



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
106 HOGAN ROAD, SUITE 8
BANGOR, MAINE 04401

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EXECUTIVE DIRECTOR

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PERMIT

AMENDMENT B TO WETLAND ALTERATION PERMIT WL 0062

The staff of the Maine Land Use Planning Commission (LUPC or Commission), after reviewing the application and supporting documents submitted by Lassell Island, LLC (Applicant) for Amendment B to Wetland Alteration Permit WL 0062, finds the following facts:

1. Applicant: Lassell Island, LLC
Attn: Mr. Christopher I. Page
10048 Aurora-Hudson Road
Streetsboro, Ohio 44241
2. Agent: Gartley & Dorsky Engineering & Surveying, Inc.
P.O. Box 1031
Camden, Maine 04843
3. Date of Completed Application: May 20, 2015
4. Location of Proposal: Lassell Island, Knox County, Maine
Maine Revenue Service Map WO077; Plan 01; Lot 331
Waldo County Registry of Deeds: Book 2037; Page 194-196
5. Proposal Zoning: (P-SL) Shoreland Protection Subdistrict
(P-WL) Wetland Protection Subdistrict
(P-FP) Flood Prone Area Protection Subdistrict by Virtue of Section 10.23,C,2 of
the Commission's *Land Use Districts and Standards* (Standards or Ch. ...)
6. Lot Size: 62.25[±] acres (owned)
7. Development: Existing Farmhouse (28 ft. by 55 ft.)
Existing Garage (30 ft. by 32 ft.)
Existing Shed (14 ft. by 24 ft.)
Existing Boat Storage Shed (18 ft. by 58 ft.)
Existing Permanent Pier (210 feet total length)
Existing Seasonal Camp (40 ft. by 30 ft.) with
Existing Deck (40 ft. by 12 ft.)
Existing Pond (100 ft. by 150 ft.)
Existing Post-1971 Storage Building for Pier (20 ft. by 30 ft.)

Existing Breakwater (approximately 45 ft. by 190 ft.; 5,133 square feet)
Proposed Removal of Existing Unauthorized Stone Retaining Wall South of the Boat Storage Shed (125 ft. long) - Subject to an Administrative Settlement Agreement (south of the Boat Storage Shed)
Proposed Shoreline Riprap with Stabilization Plantings (20 ft. by 121 ft.) - Subject to an Administrative Settlement Agreement
Existing V-Shaped, Stone Retaining Wall - Subject to an Administrative Settlement Agreement (follows the western edge of the pier access road and ties into the breakwater - 150 ft. long by 1 to 2 ft. high)

ADMINISTRATIVE HISTORY

8. Historically, the island lot was developed with a 28 foot by 55 foot farmhouse, a 30 foot by 32 foot garage, a 14 foot by 24 foot shed, an 18 foot by 40 foot boat storage shed, a 160 foot pier, and a 30 foot by 40 foot seasonal camp. These structures were developed prior to the adoption of the Commission's Rules and Regulations. The island lot has approximately 7,323 feet of water frontage on the Atlantic Ocean. The seasonal camp was destroyed by fire in 2002.
9. Wetlands Alteration Permit WL 0062 by Special Exception and Water Quality Certification, issued by the Commission at a meeting held March 12, 2003 to Lassell Island, LLC, authorized a 50-foot extension to the existing 160 foot pier (for a total of length of 210 feet) and dredging of 63,200 square feet of ocean bottom within Half-Gallon Cove.
10. Building Permit BP 12277, issued to Christopher I. Page on March 29, 2004, authorized the construction of a 40 foot by 30 foot seasonal camp with a 12 foot by 40 foot deck and a combined sewage disposal system. The seasonal camp, including the deck, was conditioned to be setback 75 feet from the mean high water level of the Atlantic Ocean and 15 feet from other property boundary lines.
11. On August 23, 2011, staff of Commission completed a site review of the property and subsequently, opened Enforcement Case EC-13-17 and sent a Notice of Violation to the Applicant regarding unauthorized: reconstruction and expansion of the 18 foot by 40 foot boat storage shed to an 18 foot by 58 foot boat storage shed; creation of a 100 foot by 150 foot man-made pond within 250 feet of the mean high water level of the Atlantic Ocean; construction of an approximately 45 foot by 190 foot breakwater which disturbed 5,133 square feet of P-WL1 - Wetland of Special Significance below the mean high water level of the Atlantic Ocean; construction of a 125 foot long by 4 to 9 foot high stone retaining wall, south of the boathouse, setback 0 feet from the mean high water level of the Atlantic Ocean; and construction of a 150 foot long by 1 to 2 foot high v-shaped, stone retaining wall associated with the breakwater and dock area. Staff additionally sent a Letter of Warning to the Applicant regarding other potential compliance issues with the construction of island roads, mineral extraction, filling and grading, and vegetation cutting.
12. The U.S. Army Corps of Engineers (Corps) issued after-the-fact Corps Permit # NAE-200103135 ATF on May 23, 2012 to Christopher I. Page to retain and maintain a 5,133 square foot area of stone fill below the High Tide Line of Half Gallon Cove on the west side of Lassell Island in Penobscot Bay, Knox County, Maine. The purpose of the placed fill was for the creation of a seawall to protect

an existing pier, ramp and float and to prevent shoreline erosion. The Corps determined that the project would have only minimal individual and cumulative impacts on waters and wetlands of the United States. The Corps did not require compensation for the project.

13. Amendment A to Building Permit BP 12277, issued to Lassell Island, L.L.C. on June 30, 2012, granted after-the-fact approval for reconstruction and expansion of the boat storage shed to 18 feet by 58 feet, and after-the fact approval for construction of a 100 foot by 150 foot pond. The boat storage shed was conditioned to be setback above (landward of) the mean high water level of the Atlantic Ocean.
14. Amendment A to Wetland Alteration Permit WL 0062, issued to Lassell Island, L.L.C. on February 25, 2014, granted after-the-fact approval of an approximately 45 foot by 190 foot breakwater and permit approval to complete upgrades to improve the stability of the breakwater by replacing smaller existing stone with larger, 3 foot to 4 foot diameter stone.
15. On May 13, 2015, at a meeting of the Commission held in Brewer, Maine, an Administrative Settlement Agreement (Agreement) was reviewed and approved for the two outstanding retaining wall violations associated with Enforcement Case EC-13-17. Among, and subject to, other conditions, under the terms of the Agreement, the 150 foot, v-shaped stone retaining wall on the western edge of the pier access road which ties into the breakwater may remain in existence. Further, the Applicant was required to submit a complete application seeking permit approval to remove and replace the 125 foot long section of stone retaining wall south of the boat storage shed with riprap and stabilization plantings. The application was required to be complete by June 18, 2015; the project is to be complete by October 1, 2015.

PROPOSAL SUMMARY

16. The applicant now requests permit approval to remove and replace a 125 foot long section of stone retaining wall south of the boat storage shed with riprap and stabilization plantings.

SUMMARY OF KEY STANDARDS

17. Shoreland alterations may be allowed within a P-FP subdistrict or FEMA zones A, AE, A1-30, or VE; a P-SL subdistrict; and a P-WL subdistrict upon issuance of a permit from the Commission pursuant to 12 M.R.S.A., §685-B, and subject to the applicable requirements set forth in Sub-Chapter III (*Ch. 10.23,C,3,c,(15)*; *Ch. 10.23,L,3,c,(16)*; and *Ch. 10.23,N,3,c,(11)*).
18. Filling and grading, and filling and grading which is not in conformance with the standards in Section 10.27,F may be allowed within a P-FP subdistrict or FEMA zones A, AE, A1-30, or VE; a P-SL subdistrict; and a P-WL subdistrict upon issuance of a permit from the Commission pursuant to 12 M.R.S.A., §685-B, and subject to the applicable requirements set forth in Sub-Chapter III (*Ch. 10.23,C,3,c,(7)*; *Ch. 10.23,L,3,c,(7)*; and *Ch. 10.23,N,3,c,(6)*).
19. Within 250 feet of water bodies and wetlands, the maximum size of a filled or graded area, on any single lot or parcel shall be 5,000 square feet. This shall include all areas of mineral soil disturbed by the filling or grading activity (*Ch. 10.27,F,1*).

20. Where filled or graded areas are in the vicinity of water bodies or wetlands such filled or graded areas shall not extend closer to the normal high water mark of a flowing water, a body of standing water, tidal water, or upland edge of wetlands identified as P-WL1 subdistrict than the distance indicated in Table 10.27,F-1 (*Ch. 10.27,F,5*).

Average Slope of Land Between Exposed Mineral Soil and Normal High Water Mark or Upland Edge (Percent)	Width of Strip Between Exposed Mineral Soil and Normal High Water Mark or Upland Edge (Feet Along Surface of the Ground)
10 or less	100
20	130
30	170
40	210
50	250
60	290
70	330

Table 10.27,F-1. Unscarified filter strip width requirements for exposed mineral soil created by filling and grading.

21. Filling and grading activities not in conformance with the standards of this section may be allowed upon issuance of a permit from the Commission provided that such types of activities are allowed in the subdistrict involved. An applicant for such permit shall show by a preponderance of the evidence that the proposed activity, which is not in conformance with the standards of this section, shall be conducted in a manner which produces no undue adverse impact upon the resources and uses in the area (*Ch. 10.27,F*).
22. Coastal wetlands, together with areas below the high water mark of tidal waters and extending seaward to the limits of the State’s jurisdiction are designated as (P-WL1) Wetlands of Special Significance (*Ch. 10.23,N,2,a,(1),(b)*).
23. Tier 3 reviews are for projects altering any area of P-WL1 wetlands (*Ch. 10.25,P,1,c,(3)*).
24. If a proposed activity requires a permit and will alter 500 or more square feet of a P-WL1 wetland, the Commission may require, as a condition of approval, mitigation, including compensation, in conformance with the provisions of Section 10.25,P,2 of the Commission’s Standards (*Ch. 10.25,P,1,b,(2)*).
25. According to the General Land Use Standards, Sub-Chapter III, Section 10.25,P,2 of the Commission’s Standards, projects requiring Tier 3 review must:
- *Avoidance*. Not cause a loss in wetland area, functions and values if there is a practicable alternative to the project that would be less damaging to the environment. Each Tier 3 application must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist (*Ch. 10.25,P,2.a,(2)*);
 - *Minimal Alteration*. Limit the amount of wetland to be altered to the minimum amount necessary to complete the project (*Ch. 10.25,P,2,b*);
 - *Water Quality*. Comply with applicable water quality standards (*Ch. 10.25,P,2,c*);

- *Compensation.* Provide off-setting of a lost wetland function with a function of equal or greater value. The goal of compensation is to achieve no net loss of wetland functions and values (*Ch. 10.25,P,2,e*). The Commission may waive the requirement for a functional assessment, compensation, or both. The Commission may waive the requirement for a functional assessment if it already possesses the information necessary to determine the functions of the area proposed to be altered. The Commission may waive the requirement for compensation if it determines that any impact to wetland functions and values from the activity will be insignificant (*Ch. 10.25,P,2,e,(2)*); and
 - *No Unreasonable Impact.* Have no unreasonable impact on the wetland (*Ch. 10.25,P,2,f*).
26. Development in flood prone areas, including areas of special flood hazard, shall (*Ch. 10.25,T,2,a*):
- (1) Be designed or modified and adequately anchored to prevent flotation (excluding floating piers and docks), collapse or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) Use construction materials that are resistant to flood damage;
 - (3) Use construction methods and practices that will minimize flood damage; and
 - (4) Use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

SUMMARY OF PROPOSAL INFORMATION

27. Construction Plan. As conditioned by the Administrative Settlement Agreement for Enforcement Case EC 13-17 (see, Finding of Fact #15), the Applicant now proposes to remove the 125 foot long section of stone retaining wall south of the boat storage shed, constructed to mitigate ongoing erosion due to wave scouring and wave impact, and replace it with riprap and stabilization plantings. Installation of the riprap and stabilization plantings would be as proposed in the application and as detailed in site plan SK2 and SK3, both revised and dated 3/18/2015. The installation would include:
- A. Silt fence installed along the mean high water level of the Atlantic Ocean prior to initiation of the project;
 - B. Removal of the existing retaining wall and preparation of the subgrade for the toe protection, underlying filter material, and armor layer with a backhoe and/or mini-excavator and a dump truck (the removal would include 145 square feet of the retaining wall that now extends into the Atlantic Ocean);
 - C. Storage and stockpiling of the removed rock and soil at least 100 feet from waterbodies and wetlands;
 - D. Installation of riprap no steeper than a 2:1 slope extending approximately 15 feet to 20 feet landward from the mean high water level of the Atlantic Ocean;
 - E. Three foot to four foot diameter roughhewn quarry stone boulders trench anchored into the toe of the slope at the mean high water level of the Atlantic Ocean to prevent the downward movement of the riprap layer;
 - F. Installation of underlying geotextile filter fabric, to support the stone against settlement and to allow for water drainage;
 - G. Installation of an 18–inch layer of D50 = 6” stone over the filter fabric to protect the fabric, support the armor layer, and facilitate water movement;

- H. Placement of an armor layer consisting of two foot to three foot diameter roughhewn quarry stone boulders.
- I. Planting of 4 foot on-center Virginia Rose stabilization hedge;
- J. Armoring to the flood elevation Federal Emergency Management Agency (FEMA) Zone VE (EL 15);
- K. All equipment, except the barge which would deliver the materials, would be operated above the mean high water level of the Atlantic Ocean.

28. Wetland Considerations. The proposal would alter 145 square feet of the Atlantic Ocean, a P-WL1 Wetland of Special Significance, during removal of the existing retaining wall.

- A. *Avoidance*. The Applicant stated that alteration of coastal wetlands would be avoided to the greatest extent possible considering the necessity of matching the riprap with the adjoining ledge.
- B. *Alternative Analysis*. The Applicant submitted an alternative analysis which indicated that because of prior shoreline erosion, taking no action to correct the problem would not be reasonable. The Applicant stated that there is no practical alternative to the activity and there is no alternative site which would accomplish the desired goals of stabilizing the slope.
- C. *Minimal Alteration*. The Applicant stated that coastal wetland alterations would be limited to the smallest possible footprint while still adequately protecting the cove from erosion.
- D. *Water Quality*. The Applicant stated the project would comply with the applicable water quality standards.
- E. *Functions and Values*. An assessment of the impacted wetland's functions and values was completed following the Highway Methodology as outlined by the US Army Corps of Engineers, New England Division. The Applicant's consultant identified one function, fish and shellfish habitat, of "minor importance". The consultant rated the function as a minor function base on: (1) the fill area would be at the upper limits of the marine intertidal zone; (2) there are no potential spawning opportunities; and (3) there is little or no vegetation to provide food or cover for fish or any other animals. The assessment concluded that there are minimal wetland functions and values in the affected area of the coastal wetland and that the proposal would not cause the loss or degradation of wetland functions in the area.
- F. *No Unreasonable Impact*. The Applicant stated that the project would not have an unreasonable impact on the Atlantic Ocean and that there are no threatened or endangered species in the area of impact.

29. The facts are otherwise as represented in: Wetland Alteration Permit WL 0062 and subsequent amendments and supporting documents; Building Permit BP 12277 and subsequent amendments and supporting documents; and Enforcement Case EC 13-17 and supporting documents.

ANALYSIS AND CONCLUSIONS

Based upon the above FINDINGS and the following ANALYSIS, the Commission CONCLUDES:

1. The proposed shoreland alteration and filling and grading are allowed uses within the subdistricts for which they are proposed (*Ch. 10.23,C,3,c,(7 and 15); Ch. 10.23,L,3,c,(7 and 16); and Ch. 10.23,N,3,c,(6 and 11)*).
2. The proposal will meet the filling and grading standards of Section 10.27,F of the Commission's Standards; the Applicant has shown that the proposal will be conducted using standard erosion control best management practices and will not impact resources and uses in the area.
3. The proposal will meet the General Land Use Standards, Sub-Chapter III, Section 10.25,P,2 of the Commission's Standards for Tier 3 review. Specifically:
 - A. The Applicant provided an alternatives analysis demonstrating that there are no practicable alternatives to the project that will be less damaging to the environment. The riprap is needed to protect the sand and cobble beach area from erosion due to wave scouring and wave impact;
 - B. The Applicant will limit the amount of (P-WL1) Wetland of Special Significance altered to 145 square feet, the minimum amount necessary to remove the unauthorized retaining wall from below the mean high water level of the Atlantic Ocean;
 - C. The Applicant's consultant provided a functional assessment of the area altered which identifies one function, fish and shellfish habitat, of minor importance. The Applicant will be removing an unauthorized retaining wall from the area and allowing the habitat to return. While intertidal habitat function has been altered and lost, that habitat is being re-established and it is expected that in the long term, net wetland loss and impact to the wetland functions and values will be minimal. Consequently, it is not expected that the removal of the retaining wall and installation of riprap will have an undue adverse impact upon the resources and uses in the area. Therefore, the Commission waives the requirement of compensation because the impact to wetland functions and values from the activity appears to be insignificant.
 - D. The proposal will have no unreasonable impact on the Atlantic Ocean. Specifically:
 - a) Replacing the retaining wall with riprap will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses;
 - b) while there is a potential for soil erosion from the project, this issue is being addressed by utilizing appropriate erosion control devices;
 - c) the project will not unreasonably harm any significant wildlife habitat, threatened or endangered plant habitat, or marine fisheries;
 - d) the riprap will not unreasonably interfere with the natural flow of water, increase the flooding potential, or interfere with a sand dune system.

4. The proposal will meet the Development Standards of Section 10.25,T,2,a of the Commission's Standards. Specifically, the riprap will not float and is resistant to flood damage, and the riprap will be armored in consideration of the FEMA Zone VE (EL 15).
5. If carried out in compliance with the Conditions below, the proposal will meet the Criteria for Approval, section 685-B(4) of the Commission's Statutes, 12 M.R.S.

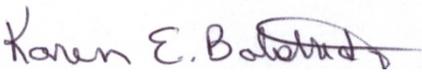
Therefore, the staff approves the amendment application of Lassell Island, LLC with the following Conditions:

1. This permit is dependent upon and limited to the proposal as set forth in the application and supporting documents, except as modified by the Commission in granting this permit. Any variation therefrom is subject to the prior review and approval of the Maine Land Use Planning Commission. Any variation from the application or the conditions of approval undertaken without approval of the Commission constitutes a violation of Land Use Planning Commission law.
2. The permittee shall secure and comply with all other applicable licenses, permits, and authorizations of all federal, state and local agencies including, but not limited to, **the U.S. Army Corps of Engineers**, the Maine Department of Environmental Protection, the Department of Marine Resources, and the United States Fish and Wildlife Service.
3. Except as specified in this permit, erosion and sedimentation control shall be in compliance with the Commission's *Standards for Erosion and Sedimentation Control*, Section 10.25,M of the Commission's Standards, a copy of which is attached.
4. Erosion control devices including, but not limited to, silt fence and floating silt fence, shall be installed in the project area as necessary. Should any erosion or sedimentation occur to the ocean during construction, the permittee shall contact the Land Use Planning Commission immediately, notifying it of the problem and describing all proposed corrective measures.
5. All work must be conducted at periods of low water when the water level is lower than the work area. Except as specified in this permit, no mechanical equipment, machinery or vehicles shall be operated below the mean high water level.
6. Except as specified in this permit, the riprap shall be installed in accordance with the modified Standards for Installation of Riprap (ver. 4/91), a copy of which is attached.
7. The geotextile filter cloth shall be placed directly on the prepared slope. The edges of the sheets should overlap by at least 12 inches. Anchor shall be according to the manufacturer's recommendations and with the pins suggested by the manufacturer. The upper end of the cloth shall be buried a minimum of 12 inches deep and the lower end shall be toed in.
8. All areas of exposed mineral soil above the mean high water level shall be promptly seeded and mulched so as to avoid soil erosion and ocean sedimentation.

9. The permittee and any subsequent owners or lessees of the subject property shall ensure the survival of the stabilization plantings by frequent monitoring and prompt replacement of damaged, diseased, and dead or dying shrubs with the same or similar species and size. No cutting or pruning of healthy shrubs, or other naturally occurring vegetation shall occur within the planted area without prior approval from the Commission until July 1, 2020. Thereafter, cutting, pruning, or removal of vegetation within the planted area may be allowed in accordance with the Commission's vegetative clearing standards in effect at the time.
10. Once the activity is completed, the permittee shall notify the Commission that all requirements and conditions of approval have been met. The permittee shall submit all information requested by the Commission demonstrating compliance with the terms of the application and the conditions of approval. Following notification of completion, the Commission's staff will arrange and conduct a inspection for compliance with the Administrative Settlement Agreement.
11. Nothing in this permit shall be construed to release the permittee from any liability or responsibility arising from any violations at the property, including those related to Enforcement Case EC 13-17, or to be considered a waiver of the authority of the Commission or the State of Maine to fully pursue or prosecute such violations.
12. All Conditions of Wetlands Alteration Permit WL 0062, and subsequent amendments shall remain in effect except as altered by this permit.

This permit is approved upon the proposal as set forth in the application and supporting documents, except as modified in the above stated Conditions, and remains valid only if the permittee complies with all of these conditions. Any variation from the application or the conditions of approval is subject to prior Commission review and approval. Any variation undertaken without Commission approval constitutes a violation of Land Use Planning Commission law. In addition, any person aggrieved by this decision of the staff may, within 30 days, request that the Commission review the decision.

DONE AND DATED AT BANGOR, MAINE, THIS 12TH DAY OF JUNE, 2015.

By: 
_____ *for* Nicholas D. Livesay, Executive Director

M. EROSION AND SEDIMENTATION CONTROL

The standards set forth below must be met for all development that involves filling, grading, excavation or other similar activities which result in unstabilized soil conditions.

1. General Standards.

- a. Soil disturbance shall be kept to a practicable minimum. Development shall be accomplished in such a manner that the smallest area of soil is exposed for the shortest amount of time possible. Operations that result in soil disturbance shall be avoided or minimized in sensitive areas such as slopes exceeding 15% and areas that drain directly into water bodies, drainage systems, water crossings, or wetlands. If soil disturbance is unavoidable, it shall occur only if best management practices or other soil stabilization practices equally effective in overcoming the limitations of the site are implemented.
- b. Whenever sedimentation is caused by stripping of vegetation, regrading, or other construction-related activities, sediment shall be removed from runoff water before it leaves the site so that sediment does not enter water bodies, drainage systems, water crossings, wetlands, or adjacent properties.
- c. Soil disturbance shall be avoided or minimized when the ground is frozen or saturated. If soil disturbance during such times is unavoidable, additional measures shall be implemented to effectively stabilize disturbed areas, in accordance with an approved erosion and sedimentation control plan.

2. Design Standards.

- a. Permanent and temporary erosion and sedimentation control measures shall meet the standards and specifications of the “Maine Erosion and Sediment Control BMPs” (Maine Department of Environmental Protection, March 2003) or other equally effective practices. Areas of disturbed soil shall be stabilized according to the “Guidelines for Vegetative Stabilization” (Appendix B of this chapter) or by alternative measures that are equally effective in stabilizing disturbed areas.
- b. Clearing and construction activities, except those necessary to establish sedimentation control devices, shall not begin until all sedimentation control devices have been installed and stabilized.
- c. Existing catch basins and culverts on or adjacent to the site shall be protected from sediment by the use of hay bale check dams, silt fences or other effective sedimentation control measures.
- d. If streams will be crossed, special measures shall be undertaken to protect the stream, as set forth in Section 10.27,D.
- e. Topsoil shall not be removed from the site except for that necessary for the construction of roads, parking areas, building excavations and other construction-related activities. Topsoil shall be stockpiled at least 100 feet from any water body.
- f. Effective, temporary stabilization of all disturbed and stockpiled soil shall be completed at the end of each workday.

- g.** Permanent soil stabilization shall be completed within one week of inactivity or completion of construction.
- h.** All temporary sedimentation and erosion control measures shall be removed after construction activity has ceased and a cover of healthy vegetation has established itself or other appropriate permanent control measures have been implemented.

3. Erosion and Sedimentation Control Plan.

- a.** For development that occurs when the ground is frozen or saturated or that creates a disturbed area of one acre or more, the applicant must submit an erosion and sedimentation control plan for Commission approval in accordance with the requirements of Section 10.25,M,3,b,(2).
- b.** A Commission approved erosion and sedimentation control plan in conformance with these standards shall be implemented throughout the course of the project, including site preparation, construction, cleanup, and final site stabilization. The erosion and sedimentation control plan shall include the following:
 - (1) For activities that create a disturbed area of less than one acre:
 - (a) A drawing illustrating general land cover, general slope and other important natural features such as drainage ditches and water bodies.
 - (b) A sequence of construction of the development site, including clearing, grading, construction, and landscaping.
 - (c) A general description of all temporary and permanent control measures.
 - (d) Provisions for the continued maintenance of all control devices or measures.
 - (2) For activities that create a disturbed area of one acre or more:
 - (a) A site plan identifying vegetation type and location, slopes, and other natural features such as streams, gullies, berms, and drainage ditches. Depending on the type of disturbance and the size and location of the disturbed area, the Commission may require a high intensity soil survey covering all or portions of the disturbed area.
 - (b) A sequence of construction of 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, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
 - (c) A detailed description of all temporary and permanent erosion and sedimentation control measures, including, without limitation, seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
 - (d) Provisions for the continued maintenance and inspection of erosion and sedimentation control devices or measures, including estimates of the cost of maintenance and plans for meeting those expenses, and inspection schedules.

4. Inspection.

- a.** For subdivisions and commercial, industrial or other non-residential development that occurs when the ground is frozen or saturated or that creates a disturbed area of one acre or more, provision shall be made for the inspection of project facilities, in accordance with Section 10.25,M,4,a,(1) or (2) below:
 - (1) The applicant shall hire a contractor certified in erosion control practices by the Maine Department of Environmental Protection to install all control measures and conduct follow-up inspections; or
 - (2) The applicant shall hire a Maine Registered Professional Engineer to conduct follow-up inspections.
- b.** The purpose of such inspections shall be to determine the effectiveness of the erosion and sedimentation control plan and the need for additional control measures.
- c.** Inspections shall be conducted in accordance with a Commission approved erosion and sedimentation control plan and the following requirements.
 - (1) Inspections shall be conducted at least once a week and after each rainfall event accumulating more than ½ inch of precipitation, until all permanent control measures have been effectively implemented. Inspections shall also be conducted (a) at the start of construction or land-disturbing activity, (b) during the installation of sedimentation and erosion control measures, and (c) at the completion of final grading or close of the construction season.
 - (2) All inspections shall be documented in writing and made available to the Commission upon request. Such documentation shall be retained by the applicant for at least six months after all permanent control measures have been effectively implemented.
- d.** Notwithstanding Section 10.25,M,4,a, development may be exempt from inspection if the Commission finds that an alternative, equally effective method will be used to determine the overall effectiveness of the erosion and sedimentation control measures.



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
LAND USE PLANNING COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0022

**STANDARDS FOR THE
INSTALLATION OF RIPRAP**

Riprap shall be installed in accordance with the following standards:

1. Riprap shall be placed in such a manner as to form a slope not steeper than 2 feet horizontal for every 1 foot vertical. Flatter slopes are more stable, and, therefore, slopes of 3:1 or 4:1 are preferable.
2. Riprap shall be irregularly shaped rocks (not round rocks) of 10 inches to 12 inches in diameter (about the size of a basketball), and shall be placed in a manner that the rocks fit together and interlock. Riprap should consist of more than one layer of rocks to be stable.
3. Riprap shall be placed on top of and embedded into coarse gravel, or a sediment barrier such as filter fabric, if the original soils are clay, light sand, or other highly erodible soils.
4. Riprap shall be secured into the toe of the slope of the embankment, meaning the first layer should start approximately 6 inches below the original grade at the base of the embankment. As indicated in 5 below, this does not mean that you may encroach into the water body or wetland.
5. Riprap placed at the normal high water line shall begin at the existing shoreline and shall not extend toward the water body or wetland. The top of the shoreline shall be cut back as necessary to obtain the required 2:1 or flatter slope.
6. Rocks used for riprap shall not be obtained from the bottom of the water body or wetland, the immediate shoreline area or from areas where their removal will cause soil erosion into the water body or wetland.
7. Surface water drainage shall be diverted around the area being riprapped.
8. The riprap may not be covered with gravel, clay, loam, or any other materials.