

**ANDOVER BOARD OF HEALTH**  
**RULES AND REGULATIONS FOR THE DESIGN, CONSTRUCTION, AND USE OF**  
**SANITARY SEWER**

**PURPOSE AND SCOPE**

These Minimum Requirements for the Utilization of Sanitary Sewerage Systems, as revised from time to time, have been promulgated to provide minimum standards for the protection of public health and the environment when circumstances permit the use of sanitary sewerage systems for the disposal of sewage in areas included within the Andover Master Sewer System Plan. These Regulations, in conjunction with the Board of Health Minimum Requirements for the Subsurface Disposal of Sanitary Sewage (adopted February 22, 1979 and as revised from time to time), the Sewer System Administrative Policies of the Board of Sewer Commissioners (adopted March 19, 1980 and as revised from time to time), the Report on Comprehensive Plan for Sanitary Sewers (dated December 20, 1957 and as revised from time to time), and the Report on West Andover Industrial Area Sewerage System (dated December 29, 1967 and as revised from time to time), shall serve as the basis upon which the Board of Health and Sewer Commission shall permit the extension, location, construction, alteration, repair and installation of sanitary sewerage systems within the Town of Andover.

To that end, these Regulations and the other policies and reports cited above shall establish the manner in which the Board of Health shall approve connections to the municipal sanitary sewerage system and the design requirements related thereto and the manner in which the Sewer Commissioners shall approve extensions and connections to the municipal sanitary sewerage system and the attendant physical and cost impacts to the existing municipal sanitary sewerage system resulting there from. The Rules and Regulations Governing the Subdivision of Land in Andover (recorded at the Essex North District Registry of Deeds on March 19, 1954 and as revised from time to time) shall continue to govern the manner in which the Planning Board shall approve subdivision plans which include the utilization of sanitary sewerage systems and the construction related thereto.

CITATION: These Regulations may be cited as the Sewer Regulations.

AUTHORITY: These Regulations are adopted under the authority of M.G.L.c. 111, § 31.

EFFECTIVE DATE: These Regulations shall become effective on March 1, 2009.

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## SECTION 1: DEFINITIONS

The words or phrases listed below are for the purpose of these Regulations and shall be defined and interpreted as follows:

ALTERATION: Any change or modification of an existing sanitary sewerage system that would change its physical make-up or location from that initially constructed or designed.

APPLICANT: Applicant shall be the owner of record of the property to which sewers or sewer service will be extended to, or the person carrying on an activity regulated by these Regulations.

APPROVING AUTHORITY: The Andover Board of Health is the legally constituted body, having the rightful power to permit, certify, or approve systems for the disposal of sewage or for the treatment of sewage or industrial wastes.

AS-BUILT PLAN: That plan showing the actual lot boundaries, house foundation elevations and location of the sanitary sewerage system as installed.

BASE FLOOD ELEVATION: The base flood elevation shall be the level of flooding having a one percent chance of being equaled or exceeded in any given year, as designated on Federal Insurance Administration (FIA) Maps cited at Section III E of the Zoning Bylaw, or in the absence of such designation, to be defined by the Board of Health based upon the best available information regarding flood hazards, including any available U.S.G.S. (United States Geological Survey), S.C.S. (Soil Conservation Service) and Army Corps of Engineers studies.

BOARD OF HEALTH: The Andover Board of Health

CERTIFICATE OF OCCUPANCY: That Certificate issued by the Inspector of Buildings certifying that all work has been completed in accordance with the provisions of the appropriate permits (listed on the Certificate of Occupancy) and of the applicable codes for which a permit is required.

CERTIFIED FOUNDATION PLAN: Plan showing actual location and elevation of building foundation as certified by a Registered Land Surveyor.

DEPARTMENT: The Department of Community Development and Planning of the Town of Andover.

DESIGNER: The person licensed by the Commonwealth of Massachusetts to prepare plans for/of sanitary sewerage systems.

DRAIN LAYER: The person licensed by the Andover Board of Health to install sanitary sewerage systems.

FACILITY: Any real property (including any abutting real property) and any buildings thereon where legal title is held or controlled by the same owner or owners.

FILL: The earth materials placed beneath and around a sanitary sewerage system.

GREASE BEARING WASTE: All wastewater from ware washing and food preparation sinks, and any other source as determined by the Plumbing Inspector, in an establishment that produces food.

GREY WATER: Any wastewater discharged from domestic or business activities including but not limited to washing machines, sinks, showers, bathtubs, dishwashers, or other source except toilets, urinals, and any drains equipped with garbage grinders.

H-20 LOADING: Standard H-20 truck loading as specified by the American Association of State Highway Officials.

HEALTH DIVISION: The Health Division of the Andover Department of Community Development and Planning.

INDUSTRIAL WASTE: Any water carried or liquid waste resulting from any process of industry, manufacture, trade or business; or from the development or recovery of any natural resource; or as defined by the Greater Lawrence Sanitary District Rules and Regulations.

INVERT: The lowest portion of the internal cross-section of a pipe.

LOT: An area of land in one ownership, with definite boundaries.

OWNER: Every person who alone, jointly, or severally with others (a) has legal title to any property, or (b) has care, charge, or control of any property as agent, executor, executrix, administrator, administratrix, trustee, lessee, or guardian of the estate or the holder of legal title. Each such person thus representing the holder of legal Title is bound to comply with the provisions of these standards as if he/she were the owner. Owner also means every person who operates a rooming house.

PERSON: Every individual, partnership, corporation, firm, association, or group including a city, town, county, the Commonwealth or other governmental unit, owning property or carrying on an activity regulated by this Regulation.

PLUMBER: A person licensed by the Commonwealth of Massachusetts pursuant to M.G.L. Chapter 142.

REPAIR: Any restoration, or reconstruction, change, or partial replacement to an existing sanitary sewerage system that would not change its physical makeup or location from that initially constructed.

SANITARY SEWAGE: Any water-carried putrescible waste resulting from the discharge of water closets, laundry tubs, washing machines, sinks, showers, dishwashers or any other source.

SANITARY SEWER: A pipe which carries sewage without storm, surface, or ground waters.

SANITARY SEWERAGE SYSTEM: That system which begins ten (10) feet outside the inner face of the building wall and extends to a public sewer.

SEWAGE: Sewage means sanitary sewage.

WATERCOURSE: Any natural or man-made stream, pond, lake, or wetland.

WELL: Well shall include any pit, pipe, excavation, casing, drill hole or other private source of water to be used for the purpose of supplying potable water.

WETLAND: Wetlands are as defined by the Wetland Protection Act, M.G.L. Chapter 131, Section 40 as amended.

## SECTION 2: GENERAL REQUIREMENTS

### Section 2.01 Sanitary Sewer Use Permit (SSUP):

No sanitary sewerage system shall be located, constructed, altered, repaired, or installed until a Permit has been issued by the Director of Public Health. A non-refundable fee shall be paid to the Town of Andover pursuant to the current fee schedule. A permit shall not be issued for any sanitary sewerage system when the total volume of sewage to be disposed of is equal to or exceeds 50,000 gallons per day until the plan for such system has been approved by the Massachusetts Department of Environmental Protection in accordance with the provisions of 314 CMR 7.00: Sewer System Extension And Connection Permit Program. All systems for the purification or disposal of industrial wastes must be approved by the Greater Lawrence Sanitary District and the Department of Environmental Protection for any flow, as required by M.G.L.c.111, §17.

- a. For those lots served by wells and sanitary sewerage, Sanitary Sewer Use Permits shall only be considered for approval for those lots whose wells and sewer lines have been approved by the Director of Public Health, after inspection and testing by a State certified laboratory in accordance with the Board of Health Rules and Regulations entitled, "Well Water, Well Water System Requirements".
- b. For those lots served by Town water and sanitary sewerage, Building Sewer Installation Permits shall only be considered for approval by the Director of Public Health for those lots where the water and sewer lines have been tested by the installer, and approved by the Department of Public Works in accordance with Regulation 5 of these Regulations.
- c. The owner must comply with the requirements established by the Greater Lawrence Sanitary District and the Department of Environmental Protection pursuant to M.G.L., C.21, §43, and the Wetlands Protection Act, M.G.L. C.131, §40.

Section 2.02 Building Sewer Installation Permit (BSIP):

No building sewer shall be installed, constructed, or altered until a Building Sewer Installation Permit has been issued by the Director of Public Health to a licensed Drain Layer or Plumber. This Permit is required for each building sewer at the time of installation after receipt of a Certified Foundation Plan, and must be on site at all times during construction. A Building Sewer Installation Permit shall expire 6 months from date of issuance if work is not completed. Work shall not continue until a new BSIP is obtained.

Section 2.03 Revocation of Permits:

The Director of Public Health may revoke for cause any permit which has been issued under these Regulations. If, on the basis of information available the Director believes that there is cause for revocation of a permit, he shall notify the permit holder in writing, setting forth the cause and the right to appeal the decision by requesting a hearing before the Board of Health, provided that said request is received in the Health Division Office within 7 days of the date the decision was served. In determining whether cause exists for revocation, the Director and Board will consider whether a continuation of the permitted activities by the permit holder may affect the public health or safety. The Director and Board will consider all relevant facts, including but not limited to:

- a. violation of any section or requirement of these Regulations;
- b. errors or omissions on plans, calculations, or other information provided to the Town;
- c. discovery that conditions in the field are at variance with conditions represented in the plans and specifications;
- d. other actions or omissions which result in a substantial adverse effect on public health or safety.

The Board shall render its decision in writing within 30 days of the hearing and shall state the grounds for its decision. A copy of the decision shall be mailed to the permit holder.

Section 2.04 Application for Sanitary Sewer Use Permit:

An application for Sanitary Sewer Use Permit shall be submitted to the Director of Public Health and must be accompanied by a plan of the proposed sewerage disposal facilities unless otherwise exempted by these regulations. The Permit granted shall expire two (2) years from the date of issue, unless substantial construction of the system is begun before the expiration date.

Section 2.05 Process to obtain a Sanitary Sewer Use Permit (SSUP)

- a. For new building construction, the Applicant shall submit five (5) copies of a Sanitary Sewer Connection Plan to the Director of Public Health. A non-refundable fee shall be paid to the Town of Andover pursuant to the current fee schedule.
- b. The Director of Public Health shall transmit one (1) copy of the plan each to the Plumbing Inspector and the Town Engineer for their review and approval. Simultaneously, he shall provide a copy to the Conservation Division and shall review the plan for consistency with below-referenced requirements.
- c. Upon his approval, the Town Engineer shall assign a Sewer Entry Number to the approved plan.
- d. Upon assignment of a Sewer Entry Number, the approval of the Conservation Director and verification that the plan meets design specifications, the Director of Public Health shall issue a Sanitary Sewer Use Permit to the property owner or his representative upon application and payment of a fee. The applicant may then apply for a Foundation Permit.
- e. For connection to sewer systems installed by the Town of Andover where existing sewer stub information is available, plans prepared by an engineer are not required, unless a new house is proposed or a pump is installed.

Section 2.06: Process to Obtain a Building Sewer Installation Permit (BSIP)

- a. Upon completion of the building foundation, a Certified Foundation Plan must be submitted to the Director of Public Health verifying that the foundation has been installed consistent with the Sanitary Sewer Use Permit. The Director of Public Health will determine whether the location and elevation of the foundation has been constructed consistent with the Permit, prior to the issuance of a Building Permit by the Inspectors of Buildings. If the Certified Foundation Plan is not approved by the Director of Public Health, no Building Sewer Installation Permit shall be issued and no Building Permit shall be issued by the Inspector of Buildings until any inconsistency has been revised and approved.
- b. After approval of a Certified Foundation Plan, and prior to the issuance of a Building Permit a Building Sewer Installation Permit may be issued to a licensed drain layer or a licensed plumber upon payment of a non-refundable fee to the Town of Andover pursuant to the current fee schedule.
- c. During construction, the Designer shall inspect the location and elevation of the system excavation and the use of proper fill material to ensure compliance with the permit. In addition, the Designer shall submit to the Director of Public Health a stamped and signed "As-Built" Plan showing the actual location and invert elevations of the system and a certification stating that the sewer has been installed in accordance with the approved design plan and Town of Andover requirements.

- d. Prior to backfilling the sewer system, the installer shall schedule a final inspection of the system with the Plumbing Inspector.
- e. Upon approval of the sewer system by the final inspection and receipt of the “As-Built” Plan, a Department representative shall sign the Certificate of Occupancy.

Section 2.07: Process to Obtain a Building Sewer Repair Permit (BSRP)

When the repair of an existing sewer is required, a licensed drain layer or Plumber shall apply for and obtain from the Director of Public Health an Installation Permit, and upon completion of the repair, shall notify the Plumbing Inspector for final inspection. Said applicant shall submit an “As-Built” Plan for the Board of Health files.

Section 2.08 Drain Layer’s License:

No person shall engage in the installation of a building sewer without first obtaining a Drain Layer’s License from the Director of Public Health. In order to obtain this License, the Applicant must complete the following:

- a. Provide proof that the applicant has performed similar work for at least one year.
- b. Provide three (3) trade references
- c. Successfully complete the Andover Board of Health’s Drain Layer’s Examination.
- d. Complete an application provided by the Health Division.
- e. Provide a Certificate of Insurance showing that the applicant has the following:
  - i. statutory amount of Workers Compensation Insurance
  - ii. at least \$1,000,000.00 in General Liability Insurance per occurrence
  - iii. at least \$2,000,000.00 in General Liability Insurance aggregate

Upon review and approval by the Director of Public Health the License shall be granted. This License shall expire on December 31<sup>st</sup> of each year. A non-refundable fee for the license shall be paid to the Town of Andover pursuant to the current fee schedule. This License shall not be required of those persons holding a valid Plumber’s License in the Commonwealth of Massachusetts.

Section 2.09 Renewal, Suspension or Revocation of Licenses:

Preceding expiration of any license required herein, the licensee shall request in writing renewal of said license by the Board of Health. The requirements for submission of qualifications, references, and examination may be waived and the License granted as a renewal based upon the experience of the licensee with the town during the preceding years. The granting of a license or renewing the same shall not create a vested right for



the licensee and the Director of Public Health reserves the right to deny the issuance or renewal of a license.

The Director of Public Health may suspend or revoke for cause any license which has been issued under these Regulations. If, on the basis of available information, the Director believes that there is cause for revocation or suspension of a license he or she shall notify the licensee in writing of the Director's decision to revoke or suspend the license, and shall provide information on how to appeal the decision to the Board of Health. Said appeal must be received in the Health Division Office within 7 Days of service of the notice of suspension or revocation. In determining whether cause exists for suspension or revocation, the Director and the Board of Health will consider whether a continuation of licensed activities by the licensee may affect adversely the public health or safety. The Director and Board will consider all relevant facts, including but not limited to:

- a. violation of any section or requirement of these Regulations;
- b. errors or omissions on plans, calculations, or other information provided to the Town;
- c. a change in the professional status or qualifications of licensee;
- d. other actions or omissions which result in a substantial adverse effect on public health or safety.

The Board shall render its decision in writing within 30 days of the public hearing and shall state the grounds for its decision. A copy of the decision shall be mailed to the licensee.

Section 2.10 Use:

A. The use of a sanitary sewerage system shall be in compliance with the terms of the permit issued therefore and shall not exceed the design capacity of the system. Design capacity shall not be reduced for seasonal use.

B. A change in use of a facility may require that an existing sewer line be analyzed to ensure that it has the capacity for the proposed flows. Said analysis will be at the expense of the applicant.

C. No cooling water, ground water, surface water, discharge of roof drains, combined sewer overflow, illegal drains, or other uncontaminated water shall be discharged to the sanitary sewerage system, as prohibited in the Massachusetts Plumbing Code.

D. If any part of a facility is connected to a sewer system, the entire facility shall be connected. There shall be no mixed use of sewer and on-site septic systems.

Section 2.11 Building or Plumbing Permits:

No building permit, foundation permit, special building permit, or plumbing permit shall be issued until a Sanitary Sewer Use Permit has first been obtained, unless the Director of

Public Health determines that the existing sanitary sewerage system is adequate for a proposed alteration or addition to an existing building.

Section 2.12 Inspection:

Any Agent of the Board of Health and the Department of Environmental Protection may, (within its jurisdiction) inspect the installation of all sanitary sewerage systems and, at any stage of construction, require necessary modifications if conditions are encountered that were not originally observed. In order to facilitate timely inspections, the Drain Layer shall provide a reasonable period of notification when requesting an inspection and the inspection shall be performed within five (5) working days, by the Plumbing Inspector.

Section 2.13 Certificate of Compliance:

A new sanitary sewerage connection or alteration to an existing system shall not be placed into service, nor shall new dwellings or buildings or additions thereto, which must rely on new systems for sewage disposal be occupied, until the Director of Public Health has issued a Certificate of Compliance indicating that said system has been located, constructed or altered in compliance with the terms of the Permit. The following is required before a Certificate of Compliance may be issued:

- a. Inspection and approval by the Town.
- b. An As-built shall be submitted within 30 days of inspection by the Town. Said asbuilt shall include measurements from two permanent locations (such as foundation corners) to all structures, including pump chambers, backwater valves, and stub locations. In specific cases, a Certified Asbuilt Plan may be required (amended 8/10/09).
- c. The Drain Layer shall provide a Drain Layer's Certification that the installation was completed in accordance with any design plans, these regulations, and in a manner consistent with good construction practices. Said Certification shall be submitted within 30 days of inspection by the Town.
- d. All wastes pumped when abandoning a septic system shall be disposed of at an approved waste water treatment plant within 48 hours of pumping.

Section 2.14 Fees:

A schedule of non-refundable application and permit fees shall be established for each category of license and permit. This fee schedule shall be reviewed and certified annually by the Board of Health. Application fees shall be paid at the time of submission of the application and permit fees shall be paid prior to the issuance of a permit.

Section 2.15 Discharge to Watercourses:

Sanitary sewerage, industrial facility wastewater, grey water, the effluent from any sewage or waste treatment plant, or other polluting water, shall not be discharged into, or allowed to flow by means of pipes, drains, etc., into any watercourse, open or subsurface drain tributary thereto, unless approved by the Department of Community Development and Planning and the State Department of Environmental Protection.

Section 2.16 Disposal of Non- Sanitary Sewage Prohibited

It shall be a violation of these Regulations to discharge non-sanitary sewage into the Sewer System. No rain water, sump pump water, or surface runoff shall be allowed to enter the system in any manner.

Section 2.17 Disposal of Septic System Waste Prohibited

Septic system waste water shall not be discharged to any part of the municipal sewer system. Said waste shall be discharged only at an approved treatment facility as required in 310 CMR 15.504. No person shall discharge wastewater or sewerage directly to a sewer manhole or any part of the sewer system. The Director of Public Works may allow such disposal only in an emergency, and after consultation with the Director of Public Health.

Section 2.18 Discharge to Surface of Ground:

No sanitary sewage shall be allowed to discharge or spill onto the surface of the ground or to flow into any gutter, street, roadway, or public place; nor shall such material discharge onto any private property.

Section 2.19 Maintenance:

Every owner or agent of premises in which there are any private sewers, or other means of sewage disposal shall keep the sewers and disposal systems in proper operational conditions and shall have such works cleaned or repaired at such time as ordered by the Board of Health. If the owner or agent of the premises fails to comply with such order, the Board of Health may cause the works to be cleaned or repaired and all expenses incurred to be paid by the owner. The Board of Health may restrict or prohibit the use and occupancy of the premises until compliance with the order has been obtained. Sanitary sewage lines shall be maintained in a manner that will not create objectionable conditions, public health nuisances, or cause the works to become a source of pollution to any of the waters of the Commonwealth. Maintenance of the Building Sewer from the point of origin to connection into the municipal sewer main is the responsibility of the property owner.

Section 2.20 Cover Material:

Earth materials used to cover sanitary sewerage system facilities shall be free from large stones, frozen clumps of earth, masonry, stumps or waste construction materials.

Machinery which may crush or disturb the alignment of pipes shall not be allowed on any part of the sewerage system.

Section 2.21 Multiple Use:

A separate and independent building sewer shall be provided for every building.

Section 2.22 Existing Sewer Lines:

Old building sewers may be used in connection with new buildings only when they are found, on examination by visual inspection (for example via video), to meet all requirements of these Rules and Regulations. These tests shall be performed at the Applicant’s expense, and in the presence of a representative of the Town.

Section 2.23 Volume of Sanitary Sewage:

Each sanitary sewerage system shall be designed to accommodate adequately the estimated volume of sanitary sewage to be discharged from the premises to be served. The volume of such flow shall be based on the estimated maximum contributory population and the resultant maximum expected daily quantities of sewage as determined from Table “A”, “Sewage Flow Estimates”.

The owner shall comply with the requirements established by the Department of Environmental Protection pursuant to M.G.L., C.21, §43.

Section 2.24 Flow Measurement:

Meters, dosing counters, or other flow-measuring devices shall be installed to record accurately the flow of sewage when required by the Director of Public Health, the Director of Public Works, or the Department of Environmental Protection. For dosing purposes, Table “A” shall be used to calculate the sewage flow.

Table A

| SEWAGE FLOW ESTIMATES 1)                                  |  | Gallons:                  |
|---|--|---------------------------|
| <u>Type of Establishment</u>                              |  | <u>Per person/per day</u> |
| Boarding Schools, Colleges.....                           |  | 65                        |
| Nursing Home and Rest Home.....                           |  | 100                       |
| School, without cafeteria, gymnasium or showers.....      |  | 10                        |
| School, with cafeteria, but not gymnasium or showers..... |  | 15                        |
| School, with cafeteria, gymnasium and showers.....        |  | 20                        |
| Swimming Pool.....  |  | 10                        |
| Camp, resident – washroom and toilets.....                |  | 25                        |
| Camp, resident – mess hall.....                           |  | 10                        |
| Camp, day – washroom and toilets.....                     |  | 10                        |
| Camp day – mess hall.....                                 |  | 3                         |
| Camp Ground – showers and toilets – per site.....         |  | 75                        |

|   | <u>Gallons per day</u>                             |
|---|--|
| Gymnasium – per spectator.....                                  | 3  |
| Gymnasium – per participant.....                                | 25   |
| Theater, Auditorium.....  | 3  |
| Public Park – toilet wastes only.....                           | 5  |
| Public Park – bathhouse, showers, and flush toilets.....        | 10   |
| Factory or Industrial Plant, without cafeteria.....             | 15   |
| Factory or Industrial Plant, with cafeteria.....                | 20   |
| Work or Construction Camp.....                                  | 50   |
| Single and multiple dwelling units – per bedroom.....           | 150  |
| Motels, hotels, boarding houses – per unit.....                 | 110  |
| Tennis Club – per court.....                                    | 250  |
| Bowling Alley – per alley.....                                  | 100  |
| Country Club – dining room – per seat.....                      | 10   |
| Country Club – snack bar or lunch room – per seat.....          | 10   |
| Country Club – locker and showers – per locker.....             | 20   |
| Church – per seat.....  | 3  |
| Church vestry/kitchen – per person at capacity.....             | 5  |
| Trailer, dump station – per site or per trailer.....            | 50   |
| Mobile Home Park – per site.....                                | 200  |
| Office Building – per 1,000 sq. ft.....                         | 75   |
| Dry Good Stores – per 100 sq. ft.....                           | 5  |
| Drive-in per stall.....   | 5  |
| Non-single family, per automatic washing machine (clothes)..... | 400  |
| Hospital – per bed.....   | 200  |
| Service Station excluding thruway – per island.....             | 300  |
|   | <u>Gallons per seat</u><br><u>Or chair per day</u> |
| Restaurant, food service establishment, lounge, tavern.....     | 35   |
| Restaurant, thruway service area.....                           | 150  |
| Restaurant, kitchen flow.....                                   | 15   |
| Barber Shop/Beauty Salon.....                                   | 100  |

Note: Laundromat wastes are considered industrial wastes and must be approved by the Department of Environmental Protection.

1) Estimated sewage flows other than those listed should be considered in relation to actual meter readings of established flows from known or similar installations. Generally, estimated sewage flows will be based on 200 percent of average water meter readings in order to assimilate maximum daily flows.

**SECTION 3:           DESIGN CRITERIA FOR SANITARY SEWAGE PLANS AND SPECIFICATIONS**

**Section 3.01           Plans and Specifications**

Plans and specifications will be accepted for review only if the plans and specifications are complete and include the following:

- a. Town Map No., Town Lot No., Subdivision Lot No., and street name;
- b. contour lines shall be drawn at two (2) foot intervals with corresponding elevations for existing and finish grades. These contours must be by actual survey on the ground

- or accurate aerial topography. Enlarged Coast and Geodetic contour maps shall not be accepted. (amended 8/10/09);
- c. benchmark – United States Geodetic Base – Assumed base not allowed except with permission of the Director of Public Health. Benchmarks will be established at the site. Any site within 1500feet of a USGS Base must use the USGS Base;
  - d. specific location of buildings and principal topographical features;
  - e. Site Plan Scale: One inch to twenty feet minimum;
  - f. Locus Plan Scale: One inch to eight hundred feet minimum;
  - g. profile and section plans of the sewer area shall be submitted and drawn to scale;
  - h. Sanitary Building Drains and Building Sewers Scale:
    - Horizontal – one inch to forty feet minimum;
    - Vertical – one inch to four feet;
  - i. Lot Grading Plan Scale:
    - Horizontal – one inch to twenty feet minimum;
    - Vertical – to be determined if and where necessary to detail existing and/or proposed grade change.
  - j. direction of North;
  - k. lot area and dimensions;
  - l. calculations showing design flow based on Section 2.25;
  - m. watercourses and wetlands on or adjacent to the property (within 100 feet) of the proposed Sanitary Sewage System. It shall be noted if they do or do not contribute to a public water supply;
  - n. size, length, type and slope of all piping;
  - o. driveways;
  - p. underground utilities;
  - q. the name and address of the owner of record together with the book and page number as recorded at the Registry of Deeds;
  - r. the name and address of the Designer;
  - s. the name and address of applicant if different from that of owner;

- t. date when plan was drawn and date of any revisions;
- u. lot Grading Plans shall show the following at a minimum:
  - 1. existing and finish grades at all corners of the lot;
  - 2. existing and finish grades at all corners of the structure;
  - 3. existing and finish grades at the beginning and end of driveways and/or walks;
  - 4. direction of the flow of surface water through swales;
- v. base flood elevation;
- w. invert elevation of the Town Sewer Main at the street;
- x. sewer service stub or saddle connection.

#### SECTION 4: CONSTRUCTION CRITERIA

##### Section 4.01 Size:

The building sewer shall be of such size as required by the Plumbing Inspector to serve the connected fixtures. In no case shall the building sewer be less than six (6) inches in diameter.

##### Section 4.02 Material:

The building sewer shall be constructed of ductile iron, SDR-35 PVC, or other material acceptable to the Plumbing Inspector.

##### Section 4.03 Joints:

All pipe joints of the building sewer shall be made watertight and protected against damage by roots. Proper connections must be used when joining varying pipe materials.

##### Section 4.04 Pipe Bedding:

The Building sewer shall be laid on a 6 inch thick layer of crushed stone and shall be placed and compacted to fully support the pipe throughout its entire length. The stone shall be no larger than ¾ inch in size. The pipe shall then be backfilled with crushed stone around the pipe and up to a level 12 inches above the top of the pipe. In areas of high ground water, clay dams shall be utilized.

Section 4.05 Grade:

The building sewer shall be designed with a minimum slope of .02.

Section 4.06 Alignment:

The building sewer shall be laid on a continuous grade and as nearly as possible in a straight line.

Section 4.07 Manholes:

A. Manholes, with metal frames and covers at grade, shall be provided at the junction of two or more sewers, at all changes in direction or changes in grades of sewers, and at intervals no greater than 300 feet except that manholes will not be necessary where building sewers join lateral sewers if a long radius bend is provided. All gravity sewer manholes shall have an open channel depth equal to or greater than the diameter of the inlet sewer and the change of direction in each manhole shall not exceed 90 degrees. (Change of direction is the interior angle between the new direction of flow and the imaginary extension of the original direction of flow.) All manholes under an area subject to vehicular traffic shall be capable of withstanding H-20 loading.

B. Where a force main connects to a gravity sewer line, the force main shall enter a manhole, where the wastewater will then gravity feed into the gravity line.

Section 4.08 Connections:

Where a Town “stub” is not provided, a “Sealtite” sewer pipe saddle or an approved equivalent must be used.

Section 4.09 Backfill:

The trench backfill above the crushed stone shall be covered with a minimum of 12” of clean and select backfill with no stones greater than 3” in size. All pipe shall be subject to the approval of the Town Engineer (amended 8/10/09).

Section 4.10 Base Flood:

New or replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into such systems or discharges from the systems into flood waters in the event of flooding to the Base Flood Elevation.

Section 4.11 Excavations:

All excavations for building sewer installations shall be adequately guarded with barricades and lights so as to protect the public from hazards, and shall be in accordance with applicable local, state, and federal regulations. Streets, sidewalks, parkways and



other public property disturbed in the course of the work shall be restored in a manner satisfactory to the Town. All excavations shall be performed in compliance with M.G.L.c. 82A, § 1 and 520 CMR 14.00, and a trench permit from the town shall be required in accordance therewith, and with any town bylaws, regulations, and procedures.

Section 4.12 Backwater Valves:

A backwater valve shall be installed in each building sewer line at a location 10 feet outside the foundation wall. The type of backwater valve shall be approved by the Town Engineer.

Section 4.13 Grease Traps:

a. Exterior Grease traps shall be installed to handle all grease bearing waste at all restaurants and other establishments where food is prepared. Said grease trap shall be sized and designed in accordance with the requirements set forth in 310 CMR 15.000 (Title 5), and shall have a minimum capacity of 1,500 gallons.

b. Inlet and outlet tees shall be installed in accordance with the requirements of Title 5, and all manhole covers shall be brought to grade with metal rims and covers.

c. Only fixtures approved by the Plumbing Inspector shall be connected to the grease trap, and shall include all food preparation sinks, mop sinks, and ware-washing sinks.

d. Grease traps shall be inspected and cleaned on a quarterly basis, and as often as is necessary to prevent the flow of grease from entering the public sewer. Annual reporting to the Health Division of this quarterly maintenance is required.

e. When retrofitting existing facilities or where it is impractical to install an exterior grease trap as required in Section 4.13a., a mechanical type interior grease trap may be allowed, subject to approval of the Director of Public Health. The Director of Public Health may require that a variance to this section be sought and obtained when in his/her opinion an exterior grease trap is feasible. (added 10/14/09)

Section 4.14 Trace Tape:

All building sewers and sewer lines shall have a metallic trace tape laid in the trench one foot below finished grade (amended 8/10/09).

## SECTION 5: TESTING

### Section 5.01 Testing Prior to SSUP:

No Sanitary Sewer Use Permit shall be issued until water and sanitary sewerage lines leading to the connection have been tested by the party constructing them at the expense of the Applicant, and approved for use by the Director of Public Works.

### Section 5.02 Sewer Line Testing:

A low-pressure air test is required in accordance with the American Society for Testing and Materials (ASTM), Specification C-828, to be performed at the expense of the Applicant.

### Section 5.03 Sanitary Sewer Manholes:

All Sanitary Sewer Line Manholes shall be watertight and tested at the expense of the applicant in the following manner to the satisfaction of the Superintendent of Water and Sewer:

- a. plug all inlets and outlets;
- b. conduct a Vacuum Test as follows:
  1. The test shall be made using an inflatable compression band, vacuum pump, and appurtenances specifically designed for testing manholes. Test procedures shall be in accordance with equipment manufacturer's recommendations. Contractor shall be fully familiar with the vacuum testing equipment and shall provide a minimum of 4 hours of instruction by a factory-authorized representative at the outset of the project.
  2. Each manhole shall be tested immediately after assembly including the connection of pipes and prior to backfilling.
  3. All lift holes shall be plugged with no shrink grout and all pipes entering the manhole shall be plugged and braced to prevent the plug from being drawn into the manhole.
  4. After the test equipment is in place the test shall be run at the following rate and test times:
    - a. For 4.0 feet or 5.0 feet diameter manholes:
      - i. Initial pressure test – 10-in Hg.
      - ii. Test time – 1inch Hg drop to 9inch Hg in 1 minute allowable for 0-10 foot deep manholes; 1 minute 15 seconds minimum allowable for 10-15 foot deep manholes; 1 minute 30 seconds minimum allowable for 15-25 foot deep manholes.
    - b. If the pressure drop exceeds 1inch Hg in the specified time the manhole shall be repaired in accordance with approved procedures and retested.

- c. If a manhole fails to meet a 1inch Hg drop in the specified time after repairs, the unit shall be water exfiltration tested and repaired as necessary.

Section 5.04 Water Lines:

All new water mains and services shall be subject to the following tests to be performed at the expense of the applicant and must be approved by the Director of Public Works:

- a. Pressure Testing – mains shall be capable of holding a test pressure of 200 psi for a minimum of 15 minutes.
- b. Leakage Testing – a leakage test shall be performed at a minimum of 150 psi or 1.5 times static pressure (whichever is higher) for a minimum duration of one (1) hour. Allowable leakage shall be based on AWWA C600-64 Standard for Push-On Joint 18 foot nominal length pipe.
- c. Bacterial Testing – All lines shall be subject to bacterial testing after they have been flushed. Chlorination shall be performed in accordance with AWWA Specifications. All bacterial tests will be performed according to standard methods of analysis. Samples shall be taken on two separate occasions, a minimum of 24 hours apart and must have zero coliform and zero background to be acceptable, and tested at a Massachusetts Certified Laboratory.

Section 5.05 Wells:

Lots to be served by private wells shall be tested in accordance with the Town of Andover “Well Water, Well Water System Requirements” adopted August 11, 1980 and as amended from time to time at the expense of the applicant. Facilities served by private wells and municipal sewer service shall equip the well with a flow meter approved by the Director of Public Works.

SECTION 6: PUMPS

Section 6.01a Criteria For Administration of the Master Sewer Plan:

The Andover sewer system shall be an entirely gravity flow sewer system including the publicly owned and operated sewage pumping stations in existence as of January 1, 2007; more specifically the-Tantallon Road Sewage Pumping Station (aka Shawsheen Village Sewage Pumping Station), Bridle Path Sewage Pumping Station, Dale Street Sewage Pumping Station, , Launching Road Sewage Pumping Station, Sugarbush Lane Sewage Pumping Station, Morningside Drive Sewage Pumping Station, Woburn Street Sewage Pumping Station, Snowberry Road Sewage Pumping Station, Robandy Road Sewage Pumping Station, Salem Street Sewage Pumping Station, Kathleen Drive Sewage Pumping Station, and the Tilton Lane Sewage Pumping Station . All other sewage

pumping facilities including force mains are privately owned and not considered a part of the Andover Sewer System and shall not be accepted as part of the sewer system by the Town of Andover (amended 8/10/09).

The policy of an entirely gravity flow system is to maintain system reliability. A gravity flow system will continue to operate despite electric power outages, mechanical failures, or other deficiencies with a higher degree of reliability than a system which includes sewage pumping stations or force mains. The failure of a sewer system to function reliably will have an adverse impact upon public health. Therefore, the further need to construct and operate public sewage pumping stations and force mains should be eliminated.

The policy of an entirely gravity flow system is also adopted for economy and efficiency in the operation of the system. The development of additional sewage pumping stations and force mains requires substantial increases in expenditure for construction and ongoing maintenance. Sewage pumping stations are significant consumers of electric power, a scarce energy resource. It is the obligation of the sewer commissioners to provide an economical sewer system to the users of the system both now and in the future.

#### Section 6.01b Location:

Pursuant to the “Sewer System Administrative Policies of the Board of Sewer Commissioner” (adopted March 19, 1980 and as revised from time to time), new sewage pumping stations and/or force mains shall not be permitted for inclusion into the Andover sewer system. With the exception of those publicly owned and operated sewage pumping stations listed in the above-referenced Policies, all sewage pumping stations and force mains shall be privately-owned and maintained. While no private sewage pumping stations or force mains shall be permitted outside the sewer service area described in the “Report on Comprehensive Plan for Sanitary Sewers” dated December 20, 1957, that are designed to access the Andover sewer system, private pumping stations and force main may be permitted within the sewer service area described in the above-referenced report provided they are located entirely on private property. Those applicants whose land uses are within the sewer service area and, as a function of topography and location of the gravity sewer line, must rely upon the use of a pumping station and force main to access the gravity sewer line may apply to the Board of Health for a Special Permit for pumping station and force main to be located entirely on private property. This Permit shall be subject to reasonable conditions relative to use and maintenance of the pumping station and force mains shall not be transferable to a different land use for the parcel without referral to and approval by the Board of Health.

#### Section 6.01c Special Permits:

No Special Permit shall be issued for system designs which include a force main pumping station or any non-gravity device on public property. Special Permits shall only be considered for pumping systems entirely located on private property which elevate the

sanitary wastes (sewage) to an elevation and location from which such sanitary wastes (sewage) will flow entirely by gravity feed at any point beyond the private property line to the municipal public property and public sewer main.

#### Section 6.01d Special Permit Procedures

When a special permit under Section 6.01c is sought under these regulations, a public hearing shall be required before the Board of Health. In doing so, the following procedures shall be followed:

A. A hearing fee and ten copies of the application packet shall be submitted, including:

1. A written request for the special permit and justification for it.
2. A site plan and design details in a scale no smaller than 1" = 40'.
3. Pump specifications and curve.
4. Sample Home Owners or Condominium Association Paperwork detailing its creation and operation.

B. The Health Division will forward copies of the application packet to the Director of Public Works, Town Engineer, Conservation Division, and Plumbing Inspector for comment and recommendation. The remaining copies will be for the file and Board of Health information packets.

C. The application will be assigned for hearing at the next available Board of Health meeting, but no sooner than 30 days following application to allow for proper staff review.

D. The applicant shall cause a legal advertisement provided by the Health Division to be published in a local newspaper at least 7 days prior to the hearing date at the expense of the applicant.

E. Should the Special Permit be issued, construction shall not be permitted until such time as the Home Owners or Condominium Association has been created and appropriate documentation filed at the Registry of Deeds indicating the responsibility of the Home Owner or Condominium Association for operation and maintenance of the private sewer system.

#### Section 6.02 Number :

For a single family dwelling, a minimum of one pump shall be installed. For all other uses, at least two (2) pumps shall be installed.

#### Section 6.03 Installation:

All pumps shall be installed in strict conformance with the manufacturer's specifications. All control and alarm panels shall be sheltered from the elements and in an accessible location in conformance with the state building code.

Section 6.04 Controls:

Pump controls shall be moisture proof and operate in the following sequence:

- a. Pumps off.
- b. Lead pump on.
- c. Alarm on and lag pump on.

Section 6.05 Alarm:

All pumps shall be equipped with an audible and visual high water alarm powered by a circuit separate from the pump power. For all pumps serving facilities other than one or two dwelling home, the alarm shall ring to a monitored facility, and the visual alarm shall be labeled with a sign that provides a telephone number to call when lit.

Section 6.06 Standby Power:

Standby power shall be provided at apartment houses, condominiums, elderly housing and all other premises including single-family dwellings, which are not vacated during the power failure. An empty emergency overflow tank with twenty-four hour storage capacity above the height of the alarm level may be substituted where such tank can be placed completely above groundwater.

Section 6.07 Pump Type:

Pumps shall be grinder type.

Section 6.08 Pressure Lines

All pipe angles in pressure lines shall be equipped with thrust blocks.

Section 6.09 Pump Chambers

All pump chambers and storage tanks shall be shaped to prevent the accumulation of solids by sloping the bottom of the tank toward the pump location. This may be accomplished by placing the chamber on a slope or via an insert into the tank. Existing septic tanks shall not be reused. All tank penetrations shall be sealed with hydraulic cement. Pump tank construction and installation shall conform in every way to 310 CMR 15.231 unless otherwise noted.

SECTION 7                    PROTECTION FOR DAMAGE: POWERS AND AUTHORITY OF INSPECTIONS.

Section 7.01    Damage:

No unauthorized person shall maliciously, willfully or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the sewerage works.

Section 7.02    Board of Health Authority:

By applying for a permit or license under these regulations, the property owner is authorizing the Board of Health or its agent to enter all properties for the purpose of inspection, observation, measurement, sampling and testing in accordance with the provisions of these rules and regulations.

SECTION 8    VARIANCE

Section 8.01    Variance Procedure:

Variations may be granted only as follows: The Board of Health may vary the application of any provision of these Regulations (except where such variance is expressly forbidden elsewhere in these Regulations or by applicable law or regulation) with respect to any particular case when, in the Board's opinion, (1) the enforcement thereof would do manifest injustice; and (2) the applicant has proved that the same degree of environmental protection required under the Regulations can be achieved without strict application of the particular provision.

Every request for a variance shall be made in writing and shall state the specific variance sought and the reasons therefore. No variance shall be granted for a new sanitary sewage system, nor for an enlargement to an existing system which increases capacity to accommodate additional flows, except after the applicant has notified all abutters (as indicated on the most recent tax maps) by certified mail at his own expense at least ten (10) days before the Board of Health meeting at which the variance request will be on the agenda. The notification shall state the specific variance sought and the reasons therefore. Notice of the variance request must be advertised in a local newspaper at least 7 days prior to the meeting date, at the cost of the applicant. A variance may be issued for the repair of an existing sanitary sewage system without the requirement of notification of all abutters by the applicant.

Any variance granted by the Board of Health shall be in writing. Any denial of a variance shall be in writing and shall contain a brief statement of the reasons for the denial. A copy of each variance shall be available to the public at all reasonable hours in the office of the Board of Health while it is in effect.

SECTION 9 VARIANCE, GRANT OF SPECIAL PERMISSION: EXPIRATION, MODIFICATION, SUSPENSION OF

Section 9.01 Variance, Grant of Special Permission:

Any variance or other modification authorized to be made by these Regulations may be subject to such qualification, revocation, suspension, or expiration as the Board of Health expresses in its grant. A variance or other modification authorized to be made by these Regulations may otherwise be revoked, modified, or suspended, in whole or in part, only after the holder thereof has been notified in writing and has been given an opportunity to be heard, in conformity with the requirements of Title 1 of the Environmental Code.

SECTION 10 GENERAL ENFORCEMENT

Section 10.01 Title 1 Provisions:

The provisions of Title 1 of the State Environmental Code shall govern the enforcement of these Regulations as supplemented by the following regulations.

SECTION 11 ORDERS: SERVICE AND CONTENT

Section 11.01 Failure to Comply:

If an examination as provided for in 310 CMR 11.00, Title 1 of the State Environmental Code reveals failure to comply with the provisions of these regulations, the Board of Health shall order the persons responsible to comply with the violated provision.

Section 11.02 Order Authorization:

Every order authorized by these Regulations shall be in writing. Orders issued under the provisions of Regulation 11.01 shall be served on all persons responsible for the violated regulations. All Orders shall be served on the designated person:

- a. personally, by any person authorized to serve civil process, or
- b. by leaving a copy of the Order at his last and usual place of abode, or
- c. by sending him a copy of the Order by registered or certified mail, return receipt requested, if he is within the Commonwealth, or
- d. if his last and usual place of abode is unknown or outside the Commonwealth, by posting a copy of the Order in a conspicuous place on or about the premises.



Section 11.03 Emergency Provision of Title 1

Subject to the emergency provision of Title 1 of the State Environmental Code, any Order issued under the provisions of these Regulations shall:

- a. include a statement of the violation or defect, and may suggest action which, if taken, will effect compliance with these Regulations, and
- b. be served by leaving a copy of the Order at his last and usual place of abode and sent Certified Mail, Return Receipt Requested, or
- c. inform the person to whom it is directed of his right to a hearing and of his responsibility to request the hearing, and to whom the request shall be made.

SECTION 12 HEARING

Section 12.01 Procedure for Requesting and Holding a Hearing:

Unless otherwise specified in these Regulations, the person or persons to whom any Order has been served by the Board of Health pursuant to any provision of these Regulations may request a hearing before the Board that issued the Order by filing with the Board within seven (7) days after the day the Order was served a written petition requesting a hearing on the matter. Upon receipt of such petition, the Board shall set a time and place for such hearing and shall inform the petitioner thereof in writing. The hearing shall be commenced not later than forty-five (45) days after the day on which the Order was served. The Board, upon application of the petitioner, may postpone the date of the hearing for a reasonable time beyond such forty-five (45) day period if in the judgment of the Board the petitioner has submitted a good and sufficient reason for such postponement.

Section 12.02 Hearing of Petitioner:

At the hearing, the petitioner shall be given a opportunity to be heard and to show cause why the Order should be modified or withdrawn.

Section 12.03 Procedure by the Board of Health after Hearing:

After the hearing, the Board shall sustain, modify, or withdraw the Order and shall inform the petitioner in writing of its decision. If the Board sustains or modifies the Order, it shall be carried out within the time period allotted in the original Order or in the modification.

Section 12.04 Public Record:

Every notice, Order, or other record prepared by the Board of Health in connection with the hearing shall be entered as a matter of public record at the office of the Board of Health.

Section 12.05 Hearing Petition Not Submitted, or Sustaining of the Order:

If a written petition for a hearing is not filed with the Board within seven (7) days after the day an Order has been served or if after a hearing the Order has been sustained in any part, each day's failure to comply with the Order as issued or modified shall constitute an additional offense.

SECTION 13 APPEAL

Section 13.01 Appeal Process:

Any person aggrieved by the decision of the Board of Health may seek relief therefrom in any court of competent jurisdiction, as provided by the laws of this Commonwealth.

SECTION 14 PENALTIES

Section 14.01 Fines:

- A. Any person who shall violate any provision of these Regulations for which penalty is not otherwise provided in any of the General Laws or in any other provision of these Regulations or Title 1 of the Environmental Code shall, upon conviction, be fined not more than one thousand (1,000.00) dollars per day of violation. Each day of violation shall constitute a separate and distinct violation.
- B. As an alternative to criminal prosecution in a specific case, the Board of Health may issue citations under the noncriminal disposition procedures set forth in M.G.L.c. 40, § 21D.

Section 14.02 Failure to Comply:

The Board of Health may seek relief in an appropriate court of competent jurisdiction to enforce these regulations or to require compliance with them.

SECTION 15 SEVERABILITY

Section 15.01 Severability

Each section of these Regulations shall be construed as separate and to that end if any regulation, sentence, clause, or phrase thereof shall be held invalid for any reason, the remainder of that regulation and all other regulations shall continue in full force.

SECTION 16 CONFLICTING REGULATIONS

Section 16.01 Conflict

Where any of these regulations might conflict with one another or with state regulations, the more restrictive shall apply.

Appendix

The following standard details as appended to these regulations are examples of approved construction details:

- D1 PVC Drop to Manhole
- D2 PVC Chimney
- D3 Trench Dam
- D4 Typical Manhole
- D5 Typical Service
- D6 Sewer Storage Chamber with External Pump
- D7 Sewer Storage Chamber with Internal Pump
- Sewer Pump Chamber Notes

Public Hearing Date: October 15, 2007  
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Public Hearing Date: March 10, 2008

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Amended: August 10, 2009, December 14, 2009

Approved by:

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Candace Martin, Chairman

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Donald Miller, M.D., Vice Chairman

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Margaret Kruse, Ph.D., Clerk