



# **Bridgewater** *Massachusetts*

Bridgewater...Preserving Our Past. Enriching Our Present. Building Our Future.

## **Rules and Regulations Governing the Subdivision of Land in The Town of Bridgewater, MA**

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March 10, 1956**

**Amended in 1988, 1992, 1994, 2000, 2003, 2007, 2009, 2018 and 2023**



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## PURPOSE: (Section 81-M of Chapter 41 M.G.L.)

These Rules and Regulations have been enacted for the purposes of protecting the safety, convenience and welfare of the inhabitants of the Town of Bridgewater by regulating the laying out and construction of ways in a subdivision providing access to the several lots therein, but which have not become public ways, and insuring sanitary conditions in a subdivision and in proper cases parks and open areas. The powers of the Planning Board and of a Board of Appeals under the subdivision control law shall be exercised with due regard for the provision of adequate access to all of the lots in a subdivision by ways that will be safe and convenient for travel; for lessening congestion in such ways and in the adjacent public ways, for reducing danger to life and limb in the operation of motor vehicles; for securing safety in the case of fire, flood, panic and other emergencies; for insuring compliance with the applicable provisions of the zoning bylaw; for securing adequate provisions for water, sewerage, drainage and other requirements where necessary in a subdivision; and for coordinating the ways in subdivisions with each other and with public ways in Bridgewater and with the ways in neighboring subdivisions.

## SECTION I. AUTHORITY

Under the authority vested in the Planning Board of the Town of Bridgewater by Section 81-Q of Chapter 41 of the General Laws, said Board hereby adopts these amended Rules and Regulations governing the subdivision of land in the Town of Bridgewater.

### A. PLANNING BOARD PROCEDURES

Regular meetings of the Planning Board are held on the date and times as posted with the Town Clerk and on the Town's Website. Except for executive sessions as provided for in Section 32A of Chapter 39 of the General Laws as amended, meetings of the Planning Board shall be open to the public to attend. Anyone wishing to meet with the Board shall do so by appointment. To secure an appointment, all applicants shall notify in writing the Planning Board by at least the Wednesday before a regularly scheduled meeting. In such notice the applicant shall state his name, address and a brief outline of the nature of business to be discussed with the Planning Board. The same procedure as above is recommended for applicants desiring to submit plans in accordance with the provisions of Section II-B and Section III of these Rules and Regulations. Any person attending an advertised public hearing may address the Board at the pleasure of the Chairman without prior notice, and in so doing shall state his name, address and person represented, if any.

All meetings of the Board shall be conducted formally under the direction of the Chairman of the Board. In the absence of the Chairman, the Vice-Chairman shall act as Chairman. A majority of the members of the Board shall constitute a quorum but less than a majority may vote to adjourn, subject to the meeting being rescheduled as hereinafter provided; all other action of the Board shall require a majority vote of all the members. In the event of there being less than a

quorum present at any scheduled meeting, the Chairman shall reschedule a meeting as soon as practicable thereafter.

For the purpose of These Rules and Regulations, the words “should,” “shall,” and “may” are used to describe specific conditions. The following definitions apply:

**Shall:** A mandatory condition. Where certain requirements in the design or application of the standard are described with the “shall” stipulation, it is mandatory that these standards be met.

**Should:** An advisory condition. Where the word “should” is used, the applicant is advised the stipulation is recommended and preferable to the Planning & Zoning Board, but it is not mandatory or required.

**May:** A permissive condition. No requirement or recommendation is intended.

## B. FILING FEES

The minimum filing fees shall be as follows:

### 1. APPLICATION FEES:

Approval-Not-Required Plans	\$300.00 plus \$100.00 per lot created or modified.
Site Plan (Section 10.6 of the Zoning Ordinances)	<p><b>Minor Site Plan:</b> \$500 for ANY modification of existing building, approved Site Plan, Section 3 uses, creating a parking lot up to 10,000 sf of impervious surface, expansion of an existing building or a new Minor Site Plan (creating no impervious surface and/or change in use).</p> <p><b>Major Site Plan:</b> Parking Lot Construction/Expansion</p> <ol style="list-style-type: none"><li>1. \$1,000 Site Plan creating from 10,001-50,000 sf of impervious surface.</li><li>2. \$1,500 Site Plan creating greater than 50,000 sf of impervious surface.</li></ol> <p><b><u>And</u></b></p> <p>New Construction/Expansion of Municipal, Institutional, Commercial, Industrial, or Residential Structure with Two or More Dwelling Units:</p> <ol style="list-style-type: none"><li>1.) \$1,000 Site Plan – Up to a 10,000 sq. ft structure in gross floor area</li><li>2.) \$1,500 Site Plan – 10,001 – 25,000 sq. ft structure in gross floor area</li><li>3.) \$2,000 Site Plan – Over 25,000 sq. ft + \$.06 per sq. ft structure in gross floor area</li></ol> <p><b>ALL</b> Major Site Plan applications require <b>a minimum \$2,500 Professional Review Fee.</b> *</p>
Special Permits and Modifications	\$800 + <b>a minimum \$2,500 Professional Review Fee</b> (not required if paid through Major Site Plan Review) \$200 per subsequent Special Permit(s) after First



	Special Permit \$500 for <b>ANY</b> modification <b>AND a minimum</b> \$2,000 Professional Review Fee* (if necessitated by Planning Board)
Preliminary Subdivision Plans	\$500.00
Definitive Subdivision Plans	\$4,000 plus \$100.00 per lot plus \$6.25 per linear foot of road centerline created <b>AND</b> a minimum \$3,000.00 Professional Review Fee. *
Plans amending, modifying, or rescinding previously approved subdivision plans.	\$300.00 for minor modification. \$750.00 for major modification <b>AND</b> a minimum \$2,500 Professional Review Fee. (if necessitated by Planning Board)
Extension of Time for Site Plan Review and/or Special Permit	\$200.00

The Professional Review Fee constitutes the cost of review by the Town Engineering for performing plan review. An additional Professional Review Fee is required for Inspections and is required prior to Construction.

<b>Site Compliance Inspections</b>	<b>Fee Schedule</b>
Subdivision Up to 9 lots	\$1,000
Subdivision 10-25 lots	\$1,250
Subdivision 26-49 lots	\$1,500
Subdivision 50 lots or greater	\$1,500 and \$25/lot over 50 lots
Site Plans creating up to 10,000 sq. ft impervious surface	\$750
Site Plans creating 10,001-50,000 sq. ft impervious surface	\$1,000
Site Plans creating over 50,000 sq. ft impervious surface	\$2,000

## 2. ADMINISTRATIVE FEES (AS REQUIRED)

Staff shall advise the Applicant and/or the Applicant's Representative, of the actual amount of the following and the entity to whom the checks should be made payable. Unless otherwise agreed, all amounts shall be forwarded to the Board prior to the opening of the public hearing.

**Advertisements required by Statute; Postage for decision letters; deposit for Special Consultant(s) required by the Board.**

## 3. INSPECTION AND REVIEW CHARGE

Annually, the Planning Board shall review the \$6.25 per linear foot of roadway centerline component of the required definitive subdivision filing fee and shall adjust it at its first meeting in July of each year to account for road cost escalation and inflation. The annual growth rate of the fee shall not be less than three (3) percent. The Board, however, may elect to freeze the fee in any given year if economic conditions warrant it.

### C. APPLICANT'S RESPONSIBILITY

The approval of a subdivision by the Board does not affect any rights others may have in or over the land to be subdivided nor does it give the applicant the right to perform work on land owned by others.

The acquisition of necessary rights and the presentation of complete and correct information to the Board are responsibilities of the applicant and the failure to do so, including the failure or inability to obtain all necessary permits, licenses, releases or rights may constitute a reason for the disapproval, the rescission of approval of a subdivision plan or application of other laws.

## SECTION II. DEFINITIONS AND DIRECTIVES

### A. DEFINITIONS

In construing these regulations, the definitions in Section 81-L of the General Laws shall apply unless a contrary intention clearly appears. Please find applicable definitions within the Town's Zoning Ordinance. In addition, the following words shall have the following meanings:

**ABUTTER-** The owner of land located within 300 ft. of any bound of the subdivision including land on the opposite side of a street.

**ACCESS CONNECTION-** Any driveway, street, curb cut, turnout or other means of providing for the movement of vehicles to or from the public/private roadway network.

**ACCESS-** A way or means of approach to provide vehicular or pedestrian entrance or exit to a property.

**AGENT** - The Town Engineer and/or a duly authorized designee of the Planning Board.

**AGRICULTURE-** The normal maintenance or improvement of land in agricultural or aquaculture use as defined by the Massachusetts Wetlands Protection Act and its implementing regulations.

**APPLICANT-** An owner, representative or assigns who has an application before the Planning Board. **The owner in equity, , representative, or assigns may act for an owner, provided written evidence of such fact is submitted.**

**AASHTO** - American Association of State Highway and Transportation Officials. Referring to policies concerning geometric design of highways and streets, highway materials, and methods of sampling and testing adopted by the American Association of State Highway and Transportation Officials.

**AQUIFER-** Geologic formation composed of rock or sand and gravel that contains significant amounts of potentially recoverable potable water.

**AQUIFER PROTECTION** -The Designated Aquifer Protection Districts as shown on the Bridgewater Zoning Map and development within, which is governed by the provisions of Section 15 of the Bridgewater Zoning Bylaws.

**AS-BUILT PLAN-** Construction or engineering plans prepared by a Massachusetts Professional engineer after the completion of construction in such a manner as to accurately identify and depict the location of all on-site improvements, including but not limited to all structures, parking facilities, components of the storm-water management system, monuments, curbs, gutters, and sidewalks.

**AVERAGE DAILY TRAFFIC-** The total traffic volume during a given time period (in whole days greater than one day and less than one year) divided by the number of days in that period.

**BEST MANAGEMENT PRACTICES (BMP)** - Industry standards and mitigation measures utilized by the project engineer to create a drainage system designed with maximum measures for flood control and enhanced water quality discharge from a site.

**BIKEWAY-** A way designed to be used principally or exclusively by a bicycle or similar non-motorized vehicle.

**BOARD-** The Planning Board of the Town of Bridgewater unless otherwise indicated.

**CBU-** Centralized Box Unit for use of mail purposes

**CERTIFIED MAIL** - Mail in which the sender receives a certificate that the mail has been delivered to the specified person/authority with a signature proof.

**CMR** - The Code of Massachusetts Regulations.

**COMPLETE STREETS** - Roads that are designed for all modes of transit, including vehicles, public transportation, biking and walking, for people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking. Please reference the Town of Bridgewater's Complete Streets Policy

**CONSERVATION COMMISSION** -The Bridgewater Conservation Commission.

**CONSULTANT REVIEW AND FEE** –Review done when specific conditions arise from the land or the nature of the proposal that necessitate the assistance of a planning, engineering, traffic, soils, hydrologic or other consultants to assist the Planning Board in analyzing a project and ensuring compliance with all relevant laws, ordinances, bylaws and regulations. The fee refers to the reasonable cost of these consultants to be borne by the applicants.

**CROSS ACCESS-** A service drive providing vehicular and pedestrian access between two or more contiguous sites, so the driver need not enter the public street system.

**CUL-DE-SAC-** A subdivision street affording restricted access to lots, with only one way in/out with a maximum length of 1,500 feet measured from edge of existing roadway to the center of the radius or providing a maximum of **11** residential units.

**DEAD END STREET** - A street, extension of a street, or system of streets connected to other streets only at a single point.

**DEFINITIVE PLAN** - The plan of a subdivision as submitted (with appropriate application) to the Board for approval, to be recorded in the Registry of Deeds or filed with the Recorder for the Land Court when approved by the Board, and such plan when approved and recorded or filed. The requirements and content of the definitive Plan shall be as specified hereinafter.

**DETENTION FACILITY**- A detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

**DETENTION**- The temporary storage of storm-water runoff in a storm-water management facility with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

**DEVELOPER**- A person (as hereinafter defined) who develops under a plan of a subdivision approved under Section III of these Rules and Regulations.

**DIRECTIONAL MEDIAN OPENING**- An opening in a restrictive median which provides for the specific movements and physically restricts other movements  
**Easement**: A right acquired by public authority or other person to use or control property for a utility or other designated public purpose.

**DRAINAGE FACILITIES/SYSTEMS** - Proposed systems for collection, storage and discharge of storm water.

**DRAINAGE BASINS** - A man-made area surrounded by an embankment to temporarily hold storm water over a storm event; to allow settling of solids and prevent downstream flooding.

**DRAINAGE LOT** - An individual lot with a minimum twenty feet (20') of frontage, containing drainage basin and related structures to be deeded to the Town at time of street acceptance.

**ENGINEER**: Any person who is registered by the Commonwealth of Massachusetts to perform professional civil engineering services. All engineering work shall be done under the direct supervision of an engineer under this definition.

**FLOODPLAIN/FLOODWAY** - Areas subject to flooding under a 100-year storm event as shown on the Federal Insurance Rate maps (FIRM) as most recently amended.

**FOOT-CANDLES (Fc)**- A unit of measuring the amount of illumination equal to one lumen per square foot on a surface.

**FOOT-CANDLES, HORIZONTAL**- The amount of illumination equal to one lumen per square foot on a horizontal surface.

**FOOT-CANDLES, INITIAL-** The amount of illumination (measured by foot candles) given off by a luminary at the time of installation.

**GIS-** Geographic Information Systems Mapping

**HANDICAP ACCESSIBILITY** - The regulations and standards promulgated under the Federal American Disabilities Act and the Massachusetts Architectural Access Board.

**HOT SPOT-** A storm-water hotspot is an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in storm-water. Infiltration basins should never receive runoff from storm-water hotspots, unless the storm-water has already been fully treated by another storm-water treatment practice. This is due to potential groundwater contamination.

**IMPERVIOUS COVER-** Those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc.).

**INFILTRATION FACILITY-** Any structure or device designed to infiltrate retained water to the ground. These facilities may be above grade or below grade.

**INFILTRATION-** The flow of water from the ground surface down into the soil.

**JOINT ACCESS (or Shared Access)-** A driveway connecting two or more contiguous sites to the public/private street systems.

**LAND DISTURBANCE ACTIVITY-** Any activity that changes the volume or peak flow discharge rate of rainfall runoff from the land surface, including: grading, digging, culling, scraping, excavating of soil, placement of fill materials, paving construction, substantial removal of vegetation, any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

**LOT-** Shall mean an area of contiguous land in one ownership, with definite boundaries, used or available for use, as the site of one or more buildings, with side lot lines substantially at right angles with, or radial to street lines.

**LOT BUILDING AREA –** Lots shall generally be configured in uniform geometric shapes favoring side lot line intersection with street line at right angles wherever practical. As measured from the required front building setback line and extending rearward for a distance of sixty (60) feet in the residence C and D districts, the lot width shall not be less than eighty five (85) feet; in the residence A/B district, and as measured from the required front building setback line and extending rearward for a distance of seventy five (75) feet, the lot width shall not be less than one hundred ten (110) feet. The foregoing requirements notwithstanding, lots shall conform to the required minimum frontage and area as defined in the Town of Bridgewater zoning ordinance.

**LOW IMPACT DEVELOPMENT (LID)-** A land development design approach to managing storm-water runoff. LID emphasizes conservation and use of on-site

natural features to protect water quality. This approach implements engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, storing.

**MAINTENANCE SECURITY-** A cash bond, deposited with the Town in a Maintenance Account, to be used for general maintenance by the Highway Department of drainage basins and structures. The security remains in place for a period of five (5) years after street acceptance and equals the estimated cost of two years of maintenance activities. The amount of the cash bond shall be established by a maintenance agreement between the Town and the Proponent.

**MASSACHUSETTS STORM-WATER MANAGEMENT HANDBOOK-** The most recent edition promulgated by MassDEP of the Massachusetts Storm-water Handbook.

**MASSDEP-** The Massachusetts Department of Environmental Protection (DEP) or its successor.

**MASTER PLAN-** The Bridgewater Master Plan as voted by the Planning Board, adopted by the Bridgewater Town Council, and as amended.

**MGL CHAPTER 41-** Massachusetts General laws- Chapter 41 (Sections 81K-81GG) and any acts in amendment thereof also commonly known as the “Subdivision Control Law”.

**MHD-** Massachusetts Highway Division (District #5) of the Massachusetts Department of Transportation (Mass DOT).

**MODIFICATION -** Any change to the Planning Board’s approval that shall require review, as either a minor or major modification, and which may be subject to a public hearing.

**MUNICIPAL SERVICE-** Shall mean public utilities furnished by the Town of Bridgewater such as water, sewage, gas and electricity.

**MUNICIPAL STORM DRAIN SYSTEM (Ms4)-** The system of conveyances designed or used for collecting or conveying storm-water, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Bridgewater.

**M.U.T.C.D -** Manual of Uniform Traffic Control Devices, Millennium Edition. An AASHTO guide on the safe design of roadways.

**MYLAR -** The original plans prepared on a thin polyester film material capable of reproduction and acceptable for recording at the Registry of Deeds.

**N.A.V.D. 88 –** North America Vertical Datum of 1988.



**N.G.V.D.** - National Geodetic Vertical Datum of 1929.

**NONPOINT SOURCE POLLUTION-** Pollution from any source other than any discernible, confined, and discrete conduit or waterway, and shall include, but not be limited to, pollutants from agricultural, mining, construction, subsurface disposal and urban runoff sources.

**OPEN SPACE** - Property within a subdivision designated to be deeded by the developer to the Town, homeowner's association, or other approved agency, or to be maintained by the developer or owner in an undeveloped state in a manner approved by the Planning Board. Such open space is to be used for passive recreation, agriculture, forestry, rare and endangered species habitat, natural or scenic vistas, unique natural or cultural features, or greenways. Such open space shall be retained in substantially a natural, wild or open condition, or in a landscaped condition in such a manner as to allow to a significant extent the preservation of wildlife or other natural resources. Open space shall be contiguous areas containing a high ratio of interior area to edge area. Open space shall contain to the greatest extent possible soils uniquely suited to agricultural use and that further create greenway corridors to establish linkages in landscape. Such areas shall be of adequate size and configuration to accommodate the intended use and shall not include narrow or irregular pieces of land which are remnants from the layout of lots, streets, or drainage structures. Open space does not include areas designated for sediment control, erosion control, or storm water control, nor does it include wetland resource areas as these areas are considered part of the subdivision structure and are not intended to be for recreation.

**OWNER-** As applied to real estate, the person holding the ultimate fee simple title to a parcel, tract, or lot of land, as shown by the record in the Land Registration Office, Registry of Deeds or Registry of Probate.

**PARCEL** - an area of land held as one ownership, with definite boundaries, other than a Lot.

**PERVIOUS PAVEMENT-** A surface that presents an opportunity for precipitation to infiltrate into the ground.

**PRELIMINARY PLAN-** A plan of a proposed subdivision or a re-subdivision of land prepared in accordance with Section III A. under "procedure", to facilitate proper preparation of a Definitive Plan.

**PROFESSIONAL ENGINEER/LAND SURVEYOR** - Individuals licensed and registered in the Commonwealth of Massachusetts as professional engineers or land surveyors who are experienced with subdivision planning and design. For the purposes of these rules and regulations, the licensees must hold current and unexpired licenses. The Planning Board reserves the right to verify the status of any licensee's license in order to promote health, safety and welfare of the public.



**R.D.G** - Roadside Design Guide, latest edition, An AASHTO guide on the safe design of roadways.

**RECHARGE**- The replenishment of water to aquifers.

**RECORDED**- Recorded in the Plymouth County, Registry of Deeds, except that, as affecting registered land, it shall mean filed with the Recorder of the Land Court.

**REDEVELOPMENT**- Any construction, alteration, or improvement exceeding one acre in area where existing land use is high-density commercial, industrial, institutional or multi-family residential.

**REGISTERED MAIL**- Mail which allows the sender proof of mailing via a mailing receipt and, upon request, electronic verification that an article was delivered or that a delivery attempt was made.

**REGISTRY OF DEEDS** - The Registry of Deeds of the County of Plymouth, including when appropriate the Plymouth County Registry District of Land Court.

**RESCISSION** - An action of the Planning Board, through a public hearing process, to make null and void a prior approval or action of the Planning Board.

**RESOURCE AREA**- Any area protected under the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or Bridgewater Conservation Commission regulations.

**RETENTION BASIN**- A drainage basin designed for the combined purpose of temporary storage of stream flow or surface runoff with recharge structures (see *shown in detail drawing number 10 in the Appendix*).

**RETENTION POND**- A human-made pond where storm water is directed and retained until it can be absorbed into the water table or slowly released without flooding downstream property owners.

**ROADWAY**- That portion of a way, which is designed and constructed for vehicular travel.

**RULES AND REGULATIONS** - The rules and regulations adopted by the Planning Board, which are entitled "Rules and Regulations Governing the Subdivision of Land in Bridgewater" as amended.

**SHARROW** - a road marking in the form of two inverted V-shapes above a bicycle, indicating which part of a road should be used by cyclists when the roadway is shared with motor vehicles.

**SOIL EROSION AND SEDIMENT CONTROL PLAN**- A plan showing the control of soil erosion and sedimentation on or from a development site and is required to be submitted as part of these rules and regulations.

**SPECIAL ACCOUNT-** An Account established in accordance with MGL, Chapter 44, Section 53G which allows the Planning Board to engage consultants to review plans regulated by these Regulations.

**STABILIZATION** - Structural or vegetative treatment applied to an area in order to prevent soil erosion.

**STANDARD FOR DIGITAL SUBMISSION TO MUNICIPALITIES-** A standard for the digital submission of plans to municipalities issued by the Executive Office of Energy and Environmental Affairs (EOEA) Office of Geographic and Environmental Information (MassGIS), detailed in a document titled “Standard For Digital Plan Submittals To Municipalities, Version 2.0” dated October 2007, or successor standard/document. This document can be found at <http://www.mass.gov/mgis/>

**STANDARD SPECIFICATIONS-** Massachusetts Highway Department Standard Specifications for Highways & Bridges, latest edition.

**START OF CONSTRUCTION-** The first land-disturbing activity associated with a development, including but not limited to land preparation such as clearing, grading and filling; installation of streets and walkways; excavation for basements, footings, piers, or foundations; erection of temporary forms; and installation of accessory buildings such as garages.

**STORM-WATER MANAGEMENT PLAN-** A plan showing the management of storm-water on or from a development site and is required to be submitted as part of these rules and regulations.

**STORM-WATER MANAGEMENT STANDARDS-** The most recent edition promulgated by the Massachusetts Department of Environmental Protection, or its successor, of the Storm-water Management Standards. An overview of the Standards may be found in Chapter 1 of the Massachusetts Storm-water Management Handbook, available online

**STORM-WATER RUNOFF:** Water resulting from precipitation that flows overland.

**STORM-WATER TREATMENT PRACTICES-** Measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to storm-water runoff and water bodies.

**STORM-WATER-** Storm-water is a term used to describe water that originates during precipitation events. It may also be used to apply to water that originates with snowmelt or runoff water from overwatering that enters the storm-water system. Storm-water that does not soak into the ground becomes surface runoff, which either flows into surface waterways or is channeled into storm-water management systems such as storm drains.

**STORM EVENT** - A natural storm event and/or computer model of such an event that depicts storm or rainfall behavior.

**STORMWATER OPERATION AND MAINTENANCE PLAN**- The applicant's proposed plan for regular inspection and cleaning of proposed drainage structures and/or systems to ensure BMP's in accord with Federal, State and local regulations.

**STREAMS AND OTHER WATER COURSES**- As defined in M.G.L. c.131, §40, the Wetlands Protection Act.

## **STREETS-**

**a. Arterial:** An interregional roadway with an Average Daily Traffic (ADT) of more than 10,000 vehicles. These types of roadways carry traffic between town/city centers, are primary routes to other communities and have higher travel speeds. The following are classified as Arterials: Pleasant St, and certain sections of Summer Street, Plymouth Street and Pond Street that are designated as Route 104; Bedford St (Route 18/28); Main Street (Route 28), Broad Street (Route 18).

**b. Collector:** A roadway, which carries a large volume of vehicles, between 5,000 and 10,000 ADT, between arterial streets and residential and sub-collector streets. This type of roadway has more limited direct access to lots and subdivisions. The following are classified as Collectors:

Auburn Street  
Center Street  
Flagg Street  
High Street

Old Pleasant Street  
Prospect Street  
South Street  
Spring Street

Summer Street  
Vernon Street  
Winter Street

**c. Sub-collector:** A roadway with a maximum ADT of between 1,000 to 5,000, which carries residential traffic to collector and arterial streets and provides more access to lots and subdivision. The following are classified as Sub-collector:

Conant Street  
Elm Street  
Forest Street

Hayward Street  
North Street  
Pine Street

Pond Street  
Spruce Street  
Walnut Street

**d. Residential:** A roadway with low traffic volumes, under 1000 ADT, which provides frontage to lots and carries traffic with destination or origin on the street itself. Can also be considered as part of a subdivision. All other roadways not listed in the above classifications shall be considered residential.

**e. Industrial:** A roadway which receives and distributes traffic from a given industrial area to various subareas within the given and is held to the design standards of these subdivision rules and regulations.

Note that the above classifications may be modified from time to time under the authority of the Planning Board and with recommendations from the Highway Superintendent or Traffic Studies Committee.

**STREET ACCEPTANCE** - Town Council acceptance of maintenance and ownership of the street layout and/or any easements in accordance with the Town of Bridgewater Bylaws.

**STREET LAYOUT** - The portion of land proposed within a subdivision designated as the way or street beyond the visible paved traveled roadway. Layout shall include all sidewalks, grass strips and reserved areas as shown on the approved Definitive plan.

**SUBDIVISION** - Subdivision shall mean the division of tract of land into two or more lots and shall include re-subdivision and shall relate to the process of subdivision on the land or territory subdivided.

The division of a tract of land into two or more lots shall not constitute a subdivision if, at the time it was made, every lot within said tract had frontage, in compliance with the Zoning Ordinance, on (1) a public way as laid out by the Selectmen or a way which the Town Clerk certifies is maintained and used as a public way, (2) a way shown on a plan previously approved under subdivision control, or (3) a way in existence March 10, 1956, having in the opinion of the Planning Board, sufficient width, suitable grades, and adequate construction to provide for the needs of vehicular and pedestrian traffic and municipal services in relation to the proposed use of the land abutting thereon or served.

Conveyance or other instruments by adding to, taking away from, or changing the size and shape of lots, or the division of a tract of land, on which two or more buildings were standing on March 10, 1956, into separate lots, on each of which one such building remains standing shall not constitute a subdivision.

**SUBDIVISION CONTROL** - Subdivision control shall mean the power of regulating the subdivision of land granted by the control law.

**SUBDIVISION INSPECTOR** - An inspector engaged by the Planning Board for on-site inspection and recommendations during construction of the subdivision to be paid by the developer for services rendered.

**SURETY** - A form of performance guarantee (can be monetary or a covenant-see Section-III. B.4- performance guarantees) that is posted by the developer/applicant prior to the start of work to guarantee completion of approved work and, if defaulted by the developer/applicant, shall be used by the Town to complete said work. Town Engineer or Highway Superintendent (Planning Board Agent) recommends all surety amounts as requested by the Planning Board.

**SURVEYOR-** Any person who is registered by the Commonwealth of Massachusetts to perform land-surveying services.

**SWALE** - A man-made depression usually narrow and shallow in width, elongated, to provide for the movement of storm water to a point of discharge.

**TREE CUTTING AND PLANTING PLAN-** A plan to accompany definitive subdivision plans which shall be designed to protect large or significant trees, promote public safety, and enhance the privacy of the residents and neighbors of the subdivision. Said plan shall be stamped by a Registered Landscape Architect.

**VITAL ACCESS-** A way shall be said to provide vital access to a lot if safe, practical access can be gained from the way to the buildable portions of the lot, as contemplated by M.G.L. c.41, §81M. An unconstructed street or "paper street" shall not be said to provide vital access to a lot for the purposes of obtaining Approval Not Required ("ANR") endorsement.

**WALKWAY-** A way designed for use by pedestrians, not necessarily parallel to a street.

**WATERCOURSE-** Any body of water, including, but not limited to, lakes, ponds, rivers and streams.

**WATERWAY-** A channel, either natural or man-made, that directs surface runoff to a watercourse or to the public storm drain.

**WETLAND BYLAW** - Bridgewater Wetlands Protection Bylaw- Article XXXIII, as amended.

**ZONING ORDINANCE AND ZONING MAP** - Bridgewater Zoning Ordinances, as amended; Bridgewater Zoning Map, as amended.

## B. DIRECTIVES

### 1. PLAN BELIEVED NOT TO REQUIRE APPROVAL (ANR)

Any person who wishes to cause to be recorded in the Registry of Deeds or to be filed with the Land Court a plan of land, and who believes that his plan does not require approval under Section 81P of the Subdivision Control Law may submit his plan (original linen and/or Mylar and five (5) copies, plus a pdf version) with application Form A, in duplicate, to the Planning Board office in accordance with the published schedule of deadlines. If mailed the date of receipt shall be the date of submission of the plan.

If the Board determines that the plan does not require approval, it shall, without a public hearing, endorse forthwith on the plan the words "Planning Board Approval under Subdivision Control Law Not Required." Such action

shall not be construed to indicate compliance with the provisions of the Zoning Ordinance. Said plan shall be returned to the applicant, and the Board shall notify the Town Clerk of its action.

If the Board determines that the plan does require approval under the Subdivision Control Law, it shall give written notice of its determination to the Town Clerk and the applicant within twenty-one (21) days and return the applicant's plan.

Any person may submit his/her plan for approval as provided by law and the rules and regulations of the Board. He/she may appeal from the determination of the Board in the manner provided in Section VI-A.

If the Board fails to act upon a plan submitted under this section within twenty-one (21) days after its submission, it shall be deemed to have determined that approval under the Subdivision Control Law is not required.

Prior to scheduling a review and endorsement meeting of the Planning Board, all ANR ("Form A") plan applications submitted to the Planning Board shall be reviewed and verified for administrative completeness by the Town Planner and/or the Town Engineer and/or the Planning Board's office Administrator, and/or the Planning Board at a regularly scheduled meeting of the Board. The application will then be stamped and dated as having met the filing requirement once administrative completeness verification has been completed. The Town Clerk will only accept applications for date stamping after being advised of the administrative completeness verification by an authorized staff of the Planning Board as described herein before. Applications and/or plans left on a town staff's desk as original submissions or supplemental submissions shall not be deemed as meeting the submission requirement.

An applicant wishing to file for endorsement of an Approval Not Required (ANR) Plan shall submit:

- a. One (1) full-sized plan, at a scale of 1" equals 40', unless another suitable scale is approved by the Board, printed on mylar sized 24" X 36,"
- b. Five (5) paper copies of the plan, printed 24" X 36"
- c. One digital copy on a CD containing the CAD files and a PDF version of the plan to be endorsed.
- d. Two copies of the Form A application, signed by all property owners
- e. Fee, payable to the Town of Bridgewater, in the amount described in the Fee Schedule
- f. A north arrow with a reference meridian;
- g. A graphic scale bar;
- h. Date and any revision dates;
- i. Surveyor stamp, signature, name, and address;
- j. Record owner;

- k. Street address of property;
- l. Names of property owners and street number of all properties abutting the affected parcel(s), including those across the street;
- m. Parcel area - total and contiguous upland;
- n. Frontage;
- o. Locus plan in proper orientation;
- p. Zoning classification(s) of the land that contains the property;
- q. Location of any zoning boundary lines that lie within the locus of the plan;
- r. Cross reference to page and parcel number of the assessors' map;
- s. The entirety of any lot having its boundaries changed;
- t. Delineated Wetlands and 100-year flood line;
- u. All information related to brooks, streams and existing storm drainage systems;
- v. Unbuildable lots shall have the following wording: "Not a buildable Lot".
- w. Identify at least three existing monuments.

When lots are combined, the new lot designation shall be made by an appropriate letter or number and be noted on the plan.

A filing fee for an amount required under Section I.B of the regulations shall be submitted accordingly.

All plans submitted for endorsement by the Planning Board as approval not required plans shall include the following statement under the Board's endorsement block:

ENDORSEMENT OF THIS PLAN BY THE PLANNING BOARD SHALL NOT CONSTITUTE ITS OPINION AS TO CONFORMANCE OF THE LOTS SHOWN HEREON TO THE TOWN OF BRIDGEWATER ZONING BYLAWS AND ORDINANCES, AND IT DOES NOT CONSTITUTE ITS ENDORSEMENT OF ANY SPECIFIC LOT DEVELOPMENT PLAN FOR WHICH SITE PLAN OR SPECIAL PERMIT AND/OR ORDER OF CONDITIONS MAY BE REQUIRED.

## 2. BASIC REQUIREMENTS

No person shall make a subdivision, within the meaning of the Subdivision Control Law, of any land within the Town, or proceed with the improvements or sale of lots in a subdivision or the construction of ways, or the installation of municipal service therein, unless and until a Definitive Plan of such subdivision has been submitted to and approved by the Planning Board as hereinafter provided.

## 3. NUMBER OF DWELLINGS PER LOT

Not more than one (1) building designed or available for use for dwelling purposes shall be erected or placed or converted to use as such on any lot in a subdivision, or elsewhere in the Town, without the consent of the Planning



Board. Such consent may be conditioned upon provision of adequate ways furnishing access to each site for such building in the same manner as otherwise required for lots within a subdivision.

The building footprint of any dwelling, building or structure, not including accessory structures, located on a lot, within a subdivision approved after November 1, 2003, shall be contained within the lot building area as defined in Section II.A.

#### 4. CERTIFICATIONS

Certifications made by the appropriate licensed professionals shall include at least one original document (letters, reports plans, etc.) bearing original wet ink stamp and signature of the professional; computer generated signatures and stamps, or photocopies of same shall not be allowed.



## SECTION III. PROCEDURE FOR THE SUBMISSION AND APPROVAL OF PLANS

### A. PRELIMINARY SUBDIVISION PLANS

#### 1. GENERAL

A preliminary plan of a subdivision may be submitted for discussion and approval by the Board. The submission of such a Preliminary Plan will enable the sub-divider, the Board, other municipal agencies, and owners of property abutting the subdivision to discuss and clarify the problems of such subdivision before a Definitive Plan is prepared.

#### 2. FILING PROCEDURE

Prior to scheduling a public hearing, all preliminary and definitive subdivision plan applications submitted to the Planning Board shall be reviewed and verified for administrative completeness by the Town Planner and/or the Town Engineer and/or the Planning Board's office Administrator, and/or the Planning Board at a regularly scheduled meeting of the Board. The application will then be stamped and dated as having met the filing requirement once administrative completeness verification has been completed. The Town Clerk will only accept applications for date stamping after being advised of the administrative completeness verification by an authorized staff of the Planning Board as described herein before. Applications and/or plans left on a town staff's desk as original submissions or supplemental submissions shall not be deemed as meeting the submission requirement. One digital copy on a CD containing the CAD files and a PDF version of the plan to be endorsed. CAD file shall be a version compatible with the Town's version in effect as of the date of the filing.

The applicant shall also submit a filing fee for an amount required under Section I.B. of these regulations.

#### 3. CONTENTS

A Preliminary Plan, shall be at one inch equal 100 feet or a larger scale, and shall include the following data:

- a. The subdivision name, boundaries, magnetic north point, date, scale, legend and the title "Preliminary Plan."
- b. The name(s) of the owner of record, the applicant, the stamp and signature of a Registered Land Surveyor if surveying information is shown and the stamp and signature of a Registered Professional Engineer if the plan shows the design of road pavement, drainage, water pipes, sewerage or other utilities.
- c. The names of all abutters, as determined from the most recent tax list.

- d. The existing and proposed lines of streets, ways, easements, and any public areas within the subdivision in a general manner.
- e. The proposed system of drainage and utilities, including adjacent existing natural waterways, showing the approximate locations of all inlets, outlets, pipes and drains and other appurtenances to the proposed drainage system.
- f. The approximate boundary lines of all proposed lots, with approximate areas and dimensions within the subdivision. Permanent monuments shall be shown on all easement corners and at the corners of all drainage lots.
- g. The names, approximate location, area and dimensions of existing nearby streets and ways.
- h. Existing and proposed topography in five-foot contour intervals.
- i. The applicant shall also submit a plan showing the location of the proposed subdivision drawn to scale as an inset on the plan he submits.
- j. The approximate boundary lines of all existing lots within the subdivision and those abutting the tract, with approximate areas and dimensions.
- k. The names, approximate location, area and dimensions of existing nearby easements and public area.
- l. The proposed locations and depths of other municipal services and utility installations where possible.
- m. Existing outstanding features such as swamps, ledge, outcrops, ponds, water- courses, existing easements, walls, fences, etc.
- n. Location of benchmark based on N.G.V. D or N.A.V.D. -88, as appropriate.
- o. Plan shall identify all offsite wetlands, water bodies and water courses within 100 feet of the property.

#### 4. PLANNING BOARD ACTION ON PRELIMINARY SUBDIVISION PLANS

The Planning Board may invite the applicant to discuss proposed modifications or corrections of the Preliminary Plan. The Board may also visit and inspect the property proposed for subdivision under the provisions of Section 81-CC of Chapter 41 of the General Laws as amended.

The Board may approve, disapprove, or approve with modifications such Preliminary Plan within forty-five (45) days after submission. In case of disapproval, the Planning Board shall advise the applicant of the specific reasons for which the plan is disapproved. The Rules and Regulations of the Planning Board in effect at the time of submission of such Preliminary Plan shall govern the Definitive Subdivision Plan evolved from such Preliminary Plan, provided such Definitive Plan is submitted within seven (7) months of the submission of the Preliminary Plan. Further, approval of a Preliminary Plan does not constitute approval of a subdivision, but it does serve in providing guidance for the applicant in preparing a definitive subdivision plan

Notice of the Board's action must be given by the Board to the applicant and Town Clerk within forty-five (45) days of the date of submission. Failure to act within that time shall be considered as approval of the Preliminary Plan.

## B. DEFINITIVE PLAN OF SUBDIVISION

### 1. GENERAL

If a Preliminary Plan has been submitted, the Definitive Plan may constitute only the portion of land that is proposed to be initially recorded and developed. The subdivision rules and regulations and the zoning in effect at the time of submission of the Preliminary Plan shall govern the Definitive plan if it is duly submitted within seven (7) months. If a Preliminary Plan has not been submitted, the subdivision Rules and Regulations and the zoning in effect at the time of submission of the Definitive Plan to the Planning Board shall govern the Definitive Plan until final action has been taken by the Planning Board or the time for such action has elapsed.

### 2. FILING PROCEDURE

Applicants submitting a Definitive Plan of a subdivision for approval, or for approval of a street profile, or for a revision of a subdivision previously approved, where such revision requires a public hearing, shall submit to the Planning Board the following:

- a. A properly executed application Form B provided by the Planning Board.
- b. A filing fee for an amount required under Section I.B. Said amount shall be calculated on a separate sheet and submitted with the application.
- c. The original drawing(s) and eleven (11) prints of each drawing(s).
- d. One digital copy on a CD or flash-drive containing the CAD files and a PDF version of the plan to be endorsed. CAD file shall be a version compatible with the Town's version in effect as of the date of the filing, along with an electronic file copy in PDF format.
- e. The Planning Board shall require any applicant to produce evidence of ownership, or authority of a representative to act on behalf of the owner.
- f. The applicant shall be required to send Certified, Return Receipt Requested notices of the public hearing to the abutters. The green card shall have the return address of the Bridgewater Planning Board, Academy Building, Central Square, Bridgewater, MA 02324. The name of the applicant will be written in the upper left-hand corner of the green card (the side where the return address is located). The list of abutters (directly abutting the parcels involved) will be verified by the Board of Assessor's (Academy Building) by the applicant and will be submitted to the Planning Board. The applicant shall provide an envelope with applicant's name and address and sufficient funds to mail the decision of the Board by certified mail, return receipt requested. The applicant

shall mail notices within 10 days of the public hearing. Notice of public hearing may be obtained from the Administrative Clerk of the Planning Board.

Please note that the applicant is responsible for payment of legal notice in the area newspaper, which shall appear twice. **The newspaper will determine the payment amount that will be billed to the Planning Board, and applicant will reimburse the Planning Board for amount due.**

### 3. CONTENTS

The Definitive Plans shall be clearly and legibly drawn on linen or polyester film, single matte with a thickness of .004 mils, and must have an opacity so as to allow consistent diazo and microfilm reproduction.

The minimum letter size on plans presented for recording shall be 1/8". Linen or polyester reproduction shall be accepted for recording purposes provided that they contain original signatures and comply with other requirements for recording plans.

Drafting standards shall include the following: dimensions shall be in feet and decimals to the nearest hundredth, and in the metric equivalent; bearings in degrees, minutes, and seconds; the boundary of the subdivision to be indicated in a solid heavy line; existing topography in dashed lines; proposed topography in solid lines; and if multiple sheets are being used, they shall be accompanied by an index sheet showing the entire subdivision with a key plan on each sheet properly orientated and a Title Block on each sheet properly labeled.

Pages are to be numbered in such a fashion as to indicate the total pages of the plan (Example: 1 of 4, 2 of 4, 3 of 4, etc.)

The Definitive Plans shall contain the following information:

- a. Subdivision name, boundaries, magnetic north, date of submission, legend and scales on each plan; suitable space to record the action of the members of the Planning Board. Also, a locus map of 1"=1,000' depicting the proposed subdivision shall be shown on the plan.
- b. Name and address of record owner and applicant; the stamp and signature of a Registered Land Surveyor and a Registered Professional Engineer. The stamp and signature of the registrants shall be wet ink original. Photocopies and computer-generated stamps and signatures shall not be allowed. The stamp and signature of the registrants shall be wet ink original. Photocopies and computer-generated stamps and signatures shall not be allowed.
- c. Names of all abutters as they appear in the most recent tax list, with Assessor's Map and lot number for each lot.

- d. A certification clause signed by the preparer stating that he/she has conformed with the rules and regulations of the Registry of Deeds in preparing the plan, if required. A certification clause signed by the Engineer of record stating that the design and content of the definitive subdivision plan relative to the engineering conforms with all applicable rules and regulations established herein with exceptions specifically noted on the plan. A certification clause signed by the Land Surveyor stating that the land boundary data and the topographic data shown on the plan(s) have been obtained, compiled and prepared in conformance to 250 CMR 6.01 and 250 CMR 6.02 respectively, as amended; noting any deviations from these regulations. In the case of a Registered Land, the Surveyor's certification shall be made in compliance with section 2.1.6.1 of the Land Court's Manual of Instructions of 2006, as amended. The required certifications by the Engineer and the Surveyor shall be reflected on the definitive subdivision plan(s) at the time of filing.
- e. Existing and proposed lines of streets, ways, lots, easements, waterways and public or common areas within the subdivision. The proposed street names shall also be shown on the plan; no proper names shall be used. The names shall be subject to the approval by Police and Fire Departments. Purpose of easements shall be indicated.
- f. Elevation benchmarks: All elevation benchmarks shall be referenced to the North American Vertical Datum of 1988 (NAVD-88). A minimum of two elevation benchmarks shall be shown on a definitive subdivision plan, with a minimum distance of two hundred (200) linear feet between the two benchmark points. Locations of all permanent monuments properly identified as either existing or proposed shall be shown.
- g. Location, names and present width of streets, bounding, **or** approaching of within 500' of the subdivision.
- h. Existing and proposed topography at two (2) foot contour intervals shall be shown on a lot-grading plan.
- i. Lengths, radii, bearings, and central angles to determine the exact location, direction, and length of every street and way line, lot line and boundary line. A survey calculation that shows a closure sheet shall also be provided.
- j. Zoning classification(s), including Flood Plain and Aquifer Protection District zones of the area as indicated on the Zoning Map, as amended.
- k. Water-courses, marshes, wetlands, ledge outcrops, wall, fences, and other significant natural and manmade features. The wetland areas within a subdivision shall be defined by survey. The applicant is responsible to address the provisions of Section 40 of the Chapter 131, M.G.L. - Protection

of Wetlands. The plan shall identify all offsite wetlands, water bodies and water courses within 100 feet of the property.

- I. Size and location of existing and proposed storm drainage, sanitary sewerage, and water supply systems. Storm drainage system design must demonstrate compliance with the Massachusetts Storm-water Management Policy.

The following items shall be submitted on separate sheets and must be prepared and/or certified by a Massachusetts Registered Professional **Civil** Engineer.

- m. Soil conditions in a specific manner, describing:

- test pit logs for every one hundred and fifty (150) feet of roadway
- relationship of soils to seasonal high-water table
- test pit logs within proposed detention basins to establish the high-water table.

- n. Location of Benchmark based on NAVD -88 as appropriate.

- o. Storm drainage systems including invert and rim elevations of all catch basins and manholes together with surface elevations of all waterways within the subdivision at 100-foot intervals and approximate depth of water at these points. Surface elevation and approximate depth of water shall be shown at each point where drainage pipe ends at waterway.

- p. Location of all the following proposed improvements; street paving, sidewalks, street signs, curbs, street trees, storm drainage, all existing and proposed easements and all utilities above and below the ground except for those improvements whose location shall be determined subsequent to the approval of the plan.

- q. Profiles of proposed streets indicating the following information:

- (1) A horizontal scale of 1 inch to 40 feet.
- (2) A vertical scale of 1 inch to 4 feet.
- (3) Existing centerline in fine dashed line with elevation shown every fifty (50) feet.
- (4) Proposed centerline grades and elevations, with elevations shown every fifty (50) foot station, except that in vertical curves elevations shall be shown at twenty-five (25) foot stations.
- (5) All elevations and bench marks will refer to the NAVD-88 and compatible with Town GIS System.
- (6) Rates of gradient shall be shown.
- (7) Size and location of existing and proposed water mains and their appurtenances and surface drains and their appurtenances.

- (8) Profiles shall show vertical location of drainage lines and other utilities as well as required new waterways. Sizes of all pipes shall be shown as well as inverts of all pipes at each manhole or catch basin, together with invert elevations and rim elevation of each manhole or catch basin.
  - (9) Profiles shall be included for all proposed drainage lines within the subdivision or in the roadways.
- r. Cross-section of typical sewer manhole and drainage manhole.
- s. Computations used in designing storm drainage system.
- t. Any special construction details or detailed drawings or other pertinent information which the Planning Board may request as is necessary to evaluate the feasibility of the proposed design of the subdivision. A tree cutting and planting plan as defined in Section II, herein shall also be required.
- u. Any covenant or conditions are to be inscribed on the plan or the document must be attached to it referencing the plan.
- v. Soil erosion and sedimentation plan. Said erosion and sedimentation plan shall include the following:
  - (1) Soil erosion and sediment control provisions including an explanation of the technical basis used to select the practices chosen to minimize on-site erosion and prevent off-site sediment transport, including provisions to preserve topsoil and limit disturbance.
  - (2) Design details for both temporary and permanent erosion control structures.
  - (3) An attached vicinity map showing the location of the site in relationship to the surrounding area's watercourses, water bodies and other significant geographic features, and roads and other significant structures.
  - (4) A clear and definite delineation of any areas of vegetation or tree disturbance. Note all vegetation that is to be removed and all vegetation that is to be saved.
  - (5) A description of construction and stockpile and/or excess materials removed from the site expected to be stored on-site. The plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to storm-water.
  - (6) A sequence of construction for the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, and establishment of permanent vegetation.



- w. A storm-water management plan at the same scale as the subdivision plan, shall be prepared by a licensed civil engineer and submitted. The plan shall include, but not be limited to the items listed below and, at a minimum, be designed to provide sufficient information to evaluate the environmental characteristics of the affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures proposed for managing storm-water runoff. The applicant shall certify on the drawings that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the plan. The minimum information, in addition to the name, address and telephone number of the owner, licensed civil engineer and person responsible for implementation of the plan, submitted for support of a storm-water management plan shall be as follows:

- (1) Locus map.
  - (2) Drainage area map showing drainage area and storm-water flow paths.
  - (3) Location of existing and proposed utilities.
  - (4) Location of all existing and proposed storm-water utilities, including structures, pipes, swales and detention basins.
  - (5) Topographic survey showing existing and proposed contours.
  - (6) Soils investigation, including borings or test pits, for areas where construction of infiltration practices will occur.
  - (7) Description of all watercourses, impoundments, and wetlands on or adjacent to the site or into which storm-water flows.
  - (8) Delineation of one-hundred-year floodplains, if applicable.
  - (9) Groundwater levels at the time of probable high groundwater elevation (November to April) in areas to be used for storm-water retention, detention, or infiltration.
  - (10) Existing and proposed locations, cross sections, and profiles of all brooks, streams, drainage swales and the method of stabilization.
  - (11) Location of existing and proposed easements.
  - (12) Proposed improvements including location of buildings or other structures, impervious surfaces and storm drainage facilities, if applicable.
  - (13) Structural details for all components of the proposed drainage systems and storm-water management facilities.
  - (14) Timing schedules and sequences of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization.
  - (15) Operation and maintenance schedule.
  - (16) Notes on drawings specifying materials to be used, construction specifications, and details.
  - (17) Location of areas to be cleared of more than 50% of the Vegetation.
- x. Control of storm-water runoff shall meet the requirements of these rules and regulations and performance standards for both flood control and nonpoint source pollution reduction as defined in the Massachusetts Storm-water



Management Policy, dated March 1997, as amended. All assumptions, methodologies and procedures used to design storm-water treatment practices and storm-water management practices shall accompany the design. All activities, project design, storm-water treatment practices and storm-water management practices should aim to minimize storm-water runoff, maximize infiltration and recharge where appropriate, and minimize pollutants in storm-water runoff.

- y. An operation and maintenance plan (O&M Plan) is required at the time of application for all projects. The maintenance plan shall be designed to ensure compliance with the permit in all seasons and throughout the life of the system. The Planning Board shall make the final decision of what maintenance option is appropriate in a given situation. The Planning Board will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, the types of storm-water management structures, and potential need for ongoing maintenance activities when making this decision. The O&M Plan shall identify and include all required documents, including, but not limited to, maintenance agreements and storm-water management easements. All documents shall be submitted to the Board's Agent for review and must be in a form satisfactory to the Board's Agent. The operation and maintenance plan shall remain on file with the Planning Board and shall be an ongoing requirement. The O&M Plan shall include:

- (1) The name(s) of the owner(s) for all components of the system.
- (2) Maintenance agreement(s). The maintenance agreement shall include:
  - (i) The names, addresses, and phone numbers of the person(s) responsible for operation and maintenance.
  - (ii) The person(s) responsible for financing maintenance and emergency repairs.
  - (iii) A maintenance schedule for all drainage structures, including swales and ponds, and the estimated life span of the system.
  - (iv) A list of easements with the purpose and location of each.
  - (v) The signature(s) of the owner(s).
  - (vi) A provision requiring a documentation submittal to Department of Public Works confirming when maintenance has been satisfactory completed.
- (3) Storm-water management easement(s).
  - (i) Storm-water management easements shall be provided by the property owner(s) as necessary for:
    - (a) Access for facility inspections and maintenance.
    - (b) Preservation of storm-water runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the one-hundred-year storm event.
    - (c) Direct maintenance access by heavy equipment to structures requiring regular cleanout.
  - (ii) Storm-water management easements are required for all areas used

for off-site storm-water control, unless the Planning Board grants a waiver.

- (iii) Easements shall be recorded with the County Registry of Deeds or Land Court prior to issuance of a certificate of completion by the Planning Board.
- (4) Changes to operation and maintenance plans.
  - (i) The owner(s) of the storm-water management system must notify the Planning Board of changes in ownership or assignment of financial responsibility.
  - (ii) The maintenance schedule in the maintenance agreement may be amended to achieve the purposes of this bylaw by mutual agreement of the Planning Board and the responsible parties. Amendments must be in writing and signed by all responsible parties. Responsible parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility.
- z. Street and lot closure computations for all streets and lots proposed within the subdivision and the overall subdivision land shall be submitted with the subdivision plans. The closure computations shall bear the original wet ink stamp and signature of the registered professional land surveyor responsible for the boundary and lotting plan.

#### **4. PERFORMANCE GUARANTEE**

Before endorsement of an approved Definitive Plan, the Board shall require that the construction of ways and the installation of drainage and utility improvements be secured by one or a combination of the following methods in accordance with Section 81U of Chapter 41, M.G.L. Failure to provide such guarantee shall be a basis for the Board to rescind its approval.

##### **a. Covenant**

- 1) Final Approval with a Covenant- A performance guarantee may be provided in the form of a covenant, running with the land, which has been duly executed and recorded, and referenced on the plan. (See Form D) A copy of the recorded covenant and recorded plan shall provide in part that no lot may be built upon or sold until all of the adjacent improvements, as required in the Rules and Regulations, have been completed and approved as provided hereafter.
- 2) Release of Covenant – No lot shall be released from a covenant prior to the Board receiving from the applicant a copy of the recorded covenant and recorded plan and unless:

- a) All streets, drainage improvements and public utilities have been completed in accordance with the Rules and Regulations, or
- b) A surety has been posted in accordance with paragraph b. below to secure the completion of the streets and public utilities, or
- c) The Planning Board determines that a sufficient number of lots would remain under covenant to secure performance in the case of a lot with sufficient frontage along an adjoining public way, or
- d) A preliminary as-built plan has been submitted in accordance with paragraph c below in combination with posting of a surety to secure completion of construction.
- e) A completed inspection form signed by the Inspector.

Lot releases shall be requested in writing by the applicant and shall be acted upon at a regularly scheduled meeting of the Board. Upon acting favorably upon a request, the majority of the board shall endorse a Certificate of Covenant Release (Form E), which shall be recorded by the applicant. In the case of denial, the Planning Board shall notify the applicant, in writing, as to the reasons for its decision.

- 3) Enforcement of Covenant- All required construction must be substantially complete within two (2) years from the date of endorsement of the plan. If the Board should determine that construction has not been substantially completed or that due diligence is not being provided to complete said construction, it may move to rescind its approval of the project in accordance with Section 81W of Chapter 41, M.G.L. The same action may occur if the Board should determine default at any time thereafter.

An applicant may, within two years from the date of the plan's endorsement, **request** a time extension subject to Planning Board review and approval. If an extension is granted, the written decision of the Board shall be recorded by the applicant with a copy of the recorded document provided to the Planning Board.

#### **b. Surety**

- 1) Final Approval with Surety-In lieu of a covenant, ***the applicant may provide a surety in the form of a cash deposit of money to the Town of Bridgewater which shall be deposited in an interest-bearing account through the Treasurer's Office.***
- 2) Calculation of Surety- The amount of the surety shall be calculated by the Agent of the Planning Board. It shall be based on estimates prepared and certified by the registered engineer for the project indicating the quantity of materials necessary to complete the required construction. The value of the surety shall equal the total construction cost involved plus a twenty percent (20%) contingency fee. A \$5,000 as-

built plan fee and \$300.00 per lot corner fee will be included in the road bond.

Annually, prior to the anniversary of the project approval date, the Planning Board shall request the Town Engineer and/or the Superintendent of Roadways to review the posted surety assuring the amount is valid and sufficient to cover the cost of completing the required improvements to infrastructure. Accordingly, the surety may then be adjusted by Planning Board vote to reflect revisions and the current costs of construction. Until such time as the land development project has satisfied the site improvement requirements, the Board shall retain no greater than ten (10) percent of the total project lots, but no less than one lot as assurance of compliance with these regulations.

In no event shall the contingency fee, or any portion thereof, be released prior to the final release of the performance guarantee.

- 3) Conditions of Acceptance- Acceptance of the surety shall include, but not necessarily be limited to, the following conditions:
  - a) Substantial completion of all required construction shall occur within two (2) years from the date of endorsement of the plan.
  - b) Release of any and all portions of the surety, including any accrued interest, shall only occur subject to the majority approval of the Planning Board.
  - c) The terms of the surety shall remain in effect until the Planning Board decides that all required construction has been completed in accordance with the Rules and Regulations. No surety shall contain language specifying a period of time after which the terms of the surety will expire.
  - d) Any financial institution or company issuing the surety shall be registered within the Commonwealth of Massachusetts.
- 4) Reduction of surety- Upon a written request by the applicant, the Board may partially release the surety except for any portion of the contingency fee, by an amount equal to the cost of the required improvements that have been completed. However, no portion of the surety shall be released until a Preliminary As-Built Plan has been submitted in accordance with paragraph c) below.

The written request shall detail the work completed to date and the remaining work on the site. Subsequent to the inspection of the work by an Agent to the Planning Board, the Board shall notify in writing, the petitioner and, when applicable, the holder of the surety, as to its decision. If all or a portion of the requested funds are not released, the Board shall specify in its

decision how the completed work does not comply with the Rules and Regulations.

- 5) Enforcement of Surety- Default shall occur anytime an applicant fails to comply with the conditions set forth within a letter from the Planning Board within a period of time as the Board shall specify. The letter shall inform said applicant of deficient or incomplete work, which does not conform to the approved subdivision plan. Failure to comply shall cause the Planning Board to initiate one or both of the following actions;
  - a) Move to amend, modify or rescind the plan in accordance with Section 81W of Chapter M.G.L.
  - b) Move to enforce or apply the surety for the benefit of the Town.

**c. Preliminary As- Built plan**

Plan Content and Procedure- A bench mark through the placement of an iron rod in the centerline of the roadway or specified lot corner at the time of initial construction shall be maintained as a uniform point of reference throughout the entire period of construction and shall not be removed until the final release of the performance guarantee by the Planning Board. Upon the completion of the base course of pavement and the installation of drainage improvements, which includes all detention basins and public utilities, the applicant shall submit the original and three (3) copies of a Preliminary As-Built Plan to the Planning Board. The plan shall show the precise location of the centerline of the street as well as all physical improvements to date within the approved right-of-way and related easements, including the permanent monuments at all easement corners and at the corners of all drainage lots and all water and sewer tie-ins within the roadway layout will be shown in their entirety on the preliminary and final as-built and shall be compatible with the Town's GIS system. It shall show the location of binder course of pavement and other roadway improvements; location of catch basins, manholes, etc. and an indication as to whether they have frames, grates and covers installed or if they are steel plated and paved over; invert elevations of drainage structures; defined drainage easements; location of drainage pipes, headwalls, swales, completed detention basin, within easements; road profile and location of utility poles, manholes, etc. It shall bear the stamp and signature of a Registered Professional Land Surveyor and shall be prepared by a Registered Professional Engineer. The performance guarantee then existing for the subdivision shall not be released, in whole or in part, (except as noted under Section 4.a.II.3), until the Preliminary As-built Plan has been submitted and improvements shown thereon have been determined by the Planning Board to conform with the Rules and Regulations.

**d. Final Release of Performance Guarantee**

Procedure- Upon completion of ways and the installation of municipal services in accordance with the Rules and Regulations, as shown on a submitted As-Built Plan (described in Section IV.A.9), the applicant shall send by registered mail to the Town Clerk and to the Planning Board a written statement that the said construction or installation has been completed in accordance with said Rules and Regulations. If the Board determines that said construction does not comply or installation has not been completed in accordance, it shall specify in a notice sent by registered mail to the Town Clerk and to the applicant the details wherein said construction or installation fails to comply with its Rules and Regulations. ***If the Planning Board fails to send such a notice within 45 days after the receipt by the Town Clerk of the applicant's statement, all obligations under the surety shall cease and terminate, and any deposit shall be returned to the applicant.***

**e. Stormwater Maintenance Fee**

As part of each Definitive Plan, as determined by the Board and its' agent, a non-refundable Stormwater Maintenance Fee, as determined by DPW, is required as to be paid to DPW for the maintenance of stormwater structures.

**5. REVIEW BY THE BOARD OF HEALTH AS TO SUITABILITY OF THE LAND.**

The Board of Health shall report to the Planning Board, in writing, their approval or disapproval of said plan. In cases involving proposed subdivision to be serviced by a municipal sewerage system, the Board of Health shall make their report to the Planning Board within forty-five (45) days after the filing of the Definitive Plan; in case of disapproval, they shall make specific findings, the reasons for them, and where possible, make recommendations for adjustments. Any special conditions imposed by the Board of Health, such as lots which cannot be used for building sites, shall be either inscribed on the plan or contained in a separate document. The applicant shall abide by the Board of Health regulations pertaining to Subdivisions and should consult with the Board of Health for a copy of their latest rules and regulations and for plan and date requirements necessary for Board of Health review prior to drafting Definitive Plans.

**6. PUBLIC HEARING**

Before approval, modification and approval, or disapproval of the Definitive Plan is given, the Planning Board shall hold a public hearing. Notice of such hearing shall be given by the Board at the expense of the applicant in each of two successive weeks by advertisement in a newspaper of general circulation in the Town of Bridgewater, the first notice being not less than

fourteen (14) days before such hearing or in accordance with Section 81-T of Chapter 41 M.G.L. The applicant shall notify the abutters to the proposed development by certified mail, return receipt requested. \*See B2. Filing procedure Item f

## 7. PLAN REVISIONS, MINOR CHANGES AND INCOMPLETE SUBMISSIONS

Definitive Plans submitted to the Planning Board may not be revised without the consent of the Board, and then only discussed in a public session at the Public Hearing. Any such changes shall be prominently noted on the plan set cover sheet, and on any individual sheets affected so as to make clear the plan of record on which the action of the Board is being requested.

Minor changes may be allowed by the vote of the Board at any time after the public hearing, again with the required notations on the coversheet and affected plan sheets. A minor change is defined by the Board as a change which has no discernible impact outside the subdivision, does not increase rates or volumes of storm-water runoff, does not increase the amount of cut or fill required, does not involve the regrading of more than two hundred linear feet of roadway and or does not involve regarding of more than two lots within the subdivision.

The Planning board shall determine, in its opinion, if plan revisions are minor changes, or constitute major changes requiring re-filing and rehearing.

The Board reserves the right to disapprove incomplete submissions at any time if, in the Board's opinion, review of the plan is hampered by the absence of required information. In the event of such disapproval, the plans shall be returned to the applicant as incomplete, and a copy of the certificate of action is filed with the Town Clerk noting the reason for the Board's action. The Board also reserves the right to retain any filing and review fees, or to reimburse any portion of such fees to the applicant, based on the extent to which the review has proceeded and to cover administrative costs of filing, notification, distribution, etc.

## 8. CERTIFICATE OF APPROVAL

The action of the Board in respect to such plan shall be by vote, copies of which shall be certified and filed with the Town Clerk and sent by delivery or registered mail to the applicant. If the Board modifies or disapproves such plan, it shall state in its vote the reasons for its actions. Final approval, if granted, shall be endorsed on the original drawing of the Definitive Plan by the signature of a majority of the Board but not until the statutory twenty (20) days appeal period has elapsed following the filing of the certificate of the action of the Board with the Town Clerk and said Clerk has notified the Board that no appeal has been filed. Final approval of the Definitive Plan does not constitute the laying out or acceptance by the Town of streets within a subdivision.



Before approval of a plan, the Board may require the developer to show parks, playgrounds, recreation areas, or other open spaces to serve the future residents of the subdivision, and by appropriate endorsement require that no building may be erected on such site for three years.



## SECTION IV GENERAL REQUIREMENTS AND DESIGN STANDARDS

### A. GENERAL REQUIREMENTS

#### 1. BASIC REQUIREMENT

The applicant shall observe all design standards for land subdivision as hereinafter provided. These standards shall be considered minimum standards and shall be varied from or waived, only as provided in Section VI.

#### 2. CONFORMANCE WITH MASTER PLAN

Any proposed subdivision should conform as far as practicable to the proposals and intentions of the Bridgewater Master Plan as adopted in whole or in part by the Planning Board unless substitute proposals may be shown to the satisfaction of the Board to better serve the general area of the subdivision and the Town.

#### 3. COMPLIANCE WITH ZONING

The proposed plan shall be in compliance with the existing Zoning Ordinance, as amended, particularly relating to shape, width, and frontage of lots, within a subdivision, before the Board will grant approval.

#### 4. PROTECTION OF NATURAL FEATURES

Due regard shall be shown for all-natural features, such as large trees, water courses, scenic points, historic spots, and similar community assets. The Board may exercise its right, in accordance with the provisions of Section 81-CC of Chapter 41 of the General Laws as amended, to visit the applicant's property to determine which natural features might be preserved.

#### 5. ACCESS THROUGH ANOTHER MUNICIPALITY

In case access to a subdivision crosses land in another municipality, the Board may require certification, from appropriate authorities, that such access is in accordance with the Master Plan and subdivision requirements of such municipality and that a legally adequate performance bond has been duly posted or that such access is adequately improved to handle prospective traffic.

#### 6. RESERVE STRIPS

Reserve strips prohibiting access to streets or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.

## 7. FURTHER SUBDIVISION

In the event a tract is subdivided into larger parcels than ordinary building lots, such parcels shall be arranged so as to allow the logical and economic extension of streets, utility easements, drainage ways, and public areas into such parcels.

## 8. RESUBDIVISION

The re-subdivision of all or part of land covered by an existing plan shall be governed by these regulations. Such re-subdivision shall show clearly that area or areas which are being re-plotted and shall show the file number of all previous plans of these same areas with dates of filing. All areas last subdivided more than eight (8) years previous to the date of application shall be re-subdivided in accordance with the zoning ordinance in effect.

## 9. AS-BUILT PLAN

The developer shall provide the Board with an original and six (6) copies of a final as-built plan within 60 days of completing a subdivision or a portion of a subdivision and prior to requesting the final release of the performance guarantee for the subdivision or said portion. The plan and accompanying profile shall show the precise location of streets, sidewalks, easements, storm drainage facilities, including completed detention basins, public sewerage facilities, if appropriate, all other utilities and bounds. The as-built plan shall bear the stamp and signature of a Registered Land Surveyor and a Registered Professional Engineer. The estimated cost of preparing the final as-built plan shall be included in the cash deposit or similar performance guarantee posted for the subdivision. Electronic file copies of the as-built plans in PDF format shall also be submitted to the Planning Board, as well as electronic DWG file copies in CAD and GIS format with MassGIS data coordinates in a version compatible with the versions being utilized by the Town of Bridgewater at the time of submission. The files shall also be adaptable to the electronic data file management employed by the Town of Bridgewater Tax Assessors for land use maps and other GIS data files.

## B. DESIGN STANDARDS

### 1. STORM WATER DRAINAGE DESIGN

All storm-water drainage shall be reviewed and designed in accordance with this section of the subdivision rules and regulations and must demonstrate compliance with the Massachusetts Storm-water Management Policy and the Stormwater Management Regulations for the Town of Bridgewater. All design and analysis shall be prepared, signed and stamped by a Massachusetts Registered Professional Civil Engineer. His/her stamp and signature shall appear on all definitive plans, drawings and computation

sheets showing drainage submitted to the Planning Board for review. The stamp and signature shall be wet ink original. Photocopies or computer-generated stamps and signatures shall not be allowed.

**a. Watershed area analysis-**

The entire contributing watershed area shall be shown on a plan submitted with the analysis. Information shall include an identification of any existing inadequacies both up and downstream, inventory of existing infrastructure and potential upstream, build out with anticipated peak volume and velocity of storm water that may flow through the proposed subdivision. Additionally, the following information shall also be supplied:

- -intensity of rainfall
- -soil mapping of the sub area
- -area of calculations
- -topographic map of sub area-
- -time of concentration & flow paths
- -land use map of sub area
- -coefficient of run-off (range..)
- -pre-development drainage patterns
- -pipe coefficients
- -post-development drainage pattern
- -ground cover conditions

**b. On-site drainage design and calculations:**

All drainage calculations shall address the 2, 10, 25, 50 and 100-year storm events. Calculations shall utilize TR-20 or TR-55 models or any other models deemed appropriate by the Town Engineer and/or the Planning Board's consulting engineer. Said analysis shall review any wetland areas on-site, soil conditions and the percentage of impervious coverage in relation to the area of drainage proposed. **For all subdivision proposals, the post-development rate and volume of runoff shall not exceed ninety (90) percent of the corresponding predevelopment rate and volume of runoff measured in cubic feet per second and depth of flow.**

All drainage basins shall be designed and located on individual lots and shall be deeded to the Town at time of street acceptance. No retention ponds relying solely for infiltration are permitted within the Town of Bridgewater. Should concerns exist with the drainage analysis and/or completion of the drainage system, the Planning Board, at its discretion may require that additional area be reserved for future storm water mitigation. Additional drainage areas within 100 feet of a wetland area shall also require Conservation Commission approval. This additional drainage area shall not be considered as part of the drainage area or volume of storage required under other regulations contained in this section. The cost of maintenance of this area shall be borne by the

developer. The developer shall have appropriate funds dedicated for such purpose established prior to any acceptance of the street by Town Council.

**c. On-site soil conditions:**

Upon submission of a Definitive plan, the applicant's engineer shall submit an analysis of soil conditions for any on-site drainage and any off-site mitigative drainage proposals. Test pit data and logs shall be submitted with the analysis depicting starting elevation, the soil type and consistency at point elevations and the depth of maximum seasonal groundwater, if discovered during exploration. The applicant's engineer, shall in narrative form, identify the permeability of the soils in relations to the proposed drainage structure designed. If leaching and/or infiltration methods of disposal are proposed, the existing maximum seasonal groundwater level will have to be identified to demonstrate a sufficient rate of percolation. The method of maximum groundwater elevation and soil suitability shall be determined in accordance with 310 CMR 15.101-15.105. All groundwater level determinations and soil suitability evaluations for stormwater management system design shall be witnessed by the Town Engineer or other qualified designee.

Groundwater recharge pits, galleys, basins, shall not be used within the subdivision roadways and the acceptability of the use of recharge systems for other applications outside of a subdivision roadway right-of-way and within a dedicated drainage lot shall be determined by the Planning Board. The Planning Board, at its discretion, may waive these requirements for subdivision developments involving one to four one-family dwelling units where the subdivision roadway and related infrastructure shall remain under private ownership and maintenance in perpetuity and shall never be accepted as a public way. For the one to four one-family dwelling unit subdivisions where the Planning Board waives the foregoing requirements, the drainage recharge systems may be located within the road right-of-way width; however, compliance with the threshold and limits for stormwater rates and volumes of runoff for the applicable storm events (i.e. 2, 10, 25, 50 and 100-year storm) shall be demonstrated to the Board by the applicant's engineer.

**2. LOW IMPACT DEVELOPMENT PERFORMANCE STANDARDS**

The proposed construction means and methods have been effective in preventing soils or other eroded matter from being deposited onto adjacent properties, rights-of ways, public storm drainage system, or wetland or watercourse. The design, testing, installation, and maintenance of soil erosion and sediment control operations and facilities shall adhere to the standards and specifications contained in the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, dated March 1997, as amended.

The following performance shall be applicable to all LID plans:

**a. Site Planning Process**

The site planning process shall be documented and shall include the following steps:

- i.) identify and map critical environmental resources,
- ii.) delineate potential building envelopes avoiding environmental resource areas and appropriate buffers,
- iii.) develop methods to minimize impervious surfaces, and to protect and preserve open space.

**b. No Untreated Discharges**

All storm-water runoff generated from land development and land use conversion activities shall not discharge untreated storm-water runoff directly to a wetland, local water body, municipal drainage system, or abutting property, without adequate treatment.

**c. Channel Protection**

Protection of channels from bank and bed erosion and degradation shall be provided by attenuating the 24-hour extended detention storage of runoff of the post-development 1-year, 24-hour return frequency storm event.

**d. Overbank Flooding Protection**

Downstream overbank flood and property protection shall be provided by attenuating the post-development peak discharge rate to the pre-development rate for the 10-year, 24-hour return frequency storm event as required by the MA DEP LID Management Policy.

**e. Extreme Flooding Protection**

Extreme flooding and public safety protection shall be provided by attenuating the peak discharge rate from the 100-yr, 24-hour return frequency storm event to the pre-development rates.

**f. Recharge**

- i.) Annual groundwater recharge rates shall be maintained, by promoting infiltration and recharge through the use of structural and non-structural methods. At a minimum, annual recharge from the post development site shall equal the annual recharge from pre-development site conditions.
- ii.) The storm-water runoff volume to be recharged to groundwater should be determined using the methods prescribed in the latest version of the Massachusetts DEP Storm-water Management Manual or an equivalent qualifying local manual. The recharge requirements shall apply to all activities within the jurisdiction of this Bylaw except as noted, and unless specifically waived by the Planning board. The recharge criterion is not required for any portion of a site designated as a storm-water hotspot. In addition, the Planning Board may relax or eliminate the recharge requirement at its discretion, if the site is situated on unsuitable soils or is in a redevelopment area with

documentation of prior contaminated soils.

**g. Structural Practices for Water Quality**

All structural Storm-water Management facilities shall be selected and designed using the appropriate criteria from the most recent version of the Massachusetts DEP Storm-water Management Manual.

For other structural storm-water controls not included in the Massachusetts Storm-water Management Manual, or for which pollutant removal rates have not been provided, the effectiveness and pollutant removal of the structural control must be documented through prior studies, literature reviews, or other means and receive approval from the Planning Board before being included in the design of a Storm-water Management system.

Structural best management practices (BMPs) must be designed to remove ninety percent (90%) of the average annual post development total suspended solids (TSS) and sixty percent (60%) for total phosphorus [TP], and thirty (30%) for total nitrogen (TN). It is presumed that a BMP complies with this performance goal if it is:

- i.) Sized to capture the prescribed water quality volume;
- ii.) Designed according to the specific performance criteria outlined in the Massachusetts Storm-water Management Manual.
- iii.) Constructed properly; and
- iv.) Maintained regularly.

**h. Water Quality Volume**

The prescribed water quality treatment volume required in the sizing of a structural stormwater practice shall be based on the Massachusetts DEP Stormwater Management Standards that are in effect as of the date of the subdivision plan submission.

**i. Hydrologic Basis for Design of Structural Practices**

For facility sizing criteria, the basis for hydrologic and hydraulic evaluation of development sites are as follows:

- i.) Impervious cover is measured from the site plan and includes any material or structure on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved parking lots, sidewalks, roof tops, driveways, patios, and paved, gravel and compacted dirt surfaced roads.
- ii.) Off-site areas shall be assessed based on their “pre-developed condition” for computing the water quality volume (i.e., treatment of only on-site areas is required). However, if an offsite area drains to a proposed BMP, flow from that area must be accounted for in the sizing of a specific practice.
- iii.) Off-site areas draining to a proposed facility should be modeled as “present condition” for peak-flow attenuation requirements.
- iv.) The length of sheet flow used in time of concentration calculations is limited to no more than 50 feet for predevelopment conditions and 50

- feet for post development conditions.
- v.) Detention time for the one-year storm is defined as the center of mass of the inflow hydrograph and the center of mass of the outflow hydrograph.
  - vi.) The models TR-20 (or approved equivalent) will be used for determining peak discharge rates.
  - vii.) The standard for characterizing pre-development land use for on-site areas shall be woods.
  - viii.) For purposes of computing runoff, all pervious lands in the site shall be assumed prior to development to be in "good hydrologic condition" regardless of conditions existing at the time of computation.
  - ix.) If an off-site area drains to a facility, off-site areas should be modeled, assuming an "ultimate buildout condition" upstream for assessment of 100-year flows for sizing of spillways.
  - x.) Flooding and channel erosion impacts to receiving streams due to land development projects shall be determined at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.
  - xi.) The specified design storms shall be defined as a 24-hour storm using the rainfall distribution recommended by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) or the Northeast Regional Climate Center "Atlas of Precipitation Extremes for the Northeastern United State and Southeastern Canada."
  - xii.) Proposed residential, commercial, or industrial subdivisions shall apply these Storm-water Management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.

**j. Sensitive Areas**

Storm-water discharges to critical areas with sensitive resources (i.e., shellfish beds, swimming beaches, aquifer recharge areas, water supply reservoirs) may be subject to additional criteria or may need to utilize or restrict certain LID Management practices at the discretion of the Planning Board. The Planning Board may designate sensitive areas and specific criteria for these areas after conducting a public hearing in accordance with the provisions of MGL Chapter 40A, Section 11.

**3. STORMWATER DRAINAGE STRUCTURES DESIGN AND DETAILS**

The following section describes the design requirements for various alternative drainage structures. Specifications as to drawings for the different structures can also be found in Appendix "A". The specifications



are subject to change as may be determined from time to time by the Planning Board.

**a. Catch basins**

Catch basins shall be designed and constructed on both sides of a roadway. They shall be located on continuous grades at intervals that do not exceed three hundred (300) feet, at low points on the roadway, at corners of intersecting streets, within each turnaround and in addition at other such areas as required by the Planning Board. No catch basins shall be located within 6' of any driveway opening, catch basin, manhole structure or water service. Drain manholes shall be installed at all catch basin connections and with changes in pipe size, alignment and grade. Catch basins shall be designed and constructed in accordance with the details shown in Appendix "A" and have a minimum sump of forty-eight (48) inches below the outlet invert elevation with a base of recast concrete plates and cast-iron grates and grates set in a full bed of cement mortar. All catch basins that will require cleaning will have a minimum opening of 20".

**b. Channels**

When earth and stone-paved open channels are used, the typical section of the earth channel should have a flat bottom and side slopes of three horizontal and one vertical (3:1) with the top of the slope at least one foot higher than the design water surface. The maximum velocity allowed in an open earth channel at design flow is 5.0 feet per second.

**c. Culverts**

The minimum culvert size shall be twelve (12) inches and shall be designed for a fifty (50) year storm event. The design of all culverts shall adequately account for slope considerations, headwater, tailwater, entrance and discharge conditions.

**d. Drain lines**

Pipe drains shall have a minimum diameter of twelve (12) inches and may be reinforced concrete class III. All pipe materials shall meet the Mass. Highway Department standards. In general, they will be designed to flow full with hydraulic gradient at crown. The engineer shall demonstrate through calculations (see section 1) the pipe capacity and minimum velocity of design flow as to the pipe sizing. Drain lines should be installed at three feet of cover (3' ) depth to avoid frost penetration. All back-fill material shall contain no stone larger than three (3) inches and back fill material shall be placed in eight (8) inch lifts and compacted. Where side slopes are steep, and soils drain poorly, and where the Planning Board deems necessary, sub-drains may be designed and installed with a twelve (12) inch perforated pipe surrounded by six (6) inches of three quarter



(3/4) inch stone. Drain lines shall not be installed where they may be susceptible to groundwater inflow and infiltration.

#### 4. DRAINAGE PIPE DESIGN

A certified copy of the calculations utilized to determine pipe and culvert sizes shall be submitted to the Planning Board by a Professional Registered Civil Engineer. Calculations shall be based on the Mannings Formula for pipe sizing, with design flows computed by the TR55 method. Design flows shall comply as follows:

- a. Pipe Drains 36" and smaller: Minimum Design Velocity 3.0 fps Maximum velocity Design 10.0 fps, based on computed rate of flow.
- b. Pipe Drains 42" and larger: Minimum Design Velocity 2.5 fps Maximum Design Velocity 7.5 fps, based on computed rate of flow.

The minimum pitch for drainpipes shall be 0.5%. However, when a minimum pitch of 0.5% is employed, the design engineer shall verify that it would conform to the design velocities stated herein. If the Planning Board determines site-specific conditions warrant design in excess of the standards set forth, the Planning Board may, at its discretion, waive such requirements.

#### 5. DRAIN MANHOLES

Drain manholes shall be installed at all catch basin connections, at changes in grade, size and alignment, but in no event shall the distance between manholes exceed three hundred (300) feet. All flows within a manhole shall be in the same direction, no reverse direction of flows is permitted. Manhole castings shall be cast iron covers and frames must be set in a full bed of cement mortar. Manholes shall be designed and constructed in accordance with the details shown in Appendix "A".

The inverts of the exit pipe at a manhole shall be established by matching the crown of the exit pipe to the crown of the inlet pipe, the invert elevation of the exit pipe shall be set a minimum of .10 feet below the inlet pipe invert.

#### 6. DRAINAGE BASINS

Retention ponds are not allowed in the Town of Bridgewater. Drainage basins shall be surrounded by an embankment and shall temporarily hold storm water to allow for settling of solids, including the use of on-site recharge through recharge structures (as shown in detail drawing number 10 in the Appendix) and to prevent downstream flooding. Drainage basins shall be located on individual drainage lots within the subdivision, which are to be deeded to the Town at time of street acceptance. Drainage lots shall be designed with a minimum frontage of twenty (20) feet. They shall provide access for maintenance equipment to three sides of the drainage basins across easement of a minimum width of twenty feet. Such access road

shall be crowned with no less than 4" of high quality processed gravel and constructed in accordance with the drainage basin design in Appendix G. The tops of the berms surrounding those three sides shall have a minimum width of ten (10) feet to allow for access and proper use of maintenance equipment. For subdivisions of one to four one-family dwelling units, the Planning Board may also require that separate drainage parcels be provided for any future use and as replacement or upgrade of roadside drainage swales and recharge systems that are to remain and maintained as private subdivision roads and stormwater infrastructure in perpetuity. All basins shall be designed for a 100- year storm event. The drainage basin shall be designed to maximize inlet-outlet distance, low flow channel from inlet to outlet and should be designed to improve visual impact of adjoining land development rather than the traditional "box configuration". All drainage basins shall be designed with a V-notch weir outlet control device in accordance with the detail shown in Appendix "A". All drainage basin(s) and drainage outfall(s) shall be a minimum of twenty-five feet from a property line. Other recharge components or structures that would perform similarly or comparable to drawing detail 10 in the Appendix may be used, provided the Town Engineer or designee verifies the adequacy of the alternate recharge system submitted. All drainage basins shall be designed in accordance with the standards established by the Massachusetts Department of Environmental protection in its Stormwater Management Regulations and Standards. Drainage basins shall be designed by a Massachusetts licensed professional civil engineer. The Planning Board may waive strict adherence to these stormwater basin design regulations for subdivisions of one to four one-family dwelling units where low impact design or country drainage system design is proposed in order to maintain rural character of a neighborhood and where the roadway and drainage system are to remain in private ownership and maintenance in perpetuity. As provided in Section IV.B.1.c of these regulations, for subdivisions of one to four one-family dwelling units, a separate drainage parcel may be provided for future use, but not mandatory, as long as compliance with the thresholds and limitations for stormwater rates and volumes of runoff can be demonstrated to the Planning Board.

For the purposes of these regulations, and for verification of compliance with the required property line setback distance for drainage basins, when a drainage basin is formed by excavation of soil below existing natural ground surface, including infiltration basins, the reference measuring sides of the basin shall be coincident with the excavation wall(s). When a drainage basin is formed in a fill, the reference measuring sides shall be a vertical plane that passes through the exterior toe of the berm that is formed around the basin.

Definitive plans shall provide a cross-profile of all basins, details on all inlet and outlet structures (including emergency overflows) and elevations of the bottom and top of the basin. Side slopes of drainage basins shall be designed to not exceed three horizontal to one vertical (3:1). Detention basins shall be designed so that the maximum depth of water in the basin following a 24-hour precipitation does not exceed the maximum allowable

depth of three feet six inches (3'6") of water. Drainage basin outlets proposed for discharge into an existing stream, floodway, river or brook shall provide calculations, which indicate existing stream profiles, backwater effects and proposed stream profiles. Emergency overflows shall be so located to direct storm water away from abutting properties to not cause harm to adjacent structures and/or properties. If a basin does not drain within twenty-four (24) hours, fencing and/or any other necessary safeguards shall be installed surrounding all sides of the basin. A basin landscape and buffer plan shall be submitted showing screening of abutting properties as deemed appropriate by the Planning Board. The Planning Board and its consulting engineer, if deemed necessary for review, can request additional information of the applicant relative to the proposed basin design.

## 7. SUBDIVISIONS WITH HOMEOWNERS ASSOCIATION

Where a subdivision roadway and related stormwater infrastructure are to remain in private ownership and maintenance in perpetuity, the Planning Board shall require and approve a Homeowners Association (HOA) document that clearly defines the responsibility of all homeowners in the subdivision for the required and necessary maintenance and repairs, and the document shall be recorded within the chain of title of each lot in the subdivision. No building certificate of occupancy shall be issued for any lot in a subdivision that requires an HOA until the Planning Board has received, reviewed, and approved the HOA document and proof of recording of said document. The Planning Board may ask Town Counsel for review of any HOA documentation.

## 8. ENERGY DISSIPATERS

Energy dissipaters shall include rip-rap aprons, baffles, plunge pools, impact basins, etc. that absorb the initial impact of flow to minimize velocities of discharged storm water to prevent erosion at drain outlets. Discharge ends of all drain lines with flows in excess of velocities of four (4) feet per second shall be protected with a rip-rap apron that extends at least ten (10) times the nominal diameter of the discharge pipe.

## 9. HEADWALLS, SPILLWAYS AND OTHER OUTLETS

Headwalls shall be required at both ends of culverts and at the discharge ends of storm drains. Trash grates shall be installed at the openings of all culverts and open pipe drains in excess of eighteen (18) inches. Emergency Spillways shall be designed to accommodate overflows resulting from 100-year storm events.

## 10. INNOVATIVE STRUCTURES/METHODS

The Planning Board at its discretion may entertain proposals for new or innovative drainage structures. The engineer shall provide the same data required of conventional methods and any manufacturing specifications and information available as to their longevity. The applicant's engineer shall document application of such innovative methods in three different locations that have been in operation for a period greater than three years along with their rate of success and maintenance history. The Planning Board at its discretion may require that a performance guarantee be posted for a specified time to ensure the operation of such innovative structures and/or methods.

#### 11. VEGETATED SWALES

Use of wide, shallow vegetated ditches, swales designed for enhanced water quality shall have side slopes of three horizontal to one vertical (3:1) with minimum bottom widths of not less than 5-8 feet. The longitudinal slopes of such swales shall not exceed 5%.

#### 12. APPROVAL FOR CONNECTION TO EXISTING DRAINAGE INFRASTRUCTURE

Upon submission of a Definitive plan that shows a connection to an existing drainage system, the applicant's engineer shall submit an inventory of existing structures, lines and the conditions of the existing drainage system. Said submission shall also include eventual point of discharge into a natural wetland and/or water body identified and shown on a locus plan if not located immediately adjacent to the site. The applicant's engineer shall also demonstrate the full design and operating conditions (to include, but not limited to, capacity analysis, depth of flow computation and any surge charging of the system) of the existing drainage system to accept additional flows from the applicant's proposal. If downstream deficiencies are identified that cannot be corrected, then additional connections cannot be made as approved.

#### 13. SEDIMENT CONTROL PLAN

In order to reduce the amount of top soil erosion that occurs when land is disturbed during development and to reduce the resultant pollution of streams, natural drainage ways, and other water courses, the Planning Board may require that the developer submit a Sediment Control Plan. Such a Plan would prescribe sediment control methods, including berms, dikes, detention ponds, mulching and temporary sodding, to be used depending on the size of the development, topography, soils type, and the amount of soil area to be disturbed, ***insofar as the construction of ways and municipal services are concerned.***

#### 14. DUST CONTROL PLAN

A dust control plan shall be provided to address dust control at all times during construction.

15. ALL SUBDIVISION STANDARDS FOR THE FLOOD PLAIN DISTRICT

All subdivision proposals and other proposed new development shall be reviewed to determine whether such proposals will be reasonably safe from flooding. If any part of a subdivision proposal or other new development is located within the flood plain district established under the zoning ordinance it shall be reviewed to assure that:

- a. the proposal is designed consistent with the need to minimize flood damage, and
- b. all public utilities and facilities, such as sewer, gas, electrical and water systems shall be located and constructed to minimize or eliminate flood damage, and
- c. adequate drainage systems shall be provided to reduce exposure to flood, and
- d. base flood elevation (the level of the 100-year flood) data shall be provided for proposals greater than 50 lots or 5 acres, whichever is the lesser, for that portion of the flood plain district.

16. AQUIFER PROTECTION DISTRICT

All proposals within the district shall be in strict compliance with Section 9.2 of the Bridgewater Zoning Ordinance.

C. STREETS

1. ARRANGEMENT

The proposed streets shall be considered in their relation to existing and planned streets, to topographic and geologic conditions and to public convenience and safety. They shall provide for:

- a. appropriate continuation of existing streets.
- b. the extension of residential streets into adjoining land.
- c. the discouragement of through traffic on residential streets.

2. ALIGNMENT OF STREETS

- a. Intersections of collector or sub-collector streets with arterial streets will not normally be allowed at intervals of less than 400 feet at centerline offsets.
- b. Intersections of sub-collector streets with collector streets with centerline offsets of less than 250 feet shall not be allowed
- c. Intersections of residential streets with sub-collector streets with centerline offsets of less than 125 feet **shall not be allowed**.
- d. The maximum number of ways converging at an intersection shall not exceed four (4) and the centerline of said streets shall intersect at one common point.

### 3. ACCESS TO STREETS

Subdivisions of more than eleven (11) single family house lots or more than five (5) duplex lots shall be required to have more than one access to an existing public street or to a proposed street, which is to be built in conjunction with the proposed subdivision. The Planning Board reserves the right to require a second point of access for less than eleven (11) single family house lots or five (5) duplex units when in the interest of public safety or for improved traffic circulation. The proposed street shall not exceed 1,500 feet in length.

### 4. RIGHT OF WAY WIDTHS AND GRADES

On all classifications of streets, the following characteristics shall be the minimum acceptable:

A maximum grade not exceeding two (2) percent shall be specified for the first one hundred (100) feet of any new subdivision roadway as it approaches an intersection with an existing public way.

Street Class	Right-of-way (ft.)	Min Radius of Curve (ft.)	Sight Distance (ft)	Maximum Gradient (%)	Minimum Gradient (%)
Collector, Industrial & Arterial	50'	300'	200'	5	1
Residential Sub-Collector	40'	200'	200'	5	1

**Line of sight:** Clear sight distance of 300 feet for commercial development, and 250 feet for residential development shall be provided. For the purpose verifying compliance with this provision, it is assumed the eye of an operator of a vehicle is 3.5 feet above the pavement and an object or obstruction in the roadway at the specified distance of 250 feet or 300 feet as applicable, is 0.5 feet above the pavement.

### 5. INTERSECTIONS

Right-of-way (R.O.W.) shall be laid out to intersect at right angles. No R.O.W. shall intersect at greater than 90 degrees or less than 60 degrees. R.O.W. radius on each side of an intersection shall not be less than 20 feet. Property lines at R.O.W. intersections shall be cut back to provide for a curb radius on the roadway of not less than twenty (20) feet except where the angle of intersection varies more than ten (10) degrees from a right angle in which case the radius of the curve connecting the acute angle may be less and the opposite radius must be correspondingly greater. The maximum number of ways converging at an intersection shall not exceed four (4) and the centerline of said ways shall intersect at one (1) common point.

## 6. DEAD END STREETS

Dead end streets:

- a. Shall not provide frontage for more than eleven (11) single family house lots or five (5) duplex lots as allowed under current zoning regulations applicable at the time of application submission.
- b. Shall furnish a turn-around having a property line diameter (R.O.W.) of at least one hundred thirty (130) feet. Cul de sac shall furnish a fifty-five (55) foot vegetated center island. The vegetated center island shall be planted with low growing native vegetation or grass. The Planning Board may require a defeasible easement at the cul de sac for future road extension. The defeasible easement shall include a requirement for the restoration (grading, loam, seeding, etc.) concomitant to any street extension.
- c. Subdivisions of four (4) or fewer single family house lots or two (2) or fewer duplex lots, a paved hammer-head or T-shaped terminus (the head of the tee having a minimum overall effective length of sixty (60) feet may be utilized in lieu of a cul de sac with vegetated center island with the review and approval of the Bridgewater Police and Fire Departments. The length of the cul-de-sac shall not exceed 750 feet.
- d. Any easements obtained for turnaround purposes at the end of a temporary dead-end street shall terminate upon construction of an extension of the street. A contractual assurance shall be put in place that upon extension of the street the termination turn-around will be removed and replaced with loam and seeded.
- e. A twenty (20) foot wide minimum easement shall be required at the end of a cul-de-sac to provide for continuation of pedestrian traffic and/or utilities to the next street or adjoining properties, unless waived by the board in writing.

## 7. DRIVEWAY CUTS

- Driveway curb cuts within the proposed subdivision shall not be allowed within fifty-five (55) feet of an intersecting street, measured from the sideline.
- Driveway curb cuts shall not be allowed within six (6) feet of any catch basin, manhole, water vault, gas valve, water service, or any stormwater structure.
- No more than one curb cut shall be allowed per residential lot. Driveway curb cuts shall not exceed eighteen (18) feet in width, including the driveway radii.
- New roadway layouts shall take existing driveway safety issues into consideration.



## D. EASEMENTS

Any easements shown on the plan must be recorded in the Plymouth County Registry of Deeds. Proof of recording shall be required prior to any request for release of lots from the covenant.

### 1. Layout

Easements shall have a minimum width of twenty (20) feet and the limit located by bearing and dimension with the exception of watercourses.

### 2. Watercourses

Streams or watercourses shall be provided with a drainage easement conforming substantially with the line of its course, but, not less than twenty (20) feet in width. Parallel streets or pedestrian ways and/or appropriate access may be required in connection therewith. The relocation of streams or watercourses into open channels or covered culverts shall be kept at a minimum. Any stream diversion or relocation shall be done in accordance with the Massachusetts Wetland Protection Act and the developer shall be required to submit such proposal to the Bridgewater Conservation Commission.

### 3. Utilities

Utility easements shall generally follow lot lines and shall not be less than twenty (20) feet in width.

## E. PEDESTRIAN WAYS

Pedestrian ways or foot paths will normally be required to provide convenient circulation or access to schools, playgrounds, shopping, churches, transportation, parks, conservation areas and/or other facilities. Such ways shall consist of a right of way of at least fifteen (15) feet.

## F. OPEN SPACE, PARKS, AND PLAYGROUNDS

Areas for open space, parks and/or playgrounds may be required to be set aside in accordance with the proposals and intent of the Master Plan and Chapter 41, Section 81-U of the General Laws as amended. Such areas shall be of reasonable size, but generally not less than five (5) percent of the total area of the proposed subdivision. The minimum area acceptable for the latter public acquisition shall be one acre. No building may be erected or placed on such an area for a period of three (3) years without the approval of the Board.

Any open space, park or playground shall provide at least fifty (50) feet of continuous frontage on a street, and pedestrian ways will normally be required to provide access from each of the surrounding streets, if any, to which the open space, park or playground has no frontage. Areas so designated shall be left in an undisturbed condition unless otherwise agreed to by the Planning Board.



## SECTION V. REQUIRED IMPROVEMENTS

### A. FUNCTIONAL REQUIREMENTS

The applicant shall install all of the improvements itemized herein unless waived in writing by the Board.

All work under this section shall be done under the direction of the Planning Board.

No aforementioned Bond or Covenant shall be released until the Planning Board or its Agent approves, in writing, all work done under this section. (SUCH APPROVAL SHALL INCLUDE A COMPLETED CHECKLIST AS APPENDED).

### B. IMPROVEMENT SPECIFICATIONS

#### 1. TYPICAL CROSS SECTION

Street construction shall conform to the Typical Cross Section of Streets included as Exhibit "D" with these Rules and Regulations. Grass Strips and driveway entrances shall be so graded as to prevent surface water on the street from running onto private land.

#### 2. MINIMUM WIDTH REQUIREMENTS (in feet)

Street Class	Layout Width (ft.)	Pavement Width (curb to curb) (ft.)	Sidewalks (ft.)	Bicycle Lane (ft.)
Minor Arterial road or serving industrial or commercial building area of greater than 100,000 gross sq ft	60'	32'	Two @5'	One at 5' (Arterial Road Only)
Collector road or serving-industrial or commercial building area of 100,000 gross sq ft or less	50'	30'	Two @5'	One at 4' (Collector Road Only)
Sub-Collector or greater than 50 Residential units	50'	28'	Two @5'	One at 4' or Share the Road signage or Sharrow
20 to 49 residential units	40'	24'	Two @5'	One at 4'
11 to 19 residential units	40'	22'	One @ 5'	One at 4'

5-10 residential units	40'	18'	One @5'	One at 4'
1-4 residential units**	40'	16'	N/A <sup>x</sup>	N/A

**\*\*-***Streets with 4 residential units or less shall remain private ways requiring associations or other means of funding street and stormwater system maintenance and repair prior to the issuance of the first Certificate of Occupancy.*

**<sup>x</sup>** *-An 18" gravel shoulder must be installed on both roadsides for subdivisions of four (4) or less single family residential house lots or units for storm water management. The surface of the gravel shoulder shall be stabilized with a grass-lined swale.*

### 3. MINIMUM DEPTH REQUIREMENTS (in inches)

Roadway			Sidewalks		
Gravel Base (in.)	Binder Course (in.)	Finish Course (in.)	Gravel Base (in.)	Binder Course (in.)	Finish Course (in.)
18"	3"	1 ½"	18"	1 ½"	1"

**Curbs** – All collector and sub-collector roads require vertical granite curb, of a minimum 12-inch depth with 6-inch reveal and a 4-inch thickness. Residential roads, wherever curbing is required, shall be in the form of bituminous cape cod berm, installed monolithically at a minimum width of 12 inches and a 6-inch height from the top of the binder course. Commercial roads require vertical granite curbing at all curb cut transitions and at all radii with public way intersection. No curbing is required for subdivisions of four or less one-family dwelling units.

### 4. SIDEWALKS, BIKEWAYS AND WALKWAYS

Where sidewalks are on one side only, the side shall be subject to Board approval and shall terminate before the throat of the cul-de-sac. The sidewalk shall terminate with a ramp out to the pavement at the furthest end of the granite curbing at the turnaround unless it is otherwise required to be extended to connect with an off-street walkway or bikeway. Sidewalks and ramps shall comply with ADA regulations.

Public off street bikeways or walkways may be required by the Board to provide circulation or access to schools, playgrounds, parks, shopping, transportation, open space, community facilities, or for such other reason as the Board may determine. Such ways may be part of normal sidewalk provisions.

## 5. STREET GRADING

The entire area of each street or way shall be cleared of all stumps, brush, roots, boulders, like material and all trees not designated for preservation.

The full length and width of the proposed paved surface area shall be excavated or filled, as necessary, to a depth of at least twenty-two and one-half (22.5) inches below the finished surface for residential streets and for collector streets. However, if the soil is soft and spongy, or contains undesirable materials, such as clay, sand pockets, peat, stones, over six (6) inches in diameter, or any other materials detrimental to sub-grade, such material shall be removed and replaced with suitable well-compacted material acceptable to the Board or its Agents and compacted in 8" to 12" lifts to allow for its inspection. In no case shall wood of any form be used as fill material within the street right-of-way.

***At least 72 hours prior to the placement of any gravel base course, the applicant shall provide the Roadways Superintendent, Town Engineer, or designee with written notice for inspection of the sub-base installation. Sufficient grade stakes shall be located such that the inspector can adequately verify the profile.***

## 6. FINISHED BASE COURSE

Roadway base course shall be provided with at least 18" of compacted thickness. No base course material shall be placed on frozen material. Base course material shall be placed in layers not exceeding 8" in thickness and compacted to 98% maximum density at optimum moisture content. This composition shall be certified by the Agent. Base course material shall consist of hard durable stone and coarse sand, having the following gradation:

Sieve	Percent Passing (%)
1/2	50 - 85
NO. 4	50 - 75
No. 40	10 - 35
No. 200	0 - 10

Maximum size of stone in gravel shall be 3 inches.

Base course material shall be compacted with no less than a 10-ton roller. The base course shall be placed to the lines and grades indicated on the approved drawing. Any depressions that occur shall be filled with additional gravel and re-rolled until the surface is true and even. The base course shall be inspected by the Agent during its placement and just prior to placing the bituminous binder course after a written request to the Agent. The base course shall not be placed until all items on the inspection report have been signed by the appropriate agencies. **The Agent shall certify its final**

**acceptability of the base course and the appropriate signature shall be affixed to the inspection form. (see exhibit # 14)**

7. PAVED SURFACES

16' offsets from centerline with finish grades shown will be placed every 50' prior to placement of road binder. All castings to be raised to binder grade. All catch basins are to be protected with hay bales, or other means, until erosion has been stabilized. Paved surfaces shall be constructed for the full length of all streets within the subdivision shown on the plan.

Minimum width of paved surface shall coincide with the requirements of Section V, Paragraph B-2, of these Rules and Regulations as determined by the Board.

8. PAVEMENT

Upon receipt of the Agent's approval for the base course, a binder course of bituminous concrete Type I-1 as specified by the Massachusetts Department of Public Works shall be placed, compacted and rolled to a thickness of 3 inches for residential streets, 3 inches for collector streets, conforming to the lines and grades indicated on the approved plans. **The applicant shall notify the Agent in writing at least seventy-two (72) hours before placing this second course to allow for inspection of its placement.**

A second course consisting of bituminous concrete top, Type I-1 according to the above specification shall be placed and rolled to a thickness of 1 1/2 inches true to the lines and grades indicated on the approved plans. The Agent shall be notified in sufficient time to allow the Agent to inspect the placing of the surface course. **Seventy-two (72) hours written notice prior to beginning construction.**

9. CURBING

See Section 3 above. Additionally, all arterial, collector and sub-collector street(s) proposed to be built shall be required to have vertical granite curbing, (See Exhibit 1), on both sides of the street for its entire length including all radii regardless of grades. All Residential street(s) proposed to be built with grades greater than 5 percent may be required to have vertical granite curbing, (See Exhibit 1), on both sides of the street for its entire length including all radii. All residential street(s) proposed to be built with grades less than 5 percent may use Cape Cod berm. Cape Cod berm shall be installed monolithically with the roadway pavement in order to form a proper bond between the Cape Cod berm and the pavement. In subdivisions, where no building permit has been issued and the lot in question is vacant, curbing shall be installed without driveway openings.

## 10. SIDEWALK CONSTRUCTION

All materials shall be removed for the full width of the sidewalk to a sub-grade twenty and one half (20.5) inches below the finished grade as shown on cross section; and all soft spots and other undesirable material below such sub-grade shall be replaced with good binding material and rolled. This excavated area then shall be filled with eighteen (18) inches of good quality gravel as specified for Finished Base Course (Section V, B-5) and rolled with a pitch toward the curb of not less than 1.5% nor greater than 1.6%. On the prepared grade, each side of the street, place two and one half (2 ½) inches of compacted bituminous concrete to be applied in two courses one and one half (1 ½) inch base course compacted and one (1) inch finish course compacted, except three (3) inches shall be placed at driveway entrance unless a granolithic surface is desired and/or specified by the Board. **All work shall comply with the specifications of the Massachusetts Department of Public Works.**

## 11. MANHOLES AND CATCHBASINS

All materials contained herein shall conform to The Standard Specifications for Highways and Bridges (Mass Highway - 1995 Edition). Manhole frames and covers shall conform to Section M 8.03.0 of the Specifications. Manhole frames shall also conform to Type A as shown on Plate No. 202.6.0 of the Specifications and shall provide a clear opening of 24 inches in diameter. Such frames shall have a minimum weight of 265 pounds. Manhole covers should have a minimum weight of 200 pounds. Covers shall have the words "SEWER" or "DRAIN" cast on them according to their use. Catch Basin frames shall conform to Plate No. 201.6.0 of the Specifications. They shall provide for a clear opening of 22 inches square. Catch basin frames shall have a minimum weight of 265 pounds for the 3-flange type and 295 pounds for the 4-flange type. Catch basin grates shall be of the square hole type and shall have a minimum weight of 220 pounds. The openings shall be 2 inches by 2 inches and shall be a minimum of fifty percent of the grate area."

**No drainage structures shall be back filled until a Planning Board Agent has inspected them.** The approval of equals shall be approved in writing by the Town Engineer and Highway Superintendent or the Planning Board Agent.

## 12. USE OF CONSULTING SERVICES:

Pursuant to Massachusetts General Law Chapter 44, Section 53G, the Planning Board imposes on all applicants, when it determines that it is necessary, reasonable fees for the employment of outside consultants to review subdivision plans and/or special permit applications under all sections of the Town of Bridgewater Zoning Ordinance.

a. The Planning Board, when it determines that it is necessary, shall

require any applicant to establish a special account with the Town Treasurer equal to an amount determined by the Planning Board to be sufficient to hire outside consultants to review and report on applications under this section.

- b. All funds deposited with the Town Treasurer may be expended by the Planning Board without Town Council appropriation for consulting fees only. Any principal and interest remaining in the account upon approval or disapproval of the plan or special permit shall be repaid to the applicant at the conclusion of the planning process.
- c. The applicant may appeal to the selection of any particular consultant to the Planning Board on grounds of a conflict of interest or that the consultant does not possess minimum required qualifications. Minimum required qualifications shall consist of an educational degree in or related to the field at issue or three or more years of practice in the field at issue or a related field.

### 13. CONSTRUCTION ACTIVITIES:

Prior to the start of any site work, the applicant and/or developer shall submit in writing: a tentative time schedule for installation of the drainage system and mitigative measures for controlling storm water run-off and erosion/sediment and dust control during construction. Prior to the start of any off-site drainage work, the applicant shall submit to the Planning Board all necessary off-site drainage easements (temporary, construction or permanent) signed by the appropriate property owners. Permanent monuments shall be installed at all easement corners and at the corners of all drainage lots. All approved off-site drainage work shall include an estimate of cost by the applicant and shall require posting of a performance guarantee prior to the start of any work, unless waived by the Planning Board. If in the opinion of the Planning Board, the off-site work is substantial in scope and/or potentially harmful to the local environs, the Planning Board may require a subdivision inspector be engaged during the duration of the drainage work. This subdivision inspector may be the Planning Board's Agent. The reviewing inspector shall oversee installation of the drainage system, compliance with proper construction methods, and mitigative measures for soil erosion, sedimentation and dust control. The subdivision inspector shall have the authority to address minor field changes unless in his or her opinion, they are deemed major in nature and require Planning Board-review and approval. The applicant shall be responsible for all costs of a subdivision inspector.

**Where a drainage infiltration system is being used, the developer shall take the necessary precautions and install the necessary materials and devices (such as "diapers" or silt sacs) to exclude silt and debris from the system.**

An As-Built plan of drainage improvements off-site shall be prepared by a registered professional engineer and a registered professional land surveyor and submitted to the Planning Board for its review and approval

prior to release of any performance guarantees. The as-built plan shall be accompanied by a certified statement of the professional engineer as to the performance of the stormwater management system and that the stormwater management system is functioning satisfactorily. All disturbed areas shall be re-vegetated and returned to a state of equal or improved condition of the existing topography and vegetation prior to construction.

**If, in the opinion of the Planning Board, adverse impacts during construction are affecting adjoining properties or the public welfare, the Board may impose additional mitigative measures.**

Permanent easements to be conveyed to the Town shall be reviewed and approved by Town Counsel prior to recording at the Registry of Deeds and/or Land Court. The applicant/developer is responsible for all costs of recording said easements. All street acceptance petitions submitted for Town Council approval shall document proof of recording of such easements.

#### 14. OPERATION AND MAINTENANCE PLAN

Upon installation of the entire drainage system and prior to the release of any performance guarantees, the applicant shall have submitted, in writing, a management plan. The proponent of the management plan shall provide a detailed schedule of inspections, state who will perform the inspections, and provide annual inspection reports to the Planning Board. The plan shall address how maintenance of the structures will be performed, methods of disposing sediment and pollutants removed from structures and, if determined necessary, replacement of failed structures. Implementation of this maintenance plan shall be the responsibility of the applicant/developer until the street has been accepted by Town Meeting. Failure to comply with the operation and maintenance plan shall activate the Planning Board's ability to hold a public hearing and if determined, assess the developer for costs incurred to perform such maintenance duties. Said assessment shall, at the Planning Board's discretion, be levied upon remaining properties under the ownership of the applicant/developer within the original subdivision approval.

#### 15. DRAINAGE AS-BUILT CERTIFICATION:

Upon installation and completion of the drainage system, the developer shall submit an As-Built Plan of the entire drainage system, including all off-site improvements, certified and stamped by a Massachusetts Registered Professional Engineer and a Land Surveyor. The As-Built Plan shall include all field changes as approved by Planning Board that differ from the original approved drainage plan and also provide certification by a Registered Professional Engineer that the drainage system as installed will perform as approved.



The developer shall also submit certification to the Planning Board that all structures have been cleaned of construction sediment and are in proper working order along with a proposed annual maintenance schedule of future inspections by the developer or a private maintenance firm, shall be submitted with the certification to the Planning Board. Until such time Town Council has voted to accept the roadway and related appurtenances, including drainage lots, the developer shall be responsible for the proper maintenance and operation of the drainage system.

#### 16. SUB-DRAINS

Where the slopes are steep and where soils are poorly drained (especially in clay or semi-impervious soils) the Board, after consulting with its Agent, may require a sub-drain with a bed of 12" of crushed stone.

#### 17. WATER

Water pipes and related equipment such as hydrants, main shutoff valves and laterals shall be installed to serve all lots on each street in the subdivision in conformity with the rules and regulations set by the Bridgewater Water and Sewer Department. Connection to existing Town water facilities to assure adequate supply shall be the responsibility the developer.

All hydrants shall be set within the 10X10 easement adjacent to the road layout.

Water Distribution Impact Statement:

All applicants shall provide a Water Distribution Impact Statement asking providing input for the following:

- a. Public – Discuss the project's water distribution system, including projected demand, ability to serve all lots, use of water, and any special problems such as check valves or booster pumps which must be dealt with. The applicant shall coordinate with the Town DPW as to determine the adequacy of water in the Town.
- b. Private – Discuss the type of system, level of treatment, suitability of soils and results of percolation tests.

#### 18. SEWERAGE

- a. Where public sewers are required, the following design standards shall apply:
  - 1. Public sewers shall be designed according to professional engineering practices.
  - 2. Gravity sewers shall be not less than 8 inches in diameter.



3. Manholes shall be located at every change in grade of horizontal alignment but not more than 300 feet apart. The use of sewage pumping facilities shall only be allowed in accordance with town specification and at the discretion of the Water and Sewer Department and the Board of Health.
- b. If the applicant is required to provide other than public sewerage, the design and construction of private on-lot sewerage systems shall be subject to the approval of the Bridgewater Board of Health.
- c. Private on-lot sewerage systems shall be designed and constructed in accordance with the rules and regulations of the Bridgewater Board of Health as enabled by Title 5 of the Massachusetts State Environmental Code. Applicants should consult, in particular, Regulations 15 of the Bridgewater Board of Health rules and regulations pertaining to subdivisions.
- d. Cellar drains shall not be connected to the public sewerage system.

All applicants shall provide a Sewer Disposal Impact Statement providing input for the following:

- a. Public – Discuss the project's sewage disposal system, including projected flow, size of pumping stations including auxiliary power, and any special problems such as check valves, etc. which must be dealt with, and the effects on the waste water treatment facility. The applicant shall coordinate with the Town DPW as to determine the adequacy of wastewater in the Town.
- b. Private – Discuss the type of system, level of treatment, suitability of soils and results of percolation tests.

## 19. UTILITIES

All utilities (sewer, water, drain, gas, electric, telephone) shall be placed underground unless otherwise waived by the Board pursuant to Section VI Administration Subsection B (Waivers)

## 20. RETAINING WALLS

Retaining walls shall be installed where deemed necessary by the Town Engineer or designee and approved by the Planning Board and shall comply with specifications set forth in "Standard Specifications for Highways and Bridges" as amended. All fences and walls are to be constructed outside of the road layout. All retaining walls shall be designed, certified and stamped by a Registered Structural Engineer.

## 21. STREET TREES

Existing trees, which in the opinion of the Planning Board are suitable for street trees, shall be maintained and left as such. Where trees are inadequate, new street trees of nursery stock conforming to the standards

of the American Association of Nurserymen, of a species approved by the Board shall be planted on each side of the street. All trees shall be planted within the right of way and shall be planted at 40-foot intervals. Trees planted shall be at least two (2) inch caliper measured at a height of forty-two (42) inches from the ground and at least twelve (12) feet in height. . No trees shall be planted at any intersection so as to obstruct vision or safe vehicle traffic. All planted trees shall be planted in one-half (1/2) cubic yards of loam, four (4) inches of mulch and guyed and wrapped in a manner to ensure their survival. There shall be a maintenance plan presented to and approved by the Planning Board to replace any diseased or damaged trees for two years from time of planting the final tree. The Planning Board may calculate a landscaping bond to secure that the trees are planted and maintained for that two-year period. A Landscaping bond shall be secured prior to the certificate of occupancy of the first unit.

The developer shall plant other trees as needed to provide at least one (1) area of shade to each lot.

Street tree species planted within the subdivision shall be varied and shall not be limited to one species only. In the event that one species becomes susceptible to disease or insects, mixing the species will help to ensure that not all of the trees in an area will be affected.

The following species **shall not** be planted as street trees:

Ailanthus species (Tree of Heaven)	Acer Negundo (Boxelder)
Populus species (Poplar)	Acer Saccharinum (Silver Maple)
Salix species (Willow)	Robina Pseudocacia (Black Locust)
Catalpa species (Catalpa)	Acer Paltanoides (Norway Maple)
Flowering Pear	Crabapple (Malus)
Evergreen trees such as fir, pine, hemlock or spruce shall not be planted as street trees	

The following species are recommended for planting as street trees:

American Linden ( <i>Tilia americana</i> )	American Sweetgum ( <i>Liquidambar styraciflua</i> )
American Wild Plum ( <i>Prunus americana</i> )	American Beech ( <i>Fagus grandifolia</i> )
Black Oak ( <i>Quercus velutina</i> )	Flowering Cherry ( <i>Prunus x. autumnalis/sargentii/Yoshino</i> )
Honeylocust ( <i>Gleditsia triacanthos var. inermis</i> (thornless, fruitless species only))	Pagoda Dogwood ( <i>Cornus alternifolia</i> )
Pin Oak ( <i>Quercus palustris</i> )	Red Maple ( <i>Acer rubrum</i> )

River Birch (Heritage) ( <i>Betula occidentalis</i> )	Shadblow Serviceberry ( <i>Amelanchier canadensis</i> )
Sourwood ( <i>Oxydendrum arboreum</i> )	Sugar Maple ( <i>Acer saccharum</i> )
Tulip Tree ( <i>Liriodendron tulipifera</i> )	Tupelo ( <i>Nyssa sylvatica</i> )
White Oak ( <i>Quercus alba</i> )	

## 22. STREET SIGNS

- a. Street name signs shall be furnished and installed and maintained by the developer at all intersections prior to the issuance of a building permit on the street. Street names shall neither duplicate nor bear phonetic resemblance to the names of existing streets within the municipality or bear proper names; and shall be subject to the approval of the Planning Board, Police Chief and Fire Chief. Street signs will be 9" wide with prismatic lens type reflective diamond grade sheeting attached with 6" upper case letters of the same diamond grade material. There will be two signs on each post. The signs are to be printed on one side and attached back to back to a 1.75" X 1.75" X 10' quick punch galvanized steel pole secured to a 2" x 2" x 3' 12-gauge steel anchor. All hardware used shall be vandal proof and the sign will be green in color. All proposed streets shall have a traffic control device; e.g. STOP sign, or YIELD sign, at intersections with other streets. The type of traffic control device shall be determined by the street classification and may be at the Planning Board's discretion. Streets connecting to Arterial roadways may require traffic lights. Streets connecting to Minor Arterial roadways and Collector roadways require STOP signs. Residential streets shall require STOP signs or YIELD signs at the Planning Board's discretion.
- b. All lots within the subdivision shall be clearly numbered and marked legibly for emergency purposes prior to the issuance of a building permit on the street.
- c. Stop Signs shall be thirty-six (36) inch, diamond reflective grade sheeting.
- d. The developer shall install a temporary sign identifying the street, prior to commencement of construction of the roadway, to assist emergency personnel in responding to calls on the new roadway.

## 23. STREET LIGHTS

Street lighting shall be installed and completely operational prior to the lot release of the final two lots. Subdivisions of 11, or greater number of single family residential units shall provide for street lights installed at a ratio of one light per every four (4) house lots but no greater than 800 feet apart, as well as at intersections, or as determined by the Board as promoting public

safety. Lights are to utilize LEDs or similar technology for energy savings. Poles to be located behind street property boundaries at the rear of the sidewalk area. Subdivisions of 20 single family residential units, or fewer may alternatively provide lighting in the form of post lights, or similar, at a minimum ratio of one post lamp per every four (4) house lots (but not greater than 500 feet apart) installed at driveway opening, approximately 10 feet from the edge of the street pavement or at the back of sidewalk.

Street lighting shall be designed to eliminate problems of glare, minimize light pollution, and reduce the energy and financial costs of outdoor lighting. The definitive plan should include the location and type of illuminating devices. The plan should also include a description of the illuminating devices including, but not limited to, drawings and catalogue cuts by manufacturers.

#### 24. GUARDRAILS

Guardrails shall be installed as required by the Planning Board. The type, size and location of guard rails shall be determined the Planning Board after consultation with the Highway Department. Guardrails shall be designed in accordance with AASHTO's Roadside Design Guide.

#### 25. MONUMENTS

Reinforced concrete bounds (6 in. by 6 in. square) with a minimum depth of 36 inches shall be placed at the beginning and end of all curves, at all intersections of streets and at such other places as may be required by the Board. On any curve with a tangent distance of over five hundred (500) feet intermediate bounds shall be set at intervals of five hundred (500) feet measured from one end of the curve.

Reinforced concrete bounds (5 in. by 5 in. square) with a minimum depth of 30 inches shall be installed as lot markers. A 1/2" drill hole shall be placed at the top of each bound.

The setting of the bounds shall be supervised and certified by a Massachusetts Registered Land Surveyor.

No permanent bounds shall be installed until all construction which would disturb or destroy the bounds is completed.

Upon completion of setting the required number of bounds, a written certification shall be mailed to the Board from a Registered Land Surveyor or Engineer stating that they have been placed with drill holes in accordance with the locations shown on the approved plans.

#### 26. CONSTRUCTION DETAILS

In the event of any question as to construction detail specifications for the composition of material, workmanship, and the method of applying materials, the standard of the Massachusetts Department of Public Works shall apply in each instance.

## 27. CLEANING UP

Before issuance of certificate of occupancy of any lot, the applicant shall clean up any debris on it caused by street construction and installation of utilities. All areas within a street destroyed or altered by construction operations shall be restored to vegetation or other finish satisfactory to the Board.

## 28. PRIVATE PROPERTIES

All front lawns should be graded so that water will slope towards sidewalks.

All driveways should be no less than 3" higher than gutter grade of road at least six (6) feet into driveway. Except where sidewalks cross-driveways, driveway grades shall conform to section 5.B.9 and 521 CMR and latest Mass. Highway Design Standards.

***Each subdivision plan shall include a 20' wide sloping easement on either side of the right of way, which, until the town accepts the roadway, shall allow the developer access to private property and, as necessary, the ability to grade the front of house lots to match the elevation of the roadway layout.***

## 29. SAFETY

All precautions should be taken by the developer and his subcontractors to observe common sense safety requirements. The Board designates the Building Inspector and/or the Planning Board's Agent to report to it all unsafe activities in preparation of the subdivision to the Board. Trenches greater than five (5) feet in depth and soil piles higher than ten (10) feet, or materials stacked in an unsafe manner will not be allowed unless the area is adequately protected.

## 30. MAINTENANCE OF ROADWAYS INCLUDING UTILITIES

The applicant and/or any future homeowners shall be responsible for lighting of roadways in a subdivision for the underground and above ground utilities, and for the complete maintenance of sidewalks, curbs, driveway entries and street surfaces until the roads are accepted by Town Council.

## 31. SUBDIVISION IDENTIFICATION SIGN

The developer may install a sign identifying the subdivision for marketing purposes. The sign shall be no larger than 4' x 8' and shall be removed

prior to street acceptance or for streets that are to remain private shall be removed prior to the occupancy of the final house.

32. CBU MAILBOXES

If a CBU is required, it shall be installed where shown on the subdivision plan.

## SECTION VI ADMINISTRATION

### A. AUTHORITY

The Planning Board shall be the administrative agency of these regulations and shall have all the powers assigned them by Section 81-A to GG Chapter 41 of the General Laws.

Applicants aggrieved under the subdivision control process may appeal their case to the Plymouth County Superior Court.

The Planning Board may assign as *its* Agents, appropriate town agencies, or officials and may from time to time hire professional assistance to review plans and inspect improvements, at the cost of the *applicant*.

The Board on its own motion or on the petition of any interested person shall have the power to modify, amend or rescind its approval of a plan of a subdivision, or to require a change in a plan as a condition of its retaining the status of an approved plan.

### B. WAIVERS

Strict compliance with the requirements of these rules and regulations may be waived only when, in the judgment of the Board, such action is in the public interest and not inconsistent with the **public good**. The Board may require such alternative conditions as will serve substantially the same objective as the standards or regulations waived.

Any requested waivers from the subdivision rules and regulations (including fees) must be in writing from the applicant. This letter shall include, for each waiver request, an estimate of cost savings in initial cost and annual maintenance and an explanation of any public benefit served. If in the public interest, the Planning Board may grant waivers not requested by the applicant.

A letter transmitting the recommendation of the Highway Superintendent must accompany any waiver request relative to sidewalks. The Planning Board, in cases where the topography, outcropping ledge, significant trees or other circumstances are present, may amend sidewalk requirements.

No waiver of a subdivision rule or regulation shall be authorized unless formally approved in writing by the Planning Board.

### C. REFERENCE

For matters that may arise during subdivision procedures that are not covered by these regulations the following were accepted as standards in their applicable portions: " Section 81K to 81GG" of Chapter 41 of the General Laws; " Suggested Land Subdivision Regulations" H.H.F.A.: " Standard Specifications

for Highways and Bridges" Massachusetts Department of Public Works; each as amended or up-dated from time to time.

#### D. PUBLIC HEARING

All technical and oral testimonies at scheduled public hearings relating to the design and the anticipated function of proposed drainage systems, soils, infrastructure, sight distance, etc. that form the elements of the technical requirements necessary for the Planning Board to render its decision on an application shall be presented by a person duly qualified and licensed to practice engineering in the Commonwealth of Massachusetts.

All technical and oral testimonies at scheduled public hearings regarding cadastral features and the locations of regulatory boundaries of resources (e.g. wetlands, streams) and property/land boundaries as they relate to proposed buildings and land improvement works necessary for the Planning Board to render its decision on an application shall be presented by a person duly qualified and licensed to practice land surveying in the Commonwealth of Massachusetts.

#### E. INSPECTION

The Town Engineer or designee, or any other competent person appointed by the Planning Board shall carry out inspection of subdivisions. Arrangements for compensation for these inspections shall be under the jurisdiction of the Planning Board, and the costs are to be borne by the applicant through an escrow account. There shall be an inspector present during the installation of drainage & sewer lines and during road base and pavement installation. (See inspection form included in these rules and regulations). "The inspector shall date and sign off on the inspection form prior to lot release." As part of the inspection work, the inspector shall retain the services of a state certified laboratory or other testing facility for material and installation testing and the testing laboratory or facility personnel shall work under the direct supervision of the Town's Inspector, and the applicant/developer shall be responsible for payment of charges associated with the inspection and testing.

The applicant/developer shall be required to replenish the escrow account as required in order to sustain the inspection work. If the applicant/developer fails to make the necessary payments, the work shall be suspended until such time the inspection account is replenished in good funds by the applicant/developer.

#### F. VALIDITY OF REGULATIONS

If any section, paragraph, sentence, clause, or provision of these regulations shall be adjudged not valid, the adjudication shall apply only to the material so adjudged and the remainder of these regulations shall be deemed valid and effective.



## G. AMENDMENTS

The Board may on its own motion or by petition after public hearing, amend, supplement or repeal these regulations or any portion thereof.

## H. MUNICIPAL LIEN CERTIFICATE

The applicant shall present a Municipal Lien Certificate showing all taxes and bills, if any, due the Town, prior to the signing of the subdivision plan.

## I. TRAFFIC IMPACT BYLAW

See Traffic Impact Bylaw Study (within office of CED)

## J. GENERAL INFORMATION

The developer must complete all work on the subdivision roads consisting of: clearing, grubbing, ledge removal, stump removal, preparation of sub-grade, placing of gravel road base, installation of all utilities (sewer, drains, water, gas, electricity, telephone) and *binder* mix of bituminous concrete on streets and sidewalks; but, in no case, shall the curbing installation, nor the finished street or sidewalk surfaces, lawns, seeding, setting of bounds, be completed until such time as all building is done including walks, drives, lawns, grading and seeding on the private lots of that particular street. No lots shall be released to the developer for building purposes until and unless he has posted a cash deposit with the Town Treasurer to guarantee completion of the streets in question; said cash amounts for deposit to be determined by the Agent for the Planning Board.

## K. STREET ACCEPTANCE

All efforts will be made to have the street acceptance within 3 years of the first house being occupied. If a modification hearing is necessary or requested after *those* three (3) years, it will be necessary to bring the subdivision up to *the standards of the* current subdivision rules and regulations.

Streets with 4 or less one-family dwelling units, or streets that are not built to Town Standards shall not be accepted by the Town of Bridgewater; nor will the Town of Bridgewater, irrespective of number of units or type of street, accept streets that are not constructed to the specifications herein and shall therefore remain Private Ways and an association or other funding mechanism shall be established for street maintenance, snow removal, and stormwater system maintenance and repair.

## L. STREET ACCEPTANCE BY-LAW (See General Ordinance)

**M. DESIGN REVIEW**  
**(See Planning Board Design Review Guidelines)**

## SECTION VII. APPENDIX OF FORMS AND ATTACHMENTS

**PLANNING BOARD  
FORM A  
APPLICATION FOR ENDORSEMENT OF PLAN NOT TO REQUIRE APPROVAL**

The application must be completed and submitted in accordance with Mass. General Laws, c 41, Section 81P, accompanied by five full size copies and one reduce (11X17) and one mylar print of the plan the Wednesday prior to being on the agenda. All forms and plans must be submitted electronically, as well.

NOTE: All form a plans must include all information relative to brooks, streams and drains. All combined lots must be renumbered. Locus must be shown. Zoning of property must be indicated.

DATE: \_\_\_\_\_

To the Planning Board:

The undersigned, believing that the accompanying plan of his property in the Town of Bridgewater does not constitute a subdivision within the meaning of the Subdivision Control Law, herewith submits said plan for a determination and endorsement that the Planning Board approval under the subdivision Control Law is not required.

NAME OF APPLICANT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE # \_\_\_\_\_ EMAIL: \_\_\_\_\_

NAME OF SURVEYOR OR ENGINEER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE # \_\_\_\_\_ EMAIL: \_\_\_\_\_

DEED OF PROPERTY RECORDED IN PLYMOUTH COUNTY REGISTRY OF DEEDS,

BOOK \_\_\_\_\_ PAGE \_\_\_\_\_

LOCATION AND DESCRIPTION OF PROPERTY:

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\_\_\_\_\_  
SIGNATURE OF OWNER

\_\_\_\_\_  
ADDRESS

**PLANNING BOARD  
FORM B  
APPLICATION FOR APPROVAL OF A PRELIMINARY SUBDIVISION PLAN**

Date: \_\_\_\_\_

To the Planning Board of Bridgewater:

The undersigned, being the applicant as defined under Chapter 41, Section 81-L, submits for approval a preliminary plan entitled: \_\_\_\_\_.

The plan was prepared by: \_\_\_\_\_  
and is dated \_\_\_\_\_. The plan is described as follows (includes location, number of lots proposed and total acreage of tract of land)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The applicant hereby submits said plan as a Preliminary subdivision plan in accordance with the Subdivision Rules and Regulations of the Bridgewater, MA. rules and regulations and makes application to the Board for approval of said plan.

The undersigned's title to said land is derived from \_\_\_\_\_

By deed dated \_\_\_\_\_, and recorded in the Plymouth County Registry of Deeds Book \_\_\_\_\_, Page \_\_\_\_\_, or registered in the Registry District of Land Court Certificate of Title No. \_\_\_\_\_.

Applicant's Signature \_\_\_\_\_

Applicant's address \_\_\_\_\_  
\_\_\_\_\_

Applicant's telephone # \_\_\_\_\_

Owner's signature and address if not the applicant  
or applicant's authorization if not the owner:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PLANNING BOARD  
FORM C  
APPLICATION FOR APPROVAL OF DEFINITIVE SUBDIVISION PLAN**

To the Planning Board of Bridgewater:

The undersigned, being the applicant as defined under Chapter 41, Section 81-L, for approval a proposed subdivision shown on a plan entitled \_\_\_\_\_

By \_\_\_\_\_ dated \_\_\_\_\_

And described as follows:

Located \_\_\_\_\_

Number of lots proposed \_\_\_\_\_

Total acreage of tract \_\_\_\_\_

Hereby submits said plan as a DEFINITIVE PLAN in accordance with the Rules and Regulations of the Bridgewater Planning Board and makes application to the Board for approval of said plan.

The undersigned's title to said land is derived from \_\_\_\_\_

by deed dated \_\_\_\_\_ and recorded in the Plymouth County Registry of Deeds Book \_\_\_\_\_ Page \_\_\_\_\_ of the Land Court, Certificate of Title No. \_\_\_\_\_.

And said land is free of encumbrances except for the following:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Said plan has ( ) has not ( ) evolved from a preliminary plan submitted to the Board on \_\_\_\_\_ and approved (with modifications) ( ) (disapproved) ( ) on \_\_\_\_\_.

The undersigned hereby applies for the approval of said DEFINITIVE plan by the Board, in belief that the plan conforms to the Board's Rules and Regulations.

Received by Town Clerk:

Applicant's Signature \_\_\_\_\_

Date:

Applicant's address \_\_\_\_\_

Time:

Applicant's telephone # \_\_\_\_\_

Signature:

Owner's signature and address if not the applicant  
or applicant's authorization if not the owner:

Check-list of items to be submitted with  
Application:

Application Fee:

Inspection Review Fee:

List of Abutters:

Definitive plan:

Drainage Calculations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PLANNING BOARD  
FORM D COVENANT**

The undersigned \_\_\_\_\_ of Plymouth County, MA, hereinafter called the "Covenantor", having submitted to the Bridgewater Planning Board, a Definitive plan of a subdivision entitled \_\_\_\_\_ with the latest revision date of \_\_\_\_\_

\_\_\_\_\_ per settlement agreement made by \_\_\_\_\_

Does hereby covenant and agree with said Planning Board and successors in office of said Board, pursuant to G.L. (Ter.Ed.) C. 41, Section 81U, as amended, that:

1. The covenantor is the owner of record of the premises shown on said plan;
2. This covenant shall run with the land and be binding upon the executors, administrators, heirs, assigns of the covenantor and their successors in title to the premises shown on said plan;
3. The construction of ways and the installation of municipal services shall be provided to serve any lot in accordance with the applicable Rules and Regulations of the said Board before such lot may be built upon or conveyed, other than by mortgage deed; provided that a mortgagee who acquires title to the mortgaged premises by foreclosure or other wise and any succeeding owner of the Covenant which provides that not lot so sold shall be built upon until such ways and services have been provided to serve such lot;
4. Nothing herein shall be deemed to prohibit a conveyance subject to this covenant by a single deed of the entire parcel of land shown on the subdivision plan or of all lots not previously released by the Planning Board without first providing such ways and services;
5. This covenant shall take effect upon the approval of said plan;
6. Reference to this covenant shall be entered upon said plan and this covenant shall be recorded when said plan is recorded.

The undersigned \_\_\_\_\_ wife, husband, of the covenantor hereby agree that such interest as I, we, may have in said premises shall be subject to the provision of this covenant and insorfar as is necessary release all rights of tenancy by the courtesy, dower, homestead and other interest therein.

EXECUTED as a sealed instrument this \_\_\_\_\_ day of \_\_\_\_\_

**COMMONWEALTH OF MASSACHUSETTS**

County of Plymouth ss.

Date:

Then personally appeared \_\_\_\_\_ and acknowledged the foregoing instrument to be his free act and deed before me and proved to me through satisfactory evidence of identity, which was his/her driver's license, to be the person whose name is signed on this document.

\_\_\_\_\_  
Notary public:



**PLANNING BOARD  
FORM E  
Certificate of Performance  
(COVENANT APPROVAL RELEASE)**

The undersigned, being a majority of the Planning Board of the Town of Bridgewater, Massachusetts, hereby certify that the requirements for work on the ground called for by the Covenant dated \_\_\_\_\_ and recorded in Plymouth Registry of Deeds, **Book** \_\_\_\_\_ **Page** \_\_\_\_\_ have been completed or that a surety has been posted to ensure completion to the satisfaction of the Planning Board as to the following enumerated lots shown on Plan entitled:

The plan has been recorded with said Deeds, as **Plan #** \_\_\_\_\_ and said lots are hereby released from the restrictions as to sale and building specified thereon.

Lots designated on said Plan which have been released from said Covenant are:



Plymouth, ss.

Date:

On this \_\_\_\_\_, before me, the undersigned Notary Public, personally appeared

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as members of the Bridgewater Planning Board and together constituting a majority of the members of the Bridgewater Planning Board, each being personally known to me to be a member of the Bridgewater Planning Board and acknowledged that they signed the foregoing document voluntarily on behalf of the Planning Board for its stated purpose.

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Notary Public

My commission expires:

**PLANNING BOARD  
FORM F  
SUBDIVISION INSPECTION FORM**

Subdivision name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name of Engineer \_\_\_\_\_ from Sta. \_\_\_\_\_ to Sta. \_\_\_\_\_  
 Name of Applicant \_\_\_\_\_ Phone # \_\_\_\_\_  
 \_\_\_\_\_  
 Email \_\_\_\_\_

SUBJECT	RESPONSIBLE AGENCY	INITIALS OF AGENT	INSPECTION DATE
1. Tree Cutting – ROW	P.B Agent	_____	_____
2. Clear & Grub	P.B Agent	_____	_____
3. Excavation	P.B Agent	_____	_____
4. Sub-grade Drainage Basins	P.B Agent	_____	_____
5. Sub-grade Preparation	P.B Agent	_____	_____
6. Water Installation, Testing & Disinfecting	Water & Sewer	_____	_____
7. Sewer Installation & Testing	Water & Sewer	_____	_____
8. Drainage Installation & Testing	P.B Agent	_____	_____
9. Drainage prep. <3.5'	P.B Agent	_____	_____
10. Embankment Grading	P.B Agent	_____	_____
11. Filling & Compaction	P.B Agent	_____	_____
12. Gravel base	P.B Agent	_____	_____
13. Staking Roadway @ 16' offsets	P.B Agent	_____	_____
14. Curb, Curb Cut & Gutter Installation	P.B Agent	_____	_____
15. Binder Course(s)	P.B Agent	_____	_____
16. Erosion, Siltation & Dust Control	P.B Agent	_____	_____
17. Sight Distance Insp.	P.B Agent	_____	_____

**INSPECTION FORM (continued)**

18. Sidewalk, Walkway Const.	P.B Agent	_____	_____
19. Grass Plots	P.B Agent	_____	_____
20. Binder Course Pavement	P.B Agent	_____	_____
21. Street Trees, Plantings, Environmental Protection	P.B Agent	_____	_____
22. Lot Clearance & Grading and Cleanup	P.B Agent	_____	_____
23. Monuments	P.B Agent	_____	_____
24. Street Signs	P.B Agent	_____	_____
25. Final Cleanup	P.B Agent	_____	_____
26. Maintenance	P.B Agent	_____	_____

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No work shall commence until a written construction schedule has been submitted to the Planning board as spelled out in the Rules and Regulations. The owner or contractor shall notify the designated Inspector at least 48 hours before each required inspection as listed above. No inspection may be waived unless approved by the joint approval of the Inspector of the planning Board. Work may be stopped at the discretion of the Inspector. Work will not re-commence until the Planning Board has been notified of the problem and corrective actions have taken place. The Inspector may request at his discretion all delivery invoices for any and all materials delivered to the site-including any and all gravel and bituminous materials.

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**PLANNING BOARD****FORM G****APPLICATION FOR APPROVAL OF MODIFICATION OF DEFINITIVE SUBDIVISION PLAN**

To the Planning Board or the Town of Bridgewater:

The undersigned, being the applicant as defined under Chapter 41, Section 81-L for approval of a proposed subdivision shown on a plan entitled \_\_\_\_\_  
by \_\_\_\_\_ dated \_\_\_\_\_  
and described as follows: \_\_\_\_\_

\_\_\_\_\_, number of lots proposed \_\_\_\_\_, total acreage of tract. Rules & Regulations of the Bridgewater Planning Board and makes application to the Board for approval of said plan.

The undersigned title to said land is derived from: \_\_\_\_\_

by Deed dated \_\_\_\_\_ and recorded in the Plymouth County Registry of Deeds Book \_\_\_\_\_  
Page \_\_\_\_\_ or registered in the Plymouth County Land Court Certificate of title No \_\_\_\_\_  
Said land is free of all encumbrances except for the following:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Said plan has evolved from a definitive subdivision approved by the Bridgewater Planning Board and recorded in the Plymouth County Registry of Deeds Book \_\_\_\_\_ Page \_\_\_\_\_.

The undersigned hereby applies for the approval of said DEFINITIVE plan modification by the Board, in belief that the Plan conforms to the Board's Rules and Regulations.

Received by Town Clerk: \_\_\_\_\_ Applicant's Signature \_\_\_\_\_

Date: \_\_\_\_\_ Applicant's address \_\_\_\_\_

Time: \_\_\_\_\_ Applicant's telephone # \_\_\_\_\_

Signature: \_\_\_\_\_ Owner's signature and address if not the applicant  
or applicant's authorization if not the owner:

Received by Board of Health:

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Signature: \_\_\_\_\_

Checklist of items to be submitted:

1. Modification Application Form
2. Application Fee – Amount Submitted \_\_\_\_\_
3. Copies of Plan – # sheets \_\_\_\_\_, # copies \_\_\_\_\_
4. Engineering Calculations –

**PLANNING BOARD  
FORM H  
REQUEST FOR EXTENSION OF TIME FOR SUBDIVISIONS AND SPECIAL PERMITS**

The undersigned applicant, or his designated representative, for approval of a subdivision plan described below, hereby requests that the Town of Bridgewater extend the time, as hereinafter stated, for the Planning Board to take final action and to file a certificate of such action with the Town of Bridgewater Town Clerk with respect to said plan pursuant to Massachusetts General Laws, Chapter 41, Section 81-U, as amended, and applicable subdivision control regulations of the Planning Board and the Town of Bridgewater Zoning Ordinances relative to special permits.

A. PLAN

\_\_\_\_\_  
Name of Plan

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Party who prepared the Plan

B.

\_\_\_\_\_  
Time for final action by the Planning Board (days)

Filing a certificate of such action with the Town Clerk shall be extended to  
on or before:

\_\_\_\_\_  
Expiration date

Executed by the undersigned applicant, or his representative, this \_\_\_\_ day of \_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Applicant

The within request for extension of time is hereby approved and agreed upon.

BRIDGEWATER PLANNING BOARD

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Commonwealth of Massachusetts  
TOWN OF BRIDGEWATER PLANNING BOARD  
**FORM I APPLICATION OF ABUTTERS LIST**

Pymt: \_\_\_\_\_  
Amt: \_\_\_\_\_  
Date: \_\_\_\_\_

Petitioner: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Date: \_\_\_\_\_

Owner of  
Record: \_\_\_\_\_

**Petitioned**

Location: \_\_\_\_\_

For: \_\_\_\_\_ / \_\_\_\_\_ ft

Assessor's Map: \_\_\_\_\_ Parcel: \_\_\_\_\_

Map: \_\_\_\_\_ Parcel: \_\_\_\_\_

Map: \_\_\_\_\_ Parcel: \_\_\_\_\_

(Board/Commission i.e: Planning, Conservation, Zoning, etc.)

**\*\*Please complete only the top portion of this form.**

Abutter's to Petitioned Site(s) identified by Assessors Map and Parcel numbers are listed

	MAP	PAR	KEY		MAP	PAR	KEY		MAP	PAR	KEY
1	_____	_____	_____	18	_____	_____	_____	35	_____	_____	_____
2	_____	_____	_____	19	_____	_____	_____	36	_____	_____	_____
3	_____	_____	_____	20	_____	_____	_____	37	_____	_____	_____
4	_____	_____	_____	21	_____	_____	_____	38	_____	_____	_____
5	_____	_____	_____	22	_____	_____	_____	39	_____	_____	_____
6	_____	_____	_____	23	_____	_____	_____	40	_____	_____	_____
7	_____	_____	_____	24	_____	_____	_____	41	_____	_____	_____
8	_____	_____	_____	25	_____	_____	_____	42	_____	_____	_____
9	_____	_____	_____	26	_____	_____	_____	43	_____	_____	_____
10	_____	_____	_____	27	_____	_____	_____	44	_____	_____	_____
11	_____	_____	_____	28	_____	_____	_____	45	_____	_____	_____
12	_____	_____	_____	29	_____	_____	_____	46	_____	_____	_____
13	_____	_____	_____	30	_____	_____	_____	47	_____	_____	_____
14	_____	_____	_____	31	_____	_____	_____	48	_____	_____	_____
15	_____	_____	_____	32	_____	_____	_____	49	_____	_____	_____
16	_____	_____	_____	33	_____	_____	_____	50	_____	_____	_____
17	_____	_____	_____	34	_____	_____	_____	51	_____	_____	_____

**PLANNING BOARD  
FORM K  
CONVEYANCE OF EASEMENTS AND UTILITIES**

Subdivision Name: \_\_\_\_\_ Date: \_\_\_\_\_

Owner: \_\_\_\_\_, for good and adequate consideration, grant to the Town of Bridgewater, a municipal corporation in Plymouth County, Massachusetts, the perpetual rights and easements to construct, inspect, repair, renew, replace, operate and forever maintain water and sewer mains and drainage systems with any manholes, pipes, conduits, gas and electric distribution systems, street lights, easements and other appurtenances thereto, and to do all acts incidental thereto, through and under the following described land:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

And, for the consideration of aforesaid, the said grantor does hereby give, grant, transfer and deliver unto the Town of Bridgewater all water and sewer mains and drainage systems, manholes, pipes, conduits, easements, gas and electric distribution systems, street lights, and all appurtenances thereto that are now or hereafter constructed or installed in, through, or under the above described land by the grantor and the grantor's successors and assigns.

The grantor warrants that the aforesaid easements are free and clear of all liens or encumbrances, that it has good title to transfer the same, and that it will defend the same against claims of all persons.

For grantor's title see deed from \_\_\_\_\_  
Dated \_\_\_\_\_, and recorded in Plymouth County Registry of Deeds,  
Book \_\_\_\_\_, Page \_\_\_\_\_, or under Certificate of Title No. \_\_\_\_\_,  
registered in Plymouth County Land court, Book \_\_\_\_\_ Page \_\_\_\_\_.  
(Name & Address) \_\_\_\_\_

Is the present holder of a mortgage on the above described land, which mortgage is dated \_\_\_\_\_, and recorded in said Deeds, Book \_\_\_\_\_ Page \_\_\_\_\_, for consideration paid, hereby releases to the town forever from the operation of said mortgage, the right and easements hereinabove granted and assents thereto.

\_\_\_\_\_  
Authorized Signature of Mortgagor

\_\_\_\_\_  
Signature of Owner

In witness whereof, we have hereunto set our hand(s) this day of \_\_\_\_\_  
Then personally appeared the above-named individuals and acknowledged the foregoing instrument to be their free act and deed, before me.

\_\_\_\_\_  
Notary Public:  
My Commission Expires: \_\_\_\_\_



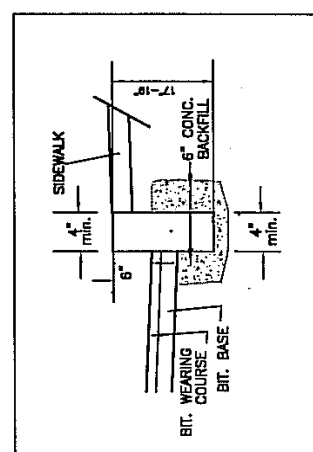
<p>TOWN OF BRIDGEWATER</p>	<p>60' ROADWAY LAYOUT (TYPICAL)</p> <p>NTS</p>	<p>DETAIL NO. 1</p>
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**50' ROADWAY LAYOUT (TYPICAL)**





**NOTE: UNDERGROUND UTILITIES TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES BY THE DEVELOPER.**



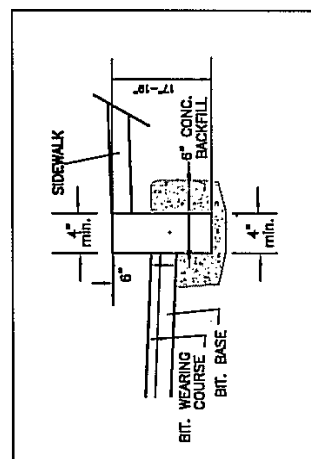
GRANITE CURB DETAIL

TOWN OF BRIDGEWATER	50' ROADWAY LAYOUT ( TYPICAL ) NTS	DETAIL NO. 1A
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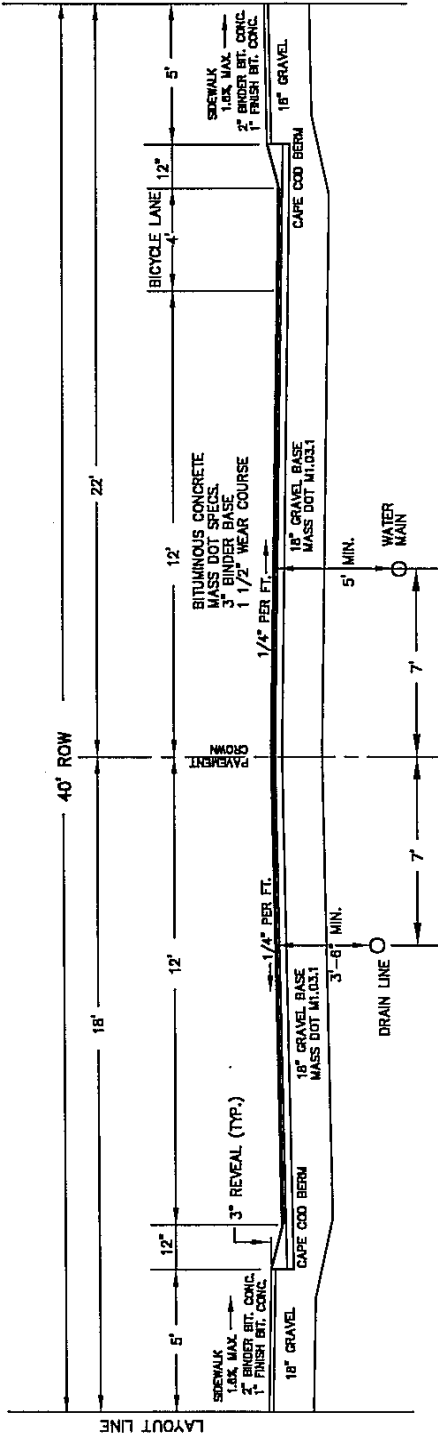
N.T.S.

**NOTE: UNDERGROUND UTILITIES TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES BY THE DEVELOPER.**



GRANITE CURB DETAIL

TOWN OF BRIDGEWATER	50' ROADWAY LAYOUT ( TYPICAL ) NTS	DETAIL NO. 1B
---------------------------	--	------------------



ROAD - 50' LAYOUT - TYPICAL  
(20 TO 49 RESIDENTIAL UNITS)

N.T.S.

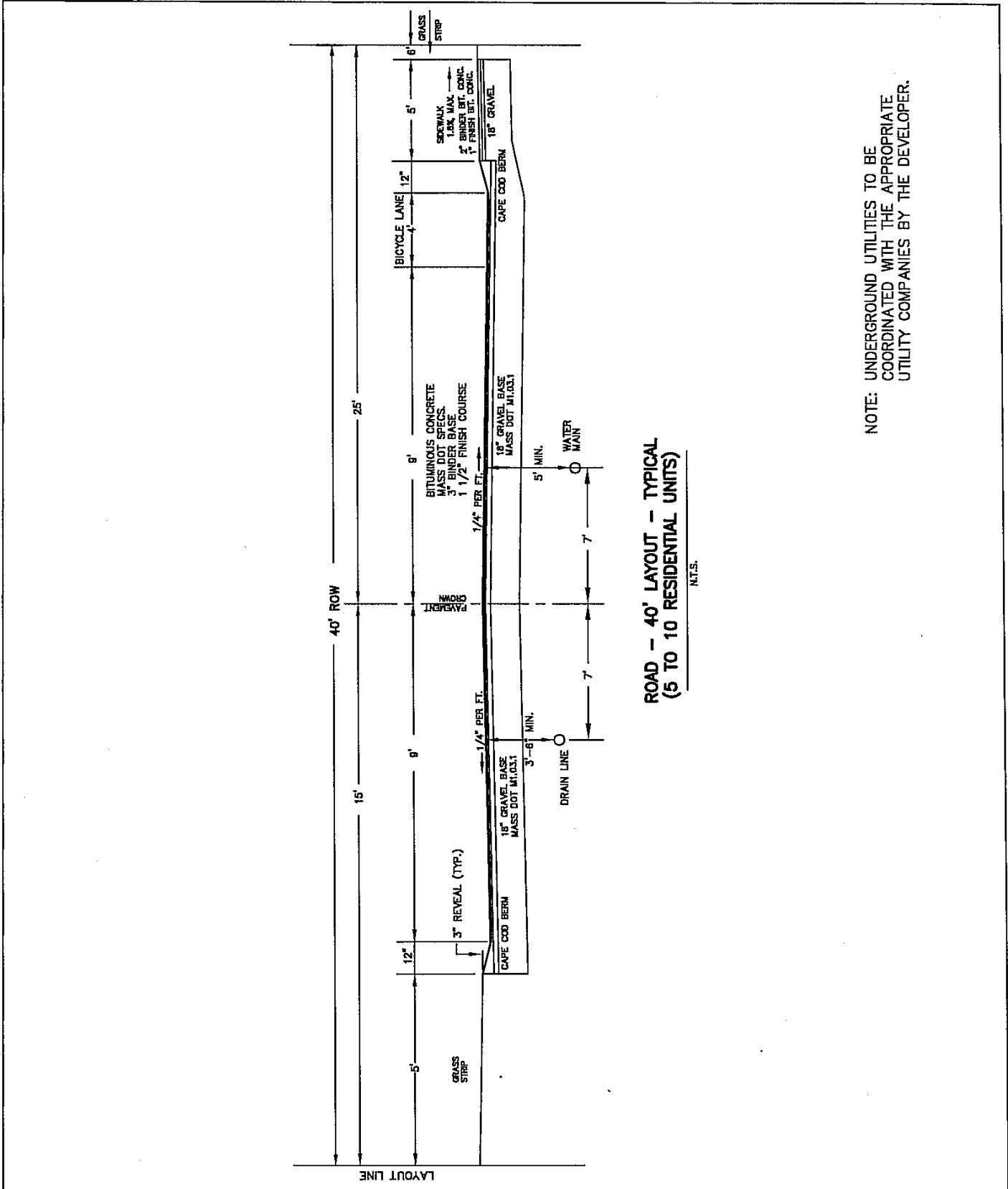
NOTE: UNDERGROUND UTILITIES TO BE  
COORDINATED WITH THE APPROPRIATE  
UTILITY COMPANIES BY THE DEVELOPER.

TOWN OF BRIDGEWATER	50' ROADWAY LAYOUT (TYPICAL) NTS	DETAIL NO. 1C
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NOTE: UNDERGROUND UTILITIES TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES BY THE DEVELOPER.



TOWN OF BRIDGEWATER	40' ROADWAY LAYOUT ( TYPICAL ) NTS	DETAIL NO. 1D
---------------------------	--	------------------

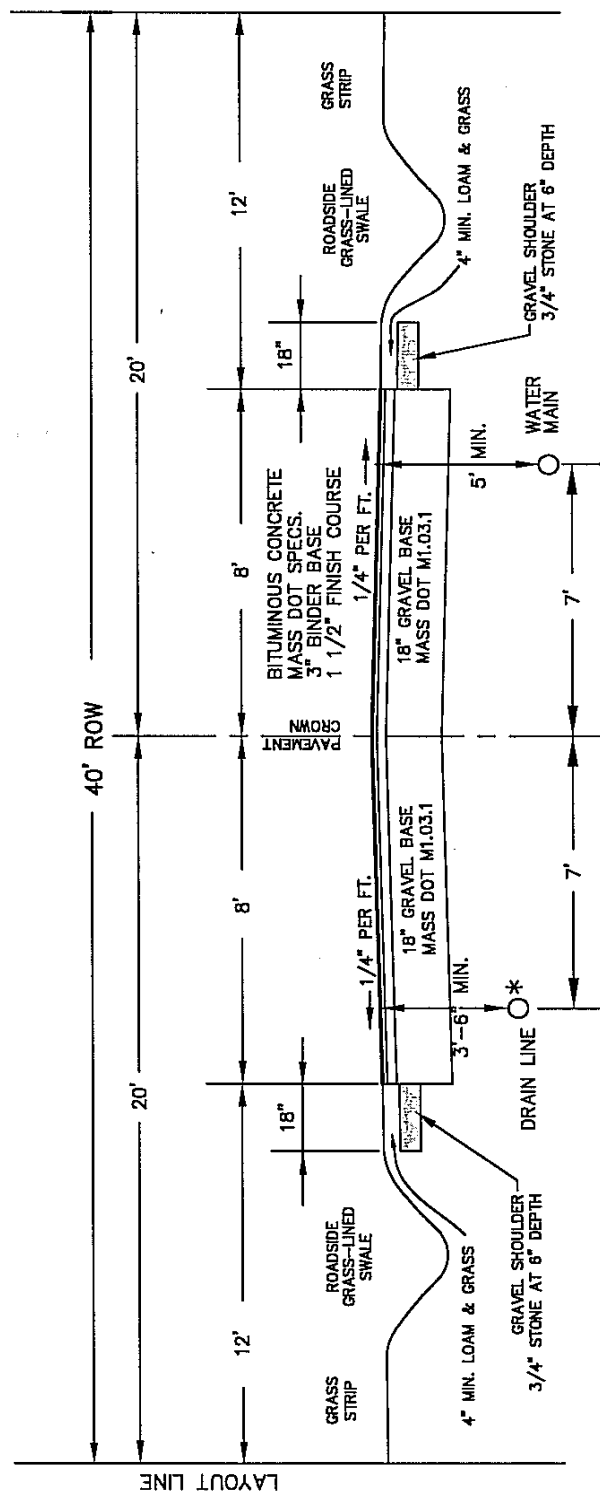


NOTE: UNDERGROUND UTILITIES TO BE  
COORDINATED WITH THE APPROPRIATE  
UTILITY COMPANIES BY THE DEVELOPER.

ROAD - 40' LAYOUT - TYPICAL  
(5 TO 10 RESIDENTIAL UNITS)  
N.T.S.

TOWN OF BRIDGEWATER	40' ROADWAY LAYOUT ( TYPICAL ) NTS	DETAIL NO. 1E
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### ROAD - 40' LAYOUT - TYPICAL (1-4 RESIDENTIAL UNITS)

N.T.S.

NOTE: UNDERGROUND UTILITIES TO BE  
COORDINATED WITH THE APPROPRIATE  
UTILITY COMPANIES BY THE DEVELOPER.

\*APPLICABLE WHEN USED AS PART OF THE STORMWATER MANAGEMENT

TOWN  
OF  
BRIDGEWATER

40' ROADWAY LAYOUT  
( TYPICAL )

NTS

DETAIL NO.

1F

**TYPICAL CATCH BASIN**

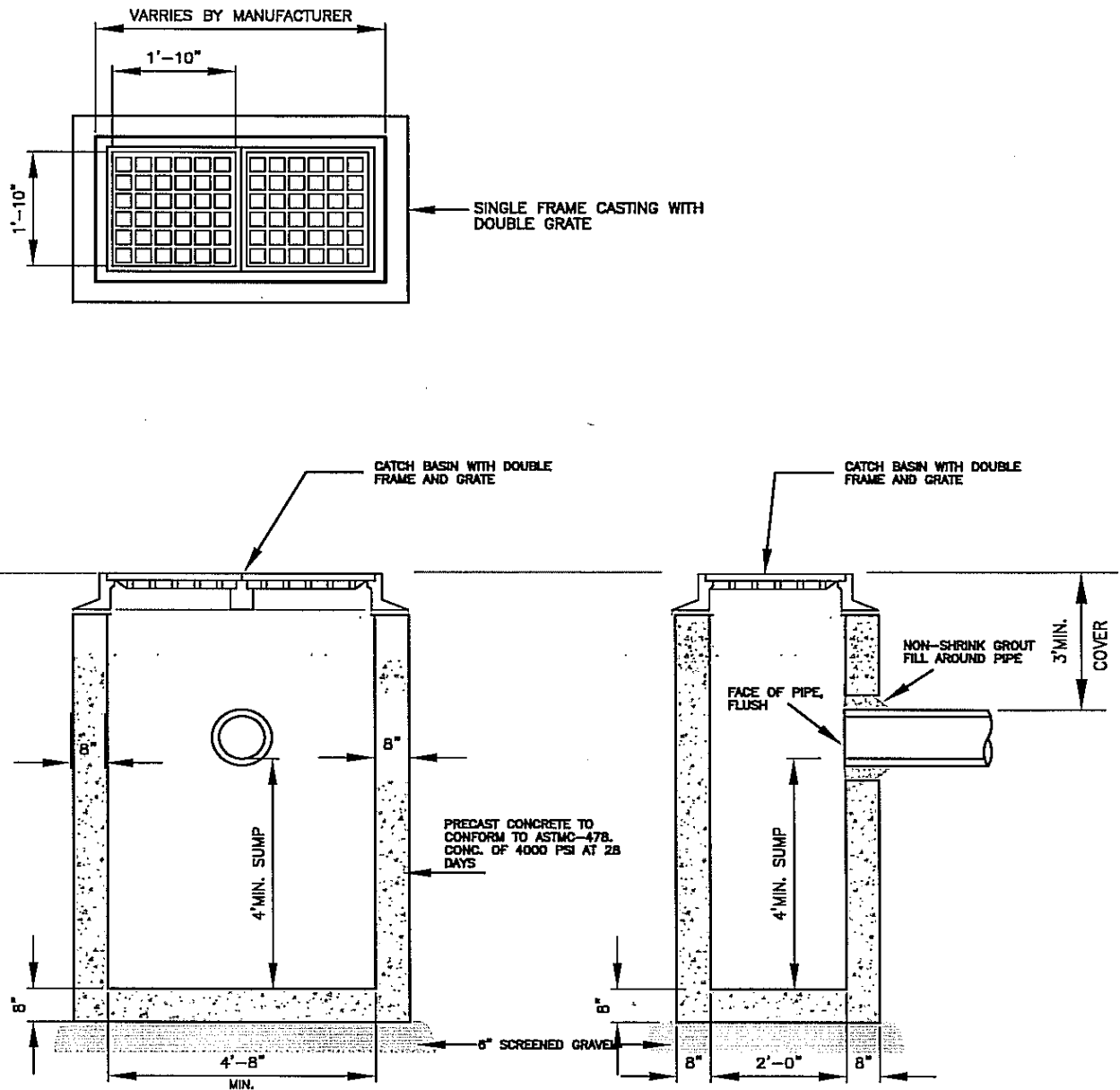




DETAIL NO.  
2

**DOUBLE CATCH BASIN**





TOWN  
OF  
BRIDGEWATER

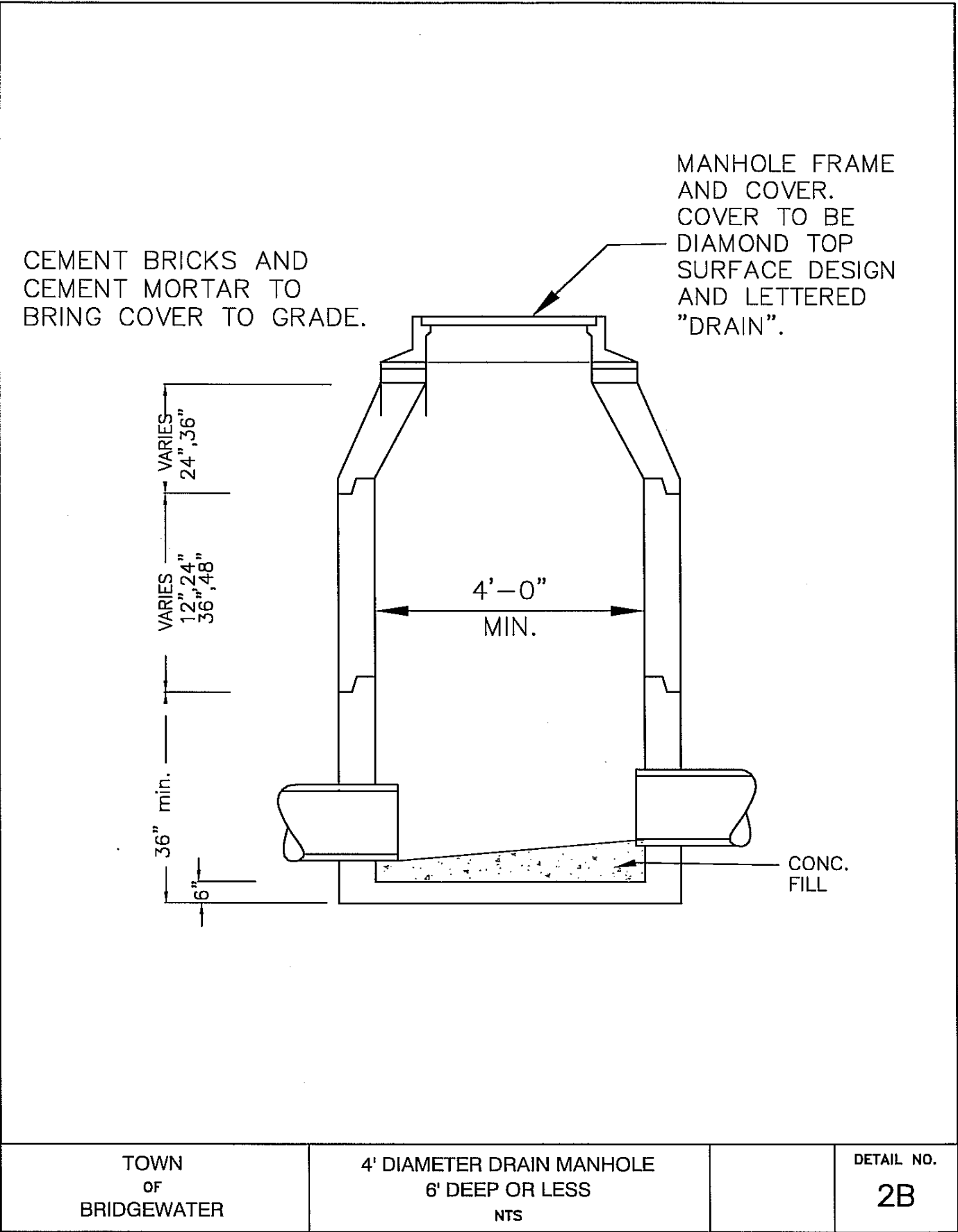
DOUBLE CATCH BASIN  
NTS

DETAIL NO.

2A

**4' DIAMETER CRAIN MANHOLE 6' DEEP OR LESS**

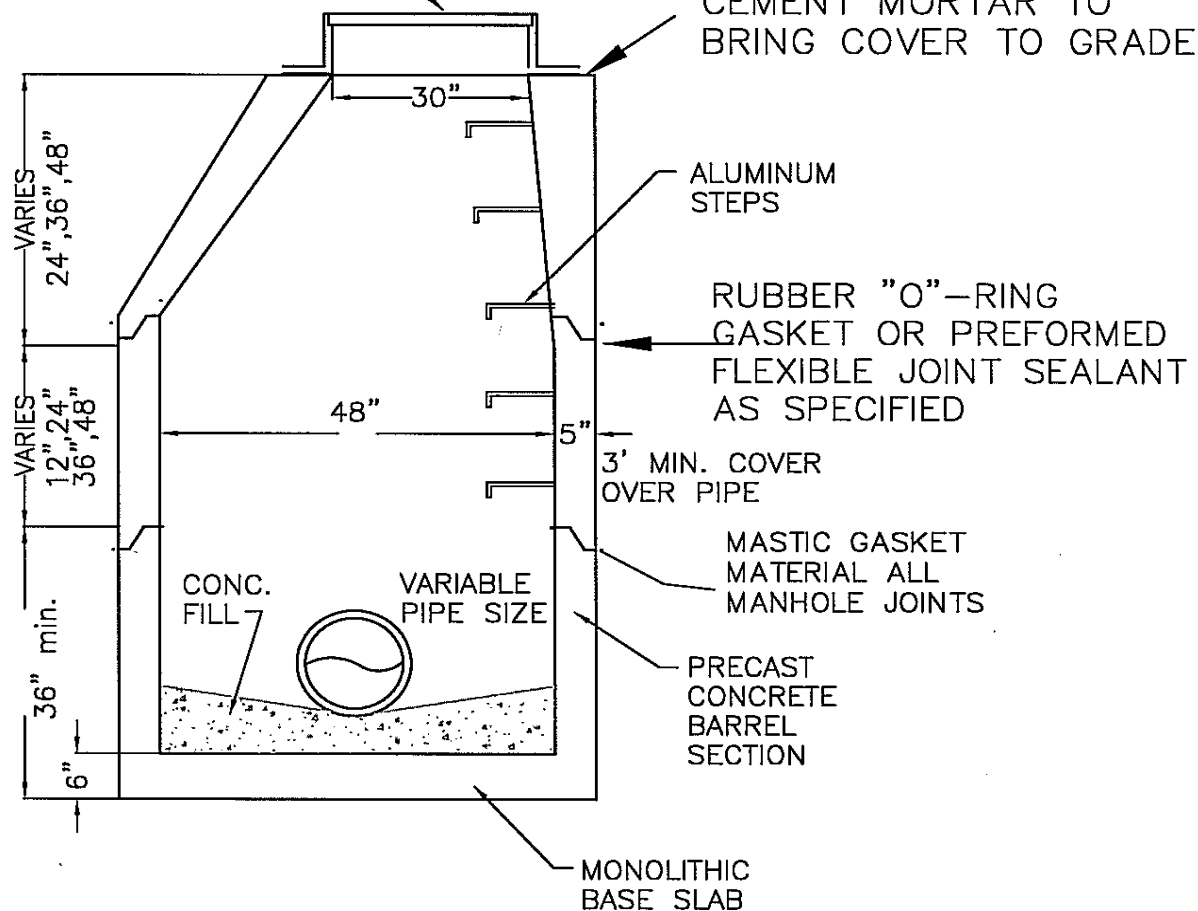






MANHOLE FRAME  
AND COVER.  
COVER TO BE  
DIAMOND TOP  
SURFACE DESIGN  
AND LETTERED  
"DRAIN".

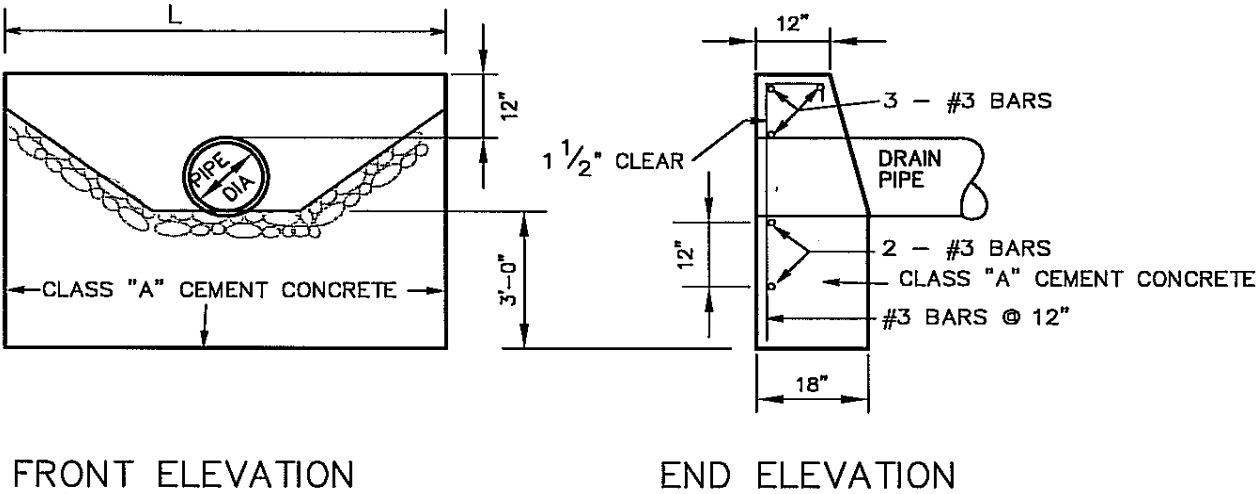
CEMENT BRICKS AND  
CEMENT MORTAR TO  
BRING COVER TO GRADE.



TOWN OF BRIDGEWATER	4' DIAMETER MANHOLE OVER 6' DEEP NTS	DETAIL NO.  2C
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**HEADWALL DETAIL 30" DIA PIPE & SMALLER**



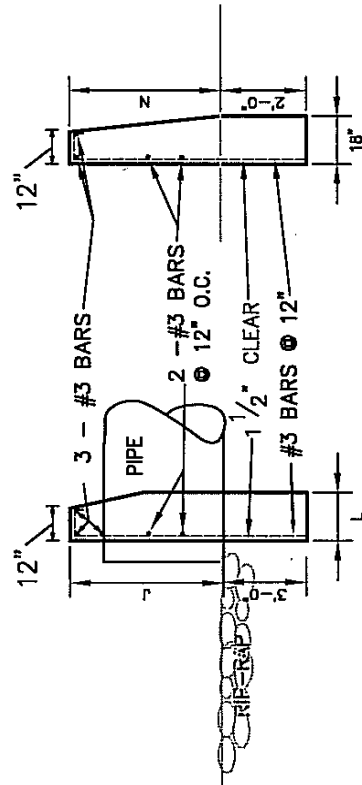
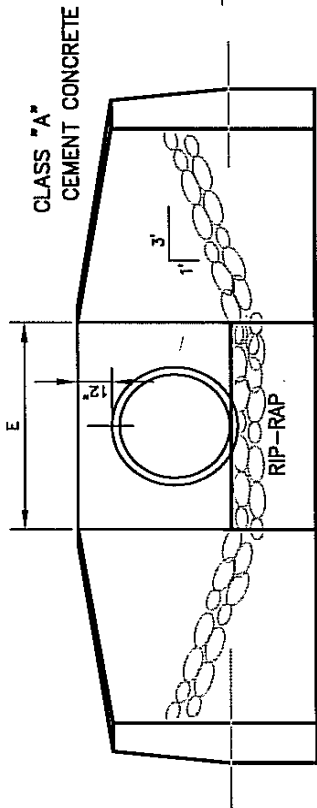
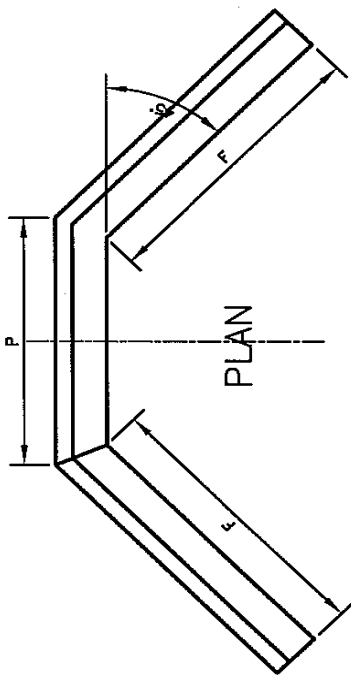


PIPE DIA	L	PIPE DIA	L
8"	4'-2"	18"	7'-6"
12"	5'-6"	24"	9'-3"
15"	6'-6"	30"	10'-6"

TOWN OF BRIDGEWATER	HEADWALL DETAIL 30" DIA PIPE & SMALLER NTS		DETAIL NO. 2D
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**HEADWALL DETAIL 30" DIA PIPE & LARGER**





PIPE DIA	E	P	J	L	F	N
30"	4'-0"	5'-3"	3'-6"	1'-6"	3'-0"	2'-0"
36"	4'-6"	5'-11"	4'-0"	1'-8"	3'-6"	2'-3"
42"	5'-0"	6'-6"	4'-6"	1'-10"	4'-0"	2'-6"
48"	5'-6"	7'-2"	5'-0"	2'-0"	4'-6"	2'-9"
54"	6'-0"	7'-10"	5'-6"	2'-2"	5'-0"	3'-0"
60"	6'-6"	8'-5"	6'-0"	2'-4"	5'-6"	3'-3"
72"	7'-6"	9'-9"	7'-0"	2'-8"	6'-6"	3'-9"
84"	8'-6"	11'-0"	8'-0"	3'-0"	7'-6"	4'-3"

TOWN OF BRIDGEWATER

HEADWALL DETAIL  
30" DIA PIPE & LARGER  
NTS

DETAIL NO.  
2E

**DRAINAGE OUTFALL & POND DETAILS**





NTS



TYPICAL POND x-SECTION

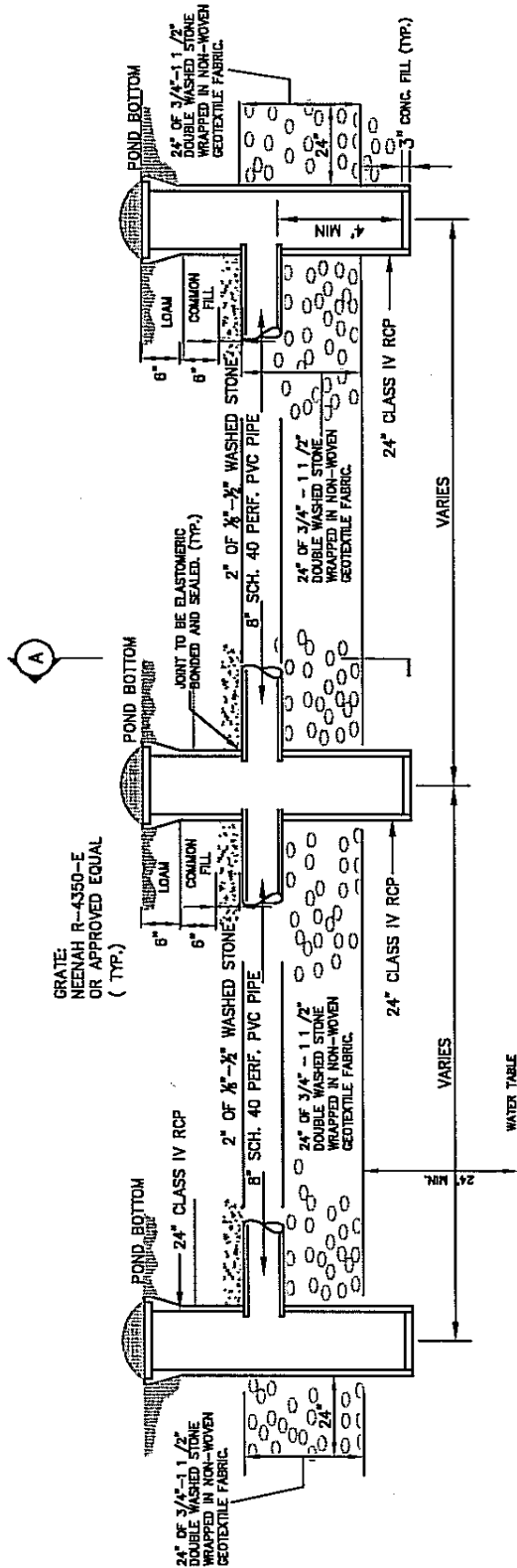
## ENTS

TOWN OF BRIDGEWATER	DRAINAGE OUTFALL AND POND DETAILS NTS	DETAIL NO. 2F
---------------------------	---	------------------

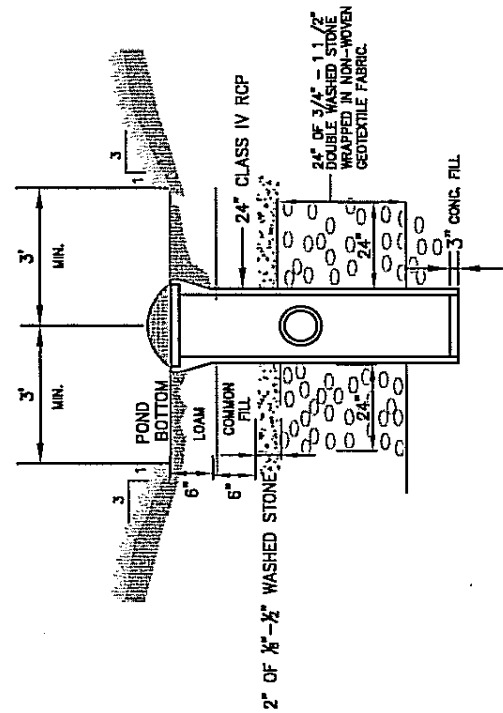
**DRAINAGE DETENTION POND WITH RECHARGE SYSTEM**







NOTE:  
AN ALTERNATE RECHARGE SYSTEM  
DESIGN THAT MEETS THE DESIGN  
REQUIREMENTS OF THIS DETAIL MAY BE  
SUBSTITUTED IN LIEU OF THIS DETAIL OR  
ANY DESIGN APPROVED BY THE APPROVAL  
OF THE TOWN ENGINEER AND THE  
PLANNING BOARD.



FORMERLY DETAIL 10

TOWN  
OF  
BRIDGEWATER

DRAINAGE DETENTION POND  
WITH RECHARGE SYSTEM  
NTS

DETAIL NO.

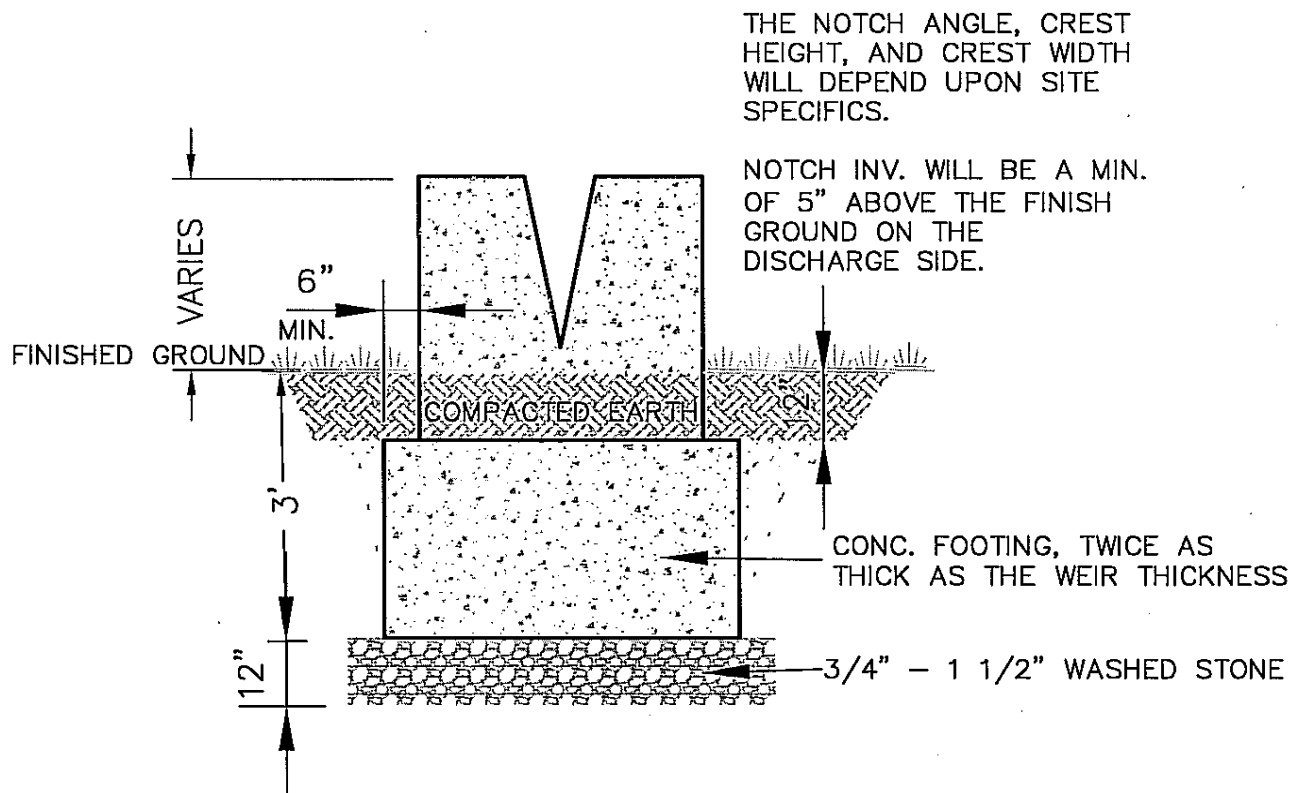
2G

**V-NOTCH WEIR OUTLET DETAIL**



NOTES:

1. CONCRETE : 5,000 P.S.I  
MINIMUM STRENGTH @ 28 DAYS
2. STEEL REINFORCING— ASTM A-615-79,  
GRADE 60.
3. COVER TO STEEL—1" MINIMUM
4. THE WEIR SHALL BE AT LEAST  
8" THICK.



TOWN  
OF  
BRIDGEWATER

V - NOTCH  
WEIR OUTLET DETAIL  
NTS

DETAIL NO.  
2H

**TYPICAL TRENCH DETAILS FOR PIPE**



