Revisions to Chapter 344, Article III
Wetlands Protection Regulations
Adopted on April 28, 2015

CHAPTER 344. CONSERVATION COMMISSION

[HISTORY: Adopted by the Conservation Commission of the Town of Groton as indicated in article histories. Amendments noted where applicable.]

GENERAL REFERENCES

Wetlands — See Ch. 215.

Subdivision rules and regulations — See Ch. 381, Part 1.

Site plan review regulations — See Ch. 381, Part 5.

Stormwater Management – See Ch. 198.

ARTICLE III. Wetlands Protection Regulations

[Adopted 5-27-2005; amended in its entirety 3-28-2006]

[Amended 4-28-2015]

§ 344-12. Purpose and intent.

The purpose of these regulations is to aid in the consistent and effective implementation of the Groton Wetlands Protection Bylaw. Editor's Note: See Ch. 215, Wetlands, by way of further definition; explanation and specification; and illustration and example of the bylaw's provisions. These regulations are intended to clarify but not expand, extend, modify, or replace any provision of the Groton Wetlands Protection Bylaw.

§ 344-13. Jurisdiction.

(Reserved)

§ 344-14. Exceptions.

A. Exceptions for existing structures; definition and application of the term "existing."

(1) In those instances where a state or federal filing is required for projects associated with existing residential structures, the full application and permit required by the bylaw does apply.

B. Farm and fire ponds. Historically farm and fire ponds have served as vernal pools across the New England landscape. Accordingly, stocking of farm and fire ponds with fish shall not be permitted except in those cases where the Commission has deemed it appropriate.

C. Stormwater management structures. Stormwater management structures, such as retention or detention basins or ponds, swales, or infiltration ponds, shall be exempt from regulation with the following exceptions:

(1) Such structures are within a buffer zone.

(2) Hydrologically connected to a wetland, stream, or river.

(3) More than 10,000 square feet in size and designed as a stormwater management structure.

§ 344-15. Application.

Unless requested otherwise by the Commission, the wetland permit application shall be made on the notice of intent (NOI), or request for determination of applicability (RDA) form issued under the Wetlands Protection Act, MGL C. 131, § 40, and regulations, 310 CMR 10.00. In addition, the applicant shall complete and file with the application a Town of Groton Form of Intent (FOI). The application shall be accompanied by a legal notice fee, appropriate documentation, and the appropriate fee (See § 344-15F) in order to be processed by the Conservation Commission. The application shall include, as appropriate, documentation such as, but not limited to: plans, maps, tables, charts, wetlands and/or wildlife reports, drainage calculations and reports, and information on stormwater mitigation. If a replication area is proposed, the applicant is required to submit the items listed in the "Wetland Replication Requirement List" (Appendix A) with the NOI. Editor's Note: Appendix A is included at the end of this chapter. The Commission may require multiple (nine) copies of the full submittal package, and the applicant must ascertain the appropriate number with the Conservation Commission and/or its agent prior to filing.

A. Time frames for submission of documentation. The applicant must submit all supporting documentation to the Conservation Commission no later than 10 business days prior to the scheduled public hearing or its continuation. This is the minimum time needed to allow the Commission and staff to properly review, analyze, and check the information provided. Documentation submitted with fewer than the minimum 10 business days for review may be excluded from consideration at the scheduled hearing and held for discussion at a subsequently scheduled hearing.

B. Wetland resource designations on plans.

(1) All plans submitted to the Conservation Commission for an order of conditions or wetlands permit under § 215-4 of the bylaw must show all wetland resources on the property and within 100 feet of the property lines (200 feet in the case of perennial streams), regardless of whether or not the proposed work is expected to occur within the jurisdictional areas associated with the resource.

(a) Plans shall conform to the following requirements (see Appendix B for checklist Editor's Note: Appendix B is included at the end of this chapter.):

[1] Sheet size: maximum 30 inches by 42 inches.

[2] Scale: as needed to show all necessary details, but at a ratio no greater than 1:480 (e.g., one inch equals 40 feet).

[3] Title block: located at lower right hand corner with:

[a] Name of owner of record, applicant, PLS/RPE (if involved).

[b] Lot number, street number, street, Tax Assessor's Map, Block and Parcel/Lot numbers.

[c] Original date.

[d] Revision area for dates and nature of revisions.

[e] Scale.

[4] North arrow.

[5] Locus map.

[6] Nearest utility pole number, if applicable.

[7] Reference benchmark (vertical datum used).

[8] Legend depicting all natural resources and significant site features.

[9] All resource areas.

[10] Wetland boundaries indicated by numbered points corresponding to flags placed in the field, with elevation of flags.

[11] Buffer zone boundary lines:

(a) Fifty feet and 100 feet to bordering vegetated wetlands.

(b) Fifty feet and 100 feet to vernal pools.

(c) Fifty feet and 100 feet to isolated wetlands.

(d) Fifty feet and 100 feet to ponds and lakes.

(e) Fifty feet and 100 feet to banks.

(f) Fifty feet and 100 feet to intermittent creeks and streams.

[12] Resource areas, per § 215-2, within 100 feet of proposed work, or in the case of a perennial river or a river, stream, or creek with designated riverfront area, within 200 feet, regardless of property boundaries.

(a) Calculated area of disturbance within the 200 foot riverfront.

[13] Existing improvements, e.g., buildings, stone walls, trails.

[14] All existing topography and proposed contours at a contour interval no greater than two feet.

[15] Cross-sections.

[16] All proposed or completed alterations.

[17] Location of well and septic system with reserve area.

[18] Erosion/Sedimentation control measures.

[19] Replication areas.

[20] All discharge points and culverts, including those in the public way.

[21] Property boundaries, rights-of-way, easements, restrictions.

[22] Conservancy district, if applicable (show as cross-hatched area, including all adjacent bordering vegetated wetlands).

[23] Applicable "no disturb" zone.

[24] Pre- and post-development overstory tree canopy line within buffer zone [See the definition of "alter" in § 215-9B, Subsection (8)].

[25] Record the person(s) and firm that delineated the resource areas.

[26] Placement of aboveground and underground utilities.

[27] Stamp and signature of a registered professional land surveyor or a registered professional engineer. In circumstances where the Commission determines that no survey is required, the stamp and signature of a registered sanitarian may be acceptable.

[28] Limit of disturbance.

(2) In those instances where the project is part of a subdivision, a plan must be submitted to the Conservation Commission showing all wetland resources located within the subdivision boundaries and within 100 feet of those boundaries (200 feet in the case of perennial streams).

(3) Failure to provide this information, or providing erroneous or false information, shall be grounds for denying, suspending, or revoking the permit as outlined in § 215-5 of the bylaw.

C. Documentation for violations. All filings associated with a notice of violation shall include an accurate plan that clearly and explicitly shows all jurisdictional resource areas on the property and the area(s) of disturbance, including an explicit tabulation of the size of the disturbance. The Conservation Commission may require a surveyed/engineering plan.

D. Request for determinations of applicability (RDA). A request for determination of applicability (RDA) must include all potential wetland and adjacent upland resource areas under

E. Coordination with other boards. As appropriate, the Commission may require the applicant to provide additional copies of the application and plans for other boards (Board of Selectman, Board of Health, Planning Board, Department of Public Works, Groton Water Department and West Groton Water Supply District, Earth Removal Stormwater Advisory Committee), said boards shall have ten (10) days from the date of filing to provide written recommendations and comments. Failure of any other board to comment shall indicate no concerns.

F. Application fees.

(1) Permit fees.

(a) Permit fees are payable at the time of application and are nonrefundable.

(b) Permit fees shall be calculated by the Conservation Commission according to the schedule below.

(c) Failure to comply with an enforcement order shall result in a fee of 1.5 times the customary fee for the notice of intent.

(d) Permit fees are in addition to those required by the Wetlands Protection Act, MGL C. 131, § 40, and regulations, 310 CMR 10.00.

(e) Town, county, state, and federal projects are exempt from the filing fee.

(f) The fee for an application for a modification of a permit will be the excess of the fee for the modified project as calculated below over the fee paid for the original permit. There is a minimum fee of $25 for modifications, which may, in the case of minor projects, be waived at the discretion of the Commission.

(g) Agricultural projects are exempt from filing fees.

(h) Fee schedule.

Schedule of Permit Fees

(a)	Single minor project - e.g., house addition, tennis court, swimming pool, or other accessory residential activity	$25 per project
(b)	Permit Extensions	
	Residential structure or minor project	no charge
	Commercial, Subdivision	$250
(c)	New residential structure	$125
(d)	Subdivision - road and utilities only	$500
(e)	Drainage, detention/retention basins	$500
(f)	Multiple-dwelling structure	$500
(g)	Commercial, industrial and institutional projects	
	Major (new construction or addition of more than	$500

Schedule of Permit Fees

	1,000 square feet of floor area)	
(h)	Wetland crossings	$75 driveway $500 roadway
(i)	Application filed after enforcement order	1.5 x the above fees
(j)	Request for determination of applicability	No charge
(k)	Remediation of a contaminated site or enhancement of a degraded resource (excluding violations)	No charge

(2) Single minor projects.

(a) For the purposes of fee determination, work to remove debris and hazardous materials from wetlands, and wetland restoration projects, and similar projects for improving the natural capacity of a wetland resource to protect or enhance wetland values shall be considered a single minor project.

(b) The Conservation Commission may require the services of outside consultants for the review of work in or near wetland resource areas due to the size, scale, or complexity of a proposed project, because of a project's potential impacts, or because the Town lacks the necessary expertise to perform the review work. As provided by MGL C. 44, § 53G, the Town of Groton Conservation Commission may impose reasonable fees for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services deemed necessary by the Commission to adequately review an application submitted to the Conservation Commission pursuant to the requirements of the Wetlands Protection Act (MGL C. 131, § 40), the Town of Groton non-zoning wetlands bylaw (Chapter 215 of the Code of the Town of Groton), the Conservation Commission Act (MGL C. 40, § 8C), or any other state or municipal statute, bylaw, ordinance, or regulation, as they may be amended or enacted from time to time. Editor's Note: See Art. I of this chapter, Outside Consultants.

(c) Funds received by the Conservation Commission pursuant to these rules shall be deposited with the Groton Town Treasurer, who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation

Commission without further appropriation as provided in MGL C. 44, § 53G. Expenditures from this account shall be made only in connection with the review of a specific project or projects for which a consultant fee has been collected from the applicant. The Commission shall return any unused portion of the consultant fee to the applicant, including any accrued interest, at the conclusion of the project.

(d) Specific consultant services may include, but are not limited to, resource area survey and delineation, analysis of resource area values (including wildlife habitat), hydrogeologic and drainage analysis, drafting a permit, impacts on municipal conservation lands, and review of environmental or land use law. The consultant shall be chosen by, and report only to, the Commission and/or its Administrator.

(e) The Conservation Commission shall decide at a public hearing and shall give written notice to the applicant of the selection of an outside consultant, which notice shall state the identity of the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five days of the date notice is given. The fee must be received in its entirety prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within 10 business days of the request for payment shall be cause for the Commission to determine that the application is administratively incomplete (except in the case of an appeal). The Commission shall state such in a letter to the applicant, copied to the DEP. No additional review or action shall be taken on the permit request until the applicant has paid the requested fee. Failure by the applicant to pay the consultant fee specified by the Commission within 10 business days of the request for payment shall be cause for the Commission to deny the permit application.

(f) The applicant may appeal the selection of the outside consultant to the Groton Board of Selectmen, who may disqualify the outside consultant selected only on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the Selectmen and a copy received by the Conservation Commission, so as to be received within 10 days of the date consultant fees were requested by the Conservation Commission. The

required time limits for action upon the application shall be extended by the duration of the administrative appeal.

(g) The Commission shall utilize the following procedure for obtaining cost estimates for review by outside consultants:

(1) Request a written estimate from the consultant on the cost to review the project, including the cost to attend meetings with the design engineer and public hearing(s), if necessary.

(2) The Commission shall vote to accept the estimate with a provision that the cost to review the project shall not exceed the estimate without written approval from the Commission.

(3) The Commission shall inform the applicant of the cost estimate for project review and of any additional costs that may be incurred.

§ 344-16. Permits and conditions.

A. Permits shall expire three years from the date of issuance. A permit may be renewed for additional one-year periods if a request for renewal is received in writing by the Commission at least 30 days prior to expiration of the permit, and providing the Commission finds that (1) good cause has been shown for such extension and (2) such extension will not have significant adverse effects, immediate or cumulative, upon any of the wetland values protected by this article. Notwithstanding the above, a permit may contain requirements which shall be enforceable for a stated number of years, indefinitely, or until permanent protection is in place, and shall apply to all owners of the land.

B. The Commission shall, after receiving a written request for a certificate of compliance, inspect the resource area where any activity governed by a permit issued under this article was carried out. If such activity has been completed in accordance with said permit, the Commission shall issue a certificate of compliance evidencing such determination, which may, in an appropriate case, be combined with a certificate of compliance issued under the Wetlands Protection Act. A certificate of compliance may specify conditions in the permit which will continue to apply for a fixed number of years or permanently and shall apply to current and future owners of the land.

C. Violations of this article, submission of false or erroneous information, or new information that substantially alters the likely impact of the project on wetland resources or values may cause the Commission to revoke or modify a permit or determination issued under this article after

notice to the holder of the permit or determination, notice to the public, abutters, and Town boards, pursuant to § 215-6, Notice and hearing, of the Groton Wetlands Protection Bylaw and a public hearing.

D. The Commission, in an appropriate case, may combine the permit or determination issued under this article with the order of conditions or determination of applicability issued under the Wetlands Protection Act, MGL C. 131, § 40, and regulations, 310 CMR 10.00.

E. No work proposed in any permit application shall be undertaken until the permit issued by the Commission with respect to such work has been recorded in the Registry of Deeds or, if the land affected is registered land, in the registry section of the Land Court for the district wherein the land lies, and until the holder of the permit certifies in writing to the Commission that the permit has been recorded. Such certification shall include the book and page or instrument number and date.

§ 344-17. Notice and hearings.

(Reserved)

§ 344-18. Presumptions.

(Reserved)

§ 344-19. Disturbance of upland resources.

A. Performance standards and design criteria for adjacent upland resources. The standards and criteria set forth in these regulations do not limit or dilute the minimum resource protection afforded in the bylaw, § 215-7. When the presumption of significance is questioned, the actual determination of impact must be made on a project- and site-specific basis; and in this respect the actual impact of proposed adjacent upland resource work or activities on wetland values and functions can often be reduced substantially, and thus made permissible, when appropriate conditions are imposed. Therefore, the Conservation Commission shall consider proposals for work in the adjacent upland resource in terms of three broad forms of disturbance areas. These definitions of levels of disturbance shall guide the Commission in specifying, within the limits set forth in the bylaw, § 215-7, whether a proposed activity shall be allowed, and under what conditions:

(1) No-disturbance area. This is any area within the first 50 feet of any freshwater wetland. No activities or work, other than passive (foot or non-motorized vehicle) passage, is permitted

except for removal of invasive vegetation if done in compliance with standards provided in these regulations. No vegetation may be disturbed, and leaf litter and natural debris remains in place. The no-disturbance area should remain unchanged from its pre-project state.

(2) Temporary disturbance area. This is an area in the adjacent upland resource, outside the fifty-foot no-disturbance area, where temporary disturbance for a limited period of time is permitted, such as for regrading or travel by heavy machinery. Once the activity is completed, however, the area will be allowed to return to natural vegetation and function. Any subsequent disturbance or activity shall require a new filing. The Conservation Commission shall establish specific time frames and conditions for allowing temporary disturbances, as well as setting criteria for assessing the successful return of the adjacent upland resource to natural functions.

(3) The limits of disturbance shall be permanently marked prior to construction. Marking shall consist of permanent, official Groton Conservation Commission medallions placed at intervals as determined by the Commission. Medallions shall be available at no charge for home owners; for commercial and subdivisions a cost of one dollar ($1.00) per medallion shall be charged.

(4) Stream crossing standards. Proposed stream crossings shall at minimum meet MA-DEP Stream Crossing Guidelines (most current edition as published by Massachusetts Department of Environmental Protection), the Commission may at its discretion modify these requirements. The Commission may at its discretion exempt or modify the stream crossing guidelines for existing structures where such changes would protect wetlands.

B. Considerations in setting disturbance restrictions. The Conservation Commission shall begin with the presumption that lands within the adjacent upland resource of a resource are best left in an undisturbed and natural state. However, the Commission may designate areas of the adjacent upland resource to be suitable for temporary or limited disturbance as appropriate when the applicant can demonstrate to the Commission's satisfaction that the proposed work or activity will not affect wetland values singularly or cumulatively and that reasonable alternatives to the proposed work or activity do not exist. In considering designation of adjacent upland resource disturbance areas, the types of work and activities allowable, and conditions to apply, the Conservation Commission shall consider:

(1) Values and functions of the resource area.

(a) The quantity and quality of resource values and functions should be considered explicitly in placing conditions on adjacent upland resource work. Some isolated land subject to flooding, for

example, may serve for temporary flood storage only. Minimal adjacent upland resource restrictions within several feet of the resource might be necessary only to prevent erosion.

(b) Other isolated land subject to flooding might provide vernal pool habitat. It might also provide important flood storage capacity and intersect groundwater. In this instance, far stronger adjacent upland resource restrictions would be appropriate because a larger number of functions are involved and some functions, such as habitat, are more sensitive to adjacent upland resource activity and require greater protection. If rare or endangered species, such as blue-spotted salamanders, were found at the site then still greater levels of restrictions would be appropriate.

(2) Pre-project characteristics of the site. Ground slope, soil conditions, vegetation, and prior disturbance are just a few of the site-specific characteristics that shall be considered in setting conditions for work in the adjacent upland resource. For example, land that slopes toward a wetland demands greater restrictions on work and activity and larger no-disturbance distances to prevent pollution and silt from stormwater runoff from harming wetlands values. Larger slopes imply greater restrictions.

(3) Wildlife habitat and rare species.

(a) Where significant wildlife habitat values and functions are present, delineation of no-disturbance areas within the adjacent upland resource shall, as is reasonable, minimize the length of perimeter to area left undisturbed, exclude fingers, islands, or other projections or indentations of the no-disturbance zone, and in general avoid delineating oddly shaped non-disturbed areas. The Commission shall give special attention to inclusion inside the no-disturbance area of those topographical and ecological features that it deems important for maintaining the wildlife habitat value of the resource.

(b) The potential presence of rare or endangered species and their specific sensitivity to adjacent upland resource activity shall be considered in determining adjacent upland resource restrictions. Evidence of the presence of such species or evidence of likely habitat shall be considered by the Conservation Commission. Prior designation of rare or endangered species habitat by the Division of Fisheries and Wildlife Natural Heritage Program is not necessary.

(c) The Commission may consult with the Division of Fisheries and Wildlife Natural Heritage Program or other authorities as it deems necessary for guidance and recommendations.

(4) No significant adverse impact on wildlife habitat.

(a) In accordance with the bylaw's fundamental purposes (see § 215-1), no project may have a significant adverse impact, either project-specific or cumulative, on wildlife habitat for more than two growing seasons.

(b) For wildlife habitat purposes, a significant adverse project-specific impact is defined as an impact caused by work in a resource area that would, under reasonable assumptions:

[1] Result in a measurable decrease in the extant wildlife populations or biological composition, structure, or richness on the site or in the vicinity, exclusive of the present or future state of adjacent and nearby properties; or

[2] Impair, damage, destroy, or reduce in value for wildlife purposes certain specific habitat features.

(c) Wildlife studies have shown that direct impacts from work, filling, grading, vegetation removal, construction of barriers to movement, etc., in resource areas can severely harm wildlife populations. For example, low stone walls bisecting a resource area can prevent amphibians that live in upland areas from reaching breeding pools, marshes, and streams. Or, removal of large snags (dead trees) can virtually eliminate nesting by barred owls, pileated woodpeckers, mink, etc. Accordingly, the Commission shall prohibit the placement of fences or other barriers to wildlife movement within and between resource areas and the destruction of specific habitat features.

(d) Examples of protected habitat features include (but are not limited to):

[1] Large-cavity trees.

[2] Turtle nesting areas.

[3] Existing nest trees for birds that reuse nests (e.g., great blue herons, osprey).

[4] Beaver dams, dens, and lodges.

[5] Mink or otter dens.

[6] Vernal pools.

[7] Vertical sandy banks.

[8] Migration corridors that provide connectivity between wildlife habitats.

[9] Sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders.

(e) But indirect impacts, the effects of human activities near wildlife habitat, can have equally harmful effects. Therefore, the Commission shall take into account indirect effects on a project-by-project basis. So, for example, no work within resource areas shall be permitted within 100 feet of existing beaver, mink or otter dens, or within 200 feet of existing osprey or great blue heron nests.

(f) As clearly stated in § 215-1 of the Groton Wetlands Protection Bylaw, the purpose of the bylaw is to preserve for future generations of residents the natural resources and amenities, including wildlife, we presently enjoy in Groton. The bylaw protects future values as well as current ones. Therefore, the Commission must be especially cognizant of the likely cumulative impact of work within resource areas.

(g) For wildlife habitat purposes, a significant cumulative adverse impact is defined as an impact that would, under reasonable assumptions, result in a measurable decrease in the extant wildlife populations or biological structure, composition, or richness on the site or in the vicinity, taking into account the projected impacts of future projects that could be proposed in the vicinity with similar, comparable, or other significant impacts and disturbance.

(h) This method for assessing cumulative impacts avoids the pitfall of placing an unreasonable burden of resource protection on subsequent applicants/projects in the vicinity while subsidizing those who are first to develop land. It allows the Commission to level the marginal impact of all proposed projects in the vicinity while ensuring appropriate protection, present and future, of the values and interests protected by the bylaw.

(5) Projects to enhance or benefit wildlife habitat. The Conservation Commission may, as part of the permitting process, require, at its discretion, any project that proposes to alter the extant wildlife populations or biological composition, structure, or richness of an area as a wildlife benefit to have that plan approved by the Massachusetts Division of Fisheries and Wildlife.

(6) The character of the work or activities proposed and alternatives.

(a) The applicant shall bear the burden of proving by a preponderance of credible evidence that the proposed work or activities in the adjacent upland resource will not have unacceptable or cumulative effects upon the resource area values and that reasonable alternatives, including reducing the scale and scope of the project, do not exist.

(b) The Commission shall consider the specific characteristics of the work proposed for immediate and cumulative impact on the wetland resource. For example, understory clearing and shrub landscaping in sensitive sections of the adjacent upland resource might be appropriate where a lawn might not due to concerns about nutrient runoff. Similarly, clearing a flat section of the adjacent upland resource to establish a vegetable garden might not threaten adjacent wetland values and functions. However, construction of a tennis court with extensive impervious surface on the same site and covering the same area might not be acceptable.

(c) The Conservation Commission may offer suggestions and advice for altering plans and proposals to reduce impact on wetlands values and functions toward the goal of modifying the project to make it acceptable. However, the Commission is not obligated to do so and shall not be bound in its decision-making by any prior advice or suggestions offered to applicants.

C. Subdivision roadways. The Conservation Commission shall enforce the following general performance standards:

(1) Minimize pre-project to post-project changes in site hydrology.

(a) Pre-project and post-project hydrology should remain fundamentally the same as it pertains to protecting wetlands functions and values. Of course, some minor degree of change in hydrology is inevitable in any engineering/construction project, and within reasonable limits, the Commission shall permit such variation when, in its judgment, such changes will not produce a significant impact on wetlands functions and values. The use of aboveground vegetated swales, infiltration methods, and other low-impact drainage designs will be given preference over subsurface drainage structures.

(b) Erosion control may require limiting stormwater discharge volumes and velocities. Therefore, the Commission may require the construction of such stormwater control structures, and specify particular engineering and design details, as it deems necessary to protect wetland resources, values, and functions.

(2) Minimize change in runoff water quality. The Commission shall impose conditions that, in its judgment, reduce undesirable water quality changes to levels that will not harm wetland functions or values, immediately or cumulatively. The Commission may require the construction of specific structures to improve stormwater runoff quality, such as wet detention basins for pollutant removal and broad riprap swales for aeration.

(3) Requirements for hydraulic calculations. In accordance with the above, the Conservation Commission shall require, as part of the application for permit, complete hydrological calculations for the one-, two-, five-, ten-, twenty-five-, and one-hundred-year storm events. Such calculations shall include:

(a) Runoff from all impervious surfaces associated with the project, including individual lot construction; and

(b) Both pre- and post-project calculations for discharge volumes, concentration times, discharge velocities, and other quantities that the Commission may require for complete information.

(4) Requirements for turtle and amphibian migration shall include:

(a) Curbing incline no greater than 45° from the horizontal (with the exception of "roundings" and catch basins).

(b) Haybales are to be arranged in a staggered formation where appropriate. This is to allow migration paths for amphibians.

D. Site visits. As stated in § 215-5D, Permits and conditions, the Conservation Commission may deny a permit if the applicant fails to provide the information requested. "Information" in this instance includes site visits by the Commission and its staff or representatives for the purpose of directly observing pre-project and post-project conditions on the property, at seasonally appropriate times.

(1) Prior to site visits, the applicant is responsible for:

(a) Staking the location of structures, driveways, roadways, and limit of grading.

(b) Flagging all trees proposed to be removed.

E. Replications.

(1) The history of wetland replication is mixed. Scientific reviews conclude that for the most part replications fail to reproduce the range of values, in quantity and quality, of the wetlands they ostensibly replace. In particular, replicating proper hydrological conditions in a consistent and enduring fashion is difficult. Accordingly, the Conservation Commission strongly discourages any plan that requires replication.

(2) If replication is proposed, the applicant must keep in mind the need to do an in-kind replication, in which the hydrologic, vegetative, soils, and structural characteristics, as well as the values and functions they perform, of the wetland to be altered are duplicated in the new wetland. To assure the Commission receives the necessary materials to make an informed decision, the applicant is required to submit the items outlined in the Wetland Replication Requirement List in Appendix A. Editor's Note: Appendix A is included at the end of this chapter. For minor projects or in the case of items that do not apply to a particular project, the Commission may consider waiving particular list requirements. In those instances where replication is approved by the Commission the following conditions must be met:

(a) The replicated wetland must be constructed in full and conditionally approved prior to construction of any structures.

(b) At minimum, the replicated wetland must reproduce all the values and functions of the original wetland as determined by the Conservation Commission.

[1] The Commission may require the applicant to incorporate additional values and functions in the replication design depending on site-specific conditions.

[2] In particular, in circumstances where replacement of specific functions and values would require substantial amounts of time before being completely replicated (for example, those provided by large mature trees), the Commission may require additional compensation of area, functions, values, etc. beyond those required in other sections of the bylaw and its regulations.

(c) The area of replication must be at least three times (3:1) as large as the area of the original resource that will be destroyed (Side slopes shall not be included in the calculation of the replication area.). The actual area ratio of the replacement shall be decided on a case-by-case basis in accordance with Subsection E(2)(b).

(d) In most instances, the replication of wetland resource areas will result in the destruction of adjacent upland resource areas. In such instances, replication of new adjacent upland resources shall follow Subsection E(2)(b) and (c).

(e) The top 12 inches of soil from the original wetland must be transplanted with intact soil structure, especially lamination and density profile, to the replication area. This is intended to preserve plant, invertebrate, and planktonic communities of the wetland and inhibit the blossoming of invasive species.

(f) Any replication or restoration work that creates a resource on abutting properties shall require an easement from the abutting property owner covering the full extension of the resource on that property prior to commencement of the work.

(g) A bond shall be posted that will enable the Commission to complete the replication should the applicant fail to fulfill obligations set forth in the permit or order of conditions. The amount of the bond will be determined on a case-by-case basis and shall be based on the construction sequence submitted by the applicant.

(h) The applicant must provide a construction sequence which includes progress reports on the construction, planting, and growth of vegetation within the replication area.

(3) Standards for the replication shall be specified and verified in terms of functions, values, and actual performance. Technical and engineering specifications used for design and construction shall be considered approximate. Criteria for acceptance and approval shall be based solely on function and performance as specified in the order of conditions. In other words, replications will be evaluated on what they are expected to do, not how closely actual construction matched the plan. For example, although elevations may be used for design and planning of a pond, the standards shall be set in terms of volume and depth of water over the course of a year. In vernal pool replication, the pool must be capable of sustaining full development of vernal pool species, regardless of design elevations or siting.

(4) Replications that do not properly perform the approved functions and values as specified in the order of conditions will not be deemed acceptable no matter how closely they adhere to approved engineered plans.

(5) The Commission may set other conditions on a project-/site-specific basis.

F. Orders of conditions for after-the-fact filings. Orders of conditions for permits associated with violations shall include explicit dates for milestones and completion of work.

G. Riverfront area protection. For the purposes of this article, the protections afforded to riverfront areas under the 1996 amendment to the Massachusetts Wetlands Protection Act, as amended, shall follow the regulations as listed under Subsections A and B for adjacent upland resources, except that the reach of jurisdiction shall extend 200 feet from the stream or river bank as specified by state law.

H. Stormwater runoff best management practices. All stormwater runoff systems shall at minimum conform to Stormwater Management – Low Impact Development Bylaw, Town of

Groton Code Ch. 198, and best management practices as specified in the Earth Removal Stormwater Advisory Committee Regulations, Ch. 352, Art. II Stormwater Design Criteria. The Conservation Commission may impose more stringent conditions where resource values and functions warrant it. Created wetlands for stormwater best management practices shall not be given credit as replication areas.

I. Stream crossing standards. Proposed stream crossings shall at minimum meet MA-DEP Stream Crossing Guidelines (most current edition as published by Massachusetts Department of Environmental Protection); the Commission may at its discretion modify these requirements. The Commission may at its discretion exempt or modify the stream crossing guidelines for existing structures where such changes would protect wetlands.

I. Alternatives analysis.

(1) The Groton Wetlands Protection Bylaw clearly states that projects and associated disturbances should be located outside of any resource that falls under the jurisdiction of this article, including the adjacent upland resource area. Practical alternatives to locate the project outside these areas must be investigated, and should one or more prove feasible the plan must be amended to relocate all activities accordingly.

(2) The Commission shall consider as practical alternatives options that were available to the applicant but appear to be precluded due to self-imposed hardships and constraints (e.g., lot, roadway, and drainage layouts engineered without prior regard to impact on bylaw resources).

(3) If, in the Commission's view, there are no practical alternatives, project impacts must be minimized and mitigated so there are no adverse impacts to the resources. If the Commission determines that the project will have significant adverse impacts on the resources, then the project shall be denied.

J. Standards for removal of invasive vegetation. Removal of invasive vegetation within 50 feet of any freshwater wetland is allowed, provided that the Conservation Commission is informed in writing prior to the removal and the removal is accomplished by hand pulling and/or digging.

K. Standards for vista pruning and removal of diseased vegetation. Pruning for the purpose of vista maintenance, or for removal of diseased, storm-damaged, or invasive vegetation, may be allowed within adjacent upland resource areas by an order of conditions or a determination of applicability.

L. Seasonal wetlands.

(1) Presumption of vernal pool habitat.

(a) The bylaw presumes vernal pool habitat exists if a wetland's physical characteristics conform with those defined for pools in § 215-9 (Definitions) of the bylaw. The presumption of vernal pool habitat may be overcome, however, with the presentation of credible evidence which, in the judgment of the Conservation Commission, demonstrates that the wetland does not provide, or cannot provide, vernal pool habitat functions.

(b) Demonstrating that a ponding area is not a vernal pool. For the purposes of overcoming the presumption of vernal pool habitat, the Commission will consider:

[1] Evidence that the ponding area does not hold water for at least two continuous months in most years. As a rule of thumb the term "most years" shall mean three out of five consecutive years.

[2] Evidence that vernal pool species do not breed or have not bred in the ponding area.

[3] Evidence that the ponding area could not be a viable breeding site for vernal pool species due to incompatible physical, chemical, biological, or other persistent conditions at the site in most years.

(2) Timing of evidence collection. Many of the indicators of vernal pool habitat are seasonal. For example, certain salamander egg clusters are found only between late March and late May. Wood frog chorusing occurs only between late March and May, and then only at night. Consequently, failure to find evidence of breeding must be tied explicitly to those periods during which the evidence is most likely to be available. Accordingly, in the case of challenges to the presumption of vernal pool habitat, the Conservation Commission may require that the determination be postponed until the appropriate time period consistent with the evidence being presented. The Commission may also require its own site visits as necessary to confirm the evidence.

§ 344-20. Regulations.

(Reserved)

§ 344-21. Definitions.

As used in this article, the following terms shall have the meanings indicated:

ADJACENT UPLAND RESOURCE AREA FOR VERNAL POOLS

The adjacent upland resource area for vernal pools shall extend 100 feet from the mean annual high-water line defining the depression, or 1/2 of the distance between the vernal pool and any existing foundation for an existing residential house, whichever is smaller. In either case, the adjacent upland resource area for vernal pools shall not extend over existing lawns, gardens, landscaped or developed areas.

DIRECT DISCHARGE

Includes, without limitation, any outfall of water that empties into wetland resource areas.

DISCHARGES INTO WETLANDS

As listed under § 215-2 of the bylaw, shall include, without limitation, any discharge from the project that flows to a wetland resource or adjacent upland resource through new or existing drainage structures, including existing road drainage pipes, that empty into wetland resources or adjacent upland resources regardless of the distance between the project site and the wetlands resources or adjacent upland resources.

DISTANCE

All distances noted in the bylaw (excluding depth), such as adjacent upland resources distances, are planar distances measured along a single elevation. Consequently, on steeply sloped topography the measured over-ground distance may not accurately reflect the distances specified in the permits and conditions specified by the bylaw. In particular, the one-hundred-foot adjacent upland resource on steeply sloped land will measure considerably more than 100 feet when measured over-ground on site.

DRIVEWAY

A private way providing access from a public roadway to a building or a lot. Driveway surfaces vary and may include, but not be limited to, dirt, gravel, asphalt, brick, or pavers. Driveways are assumed to have a negative effect on wetlands and therefore should be located outside the upland resource area unless the applicant demonstrates to the satisfaction of the Commission that the proposed location will not negatively affect the resource areas or that it is the best feasible

FLOOD STORAGE AS AN ALTERATION

Includes storage of floodwaters and stormwater runoff waters in wetlands. Storage of floodwaters and stormwater runoff is prohibited unless the Conservation Commission deems that such action would enhance wetland values and functions.

HYDRAULIC CONNECTION

A hydraulic connection is any surface water connection, whether natural or artificially created or modified, including, but not limited to, surface and subsurface pipes, culverts, ditches, underground channels, etc.

MINOR GRADING

Elevation changes are less than two feet. Slopes greater than 5% shall not exceed one foot change in elevation.

RECREATION

Connotes passive recreation activities that do not conflict with or diminish other wetland values and functions. Examples include, without limitation, bird watching and other nature studies, walking and hiking, canoeing and, as appropriate, fishing, hunting, etc.

RETAINING WALL

A facing composed of stone, timbers, poured concrete, blocks, or other aggregate materials arranged in such a way as to hold back and stabilize an embankment.

VOLUME OF A DETENTION/RETENTION BASIN

Basin volume shall be calculated as that volume contained between the basin's one-hundred-year flood elevation and the lowest elevation of the basin floor, except that in the case of a wet detention basin, 50% of the calculated volume shall be used for fee determination purposes.

VERNAL POOL SPECIES

Any species of reptile, amphibian, or invertebrate that breeds in a vernal pool. These species may be obligate or facultative.

WETLAND BOUNDARY

Will be delineated, at the discretion of the Commission, through the use of one or more of the following characteristics:

A. The presence of hydric soils.

B. Hydrology.

C. The presence of vegetation consisting of 50% or more wetland species classified as:

(1) Obligate;

(2) Facultative wetland; or

(3) Facultative.

WET DETENTION BASIN

A. A wet detention basin is a detention basin designed to hold water for at least two continuous months during the spring/summer, where the ponding area covers at least 1/3 of the basin floor to an average depth of six inches of water, which supports wetland vegetation, and which meets the other design requirements set by the Conservation Commission.

B. For the purposes of the bylaw, a wet detention basin shall be considered a constructed wetland and not acceptable as part of a wetland replication plan. As a constructed wetland, a wet detention basin shall be presumed to serve two wetlands values: pollution attenuation and flood control. The adjacent upland resource for wet detention basins shall extend two feet beyond the break in slope of the detention basin, unless the basin wetland attains dimensions consistent with jurisdiction under the Massachusetts Wetlands Protection Act, in which case a full one-hundred-foot adjacent upland resource shall apply.

§ 344-22. Security.

A. Orders of conditions and bonding. In the specifying of an order of conditions and setting of bond the Conservation Commission may, at its choosing, set additional conditions and impose bond requirements to ensure adherence to permit requirements. The Commission may request a bond to be held by the Planning Board to assure completion of the project, if the Planning Board has jurisdiction over the project.

B. Permitting in the context of outstanding violations. No permit shall be issued for any project to an applicant who has an outstanding violation of this article:

(1) For which no corrective order of conditions has been recorded at the Registry of Deeds; or

(2) Which is not under legal appeal; or

(3) For outstanding violations.

§ 344-23. Enforcement.

A. Recording a notice of violation. The Conservation Commission may record a notice of violation issued under this section with the Registry of Deeds when:

(1) It has information that the property in violation of this article may change ownership;

(2) The owner of the property in violation has failed to respond to the notice of violation after 10 business days; or

(3) The owner of the property in violation has failed to file a corrective notice of intent within 30 days of receipt of the notice of violation.

B. Fines. Each day or portion thereof during which a violation continues shall constitute a separate offense, and each violated provision of the bylaw, regulations or permit shall constitute a separate offense.

C. Revocation or suspension of permits. The Commission is hereby authorized, after a formal hearing, to revoke or suspend any permit, including renewal or transfers, for any person, corporation or business enterprise who has neglected or refused to pay fines issued under the Wetlands Protection Bylaw, pursuant to MGL C. 40, § 57, adopted by the Town of Groton in 1992.

D. Abatement of fines. The Conservation Commission may abate fines imposed under this article, in part or in whole, at its discretion.

Attachments:

APPENDIX A

Groton Conservation Commission

Wetland Replication Requirement List

The Groton Conservation Commission Wetland Replication Requirement List is based on the checklist in Appendix 3 of the *Massachusetts Inland Wetland Replication Guidelines* produced by the Department of Environmental Protection in March 2002 and has been modified to meet the additional requirements of the Groton Wetland Protection Bylaw Regulations specified in Section 344-22 E Replications. Each of the items in this list must be addressed in the same order as this list, and the entire package submitted as part of the Notice of Intent filing. Filings that do not include all the information required in this list will be considered incomplete and the public hearing will not be opened.

A. 1. The Notice of Intent (NOI) shall include the following information:

List of project alternatives as explained in Sections 344-22 A and 344-22 I of the *Groton Wetland Protection Regulations*, with a narrative on each alternative about wetland impacts.

Narrative on avoidance of wetland impacts.

Narrative and plans showing minimization of wetland impacts.

Narrative and drawings of alternative replication designs to ensure success.

Carefully designed replication plans with identified goals for unavoidable impacts.

The replicated wetland must be constructed in full and conditionally approved prior to construction of any structures. [See Section 344-22 E. Replications (2)(a)]

B. Elements of a Complete Replication Plan

1. The NOI application shall include the following general information:

Narrative description of the existing and proposed wetland.

Evidence of site control, including draft easements for replication locations other than the subject lot [See Section 344-22 E. Replications (2)(f)]

Itemized costs associated with the construction, monitoring, and completion of the replication area [See Section 344-22 E. Replications (2)(g)]

A site location map (such as a USGS locus) of existing and proposed wetlands;

A 1"=10' to plan including easily identifiable landmarks (e.g. surveyed flag locations, benchmarks, or structures), contour lines at 1-foot intervals, and locations of soil test pits and vegetation plots. A Professional Land Surveyor (PLS) and/or a Registered Professional Engineer (PE) should stamp plans;

Grading should demonstrate elevation differences for different vegetation classes (forested, shrub, herbaceous, open water);

Surface area calculations demonstrating a minimum 3:1 replacement to impact ratio. Side slopes shall not count as part of the replication area;

Cross-sections drawn at 1”=10’ of soil horizons, depths and locations, 100-year floodplain using both horizontal and vertical scale, existing and predicted high and low groundwater elevation, perched water conditions and other indicators of hydrology. There should be a set of sections for existing conditions and a set of sections showing the designed replication. Indicate cross-section locations on plan view;

2. Hydrology – The narrative and plans shall include the following:

The expected seasonal depth, duration, and timing of both inundation and saturation must be established for the existing wetland and for each of the proposed vegetation classes in the mitigation area.

Evaluation of soils, including free water in a soil test hole, soil color, saturated soil, or oxidized rhizospheres.

In addition, the inputs and outputs in the water budget must be described. Replication areas should not depend on precipitation and sheet runoff flow only, but must have a seasonal source of groundwater and should have a surface water source as well. Perched wetlands may be established without these latter inputs, but monitoring wells or piezometers should demonstrate that runoff and precipitation inputs would exceed infiltration rates into the summer.

Demonstration that groundwater and surface water will have unrestricted hydraulic connections to the replication area.

Only the flood storage that the existing BVW provides should be designed in the replication areas.

3. Soils- the narratives and plans shall include the following information:

Test pits of translocated soils including horizons, characteristics such as texture, organic matter, Munsell hue, value and chroma, consistence and evidence of hydrologic influence, e.g. mottles (frequency and color), gleying, and root depth.

This project proposes the translocation of 12" of the top soil, preserving an intact soil structure [See Section 344-22 E. Replications (2)(e)]

Replication areas should have a minimum of 6-12” of A- Horizon soil. If used, soil amendments for the A-Horizon consist of equal volumes of organic and mineral materials. No woodchips should be used, and organic material should be well or partially decomposed.

Enough A and B-Horizon material (or A over a suitable composition of the C horizon) should be provided to create a suitable rooting medium, and to approximate the conditions at the nearest undisturbed existing wetland. Consistency should be loose to friable and texture should be loamy sand to silt loam.

When required, use of Redox and pH Meters in the replication area and adjacent wetlands may aid in replication success. Seek guidance of a professional experienced in this testing. When used, redox and pH data shall be part of monitoring reports.

A detailed schedule for collection, stockpiling and placement of soils, including a discussion of techniques used to prevent the drying out and contamination of hydric soils.

Confirmation that invasive species listed in Section 2.3.3 of the *Replication Guidelines* are not present in the vicinity of the soil to be translocated.

If soil amendments will be brought from off-site, a description of the source, preparation and placement should be included.

Discussion of a method to ensure appropriate compaction levels and the final consistency and texture of mitigation soils, by horizon.

Survey of finished elevations during construction should be conducted frequently and a proposed schedule included.

Discussion of post-construction soil characteristics such as horizons, depths, texture, organic matter, Munsell hue, value and chroma, consistence and evidence of hydrologic influence, e.g. mottles (frequency and color), gleying, percent gravel and rock, and root depth.

4. Vegetation - narratives and plans shall include the following information:

The dominant plants in each layer of the existing and proposed wetland and the relative cover and wetland indicator status for each vegetative layer proposed (herbaceous, shrub, sapling, tree and climbing woody vine);

Transplantation techniques including maintenance of viability of seeds, rootstock and plants during transplantation. Shrubs should be planted 8-10" on center and trees should be planted 10-15'on center unless otherwise recommended by a nursery or wetland professional.

Consideration should be given to leaving mature trees on hummocks for shading if they are facultative or wetter.

A detailed description of sources of off-site plant material, species list, and methods to be used for planting.

Schedule for planting (at the beginning or end of the growing season - before the first frost). Check each species for ideal planting times. See Appendix 2 of the *Replication Guidelines* for growing seasons.

Wetland vegetation expected after two growing seasons as well as predicted community after natural succession.

Contingency plan in case of mortality of vegetation, invasive species, complete failure, inadequate size, etc.

For larger projects micro topography should be shown in cross-sections including number of mounds and pools if proposed to replicate existing conditions.

5. Wildlife Habitat

Documentation of the most recent *Estimated Habitat Map of State-Listed Rare Wetlands Wildlife* findings for the site shall be included.

For projects impacting the wildlife habitat functions of BVWs, wildlife habitat characteristics of the site, including vernal pools, shall be described and replicated. Designs shall include diversity of vegetation structure and composition, and of hydrological conditions. Credentials of wildlife habitat specialist should be included.

6. Erosion Control - narratives and plans shall include the following:

An erosion control plan that details stabilization techniques during construction and a contingency plan for construction and post- construction periods.

The use of hay bales near the replication area is discouraged unless the source of the bales can be shown to be free of any of the invasive species listed in Section 2.3.3 of the

Replication Guidelines.

A commitment to remove erosion control measures once the site is stabilized and following approval by the Commission or its agent.

Embankment slopes should be no greater than 2H: 1V unless structural stabilization is utilized.

C. Considerations During Construction

The erosion and sedimentation control plan must be implemented prior to construction of the replication area.

The wetlands and replication area shall be re-flagged (survey located) prior to the construction start date if the flags placed during permitting are not clearly visible.

A construction schedule listing the sequence of events for replication construction (preferably before work in the existing wetland). [See Section 344-19 E. Replications (2) (h)]

A project monitor with a minimum 5 years experience in wetland replication should be identified. Include the person's name, firm name, and phone number.

D. Monitoring Plan [See Section 344-19 E Replications (2)(h)]

A plan to monitor the construction and subsequent growth for at least two years or until the 75% criteria is met following construction shall be included. Monitoring should be conducted, at minimum, in late spring and at the end of the growing season. The reports shall be prepared by an individual with a minimum of 5 years experience in wetlands replication and shall include the name, firm (if applicable), and phone number.

A sample of the Monitoring Checklist shall be submitted with the Plan. The Monitoring Checklist provided in Appendix 4 of the *Massachusetts Inland Wetland Replication Guidelines* should be used as a model and modified to reflect the particular needs of the proposed replication area.

Include a contingency plan in the event that the replication area does not meet the 75% reestablishment standard. Include the name, firm name and phone number of the person responsible for performing the work should any contingency plan work be required.

Include a contingency plan for the removal of any invasive plants that become established within the replication area.

Color photographs from established reference points should be included with each monitoring report.

Plan must include inspection of embankments to ensure that they are stable, properly vegetated and constructed as designed.

Appendix B

Standards for Notice of Intent Submittals

Sheet Size: Maximum 30 inches by 42 inches.

Scale: as needed to show all necessary details, but at a ratio no greater than 1:480 (e.g. 1” = 40').

Title Block: Located at lower right hand corner with:

Name of owner of record, applicant, RPLS/RPE (if involved).

Lot number, street number, street, Tax Assessor's Map, Block and Parcel/Lot numbers.

Original date.

Revision area for dates and nature of revisions.

Scale.

North arrow.

Locus map.

Nearest utility pole number, if applicable.

Reference benchmark (vertical datum used).

Legend depicting all natural resources and significant site features.

All resource areas.

Wetland boundaries indicated by numbered points corresponding to flags placed in the field with elevation flags.

Buffer zone boundary lines:

50’ and 100’ to Bordering Vegetated Wetlands.

50’ and 100’to Vernal Pools.

50’ and 100’ to Isolated Wetlands.

50’ and 100’to Ponds and Lakes.

50’ and 100’ to Banks.

50’ and 100’ to intermittent Creeks and Streams.

Resource areas within 100’of proposed work, or in the case of a perennial river or a river, stream, or creek with designated Riverfront Area, within 200’, regardless of property boundaries.

Calculated area of disturbance within the 200 foot riverfront.

Existing improvements, e.g. buildings, stone walls, trails.

All existing topography and proposed contours at a contour interval no greater than two feet.

Cross-sections.

All proposed or completed alterations.

Location of well and septic system with reserve area.

Erosion/sedimentation control measures.

Replication areas.

All discharge points and culverts.

Property boundaries, rights-of-way, easements, restrictions.

Conservancy district, if applicable (show as cross-hatched area, including all adjacent Bordering Vegetated Wetlands).

Applicable no disturb zone.

Pre- and post-development overstory tree canopy line within buffer zone.

Record the person(s) and firm that delineated the resource areas.

Placement of (aboveground and) underground utilities.

Stamp and signature of a Registered Professional Land Surveyor or a Registered Professional Engineer. In circumstances where the Commission determines that no survey is required, the stamp and signature of a Registered Sanitarian may be acceptable.

Limit of disturbance.