	D2321	Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe
ASTM	D3034	Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings
ASTM	D3212	Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

PART 2 - PRODUCTS

2.01 MATERIALS:

A. PVC nonpressure sewer pipe 4-inches through 15-inches diameter shall conform to ASTM D3034, with SDR of 35 unless noted, and shall meet the specific requirements and exceptions to the aforementioned specifications which follow.

B. PVC nonpressure sewer pipe shall be furnished in standard lengths.

C. One pipe bell consisting of an integral wall section with a solid cross section rubber ring, factory assembled, shall be furnished with each standard, random and short length of pipe. Rubber rings shall be provided to the requirements of ASTM D32l2.

D. The rubber ring shall be retained within the bell of the pipe by a precision formed groove or recess designed to resist fishmouthing or creeping during assembly of joints.

E. Spigot pipe ends shall be supplied with bevels from the manufacturer to ensure proper insertion. Each spigot end shall have an "assembly stripe" imprinted thereon to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

F. PVC fittings shall be provided with bell and/or spigot configurations with rubber gasketed joints compatible with that of the pipe. Bend fittings with spigot ends shorter than the pipe recess bells will not be allowed. The shorter spigot end would not allow proper seating of the spigot in the mating bell and would permit undesired contact between the mating bell and the outside of the fitting bell.

G. All pipe delivered to the job site shall be accompanied by independent testing laboratory reports certifying that the pipe and fittings conform to the above-mentioned specifications.

H. All cutting of pipe shall be done with a machine suitable for cutting PVC pipe. Cut ends shall be beveled when recommended by the pipe manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Except as modified herein, installation of the PVC pipe shall be in accordance with ASTM D232l.

B. Each pipe length shall be inspected before being laid to verify that it is not cracked. Pipe shall be laid to conform to the lines and grades indicated on the drawings or given by the Engineer. Each pipe shall be so laid as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.

C. The pipe shall be supported by compacted crushed stone. Crushed stone shall be as specified under Section 02300, EARTHWORK.

D. The pipe shall not be driven down to grade by striking it with a shovel handle, timber, rammer, or other unyielding object. When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.

E. Before a joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and conform to the required line and grade.

F. For pipe placed on crushed stone, immediately after the joint is made, the jointing area shall be filled with suitable materials so placed and compacted that the ends of either pipe will not settle under backfill load.

G. No pipe or fitting shall be permanently supported on saddles, blocking, or stones.

H. Branches and fittings shall be laid by the CONTRACTOR as necessary. Open ends of pipe and branches shall be closed with PVC caps secured in place with premolded gasket joints.

I. All pipe joints shall be made as nearly watertight as practicable. There shall be no visible leakage at the joints and there shall be no sand, silt, clay, or soil of any description entering the pipeline at the joints. Where there is evidence of water or soil entering the pipeline, connecting pipes, or structures, the defects shall be repaired.

J. Care shall be taken to prevent earth, water, and other materials from entering the pipe, and when pipe laying operations are suspended, the CONTRACTOR shall maintain a suitable stopper in the end of the pipe and also at openings for manholes.

K. All connections made between PVC and pipe of any different material shall be made using a suitable connector.

L. The minimum cover distance (from the top of the pipe to the finished grade) shall be maintained at 4 feet for frost protection.

M. The minimum slope allowable for the service connection pipe is 1/4-inch per foot unless otherwise approved by the SUPERVISOR.

N. The sum of the bends shall not exceed 180º. Refer to attached detail for installation standards.

O. Any work that must be performed to the Public Sewer System shall be done under the direction and supervision of the SUPERVISOR. The CONTRACTOR shall submit a description of work to be performed in writing to the SUPERVISOR for review and approval.

END OF SECTION

SECTION 02088

POLYVINYL CHLORIDE PRESSURE PIPE

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing, handling, hauling, laying, jointing, testing, and disinfecting of all polyvinyl chloride (PVC) pressure pipe, fittings, and appurtenant work as indicated on the drawings and as specified herein.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02518, TRACER TAPE

1.03 QUALITY ASSURANCE:

A. All pipe and fittings shall be inspected and tested at the factory as required by the standard specifications to which the material is manufactured.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM	D1784	Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds
ASTM	D2241	Specification for Polyvinyl Chloride (PVC) Pressure-Rated Pipe (SDR-Series)
ASTM	D2321	Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe
ASTM	D3139	Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
ASTM	F477	Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

PART 2 - PRODUCTS

2.01 PIPE:

A. PVC pressure pipe from 1 1/2-inch through 3-inch shall be designed and manufactured in accordance with ASTM D2241.

B. Unless otherwise indicated or specified, PVC pressure pipe from 1 1/2-inch through 3-inch shall be pressure class 200 (SDR 21).

C. Pipe shall be homogeneous throughout; free from voids, cracks, inclusions, and other defects; as uniform as commercially practicable in color, density, and other physical properties.

D. Pipe surfaces shall be free from nicks, scratches, and other blemishes. The joining surfaces of pipe spigots and of integral-bell and sleeve-reinforced bell sockets shall be free from gouges and other imperfections that might cause leakage at joints.

2.02 JOINTS:

A. Push-on joints for PVC pressure pipe shall conform to ASTM D3139 and F477.

B. Where so indicated, pipe and fittings shall be furnished with approved thrust restraining appurtenances to keep the piping from pulling apart under pressure.

2.03 FITTINGS:

A. PVC fittings shall be used for pipe sizes 1-1/2-inch through 3-inch.

B. Pressure classification of fittings shall be at least equal to that of the pipe with which they are used.

C. Gaskets shall be of a composition suitable for exposure to the liquid within the pipe.

D. Unless otherwise indicated PVC fittings shall have all bell ends conforming to ASTM D3139.

2.04 FLEXIBLE COUPLINGS:

A. To ensure correct fitting of pipe and couplings, all sleeve-type couplings and accessories shall be furnished by the supplier of the pipe and shall be of a pressure rating at least equal to that of the pipeline in which they are to be installed. Sleeve-type couplings shall be made by Dresser Mfg. Div., Bradford, PA; Rockwell International, Pittsburgh, PA; Clow Corporation, Rochester, NY; or be an approved equal.

B. Couplings for buried pipe shall be brass and shall be Dresser Style 38 or 153, Rockwell Type 441, Clow Type F-1208, or approved equal products. Couplings shall be provided with galvanized steel bolts and nuts.

C. All couplings shall be furnished with the pipe stop removed.

D. Couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.

PART 3 - EXECUTION

3.01 INSPECTION BEFORE INSTALLATION:

Pipes and fittings shall be subjected to a careful inspection and a hammer test just before being laid or installed.

3.02 HANDLING AND CUTTING:

A. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe, and scratching or marring surfaces.

B. Any fitting or pipe showing a crack or which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work site.

C. In any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portions, if so approved, may be cut off by and at the expense of the CONTRACTOR before the pipe is laid so that the pipe used will be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack.

D. All cutting of pipe shall be done with a machine suitable for cutting PVC pipes. Cut ends shall be beveled when recommended by the pipe manufacturer.

3.03 INSTALLATION:

A. PIPE AND FITTINGS:

1. No defective pipe or fittings shall be laid or placed in the piping, and any piece discovered to be defective after having been laid or placed shall be removed and replaced by a sound and satisfactory piece.

2. Each pipe and fitting shall be cleared of all debris, dirt, etc., before being laid and shall be kept clean until accepted in the complete work.

3. Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings or as required. Care shall be taken to ensure good alignment both horizontally and vertically.

4. In buried pipelines, each pipe shall have firm bearing along its entire length.

5. Alignment deflection at each joint shall not exceed the permissible deflection specified in the following table measured at 20 foot pipe lengths. Maximum permissible deflections for other pipe lengths shall be in proportion to such lengths.

Pipe Deflection Allowances

(From Tables 33 and 34 of UNI-BELL Handbook of PVC Pipe Design and Construction)

Maximum permissible deflection, inches

Size of Pipe (inches)	Push-on-Joint
1-1/2	73
2	56
2 ½	50
3	42
4	24
6	17
8	12
10	11
12	9

Permissible alignment deflection shall not be achieved by using mechanical means, but shall be accomplished manually by application of uniform forces along the pipe length.

6. Pipe shall be installed underground in a manner that will ensure that external loads will not subsequently cause a decrease of more than 5 percent in the vertical cross-section dimension (deflection). When installing the pipes, they shall be rotated 180 degrees so that the upper quadrant of the pipe, which was exposed to direct sunlight, will not be backfilled upon.

7. At all times when pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary water-tight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed.

8. The minimum cover distance (from the top of the pipe to finished grade) shall be maintained at 5 feet for frost protection.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED:

The CONTRACTOR shall make excavations of normal depth in earth for trenches and structures, shall backfill such excavations to the extent necessary, and shall make miscellaneous earth excavations and do miscellaneous grading.

1.02 RELATED WORK:

A. Section 02230, CLEARING AND GRUBBING

B. Section 02324, ROCK EXCAVATION AND DISPOSAL

C. Section 02745, PAVING

1.03 SYSTEM DESCRIPTION:

A. The program of excavation shall be carried out in such manner as to prevent undermining or disturbing the foundations or floors of existing structures.

B. The CONTRACTOR shall make excavations in such manner and to such width as will give suitable room for laying and jointing the piping and shall render the bottoms of the excavations firm and dry and acceptable in all respects.

C. If the bottom of any excavation is taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled with thoroughly compacted gravel borrow.

1.04 REFERENCES:

American Society for Testing and Materials (ASTM)

ASTM	D1556	Test Method for Density of Soil in Place by the Sand Cone Method.
ASTM	D1557	Test Methods for Moisture-density Relations of Soils and Soil Aggregate Mixtures Using Ten-pound (10 Lb.) Hammer and Eighteen-inch (18") Drop.
ASTM	D2922	Test Methods for Density of Soil and Soil-aggregate in Place by Nuclear Methods (Shallow Depth).

Commonwealth of Massachusetts Highway Department Standard Specification for Highways and Bridges.

1.05 PROTECTION OF EXISTING PROPERTY:

A. The work shall be executed in such manner as to prevent any damage to facilities at the site and adjacent property and existing improvements, such as but not limited to streets, curbs, paving, service utility lines, structures, monuments, bench marks, observation wells, and other public or private property. Protect existing improvements from damage caused by settlement, lateral movements, undermining, washout and other hazards created by earthwork operations.

B. In case of any damage or injury caused in the performance of the work, the CONTRACTOR shall, at its own expense, make good such damage or injury to the satisfaction of, and without cost to, the OWNER. Existing roads, sidewalks, and curbs damaged during the project work shall be repaired or replaced to at least the condition that existed at the start of operations. The CONTRACTOR shall replace, at his own cost, existing benchmarks, observation wells, monuments, and other reference points, which are disturbed or destroyed.

C. Buried drainage structures and pipes, observation wells and piezometers, including those which project less than eighteen inches (18") above grade, which are subject to damage from construction equipment shall be clearly marked to indicate the hazard. Markers shall indicate limits of danger areas, by means which will be clearly visible to operators of trucks and other construction equipment, and shall be maintained at all times until completion of project.

1.06 DRAINAGE:

A. The CONTRACTOR shall provide, at its own expense, adequate drainage facilities to complete all work items in an acceptable manner. Drainage shall be done in a manner so that runoff will not adversely affect construction procedures nor cause excessive disturbance of underlying natural ground or abutting properties.

1.07 FROST PROTECTION AND SNOW REMOVAL:

A. The CONTRACTOR shall, at its own expense, keep earthwork operations clear and free of accumulations of snow as required to carry out the work.

B. The CONTRACTOR shall protect the subgrade beneath new structures and pipes from frost penetration when freezing temperatures are expected.

PART 2 - PRODUCTS

2.01 MATERIAL:

A. GRAVEL BORROW:

Gravel borrow shall consist of sound, durable sand and gravel, essentially free of organic matter, plastic fines (clay), and debris, and shall meet the gradation requirements below:

Sieve Opening	Percent Passing (weight)
3 inch	100
1/2 inch	50-85
No. 4	40-75
No. 40	10-45
No. 200	0-8

B. CRUSHED STONE:

Crushed stone shall consist of sound, hard, durable, angular fragments of crushed rock. Crushed stone shall not contain vegetation, masses of roots, loam and other organic matter, clay, and other fine or harmful substances. It shall be well graded and shall meet the gradation requirements listed below:

Sieve Opening	Percent Passing (weight)
1 inch	100
3/4 inch	90-100
3/8 inch	20-55
No. 4	0-10
No. 8	0-5

C. BACKFILL MATERIALS:

Backfill materials shall consist of granular soil. Materials shall be of such a nature that they will form a stable, dense fill. Materials shall not contain vegetation, masses of roots, individual roots more than 12-inches long or more than ½-inch in diameter, trash, clays, or plastic fines. Organic matter shall not exceed two percent (2%). Nonplastic fines (silts) shall not exceed 20 percent (20%). Backfill materials are subdivided according to the maximum allowable size of stone or blacktop piece as follows:

Type	Largest Stone Diameter
1. Select Backfill	3-inches
2. Class B Backfill	6-inches
3. Class C Backfill	12 inches

PART 3 - EXECUTION

3.01 PROTECTION AND RESTORATION OF PROPERTY:

A. All existing buildings, utilities, pipes, poles, wires, fences, curbings, property line markers and other structures which the OWNER decides must be preserved in place without being temporarily or permanently relocated shall be carefully supported and protected from injury by the CONTRACTOR. Should such items be injured, they shall be restored by the CONTRACTOR to at least as good condition as that in which they were found immediately before the work was begun.

B. The CONTRACTOR shall enclose the trunks of trees, which are adjacent to this work and not to be removed, with substantial wooden boxes of such height as may be necessary to protect them from injury from piled material, from equipment, from his operations, or otherwise due to his work. Excavating machinery shall be of suitable type and be operated with care to prevent injury to trees not to be removed and particularly to overhanging branches and limbs.

C. Branches, limbs, and roots shall not be cut except by permission of the OWNER. All cutting shall be smoothly and neatly done without splitting or crushing. When there is cutting or unavoidable injury to branches, limbs, and trunks of trees, the cut or injured portions shall be neatly trimmed and covered with an application of grafting wax or tree healing paint as directed.

D. Cultivating hedges, shrubs, and plants which might be injured by the CONTRACTOR's operations shall be protected by suitable means or dug up if necessary. After the construction operations have been substantially completed, they shall be replanted.

E. No significant plantings or permanent structures shall be placed within 10 feet of either side of the pipeline.

F. On paved surfaces the CONTRACTOR shall not use or operate tractors, bulldozers, or other power-operated equipment the treads or wheels of which are so shaped as to cut or otherwise injure such surfaces.

G. All property injured by the CONTRACTOR's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

H. Restoration of existing property and structures shall be done as promptly as practicable.

3.02 EXCAVATION:

A. TRENCH EXCAVATION:

1. Trenches in pavement shall have the surface cut in a straight line by a concrete saw or equivalent method to the full depth of pavement. Excavation shall only be between these lines. Cutting operations shall not be done by backhoe, gradall, or other ripping equipment.

2. Trenches shall be excavated to such depths as will permit the pipe to be laid at the elevations, slopes, or depths of cover necessary.

3. Where pipe is to be laid in crushed stone bedding, the trench may be excavated by machinery to, or to just below the designated depth, provided that the material remaining at the bottom of the trench remains undisturbed.

4. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

5. Trenches shall be excavated with vertical sides between the elevation of the center of the pipe and elevation one foot above the top of the pipe.

3.03 BACKFILLING AND COMPACTION:

A. GENERAL:

1. In general, material removed in the course of making the construction excavation shall be suitable material for backfilling trenches.

2. Class C Backfill available from the excavations may be used for filling and building embankments.

3. If the material removed from the excavation is suitable for backfill with the exception that is contains stone or pavement sections having a maximum allowable size larger than that specified, the CONTRACTOR has the option to remove the oversized materials from the backfill or provide replacement backfill.

4. Frozen material shall not be placed in the backfill nor shall backfill be placed upon frozen material. Frozen material shall be removed or shall be otherwise treated as required, before backfill is placed.

5. After the subgrade has been prepared as specified, the fill material shall be placed and built up in successive layers until the required elevation is reached.

6. Layers of fill shall not exceed 12 inches in thickness (loose). Thinner layers shall be used if necessary to achieve the required compaction.

7. Each layer of material shall be compacted by the use of vibratory compaction equipment or rollers or other means to achieve the required compaction. At such points as cannot be reached by mobile mechanical equipment, the materials shall be thoroughly compacted by the use of suitable power-driven tampers.

8. All backfill shall be compacted to at least the specified percent of maximum density as determined by ASTM D1557, Method C.

9. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compacting shall be done when too great an application of water, to compact it properly; at such times the work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction. The CONTRACTOR shall provide all labor and equipment to adjust the water content of the soil by wetting or drying as may be necessary to obtain proper compaction.

10. WATER JETTING:

    a. If the backfill is to be compacted by water jetting, the entire layer shall be thoroughly saturated throughout its full depth across and along the trench until all slumping ceases. To accomplish this the CONTRACTOR shall furnish one or more jet pipes, each of sufficient length to reach to the specified depth and of sufficient diameter (not less than 2 inches) to supply an adequate flow of water to compact the material. The jet pipe shall be equipped with a quick-acting valve and be supplied through a fire hose or a pump having adequate pressure and capacity.

    b. In general, water jetting may be used whenever the backfill material does not contain more than 10 percent passing the 200 sieve.

    c. If water jetting does not adequately compact the backfill, mechanical compaction shall be used.

11. COMPACTION REQUIREMENTS:

    a. The requirements for compaction of backfill shall conform to the following guidelines based on ASTM D1557 Method C:

Location	Percent Maximum Density
Below pipe centerline	95
Above pipe centerline	92
Below pavement (upper 3 ft.)	95
Below pipe in embankments	95
Adjacent to structure	92

B. PIPE TRENCHES:

1. No backfilling of excavation shall take place until the SUPERVISOR has inspected and approved the service connection pipe.

2. Select backfill shall be placed with hand shovels in 6-inch lifts up to a level of 12-inches above the top of pipe. This area of backfill is considered the zone around pipe and shall be thoroughly compacted before the remainder of the trench is backfilled. Compaction of each lift in the zone around pipe shall be done by use of power-driven tampers weighting at least 20 pounds or by vibratory compactors. Care shall be taken that material close to the bank, as well as in all other portions of the trench, is thoroughly compacted to densities required.

3. Class B backfill shall be placed from the top of the select backfill to grade. Compaction of backfill in the remainder of the trench shall be done in layers not exceeding 12 inches in depth and by use of power driven tampers weighing at least 20 pounds or by vibratory plate compactors weighing at least 200 pounds and imparting a dynamic force of at least 2000 pounds.

4. If settlement takes place, the CONTRACTOR shall immediately deposit additional material to restore the level of the ground.

5. If existing material below trench grade is unsuitable for properly laying pipe, the CONTRACTOR shall excavate, remove and dispose of the unsuitable material to the required width and depth and replace it with gravel borrow.

END OF SECTION

SECTION 02324

ROCK EXCAVATION AND DISPOSAL

PART 1 - GENERAL

1.01 WORK INCLUDED:

The CONTRACTOR shall excavate rock, if encountered, to the lines and grades indicated on the drawings or as directed, shall dispose of the excavated material, and shall furnish the required material as specified in Section 02300 EARTHWORK for backfill in place of the excavated rock.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

1.03 DEFINITIONS:

A. The word "rock," wherever used as the name of the excavated material or material to be excavated, shall mean only boulders and pieces of concrete or masonry exceeding one cubic yard* in volume, or solid ledge rock which, requires for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power-operated tool. No soft or disintegrated rock which can be removed by normal earth excavation methods, no loose, shaken, or previously blasted rock or broken stone in rock fillings or elsewhere, and no rock exterior to the maximum limits of measurement allowed, which may fall into the excavation, will be measured or allowed as "rock."

B. The word "earth," wherever used as the name of an excavated material, or material to be excavated shall mean all kinds of material other than rock as above defined.

1.04 QUALITY ASSURANCE:

A. The CONTRACTOR shall conform to all municipal ordinances and state and federal laws relating to the transportation, storage, handling, and use of explosives. In the event that any of the above mentioned laws, ordinances, or regulations require a licensed blaster to perform or supervise the work of blasting, said licensed blaster shall, at all times, have his license on the work site and shall permit examination thereof by other officials having jurisdiction.

B. The CONTRACTOR shall procure all permits required for blasting.

1.05 DELIVERY/STORAGE AND HANDLING:

Delivery, storage and handling of explosives shall conform to all federal, state and local regulations and permits.

PART 2 - PRODUCTS - NOT APPLICABLE

PART 3 - EXECUTION

3.01 EXCAVATION:

A. The CONTRACTOR shall excavate rock to the lines and grades required to lay the pipe. The excavated rock shall be removed and disposed of by the CONTRACTOR as specified for surplus excavated materials under Section 02300, EARTHWORK.

This specification does not relieve the CONTRACTOR, his consultant, or his blasting subcontractor, of the responsibility to conduct the blasting activities in a safe and prudent manner, nor of the responsibility to perform the blasting activity in a timely and efficient manner.

The CONTRACTOR shall be held liable for all claims resulting from personal injury or damage to property or equipment that may result from his or his subcontractor's blasting operations. Work damaged by blasting shall be repaired and replaced by the CONTRACTOR.

B. All operations involving explosives shall be conducted with all possible care to avoid injury to persons and property. Blasting shall be done only with such quantities and strengths of explosives and in such a manner as will break the rock approximately to the intended lines and grades and yet will leave the rock not to be excavated in an unshattered condition. Care shall be taken to avoid excessive cracking of the rock upon or against which any structure will be built, and to prevent injury to existing pipes or other structures and property above or below ground. The CONTRACTOR shall use blasting mats for all blasts unless at least 5 feet of soil covers all sections of rock involved in the blast, including the relieved face. Sufficient warning shall be given to all persons in the vicinity of the work before a charge is exploded.

C. All state and local regulations governing air blast levels and monitoring shall be complied with.

D. If rock is excavated beyond the limits of necessary trench excavation, the excess excavation, whether resulting from overbreakage or other causes, shall be backfilled, by the CONTRACTOR, as specified below in this section.

E. In pipe trenches, excess excavation shall be filled with the required material and compacted in the same manner as specified for the material in the zone around the pipe under Section 02300 EARTHWORK.

F. Rock in pipe trenches shall be excavated so as to be not less than 6 inches from the pipe after it has been laid. Before the pipe is laid, the trench shall be backfilled to the subgrade with thoroughly compacted suitable material, furnished and placed by the CONTRACTOR.

G. For all excavations in rock, the CONTRACTOR shall thoroughly inspect all excavation faces and remove loose or unstable pieces of rock before workers enter the excavation for construction. The CONTRACTOR shall also examine the excavation faces to

identify potentially unstable blocks of rock. Such potentially unstable blocks which can not be reasonably removed shall be temporarily supported.

END OF SECTION

SECTION 02518

TRACER TAPE

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section covers the furnishing, handling and installation of tracer tape to be installed on all service connections.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

Tracer tape shall be by Lineguard, Inc., Wheaton, IL; Empire Level, Waukesha, WI; Pro-Line Safety Products Co., W. Chicago, IL; or approved equal.

2.02 TRACER TAPE:

A. Tracer tape shall be at least 3-inches wide.

B. Tracer tape for non-ferrous pipe or conduit shall be constructed of a metallic core bonded to plastic layers. The metallic tracer tape shall be a minimum 5-mil thick and must be locatable at a depth of 18 inches with ordinary pipe locaters.

C. Tracer tape for ferrous pipe or conduit shall consist of multiple bonded plastic layers. The non-metallic tracer tape shall elongate at least 500% before breaking.

D. The tape shall bear the wording: "BURIED SEWER LINE BELOW", continuously repeated every 30 inches to identify the pipe.

E. Tape color shall be green, as recommended by the American Public Works Association (APWA).

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Tracer tape shall be installed directly above the pipe or conduit it is to identify, approximately 12 inches below the proposed ground surface.

B. The CONTRACTOR shall follow the manufacturer's recommendations for installation of the tape.

END OF SECTION

SECTION 02530

BUILDING CONNECTIONS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers furnishing of all materials and labor to construct Building Sewer connections and drop connections as herein specified.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02324, ROCK EXCAVATION AND DISPOSAL

C. Section 02085, POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS

D. Section 02088, POLYVINYL CHLORIDE PRESSURE PIPE

E. Section 02518, TRACER TAPE

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Pipe and fittings for gravity building connections shall be as specified under Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS. Pipe and fittings for pressure building connections shall be as specified under Section 02088 POLYVINYL CHOLORIDE PRESSURE PIPE. Adaptors shall be as recommended by the pipe manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Building connections shall be installed using the same construction and pipe joining techniques as specified in Section 02085 POLYVINYL CHLORIDE GRAVITY PIPE AND FITTINGS and in Section 02088 POLYVINYL CHLORIDE PRESSURE PIPE.

B. The minimum cover over gravity building connections shall be four (4) feet and over pressure building connections shall be 5 feet, however, more cover may be necessary where Building Sewers cross beneath water mains or other pipes and to ensure that buildings can receive full basement service.

C. Each gravity building connection shall include the installation of a viewing port for future inspection purposes, to be located at the property line.

END OF SECTION

SECTION 02631

PRECAST MANHOLES

PART 1 - GENERAL

1.01 WORK INCLUDED:

This Section covers all precast manholes complete, including, but not limited to, bases, walls, cones, mortar, inverts, frames and covers.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. Section 02745, PAVING

1.03 SYSTEM DESCRIPTION:

A. Precast sections shall conform in shape, size, dimensions, materials, and other respects to the attached details.

B. All manholes shall have concrete bases. Concrete bases shall be precast unless otherwise specified. Invert channels shall be formed of brick and mortar upon the base.

C. Riser and cone sections shall be precast concrete.

1.04 REFERENCES:

A. The following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM A48	Gray Iron Castings
ASTM C32	Sewer and Manhole Brick
ASTM C144	Aggregate for Masonry Mortar
ASTM C207	Hydrated Lime for Masonry Purposes
ASTM C478	Precast Reinforced Concrete Manhole Sections
ASTM C923	Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes
ASTM C1244	Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M198Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

Occupational Safety and Health Administration

OSHA 29 CFR 1910.27 Fall Prevention Protection

PART 2 - PRODUCTS

2.01 PRECAST CONCRETE SECTIONS:

A. All precast concrete sections shall conform to ASTM C478 with the following exceptions and additional requirements:

1. The wall thickness of precast sections shall be as designated on the enclosed detail, meeting the following minimum requirements:

Section Diameter (Inches)	Minimum Wall Thickness (Inches)
48	5

2. Type II cement shall be used except as otherwise approved.

3. Sections shall be steam cured and shall not be shipped until at least five days after having been cast.

4. Minimum compressive strength of concrete shall be 4000 psi at 28 days.

5. No more than two lift holes may be cast or drilled in each section.

6. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the inside of each precast section.

7. Acceptance of the sections will be on the basis of material tests and inspection of the completed product.

8. Circumferential steel reinforcement in walls and bases shall be a minimum of 0.12 sq. in./lin. ft. for 4-foot diameter sections and 0.15 sq. in./lin. ft. for 5- and 6-foot diameter sections. Reinforcing shall extend into tongue and groove.

B. Conical reducing sections, if required, shall have a wall thickness not less than 5-inches at the bottom and wall thickness of 8-inches at the top. Conical sections shall taper from a minimum of 48-inches diameter to 24 or 30-inches diameter at the top.

C. Except where insufficient depth of cover dictates the use of a shorter base, bases shall be a minimum of 4 feet in height.

D. The tops of the bases shall be suitably shaped by means of accurate ring forms to receive the riser sections.

E. Precast sections shall be manufactured to contain wall openings of the minimum size to receive the ends of the pipes, such openings being accurately set to conform with line and grade of the sewer. Subsequent cutting or tampering in the field, for the purpose of creating new openings or altering existing openings, will not be permitted except as directed by the Engineer.

F. The exterior surfaces of all precast manhole bases, walls, and cones shall be given a minimum of one shop coat of bituminous dampproofing.

2.02 BRICK MATERIALS:

A. Brick shall be sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture. Bricks shall comply with ASTM C32, for Grade SS, hard brick, except that the mean of five tests for absorption shall not exceed 8 percent by weight.

B. Mortar shall be composed of Portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volumes of cement and lime. The proportions of cement and lime shall be as directed and may vary from l:l/4 for dense hard-burned brick to l:3/4 for softer brick. In general, mortar for Grade SS Brick shall be mixed in the volume proportions of 1:1/2:4-1/2; Portland cement to hydrated lime to sand.

C. Cement shall be Type II Portland cement as specified for concrete masonry.

D. Hydrated lime shall be Type S conforming to ASTM C207.

E. The sand shall comply with ASTM C144 specifications for "Fine Aggregate," except that all of the sand shall pass a No. 8 sieve.

2.03 FRAMES, COVERS AND STEPS:

A. Castings shall be of good quality, strong, tough, even-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.

B. All castings shall be thoroughly cleaned and may be subject to a careful hammer inspection.

C. Castings shall be ASTM A48 Class 30B or better.

D. The surface of the manhole covers shall have a diamond pattern with the cast word "SEWER".

E. Manhole frames with 26-inch covers for 24-inch openings shall be 475 pounds minimum by E.L. LeBaron Foundry Co., No. LKll0; Neenah Foundry Co. R1720; Quality Water Products, Style 40; or approved equal.

F. Watertight type manhole frames with 26-inch diameter covers (bolted and gasketed) shall be 4 bolt, 475 pounds minimum, and shall be E.L. LeBaron Foundry Co. No. LBB268; Mechanics Iron Foundry Type A2073; Quality Water Products, Style 40WT; or approved equal.

G. Frostproof manhole frames, with covers and inner lids shall be R-1758 series by Neenah Foundry Co., Neenah, WI; LBF series by E.L. LeBaron Foundry Co., Brockton, MA; B-3045 (or similar) by Mechanics Iron Foundry, Boston, MA; or approved equal.

H. 2-inch thick polystyrene insulation shall be firmly adhered to all frostproof inner lids.

I. Manhole steps shall conform to ASTM C478 requirements and shall be fabricated of either extruded aluminum or steel reinforced plastic. Steps shall be uniformly spaced at a maximum of 12-inches unless otherwise shown on the drawings.

2.04 SEWER MANHOLE ACCESSORIES:

A. Gasket materials shall be top grade (100% solids, vulcanized) butyl rubber and shall meet or exceed AASHTO M-198.

B. Couplings at the manhole-pipe interface shall be made with a rubber seal system (with or without stainless steel straps) meeting the requirements of ASTM C923 and recommended for this type of connection.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. PRECAST SECTIONS:

1. Precast bases shall be supported on a compacted level foundation of crushed stone, as specified in Section 02300 EARTHWORK, at least 6-inches thick, but shall vary to the depth necessary to reach sound undisturbed earth.

2. Precast reinforced concrete sections shall be set vertical and with sections in true alignment.

3. Butyl rubber joint sealant shall be installed between each concrete section.

4. All holes in sections used for handling the sections shall be thoroughly plugged with mortar. Mortar shall be one part cement to 1-1/2 parts sand, mixed slightly damp to the touch (just short of "balling"), hammered into the holes until it is dense and an excess of paste appears on the surface, and then finished smooth and flush with the adjoining surfaces.

B. BRICK WORK:

1. Bricks shall be moistened by suitable means, as directed, until they are neither so dry as to absorb water from the mortar nor so wet as to be slippery when laid.

2. Each brick shall be laid as a header in a full bed and joint of mortar without requiring subsequent grouting, flushing or filling, and shall be thoroughly bonded.

3. The brick inverts shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent to the centerlines of adjoining pipe.

C. CASTINGS:

1. Cast iron frames and covers shall be as specified. The frames and covers shall be set by the CONTRACTOR to conform accurately to the grade of the finished grade or existing ground surface.

2. Cast iron manhole frames and covers not located in paved areas shall be set 6-inches above finished grade. The top of the cone shall be built up with a minimum of 1 course and a maximum of 5 courses of brick and mortar used as headers for adjustment to final grade.

3. Frames shall be set concentric with the top of the concrete section and in a full bed of mortar so that the space between the top of the concrete section or brick headers 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 concrete shall be placed all around the bottom flange. The mortar shall be smoothly finished to be flush with the top of the flange and have a slight slope to shed water away from the frame.

4. Covers shall be left in place in the frames, for safety reasons, except while work is being performed.

D. ACCESSORIES:

1. Accessories shall be installed in accordance with manufacturer's instructions.

3.02 LEAKAGE TESTS:

A. Leakage tests shall be made by the CONTRACTOR and observed by the SUPERVISOR on each manhole. The test shall be by vacuum or by water exfiltration as described below:

B. VACUUM TEST:

1. The vacuum test shall be conducted in accordance with ASTM C1244. Test results will be judged by the length of time it takes for the applied vacuum to drop from 10 inches of mercury to 9 inches. If the time is less than that listed in Table 1 of ASTM C1244, the manhole will have failed the test. Test times from Table 1 are excerpted below.

TABLE 1

Minimum Test Times for Various Manhole Diameters

	Diameter (Inches)		
Depth (Feet)	48	60	72
	Times (Seconds)		
0-12	30	39	49
12-16	40	52	67
16-20	50	65	81

2. If the manhole fails the initial test, the CONTRACTOR shall locate the leaks and make proper repairs. Leaks may be filled with a wet slurry of accepted quick setting material. If the manhole should again fail the vacuum test, additional repairs shall be made, and the manhole water tested as specified below.

C. WATER EXFILTRATION TEST:

1. After the manhole has been assembled in place, all lifting holes shall be filled and pointed with an approved non-shrinking mortar. All pipes and other openings into the manhole shall be suitably plugged and the plugs braced to prevent blow out. The test shall be made prior to placing the shelf and invert. If the groundwater table has been allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test.

2. The manhole shall be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage, that is, no water visibly moving down the surface of the manhole, the manhole may be considered to be satisfactorily water-tight. If the test, as described above, is unsatisfactory or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted if the CONTRACTOR so wishes, to allow for absorption by the manhole. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and a measuring time of at least 8 hours begun. At the end of the test period, the manhole shall be refilled to the top of the cone, measuring the volume of water added. This amount shall be extrapolated to a 24-hour loss rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed one gallon per vertical foot

for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed 3 gallons per vertical foot per day, repairs by approved methods may be made to bring the leakage within the allowable rate of one gallon per foot per day. Leakage due to a defective section or joint or exceeding the 3-gallon per vertical foot per day, shall be cause for rejection of the manhole. It shall be the CONTRACTOR's responsibility to uncover the rejected manhole as necessary and to disassemble, reconstruct or replace it. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed.

3. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorption, etc. It shall be assumed that all loss of water during the test is a result of leaks through joints or through the concrete. Furthermore, the CONTRACTOR shall take any steps necessary to assure that the water table is below the bottom of the manhole throughout the test.

4. If the groundwater table is above the highest joint in the manhole, and there is no leakage into the manhole, such a test can serve to evaluate water-tightness of the manhole. However, if the SUPERVISOR is not satisfied with the results, the CONTRACTOR shall lower the water table and carry out the test as described hereinbefore.

3.03 CLEANING:

All new manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection.

END OF SECTION

SECTION 02775

WALKWAY REPLACEMENT

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. Where replacement of concrete walks is required, the CONTRACTOR shall construct either bituminous concrete walks or cement concrete walks, as determined in the field, to the required lines and grades and in accordance with these specifications.

B. If applicable, the CONTRACTOR shall restore gravel walks to a condition at least equal to that existing immediately before the work was started.

C. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals required to construct new walks where existing walks are disturbed by the CONTRACTOR. This work shall include placement of all concrete, reinforcing steel, forms, and joint filler required to replace existing concrete walks and ramps.

1.02 RELATED WORK:

A. Section 02300, EARTHWORK

B. For driveways, see Section 02575, PAVING

PART 2 – PRODUCTS (see Part 3 – Execution)

PART 3 – EXECUTION:

3.01 BITUMINOUS CONCRETE WALKS:

A. Except as otherwise specified, construction of the bituminous concrete walks shall be in accordance with the Standard Specifications for Highways and Bridges of the Department of Public Works of the Commonwealth of Massachusetts, dated 1973, and all amendments thereto.

B. The subgrade for the bituminous concrete walks shall be shaped parallel to the proposed surface of the walks and shall be thoroughly rolled and tamped. All depressions occurring shall be filled with suitable material and again rolled or tamped until the surface is smooth and hard in order for a gravel foundation to be placed upon it.

C. The CONTRACTOR shall use a 1-1/2-inch thick binder course with 3/4–inch maximum size stone and a 1-inch thick wearing course with 3/8-inch maximum size stone.

3.02 CEMENT CONCRETE WALKS:

A. In general, concrete for one-course walks shall be 4 inches thick.

B. The subgrade for the walk or driveway shall be shaped to a true surface conforming to the proposed slope of the walk, thoroughly rolled at optimum moisture content, and tamped with a power roller weighing not less than one ton and not more than 5 tons. All depressions occurring shall be filled with suitable material and again rolled or tamped until the surface is smooth and hard.

C. After the subgrade has been prepared as hereinbefore specified, a subbase of gravel at optimum moisture content shall be placed, thoroughly rolled by a power roller, and tamped. For walks, the gravel shall be a minimum of 8 inches in thickness and 4 inches below and parallel to the proposed finished surface.

D. The forms for one-course walks shall be smooth, free from warp, strong enough to resist springing out of shape, and deep enough to conform to the thickness of the proposed walk. All mortar or dirt shall be completely removed from forms that have been previously used. The forms shall be well staked, thoroughly braced, and set to the established lines with their upper edge conforming to the grade of the finished walk. The finished walk shall have sufficient pitch from the outside to the edge of the walk to provide for surface drainage. This pitch shall be 3/8 of an inch per foot. Before the concrete is placed, the subbase for one-course walks shall be thoroughly dampened until it is moist throughout but without puddles of water.

E. The concrete shall be conveyed from the place of mixing to the place of deposit in such a manner that no mortar will be lost, the composition of the mix shall be uniform, showing neither excess nor lack of mortar in any one place. The consistency shall be such that water will float to the surface under heavy tamping. The concrete shall be placed as close to its final position as practicable and thoroughly consolidated, with precautions taken not to overwork it while it is still plastic. The concrete shall be thoroughly spaded along the forms or screeds to eliminate voids and honeycombs at the edges. Retempering of concrete will not be permitted.

F. Finishing of the concrete surface shall be done by experienced and competent cement finishers as soon as is practicable. Finishing shall not be delayed until all bled water and water sheen has left the surface and the concrete has begun to stiffen. The concrete surface shall be finished as directed with a steel trowel or wood float to give a smooth, uniform and attractive surface finish and uniformly scored into block units or areas of not more than 36 square feet. Following this, the CONTRACTOR shall draw a fine nylon push broom lightly over the surface to produce a non-slip surface. Application of neat cement to the surface to hasten hardening is prohibited.

G. The CONTRACTOR shall make every effort to protect the newly placed concrete surface against vandalism and marking or defacing and must stand ready to replace any blocks which are defaced.

H. Adequate protection shall be provided where temperatures of 40ºF or lower occur during placing of concrete and during the early curing period. The minimum temperature of fresh concrete after placing and for the first 3 days shall be maintained above 55ºF. In addition to the above requirements, an additional 3 days of protection from freezing shall be maintained.

I. Except as otherwise specified, the construction of the concrete walks shall be in accordance with the Standard Specifications for Highways and Bridges of the Department of Public Works of the Commonwealth of Massachusetts, dated 1973, and all amendments thereto.

END OF SECTION

SECTION 11305

SEMI-POSITIVE DISPLACEMENT RESIDENTIAL
GRINDER PUMP UNITS

PART 1 - GENERAL

1.01 WORK INCLUDED:

A. This Section covers the furnishing and installation of factory-built, semi-positive displacement residential grinder pump units. All components, except as otherwise noted, shall be provided by one supplier.

B. Upon issuance of a Building Sewer connection permit, the Board will determine if the property is intended to receive a grinder pump unit. If so determined, the OWNER shall receive from the Sewer Division a voucher for one (1) grinder pump unit from the manufacturer's Representative. Upon providing a voucher to the Representative, the unit, including all equipment and materials specified in this section, shall be picked up at the Representative's warehouse in Rockland, MA, to be installed by the CONTRACTOR. If it is determined by the Sewer Division that the property was not intended to receive a grinder pump unit, it shall be the responsibility of the OWNER to contact the manufacturer's Representative for purchase and pick up information.

1.02 SYSTEM DESCRIPTION:

A. The system shall consist of complete factory-built and tested grinder pump units, each consisting of grinder pumps suitably mounted in a basin constructed of high density polyethylene (HDPE) with an integral access way, electrical quick disconnect (NEMA 4X), remote electrical alarm/disconnect panel, electric motor, all necessary internal wiring and controls, pump installation and removal systems, fittings, valves and all associated equipment and accessories required to make a complete system.

B. Equipment and accessories not specifically described herein shall be the manufacturer's standard catalog products.

1.03 QUALITY ASSURANCE:

A. All equipment shall conform to the following criteria:

1. The grinder pump shall be free from electrical and fire hazards as required in a residential environment. As evidence of compliance with this requirement, the completely assembled and wired grinder pump station in its tank shall be listed by Underwriter's Laboratories, Inc., to be safe and appropriate for the intended use. The grinder pump shall conform to the Department of Environmental Protection Division of Air Quality Control regulations governed by the following policy:

"A source of sound will be considered to be violating the Department's noise regulation (310 CMR 7.10) if the source:

a. Increases the broadband sound level by more than 10 dB(A) above ambient, or

b. Produces a "pure tone" condition - when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.

The grinder pump shall have been tested by an independent laboratory to certify its capability to perform as specified in either individual or low-pressure sewer system applications. As evidence of compliance with this requirement, the grinder pumps shall bear the National Sanitation Foundation seal.

2. Equipment shall be manufacturer's standard products presently in commercial production.

3. Conform to Hydraulic Institute Standards.

4. All the equipment specified under this Section shall be furnished by a single supplier and shall be products of manufacturers regularly engaged in the production of said equipment. The supplier shall have the sole responsibility for proper functioning of the complete grinder pump package.

5. The grinder pump stations shall conform to requirements for materials, installation, and equipment approvals of state, local, Underwriters Laboratories, Inc., NEC, NEMA, ASTM, NSF, and other applicable codes whether or not called for on the drawings or the specification.

6. Base the use of unspecified materials on their continuous and successful employment under similar conditions, as called for in this section.

B. MANUFACTURER'S QUALIFICATIONS:

1. The manufacturer shall provide the supervisory service of a factory trained engineer, who is specifically trained on the type of equipment supplied, for a period of not less than two 8-hour days to assist in installation of the pumping equipment and related appurtenances, to provide initial startup of each grinder pump, and to instruct the OWNER in the operation and maintenance of the equipment provided.

C. FACTORY TESTS:

1. Each grinder pump shall be submerged and operated for 5 minutes (minimum). Included in this procedure will be the testing of all ancillary components such as the anti-siphon valve, check valve, discharge line, level sensors and each unit's dedicated controls. All factory tests shall incorporate each of the above-listed items. Actual appurtenances and controls, which will be installed in the field, shall be particular to the tested pump only. A common set of appurtenances and controls for all pumps will not be acceptable. Certified test results shall be

available upon request showing the operation of each grinder pump at two (2) different points on its curve, with the maximum pressure no less than 60 psi.

2. All completed stations shall be factory leak tested to assure the integrity of all joints, seams and penetrations. All necessary penetrations such as inlets, discharge fittings and cable connectors shall be included in this test along with their respective sealing means.

D. Field acceptance tests shall be performed as specified in Part 3 Execution.

1.04 REFERENCES:

The latest editions of the following standards form a part of this specification as referenced:

American Society for Testing and Materials (ASTM)

ASTM A48 Specifications for Gray-Iron Castings.

ASTM A53 Specifications for Pipe, Steel, Black and Hot-dipped, Zinc Coated, Welded and Seamless.

ASTM D1785 Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80 and 120.

ASTM D2464 Threaded Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.

ASTM D2467 Socket-Type Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.

ASTM D2564 Solvent Cements for Poly Vinyl Chloride (PVC) Plastic Pipe and Fittings.

National Electric Code (NEC)

NEC Code National Electrical Code.

National Electric Manufacturers Association (NEMA)

NEMA Standard as Specified.

1.05 SUBMITTALS: IN ACCORDANCE WITH REQUIREMENTS OF GENERAL SPECIFICATIONS, SUBMIT THE FOLLOWING:

A. OPERATION AND MAINTENANCE INSTRUCTIONS:

The grinder pump manufacturer shall be responsible for supplying one (1) set of written instructions, which shall be sufficiently comprehensive to enable the OWNER to operate and maintain the pump and all associated equipment supplied by the station manufacturer. Said instructions shall assume that the operator is familiar with pumps,

motors, piping, and valves but that he has not previously operated and/or maintained the exact equipment supplied.

The instructions shall include, but not be limited to, the following:

1. Descriptions of, and operating instructions for each major component of the grinder pump as supplied.

2. Instructions for operation of the grinder pump in all intended modes of operation.

3. Instructions for all adjustments, which must be performed at initial startup of the grinder pump, adjustment which must be performed after the replacement of level control system components, and adjustments which must be performed in the course of preventive maintenance as specified by the manufacturer.

4. Instructions for the adjustment, calibration, and testing of selected electronic components or assemblies, normally considered replaceable by the manufacturer, whose performance is not ascertainable by visual inspection.

5. Service instructions for major components not manufactured by the grinder pump manufacturer but which are supplied by him in accordance with these specifications. Incorporation of literature produced by the actual component manufacturer shall be acceptable.

6. Electric schematic diagram of the grinder pump unit as supplied, prepared in accordance with NMTBA and JIC standards. Schematics shall show, to the extent of authorized repair, pump motor branch, control, and alarm system circuits and interconnections among these circuits. Wire numbers shall be shown on the schematic. Schematic diagrams for electronic equipment, the detail parts of which are normally repairable by the owner-town-servicer, need to be included and shall not be substituted for an overall schematic diagram. Partial schematics, block diagrams, and simplified schematics shall not be provided in lieu of an overall schematic diagram.

7. At the time of delivery, each set of instructions shall be clearly visible, attached to or inside each unit provided.

1.06 DELIVERY:

A. SHIPPING:

The CONTRACTOR shall pick up the pump at the Manufacturer's Representative's warehouse in Rockland, MA.

1.07 WARRANTY:

The manufacturer shall offer a limited parts and labor warranty guaranteeing its product to be free from defects in material and factory workmanship for no less than twenty four (24) months from the date installation. The Warrantee shall be a 100% on-site

warrantee. Repair will be made free of charge and be made on-site by an authorized service provider within 24-hours of notice given to the manufacturer by the OWNER.

PART 2 - PRODUCTS

2.01 EQUIPMENT - SEMI-POSITIVE DISPLACEMENT GRINDER PUMPS:

A. GENERAL:

The semi-positive displacement type grinder pump shall be a removable core type unit rated at one horsepower, operating on a 240 volt, single phase, 60 Hertz electrical system.

B. CORE UNIT:

1. Each grinder pump unit shall have a cartridge type easily removable core assembly containing pump, motor, grinder, controls, check valve, stainless steel discharge piping, anti-siphon valve, electrical quick disconnect, and wiring.

2. The watertight integrity of the core unit, including wiring and access cover, shall be established by 100% factory test at a minimum of 5 psig.

3. The controls included in the core unit shall provide for fully automatic operation of the grinder pump assembly, and no external control panel shall be required for normal operation of the grinder pump unit.

4. Core unit shall have two (2) lifting hooks with nylon lift-out harness in the top housing to facilitate removal of the core unit from the tank when necessary.

C. PUMPS:

1. Pumps shall be custom designed, integral, vertical rotor, motor driven, solids handling pumps of the progressing cavity type with mechanical seal.

2. Rotor: Through-hardened, highly polished, precipitation hardened stainless steel.

3. Stator: Specifically compounded ethylene propylene synthetic elastometer suitable for domestic wastewater service. Physical properties: High tear abrasion resistance, grease resistance, water and detergent resistance, temperature stability, good aging properties, and outstanding wear resistance. The stator shall be designed and mounted in such a way as to accommodate rotor run-out and permit direct connection of the rotor to the motor shaft with no intermediate flexible coupling.

4. The pumps shall be capable of delivering 15 gpm against a rated total dynamic head of 0 feet (0 psig) and 9 gpm against a rated total dynamic head of 138 feet (60 psig). The pump(s) shall also be capable of operating at negative total dynamic head without overloading the motor(s). Under no conditions shall in-line piping or valving be allowed to create a false apparent head.

D. GRINDERS:

1. Rotating type with a stationary hardened and ground chrome steel shredding ring spaced in close annular alignment to the driven impeller assembly positioned immediately below the pump elements; direct-driven by a single, one-piece motor shaft.

2. Grinder Impeller Assembly: Securely fastened to pump motor shaft; carry two hardened type 400 series stainless steel cutter bars; dynamically balanced to operate without objectionable noise or vibration over the entire range of recommended operating pressures.

3. Constructed to eliminate clogging and jamming under all normal starting and operating conditions with sufficient vortex action to scour tank free of deposits or sludge banks, which would impair the operation of the pump.

4. To meet the above requirements, the following shall be accomplished in conjunction with the grinder pump tank:

   a. Grinder shall be positioned in such a way that solids are fed in an up-flow direction.

   b. Diameter of inlet shroud opening shall be no less than 5 inches (127 mm).

   c. Average inlet velocity, at maximum flow, shall not exceed 0.2 feet per second.

   d. Cutter bars shall extend above the impeller disc 0.20 to 0.25 inches (5.1 to 6.4 mm).

   e. Nominal speed of impeller disc to be 1725 RPM.

5. The grinder shall be capable of reducing all components in normal domestic wastewater, including a reasonable quantity of "foreign objects," such as paper, wood, plastic, glass, rubber and the like, to finely-divided particles which will pass freely through the pump and the 1-1/4 inch diameter stainless steel discharge piping.

E. ELECTRIC MOTOR:

1. One HP (746 watts), 1725 RPM, capacitor start, ball bearing, squirrel cage induction type with a low starting current not to exceed 30 amperes and high starting torque of at least 8.4 foot pounds.

2. Inherent protection against running overloads or locked rotor condition shall be provided for the pump motor by the use of an automatic-reset, integral thermal overload protector incorporated into the motor. The motor protector combination to be investigated and listed by Underwriters' Laboratories, Inc., for the specific application.

F. MECHANICAL SEAL:

1. Core: Provided with a mechanical shaft seal to prevent leakage between the motor and pump.

2. Seal: Stationary ceramic seat and carbon rotating surface with faces precision lapped and held in position by a stainless steel spring.

G. DISCHARGE HOSE AND SLIDEFACE DISCONNECT/VALVE:

All discharge fittings and piping shall be constructed of 304 Series stainless steel, polypropylene or PVC. The discharge hose assembly shall include a shut-off valve rated for 200 psi WOG and a quick disconnect feature to simplify installation and removal.

H. ELECTRICAL QUICK DISCONNECT:

The grinder pump unit shall include a single NEMA 4X electrical quick disconnect for all power and control functions. An integral tube shall allow venting of the control compartment to assure proper operation of the pressure switch level system.

I. CHECK VALVE:

1. Pump to be equipped with factory installed, gravity operated, flapper type integral check valve built into the discharge pipe, providing full-ported passageway when open and introducing friction loss of less than 6 inches of water at maximum rated flow.

2. Valve Body: High gloss injection molded PVC Type I-II.

3. Working Parts: Series 300 stainless steel and fabric reinforced synthetic elastometer to ensure corrosion resistance, dimensional stability and fatigue strength.

4. A non-metallic hinge: Integral part of flapper assembly providing maximum degrees of freedom for assured seating at a low back pressure.

J. ANTI-SIPHON VALVE:

1. Pump shall be constructed with a positively-primed flooded suction configuration.

2. Pump shall be equipped with integral anti-siphoning, air relief valve in the discharge piping just below the main check valve to provide added assurance that the pump cannot lose prime even under negative pressure conditions in the discharge piping system. This valve shall automatically close when the pump is running and open to atmosphere when the pump is off.

K. CONTROLS:

1. The primary on/off and alarm functions are to run on independent circuits. The

alarm circuit shall also function as a redundant on/off switch in case of on/off switch failure. Control components shall be located inside the top housing of the core unit. The top housing shall be attached with stainless steel tamper proof fasteners. Non-fouling wastewater level detection for controlling pump operation shall be accomplished by monitoring the pressure changes in an integral air-bell level sensor connected to a pressure switch. Other types of level detection devices prone to fouling and need periodic maintenance such as mercury floats or conductance probes shall not be acceptable. The level detection device shall have no moving parts in direct contact with the wastewater. High-level sensing will be accomplished in the manner detailed above by a separate air-bell sensor and pressure switch of the same type.

2. Refer to Paragraph 2.01-H for electrical quick disconnect for controls.

3. Each level control to have its own built in fail safe design to prevent the entrance of moisture into the controls in case of switch diaphragm failure.

4. To assure reliable operation of pressure sensitive switches, each core to be equipped with a quick disconnect breather assembly, complete with check valve to prevent accidental entry of water into motor compartment in the event of accessway flooding.

5. The grinder pump shall be furnished with a length of 6 conductor, gauge to meet Massachusetts electric code, length to be site specific, type SJOW cable, pre-wired and watertight with NEMA 6 electrical disconnect to meet UL requirements. There shall be no junction box required in the station.

L. CORROSION PROTECTION:

All materials exposed to wastewater shall have inherent corrosion protection; i.e., HDPE cast iron, stainless steel, or PVC. Any exterior steel surfaces are to be suitably protected against corrosion.

M. SERVICEABILITY:

All mechanical and electrical connections shall provide easy disconnect accessibility for core unit removal and installation. All maintenance tasks for the grinder pump station shall be possible without entry of the grinder pump station (as required by OSHA Permit for required confined spaces). "Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space."

2.02 TANK AND INTEGRAL ACCESSWAY:

A. The tank shall be made of high-density polyethylene of a grade selected for environmental stress cracking resistance. Corrugated sections are to be made of a double wall construction with the internal wall being generally smooth to promote scouring. Corrugations of outside wall are to be of a minimum amplitude of 1½-inch to provide necessary transverse stiffness. Any incidental sections of a single wall

construction are to be a minimum .250-inch thick. All seams created during tank construction are to be thermally welded and factory tested for leak tightness. Tank wall and bottom must withstand the pressure exerted by saturated soil loading at maximum burial depth. All station components must function normally when exposed to maximum external soil and hydrostatic pressure.

B. The access way shall be an integral extension of the tank assembly and include a lockable cover assembly providing low profile mounting and watertight capability. Access way design and construction shall facilitate field adjustment of station height in increments of 4-inches or less without the use of any adhesives or sealants requiring cure time before installation can be completed.

C. The station shall have all necessary penetrations molded in and factory sealed. No field penetrations shall be acceptable.

D. All discharged piping shall be constructed of 304 Series Stainless Steel and terminate outside the access way bulkhead with a stainless steel, 1¼-inch female NPT fitting. The discharge piping shall include a stainless steel ball valve rated for 200 psi WOG. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.

E. The access way shall also include a 2-inch PVC vent to prevent wastewater gases from accumulating in the tank.

F. Each unit shall be furnished with one EPDM Gromment to accept a 4.50" outside diameter DMV pipe.

2.03 CONTROL PANELS:

A. The electrical control panels shall be furnished by the grinder pump manufacturer.

B. Each Grinder pump station control panel shall be U.L. listed and shall include a NEMA 3R Thermoplastic enclosure. It shall include circuit breaker(s) and all necessary components to accomplish proper pump and control operation including the following alarm capabilities:

1. When liquid level in wastewater tank rises above the alarm level, visual and audio alarms will be activated.

2. Audio alarm may be silenced by means of the externally mounted, push-to-silence button.

3. Visual alarm remains illuminated until wastewater in tank returns to normal operating level.

The visual alarm shall be a red fluted lens mounted to the top of the enclosure in such a manner as to maintain rainproof integrity.

The audio alarm shall be capable of being de-activated by depressing a weather proof, push-type switch mounted on the exterior of the enclosure.

C. Control panels shall be furnished with an inner, hinged, dead front panel containing all operator control devices and mechanisms, such as circuit breaker operating handles, manual transfer switch operating handle, push buttons, selector switches, indicating lights, etc. Locks shall be provided for the control panels by the CONTRACTOR.

2.04 REDUNDANT CHECK VALVE:

A. Each grinder pump unit shall include one separate check valve per unit for installation in the discharge line between the grinder pump and the sewer main to ensure maximum protection against backflow in the event of sewer service line break.

B. The valve shall be 1-1/4-inch, gravity operated, flapper- type. The check valve shall provide full-ported passageway when open and shall introduce a friction loss of less than 6 inches of water at maximum rated flow. Working parts shall be made of a 300 series stainless steel and fabric reinforced synthetic elastometer to ensure corrosion resistance, dimensional stability and fatigue strength. A non-metallic hinge shall be an integral part of the flapper assembly, providing maximum degrees of freedom for assured seating at a very low backpressure.

C. The valve body shall be a high gloss, injection molded part made of PVC type I-II with hub and socket compatible with 1-1/4-inch PVC solvent weld system. Dimensions for hub and socket shall be in accordance with Commercial Standards C5-272-65.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Installation of the grinder pump and related appurtenances shall be performed in accordance with all written instructions furnished by the manufacturer.

B. After installation, CONTRACTOR shall clean all surfaces damaged in shipment or installation and shall touch-up in the field with the same materials as original coatings.

3.02 INTERFERENCE WITH EXISTING WORKS:

The CONTRACTOR shall at all times conduct his operations so as to interfere as little as possible with existing works.

3.03 HYDRAULIC UPLIFTS OF STRUCTURES:

The CONTRACTOR shall be responsible for the protection of all structures against hydraulic uplift.

3.04 FIELD ACCEPTANCE TESTS:

A. After installation of the equipment and after completion of the services of the manufacturer's representative, the CONTRACTOR shall operate each unit to demonstrate its ability to pump without excessive vibration, motor overloading, or

overheating. Each pump shall be operated for a sufficient period of time to permit thorough observation of all pump components.

B. The Manufacturer's Representative shall be notified in advance of the tests.

C. All defects or defective equipment shall be corrected or replaced promptly at the CONTRACTOR's expense.

D. All final adjustments necessary to place the equipment in satisfactory working order shall be made at the time of the above tests.

E. The CONTRACTOR shall provide water for testing. All labor and materials necessary for the test shall be furnished by the CONTRACTOR.

F. All piping shall be tested for tightness. Should leaks be found, faulty joints shall be repaired, and all defective pipe and fittings shall be removed and replaced in a satisfactory manner.

END OF SECTION

Typical Details

Trench Detail for Gravity Sewer

Trench Detail for Pressure Sewer

Precast Concrete Manhole Detail

Manhole Plan Detail

Manhole Top Slab Detail

Manhole Seal Details

PVC Pressure Building Connection to Gravity Sewer Detail

Typical Gravity Building Connection Detail

Typical Pressure Building Connection Detail

Typical Grinder Pump Installation

Insert Standard Details

APPENDIX C

POLICY FOR ON-LOT INDIVIDUAL GRINDER PUMP UNIT INSTALLATION

POLICY FOR ON-LOT INDIVIDUAL
GRINDER PUMP UNIT INSTALLATION

1. The Town will consider low-pressure sewers and grinder pumps as the method for wastewater collection in areas where conventional gravity sewers are not physically possible or economically feasible. This policy only applies to lots developed prior to the commencement of construction of the municipal sewer contract fronting the property.

2. The Town's consultant will document such areas and identify alternatives and costs in the preliminary design report prepared prior to each phase of construction. The Town will review the consultant's recommendations for grinder pumps (if any) contained in each preliminary design report and the Town will authorize final design of grinder pumps only if they concur with the consultant's recommendations. Where grinder pumps are approved for final design, the contract documents will be prepared such that the building lateral extended to the property line shall be designed to accommodate a grinder pump unit.

3. The Town will offer to impacted residents the option to purchase a grinder pump and associated electrical control panel unit from the Town for the cost of One Dollar ($1.00). The Town will prepare and distribute documentation for the homeowner to either accept or reject this offer. Acceptance of the offer by a homeowner must be completed within sixty (60) days of receiving said documentation. Failure by the homeowner to respond within 60 days of receipt shall constitute a rejection of the Town's offer. Any future connection to the Public Sewer System would then be at the homeowner's sole expense.

4. Homeowners accepting the offer have one year from the time of receiving notification that the sewer line is approved for use to have the grinder pump installed. The Town of Hingham will deliver the grinder pump to the homeowner upon proof of completion of plumbing inspection and approval of the sewer connection permit. Homeowners failing to have the grinder pump installed within the one year time frame will forfeit their right to the above mentioned offer.

5. Homeowners accepting the offer will still be responsible for the following:

    a. installation of the grinder pump, including electrical work, inspection, associated fee, and connection to the town sewer;
    b. pumping and filling of the existing septic tank;
    c. upgrade of the home's electric service to 100 amps (if required);
    d. any interior plumbing modifications;
    e. plumbing inspection and associated fee;
    f. and betterment and/or sewer connection permit fee (as applicable).

Please sign and return

AGREEMENT OF LICENSE/EASEMENT FOR GRINDER PUMP

I accept the Town of Hingham's offer to purchase a grinder pump and its associated electrical control panel unit for the cost of One dollar ($1.00). Failure to accept this offer within sixty (60) days of receiving this agreement will void this offer. I agree to the terms as outlined in the *Policy for On-lot Individual Grinder Pump Unit Installation*, effective June 2003.

_____	_____
Signature	**Date**
_____	_____
Print Name	Address

APPENDIX D

TOWN OF HINGHAM REGULATION

FATS, OIL, & GREASE (FOG) PRETREATMENT SYSTEMS

TOWN of HINGHAM REGULATION

Hingham Sewer Commission
25 Bare Cove Park Drive
Hingham, MA 02043
(781) 741-1451

Stephen Dempsey
Sewer Supervisor

Hingham Board of Health
210 Central Street
Hingham, MA 02043
(781) 741-1466

Bruce Capman, RS
Executive Health Officer

"Fats, Oil, & Grease (FOG) Pretreatment Systems"

Section 1. **Authority:**

The Hingham Board of Health, in concurrence with the Hingham Sewer Commission, acting under the authority of Chapter 111, Section 31 and Chapter 83, Section 10 of the Massachusetts General Laws has adopted the following rules and regulation.

Section 2. **Purpose:**

The purpose of this regulation is to protect residents, businesses and the environment within the Town of Hingham from blockages to the town's sanitary sewer system caused by Fats, Oils, and Grease (FOG) discharged from restaurants and food service establishments in Hingham. All new and existing facilities that generate and discharge FOG in the wastewater flow shall install, operate and maintain a FOG pretreatment system, as defined herein.

The requirements of this regulation shall supplement, and be in addition to, the requirements of the Town of Hingham's 'Sewer Use Rules and Regulations', and the Massachusetts State Sanitary Code.

Section 3. **Definitions:**

248 CMR - means the Massachusetts State Plumbing Code regulations.

3-Bay Sink – means a sink that has three or more compartments.

Discharge Limit - means three hundred (300) milligrams of Fats, Oils, and Grease per liter of wastewater or equivalent concentration that can cause a blockage to the municipal sewer system.

Dishwasher – means a mechanical warewashing devise, including chemical or high temperature dishwashers and glasswashers.

EHO - means the Executive Health Officer for the Town of Hingham.

Food Establishment - means any facility issued a valid food establishment or food service establishment permit by the Hingham Board of Health or any facility that

prepares or sells food and as a byproduct discharges Fats, Oil, or Grease into the municipal sewer system.

FOG - means Fats, Oils, and Grease.

FOG Pretreatment System - means one of the following grease removal systems:

(1) Indoor Automatic Grease Trap;
(2) Indoor Passive Grease Trap; or
(3) Outdoor/Underground Grease Interceptor.

Food Waste Grinder – means a garbage or waste disposal unit, usually electrically-powered, installed under a kitchen sink between the sink's drain and the trap that grinds or pulverizes food waste for dispersal into the wastewater flow.

Grease Trap - means a grease interceptor pursuant to State Plumbing regulations 248CMR, which is a device designed to remove undissolved and/or suspended waste grease and oil from wastewater.

Indoor Automatic Grease Trap - means an active automatic grease trap which separates and removes FOG from effluent discharge and cleans itself of accumulated FOG at least once every twenty-four hours utilizing: (1) an electromechanical apparatus to accomplish removal, or (2) an approved automatic bioremediation grease control mechanism that suppresses or limits the formation of accumulated FOG through application of indigenous microbial nutrients.

Indoor Passive Grease Trap - means a passive grease trap installed inside a building designed to remove FOG from flowing wastewater while allowing wastewater to flow through it. Also, known as an indoor grease trap fitted with an approved automatic bioremediation grease control system that suppresses or limits the formation of accumulated FOG through application of indigenous microbial nutrients.

Outdoor/Underground Grease Interceptor - means a passive grease trap installed outside a building (having a capacity of 1,500 Gallons or more) designed to remove FOG from flowing wastewater while allowing wastewater to flow through it. Also, known as an outside grease trap fitted with an approved automatic bioremediation grease control system that suppresses or limits the formation of accumulated FOG through application of indigenous microbial nutrients.

Permitted Offal/Septage Hauler - means any offal/septage hauler issued a valid permit by the Hingham Health Department to dispose of FOG and/or sanitary septage.

Sewer Pipe - means any town sanitary sewer piping, including but not limited to interior and exterior building sanitary sewer piping, or any main or lateral sanitary sewer piping, regardless whether such piping is located on private or municipal land.

Substantial Renovations - means any renovation to a Food Establishment that would increase the number of permitted seating capacity or would alter in any way the kitchen facility.

Town Agent - means a duly authorized agent of the Hingham Board of Health or the Hingham Sewer Department bearing proper credentials.

Waste Grease or Oil - means leftover grease or oil generated by a Food Establishment during the cooking process.

Section 4. **System Standards:**

A. A Food Establishment or other facility that generates FOG as a by-product shall install a suitable FOG Pretreatment System that conforms to state regulations 248 CMR 10.09(2), and the approval of the Hingham Sewer Department and the Hingham EHO.

B. The Hingham Sewer Department or Hingham EHO may at any time require the installation, upgrade and/or relocation of a FOG Pretreatment System, as deemed necessary to maintain any Sewer Pipe from obstructions caused by Waste Grease or Oil. The Food Establishment shall be responsible for any and all costs for installing and maintaining said system.

C. Any newly built Food Establishment or those undergoing Substantial Renovations shall install an Outdoor/Underground Grease Interceptor, with a minimum 1,500-gallon capacity, or an Indoor Automatic Grease Trap. Either pretreatment system must be sized according to the manufacturer and in compliance with 248 CMR.

D. An Indoor Automatic Grease Trap or Indoor Passive Grease Trap shall be inspected, serviced and cleaned at least monthly by a professional drain cleaner, licensed plumber or Permitted Offal/Septage Hauler. The Hingham Sewer Department or Hingham EHO may amend the frequency for Indoor Automatic Grease Trap or Indoor Passive Grease Trap cleanings and maintenance to require more frequent servicing.

E. An Outdoor/Underground Grease Interceptor shall be pumped, inspected and serviced by a Permitted Offal/Septage Hauler at least every three (3) months or at a frequency deemed necessary to prevent any potential blockage. The Hingham Sewer Department or Hingham EHO may amend the frequency for Outdoor/Underground Grease Interceptor cleanings and maintenance to require more frequent servicing.

F. A copy of the "Town of Hingham, Grease Trap Maintenance Log" shall be kept onsite and properly maintained relative to the operation/maintenance of any FOG Pretreatment System. This log shall be readily accessible for review by a Town Agent.

G. All pumping and hauling records shall be properly maintained on a regular basis and readily accessible for review by a Town Agent.

H. Waste Grease and Oil shall not be disposed by means of the sanitary sewer. Waste Grease and Oil shall be collected in an appropriate container from by an approved vendor, and stored on the premise in a location deemed acceptable to the Hingham EHO. The container shall be stored on an impervious surface, such as concrete or pavement, and in a sheltered area to prevent entry of precipitation and vermin. While stored, the container must be sealed and the surrounding area kept in sanitary conditions at all times. Waste Grease and Oil shall be removed by a Permitted Offal/Septage Hauler and taken away from the premises as needed.

I. All automatic electrical/mechanical grease removal and treatment units shall be sized in accordance with the manufacturers written recommendations and in compliance with 248 CMR.

J. A separate suitable sampling location, approved by the Hingham EHO, shall be provided for sampling the discharge from any Indoor Automatic Grease Trap or Indoor Passive Grease Trap system. The sampling valve must be installed on the discharge piping with a minimum clearance of eight (8) inches to allow samples to be taken by a Town Agent.

K. Dishwasher wastewater must discharge into an appropriate grease trap pursuant to 248 CMR 10.09 (2)(c)(5).

L. Food Waste Grinders are prohibited. However, in circumstances where a Food Waste Grinder is explicitly allowed, it must comply with the requirements of 248 CMR 10.09 (2)(f)(3).

M. All connections to a grease removal unit shall be equipped with a proper "Flow Control Device". A Flow Control Device must conform to the requirements of 248 CMR 10.09(2)(i).

N. All Food Establishments must post a current copy of the Hingham Health Department's "F.O.G. Control Program, Kitchen Best Practices" document in a conspicuous location next to each 3-Bay Sink within the establishment. Copies of the aforementioned document are available from the Hingham Health Department.

Section 5. Inspections:

A. Inspection of cleaning and maintenance records for all Waste Grease or Oil removal and treatment systems shall be part of regular inspection of a Food Establishment. A Food Establishment inspection may be unannounced but occur during regular business hours.

B. Records pertaining to removal and treatment of Waste Grease or Oil shall be maintained by the owner or operator within the premise of the Food Establishment for no less than two (2) years. Upon request by a Town Agent, a Food Establishment owner or operator shall furnish all records required to enforce and monitor compliance with this regulation.

C. During an inspection, a Town Agent may apply oil-soluble dyes to the waste stream to identify (by color) the FOG of any given establishment in order to determine if said establishment may be a cause of a failure or obstruction in a Sewer Pipe.

D. A Town Agent may inspect any Food Establishment, with reasonable cause, suspected of exceeding a Discharge Limit for their wastewater.

Section 6. Corrective Actions:

A. The Hingham Sewer Department or Hingham EHO may order the installation of a FOG Pretreatment System, including but not limited to an Indoor Automatic Grease Trap and/or an Outdoor/Underground Passive Grease Interceptor, if a Food Establishment is found to have caused, or likely to cause, a blockage to the municipal sewer system.

B. Newly built Food Establishments or those undergoing Substantial Renovations shall install the appropriate FOG Pretreatment System according to this regulation in conjunction with the overall construction project. Locations of grease traps and interceptors must comply with 248 CMR 10.09 (2)(a)(b)(c).

C. All Food Establishments shall install either an Indoor Automatic Grease Trap or an Outdoor/Underground Grease Interceptor unless granted a waiver by the Board of Health. A waiver shall be for a single year, but may be applied for on an annual basis.

D. The Hingham EHO may order the installation of an advanced technology Dishwasher if the Food Establishment is found to be discharging excessive amount of FOG contaminants into the wastewater flow.

E. A Food Establishment determined to be in willful disregard of these regulations which results in a component failure to the municipal sewer system shall be held responsible for all fines, fees and costs, legal and otherwise for cleaning, repair or replacement of said failed component, and for all fines, fees and costs, legal and otherwise, associated with these corrective measures. This responsibility shall apply to any Food Establishment regardless of its stated knowledge or ignorance.

Section 7. **Variances and Waivers:**

A request for a variance or waiver shall be applied for from the Board of Health by completing a required form and payment of the appropriate fee. The reasons for the request must be clear and specific.

A. Adequate documentation that serves as evidence for granting a one-year waiver pursuant to Section 6(C) of this regulation includes but is not limited to:
   1) An on-going Waste Grease or Oil service program;
   2) Logs from a Permitted Offal/Septage Hauler;
   3) The absence of any Sewer Pipe blockage incident; and
   4) At least two-consecutive inspections demonstrating a properly functioning and well-maintained FOG Pretreatment System.

B. The BoH may grant a variance from the requirements of this regulation for:
   1) Operation and maintenance (O&M) frequencies. Any application for an O&M variance must be accompanied by a written letter from the Food Establishment's O&M contractor and system provider;
   2) The type or scale of FOG Pretreatment System required; or
   3) The codified or imposed time frame for correcting a violation.

   The BoH shall consult with the Hingham Sewer Department in the granting of variances.

C. Any request for a variance for a Food Establishment to use an alternative method, system or product that does not comply with 248 CMR 3.00 through 10.00 must additionally apply, and

receive in advance, a variance from the State Board for Plumbers and Gas Fitters pursuant to 248 CMR 3.04(2).

D. Financial hardship is not in itself proper grounds for a variance or waiver request.

Section 8. Violations:

A. Written notice of a violation of this regulation shall be given to the owner and operator of a Food Establishment by a Town Agent, specifying the nature, time, and date of the violation, and any preventative measure required to avoid future violations, and the time frame for completing any necessary corrections.

B. Any person that violates any provision of this regulation may be fined or sanctioned, under Chapter 111 Section 31 of the Massachusetts General Laws as a civil offense. Sanctions shall include the following:

First offense:	$ 100 fine
Second offense occurring within 2-years of the first offence:	$ 250 fine
Third offense occurring within 2-years of the previous offence:	$ 500 fine

Each day or portion thereof during which a violation continues may constitute a separate offense.

C. The BoH may additionally order the immediate suspension or revocation of a Food Establishment or food service establishment permit for any the following reasons:

1) Any violation of this regulation deemed to be of a serious nature;
2) Excessive violations of this regulation;
3) Interference with a Town Agent in the performance of his or her duty pursuant to this regulation;
4) Failure of a permit holder to comply with a written directive relative to this regulation;
5) Failure to adequately maintain required records or logs pursuant to this regulations; or
6) Keeping or submitting any misleading or false record, log or document required by this regulation.

The effective date and length of a suspension will be determined by the Board of Health.

D. Any person violating the provisions of this regulation may be liable to the Town of Hingham for any loss, expense or damage, including consequential damage, caused by such violation. The Town of Hingham may enforce the provisions of this regulation by any and all civil and equitable procedures.

Section 9. **Hearing:**

The person or persons, to whom any order or notice is issued pursuant to this regulation, may request a hearing before the Hingham Board of Health. Such request shall be in writing and shall be filed in the office of the Hingham Health Department within seven (7) days after receipt of an order or notice.

Section 10. **Severability:**

If any word, clause, phrase, sentence, paragraph, or section of this regulation shall be declared invalid for any reason whatsoever, that portion shall be severed and all other provisions of the regulation shall remain in full force and effect.

Section 11. **Effective Date:**

This regulation was adopted in concurrence with the Hingham Sewer Commission by (*unanimous*) vote of the Board of Health on June 17, 2010, and further updated and amended on October 27, 2015.

Following public notification, this regulation shall become effective on January 1, 2016.

HINGHAM BOARD OF HEALTH
Kirk Shilts, D.C., Chairman
Peter Bickford
Stephan White

final posted10-27-15

APPENDIX E

Rules and Specifications
Governing Street Excavations

APPENDIX F

TOWN OF HINGHAM
PRIVATE SEWER EXTENSION POLICY

POLICY OVERVIEW

Any person who is a property owner in the Town of Hingham, residing within the Hingham Sewer District, can formally apply to the Board of Sewer Commissioners (hereinafter the Board), for approval to extend the Public Sewer to serve their property. This policy is intended to provide procedural guidelines for those interested property owners who are not currently connected to the Town's Public Sewer System and want to investigate options for extending the Public Sewer, and connecting their property thereto.

APPLICATION PROCEDURES

The Board requires that all property owners who want to extend a Public Sewer submit a formal request to the Town. All requests must be in writing and copies must be on file with the following Town Boards before the project will be considered:

- The Board of Sewer Commissioners
- The Board of Health
- The Planning Board

The letter of request for a sewer extension must be addressed to the Board of Sewer Commissioners and include the following information:

1. Name, address, and daytime telephone number of property owner.
2. List of names, addresses and daytime telephone numbers for neighbors or abutters who are also property owners interested in connecting to the Public Sewer.
3. A statement that the persons listed are willing to pay their proportionate share of 100% of the project cost.

FINANCING OPTIONS FOR SEWER EXTENSION PROJECTS

Upon receipt of the signed request for a sewer extension, the Board will investigate (on a preliminary basis) required facilities to extend sewer to the listed properties, including required pump stations, force mains and gravity sewers. For projects that are at the ends of potential sewer service areas, or are in isolated low lying areas, low pressure sewers may be considered. The limited investigation feasibility study will also include an assessment of the need for pumping facilities and potential siting in low lying areas. If a pumping station is required, the need for Town Meeting approval for land taking and other project details and features that impact implementation of the sewer extension will be outlined. Preliminary estimates of Design, Permitting, and Construction costs will be prepared by the Board and provided to the property owner(s) requesting the sewer extension.

From those estimates, a range of costs to be paid by the property owners will also be estimated taking into account potential future users of the sewer extension. In no case will the costs assigned to the property owner be less than 100% of the estimated cost for Design, Permitting and Construction.

Once the necessary letter of request is on file with the appropriate Boards, and the range of costs assigned to the property owners are known, the interested party/parties must decide on how they want to finance the project. Their choices include:

OPTION A: Individual property owner will pay 100% of the cost of the sewer extension or property owners and neighbors abutting the sewer extension will pay 100% of the cost of the sewer extension.

Under this option, a property owner, or group of property owners, who wants to extend a sewer will pay 100% of the cost without any Town participation. Should this option be chosen, the following procedures will be followed:

1. The property owner(s) must submit professionally prepared sewer plans and specifications for review and approval by the Engineering Department. All sewer extensions must include sewer service connections to the property lines of all properties fronting on the sewer.

2. The property owners(s) will pay any necessary Town fees for the extension and connections and will hire their own contractor to install the new sewer. The contractor is required to apply for and secure all Town construction permits for the project.

3. The Town Engineer will review the Design Plans and inspect the installation of the sewer line.

OR

OPTION B: The property owner or group of property owners want to extend the sewer and are requesting the Town to fund the sewer installation and to assess the property owners for their share of the cost. The Town's participation is only applicable to areas of existing development. Extensions for new development must be filed under Option A.
Under this option, the Town of Hingham will provide borrowing authority for the cost of the installation of the sewer extension project, contingent upon Town Meeting approval. Any funds provided under this option will be assessed to the property owners. Should this option be chosen the following procedures will be followed:

1. The Board will review the application to determine the feasibility of the request and will provide a written response to the applicant, including a preliminary cost estimate for the sewer extension.

2. A public hearing will be scheduled to answer any questions that the affected property owners or any other neighbors may have.

3. Following the public hearing ballots will be sent to all affected property owners via certified mail for their input on the project indicating whether they want the project or not, and their willingness to pay their fair share of the Project Cost. Ballots must be returned within (30) days.

4. If at least 2/3 of the property owners affected support the sewer extension including sharing in the Project Cost, the Town will continue to participate in the process.

5. If less than 2/3 support the project the Town will not participate and property owners must choose Option A.

6. Should the Project receive the necessary support of the abutters, the Town will add the Project Approval and borrowing to the next appropriate Town Meeting warrant.

7. The Board shall make a determination as to the share of project cost to be paid by the properties served, based on the Uniform Unit Method of Betterment Assessments, as further defined in the Sewer Rules and Regulations for the Town of Hingham. The interest rate charged to assessments that are apportioned shall be based on Massachusetts Law and/or any approved Session Acts approved for Hingham.

TOWN MEETING ACTION

If the Town Meeting does not approve any funding or borrowing authorization for a given year, the property owners have the option to cancel the project or to continue under Option A.

If the Town Meeting approves the borrowing authorization, the project will continue under Option B and the Town will build the sewer and assess the abutters unless more than 50% of the property owners petition the Town not to proceed with the project. If the project does proceed, the property owners will be assessed based on 100% of the cost of the sewer extension.

TOWN CONSTRUCTION

Should the Town decide to approve the sewer project in its entirety under option B, all of the following guidelines will apply:

1. The Town will have sewer drawings and specifications prepared for the approved sewer extension project(s).
2. The Town will go out to competitive bidding for the construction of the sewers. If the final bid cost of any sewer extension exceeds the original estimate by more than 25%, then the project will go back to public hearing to give the property owners another opportunity to review and vote on the project.
3. The Town will award the bid for the construction of the approved sewer extension project as appropriate, in accordance with State and local public bidding laws and procurement procedures.
4. The Board will supervise the construction and inspect the installation of the new sewer lines.

ASSESSMENTS

The total assessment for each sewer extension is based on the total cost of the sewer extension project.

All properties benefiting from the installation of a new sewer approved under Option B will be assessed equally for projects in similarly developed residential areas. Existing houses will be assessed based on the number of housing units. Nonresidential areas will be assessed on an equivalent residential unit basis. Vacant land will be assessed based on the maximum number of units which can be built on. Vacant parcels, which are restricted in perpetuity from residential, commercial or industrial use and are not buildable, shall not be assessed.

TOWN OF HINGHAM
PRIVATE SEWER EXTENSION APPLICATION

Applicant: _____

Address: _____

_____

Telephone No: _____

Is sewer extension being requested to serve an existing developed property or properties?

Yes_____ no_____

If the above was answered yes please explain status of the existing wastewater disposal system(s).

Will this sewer extension also serve any other properties? Yes_____ No_____

Are any other property owners interested in connecting to the sewer? Yes_____ No_____

If the above was answered yes please attach a list of names, addresses and telephone numbers of all affected neighboring property owners and whether they are interested in connecting to the sewer at this time.

What type of financing method is requested for the sewer extension?

_____ Option A: Applicant will pay 100% of cost of sewer extension or Applicant and affected neighboring property owners will pay 100% of cost of sewer extension.

_____Option B: Applicant is seeking Town to fund sewer installation and assess property owners as outlined in the Sewer Rules and Regulations and the Private Sewer Extension Policy for the Town of Hingham.

List all supporting information provided as attachments to this application;

Please refer to the Sewer Rules and Regulations and the Private Sewer Extension Policy for the Town of Hingham for complete details about the application process.

Signature_____ Date_____

FOR MORE INFORMATION PLEASE CONTACT
THE HINGHAM BOARD OF SEWER COMMISSIONERS

APPENDIX G

Special Acts, Approvals and Agreements Related to Hingham Sewer Districts

[As of April 5, 2016]

HINGHAM SEWER DISTRICT

Ch. 591 of Acts of 1945	An Act to Provide for the Admission of the Town of Hingham to the South Metropolitan Sewerage District for the Benefit of a Part of the Town.
Ch. 82 of Acts of 1946	An Act Authorizing the Town of Hingham to Construct and Operate a System of Sewers for the North Sewer District of the Town.
Ch. 647 of Acts of 1950	An Act Authorizing the Extension of the South Metropolitan Sewerage District to the Town of Hingham.
Ch. 454 of Acts of 1955	An Act Relative to the Sewer System of the Town of Hingham.
Ch. 466 of Acts of 1958	An Act Relative to the Sewer System for the North Sewer District of the town of Hingham.
MDC Approval 1962	Add Central Junior High (Town Hall) to District
1968	Add High School to District [*TM Article 4; MDC Approval missing from Town & MWRA records]*
MDC Approval 1975	Add Naval Ammunition Depot to District
Ch. 434 of Acts of 1977	An Act Authorizing the Board of Sewer Commissioners of the Town of Hingham to Act Outside the Hingham North Sewer District for the Sole Purpose of Preparing a Wastewater Management Plan.
Ch. 235 of Acts of 1980	An Act Changing the Name of the North Sewer District of the Town of Hingham to the Hingham Sewer District.
Ch. 171 of Acts of 1991	Add 221 Central Street to District
Ch. 129 of Acts of 1993	Add certain Conservatory Park lots to District
Ch. 13 of Acts of 1999	Add 249 Central Street to District
Ch. 288 of Acts of 2006	Add 339 Main Street to District

WEIR RIVER SEWER DISTRICT

Annual Town Meeting	Article	Title
1982	14	Authorize sewer of area known as “Bonnie Brier”
1996	18	Sewer of portion of Weir River Watershed Area and enter into Intermunicipal Agreement with the Town of Hull
1997	17	Authorize increase in appropriation for sewer of Weir River Watershed Area
1998	18	Appropriate money for completion of Phase 1 of the Weir River Sewer District Project (reimbursed by Cohasset)
1999	36	Appropriate funds for Weir River Sewer District - Phase 2
1999	37	Appropriate funds for Weir River Sewer District - Phase 1A
2002	18	Appropriate funds for Weir River Sewer District Phase II
2003	31	Appropriate funds to Phase II of the Weir River Sewer District

Intermunicipal Agreement for Water Pollution Control Between the Towns of Hingham and Hull, Massachusetts, dated October 8, 1996
Intermunicipal Agreement for Water Pollution Control Between the Towns of Cohasset and Hull, Massachusetts, dated November 26, 1996
Intermunicipal Agreement for Water Pollution Control Between the Towns of Cohasset and Hingham, Massachusetts, dated August 19, 1997

INDUSTRIAL/OFFICE PARK SEWER DISTRICT

2010	32	Creation of Industrial/Office Park Sewer District
2012	37	Expansion of Industrial/Office Park Sewer District

OTHER SPECIAL ACTS RELATED TO THE HINGHAM SEWER SYSTEM

Ch. 427 of the Acts of 2008	An Act Relative to Temporary Loans and Assessment of Betterments by the Town of Hingham

APPENDIX H

EXPLANATION OF HINGHAM SEWER DISTRICT SEWER FEES

A substantial portion of the Town's current MWRA charge is due to Infiltration and Inflow (I & I) input into the Public Sewer System. This is true of most communities and comes from connected basement sump pumps, roof gutter connections, leaky manhole covers, and leaky or broken pipes. Hundreds of thousands of dollars per year can be saved if the Town can find and repair these leaks and if homeowners redirect their sump pump flow to dry wells or irrigation systems.

The Department of Environmental Protection has mandated that the MWRA require each of its municipalities to have an active Infiltration and Inflow Removal program in place. In order to maintain a Municipal Permit from the MWRA each town and city must report the status of its rehabilitation program on an annual basis. This program is funded by grants from the MWRA as well as fees for new connections, renovations, and new construction.

All of the fee calculated below will be placed in a designated account which, along with MWRA grant money, will be used first for the I&I reduction program

Connection fee for Infiltration and Inflow Reduction Program

Gallons per day Factor (See attached DEP table)	X	Number of units (Bedrooms. Sq.ft., restaurant seats etc.	=	New gallon per day input	X	I & I Reduction Factor	=	Gallons per day to be removed	X	Fee per gallon	=	Total connection fee
110	X	**1**	=	**110**	X	**4**	=	**440**	X	**$2.67**	=	**$1174.80**

Some common Gallon Per Day factors determined by the DEP are:

Residential / 1 Bedroom	110 GPD
Retail Store / 1000 sq. ft.	50 GPD
Restaurant / seat	35 GPD
Dentist office / dentist	200 GPD
Barber Shop/Beauty Salon / chair	100 GPD