



TOWN OF WILMINGTON, VERMONT

Ordinance regulating the use of the public sanitary sewer system

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Adopted by Wilmington Selectboard 10/02/2013

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TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

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INTRODUCTION

Pursuant to Title 24 Section 3617 of the Vermont Statutes Annotated, it is hereby ordained by the Sewer Commissioners of the Town of Wilmington, Vermont that the protection of the health and safety of the Town of Wilmington and of the general public requires the establishment of minimum standards governing the design, construction, installation, operation of, and connection to the public sanitary sewerage system. The original Ordinance Regulating the Use of Public Sanitary Sewerage Systems was adopted in December 1980 and amendments have been made in February 1985, June 1990, July 2001 and February 2008.

ARTICLE I – GENERAL PROVISIONS

SECTION 101:

All rules and regulations contained herein, together with such additions and amendments as may be hereafter adopted, are hereby designated as the "Ordinance Regulating the Use of Public Sanitary Sewerage Systems" hereinafter sometimes referred to as the ORDINANCE.

SECTION 102:

The Town Clerk shall file certified copies of this ORDINANCE, as well as certified copies of any additions and amendments to this ORDINANCE as may be hereafter adopted, with the Sewer Commissioners and the Health Officer.

SECTION 103:

The principal objective of sewerage facilities is to collect sewage and wastes and to provide the required or justified degree of treatment under the most favorable and economical conditions possible. Therefore, the discharge of wastewaters into the public sanitary sewers which do not require nor justify treatment or which will cause damage to or stoppage of the sewerage system or interfere with sewage treatment processes must be prohibited and/or rigorously controlled.

SECTION 104:

The provisions of this ORDINANCE shall be reviewed at intervals not exceeding five (5) years by the Sewer Commissioners with the objective of assessing the continued applicability of these provisions; to consider any recommendations proposed for their improvement; and to determine if and what changes are advisable due to advances in the technical methods or processes of waste treatment and sewage collection to the Town of Wilmington.

SECTION 105:

In the case of any other applicable regulation, by law, ordinance or statute which differs from the rules and regulations of this ORDINANCE, the stricter shall apply.

SECTION 106:

This ORDINANCE may be amended at any time by the Sewer Commissioners, as provided by law and after due notice and public hearing.

SECTION 107:

It shall be the function of the Sewer Commissioners to vary or modify the application of any of the provisions of this ORDINANCE when strict enforcement would result in practical difficulties or unnecessary hardship, or the cost of connecting to the sewer is 30% more than installing a private septic system as noted by a minimum of two estimates.

ARTICLE II - DEFINITIONS

For the purpose of this ORDINANCE, the following terms and phrases shall have the meanings ascribed to them under this ARTICLE:

Accessory Apartment is an efficiency or one-bedroom apartment created within, attached or detached, which is subordinate to an owner occupied single-family dwelling where property can demonstrate sufficient wastewater capacity; unit size may not exceed the percent (%) of total habitable floor area of single family dwelling as shown in the Quick Reference Guide. [24VSA § 4412(E)]

Affordable Housing definition shall be as defined by current State of Vermont statutes.

Affordable Housing Development definition shall be as defined by current State of Vermont statutes.

Allocation is the amount decided by the Sewer Commissioners to commit a specified amount of sewage treatment capacity (measured in gallons per day or gpd) to a specific project.

Allocation Fee is the fee for the allocation of sewage treatment capacity, specified as dollars per gpd, as established by the Sewer Commissioners.

Bed & Breakfast is a dwelling in which no more than six (6) bedrooms are rented on a daily or weekly basis to transients. Distinguished from a hotel/motel in that the operator lives in the Bed & Breakfast and the use does not change the residential character of the neighborhood or area, and the food service may have a seating capacity of no more than 24 people.

Bedroom is a room located within a building or structure that is used primarily for sleeping purposes.

Biochemical Oxygen Demand (BOD) means the quantity of oxygen utilized in the biochemical oxidation or organic matter under standard laboratory procedure in five (5) days at 20 degrees C expressed in milligrams per liter.

Boarding House/Rooming House: A single family dwelling where fewer than six bedrooms are provided for lodging for definite periods of times. Meals may or may not be provided, but there is one common kitchen facility. No meals are provided to outside guests.

Building or Structure means a building or structure whose use or useful occupancy requires the construction or modification of a potable water supply or wastewater system.

Building Sewer shall mean that part of the Sewerage System which receives the sewage from the House Plumbing System and conveys it to the nearest end of the House Connection, unless a House Connection is not available, whereby the Building Sewer shall be extended to the nearest available "Y" branch on the Main Sewer.

Building Usage Alteration is defined as a change in a building's sewer discharge amount or a change in the classification as defined in the Equivalent Connector Unit system used to determine sewer rent.

Chief Operator shall mean that employee of the Town who shall be designated by the Town Manager to operate and maintain the Public Sewerage Facilities.

Clerk shall mean the Town Clerk of the Town of Wilmington.

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

Committed Reserve Allocation is the total amount of total wastewater flow (gallons per day) from all projects/buildings allocated by the Sewer Commissioners for discharge to the treatment Plant, but not yet discharging at the time of the calculation.

Development shall mean the construction of improvements on a tract of land for any purpose, including, but not limited to, residential, commercial, industrial, manufacturing, farming, educational, medical, charitable, civic, recreational and religious uses.

Dwelling Unit is a dwelling occupied or intended to be occupied for residential purposes, containing cooking, sleeping and sanitary facilities that constitute a separate independent housekeeping establishment.

Dwelling, Mixed Use is a single structure containing within the structure a one-family dwelling and a separate permitted commercial operation. Dwelling unit shall be maintained in good order for the life of the principal structure.

Dwelling, Multiple is a building containing separate dwelling units for three (3) or more families having separate or joint entrances, services, or facilities. Multiple dwellings are subject to density requirements set forth in Article II of the Wilmington Zoning Ordinance.

Dwelling, One-Family is a detached building designated for or occupied solely as a dwelling by one family.

Dwelling, Single Family/Duplex is a building containing separate dwelling units for two (2) families, either side by side or top and bottom; each dwelling unit designated for occupancy as a dwelling for one family.

Equivalent Connector Unit is the name of the unit the Town uses to convert design flow numbers into a unit for the sewer user charge system.

Floor Drain shall mean any drain coming from a building that contains anything other than wastewater from normal domestic activities.

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

Graywater means the wastewater from normal domestic activities such as bathing, clothes washing, food preparation, and cleaning but excluding wastewater from toilets.

Health Officer shall mean the legally designated Health Officer or Deputy Health Officer of the Town of Wilmington, Vermont.

House Connection shall mean that part of the Sewerage System that runs from the Main Sewer to the property line and includes all necessary fittings.

House Plumbing System shall mean all the plumbing work within the building and to a point five (5) feet (1.5 meters) outside of the building which conveys sewage from within the building to the building sewer outside the building.

Hotel/Motel is a building providing lodging for persons with or without meals, and intended for the accommodation of transients, on a short term basis of not more than thirty (30) consecutive days, and so designed that normal vehicular access and egress are controlled from a central point. Food services can be for the general public. A Hotel/Motel is not a dwelling unit.

Industrial Wastes shall mean the liquid wastes from industrial manufacturing processes, trade or business as distinct from sanitary sewage.

Inspector for the Town shall be the Chief Operator of the Wastewater Treatment Plant or his/her representative.

Low-Income Housing is housing which is affordable to households having a gross annual income equal to or less than 60% of median income. Housing shall be either owned or rented.

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

Oil/Water/Grit Separators are devices commonly used as a method to separate oils from a variety of wastewater discharges.

Owner shall mean any person, vested with ownership, legal or equitable, sole or partial.

Person shall mean any individual, firm, company, association, society, corporation, institution, partnership, group or other entity.

Private Sewerage System or Facilities shall mean all facilities for collecting, pumping, treating and disposing of sewage that is not under the control of, nor operated by, the Town of Wilmington.

Properly Shredded Garbage 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 public sewers, with no particle greater than one half (1/2) inch (1.27 centimeters) in any dimension.

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

Public Sewerage System or Facilities shall mean all facilities for collecting, pumping, treating and disposing of sewage that are controlled and operated by the Town of Wilmington.

Reserve Allocation is the permitted wastewater flow minus the actual wastewater flow during the preceding 12 months.

Restaurant is a building where the primary function of which is to serve food and beverages to the public.

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

Scavenger Waste shall mean suitably conditioned human excrement in a fluid state solely collected from septic tanks, cesspools and approved chemical toilets, provided such facilities are located in the Town of Wilmington, Vermont.

Sewer Commissioners shall mean members of the Selectboard of the Town of Wilmington, Vermont.

Sewage shall mean a combination of the water carried wastes from residences, institutions and commercial and industrial establishments together with such ground waters as may be present.

Sewer shall mean a pipe or conduit.

Sewer Main shall mean a principal pipe in the collection system that collects sewage. This pipe shall be a minimum of 8" in diameter.

Sewer User Charge System is the system the Town uses to determine what each user design flow discharge is.

Sewage Treatment Plant or Wastewater Treatment Plant shall mean any arrangement of devices and structures used for treating sewage and/or industrial wastes.

Shall is mandatory; **May** is permissive.

Storm Sewer or Storm Drain shall mean a sewer which carries storm and surface waters and drainage, but excludes sewage and industrial wastes other than unpolluted cooling water.

Subdivision shall mean a tract of land, owned or controlled by a person or other entity, which has been partitioned or divided for the purpose of resale into two (2) or more lots.

Subsurface Sewage Disposal System shall mean any sewage treatment system whereby the tank or plant effluent is leached into the ground by subsurface disposal.

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

Town shall mean the Town of Wilmington, Vermont.

Uncommitted Reserve Allocation is that portion of the reserve allocation remaining after subtracting the wastewater flow of all projects approved by the Board but not yet discharging to the sewer.

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

WWTP shall mean the Wastewater Treatment Plant.

ARTICLE III - ABBREVIATIONS

For the purpose of this ORDINANCE, the following abbreviations shall have the meanings ascribed to them under this ARTICLE. References to standards of the following organizations shall refer to the latest edition of the same.

ANSI shall mean American National Standards Institute.

ASME shall mean American Society of Mechanical Engineers.

ASTM shall mean American Society for Testing and Materials.

AWWA shall mean American Water Works Association.

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

Cm shall mean centimeter.

CS shall mean Commercial Standard.

Degrees F shall mean degrees Fahrenheit.

Degrees C shall mean degrees Centigrade.

ECU shall mean equivalent connector unit.

Gpd shall mean gallons per day.

hp shall mean horsepower.

Kg shall mean kilograms.

L shall mean liters.

M shall mean meter.

Mg/l shall mean milligrams per liter.

NPC shall mean National Plumbing Code.

pH shall mean the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

ppm shall mean parts per million.

Sq m shall mean square meters.

WWTP – Wastewater Treatment Plant

ARTICLE IV - USE OF PUBLIC SEWERS

SECTION 401:

It shall be unlawful for any person to place, deposit or permit to be placed or deposited upon public or private property within the Town of Wilmington, or in any area under the jurisdiction of said Town, any human excrement or other objectionable waste.

SECTION 402:

It shall be unlawful to discharge to any natural outlet within the Town of Wilmington, or in any area under the jurisdiction of said Town, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with the provisions of this ORDINANCE and the laws of the State of Vermont.

SECTION 403: - SEWER DISTRICT PURPOSE AND DEFINITION

Having the actual daily discharge flow usage be at the highest targeted level will allow the Wilmington Sewer Commissioners to expand peoples' ability to connect to the wastewater treatment plant; share the treatment plants costs among a larger group of people, and increase the revenue to the Sewer Capital Fund so as to be better prepared for any anticipated or unanticipated capital expenditures.

The Sewer Commissioners' goal is to increase our actual wastewater treatment plant discharge flow to 108,000 gallons per day, and when this target has been reached, to then assess whether to continue to increase the daily discharge flow or to discontinue accepting any increase of flow into the system.

The Wilmington Sewer District is defined as those properties currently connected to the Wilmington Sewer System with the exception of the Deerfield Valley Elementary school as of February 20, 2008.

In order to achieve a daily discharge flow of 108,000 gallons per day, the Sewer Commissioners will review any requests to connect to the sewer or to increase currently connected flows that have been reviewed by the Town Manager and Chief Operator to meet any of the following criteria:

- Any property located on either side of Route 9 east to the point of the junction of the centerline of Ballou Hill Road; and either side of Route 100 south to the Deerfield Valley Rescue barn located at 34 VT RTE 100 S.
- Any property owner whose property line resides 1000 feet from any existing sewer main as of February 20, 2008.
- Any property owner, no matter the location of the property, who can prove that their current septic system has suffered a complete failure and no replacement onsite septic system can be built, or that no private septic system can be built on the property.

Installation of or repair to a private sewerage system servicing a building located within two hundred (200) feet of a public sewer is not permitted unless it meets the criteria as described in Section 107.

SECTION 404:

Private sewerage systems septic tanks which are abandoned because of the availability of public sanitary sewers shall be required to be thoroughly and properly cleaned and filled in or removed according to good sanitation practice under the inspection and regulations of the Chief Operator.

SECTION 405: - REQUIREMENTS OF SEWER/WASTE TO BE DISCHARGED TO THE PUBLIC SEWER SYSTEM

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

1. Any liquid or vapor having a temperature higher than 150 degrees F (65 degrees C).
2. Any water or waste which may contain more than 100 parts per million, by weight, of fat, oil, wax or grease, whether emulsified or not, or containing substances which may solidify or become viscous at temperatures between 32 degrees F (0 degrees C) and 150 degrees F (65 degrees C).
3. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
4. Any garbage that has not been properly shredded. The installation and operation of a garbage grinder equipped with a motor of 3/4 hp (0.76 hp metric) or greater shall be subject to the review and approval of the Chief Operator.
5. Any ashes, cinder, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, ground garbage, whole blood, hair, fleshings, entrails and paper dishes, cups, milk containers or any other solid or viscous substance, either whole or ground by garbage grinders, capable of causing obstruction to the flow in sewers or other interference with the proper operation of the public sewerage facilities.
6. Any waters or wastes having a pH lower than 5.5 or higher than 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the public sewerage facilities.
7. Any waters or wastes 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 sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the wastewater treatment plant.
8. Any chemicals or chemical compounds of the following nature or characteristics or having similarly objectionable characteristics; alcohols, arsenic and arsenicals, phenols or cresols, formaldehydes, iodine, manganese, cyanide, heavy metals and other metal finishing or plant wastes, acid pickling waste, mercury and mercurials, silver and silver compounds, sulfanamides, toxic dyes (organic or mineral), zinc, all strong oxidizing agents such as chromates, dichromates, permanganates, peroxide and the like, compounds producing hydrogen sulfide, or any other toxic, inflammable or explosive gases, either upon acidifica-

tion, alkalization, oxidation or reduction, strong reducing agents such as nitrites, sulphides, sulphites, and the like, radioactive materials or isotopes.

9. Any water or wastes containing excessive settleable solids exerting excessive chlorine demand, exerting an unusual chemical oxygen demand or containing any other material or constituent in concentrations which exceed limits which may be established by the Chief Operator.
10. Materials which exert or cause unusual concentrations of inert suspended solids (such as, but not limited to, fullers earth, lime slurries and lime residuals) or dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).
11. Materials which cause excessive discoloration such as, but not limited to, dye wastes and vegetable tanning solutions.
12. Materials which exert or cause an unusual volume of flow or concentrations of wastes which could upset the treatment process at the WWTP.
13. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the wastewater treatment plant.
14. Any noxious or malodorous gas or substance capable of creating a public nuisance.
15. Any waters or wastes if it appears likely, in the opinion of the Chief Operator, that such wastes can harm either the sewers, treatment plant process or equipment, have an adverse effect on the receiving stream, or can otherwise endanger human or animal life, limb, public property or constitute a nuisance.
16. Any waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed or proposed or are amenable to treatment only to such a degree that the sewage treatment plant effluent cannot meet the requirements of its discharge permit or of other agencies having jurisdiction over discharge to the receiving waters.

SECTION 406: - GREASE INTERCEPTORS (TRAPS)

Grease, oil, hair and sand interceptors shall be provided when, in the opinion of the Chief Operator, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts or any flammable wastes, sand and other harmful ingredients. Grease interceptors are mandatory at all restaurants, schools and establishments which prepare foods for the public. All interceptors shall be of a type and capacity approved by the Chief Operator and shall be located as to be readily and easily accessible for cleaning and inspection.

SECTION 407:

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

SECTION 408:

Where installed, all grease, oil, hair and sand interceptors shall be maintained by the Owner, at his/her expense, in continuously efficient operation at all times. Materials collected shall not be reintroduced into the public sewerage system.

SECTION 409:

The admission into the public sewers of any waters or wastes having (a) a five day B.O.D. greater than 300 mg/l of (b) containing more than 350 mg/l of suspended solids or (c) containing any quantity of substances having the characteristics described in SECTION 405 or (d) having an average daily flow greater than two percent (2%) of the average daily sewage flow received at the Town's sewage treatment plant shall be subject to the review and approval of the Chief Operator. The Chief Operator may:

1. Reject the wastes, or
2. Require pre-treatment to an acceptable condition for discharge to the public sewers, or
3. Require control over the quantities and rates of discharge, or
4. Require any combination of the foregoing.

If the Chief Operator permits the pre-treatment or equalization of waste flows, the design, plans, specifications and any other pertinent information relating to proposed equipment and facilities shall be submitted for the approval of the Chief Operator and the Agency of Environmental Conservation and no construction of such facilities shall be commenced until said approvals are obtained in writing. Further, pre-treatment facilities must be consistent with the requirements of any State of Vermont pre-treatment permits issued to the industry.

SECTION 410:

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

SECTION 411:

When required by the Chief Operator, the Owner of any property served by a building sewer carrying industrial wastes shall install a control manhole in the building sewer to facilitate observation, sampling and measurement of the wastes. Such manhole, when required, shall be accessible and safely located and shall be constructed in accordance with plans approved by the Chief Operator. The manhole shall be installed by the Owner, at his/her expense, and shall be maintained by him so as to be safe and accessible at all times.

SECTION 412:

All industries discharging into a public sewer shall perform such monitoring of their discharges as the Chief Operator may reasonably require, including installation, use and maintenance of monitoring equipment, keeping records and reporting the results of such monitoring to the Chief Operator. Where industrial pre-treatment permits are issued by the State of Vermont, monitoring records must also be submitted to the State in accord with such permit. Such records of any monitoring shall be made available upon request of the Chief Operator to the State of Vermont and/or any other agencies having jurisdiction over discharges to receiving waters.

SECTION 413:

All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made in this ORDINANCE shall be determined in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association and shall be determined at the control manhole provided, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the existence of hazards to life, limb and property. (The particular analyses involved will determine whether a twenty-four (24) hour composite of all outfalls of a premise is appropriate or whether a grab sample or samples should be taken.) Normally, but not always, B.O.D. suspended solids analyses are obtained from twenty-four (24) hour composites of all outfalls whereas pH's are determined from periodic grab samples.

SECTION 414:

Any industry held in violation of the provisions of this ORDINANCE may have its disposal authorization terminated.

SECTION 415:

The Chief Operator may require that any applicant for a permit or a sewer user provide, at his/her expense, chemical analyses, treatability studies, engineering reports or other documentation which shall be prepared by a professional engineer or a certified laboratory, as applicable.

SECTION 416:

The discharge of scavenger (septic tank) wastes, into the public sewerage facilities is prohibited.

ARTICLE V - CONNECTION TO PUBLIC SEWER

SECTION 501:

No person shall cover or uncover, make any connections with or opening into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining a permit. Any person proposing a new discharge into the system, a change in the volume or character of pollutants that are being discharged into the system, or a building usage alteration, (as defined by the Sewer User Charge System), of the property to increase discharge shall apply for sewer allocation from the Chief Operator in writing, at least forty-five (45)

days prior to the proposed change or connection. If the proposal to make a new connection meets all the requirements of this Ordinance, the Chief Operator, after consulting with the Town Manager, will forward the application to the Sewer Commissioners for final approval. The Town Manager shall have the authority to grant permission for building usage alteration requests.

SECTION 502:

Prior to connection to the Town's Sewer System, the Owner, or his/her agent, shall make application on a special form provided by the Town. The permit application shall be supplemented by any plans, specifications or other information considered pertinent in the judgment of the Chief Operator. The permit fee shall be as determined by the Sewer Commissioners and will be posted in the office of the Town Clerk. Permit fees, payable to the Town of Wilmington, shall be paid to the Town Treasurer at the time the application is filed. All permits shall become void if not used within one (1) year from date of issuance. Prior to the issuance of a sewer connection permit after July 1, 2007, an approved State of Vermont WASTEWATER SYSTEM & POTABLE WATER SUPPLY PERMIT must be submitted to the Town.

SECTION 503:

Prior to issuance of a sewer connection permit for work requiring excavation in a Town of Wilmington paved street or highway, the applicant must first obtain a Permit for work in the Town right of way. For streets or highways under jurisdiction of governmental agencies other than the Town of Wilmington, written permission for excavation shall be obtained from the agency in questions and same shall be presented to the Sewer Commissioners and meet their approval prior to issuance of the sewer connection permit.

SECTION 504:

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

SECTION 505:

A separate and independent sewer connection shall be provided for each and every building except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway in which case the building sewer from the front building may be extended to the rear building and the whole considered as one sewer connection. This requirement may be waived by the Chief Operator in special cases if independent connections are not feasible or if shared connections are in the best interest of the Town. Use of private sewers which accept and convey flow from more than one building may not be used, except when found, on examination and test by the Chief Operator, to be in satisfactory condition and meeting all requirements of this ORDINANCE. The burden of proof and all expenses incurred by the Chief Operator to determine the condition and adequacy of the private sewer shall be borne by the Owners of said private sewer.

SECTION 506:

A portion of the existing outside piping of the house plumbing system may be used in connection with the sewer connection only when it is found, on examination and test by the Chief Operator, to meet all requirements of this ORDINANCE.

SECTION 507:

The diameter of the building sewer shall not be less than four (4) inches (10.2 cm). The building sewer shall be laid on a uniform grade, wherever practicable, at a straight grade of at least one-fourth (1/4) of an inch per foot (2%). Where, in special cases, a minimum grade of one-fourth (1/4) inch per foot cannot be maintained, a grade of one-eighth (1/8) inch per foot (1%) will be permitted, but only after approved by the Chief Operator.

SECTION 508: - CHECK VALVE REQUIREMENTS

Any new sewer connection or major repair requires the installation of an approved check valve to prevent sewer main back-ups from entering private connections. The owner of the property is responsible for the purchase, installation and maintenance of the check valve.

SECTION 509:

Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. No building sewer shall be laid parallel to or within three (3) feet (91.4 cm) of any bearing wall which might thereby be weakened. The depth shall be four (4) feet to protect from frost. If four feet depth cannot be achieved, insulation can be used. The building sewer shall be laid at uniform grade in the direction from the main sewer to the building and in a straight alignment insofar as possible. Change in direction shall be made only with properly curved pipe and fittings with suitable clean-outs or flush holes as described in SECTION 518.

SECTION 510:

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

SECTION 511:

No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, floor drains, cellar drains, basement sumps or other sources of surface runoff or groundwater to a building sewer which in turn is connected directly or indirectly to a public sanitary sewer unless they meet the conditions in section 511A. Existing connections of swimming pools as of March 1, 2008 are permitted without fee, new connections of swimming pool discharges and or drains will be permitted but will be charged as determined in Article X of this Ordinance. Owners are required to contact the Chief Operator at the Treatment Plant to schedule draining. The discharge shall meet the requirements of Section 405 of this Ordinance. Owner's who drain swimming pools without the consent of the Chief Operator or his/her

representative, will be found in violation of this Ordinance and subject to the fines and penalties as described in Article XI of this ordinance.

SECTION 511A:

The Sewer Commissioners may approve connections of floor drains to the public sanitary sewer under certain conditions. If the owner or representative of a property can prove that not allowing the connection would cause unnecessary hardship, or the cost of connecting the floor drain to the sewer is 30% more than installing a private system which meets State requirements. Such costs must be substantiated by the minimum of two estimates. If the Sewer Commissioners do allow connection of floor drains to the public sewer, the following conditions shall be met. An approved oil, water and grit separator shall be installed and the Town of Wilmington Wastewater staff reserves the right to collect a sample of the discharge from the separator at any time and have it tested at the owner's expense for oil and grease content at a cost not to exceed \$100 for each sample. The discharge from the separator shall meet all the requirements of Sections 405 and 409. If any of those parameters in Sections 405 and 409 are exceeded, the Owner will be notified that they are in violation of this Ordinance and may be subject to fines and penalties as described in Section 1001 of this Ordinance.

SECTION 512:

When installing the building sewer, the excavated materials shall be placed in a separate pile from road materials and not mixed with the rest of the excavated materials which must be piled in a compact heap so placed as to cause the least possible inconvenience to the public. Proper barricades and lights must be maintained around the trench to guard against accidents. All State and Federal Safety Rules shall be followed regarding trenching. If the Town's inspector feels the site is unsafe, he/she has the authority to shutdown the worksite until proven safe.

SECTION 513:

In backfilling, the material under, around and for two (2) feet (61 cm.) immediately over the pipe shall be selected so it contains no stones capable of damaging the installation. This must be carefully tamped, the balance of the trench to be backfilled in a workmanlike manner, tamping and filling in eight (8) inch (20.3 cm.) layers so as to avoid any settlement. When the trench has been filled to the proper height, the road material is to be replaced and heavily tamped or rolled.

SECTION 514:

Where the trench is excavated in rock, the rock must be carefully excavated to a depth of six (6) inches (15.2 cm.) below the bottom of the sewer and the trench brought to the proper elevation with gravel or other material satisfactory to the Chief Operator. The remainder of the trench must be backfilled with suitable material as described in SECTION 512.

SECTION 515:

Where sub-soil conditions warrant, such special precautions must be taken as may be directed by the Chief Operator. In quicksand, all pipes must be laid out on planking two (2) inches (5.1 cm.) thick by at least six (6) inches (15.2 cm.) wide.

SECTION 516:

The connection of the building sewer to the main sewer shall be made at the house connection at the property line or, if no house connection exists, connection shall be made at the nearest available "Y" connection on the main sewer, whichever is appropriate. If it becomes necessary to cut into the main sewer, since no other source of connection is available, then such connection shall be made as directed by and under the supervision of the Chief Operator. The ends of all pipes not immediately connected with the house plumbing system must be securely closed by a water-tight cover of imperishable material and properly marked and located.

SECTION 517:

Prior to any connection to the house connection, "Y" or to the sewer main, the Chief Operator shall be given notice in order that he/she may inspect such work as referenced by the connection permit. If the Chief Operator has not been properly notified, he/she may require the completed work to be uncovered for examination, at the Owner's own expense.

SECTION 518:

The use of clean-outs on the building sewer shall be made by installing a "Y" and one-eighth (1/8) bends. The clean-outs shall ordinarily be installed at the point of connection between the building sewer and the outside part of the house plumbing system at all curves on the building sewer and on the straight part of the house sewer to the main sewer. The clean-out shall be brought up from the building sewer to four (4) inches (10.2 cm.) below ground level to be properly capped. Locations of all clean-outs shall be recorded and turned over to the Chief Operator. where the distance from the building to the point of connection at the main sewer is less than fifty (50) feet (15.2 m.), and there are no curves in this distance, the clean-out in the house will be sufficient if it is at least six (6) inches (15.2 cm.) above the basement floor. Where the distance exceeds fifty (50) feet (15.2 m.), at least one (1) clean-out twenty (20) feet (6.1 m.) from the house shall be provided. Clean-outs shall be of the same diameter as the building sewer.

SECTION 519:

Before any portion of an existing building sewer or the house plumbing system outside of the building is connected to the main sewer, the Owner shall prove, to the satisfaction of the Chief Operator; that it is clean and conforms in every respect to this ORDINANCE and all joints are water-tight.

SECTION 520: - SEWER CONSTRUCTION MATERIALS

The Chief Operator shall allow or shall not allow the use of any or all materials for sewer construction as he/she deems fit. The Chief Operator shall have the authority to make changes in materials authorized for use in systems under the Town of Wilmington's jurisdiction at any time. If the property owner or
Wilmington Sewer Ordinance October 2, 2013

contractor does not agree with the Chief Operator/Commissioner's decision, within 7 business days of being notified of the decision they may appeal in writing. Such a written appeal must be sent to the Town Manager. Upon receipt the Town Manager may schedule an appeal hearing at a regularly scheduled or special Sewer Commissioner's meeting.

Improvements in materials used for sewer construction and jointing methods of any type may be submitted to the Chief Operator for approval, but the Chief Operator will be in no way obligated to accept such new sewer materials or joints.

It is the intent of this Section that all pipe joints shall be water-tight, except those employed in absorption fields. Allowable leakage by infiltration or exfiltration tests shall not exceed one hundred (100) gallons per inch diameter per mile per day (0.092 cu.m./day/cm. diameter/km.) when the pipe is subjected to a hydrostatic pressure equivalent to a four (4) feet (1.22 m.) differential head of water. Cement and mortar joints will not be acceptable.

For a description of acceptable materials to be used for building sewers discharging domestic sewage or wastewaters to the public sewerage system under the jurisdiction of the Town of Wilmington, refer to the State of Vermont Environmental Protection Rules Appendix 1 -A Wastewater System and Potable Water Supply Rules for acceptable building sewers material found in the appendix of this Ordinance.

SECTION 521:

Where pipe is installed for building sewers, such work shall be inspected and signed off by a Vermont licensed plumber. The form found in section XVI shall be completed and signed by a Vermont Licensed Plumber and given to the Chief Operator at the completion of the job.

SECTION 522:

The Chief Operator may require the owner, contractor or plumber to perform appropriate tests to the pipes to insure proper installation and water tightness. The plumber and contractor, at their own expense, shall furnish all necessary tools, labor and materials for such tests and shall remove or repair any defective materials when so ordered by the Chief Operator.

SECTION 523: – USE OF LOW FLOW DEVICES:

The use of Low Flow Devices is required for any new construction, building usage alteration or increased allocation and shall include low flow toilets using 1.6 gallons of water per flush and restrictors in all faucets and showers, allowing no more than two gallons per minute or less, and which are approved by State code or standards.

SECTION 524:

Each plumber, contractor or other person performing work on public property for the purpose of installing a building sewer shall file with the Commissioners evidence of adequate insurance coverage for liability and property damage. Minimum amounts of coverage will be established by the Sewer Commissioners and posted in the Town Office.

SECTION 525:

All work shall be adequately guarded with barricades, lights and other measures for protection to the public from hazard. Streets, sidewalks, curbs and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the Town and other authorities having jurisdiction.

SECTION 526:

The Contractor shall not block any driveway, street or road at any time without permission of the Sewer Commissioners and other controlling agencies. Every effort shall be made to permit the movement of vehicular traffic at all times. Whenever it becomes necessary to cross or interfere with roads, walks or drives, whether public or private, the Contractor shall maintain, at his/her own expense and subject to the approval of the Sewer Commissioners, safe bridges or other means of egress.

SECTION 527:

The property owner is responsible for maintaining the building sewer from the point of connection from the sewer main to the building. The Town is responsible for maintaining the sewer main.

DEVELOPMENTS AND SUBDIVISIONS

SECTION 528:

All new and existing development within the Town of Wilmington shall provide engineering proof of capability of sewage disposal satisfactory to the State of Vermont Agency of Environmental Conservation. Connections to and use of the Town's public sewerage facilities shall be at the sole discretion of the Sewer Commissioners who shall consider, among other things, the following:

1. Capacity of existing facilities;
2. Location of the development and future potential impact on the Town as a result of contemplated sewer extension;
3. Consideration of costs to the Town;
4. Economic and social benefit to the Town;
5. Availability of funding;
6. The cost to the Town of Wilmington (local share) for all future public sewerage system extensions and expansions shall be borne by the developer or property owners to be affected by the extension or expansion, unless the voters of the Town shall vote at a special Town Meeting to assume the costs involved in a proposed extension or expansion.

SECTION 529:

In the case of new developments, the required sanitary sewers shall be designed, installed and operable prior to the generation of any sewage from the development.

SECTION 530:

All provisions of the Sections of this Article shall apply to the sanitary sewers within developments, except as hereinafter noted.

SECTION 531:

Materials of construction shall comply with the applicable Sections of this ORDINANCE and as required and approved by the Chief Operator.

SECTION 532:

At the discretion of the Sewer Commissioners, the Town may accept the constructed facilities as part of the public sewer system and will operate and maintain same provided the following conditions are met by the Owner of the development:

1. The Owner shall provide the Town with a signed affidavit that such facilities are free from debt and that all bills for materials, labor, engineering, etc. and claims for damage have been satisfied and secured;
2. A warranty deed(s) or permanent easement(s) shall be provided by the Owner to the Town for all lands on which such facilities are located;
3. A statement to the Town committing the Owner to pay for all repairs and replacements of defective structures, materials, equipment, etc. during the first year after the date of official acceptance by the Sewer Commissioners;
4. A statement from the Owner conveying ownership of the facilities to the Town;
5. Any other statements, affidavits or other materials as required by the Sewer Commissioners;
6. The Owner shall bear all costs for the transfer of ownership and for all expenses incurred in complying with the requirements of this ORDINANCE.

ARTICLE VI – ALLOCATION

SECTION 601 - Introduction to Reserve Allocation

The permitted allocation of the WWTP and SEWERS is the property of the TOWN. The uncommitted reserve allocation of the WWTP and SEWERS shall be allocated by the Sewer Commissioners in the manner described in the following sections. The annual sewer allocation allotment shall be determined by the Chief Operator using the annual report of uncommitted reserve sewer allocation.

SECTION 602 - Reserve Allocation

Allocation Flow Basis

All allocations to projects shall be based on the flow table located in the State of Vermont Environmental Protection Rules Chapter 1 Wastewater System and Potable Water Supply Rules, Subchapter 8, Section 808, Effective September 29, 2007 found in the appendix of this ordinance.

If actual flow is less than the permitted flow issued, the difference is not transferable to establish a new project or expand the existing building.

SECTION 603 - Allocation Priorities

Allocation of uncommitted reserve sewer allocation shall comply with the following priority intended to govern the gross allocation of reserve sewer allocation before the allocation principles are applied to specific projects.

- Residential, affordable housing, commercial, institutional and industrial facilities existing within the sewer service area as defined in Section 403 of the Municipal Sewer Ordinance, or by virtue of existing pollution from the facilities to waters of the State, shall be entitled to first priority in allocation of uncommitted reserve allocation.
- New construction within the sewer service area, as defined in Section 403 of the Municipal Sewer Ordinance, will have second priority.
- No dispersal of reserve sewer allocation shall be made for facilities outside the sewer service area, as defined in Section 403 of this Ordinance.

SECTION 604 - Allocation Principles

Subsequent to application of the allocation priority, uncommitted reserve allocation in the WWTP shall be allocated to specific projects according to the following procedure:

1. Applications for Sewer Allocation will be reviewed by the Chief Operator. He/she will verify that the application is complete and that all information is correct. The Chief Operator will then meet with the Town Manager to discuss the application and schedule a time to take the application to the Sewer Commissioners.
2. The Sewer Commissioners will review and approve the applications on a first come, first served basis. within the following guidelines. The Sewer Commissioners retain the right to review applications and make allocations on other than a first come, first served basis if they find such action is in the town's best interest.
3. If the application is denied, the Chief Operator will contact the applicant in writing of the Sewer Commissioners decision.
4. If the Sewer Commissioners approve the application, the Chief Operator will contact the applicant in writing advising them that they now have preliminary approval for sewer allocation and must meet the

following requirements to obtain final allocation approval. Included in this letter will be an invoice for 25% of the total allocation fee.

5. The applicant will have 30 days from the date of preliminary approval to pay twenty-five percent (25%), of the total allocation fee. If a new or revised State of Vermont Water/Wastewater Permit is required for this project, the Chief Operator will send a letter to the State after the Town receives the 25% allocation fee.

6. The applicant will have 90 days from the date of preliminary approval to withdraw their allocation application and receive a full refund of allocation fees paid to the Town except for the \$36 application fee.

7. The applicant must apply for Final Approval within three (3) month of receiving preliminary approval. If the applicant fails to apply for final approval or to request an extension of preliminary approval, the preliminary approval will be revoked and all fees will be reverted to the Town.

8. If the applicant applies and is granted final approval, the following conditions shall be met:

1. The applicant must pay the remaining 75% allocation fee – whichever comes first of:

A. Within six (6) months of Final Approval or,

B. Prior to:

a. Use-if adding to an already existing connection or,

b. Before connection permit is issued for new connections

2. Begin paying sewer rent – whichever comes first of:

A. Within six (6) months of Final Approval or

B. Prior to:

a. Use-if adding to an already existing connection or,

b. When Connection Permit is issued for new connections

9. The applicant must initiate construction – within one (1) year of Final Approval (or allocation reverts to the Town)

10. The applicant must complete construction – within three (3) years of Final Approval (or allocation reverts to the Town)

11. If applicable, the applicant must also apply for and receive Connection Permit (\$80.00 fee) before connection.

SECTION 605 - Transfer of Allocation

The transfer of the sewer allocation is prohibited and shall run with the land, unless approved in writing by the Sewer Commissioners at the original owner's request.

SECTION 606 – Request to Relinquish Allocation

The Town Manager and Chief Operator shall review all written requests to relinquish allocation. After reviewing the request and verifying all information, the Town Manager will have the authority to grant the request. The date the original request was received by the Town will be the date used when recalculating the sewer rent. No refunds will be given for any unused or relinquished allocation. The property owner requesting to relinquish allocation; will have 30 days after the date the signed acceptance letter is received from the Town to withdraw their request. After 30 days, if the property owner decides they would like to increase their allocation, they will need to follow the procedure and regulations as defined by this Ordinance regarding allocation.

SECTION 607 - Sewer Main Extension

Any requests to connect to the Town sewer system, must first meet the criteria as defined by Section 403 and Section 603 of this Ordinance.

If a request is made to connect to or extend the Town sewer system in an area where there is currently no sewer main, the Town and the applicant shall be responsible for the following:

- The applicant will first seek preliminary approval of connection from the Commissioners.
- The Town will notify all the property owners in the area who may meet the criteria as defined by Sections 403 and 603 of this Ordinance.
- The applicant or applicants will be responsible for meeting all current State regulations regarding the sewer extension.
- The applicant(s), will be responsible for all cost related to the connection or extension.
- After installation, the applicant(s) may submit a request in writing to the Town to take over ownership of the extension, if all of the following requirements are met:
 - o The extension meets the definition and requirements of a sewer main.
 - o The applicant(s) provide the Town with a 20 foot permanent easement for the entire extension.
 - o Any other related requirements that the Town may deem necessary for the specific project.

ARTICLE VII - PROTECTION FROM DAMAGE

SECTION 701:

No unauthorized person shall maliciously, willfully or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is part of the Public Sewerage System. Any person violating this provision shall be subject to all appropriate legal charges.

SECTION 702:

Procedures and policies for managing sewer backups

It is the policy of the Sewer Commissioners of the Town of Wilmington that the Wilmington Wastewater Department shall respond to requests for assistance by municipal sewer customers in the event of a sewer backup in the following manner:

An investigation shall be made to determine if the sewer blockage is in the town sewer main (i.e., between municipal manholes or at municipal manholes). This investigation is made generally by removing the manhole covers immediately upstream and downstream of the reported blockage.

If the sewage flow in the municipal manholes is flowing freely, the indication is that the blockage is occurring in the service connection between the building and the sewer main. The affected sewer customer(s) shall be notified and informed that the problem appears to be in the service connection. It is the responsibility of the sewer customer to correct the problem and the Town will take no further repair action. The Town, however, reserves the right granted under the sewer ordinance to inspect and approve all repairs that are made.

If the blockage is determined to be in the main sewer line or inside the municipal manhole, the Town shall be responsible for removing the blockage and re-establishing flow.

ARTICLE VIII - POWERS AND AUTHORITY OF INSPECTORS

SECTION 801:

The Sewer Commissioners, Health Officer, Chief Operator and other duly authorized employees of the Town of Wilmington bearing proper credentials and identification shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this ORDINANCE.

ARTICLE IX - SEWER RENTS

SECTION 901 OPERATION AND MAINTENANCE:

An annual charge shall be determined by the Sewer Commissioners for the costs of operating, maintaining and repairing said system and is hereby imposed upon every person whose premises have a building or structure thereon and are served by the public sewerage system of the Town and from which, either directly or indirectly, sewage is being collected from the use of the premises by the Owners or other users of real property within the Town.

SECTION 902:

The sewer rents established in SECTION 901 and defined hereinafter shall be charged whether or not the property is occupied when the property is connected to the public sewerage system by the necessary building sewer as required under the terms of this ORDINANCE.

SECTION 903:

The annual charges stipulated in SECTION 901 shall be based upon the Town's equivalent connector unit system.

SECTION 904 CAPITAL COSTS:

The design, construction and development costs of all public sewerage system expansions and extensions which have been approved by the Sewer Commissioners shall be borne by the developers or property owners requiring, requesting or directly benefiting from such extensions and/or expansions, unless the

voters of the Town shall vote at a duly warned annual or special Town Meeting to assume all or a portion of the costs involved. When the voters of the Town vote to assume all or a portion of the costs, such costs will be paid from the collection of taxes unless the voters of the Town approve some other means of raising the required monies.

SECTION 905: SEWER CAPITAL ACCOUNT

The first priority of the Sewer Capital Account is to fund any future upgrades to the Treatment Plant or Collection System. The second is to have funds available for any emergency repairs or unexpected equipment replacement that exceeds \$2500 and the third is for major purchases of new equipment such as vehicles, specialty equipment or equipment that is used for improvements to the Treatment Plant, Collection System or the general operation of the facility. The sewer capital account may also be used by other Town Departments to borrow from with the agreement that interest is paid on the borrowed amount at a rate to be determined by the Town Manager.

SECTION 906 COLLECTIONS:

DELINQUENT SEWER POLICY

Understanding that it can be difficult for people to pay their town sewer taxes, it is the responsibility of all to pay their required share or others have to pay higher sewer taxes to make up the difference. This policy is designed to give clear instructions as to how to avoid being delinquent, a system by which people can become whole if they become delinquent, and the steps the town of Wilmington will take if a taxpayer does not meet their obligations to the town and the other citizens.

Postmarks with date taxes are due are accepted as on-time payments.

Each month sewer taxes are delinquent the town will send a notice to the delinquent taxpayer. Interest is added on the fifteenth day of each month before the notice is mailed. An 8% penalty is added after the March installment.

If the taxpayer has two installments delinquent the town will notify the taxpayer of the date by which full payment must be received or payment arrangements made. Expected tax sale costs once a tax sale process begins, and /or other methods' costs will also be included. It is the responsibility of the delinquent taxpayer to respond to the notice or the town will initiate the steps to collect either by taking the property to tax sale or utilizing other statutory methods to collect payment. Payment arrangements may be agreed-to provided it will pay the bill in full within 1 year. Current taxes will also need to be paid in full as they become due. A signed contract must be filed with payment arrangements. Under this plan the partial payments will be applied proportionally to principal, interest, and penalty (if any).

If no arrangement is made by specified date or taxpayer defaults on contract then either tax sale proceedings will be started and/or the town will utilize other statutory methods to collect payment.

If the town utilizes a tax sale the town will begin the following actions to sell as much of the property as is necessary to pay the delinquent tax, and fees:

The collector will proceed with the tax sale according to the procedures specified in 32 V.S.A., section 5252.

Costs of preparing and conducting the sale, including legal fees up to a maximum of 15% of the amount of the delinquent tax, will be charged to the delinquent taxpayer.

All penalty and interest charges are used by town to defer cost of sending delinquent notices and other expenses related to collecting delinquent taxes.

Tax abatement is a process by which a taxpayer may ask to have his or her taxes lessened, moderated or diminished. Sewer tax abatement request goes to the board of selectmen. For information on abatement of sewer taxes see Vermont Statute 24 V.S.A., section 5147.

ARTICLE X – PENALTIES

SECTION 1001:

Any person found to be violating any provisions of this ORDINANCE except SECTION 701 shall be served by the Sewer Commissioners with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations. Any person, who is found guilty of a one-time violation of this ORDINANCE such as, but not limited to; draining a swimming pool without consent or illegal dumping into the system, will be subject to a \$500 fine and possible further legal action.

SECTION 1002:

This Ordinance is designated as a criminal ordinance. Any person who shall continue any violation beyond the time limit provided for in SECTION 1001 shall be guilty of a misdemeanor and upon conviction thereof shall be fined in an amount not to exceed Five Hundred Dollars (\$500.00) for each offense. Each day in which any such violation shall continue shall be deemed a separate offense.

SECTION 1003:

Any person violating any of the provisions of this ORDINANCE shall become liable to the Town of Wilmington for any expenses, loss or damage occasioned the Town by reason of such violation.

SECTION 1004:

Notwithstanding any of the foregoing provisions, the Town may institute any appropriate action including injunctive relief or other proceedings to prevent, restrain or abate violations hereof.

ARTICLE XI - APPLICATIONS/PERMITS/FEES

SECTION 1101:

Applications for permits shall be made on forms established and provided by the Sewer Commissioners.

SECTION 1102:

Any false or misleading statement in any application for a permit will invalidate the permit and shall be deemed a violation of this ORDINANCE.

SECTION 1103:

Any permit issued by the Sewer Commissioners may be suspended or revoked at any time by the Sewer Commissioners for:

1. Violation of any of the conditions of this ORDINANCE.
2. Violation of the specific terms and conditions of the permit.
3. Refusal to permit inspection by the Chief Operator or his/her duly authorized representatives.

SECTION 1104:

The Chief Operator or his/her duly authorized representative, may verbally suspend or revoke a permit at any time whereupon the suspension or revocation shall take effect immediately. Such action will be confirmed in writing by the Sewer Commissioners. When possible, the Sewer Commissioners will provide a written notice to desist or make correction of any practice or operation which violates or contravenes the provisions or the purpose of this ORDINANCE or the permit and will allow sufficient time for the correction of the violation. If the property owner or contractor does not agree with the Chief Operator/Commissioner's decision, within 7 business days of being notified of the decision they may appeal in writing. Such a written appeal must be sent to the Town Manager. Upon receipt the Town Manager may schedule an appeal hearing at a regularly scheduled or special Sewer Commissioner's meeting.

SECTION 1105:

All permits must be kept on the premises and shall be made available to the Sewer Commissioners, Chief Operator, or his/her duly authorized representative at any time. Failure to keep permits available shall be presumptive evidence that the work or operation being conducted without a permit is in violation of this ORDINANCE.

SECTION 1106:

All fees stipulated in this ORDINANCE shall be determined by the Sewer Commissioners and shall be posted in the office of the Clerk. All fees shall be made payable to the Town of Wilmington and paid directly to the town finance officer.

ARTICLE XII - VALIDITY

SECTION 1201:

All rules and regulations in conflict herewith are hereby repealed.

SECTION 1202:

Each section or part of a section in this ORDINANCE is hereby declared to be a separate and distinct enactment. If any section or portion thereof in this ORDINANCE, as adopted, is found to be void, invalid,

unconstitutional, inoperative or ineffective for any cause, it shall not affect the validity of any other section or part thereof which can be given effect without such invalid part or parts.

ARTICLE XIII - ORDINANCE IN FORCE

SECTION 1300: Adoption/Effective Date

This Ordinance is hereby adopted by the Selectboard of the Town of Wilmington on this the 2nd day of October, 2013, and shall become effective upon sixty (60) days from this date unless a petition is filed within forty-four (44) days as provided by law.

SECTION 1301: Recording

This Ordinance shall be recorded by the Town Clerk in the Records of the Municipality.

WILMINGTON SELECTBOARD

Margaret L. Streeter, Chair

Susan Joy Haughwout

Diane Chapman

James R. Burke

Jacob White

ARTICLE XIV – APPENDIX

A – Town of Wilmington Application for Connection to the Municipal Sewer System.

B – Town of Wilmington Application for Repair to a Connection.

C – Town of Wilmington Application for Wastewater Treatment Allocation Permit

D – Town of Wilmington Sewer User Charge System

E – State of Vermont Wastewater System & Potable Water Supply Permit Application.

F – State of Vermont Highway Right of Way Permit Application.

G – Town of Wilmington Highway Right of Way Permit Application.

H – Plumber sign off form.

I - State of Vermont Design Flows Table.

J – State of Vermont Design Guidelines for Building Sewers, Sewer Collection Systems, Sewage Lift Stations and Force Mains.

TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX A

TOWN OF WILMINGTON
APPLICATION FOR CONNECTION
TO THE MUNICIPAL SEWER SYSTEM

SCHEDULE C

Town of Wilmington

Application for CONNECTION to the Municipal Sewer System

NOTE: If your property is in the Wilmington Water District, Please check with them to see if a permit is required.

(Boxed areas for office use only)

Date Received: _____	Application Fee (\$80.00)
Time: _____	PAID:\$_____ <input type="checkbox"/> Check #_____ <input type="checkbox"/> Cash
TAX MAP #: _____	Bianchi Fee (\$11.00)
PSC #: _____	PAID:\$_____ <input type="checkbox"/> Check #_____ <input type="checkbox"/> Cash
Initials: _____	Received by (Signature): _____

APPLICATION FOR CONSTRUCTION OF A PUBLIC SEWER CONNECTION

INSTRUCTIONS: (Town Ordinance sections 501, 502) Complete Application and submit the original to the Wilmington Town Manager, PO Box 217, Wilmington, VT 05363, along with a check made payable to Town of Wilmington for the fee.

- ◆ Application Fee: \$80.00
- ◆ Bianchi Fee:\$11.00 (Disregard if already paid for allocation permit **being processed at same time.**)

TO: Town of Wilmington – Board of Sewer Commissioners.

The Undersigned, being the owner of the property located at _____
(Locatable address # and street)

does hereby request a permit to install a public sewer connection and/or a sanitary sewer system within a development or subdivision to serve _____ of building(s) consisting of _____ Single Family Residence(s), _____ Apartment(s), _____ Commercial Building(s), _____ Industrial Facilities and/or _____ at said location.

(503) Will work require excavation in a Town or State highway right of way? Yes No. If work will be done within a State or Town highway right of way, permits must be attached.

(506) Will any portion of any existing outside piping be utilized in making the public sewer connections? Yes No. If yes, has piping been approved for use by the Commissioners? Yes No.

(507) Building Sewer Size? _____ (4" min.) slope _____ (1/4"/ft.) desired.

(520) Building Sewer Material _____.

(509) Depth of cover over pipe? Varies from _____ to _____ ft. (4' min.)

(511, 511A) Will any connections be made from roof drains, foundation drains or other sources of surface runoff or groundwater to building sewer? Yes No. If yes, explain why.

(516) Building sewer to be connected to public sewer by a Town provided house connection Town provided wye connection, new tap provided by owner, other _____.

(518) Length from structure to public sewer, as measured along proposed route of building sewer? ____ ft. Is the alignment straight, or are there bends? Number of cleanouts to be provided? _____.

(521) Name, address and telephone number of plumber to perform the work:
_____.

(526) Is work to be done on public property or within a highway right-of-way? Yes No. If Yes, have the required insurance policies and performance bonds been filed with the Commissioners? Yes No.

Those persons applying for a permit relative to sanitary sewers or public sewer connections for developments or subdivisions shall submit herewith, a complete set of design notes, plans, specifications, State approval and all other information required or necessary to completely identify the work proposed.

In consideration of granting a permit, the undersigned certifies that the information provided herein is true and correct and agrees to the following:

1. To accept and abide by all provisions of the "Ordinance Regulating the Use and Allocation of Reserve Capacity of Public and the Use of Private Sanitary Sewerage Systems, Wilmington, Vermont", (ORDINANCE) and of all other pertinent ordinances or regulations that may be adopted in the future.

2. To construct the proposed facilities in accordance with the information provided herein, the ORDINANCE and all other provisions which may be included on the Permit.

3. To install, operate and maintain the proposed facilities in a sanitary manner at all times, at no expense to the Town.

4. To Notify the Commissioners or the WWTP Chief Operator at least 48 hours in advance of any work and before covering any work in order that they may supervise and inspect such work (517).

5. To allow the Commissioners, or their authorized representatives, to enter upon said property to witness tests and construction or for any other purposes required to determine compliance.

6. To pay for all costs and to furnish all necessary tools, labor, materials and assistance for making required tests and for removing, replacing or repairing defective work or materials, at no expense to the Town.

Signed _____

Print Name _____

Mailing Address _____

Tel. No. _____

Tel. No. Local _____

Date _____

* Do not write below this line *

Received on _____, 20____ By _____

Received by John Lazelle, Chief Operator on _____

Est. GPD _____ (SFD 250; public buildings per State Flow Quantities.

User Classification: _____ ECU _____

Application is: Approved Approved as Noted Disapproved

John Lazelle, Chief Operator, WWTP

Zoning, Design Control Permits Required? YES NO

If yes, date issued and permit No. _____

Road opening permit required? Yes No. If yes, has it been Issued? Yes No.

Sewer Permit issued on _____, 20____ and expires

on _____, 20____ (6 Months.)

Chairman, Board of Sewer Commissioners
(or authorized representative)

TOWN OF WILMINGTON, VT

ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX B

TOWN OF WILMINGTON

APPLICATION FOR REPAIR TO AN EXISTING CONNECTION

SCHEDULE C-R (for REPAIR or work in close proximity to the existing sewer connection)

Town of Wilmington

Application for REPAIR TO A CONNECTION to the Municipal Sewer System

NOTE: If your property is in the Wilmington Water District, Please check with them to see if a permit is required.

(Boxed areas for office use only)

Date Received: _____	Application Fee (\$80.00) WAIVED FOR REPAIRS
Time: _____	PAID: _____ <input type="checkbox"/> Check # _____ <input type="checkbox"/> Cash
TAX MAP #: _____	Bianchi Fee (\$11.00) WAIVED
PSC #: _____	PAID:\$ _____ <input type="checkbox"/> Check # _____ <input type="checkbox"/> Cash
Initials: _____	Received by (Signature): _____

APPLICATION FOR REPAIR OF A PUBLIC SEWER CONNECTION

INSTRUCTIONS: (Town Ordinance sections 501, 502) Complete Application and submit the original to the Wilmington Town Manager, PO Box 217, Wilmington, VT 05363. (Permit Required but Application Fee waived for repairs.)

TO: Town of Wilmington – Board of Sewer Commissioners.

The Undersigned, being the owner of the property located at _____
(Locatable address number and street)
does hereby request a permit to make repairs to an existing public sewer connection, described as follows:

(503) Will work require excavation in a Town or State highway right of way? Yes No. If work will be done within a State or Town highway right of way, permits must be attached.

(506) Will any portion of any existing outside piping be utilized in making the public sewer connections? Yes No. If yes, has piping been approved for use by the Commissioners? Yes No.

(507) Building Sewer Size? _____ (4" min.) slope _____ (1/4"/ft.) desired.

(520) Building Sewer Material _____.

(509) Depth of cover over pipe? Varies from _____ to _____ ft. (4' min.)

(511,511A) Will any connections be made from roof drains, foundation drains or other sources of surface runoff

or groundwater to building sewer? Yes No. If yes, explain why.

(516) Building sewer to be connected to public sewer by a Town provided house connection, Town provided wye connection, new tap provided by owner, other _____.

(518) Length from structure to public sewer, as measured along proposed route of building sewer? ____ ft. Is the alignment straight, or are there bends? Number of cleanouts to be provided? _____.

(521) Name, address and telephone number of plumber to perform the work:
_____.

(526) Is work to be done on public property or within a highway right-of- way? Yes No. If Yes, have the required insurance policies and performance bonds been filed with the Commissioners? Yes No.

Those persons applying for a permit relative to sanitary sewers or public sewer connections for developments or subdivisions shall submit herewith, a complete set of design notes, plans, specifications, State approval and all other information required or necessary to completely identify the work proposed.

In consideration of granting a permit, the undersigned certifies that the information provided herein is true and correct and agrees to the following:

1. To accept and abide by all provisions of the "Ordinance Regulating the Use and Allocation of Reserve Capacity of Public and the Use of Private Sanitary Sewerage Systems, Wilmington, Vermont", (ORDINANCE) and of all other pertinent ordinances or regulations that may be adopted in the future.

2. To construct the proposed facilities in accordance with the information provided herein, the ORDINANCE and all other provisions which may be included on the Permit.

3. To install, operate and maintain the proposed facilities in a sanitary manner at all times, at no expense to the Town.

4. To Notify the Commissioners or the WWTP Chief Operator at least 48 hours in advance of any work and before covering any work in order that they may supervise and inspect such work (517).

5. To allow the Commissioners, or their authorized representatives, to enter upon said property to witness tests and construction or for any other purposes required to determine compliance.

6. To pay for all costs and to furnish all necessary tools, labor, materials and assistance for making required tests and for removing, replacing or repairing defective work or materials, at no expense to the Town.

Signed _____

Print Name _____

Mailing Address _____

Tel. No. _____

Date _____

* Do not write below this line – for office use only *

Received on _____, 20____ By _____

Received by John Lazelle, Chief Operator on _____

Est. GPD _____ (SFD 250; public buildings per State Flow Quantities.)

User Classification: _____ ECU _____ No change to existing allocation.

Application is: Approved Approved as Noted Disapproved

John Lazelle, Chief Operator, WWTP

Zoning, Design Control Permits Required? YES NO

If yes, date issued and permit No. _____

Road opening permit required? Yes No. If yes, has it been Issued? Yes No.

Sewer Permit issued on _____, 20____ and expires
on _____, 20____ (6 Months.)

Chairman, Board of Sewer Commissioners
(or authorized representative)

TOWN OF WILMINGTON, VT

ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX C

TOWN OF WILMINGTON

APPLICATION FOR WASTEWATER TREATMENT ALLOCATION PERMIT

(Do not write in boxed area - for office use only)

Map No. _____	Fee \$25.00+\$11.00Recording	Date Received: _____
PSC No. _____	\$36.00 Fee due at application <input type="checkbox"/> paid <input type="checkbox"/> check <input type="checkbox"/> cash	
SA No. _____	Signature: _____	

Applicant: _____ Owner Owner's Agent If Agent, letter of agency attached
 (Print Name)

Property Location: _____ Tax Map Number: _____
 (911 Locatable address - Street or Road)

Residence Commercial Building Other: (describe) _____

I am applying for the following establishments listed to be connected to the building sewer or added to existing allocation :

<u>Establishment</u>	<u>Unit</u>	<u>Number</u>	<u>Gallons/Person/Day/Unit</u>	<u>Total Gallons/Day</u>
<i>Example:</i> Restuarant _____	Seat _____	10 _____	30 _____	300 _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

I hereby request an allocation permit as described for gallons per person per day TOTAL _____ gpd
 Do not write in boxed area - For administrative use only

SIGNED: _____
 (Applicant)

 (Mailing Address of Applicant)

 (City, State and Zip Code)

Credit existing unused gallonage: _____ gpd
Allocation to be purchased Total _____ gpd
<u>CONDITIONS:</u>
1. Total Allocation Fee (_____ gpd x \$10/gpd) \$ _____
2. 25% of the total Allocation fee (\$ _____) is due within 30 days: On or before _____, 20____.
3. The remaining 75% (\$ _____) is due before connection or use or within 6 months of Final Allocation, whichever comes first.
4. Other: _____
Preliminary Approval Granted: date _____
Preliminary Approval Expires: date _____ (3 months)
By: _____
Wilmington Board of Sewer Commissioners Agent
Extension of Preliminary Approval granted: date _____
Extension Preliminary Approval Expires: date _____
By: _____
Wilmington Board of Sewer Commissioners

NOTE: Final Approval must be obtained by Preliminary Approval expiration date. To apply for Final Allocation, submit the application on page 2 of this form (on back) once all necessary state and federal permits have been issued and received.

If applicant is unable to obtain permits needed to apply for Final Approval by deadline, he must apply for an extension. **Sewer Commissioners will consider reason for extension (i.e. zoning appeal etc.) and may or may not grant an extension.** If not granted, applicant can reapply for allocation.

APPLICATION FOR FINAL APPROVAL (To be completed and returned after you have received necessary state and federal permits.) **DATE DUE:** _____

By signing below, I confirm that I have received the necessary state and federal permits checked and further attest that, excepting local permits, no others are required for the project.

State: Act 250 Subdivision Water and Wastewater Other State _____

Federal: _____ Signed: _____
(Applicant)

Do Not Write Below This Line – Administrative Use Only

FEES DUE:

Permit Application Fee: \$25.00 due at application Date Paid _____ Initials _____

Bianchi Filing Fee: \$10.00 due at application Date Paid _____ Initials _____

Connection Permit Fee: \$80.00 due at connection application Date Paid _____ Initials _____

ALLOCATION FEE TOTAL \$ _____

Within 30 days of Preliminary 25% \$ _____ Date Due: _____ Date Paid _____ Initials _____

See Timetable Page 3 75% \$ _____ Date Due: _____ Date Paid _____ Initials _____

Conditions of Approval: _____

Final Approval Date _____

By: **Wilmington Board of Sewer Commissioners**

Copy After Final Approval: Date _____ Initial _____

John Lazelle, Chief Operator, WWTP
Christine Richter, Finance Officer
File

Bianchi filed with Town Clerk: Date _____ Initial _____

Do not write in boxed area - For administrative use only



Property # _____
Location _____
Sewer Allocation Permit # _____
Sewer Connection Permit # _____

NEW TOTAL ALLOCATION: **Gal per day**

TOTAL ALLOCATION _____

New Building:
Date Initiated Construction (within 1 year): _____
Date Completed Construction (within 3 yrs): _____

Town of Wilmington

Wastewater Allocation Fee Timetable

1. Application Permit Fee \$25.00 due at Application (non-refundable).
2. Bianchi Recording fee \$11.00 due at Application (non-refundable).
3. * Preliminary Approval granted by Board of Sewer Commissioners
4. Must pay 25% of the allocation fee – within thirty (30) days of Preliminary Approval (The one-time Allocation Fee is \$10.00 per gallon per day) The applicant will have a 90 grace period to withdraw the application and receive a full refund of the allocation fee.
5. Must get Final Approval – within three (3) months of Preliminary Approval (You may apply for Final Approval once you have obtained the necessary state and federal permits and further attest that, excepting local permits, no others are required for the project.)
6. Must pay remaining 75% of the allocation fee – whichever comes first of:
 - A. Within six (6) months of Final Approval or,
 - B. Prior to:
 - a. Use-if adding to an already existing connection or,
 - b. Before connection permit is issued for new connections
7. Begin paying sewer rent – whichever comes first of:
 - A. Within six (6) months of Final Approval or
 - B. Prior to:
 - a. Use-if adding to an already existing connection or,
 - b. When Connection Permit is issued for new connections
8. Must initiate construction – within one (1) year of Final Approval (or allocation reverts to the Town)
9. Must complete construction – within three (3) years of Final Approval (or allocation reverts to the Town)
10. Must also apply for and receive Connection Permit (\$80.00 fee) before connection.

TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX D

TOWN OF WILMINGTON
SEWER USER CHARGE SYSTEM

**TOWN OF WILMINGTON
NEW ECU CLASSIFICATION SYSTEM
FY 2014 RATES**

	USER CLASSIFICATION	UNIT OF MEASUREMENT	ECU PER UNIT	RATE FY14 7/1/13 - 6/30/14
1a	SINGLE FAMILY HOUSE	EACH HOUSE	1.00	\$315.00
1b	CHURCH PARSONAGE	EACH	1.00	\$315.00
1c	CHURCH SANCTUARY	SEATS x 25%	0.01	\$3.15
2	APARTMENT	EACH APT.	0.75	\$236.25
4a	ROOM RENTAL (NON -APARTMENT)	SLEEPING SPACE	0.20	\$63.00
5a	SCHOOL (WITHOUT CAFETERIA, GYM OR SHOWERS)	PUPILS & STAFF	0.15	\$47.25
5b	SCHOOL (WITH CAFETERIA, GYM AND SHOWERS)	PUPILS & STAFF	0.20	\$63.00
5c	SCHOOL (WITH CAFETERIA, GYM BUT NO SHOWERS)	PUPILS & STAFF	0.175	\$55.13
6f	OFFICE/BUSINESS (UPTO 6 EMPLOYEES)	EACH OFFICE	1.00	\$315.00
6g	OFFICE/BUSINESS (EACH ADDITIONAL EMPLOYEE)	EACH EMPLOYEE	0.15	\$47.25
7	LIBRARY	EACH	1.00	\$315.00
8a	STORE/RETAIL SPACE (UPTO 2,000 SQUARE FEET)	UPTO 2,000 SQ FT	1.00	\$315.00
8b	STORE/RETAIL SPACE (IF GREATER THAN 2,000 SQ FT)	TOTAL SQ FT DIVIDED BY 2000 SQ FT	1.00	\$315.00
8c	STORE/RETAIL SPACE WITH MEAT DEPARTMENT	PER 1000 SQ FT	0.55	\$173.25
9	BOWLING ALLEY	ALLEY (LANE)	0.40	\$126.00
10	LAUNDROMAT	WASHER	1.25	\$393.75
11	BARBER AND/OR BEAUTY SHOPS	CHAIR	0.55	\$173.25
12	ASSEMBLY HALL	SEAT	0.01	\$3.15
13e	ANY SEAT SERVING FOOD OR DRINK	SEAT	0.06	\$18.90
14a	AUTO SERVICE STATION (UPTO 2 FUEL PUMPS WITH 4 NOZZLES)	EACH	1.50	\$472.50
14b	AUTO SERVICE STATION (EACH ADDITIONAL SET OF PUMPS)	EACH	0.75	\$236.25
15	BREWERY CLEAN-UP	EACH	0.20	\$63.00
16	DENTAL/MEDICAL OFFICE	EACH EXAMINING ROOM	0.55	\$173.25
17	DAYCARE	PER CHILD	0.125	\$39.38
18	BUS/CAR WASH (DAILY DESIGN DISCHARGE)	PER GALLON	0.01	\$3.15
19	MINIMUM ADJUSTMENT			\$315.00

Each parcel to be assessed a minimum of 1.00 ECU or \$315. Sewer rents are due and payable in two equal installments; one half on September, 2013 and one half on March, 2014.

TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX E

STATE OF VERMONT
WASTEWATER SYSTEM & POTABLE WATER SUPPLY
PERMIT APPLICATION

Wastewater Management Division - Permit Application

Wastewater System & Potable Water Supply

**For Office Use Only:**

Application#	PIN#	Date Complete Application Received
--------------	------	------------------------------------

Authority:

10 V.S.A. Chapter 64, the Environmental Protection Rules, Chapter 1, Wastewater System & Potable Water Supply Rules, and Chapter 21, Water Supply Rules, Appendix A. Part 11 – Small Scale Water Systems.

General Information:

Electronic versions of this application form are available on the Wastewater Management Division website at: <http://www.anr.state.vt.us/dec/ww/EngServ.htm>.

The organization and/or content of this form may not be altered, however, the form may be expanded to allow additional information to be entered. Changes in the organization and/or content of the form may result in an invalid application or permit.

In most cases a licensed designer will be required for your project and to help complete this application form. There are also line-by-line instructions available to assist with completing this form.

NOTE: We strongly suggest referring to the application instructions while completing this application form.

Part I Applicant (Landowner) Information

Section A – Applicant Details (if Landowner is an Individual or Individuals)

Note: There is space provided in this section for two Landowners. If there are more than two Landowners shown on the property deed, please provide a separate sheet listing each additional Landowner, their mailing address, signature and date.

1 Last Name	2 First Name		
3 Mailing Address Line 1	4 Mailing Address Line 2		
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
9 Email Address			10 Telephone

Additional Landowner (if applicable)

Check if address/contact information of second Landowner is the same as above and then enter only Last Name and First Name information below. Otherwise, complete all information for the second Landowner.

11 Last Name	12 First Name		
13 Mailing Address Line 1	14 Mailing Address Line 2		
15 Town/City	16 State/Province	17 Country	18 Zip/Postal Code
19 Email Address			20 Telephone

Section B – Applicant Details (if Landowner is other than an Individual or Individuals)

1 Registered Legal Entity or Organization Name	2 Telephone		
3 Mailing Address Line 1	4 Mailing Address Line 2		
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code

Certifying Official

The Certifying Official must be a person who has signatory authority for the legal entity or organization that is the Applicant. A copy of the document authorizing this person to act as a signatory authority must be attached to this application.

9 Certifying Official Last Name	10 Certifying Official First Name
11 Certifying Official Title	
12 Email Address	13 Telephone

Section C – Primary Contact Information (if other than Applicant)			
1 Last Name		2 First Name	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
9 Email Address			10 Telephone
Section D – Building/Business Owner Information			
1 Last Name		2 First Name	
3 Mailing Address Line 1		4 Mailing Address Line 2	
5 Town/City	6 State/Province	7 Country	8 Zip/Postal Code
9 Email Address			10 Telephone

Part II Certifying Designer Information			
Section A – Certifying Designer 1			
1 Designer Last Name		2 Designer First Name	
3 Designer License #	4 Company Name		
5 Mailing Address Line 1		6 Mailing Address Line 2	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
11 Email Address			12 Telephone
13 Designer Role(s) (check all that apply) <input type="checkbox"/> Water Supply Designer <input type="checkbox"/> Wastewater Disposal System Designer			
Section B – Certifying Designer 2 (if applicable)			
1 Designer Last Name		2 Designer First Name	
3 Designer License #	4 Company Name		
5 Mailing Address Line 1		6 Mailing Address Line 2	
7 Town/City	8 State/Province	9 Country	10 Zip/Postal Code
11 Email Address			12 Telephone
13 Designer Role(s) (check all that apply) <input type="checkbox"/> Water Supply Designer <input type="checkbox"/> Wastewater Disposal System Designer			

Section D - Existing Project Lot/Building Details

Please provide the existing project details. This section is used to describe what is existing for the project. For example, if you are subdividing an undeveloped 21-acre parcel, you would list the existing parcel. If you are revising the boundary lines of two commercial lots in an industrial park, and constructing an addition to an existing building you would list the existing lot numbers, existing acres, existing buildings, existing uses, construction date(s), prior permits, and answer the compliance questions. Repeat this page as many times as necessary to describe all of the existing Lots/Buildings.

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
---------------	---------------------------	----------------------------------

4 Provide the following information for each building on the lot

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No

Additional Lots/Buildings...

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
---------------	---------------------------	----------------------------------

4 Provide the following information for each building on the lot

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
---------------	---------------------------	----------------------------------

4 Provide the following information for each building on the lot

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No

1 Lot#	2 Lot Size (acres)	3 Existing Use of the Lot
---------------	---------------------------	----------------------------------

4 Provide the following information for each building on the lot

(a) Building ID	(b) Existing Use	(c) Date Construction of Building Substantially Complete	(d) Prior Permits	(e) In compliance with existing permits?
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No

Section E - Proposed Project Lot/Building Details

This section is used to describe what you are proposing to do in this project. For example, if you were going to create 4 lots for construction of single family residences, you would list each lot, proposed acreage, proposed buildings, and proposed use. Repeat this page as many times as necessary to describe all of the proposed Lots/Buildings.

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
---------------	---------------------------	----------------------------------

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules: _____

7 Provide the following information for each building on the lot

(a) Building ID	(b) If bldg is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
		<input type="checkbox"/>	

Additional Lots/Buildings...

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
---------------	---------------------------	----------------------------------

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules: _____

7 Provide the following information for each building on the lot

(a) Building ID	(b) If bldg is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
		<input type="checkbox"/>	

1 Lot#	2 Lot Size (acres)	3 Proposed Use of the Lot
---------------	---------------------------	----------------------------------

4 Is the lot being created as part of a subdivision? Yes No

5 Are you requesting that the Blood, Marriage, or Civil Union special fee be applied to this lot? Yes No

6 If the lot is exempt, please indicate the specific exemption from the Wastewater System and Potable Water Supply Rules: _____

7 Provide the following information for each building on the lot

(a) Building ID	(b) If bldg is exempt, indicate exemption	(c) Construction or increased flow?	(d) Proposed Use
		<input type="checkbox"/>	

Part V	Water Supply Information
Section A – Water Supply Screening Questions	
1	Are you proposing a new water supply for this project? <input type="checkbox"/> Yes <input type="checkbox"/> No
2	Are you proposing changes to an existing water supply for this project? <input type="checkbox"/> Yes <input type="checkbox"/> No
3	Is there a connection to an existing water supply for the project? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If you answered No to all three of the above questions, skip to Part VI. Otherwise, proceed with Part V.</i>
Section B – General Water Supply Questions	
1	Does this project involve a failed water supply? <input type="checkbox"/> Yes <input type="checkbox"/> No
2	Will any of the proposed water sources serve 25 or more people or have 15 or more service connections?..... <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, the Applicant must contact Water Supply Division at (802) 241-3400 for source, construction, and an operating permit.</i>
3	Are any of the existing or proposed water sources located within a special flood hazard area? <input type="checkbox"/> Yes <input type="checkbox"/> No
4	Are any of the existing or proposed water sources located within a floodway? <input type="checkbox"/> Yes <input type="checkbox"/> No
5	Are any of the proposed water sources located within 1 mile of a hazardous waste site as designated by the Waste Management Division and identified on the Agency mapping website?..... <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, please submit additional information on the site. The Waste Management Division can be reached at (802) 241-3888.</i>
6	Does your project require an approval letter from the Water Supply Division for the construction of a public water system, municipal water line extension over 500 feet, or hydrants or sprinkler systems? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, please submit a copy of the approval letter from the Water Supply Division.</i>
7	Does the proposed or existing water supply(ies) use a water treatment device to obtain compliance with the quality requirements in the Water Supply Rule? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, please submit addition information regarding the constituent(s) that exceeds the standards and plans, details, and specifications of the treatment device.</i>
8	Is any portion of the proposed water supply located in or near a Water Source Protection Area as designated by the Water Supply Division? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If in areas of known interference issues, please contact the Water Supply Division at (802) 241-3400.</i>

Part VI Wastewater Disposal System Information

Section A – Wastewater Disposal System Screening Questions

- 1 Are you proposing a new wastewater disposal system or replacement area for this project? Yes No
 - 2 Are you proposing changes to an existing wastewater disposal system for this project? Yes No
 - 3 Is there a connection to an existing wastewater disposal system for the project? Yes No
- If you answered **No** to all **three of the above questions**, skip to Part VII. Otherwise, proceed with Part VI.*

Section B – General Wastewater Disposal System(s) Questions

- 1 Does this project involve a failed wastewater disposal system? Yes No
- 2 Do any of the systems require a curtain or dewatering drain as part of the design? Yes No
- 3 Is a hydrogeologic study required for this project? Yes No
- 4 If the project has a soil-based wastewater disposal system with design flows that exceed 1,000 GPD, is this project located in a Class A Watershed? Yes No NA
 If the answer to question 4 is Yes, indicate the Class A Watershed in which the system(s) is located:
 (a) Class A Watershed Name
- 5 Are there any floor drains, existing or proposed as part of this project? Yes No
 If the answer to question 5 is Yes, indicate where the floor drains will discharge:
 (a) Floor Drain Discharge Point
- 6 If the project utilizes an Innovative/Alternative System or Product, has the applicant received a copy of the Wastewater Management Division’s approval letter? Yes No NA
- 7 Is any portion of the proposed wastewater disposal system located in or near a Water Source Protection Area as designated by the Water Supply Division? Yes No
 If Yes, contact the Water Supply Division at (802) 241-3400.

Part VII	Application Fees
1	Fee Amount \$
2	Fee Calculation Details

Part VIII	Designer Certification & Copyright License
------------------	---

Section A – Certifying Designer 1 Certification & Copyright License
--

"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1	Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section A, Line 13. <input type="checkbox"/> Water Supply Designer <input type="checkbox"/> Wastewater Disposal System Designer	
----------	--	--

2 Print Designer Name	3 Designer Signature	4 Signature Date
------------------------------	-----------------------------	-------------------------

Section B – Certifying Designer 2 Certification & Copyright License
--

"I hereby certify that in the exercise of my reasonable professional judgment, the design-related information submitted with this application is true and correct, and the design included in this application for a permit complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

As the individual who prepared this application, including all documents that are marked as copyrighted, I hereby grant a non-exclusive, limited license to the State to allow the documents to be available for public review and copying in order to properly implement and operate the permitting programs for Wastewater Systems and Potable Water Supplies, and for no other purposes. As a condition to this license, the State agrees that it will not make any changes to such documents, nor will the State delete any copyright notices on such documents."

1	Check the design(s) you are certifying. This should be the same as the Designer Role(s) you selected in Part II, Section B, Line 13. <input type="checkbox"/> Water Supply Designer <input type="checkbox"/> Wastewater Disposal System Designer	
----------	--	--

2 Print Designer Name	3 Designer Signature	4 Signature Date
------------------------------	-----------------------------	-------------------------

Part IX Applicant(s) Signature & Acknowledgements

In order to insure compliance with the requirements of the regulations administered by the Department of Environmental Conservation, Wastewater Management Division, it may be necessary to visit the property. As this would involve a Department employee entering private property, we request your approval to do so.

1 If we do visit your property, do you have any special instructions?

"As landowner of the property for which I am requesting a permit from the Department of Environmental Conservation, I understand that by signing this application I am granting permission for the Department employees to enter the property, during normal working hours, to insure compliance of the property with the applicable rules of the Department.

I also understand that I am not allowed to commence any site work or construction on this project without written approval from the Department of Environmental Conservation.

If my project utilizes an Innovative/Alternative System or Product, I have received a copy of the Wastewater Management Division's approval letter and agree to abide by the conditions of the approval.

I also certify that to the best of my knowledge and belief the information submitted above is true, accurate and complete."

2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
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2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date
2 Print Applicant Name	3 Applicant Signature	4 Signature Date

TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX F

STATE OF VERMONT
HIGHWAY RIGHT-OF-WAY
PERMIT APPLICATION

PERMIT ID# _____

FOR AGENCY USE ONLY

Town: _____
Route: _____
Mile Marker: _____
Log Station: _____

VERMONT AGENCY OF TRANSPORTATION
19 V.S.A. § 1111 PERMIT APPLICATION

Owner's/Applicant's Name, Address & Phone No. _____

Co-Applicant's Name, Address & Phone No. (if different from above) _____

The location of work (town, highway route, distance to nearest mile marker or intersection & which side) _____

Description of work to be performed in the highway right-of-way (attach sketch) _____

Property Deed Reference Book: _____ Page: _____ (only required for Permit Application for access)

Is a Zoning Permit required? Yes No - If Yes, # _____

Is a 30 VSA § 248 permit required? Yes No - If Yes, # _____

Is an Act 250 permit required? Yes No - If Yes, # _____

Other permit(s) required? Yes No - If Yes, name and # of each _____

Date applicant expects work to begin _____ 20__

Owner/Applicant: _____ Position Title: _____
(Print name above)

Sign in Shaded area:		Date:	
----------------------	--	-------	--

Co-Applicant: _____ Position Title: _____
(Print name above)

Sign in Shaded area:		Date:	
----------------------	--	-------	--

- INSTRUCTIONS:**
- Contact the Agency of Transportation Utilities and Permits Unit (802.828.2653) or your local area Agency Transportation Maintenance District to determine your issuing authority.
 - Contact the issuing authority to determine what plans and other documents are required to be submitted with your 19 VSA § 1111 permit application.
 - Complete this TA 210 Form (some information may not apply to you) and attach all necessary documents and submit it to the issuing authority. We require this application to be signed by the property owner or their legally authorized representative. Original signatures are required.
 - The Owner/Applicant and Co-Applicant (if applicable) declares under the pains and penalty of perjury that all information provided on this form and submitted attachments are to the best of their knowledge true and complete.**
 - If you have any questions contact the issuing authority.

PERMIT APPROVAL

The work is subject to the restrictions and conditions on the reverse page, plus the Special Conditions stated on the attached page(s).

Date work is to be completed

Date work accepted: _____

By _____ Issued Date _____
Authorized Representative for
Secretary of Transportation

By: _____
DTA or Designee

NOTICE: This permit covers only the Vermont Agency of Transportation's jurisdiction over this highway under Title 19 Section 1111 VSA. It does not release the petitioner from the requirements of any other statutes, ordinances, rules or regulations.

No work shall be done under this permit until the owner/applicant has contacted the District Transportation Office at:

Applicant to Complete

RESTRICTIONS AND CONDITIONS

DEFINITIONS:

"Agency" means the Vermont Agency of Transportation.

"Engineer" means the authorized agent of the Secretary of Transportation.

"Owner/Applicant" means the party(s) to whom the permit is to be issued.

"Co-Applicant" means the party who performs the work, if other than Owner/Applicant.

"Permit Holder" means the party who currently owns the lands abutting the highway that are the subject of the permit.

GENERAL:

By accepting this permit, or doing any work hereunder, the Owner/Applicant agrees to comply with all of the conditions and restrictions and any imposed special conditions. If the Owner/Applicant is aggrieved by the restrictions and conditions or special conditions of the permit, they shall submit a written request for consideration to the Engineer prior to starting any work. No work will be authorized by the Agency, or performed under the permit, until the dispute is fully resolved.

Act No. 86 of 1987 (30 VSA Chapter 86) ("Dig Safe") requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone 1-888-344-7233 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location.

The Permit Holder is to have a supervisory representative present any time work is being done in or on the State Highway right-of-way. A copy of this permit and Special Conditions must be in the possession of the individual performing this work for the Permit Holder.

Except with the specific, written permission of the District Transportation Administrator, all work in the State highway right-of-way shall be performed during normal daylight hours and shall cease on Sunday, on all holidays (which shall include the day before and the day following), during or after severe storms, and between December 1 and April 15. These limitations will not apply for the purposes of maintenance, emergency repairs, or proper protections of the work which includes, but not limited to, the curing of concrete and the repairing and servicing of equipment.

The Owner/Applicant shall be responsible for all damages to persons or property resulting from any work done under this permit, even if the Applicant's Contractor performs the work. All references to the Owner/Applicant also pertain to the Co-Applicant.

The Owner/Applicant must comply with all federal and state statutes or regulations and all local ordinances controlling occupancy of public highways. In the event of a conflict, the more restrictive provision shall apply.

The Owner/Applicant must, in every case where there is a possibility of injury to persons or property from blasting, use blasting mats and bags of sand, if necessary, to prevent the stone from scattering. All existing utility facilities shall be protected from damage or injury.

The Owner/Applicant shall erect and maintain barriers needed to protect the traveling public. The barriers shall be properly lighted at night.

The Owner/Applicant shall not do any work or place any obstacles within the state highway right-of-way, except as authorized by this permit.

The Owner/Applicant may pay the entire cost of the salary, subsistence and traveling expenses of any inspector appointed by the Engineer to supervise such work.

The Engineer may modify or revoke the permit at any time for safety-related reasons, without rendering the Agency or the State of Vermont liable in any way.

In addition to any other enforcement powers that may be provided for by the law, the Engineer may suspend this permit until compliance is obtained. If there is continued use or activity after suspension, the Engineer may physically close the work area and take corrective action to protect the safety of the highway users.

The Permit Holder shall be responsible to rebuild, repair, restore and make good all injuries or damage to any portion of the highway right-of-way that has been brought about by the execution of the permitted work, for a minimum period of eighteen (18) months after final inspection by the District.

Any variance from approved plans is to be recorded on "as-builts" with copies provided to both the Chief of Utilities and Permits and the District Transportation Administrator.

ACCESS:

This permit (if for access) does not become effective until the owner/applicant records in the office of the appropriate municipal clerk, the attached "Notice of Permit Action"

As development occurs on land abutting the highways, the Agency may revoke a permit for access and require the construction of other access improvements such as the combination of access points by adjoining owners.

Under Title 19, Section 1111, Vermont Statutes Annotated, no deed purporting to subdivide land abutting a state highway can be recorded unless all the abutting lots so created are in accordance with the standards of Section 1111.

The Permit Holder acknowledges and agrees that neither this permit nor any prior pattern of use creates an ownership interest or other form of right in a particular configuration or number of accesses to or through the highway right-of-way, and that the right of access consists merely of a right to reasonable access the general system of streets, and is not a right to the most convenient access or any specific configuration of access.

DRAINAGE:

The Owner/Applicant shall install catch basins and outlets as may be necessary, in the opinion of the Engineer, to preclude interference with the drainage of the state highway.

UTILITY WORK; CUTTING AND TRIMMING TREES:

The Owner/Applicant shall obtain the written consent of the adjoining owners or occupants or, in the alternative, an order from the State Transportation Board in accordance with Title 30, Section 2506, Vermont Statutes Annotated, regarding cutting of or injury to trees.

In general, all utilities shall be located adjacent to the highway right-of-way boundary line and shall be installed without damaging the highway or the highway right-of-way. No pole, push-brace, guy wire or other aboveground facilities shall be placed closer than 10 feet to the edge of traveled-way. If the proposed utility facilities are in conflict with the above, each location is subject to the approval of the Engineer.

Poles and appurtenances shall be located out of conflict with ditches and culverts.

Where the cutting or trimming of trees is authorized by permit, all debris resulting from such cutting and trimming shall be removed from the highway right-of-way.

Open cut excavation for highway crossings is NOT the option of the Applicant, and may be utilized only where attempted jacking, drilling, or tunneling methods fail or are impractical. The Owner/Applicant shall obtain an appropriate modification of the highway permit from the Engineer before making an open cut.

JOINT PERMITS:

A joint permit application is required when more than one party will be involved with the construction, maintenance, and/or operation of the facility being constructed under this permit. Examples include, but are not limited to, joint ownership or occupancy of a utility pole line and construction of a municipal utility line by a contractor. Both utility companies, and in the second case, the municipality and the contractor, must be joint applicants.

TOWN OF WILMINGTON, VT
ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX G

TOWN OF WILMINGTON
HIGHWAY RIGHT-OF-WAY
PERMIT APPLICATION

Fee: \$ 40.00

Date Received _____

Date Paid: _____

Property Tax Map # _____

Amount & Initials: _____

ROW Permit # _____

Recorded Date _____

Book & Page: _____

(Do not write in the above box.)

PERMIT FOR WORK IN TOWN RIGHT OF WAY

Town of Wilmington, Vermont

A permit is necessary for any work done within right of way limits of town roads, not including cutting brush or weeds.

Permission is hereby requested to perform work within a town road right of way. **(please attach drawing)**

Requested by: _____ Phone: _____
Name Address

Property Owner: _____ Property Tax Map # _____

Contractor: _____ Town Road: _____

Description of work: _____
(Check here and use back of this page if additional room is needed.)

(Do not write below this line)

APPROVAL

This permit is issued subject to the following restrictions, conditions and directions and covers only the work described above and on the attached drawing, and then only when the work described is performed as directed:

CONDITIONS:

1. Excavation to be filled with gravel and compacted in one foot lifts to 18 inches from top of road surface.
2. Filter fabric is to be laid 18 inches from road surface and covered with 12 inches of bank run and dressed with 6 inches of crushed gravel.
3. The Road Supervisor must be notified before work is done in order to coordinate inspection.
4. One lane of the road must be kept open to allow for passage of traffic.
5. Appropriate warning signs must be posted and flag persons must be on duty to direct traffic.
6. Contractor shall provide the town with certificate of liability insurance before work begins.
7. Pavement restoration on paved roads must be overseen by road supervisor. A minimum of 3 inches of base hot mix and a 1" overlay is required.
8. All disturbed areas must be immediately seeded and mulched.
9. OTHER CONDITIONS: _____

Date Approved: _____

Expiration Date: _____

Town Manager

Road Supervisor

Amended 05/30/05 (revised #7 and added #8), 04/20/99 (revised form & increased fee by \$5.00), 5/29/03(added Road Supervisor phone #), 06/11/03(added inspection approval box on back of form), 07/17/03 (increased fee permit \$30.00 + \$10.00 Bianchi filings), 06/29/04 (revised wording)

Inspection of construction: Approved _____ Not Approved date: _____ because _____

Approved after corrections made _____ Date _____ William Hunt, Road Supervisor _____ Date _____

TOWN OF WILMINGTON, VT

ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX H

TOWN OF WILMINGTON

PLUMBER SIGN-OFF FORM

Town of Wilmington
Connection to Municipal Sewer Plumber's Sign-Off Form

I certify that the sewer connection at _____ to the Town of
Property Location
Wilmington's sewer collection system was completed on _____. I further certify that the
Date
workmanship and the material used, meet the requirements of the Town of Wilmington and the Vermont
Plumbing Code.

Plumber's name and Vermont Plumbing License Number (please print)

Plumber's Signature

Company name, phone number and address

In the box below, please sketch the connection and be sure to include measurements to cleanouts.

Form received by: _____ Date: _____

TOWN OF WILMINGTON, VT

ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX I

STATE OF VERMONT

WASTEWATER SYSTEM & POTABLE WATER SUPPLY

DESIGN FLOW DOCUMENTATION AND TABLE

§1-808 Design Flow

- (a) Wastewater design flows shall be determined based on Tables 1-3 (pages 66-72). Directions for calculating reductions in design flow based on plumbing fixture type and connection to large wastewater disposal systems are included in the Table. Potable water supply design flows are determined per Subsection 1-808(g) below. Based on the design changes listed in Tables 1 and 2, that are reduced from those in the 1996 version of these Rules, it may be possible to add more residential or camping units to an existing potable water supply and/or wastewater system when the supply and/or system conform to design requirements of these Rules and/or the applicable Vermont Water Supply Rules.
- (b) When determining the flows for a particular project, the Secretary may determine that there is sufficient justification for requiring higher or lower flow values. When making this determination, the Secretary shall consider: the nature and design of the project; whether multiple units will be interconnected; past experience on existing projects; metered flows; the design safety factor allowances in Table 1 figures; and potential for fluctuations in flows.
- (c) Flow metering used to support a request for an increase in the amount or type of uses for an existing project, or to support new projects, will require at least six months of daily meter readings. The metering period shall include the peak use periods if there is a seasonal variation, such as for a campground or ski area. The strength of the wastewater must also be determined when needed to size the leachfield or any treatment devices, or to determine any adjustments in leachfield loading rates that may be required. Any decision to adjust design flows based on flow metering must consider data concerning peak flow and long term effects on the wastewater system. Any increase in the number of units, such as bedrooms, people, or restaurant seats for an existing project that is based on metered flows, shall only be allowed when the connection is to an existing supply or system that complies with the design requirements of these Rules and the applicable Vermont Water Supply Rules.
- (d) For projects without a specific design flow in Tables 1-3, such as food processing plants, the Secretary will determine a design flow for the specific project. The Secretary's determination will be based on available information related to the equipment and from metering information from similar projects that is submitted by a designer or that is available from other sources. The strength of the wastewater must also be determined when needed to size the leachfield or any treatment devices, or to determine any adjustments in leachfield loading rates that may be required.
- (e) When collection and building sewers exceed 500 feet in total length, the design flow shall include an allowance for infiltration. New collection systems shall be estimated at 300 gallons/inch of diameter/mile of pipe/day, except when a designer provides project specific information that supports a reduction to not less than 200 gallons/inch of diameter/mile of pipe per day. When a reduction is granted, the acceptable level of leakage for the post construction leakage testing must also be proportionately reduced.

§1-808(f) Design Flow

- (f) A soil-based disposal system constructed to serve a new project, or a project with an increase in design flow may be reduced in size when composting or incinerating toilets are used. Systems for residential units will be granted a 25% reduction. The reduction in size for other systems will be determined on a case by case basis.

- (g) For potable water supplies that are not public water supplies, design flows shall be determined using this section of the Rules. For water supplies that are public water supplies, design flow shall be determined in accord with Section 2.2 and Table A2-1 of the Vermont Water Supply Rules. The design flow for a water supply may be different than wastewater design flows if the water supply is a public water supply. The design flow for the potable water supply may also differ from the wastewater design flow when the design basis of the two systems is different. Examples include:
 - (1) The wastewater flow is based on a connection to a wastewater system with a design capacity of 50,000 gallons per day or more and the water supply is an individual supply.
 - (2) The wastewater flow is based on connection of 5 or more units into a single wastewater system and the water supply is an individual supply for each unit.

Note: In the event of a conflict between these Rules and the Water Supply Rules, these Rules shall govern if the potable water supply is not a public water supply.

Table 1

Design Flow for Residential Units

- (a) The design flow for single family residential units shall be calculated on the following requirements:
 - (1) The design flow for each person shall be 70 gallons per person per day;
 - (2) the first three bedrooms shall be assumed to have two persons per bedroom;
 - (3) each additional bedroom may be assumed to have one person per bedroom. When a building will be subject to rental use or when it is likely there will be extended or frequent high occupancy use, the system should be sized for at least 2 persons per bedroom; and
 - (4) the design flow for a single-family residence on its own individual lot shall be based on a minimum of two bedroom.

- (b) When five or more single family residential units are connected to a single soil-based disposal system, a designer may choose to use the following design flows that are based only on the number of residential units without regard for the number of bedrooms:

§1-808 Design Flow Table 1 – Continued

Number of Single Family Units	Project Design Flow
5 units	1575 gallons per day
6 units	1830 gallons per day
7 units	2065 gallons per day
8 units	2280 gallons per day
9 units	2565 gallons per day
10 units	2800 gallons per day
11 units	3036 gallons per day
12 units	3264 gallons per day
13 units	3484 gallons per day
14 units	3696 gallons per day
15 units	3900 gallons per day
16 units	4112 gallons per day
17 units	4369 gallons per day
18 units	4518 gallons per day
19 units	4712 gallons per day
20 units	4900 gallons per day
20+ units	# of units X 245 gallons per day

Note: Single family residential units with only one bedroom, such as condominiums and apartment buildings will not benefit from the use of the design flows listed above. Single family residential units, with two bedrooms each, will benefit from use of the table when 11 or more units are connected to a single soil-based disposal system.

Note: Wastewater disposal systems with a design capacity of 6500 GPD or more may also require an Indirect Discharge Permit.

- (c) Single family residential units connected to a wastewater disposal system with a design capacity of at least 50,000 gallons per day may use a design flow of 210 gallons per unit per day, regardless of the number of bedrooms.
- (d) There is no reduction allowed in Table 1 design flows based on the use of low flow plumbing fixtures as the design flow assumes their use.
- (e) Multi-unit elderly housing projects may be calculated on 1.5 person per unit

§1-808 Design Flow

Table 2

Campgrounds (also see camps)	Open 7 mo/yr Or Less	Open more than 7 mo/yr
Campgrounds that allow only tents and camping units with no interior plumbing		
Central toilets and showers 4 people per site	75 gpd/site	100 gpd/site
Campgrounds that allow only tents and camping units with no interior plumbing		
Central toilets without showers 4 people per site	60 gpd/site	75 gpd/site
Campground sites that allow camping units with interior plumbing		
Served by central toilet facilities and dumping stations	50 gpd/site for central facilities plus 25 gpd/site for the dumping station	90 gpd/site for central facilities plus 35 gpd/site for the dumping station
Served by an individual sewer hook-up	75 gpd/site	125 gpd/site
Seasonal RV site with individual sewer hook-up		
RV owned by the occupant	75 gpd/site	125 gpd/site
RV not owned by the occupant	125 gpd/site	175 gpd/site
Cabins with RV type plumbing		
4 people per site	125 gpd/site	175 gpd/site
Cabins with conventional plumbing Minimum of 4 people per site		
With or without kitchen	50 gpd/person	50 gpd/person
With or without kitchen but with laundry facilities	70 gpd/person	70 gpd/person

§1-808 Design Flow**Table 2 – Continued**

Campgrounds	Open 7 mo/yr Or Less	Open more than 7 mo/yr
-------------	-------------------------	---------------------------

Park Model RV

For first bedroom	140 gpd/site	140 gpd/site
-------------------	--------------	--------------

For additional bedroom	100 gpd/site	140 gpd/site
------------------------	--------------	--------------

Mobile home used as vacation facilities

For first bedroom	140 gpd/site	140 gpd/site
-------------------	--------------	--------------

For additional bedrooms	100 gpd/site	140 gpd/site
-------------------------	--------------	--------------

Note: There is no reduction allowed in Table 2 design flows based on the use of low flow plumbing fixtures as the design flow assumes their use.

§1-808 Design Flow

Table 3

OTHER ESTABLISHMENTS	GALLONS/PERSON/DAY ^{a,b} (unless otherwise noted)
Assembly Areas, Conference Room	5
Airports (per passenger)	5
Bathhouses and Swimming Pools	5
Bowling Alley (no food service)(per lane)	75
Cafeterias (per seat)	50
Camps: Construction camps (semi permanent)	50
Day camps (no meals served)	15
Resort Camps (Night & Day) with limited plumbing ...	50
Churches: Sanctuary seating x 25%	5
Church suppers	8
Country Clubs (per resident member)	100
Country Clubs (per non resident member present)	25
Day Care Centers:	
Without meals:	15
With one meal:	20
With two meals:	25
Dentists:	
Staff Member	35
Per Chair	200
Doctor's Office:	
Staff Member	35
Patient.....	10
Room Rentals:	
Boarding Houses	50
Addition for non resident boarders	10

§1-808 Design Flow

Table 3- Continued

GALLONS/PERSON/DAY a, b
(unless otherwise noted)

Rooming Houses (per occupant bed space)	40
Factories (gallons per person, per shift, exclusive of industrial waste).....	15
Gyms: Per Participant.....	10
Spectator	3
Hairdressers: Operator	10
Per Chair	150
Hospitals (per bed space)	250
Hotels with Private Baths(per person sleeping space) ^c	50
Institutions other than hospitals (per bed).....	125
Laundries, self service (gallons per machine)	500
Mobile Home Parks:	
For wastewater systems serving 4 or fewer trailers (per space)	450
For wastewater systems serving 5 or more trailers (per space)	250
Motels with bath, toilet (per person sleeping space) ^c	50
Picnic Parks (toilet wastes only/picnicker)	5
Restaurants (toilet and kitchen wastes/seat, including restaurant and bar seats)	30
Additional per seat for restaurant serving 3 meals per day	15
Restaurants (fast food - see cafeterias).....	50
Schools:	
Boarding	100
Day, without gyms, cafeterias, or showers	15
Day, with gyms, cafeterias, and showers	25
Day, with cafeteria, but without gyms or showers ...	20

§1-808 Design Flow

Table 3-Continued

GALLONS/PERSON/DAY ^{a,b}
(unless otherwise noted)

Service Stations (first set of gas pumps)	500
(each set thereafter)	300
Sewer Line Infiltration ^d (where applicable)	300 gal/in pipe/dia/mile/day
Shopping Centers/Stores: ^c	
Large Dry Goods	5 GPD/100 ft ²
Large Supermarkets with meat department without garbage grinder	7.5 GPD/100 ft ²
Large Supermarkets with meat department with garbage grinder	11 GPD/100 ft ²
Small Dry Good Stores (in shopping centers)	100 GPD/store
Theaters:	
Movie (per auditorium seat).....	5
Drive in (per car space)	5
Veterinary Clinic (3 or less doctors):	
without animal boarding	750/clinic
with animal boarding	1,500/clinic
Workers:	
Construction (at semi permanent camps)	50
Day at schools and offices (per shift)	15

Note: These Rules change design flows for certain categories. It may be possible to add more residential or camping units to an existing potable water supply and/or wastewater system when the supply and/or system conform to current design requirements.

^a Use eighty (80) percent of design flows for projects to be connected to a wastewater system with a design capacity of 50,000 gallons per day or greater. Note that this design flow reduction applies only to the wastewater flow and DOES NOT apply to a project's associated potable water supply design flows if the water supply is regulated as a public transient, non-transient, or community water supply.

^b A 10% reduction in the design flow may be used when the plumbing includes standard water saving designs. Toilets must be 3.5 gallons per flush or less and showers and faucets must be 2 gallons per minute or less

^c Does not include laundry or restaurant waste.

^d The infiltration design flow is not reduced when water saving plumbing fixtures are used or when a connection is made to a wastewater system with a design flow of 50,000 gallons per day or greater. Any reduction shall be based the requirements of subsection 1-808(e) of this section.

Note: Elderly housing may be calculated at 1.5 people per bedroom

TOWN OF WILMINGTON, VT

ORDINANCE REGULATING THE USE OF THE PUBLIC SANITARY SEWER SYSTEM

APPENDIX J

STATE OF VERMONT

WASTEWATER SYSTEM & POTABLE WATER SUPPLY

DESIGN GUIDELINES FOR BUILDING SEWERS, SEWER COLLECTION

SYSTEMS, SEWAGE LIFT STATIONS AND FORCE MAINS.

APPENDIX 1-A DESIGN GUIDELINES

1-A-01 Introduction

Following are guidelines for use in the design of systems subject to the Environmental Protection Rules, Chapter 1. Designers are encouraged to use equally or more effective technologies or practices in the design of systems under these guidelines. The Agency may approve different designs that are based on current technology and that have been demonstrated as effective. The Agency may approve a demonstration project designed to test a different design. The designer must support any request for a different approach. Depending on the degree of difference from the guidelines, approval may be conditioned upon periodic inspections to determine that the project is functioning as designed. Any design for a project where a municipality will ultimately be responsible for the operation and maintenance of the project shall include municipal acceptance of the system. While there are no specific technical requirements for any particular design detail, the Secretary will not approve any design that is not based on accepted scientific and engineering principles, except for a demonstration project.

Note: Although these guidelines have been subject to review and comment in a rulemaking process, they remain merely guidelines, not binding rules, in order to allow for flexibility in the design of those aspects of sewers, sewage collection systems and lift stations that are addressed in this appendix.

1-A-02 Building Sewers

The building sewer is that part of the drainage system extending from a building drain to a public sewer, private sewer, septic tank system, or other treatment system. A sewer serving one building will be considered a building sewer. All other sewers will be considered a collection sewer.

- (a) **Materials:** The building sewer shall be constructed in a manner that will prevent leaking, breaking or clogging. Acceptable materials for the sewer are rubber ring jointed, PVC, or cast iron (CI) sewer service pipe. Other materials may be proposed for acceptance by the Secretary.
- (b) **Sizing & Slope:** Building sewers shall be sized based on procedures outlined under 1-A-02. Minimum building sewer size is 4 inches and minimum slope is 1/4 inch per foot.
- (c) **Connection to a collection sewer:** Building sewers discharging to a collection sewer shall be connected through a manhole constructed in accordance with 1-A-03(1) or with a wye fitting so as to direct flow and minimize in line turbulence.
- (d) **Cleanouts:** Cleanouts shall be provided at each horizontal change in direction of the building sewer greater than 45 degrees and at intervals of not more than 100 feet. Building sewer changes in direction that exceed 45 degrees should be made with two 45 degree ells or long sweep fittings. Manholes are acceptable in lieu of cleanouts. Where building sewers to be installed at a depth of less than 3 feet under driveways are anticipated, extra heavy cast iron or other high strength pipe acceptable to the Secretary shall be required.

1-A-02(e) Building Sewers

- (e) Leakage: Building sewers shall meet the leakage standards prescribed in Section 1-A-03(k).

1-A-03 Sewer Collection Systems

- (a) A sewer collection system is that system of sewers that transport wastewater from building sewers to the wastewater treatment/disposal system.
- (b) No connections of roof drains, area drains, foundation drains, cellar drains or other clean water sources or any storm drains will be allowed to building or collection sewers.
- (c) Building and collection sewers carrying raw or untreated wastewater shall be sized as follows:
 - (1) Collection sewers shall be a minimum of 6" diameter.
 - (2) The flow rate to be used in sizing the sewer shall be based on the full occupancy design flows for the facilities connected as derived from §1-808
 - (3) times the following factors.
 - (A) For design flows less than 10,000 gpd, a factor of 5.
 - (B) For design flows over 10,000 gpd, a factor derived from Table 1-A-1

TABLE 1-A-1
Peaking Factors

Design Flow	Peaking Factor
10,000 gpd	4.2
100,000 gpd	3.8
500,000 gpd	3.2
1, 000, 000 gpd	3.0

- (4) Sewers shall be sized for the above derived flow rate to provide a minimum velocity of 2 feet per second when flowing full using the Kutter formula or other acceptable formulae and friction coefficients appropriate for the pipe materials proposed, considering surface deterioration over the expected useful life of the pipe.
- (d) Depth: In general, sewers should be sufficiently deep to receive sewage from basements and to prevent freezing. A bury depth of at least four feet should be maintained. This depth should be increased to at least five feet in areas to be plowed during winter months. When these depths cannot be maintained without significant expense, the designer may propose less depths with mitigating measures to protect the sewer.

1-A-03(e) Sewer Collection Systems

- (e) Slope, Velocity: All sewers shall be designed and constructed to provide mean velocities, when flowing full, of not less than 2.0 feet per second. Regardless of the formula used or friction factors used in the design of the sewers, all sewers shall be installed with at least the slopes shown in Table 1-A-2

TABLE 1-A-2
Minimum Slopes

<u>Pipe Size (inches)</u>	<u>Slope (feet/100 feet)</u>
6"	0.60
8"	0.40
10"	0.28
12"	0.22
15"	0.15

Sewers shall be laid with uniform slope and straight alignment between manholes. Where velocities greater than 15 feet per second are attained, special provisions shall be made to protect against displacement by erosion and shock.

Sewers on 20 percent slopes or greater shall be anchored securely with concrete anchors or equal, spaced as follows:

- (1) not over 36 feet center to center on grades 20 percent and up to 35 percent;
 - (2) not over 24 feet center to center on grades 35 percent and up to 50 percent; and
 - (3) not over 16 feet center to center on grades 50 percent and over.
- (f) When a smaller sewer joins a larger one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.
 - (g) Sewer extensions should be designed for projected design flows even when the diameter of the receiving sewer is less than the diameter of the proposed extension. The Agency may require a schedule for future downstream sewer relief.
 - (h) Materials: Generally, rubber ring jointed PVC, AC or ductile iron (DI) gravity sewer pipe of the proper class is acceptable. Other materials may be approved by the Secretary .
 - (1) Sewer joints shall be designed to minimize infiltration and to prevent the entrance of roots throughout the life of the system.
 - (2) All sewers shall be designed to prevent damage from superimposed loads. Proper allowance loads on the sewer shall be made because of the width and depth of trench. Where necessary to withstand extraordinary superimposed loading, special bedding, concrete cradle or special construction may be used.

1-A-03(i) Sewer Collection Systems

- (i) Trenching: Ledge, rock, boulders, and large stones shall be removed to provide a minimum clearance of four inches below and on each side of all pipe(s).
- (j) Bedding:
 - (1) Bedding classes A, B, or C, as described in American Society for Testing and Materials (ASTM) C12 77 or Water Pollution Control Federation Manual of Practice (WPCF MOP) No. 9* shall be used for all rigid pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load.

*Note: WPCF MOP No. 9 is a joint publication with the American Society of Civil Engineers (ASCE) which lists it as "Manuals and Reports on ENGINEERING PRACTICE No. 39. " See Appendix 5-A for the address of the ASCE.
 - (2) Bedding classes I, II, or III, as described in ASTM 0232174(80) shall be used for all flexible pipe provided the proper strength is used with the specified bedding to support the anticipated load.
 - (3) Backfill shall be of a suitable material removed from excavation except where other material is specified. Debris, frozen material, large clods or stones, organic matter, or other unstable materials shall not be used for backfill within two feet of the top of the pipe.
- (k) Leakage Tests: When tested, the leakage inward and outward of a gravity sewer including manholes shall not exceed 200 gallons per inch of pipe diameter per mile per day. Upon completion of construction, a sewer line shall be tested in accordance with one of the following procedures:
 - (1) Water testing
 - (A) Plug or cap all service laterals, stubs, and fittings. Place adequate bracing to withstand thrust forces.
 - (B) A tapped plumber's plug should be inserted in the downstream manhole inlet sewer. The water supply connection is made at this point, but never directly from a public water supply system or hydrant unless a backflow preventer is used.
 - (C) A stand pipe is tightly connected at the upstream end of the sewer. The height of the stand pipe shall be at least two feet higher than any point in the sewer or two feet higher than the highest known ground water table, whichever is higher. A manhole may be used as a stand pipe .
 - (D) Water is added at the downstream connection in order to avoid trapping air bubbles or pockets. The line shall be filled to the elevation designated in the stand pipe.

1-A-03(k)(1)(E) Sewer Collection Systems

- (E) Allow the line to stand with water for at least a two hour stabilization period or such shorter period as may be required to achieve stabilized readings of water loss over three consecutive 15 minute periods. This allows air to escape and absorption to take place.
 - (F) Fill the sewer line to the reference mark and continue the test for at least one hour. Maintain the minimum head throughout the test, adding any volume of water required and including that volume in the leakage.
 - (G) Convert the leakage to the units specified.
- (2) Air testing
- (A) Procedures
 - (i) Determine the test time for the section of line to be tested using Table 1-A-3 or 1-A-4 or the formulas in Chart 1-A-1.
 - (ii) Plug all openings in the test section.
 - (iii) Add air until the internal pressure of the line is raised to approximately 4.0 pounds/square inch (psi) greater than the average pressure of any ground water. After this pressure is reached, allow the pressure to stabilize. The pressure will normally drop as the air temperature stabilizes. This usually takes 2 to 5 minutes depending on the pipe size. The pressure may be reduced to 3.5 psi before starting the test.
 - (iv) When the pressure has stabilized and is at or above the starting test pressure of 3.5 psi above the pipe, start the test. If the pressure drops more than 1.0 psi during the test time, the line is presumed to have failed the test. If a 1.0 psi drop does not occur within the test time, the line has passed the test.
 - (B) Test time
 - (i) Table 1-A-3 shows the required test time, T, in minutes/100 feet of pipe for each nominal pipe size. Test times are for a 1.0 psi pressure drop from 3.5 to 2.5 psi. Table 1-A-3 has been established using the formulas contained in Chart 1-A-1.
 - (ii) If the section of line to be tested includes more than one pipe size, calculate the test time for each size and add the test times to arrive at the total test time for the section.
 - (iii) It is not necessary to hold the test for the whole period when it is clearly evident that the rate of air loss is less than the allowable.

1-A-03 Sewer Collection Systems

TABLE 1-A-3 MINIMUM TEST TIME FOR VARIOUS PIPE SIZES

Nominal Pipe Size in inches	T (time) min/100 ft.	Nominal Pipe Size in inches	T (time) min/100 ft.
3	0.2	21	3.0
4	0.3	24	3.6
6	0.7	27	4.2
8	1.2	30	4.8
10	1.5	33	5.4
12	1.8	36	6.0
15	2.1	39	6.6
18	2.4	42	7.3

1-A-03 Sewer Collection Systems

CHART 1-A-1

FORMULAS AND ALLOWABLE AIR LOSS STANDARDS

Calculate the required test time at a given allowable air loss as follows:

$$T = (K) \times \frac{(D)^2(L)}{(Q)}$$

Calculate air loss with a timed pressure drop as follows:

$$Q = (K) \times \frac{(D)^2(L)}{(T)}$$

Symbols:

D = nominal size, in.

L = length of line of one pipe size, ft.

K = 0.534 x 10⁻⁶ for S.I. units

Q = air loss, ft³/min.

K = 0.371 x 10⁻³ for inch pound units

T = time for pressure to drop 1.0 psi, min

- (C) An appropriate allowable air loss, Q, in cubic feet per minute, has been established for each nominal pipe size. Based on field experience, the Q value that has been selected will enable detection of any significant leak. Table 1-A-4 lists the Q established for each pipe size.

TABLE 1-A-4 ALLOWABLE AIR LOSS FOR VARIOUS PIPE SIZES

Nominal Pipe Size in Inches	Q, ft ³ /min	Nominal Pipe Size in Inches	Q, ft ³ /min
3	2	21	5.5
4	2	24	6
6	2	27	6.5
8	2	30	7
10	2.5	33	7.5
12	3	36	8
15	4	39	8.5
18	5	42	9

For further information regarding the Air Testing procedures, refer to ASTM F1417-92 (2005) "Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air", ASTM International. For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary Page on the ASTM website.

1-A-03(I) Sewer Collection Systems

(I) Manholes

- (1) Location: Manholes shall be installed at the end of each line, at all changes in grade, size or alignment, at all intersections, and at distances not greater than 300 feet unless the designer justifies a greater spacing.
- (2) Drop Type: A drop pipe should be provided for a sewer entering a manhole at an elevation of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert should be filleted to prevent deposition of solids.

Drop manholes should be constructed with an outside drop connection. Inside drop connections (when necessary) shall be secured to the interior wall of the manhole and provide access for cleaning. Where inside drops are used, the manhole diameter shall be increased to allow adequate access.

Due to the unequal earth pressures that would result from the backfilling operation in the vicinity of the manhole, the entire outside drop connection shall be encased in concrete and supported by the manhole base.

- (3) Diameter: The minimum diameter of manholes shall be 48 inches; large diameters are preferred for connection to large diameter sewers. A minimum access diameter of 22 inches shall be provided.
- (4) Flow Channel: Flow channels shall be provided in the base of all manholes and the flow channel through manholes should be made to conform in shape and slope to that of the sewers.
- (5) Manholes shall be of the precast concrete or poured in place concrete type. Manholes shall be waterproofed on the exterior.
- (6) Inlet and outlet pipes shall be joined to the manhole with a rubber gasketed flexible watertight connection that allows differential settlement of the pipe and manhole wall to take place.

Grouting is not an acceptable connection. All manhole connections, including building sewers, shall be constructed to this standard.

- (7) Watertight manhole covers are to be used wherever the manhole tops may be flooded by street runoff or high water. Locked manhole covers may be desirable in isolated easement locations where vandalism may be a problem.

1-A-03(1)(8) Sewer Collection Systems

- (8) All manholes shall be tested for leakage. Leakage testing of gravity sewers utilizing the water testing procedures takes into account the leakage from one manhole in the test section. Otherwise, manholes shall be tested for leakage in accordance with the following procedure:

After the manhole has been assembled in place, all lifting holes and exterior joints shall be filled and pointed with non shrinking mortar. All pipes and other openings into the manhole shall be suitably plugged and the plugs placed to prevent blowout.

Each manhole shall be checked for exfiltration by filling with water to the top of the cone section. A stabilization period of one hour shall be provided to allow for absorption. At the end of this period, the manhole shall be refilled to the top of the cone, if necessary, and the measuring time of at least six 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 converted to a 24-hour 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 for exfiltration and there shall be no visible infiltration.

Alternatively, the manhole may be tested for leakage using the following procedure:

All lifting hole and exterior joints shall be filled and pointed with an approved non-shrinking mortar. The completed manhole shall not be backfilled prior to testing. Manholes that have been backfilled shall be excavated to expose the entire exterior prior to vacuum testing or the manhole shall be tested for leakage by means of a hydrostatic test.

All pipes and other openings in the manhole shall be suitably plugged in a manner to prevent displacement.

A plate with an inflatable rubber ring the size of the top of the manhole shall be installed by inflating the ring with air to a pressure adequate to prevent leakage of air between the rubber ring and the manhole wall.

Air shall then be pumped out of the manhole through an opening in the plate until a vacuum is created inside of the manhole equal to 10 inches of mercury on an approved vacuum gauge. The removal of the air shall then be stopped and the test time begun.

The vacuum must not drop below 9 inches of mercury within a 2 minute test period. If more than 1 inch of drop in vacuum occurs within the 2 minute test period the manhole has failed the test and shall be repaired or reconstructed and retested.

Following satisfactory test results, the manhole may be backfilled.

1-A-03(I)(9) Sewer Collection Systems

- (9) Location of Sewers on Streams
- (A) Cover Depth: The top of all sewers entering or crossing streams shall be at a sufficient depth below the natural bottom of the stream bed to protect the sewer line. In general, the following cover requirements must be met:
- (i) One foot of cover is required where the sewer is located in rock;
 - (ii) Three feet of cover is required in other material. In major streams, more than three feet of cover may be required; and
 - (iii) In paved stream channels, the top of the sewer line should be placed below the bottom of the channel pavement.
- (B) Horizontal Location: Sewers located along streams shall be located outside of the stream bed and sufficiently removed therefrom to provide for future possible stream widening, minimize pollution by siltation during construction, and allow future access for repair and maintenance of sewers.
- (C) Structures: The sewer, manholes, gate boxes, or other structures shall be located so they do not interfere with the free discharge of flood flows of the stream. No manholes or other access structures shall be located within the normal flow channel of the stream.
- (D) Alignment: Sewer crossing streams should be designed to cross the stream as nearly perpendicular to the stream flow as possible and shall be free from change in grade. Sewer systems shall be designed to minimize the number of stream crossings.
- (E) Construction Materials: Sewers entering or crossing streams shall be constructed of cast or ductile iron pipe with mechanical joints and they shall be constructed so they will remain watertight and free from changes in alignment or grade. Material used to backfill the trench shall be stone, coarse aggregate, washed gravel, or other materials that will not cause siltation.

1-A-03(I)(10) Sewer Collection Systems

- (10) Aerial Crossings: Support shall be provided for all joints in pipes utilized for aerial crossings. The supports shall be designed to prevent frost heave, overturning and settlement.

Precautions against freezing, such as insulation and increased slope, shall be provided. Expansion jointing shall be provided between above ground and below ground sewers.

For aerial stream crossings, the impact of flood waters and debris shall be considered. The bottom of pipe should be placed no lower than the elevation of the fifty (50) year flood.

- (11) Water Line Separation

- (A) Horizontal Separation: Sewers shall be laid at least ten feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge.

Where impossible or impracticable, due to ledge, boulders or other unusual conditions, to maintain the ten foot sewer--water pipe horizontal separation between sewer and water lines, the water line may be in a separate trench or on an undisturbed earth shelf in the sewer trench provided that the bottom of the water line is at least 18 inches above the top of the sewer. Wherever impossible or impractical to maintain the 18 inch vertical separation, the sewer line shall be constructed to normal water line standards and pressure tested to 50 psi for 15 minutes prior to backfilling. No leakage shall be allowed for this test.

- (B) Crossings: Sewers crossing water mains shall be laid beneath the water main with at least 18 inches vertical clearance between the outside of the sewer and the outside of the water main. When it is impossible to maintain the 18" vertical separation; 1) the crossing shall be arranged so that one full length of sewer is centered above or below the water line with sewer joints as far as possible from water joints; 2) the sewer pipe must be constructed to water main standards for a minimum distance of 20 feet either side of the crossing or a total of three pipe lengths, whichever is greater; 3) the section constructed to water main standards must be pressure tested to maintain 50 psi for 15 minutes without leakage prior to backfilling beyond one foot above the pipe to assure water tightness; 4) where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.

1-A-04 Sewage Lift Stations

- (a) Flooding: Sewage pumping station structures and electrical and mechanical equipment shall be protected from physical damage from the one hundred (100) year flood. Sewage pumping stations should remain fully operational and accessible during the twenty five (25) year flood.
- (b) Equipment Removal: Provision shall be made to facilitate removal of pumps, motors, and other mechanical and electrical equipment.
- (c) Pump Removal: Submersible pumps shall be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well.
- (d) Construction: Submersible pumps and motors shall be designed specifically for raw sewage use, including totally submerged operation during a portion of each pumping cycle.
- (e) Pumping Units: Lift stations receiving an average daily flow of less than 2,000 gal/day may be equipped with a single pumping unit, provided that replacement pumps are readily available, and one day's emergency storage is provided above the alarm level in the wet well. All other lift stations shall contain alternating duplex pumping units with each unit capable of pumping the maximum flow the station is expected to receive.
- (f) Pump Openings: For pumps handling raw sewage, except where grinder pumps are used, pumps shall be capable of passing spheres of at least three inches in diameter, and pump suction and discharge piping should normally be at least four inches in diameter. Pumps handling only settled wastewater shall be capable of passing 1½" spheres. However, the Agency will entertain proposals for smaller pumps where the engineer can demonstrate that such pumps are satisfactory for the particular wastewater to be pumped, based on actual operating experience.
- (g) Priming: Generally, the pump shall be so placed that, under normal operating conditions, it will operate under a positive suction head.
- (h) Electrical Equipment: Electrical systems and components (e.g., motors, lights, cables, conduits, switchboxes, control circuits; etc.) in raw sewage wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present shall comply with the National Electrical Code®, 2005 Edition, requirements for Class I, Group D, Division 1 locations. In addition, equipment located in the wet well shall be suitable for use under corrosive conditions. Each flexible cable shall be provided with watertight seal and separate strain relief. A fused disconnect switch located above ground shall be provided for all pumping stations. When such equipment is exposed to weather, it shall meet or exceed the requirements of weatherproof equipment as specified by the National Electrical Manufacturers Association (NEMA). Standard 3R shall be used as a minimum and is specified in Publication #250-1997, "Enclosures for Electrical Equipment (1,000 Volt Maximum.)" See Appendix 5-A for the address.

1-A-04(i) Sewage Lift Stations

- (i) Intake: Each pump should have an individual intake. Wet well design should be such as to avoid turbulence near the intake. Intake piping should be as straight and short as possible. Where turned down bellmouth inlets or submersible pumps are used the bottom of the inlets should be placed a sufficient distance above the wet well floor to minimize inlet head losses, but close enough to the wet well floor to assure inlet velocities sufficient to prevent solids deposition.
- (j) Pumping Rates: The pumps selected shall be capable of providing the following pumping rates:
 - (1) The minimum pumping rate shall not be less than 5 gallons per minute
 - (2) For average daily flows less than 10,000 gallons per day, the maximum rate shall be 5 times the average design flow.
 - (3) For average design flows greater than 10,000 gallons per day, the maximum flow rate shall be determined by multiplying the average design flow by the appropriate peaking factor from Table 1-A-1 Peaking Factors (page 133) .
- (k) Pump controls
 - (1) Location: The pump control system shall be located away from the turbulence of incoming flow and pump suction.
 - (2) Setting: The '2nd pump on' level and 'alarm on' level shall be at the same elevation.
- (l) Valves
 - (1) Suction Line: Suitable shutoff valves shall be placed on the suction line of each pump except on submersible pumps.
 - (2) Discharge Line: Suitable shutoff and check valves shall be placed on the discharge line of each pump. The check valve shall be located between the shutoff valve and the pump. Check valves shall be suitable for the material being handled. Valves shall be capable of withstanding normal pressure and water hammer.
 - (3) Location: Valves may be located in wet wells only where single pump units are allowed. On all duplex unit pumping stations, the valves shall be in a separate valve pit adjacent to the wet well. This valve pit shall also contain a valved connection to allow the use of a portable pump for lift station bypassing during emergency conditions. The valve pit shall be provided with a drain to the wet well. An effective method of preventing sewage from entering the pit during surcharged wet well conditions shall be provided.

(m) Wet Wells

- (1) Size: For lift stations handling raw sewage and receiving more than 20,000 gallons per day average design flow, the size of the wet well shall be such that with any combination of inflow and pumping the cycle of operation of each pump will not be less than 5 minutes and the retention time in the wet well should not be more than 30 minutes at average design flow. For raw sewage lift stations receiving less than 20,000 gallons per day, the retention time in the wet well will not be more than 30 minutes at average design flow. These requirements do not apply for lift stations handling only settled wastewater.

Emergency storage or emergency power must be provided at all lift stations for power outage. Storage should be provided above the high water alarm level of the wet well, in the wet well or in an adjacent tank. The volume of storage should equal the design wastewater flow for a period in excess of the longest power outage in the last five years that would have affected the proposed site, or four hours, based on a 16 hour delivery rate, whichever is greater.

The emergency storage volume may overflow into the connecting sewer lines providing that the sewage does not back up into building basements or fixtures, back up into septic tanks or over top manholes or the wet well.

Emergency storage will be a minimum of one day of wastewater design flow for all lift stations with a single pump.

- (2) Floor slope: For all raw wastewater pump stations except submersible pump types, the wet well floor shall have a minimum slope of one to one to the hopper bottom. The horizontal area of the hopper bottom shall be not greater than necessary for proper installation and function of the inlet.

- (3) Ventilation

- (A) Dry Wells: Ventilation may be either continuous or intermittent. Ventilation, if continuous, shall provide at least six complete air changes per hour, if intermittent, at least 30 complete air changes per hour.

- (B) Wet Wells: For lift stations receiving less than 20,000 gallons per day design flow gravity ventilation is acceptable. For flows greater than 20,000 gallons per day design flow, forced ventilation shall be used. Forced ventilation may be either intermittent or continuous. Ventilation, if continuous, shall be capable of providing at least 12 complete air changes per hour, if intermittent, at least 30 complete air changes per hour. Air changes shall be forced into the wet well rather than exhausted from the wet well. Portable ventilation equipment may be approved when pumps, controls, screens, and other mechanical equipment can be serviced or replaced without entering the wetwell provided that the designer submits information demonstrating that the

proposed portable equipment will be suitable for the purpose, and operation and maintenance plan for the equipment, and a statement that the portable equipment will be equally or more effective than permanently installed equipment.

- (n) Alarm Systems: Alarm systems shall be provided for pumping stations. The alarm shall be activated in cases of pump failure, use of the lag pump, high water in wet well, or other evidence of pump station malfunction. Audio and visual alarms shall be provided. Alarms shall be located in a normally frequented area.

1-A-05 Force Mains

- (a) Velocity: The force main shall be sized to maintain a minimum hydraulic velocity of 2 feet per second with one pump on. The minimum force main size shall be 1 ½ inch diameter.
- (b) Air Relief Valve: An automatic air relief valve shall be placed at high points in the force main to prevent air locking.
- (c) Termination: Force mains should enter the gravity sewer system at a point not more than 2 feet above the flow line of the receiving manhole
- (d) Design Pressure: Force mains and fittings, including reaction blocking, shall be designed to withstand normal pressure and pressure surges (water hammer).
- (e) Design Friction Losses: Friction losses in force mains shall be based on the Hazen Williams formula or other acceptable method. Selected friction factors shall be representative of pipe materials selected, considering surface deterioration over the expected useful life of the pipe.

Hazen Williams Formula

$$V = 1.32 C R^{0.63} S^{0.54}$$

R is the hydraulic radius

S is the slope of the energy grade line

C is the coefficient of roughness

- (f) Separation from Water Mains: There shall be a minimum 10-foot horizontal separation between water mains and force mains. A minimum 18 inch vertical separation between the outside pipe surfaces shall be maintained where force mains cross water mains. Force mains shall cross water mains at or near right angles with one full length of water pipe centered on the force main so both end joints are at maximum separation from the force main. Special structural support for the water main and the force main may be required.

1-A-05(g) Force Mains

(g) Pressure Test: Upon completion of construction of a force main the line shall be pressure and leakage tested. All newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 x the highest working pressure in the section in accordance with the following procedure:

- (1) Test pressures shall:
 - (A) not be less than 50 psi at the highest point along the test section.
 - (B) not exceed pipe or thrust restraint design pressures.
 - (C) be of at least 2 hour duration.
 - (D) not vary by more than 5 psi.
 - (E) not exceed twice the rated pressure of the valves when the pressure boundary of the test section includes closed gate valves.
- (2) Pressurization. Each valved section of pipe shall be filled with water slowly and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to test gauge, shall be applied by means of a pump connected to the pipe.
- (3) Air Removal. Before applying the specified test pressure, air shall be expelled completely from the pipe and valves.
- (4) Examination. All exposed pipe, fittings, valves, and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings, or valves, that are discovered following the pressure test shall be repaired or replaced with sound material and the test shall be repeated.

(h) Leakage Test

- (1) A leakage test shall be conducted concurrently with the pressure test.
- (2) Leakage Defined. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled.

1-A-05(h)(3)

Force Mains

- (3) Allowable Leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{(N)(D) \times \sqrt{P}}{7400}$$

L is the allowable leakage, in gallons per hour
N is the number of joints in the length of pipeline tested
D is the nominal diameter of the pipe, in inches
P is the average test pressure during the leakage test, in pounds per square inch gage.