

SECTION 9 ENVIRONMENTAL PERFORMANCE STANDARDS

9.1 Air Quality

No development shall be permitted which will cause emissions of dust, ash, smoke or other particulate matter likely to damage human or animal health, vegetation, or property, by reason of concentration or toxicity. Evidence that relevant state and federal regulatory requirements have been met shall be considered sufficient to meet this standard. This shall not be construed to regulate dust or odors generated by agricultural practices conducted using accepted Best Management Practices.

9.2 Water Quality

No activity shall locate, store, discharge, or permit the discharge of any treated, untreated, or inadequately treated liquid, gaseous, or solid materials of such nature, quantity, obnoxiousness toxicity, or temperature that may run off, seep, percolate, or wash into surface or ground waters so as to contaminate, pollute or harm such waters or cause nuisances, such as objectionable shore deposits, floating or submerged debris, oil or scum, color, odor, taste, or unsightliness or be harmful to human, animal, plant or aquatic life.

9.3 Groundwater Protection

9.3.1 General Standard

No activity shall adversely impact either the quality or quantity of groundwater available to abutting properties or to public water supply systems.

9.3.2 Impact Assessment

An assessment of the impact of a development on groundwater quality or quantity shall be required whenever the development is projected to generate demand of more than 2,000 gallons per day from groundwater sources or when a project involves an on-site wastewater disposal system with a capacity of 2,000 gallons per day or greater. The assessment shall demonstrate that the development will comply with the following standards:

9.3.2.1 The development shall not increase any contaminant concentration in the groundwater to more than one-half of the primary Drinking Water Standards, nor to an amount to exceed the Secondary Drinking Water Standards as established by the Maine Department of Human Services at the time of the permit application.

9.3.2.2 If existing groundwater contains contaminants in excess of the primary standards, the applicant shall demonstrate no significant further deterioration. If groundwater contains contaminants in excess of the Secondary standards, the development shall not cause the concentration of the contaminants in question to exceed 150 percent of the pre-existing concentration.

9.3.2.3 Groundwater withdrawals or alteration of surface recharge characteristics by a proposed development shall not lower the water table beyond the boundaries of the development. No

proposed development shall result in a lowering of the water table at the development boundary by increasing runoff or decreasing infiltration.

9.3.3 All facilities shall meet the wetland protection requirements of 38-A M.R.S.A Chapter 13-D, as applicable.

9.4 Water Bodies

9.4.1 The location of all rivers, streams, brooks, ponds, wetlands and drainage ways shall be identified on all permit applications.

9.4.2 All structures and impervious areas shall be set back from all water bodies in conformance with applicable requirements of this Ordinance and state laws and regulations.

9.4.3 Water bodies shall not be developed or disturbed unless the applicant obtains all necessary permits from state and federal agencies. The applicant shall include evidence with the city permit that all necessary state and federal permits have been obtained.

9.5 Solid Waste

9.5.1 All activities shall provide for the disposal of all solid wastes on a timely basis and in an environmentally safe manner.

9.5.2 At the time of application, the applicant shall specify the amount and exact nature of all waste to be generated and indicate how the materials will be disposed. A plan to dispose of all industrial or chemical wastes shall also be submitted indicating how the materials will be stored, handled and disposed to an approved facility in conformance with all applicable state and federal regulations.

9.5.3 All outdoor refuse containers shall be kept in such a manner as to prevent the breeding and harboring of insects, rats, or other vermin. This shall be accomplished by enclosures, raising materials above the ground, separation of material, prevention of standing water, extermination procedures or similar means.

9.6 Potable Water Supply

9.6.1 An adequate supply of potable water shall be supplied to all buildings and structures used for human habitation and whenever required by city or state requirements.

9.6.2 Water may be supplied by the Gardiner Water District, community wells, or individual wells in conformance with all applicable city and state regulations.

9.6.3 Water proposed to be used for structure fire protection/suppression shall be designed by appropriate professionals and shall be reviewed and approved by the City of Gardiner Fire Chief.

9.6.4 All proposed subdivisions and developments which require site review and any development which contains a structure which exceeds 3,000 square feet in area shall provide written evidence from the Gardiner Water District, or if private wells are proposed, a hydrologist or well driller familiar with the area, that an adequate supply of water is available to serve the potable and fire suppression demands of the proposed development.

9.7 Public and Private Sewer Provisions

9.7.1 General

The installation of all water supply systems and subsurface wastewater disposal systems shall conform to the Maine State Plumbing Code and comply with all the provisions of the City of Gardiner's Sewer and Water Ordinances. All plumbing shall be connected to public collection and treatment facilities when such facilities are available.

9.7.2 Public Sewer

9.7.2.1 All sanitary sewage from new or expanded uses shall be discharged into a public sewage collection and treatment system when such facilities are currently available or can reasonably be made available at the lot line and have adequate capacity to handle projected waste generation.

9.7.2.2 If the public collection system is not at the lot line, but can be extended in the public right-of-way, the collection system shall be extended by the owner and the new or expanded use connected to the public system.

9.7.2.2.1 A sewer extension shall be required if the public system is within 100 feet of the property boundary of a new use with a design flow of less than 500 gallons per day.

9.7.2.2.2 A sewer extension shall be required if the public system is within 300 feet of the property boundary of a new use with a design flow of 500 gallons or more per day.

9.7.2.2.3 A sewer extension shall not be required if the property is already served by a properly functioning subsurface waste water system that is properly sized for the new projected design flow. The sewer extension shall be made to the public system when the existing subsurface waste water system needs replacement or expansion.

9.7.2.3 A proposed subdivision shall connect to the public sewer system at the expense of the applicant when the public sanitary sewer line is located within 1,000 feet of the proposed subdivision at its nearest point. The sewer district shall certify that providing service to the proposed subdivision is within the capacity of the system's collection and treatment system. The sewer district and the public works director shall review and approve the construction drawings for the system.

9.7.2.4 Industrial or commercial wastewater may be discharged to public sewers in such quantities and/or of such quality as to be compatible with sewage treatment operations. Such wastes may require pretreatment at the industrial or commercial site to render them amenable to

public treatment processes. The Sewer District shall specify the type of pretreatment required which shall be done at the expense of the applicant.

9.7.2.5 If the public system cannot serve or be extended to serve a new or expanded use, the sewage shall be disposed of by a subsurface wastewater disposal system meeting the requirements of the Maine Subsurface Wastewater Disposal Rules.

9.7.3 Subsurface Wastewater Disposal

9.7.3.1 Whenever a subsurface wastewater system is proposed, the applicant shall submit a disposal permit application (form HHE-200 and any other applicable data) for any new lot or expansion of an existing system in order to obtain a permit.

9.7.3.2 An application for a subdivision which requires subsurface wastewater disposal shall include evidence that each proposed lot has suitable soils to support the proposed development. A test pit location shall be shown for each lot and marked on the subdivision plan. Soil data for each test pit location shall include all the pertinent information contained on page one of the HHE-200 subsurface wastewater application form.

9.7.3.3 Central subsurface wastewater collection systems may be used in conformance with the Maine Subsurface Wastewater Disposal Rules and the following:

9.7.3.3.1 Provisions for the ownership, maintenance, future replacement and liability of the central collection system shall be developed.

9.7.3.3.2 An ownership association shall be required whenever different owners use a common disposal system. Deed covenants for each lot or owner shall require mandatory membership in the association.

9.7.3.3.3 A subdivision with a central collection system shall meet the lot size requirement for a sewered lot when open space equal to the difference in area between the sewered lot and an unsewered lot is dedicated as open space and prohibited from development. This open space shall be indicated on the final plan, along with the restrictions prohibiting development.

9.8 Phosphorus Control

9.8.1 These standards shall apply to all developments that contain structures with a footprint in excess of 3,000 square feet, more than 10,000 square feet of impervious area, campgrounds, subdivisions and developments that are wholly or in part located within the direct watershed of a Great Pond.

9.8.2 A phosphorus control plan shall be developed in accordance with the design criteria contained in "Phosphorus Control in Lake Watersheds: A Technical Guide To Evaluating New Development" published by the Maine Department of Environmental Protection, revised January, 2008.

9.9 Erosion Control

9.9.1 Purpose

Erosion control measures are necessary to ensure that soil and sediment do not flow into waterbodies, city drainage structures, road drainage ditches and structures, and neighboring properties.

9.9.2 Applicability

All activities which involve filling, grading, excavation, soil disturbance and other similar activities which result in unstable soil conditions shall conform to the requirements of this subsection. Any of the above listed activities which also require a permit according to this Ordinance shall include with the permit review application a written soil erosion control plan.

9.9.3 Plan

The erosion control plan shall address the following:

9.9.3.1 Mulching and revegetation of disturbed soil.

9.9.3.2 Temporary runoff control features.

9.9.3.3 Permanent stabilization structures.

9.9.4 Maintenance

The applicant, property owner or agent shall be responsible for maintaining all erosion control features until the site is permanently stabilized. Any soil or sediment that flows into a water body, city drainage structure, road drainage ditches and structures or on neighboring property shall be removed by the applicant, property owner or agent.

9.9.5 Standards

All erosion control measures shall conform to the “Maine Erosion and Sediment Control BMPS”, published by the Maine Department of Environmental Protection, March 2003.

9.9.6 Additional Standards

9.9.6.1 In order to create the least potential for erosion, development shall be designed to fit with the topography and soils of the site. Areas of steep slope where high cuts and fills may be required shall be avoided whenever possible, and natural contours shall be followed as closely as possible.

9.9.6.2 Erosion and sedimentation control measures shall apply to all aspects of the proposed project involving land disturbance, and shall be in operation during all stages of the activity. The amount of exposed soil at every phase of construction shall be minimized to reduce the potential for erosion.

9.9.6.3 Any exposed ground area shall be temporarily or permanently stabilized within one week from the time it was last actively worked, by use of riprap, sod, seed and mulch, or other

effective measures. In all cases, permanent stabilization shall occur within 9 months of the initial date of exposure. In addition, the following are required:

9.9.6.3.1 Where mulch is used, it shall be applied at a rate of at least one bale per 500 square feet and shall be maintained until a catch of vegetation is established.

9.9.6.3.2 Anchoring the mulch with netting, peg and twine or other suitable method may be required to maintain the mulch cover.

9.9.6.3.3 Additional measures shall be taken where necessary to avoid siltation.

9.9.6.4 Natural and man-made drainage ways and drainage outlets shall be protected from erosion. Drainage ways shall be designed and constructed to carry water from a 25-year storm or greater, and shall be stabilized with vegetation or lined with riprap.

9.10 Storm Water Management Design Standards

9.10.1 General

All new construction and development shall be designed to minimize storm water runoff from the site in excess of natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces and wooded areas, shall be retained in order to reduce runoff and encourage infiltration of storm waters. When the storm water is directed off-site, adequate provision shall be made for disposal of all storm water and any drained ground water through a management system of swales, culverts, under-drains and storm drains.

9.10.2 Additional Standards

The additional standards shall apply to all developments that exceed 3,000 square feet of structure footprint, contain more than 10,000 square feet of impervious area or are a subdivision.

9.10.2.1 A storm water control plan shall be designed by a professional engineer. All storm water features shall be designed in conformance with Stormwater Management for Maine: Best Management Practices” Manual, Volumes 1 and 3, published by the Maine Department of Environmental Protection, January, 2006. A storm water control plan that is developed according to the requirements of the Department of Environmental Protection Regulations, Chapter 500, Stormwater Management and Chapter 502 Direct Watersheds of Waterbodies Most at Risk from New Development, shall be deemed to be a suitable equivalent to these standards with the approval of the Code Enforcement Officer.

9.10.2.2 All components of the storm water management system shall be designed to limit peak discharge to predevelopment levels for every storm between the 2-year and 25-year, 24-hour duration frequencies based on rainfall data for Augusta, Maine.

9.10.2.3 The storm water system shall be designed to accommodate upstream drainage, taking into account existing conditions and approved or planned developments not yet built and shall include a surplus design capacity factor of 25% for potential increases in upstream runoff.

9.10.2.4 Downstream drainage requirements shall be studied to determine the effect of the proposed development. The storm drainage shall not overload existing or future planned storm drainage systems downstream from the development. The applicant shall be responsible for financing any improvements to existing drainage system required to handle the increased storm flows.

9.10.2.5 The developer shall not increase or obstruct the flow of drainage into any ditch or drainage structure existing on any road or other location within the jurisdiction of the city by the construction of any development including a driveway, entrance, or road. Any storm water drainage directed into the city storm water drainage system shall be reviewed and approved by the Public Works Director.

9.10.2.6 The minimum pipe size for any storm drainage pipe shall be 15". Maximum trench width at the pipe crown shall be the outside diameter of the pipe plus two feet. The pipe shall be bedded in a fine granular material, containing no stones larger than 3 inches, lumps of clay or organic matter, reaching a minimum of six inches below the bottom of the pipe and extending to six inches above the top of the pipe. The minimum culvert pipe length shall be 20 feet.

9.10.2.7 Catch basins shall be installed where necessary and located at the curb line.

9.10.2.8 Complete underground storm drain systems shall be installed on all curbed urban road sections.

9.10.2.9 Where bridge structures or reinforced concrete box culverts are required to cross major streams, detailed design plans and drainage study shall be developed and submitted to the Maine Department of Transportation for review and approval. All bridge and reinforced concrete box culverts shall be designed to accommodate at least the anticipated 50-year flood level.

9.10.2.10 Outlets shall be stabilized against soil erosion by riprap or other suitable materials to reduce storm water velocity. Whenever the storm drainage system is not within the right-of-way of a public street, perpetual easements shall be provided to the city allowing maintenance and improvement of the system.

9.10.2.11 Where soils require a subsurface drainage system, the drains shall be installed and maintained separately from the storm water drainage system.

9.10.3 Storm Drainage Construction Standards

9.10.3.1 Reinforced Concrete Pipe

Reinforced concrete pipe shall meet the requirements of ASTM Designation C-76 (AASHTO 170). Pipe classes shall be required to meet the soil and traffic loads with a Safety factor of 1.2 on the .01 inch crack strength with a Class B bedding. Joints shall be of the rubber gasket type meeting ASTM Designation C443-70, or of an approved preformed plastic jointing material such as "Ramnek" Perforated concrete pipe, and shall conform to the requirements of AASHTO 175 for the appropriate diameters.

9.10.3.2 Corrugated Metal Pipe.

Corrugated metal pipe shall meet the requirements of AASHTO Designation M 196 for aluminum alloy pipe for sectional dimensions. Pipe gauge shall be as required to meet the soil and traffic loads with a deflection of not more than 5%.

9.10.3.3 ABS Pipe

ABS (Acrylonitrile-butadiene-styrene) composite pipe and fittings shall conform to the requirements of AASHTO M 264 and AASHTO M 265. Perforated pipe shall conform to the requirements of AASHTO M 36, Type III.

9.10.3.4 Corrugated Plastic Pipe

Corrugated plastic pipe shall conform to the requirements of AASHTO M 252.

9.10.3.5 Manholes

Manholes shall be of precast concrete truncated-cone-section construction meeting the requirements of ASTM Designation C 478 or precast concrete manhole block construction meeting the requirements of ASTM Designation C 139, radial type. Bases may be cast in place, of 3,000 psi 28-day strength concrete or may be of precast concrete, placed on a compacted foundation of uniform density. Manholes shall have a minimum diameter of 30 inches.

9.10.3.6 Catch Basins

Catch basins shall be of precast concrete truncated cone section construction meeting the requirements of ASTM Designation C 478 or precast concrete manhole block construction meeting the requirements of ASTM Designation C 139, radial type. Castings shall be square cast iron, sized for the particular inlet condition with the gratings perpendicular to the curb line. Bases may be cast in place of 3,000 psi 28-day strength concrete or may be of precast concrete, placed on a compacted foundation of uniform density.

9.10.3.7 Metal Frames and Traps

Metal frames shall conform to the requirements of AASHTO M 103 for carbon steel castings, AASHTO M 105, Class 30 for gray iron castings or AASHTO M 10983 (ASTM A 283, Grade B or better) for structural steel.

9.10.3.8 Drain inlet alignment shall be straight in both horizontal and vertical alignment unless specific approval of a curvilinear drain is obtained in writing from the Municipal Engineer or designee.

9.10.3.9 Manholes shall be provided at all changes in vertical or horizontal alignment and at all junctions. On straight runs, manholes shall be placed at a maximum of 300-foot intervals.

9.10.3.10 Upon completion, each catch basin or manhole shall be cleaned of all accumulation of silt, debris or foreign matter and shall be kept clean until final acceptance.

9.11 Historic, Archeological, Wildlife Habitat, Scenic Areas, and Rare and Natural Areas

9.11.1 All proposed new development shall show the locations of any historic and archeological sites, wildlife habitat, scenic areas and rare and natural areas. If any of these areas are on the site, a protection plan shall be developed according to the following.

9.11.2 The applicant shall review the archeological predictive maps, and historic areas identified by the Maine State Historic Preservation Commission and the City of Gardiner, to determine the status of the development site. The applicant shall develop appropriate measures for the protection of these resources according to local, state and federal regulations, if any portion of the site is designated as a significant archeological or historic site by the Maine Historic Commission or the Comprehensive Plan, or listed on the National Register of Historic Places.

9.11.3 The Natural Areas Program data and scenic areas identified by the City of Gardiner shall be reviewed to determine the status of the site. The applicant shall develop appropriate measures for the preservation of the values which qualify the site for such designation, if any portion of the site is within an area designated as a scenic area or a unique natural area by the Maine Natural Areas program or the City of Gardiner.

9.11.4 The applicant shall review the wildlife data as identified by the Beginning with Habitat Maps for the City of Gardiner to check the status of the site and develop measures to protect these areas from environmental damage and habitat loss if any portion of the site is within a wildlife habitat area. The Code Enforcement Officer or the Planning Board may require the applicant to consult with the Maine Department of Inland Fisheries and Wildlife or a qualified wildlife biologist to further evaluate the site or to develop a habitat protection plan for the site.

9.11.4.1 Wildlife habitat areas shall include the following:

9.11.4.1.1 Habitat of endangered species appearing on the official state or federal list of endangered or threatened species.

9.11.4.1.2 High or moderate-value waterfowl and wading bird habitats as defined by the Maine Department of Inland Fisheries and Wildlife.

9.11.4.1.3 Deer wintering areas as identified by the Maine Department of Inland Fisheries and Wildlife.

9.12 Earth Moving Activity

9.12.1 These requirements shall apply to any activity involving the excavating, dredging, filling, grading or lagooning of earth which is not connected with another construction or land use activity.

9.12.2 All activities shall conform to the erosion control, phosphorus control and storm water management standards contained in this Ordinance.

9.12.3 All fill material shall be graded in a timely manner and shall not be allowed to accumulate in piles or mounds.

9.12.4 The smallest amount of bare ground shall be exposed for the shortest time feasible. Stumps, slash, boulders and other material, except for soil, shall not be visible from any public road.

9.12.5 All exposed ground shall have a temporary or permanent vegetative cover or mulch cover installed by November 1st.

9.12.6 The applicant shall specify the amount and type of fill to be used.

9.12.7 The applicant shall be responsible for cleaning and repairing and /or resurfacing any public road used in the activity and which is damaged.

9.12.8 The hours of operation shall be limited to 7:00 a.m. to 6:00 p.m. and are subject to the noise standards contained in this Ordinance.

9.12.9 For activities adjacent to residential properties which involve more than 500 cubic yards and which are expected to occur over a period to exceed 6 months, the applicant shall install a buffer of at least 10 feet along property lines. A temporary or permanent screen may be required by the Planning Board.