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CAPE COD  
COMMISSION

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## DECISION OF THE CAPE COD COMMISSION

Date: August 3, 2017

Applicant: Town of Orleans  
c/o George Meservey, Orleans Town Planner  
19 School Road, Orleans, MA 02653

Re: Development of Regional Impact (DRI) Exemption  
Cape Cod Commission Act, Section 12(k)/ Enabling Regulations, Section 8

Project: Cedar Pond Water Quality Management Plan  
Cedar Pond, Orleans  
(Commission File No. 16003)

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### SUMMARY

The Cape Cod Commission ("Commission") hereby approves the Development of Regional Impact (DRI) Exemption application by the Town of Orleans for a proposal to re-install weir boards into an existing outlet control structure to Cedar Pond in Orleans, as part of the Town's water quality management plan for the pond. This DRI Exemption Decision is issued pursuant to a vote of the Commission on August 3, 2017.

### FINDINGS

The Commission hereby finds and determines as follows:

F1. The project, part of the Town of Orleans' Water Quality Management Plan for Cedar Pond in Orleans, is characterized as ecological restoration that consists of reinstalling weir boards back into an existing outlet control structure to Cedar Pond in Orleans, which were removed in 2004 ("Project").

F2. Cedar Pond is a ~15-acre pond in Orleans, southwest of the Orleans Route 6 Rotary. The existing outlet control structure is located to the northeast side of Cedar Pond, installed during the construction of Route 6 in the 1950's. There is considerable evidence that Cedar Pond has been a natural freshwater pond for almost two centuries, at least.

F3. Since removal of weir boards from the outlet structure in approximately 2004, salt-water tidal flow has increased to Cedar Pond. Increased salinity has resulted in low dissolved oxygen and increased chlorophyll concentrations, fish-kills and threatens wildlife habitat area, the unique Atlantic Cedar freshwater wetlands community and vernal pool to the west of Cedar Pond.

F4. The Project is a component of the Town's Cedar Pond Water Quality Management Plan (CPWQMP), outlined as one of the recommended management actions in it. In response to water quality concerns, the Town hired the University of Massachusetts- Dartmouth, Coastal Systems Program, School of Marine & Science Technology (SMAST) to study the pond and develop the CPWQMP. The plan evaluated alternatives and recommended retention of freshwater at the outlet. The Orleans Board of Selectmen and Water Quality Task Force reviewed and approved the CPWQMP in 2013.

F5. The Town further engaged SMAST and Applied Coastal Research to recommend an initial weir board height. SMAST issued a technical memo in October 2014 recommending a board height of 1.45m, and further recommending implementation of a year-long monitoring program to assess the change in water quality. Target salinity is 1-4 ppt, which will protect the Atlantic White Cedar Swamp and allow anadromous fish to spawn. The Town is under contract with SMAST to monitor the pond as soon as it is able to proceed with the weir board re-installation.

F6. The Town filed an Environmental Notification Form (ENF) under the Massachusetts Environmental Policy Act (MEPA) for the Project on January 9, 2016. Though the Project did not meet or exceed a categorical Environmental Impact Report (EIR) threshold under MEPA, the Commonwealth issued a Certificate on the ENF on February 10, 2016 which required the Town to supply more information on the Project through the preparation and submission of an EIR. The Town prepared and submitted an EIR under MEPA on April 13, 2017. The Commonwealth issued a Certificate on the EIR May 26, 2017, determining that the Project adequately and properly complies with MEPA. The Commission issued comment letters to the MEPA office on the Project's ENF and EIR, expressing support for the Project and the Project's consistency with applicable Regional Policy Plan (RPP) issue areas.

F7. The Project qualifies as a mandatory Development of Regional Impact (DRI) pursuant to Section 2 of the Commission's Enabling Regulations Governing Review of Developments of Regional Impact (Revised, Effective November 2014) ("Enabling Regulations") as the Project was required to prepare an EIR under MEPA. As MEPA review of the Project was completed with the issuance of the Certificate on the EIR May 26, 2017, the DRI public hearing period on the Project was opened by Commission hearing officer July 10, 2017.

F8. Where a proposed development or activity requires DRI review, Section 12(k) of the Cape Cod Commission Act and Section 8 of the Enabling Regulations allow "any applicant to apply to the Commission for an exemption from Commission review because the location, character and environmental effects of the development will prevent its having any significant impacts on the values and purposes protected by the Act outside of the municipality in which the development is to be located..."

F9. The Town submitted a DRI Exemption Application and supporting materials on June 29, 2017, consisting of:

*Environmental Notification Form dated January 26, 2016, Expanded with additional materials March 8, 2016;*

*(Single) Environmental Impact Report dated April 13, 2017;*

*Adaptive Management Program Monitoring Contract with SMAST dated 7/10/14;*

*Final Cedar Pond Water Quality Management Plan dated July 2013;*

*Weir Board Height Recommendation Study by SMAST dated 10/10/14;*

*A supporting DRI exemption narrative was submitted on July 12, 2017*

F10. The Project does not propose actual development work, but management action intended to improve water quality and reduce existing detrimental impacts to and within Cedar Pond. The purpose of the Project is to restore water quality in Cedar Pond by reducing its salinity, to restore diadromous fish habitat (alewife, white perch, and American eel), and to protect adjacent forested (Atlantic Cedar) wetland habitat. The increased salinity has also affected the Pond's ability to attenuate nitrogen. Re-installation of the boards will limit incoming tides from entering Cedar Pond, lower salinity concentration in the Pond, and allow better nitrogen attenuation.

F11. Cedar Pond and its watershed are located entirely within the Town of Orleans. The Project is not anticipated to create detrimental impacts, and will not create substantial impacts outside the Town of Orleans. That said, the Town of Eastham may benefit from the Project; Rock Harbor is a nitrogen-overloaded estuary shared by the two towns, and the Project is expected to improve water quality in Rock Harbor by enhancing the ability of Cedar Pond to attenuate nitrogen.

F12. The Town has spent considerable time studying proposed weir board height, in conjunction with SMAST. At the initial height proposed, the boards will allow gradual freshening of the Pond, freshwater outflow from the Pond, limit tidal intrusion to the Pond, balance concerns about rising water levels around the margins of the Pond, and raise water level in the Pond by approximately 3.5 inches. Board height will allow storm surges to pass over them and allow the pond to provide flood storage capacity.

F13. The Town has an Adaptive Operations and Management Program for the Project as part of the CPWQMP, which was augmented in the EIR. The Town, among other things, proposes to monitor water quality and levels and adjust weir board height seasonally to facilitate fish migration. The Commission encourages the Town to consider further broadening the adaptive management approach of the CPWQMP, as referenced in a number of comment letters submitted on the ENF and EIR, adjusting the Plan as needed based on monitoring results: namely, that the Town should consider longer term monitoring of the resources associated with the CPWQMP; should pursue further nitrogen reduction strategies in the Cedar Pond

watershed, balanced with ecological restoration goals; and should monitor the health of other resources like vernal pools and the Atlantic White Cedar community near the Pond.

F14. The Project is expected to provide numerous benefits that range from improved water quality, system biodiversity and ecosystem stability, resiliency of wetland flora, improvement of fish migration and habitat, and enhancement of the Cedar Pond system's ability to a reduce nitrogen load to downstream Rock Harbor. Other Town efforts to restore water quality that are not part of this Project include efforts to reduce nutrient additions from cormorants that roost over the Pond.

F15. Expected improvements to water quality and habitat will be monitored under the Cedar Pond Water Quality Management Plan's Adaptive Operations and Management Program (including the Project's *Fishway Operations and Maintenance Plan* developed in conjunction with MA DMF included as appendix B to the EIR). Monitoring results will inform future board height adjustments and the need for any potential future interventions, required to meet water quality goals. Efforts by others, e.g. MassDOT's proposed stormwater-management improvements along segments of Route 6, compliment the Town's work.

F16. Many of the goals, values and purposes of the Cape Cod Commission Act and Regional Policy Plan do not apply to the project. However, Project objectives and the Project itself are consistent with and further the applicable values, goals and purposes of the Cape Cod Commission Act and the Regional Policy Plan relating to groundwater, surface water and marine water quality; wetlands, and wildlife and plant habitat.

## CONCLUSION

Based on the above Findings, the Commission hereby further finds and determines that, though the Project literally qualifies as a DRI, it may nonetheless be exempted from Commission DRI review because the location, character, and environmental effects of the Project will not create any significant regional impacts on the resources, values and purposes protected by the Act. As such, the Commission hereby approves the DRI Exemption application by the Town of Orleans for the Project described herein, subject to the Conditions, below.

## CONDITIONS

C1. Pursuant to Section 12(k) of the Act, this Decision is valid and the rights granted hereunder may be exercised by Project commencement within three (3) years from the date of this written decision.

C2. The Town shall obtain all necessary federal, state and local permits, licenses, authorizations and approvals for the Project.

C3. The Project shall be undertaken consistent with Findings above, including the plans and other information contained in the application materials referenced in Finding F9 herein.

*(SIGNATURE PAGE FOLLOWS)*



**SIGNATURES**

Executed this 3rd day of August 2017.

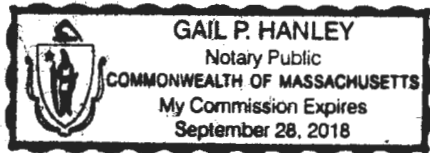
Harold W. Mitchell  
Signature

Chairman CC Commission  
Print Name and Title

**COMMONWEALTH OF MASSACHUSETTS**

Barnstable, ss \_\_\_\_\_ August 3, 2017

Before me, the undersigned notary public, personally appeared Harold W. Mitchell, in his/her capacity as Chairman of the Cape Cod Commission, whose name is signed on the preceding document, and such person acknowledged to me that he/she signed such document voluntarily for its stated purpose. The identity of such person was proved to me through satisfactory evidence of identification, which was [ ] photographic identification with signature issued by a federal or state governmental agency, [ ] oath or affirmation of a credible witness, or [  ] personal knowledge of the undersigned.



SEAL

Gail P. Hanley  
Notary Public  
My Commission Expires: 9-28-18