Commonwealth of Massachusetts

Textron Systems/Mass Military Reservation Natural Resource Damages Settlement

Final Restoration Plan

Prepared by the Massachusetts Executive Office of Energy and Environmental Affairs as a member of the MMR Trustee Council

5/11/2010

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Executive Summary

This Final Restoration Plan (RP) was prepared by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) as a member of the Massachusetts Military Reservation (MMR) Trustee Council. The MMR Trustee Council includes the Commonwealth of Massachusetts EEA, the United States Air Force and the United States Army (collectively referred to as the Department of Defense or DoD), the United States Department of the Interior, and the United States Department of Veterans Affairs. This Final RP identifies alternatives to restore, replace, or acquire the equivalent natural resources or natural resource services relating to groundwater that were injured by the release of hazardous substances and hazardous materials by Textron Systems Corporation (Textron) from or at the J-Ranges at the MMR.

In October 2007, State and Federal Trustees entered into a $1.3 Million NRD settlement with Textron, a defense contractor that conducted weapons testing in a section of the MMR that constitutes a major groundwater recharge area for the Cape Cod Aquifer. Of the $1 million NRD settlement by the state Trustee, $500,000 is subject to expenditure in accordance with Section 107 (f) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and a 1998 Memorandum of Agreement (MOA) between the State and Federal Trustees following the preparation of a Restoration Plan subject to public review and comment. Of the $300,000 NRD settlement by the federal Trustees, $175,000 on account of NRD claims of the Department of Defense is to be managed by the U.S. Department of the Interior for "restoration, replacement, or acquisition of equivalent of injured natural resources in connection with the Site" in accordance with Section 107(f) of CERCLA and the Trustee MOA.

In January of 2009, the public was invited to submit groundwater restoration project proposals. All proposals were subject to eligibility and evaluation criteria that were developed by the EEA NRD Program in coordination with the MMR Trustee Council. The EEA, in coordination with the MMR Trustee Council, identified two preferred groundwater restoration alternatives in a Draft RP, one of which will be funded from the DoD portion of the Textron settlement. Public comment on this Draft RP was received through April 21, 2010.

Recommended for funding are:

- $400,000 for Phases I and II of the town of Sandwich's proposed project to develop a Comprehensive Water Resources Management Plan and
- $371,800 for the Upper Cape Regional Water Supply Cooperative's proposed Sagamore Lens Aquifer – Safe Yield Analysis and Water Resource Recovery, modified by the MMR Trustee Council as the Sagamore Lens Aquifer - Sustainable Management of Water Resources Plan (of which $175,000 is funded from the DoD portion of the Textron settlement).

These preferred groundwater alternatives are expected to protect the quality and quantity of current and potential drinking water supplies by integrating planning and management of current and potential drinking water supplies and wastewater treatment, with an emphasis on regional or multi-community benefits.

1. Introduction to the Restoration Plan

This Final RP identifies preferred alternatives to restore, replace, or acquire the equivalent natural resources or natural resource services relating to groundwater that were injured by the release of hazardous substances and hazardous materials by Textron from or at the J-Ranges at the MMR (Figure 1.). This Final RP was prepared by the Massachusetts EEA as a member of the MMR Trustee Council.

A number of restoration alternatives were identified through formal solicitation by EEA of proposals from the public and public agencies; eligibility and evaluation criteria guided the evaluation of alternatives. The ecological and socio-economic setting of the affected environment, in this case the Upper Cape Cod Watershed and the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer, provided context for this evaluation. In addition, federal agency actions that are not otherwise exempt under the CERCLA or subject to a categorical exclusion must also satisfy applicable National Environmental Policy Act (NEPA) (40 CFR Part 1502.10) requirements. NEPA applicability is addressed in Section 6.1.

Nothing in the Draft or Final RP should be construed to amend, alter or modify the Consent Decree entered February 21, 2008 between Textron and the United States of America (Departments of the Army, Air Force, Veterans Affairs and Interior, the National Oceanic Atmospheric Administration, and the Environmental Protection Agency) and the Commonwealth of Massachusetts (Consent Decree) or the 1998 MOA among the United States Air Force, the United States Army, the United States Department of the Interior, the United States Department of Veterans Affairs and the Commonwealth of Massachusetts concerning natural resource damage activities in connection with the MMR (MOA). Nothing in the Draft or Final RP should be construed to preclude a party in any subsequent proceeding from contesting or controverting any finding of fact or conclusion of law set forth therein.

Nothing in the Restoration Plan constitutes agreement by any MMR Federal Trustee with any legal, policy or factual conclusion, characterization or description contained in the Restoration Plan, including, without limitation, with respect to what constitutes a "hazardous substance" under CERCLA, with respect to any determination as to which

Federal or Commonwealth Trustee has jurisdiction over which injured natural resources, and with respect to descriptions of the provisions of any law or other requirement. Nor does anything in this Restoration Plan constitute an admission of liability by any entity.

1.1. Trustee Responsibilities

When a release of hazardous substances or an oil spill occurs, federal, state and tribal governments act on behalf of the public as trustees of natural resources under several authorities, including but not limited to the following[1]:

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, commonly known as Superfund (42 United States Code (U.S.C.) § 9601 et seq.)
- The Clean Water Act (CWA) (33 U.S.C. §1251 et seq.)
- The Oil Pollution Act of 1990 (33 U.S. Code 2701-2761 et seq.)
- The Massachusetts Oil and Hazardous Material Release Prevention and Response Act (Massachusetts General Laws (M.G.L.) Chapter 21E)

Natural resources include "land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by" these governments. Trustees assess injuries to natural resources resulting from the release of oil or hazardous substances and bring claims against responsible parties for monetary damages in order to restore, replace, or acquire the equivalent of natural resources that have been injured to compensate the public. This process is known as Natural Resource Damages Assessment and Restoration (NRD). The Trustees in this matter include the Commonwealth of Massachusetts EEA, the United States Air Force and the United States Army (collectively referred to as the Department of Defense or DoD), the United States Department of the Interior, and the United States Department of Veterans Affairs.

[1] Under Section 107(f) of the CERCLA, 42 USC § 9607(f), Section 311 of the Clean Water Act (CWA), 33 USC § 1321, and other applicable law, including Subpart G of the National Contingency Plan (NCP), 40 CFR §§ 300.600-300.615, the governor of each state appoints a Trustee for natural resources. The Secretary of the Executive Office of Energy and Environmental Affairs is the designated natural resource Trustee for the Commonwealth of Massachusetts.

Under Section 107(f)(1) of CERCLA, monetary damages awarded through NRD settlements can only be used to restore, replace, or acquire the equivalent of natural resources or natural resource services injured, destroyed, or lost as a result of the release of hazardous substances. Before NRD funds can be expended for this purpose, requirements for planning and public involvement must be met. Section 111(i) of CERCLA requires Trustees to develop and adopt a Restoration Plan for the use of NRD funds under CERCLA following "adequate public notice and opportunity for hearing and consideration of all public comment." This document describes the public involvement activities undertaken by the EEA NRD Program as well as the public review and comment period associated with development of the Final Restoration Plan.

Following publication of the Final Restoration Plan, individual projects may be determined to trigger thresholds established under the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations (M.G.L. c.30, §§ 61-62H, and 301 CMR 11.00) and will then be required to proceed through a MEPA review. Likewise, some projects may require additional NEPA analysis once the details of the restoration project are further defined (e.g., after the completion of the feasibility/planning portion of the project). Such additional MEPA or NEPA analysis must be completed prior to project implementation.

1.2. Summary of Textron/MMR Natural Resource Damages Settlement

In October 2007, State and Federal Trustees entered into a $1.3 Million NRD settlement with Textron, a defense contractor that conducted weapons testing in a section of the MMR that constitutes a major groundwater recharge area for the Cape Cod Aquifer. The settlement resolves NRD claims against Textron only, with the state portion of the NRD settlement at $1 Million and the federal portion at $300,000. The Consent Decree settlement, which was subject to a 120-day public comment period and court approval, was entered by the U.S. District Court in February 2008.

Of the $1 million NRD settlement by the state Trustee: $460,000 is subject to expenditure in accordance with M.G.L. Chapter 21E and the Massachusetts Contingency Plan and the 1998 MOA between the State and Federal Trustees; and $500,000 is subject to expenditure in accordance with Section 107 (f) of CERCLA and the

Trustee MOA following the preparation of a Restoration Plan subject to public review and comment.

Of the $300,000 NRD settlement by the federal Trustees: $175,000 on account of NRD claims of the Department of Defense is to be managed by the U.S. Department of the Interior for "restoration, replacement, or acquisition of equivalent of injured natural resources in connection with the Site" in accordance with Section 107(f) of CERCLA and the Trustee MOA; $25,000 to the National Oceanic and Atmospheric Administration for assessment costs; and $100,000 to the U.S. Department of the Interior for assessment costs.

1.3. Summary of Natural Resource Injuries

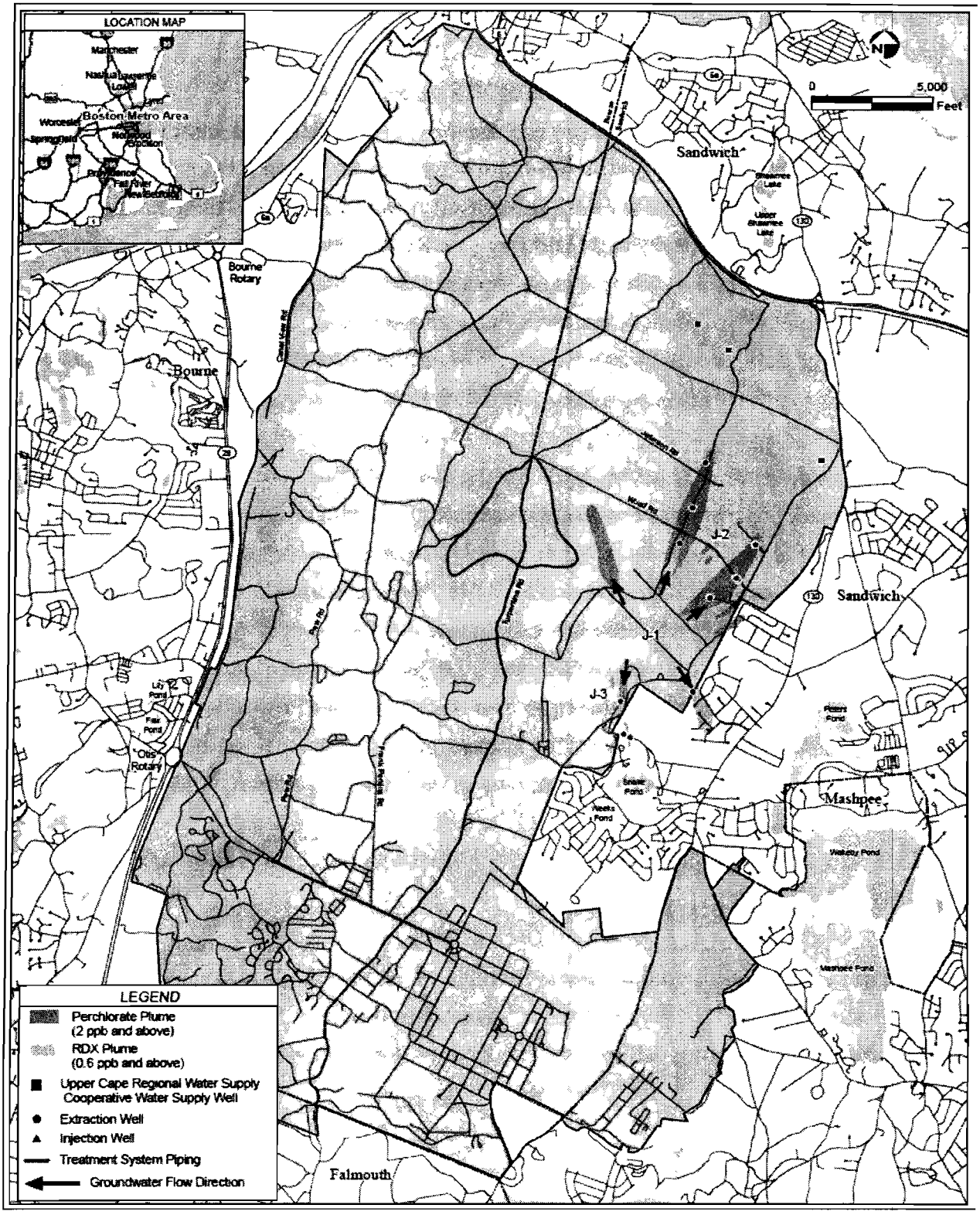
On July 13, 1982, EPA determined that the Cape Cod aquifer is the sole or principal source of drinking water for Cape Cod, Massachusetts, and that this sole source aquifer, if contaminated, would create a significant hazard to public health. The MMR site is an approximately 20,000 acre facility at which Otis Air National Guard Base and Camp Edwards are located on Cape Cod, in the towns of Bourne, Falmouth, Mashpee and Sandwich. The MMR site is located over an area of the sole source aquifer known as the Sagamore Lens; the largest of six total groundwater lenses that supply drinking water and recharge to ponds, small streams and coastal embayments.

The MMR was placed on the National Priorities List (NPL) of hazardous waste sites in November 1989. In October 1999, Executive Order No. 414, of the Commonwealth of Massachusetts established the Upper Cape Water Supply Reserve within the northern 15,000 acres of the MMR.

With regard to this NRD settlement, Textron's operations were executed within experimental contractor ranges (mainly the J ranges) located within the upper 15,000 acres of Camp Edwards. (See Figure 1.) From 1968 to 1999, Textron or its predecessors, under contracts with the Department of Defense, conducted munitions testing in the area of the J-Ranges at MMR. As a contractor of the Department of Defense, Textron or its predecessors engaged in packing and testing of munitions at ranges on the MMR. Excess explosives, off specification propellants, unexploded ordinance, excess

munitions and scrap metal were open detonated or burned in an unlined detonation pit and burn box in the J-1 and J-3 Range area.

The Training Ranges and Impact Area lie directly over the Sagamore Lens. Groundwater flows radially in all directions from the Training Ranges and Impact Area. Located in the Town of Sandwich, the J-1 and 3 Ranges lie above several wellhead protection areas that supply drinking water for residents of Cape Cod. Of primary concern to EEA was Textron's development and explosive testing of tactical weapons systems for the U.S. Army and Air Force and contamination of groundwater with the hazardous material and weapons propellant perchlorate – an inorganic chemical that is highly mobile in water and can persist for years under typical conditions.



Southeast Ranges Groundwater Plumes

Impact Area Groundwater Study Program

Figure 1. J-Ranges

1.4. Restoration Goals

EEA as a natural resource Trustee, and its NRD Program as Trustee representative for Massachusetts, is required to "restore, replace, or acquire the equivalent of" natural resources or natural resource services relating to groundwater that were injured by the release of hazardous substances and hazardous materials from or at the J-Ranges at the MMR. NRD restoration projects should have a strong relationship to the injured groundwater resources and the services they provide, and a location or benefit proximal to the injured groundwater resources and services. Proposed groundwater restoration projects must be located within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer.

In developing specific restoration goals for the Textron NRD settlement, the EEA NRD Program considered a number of Commonwealth policies and guidelines, including but not limited to, the Massachusetts Water Supply Policy Statement, Offsets Policy Regarding Proposed Interbasin Transfers, Water Management Policy, Water Resource Management Planning Guidance and Sustainable Development Principles. The Commonwealth's ground and surface waters are interconnected and renewable hydrological resources whose protection and restoration are critical to insure the availability of safe and potable drinking water for current and future needs; promote sustainable and equitable development; and sustain water-dependent ecosystems.

The Massachusetts Water Supply Policy Statement sets forth the following water supply philosophy:

- The state's overall goal is to ensure that water is available in sufficient quantity and quality to meet Massachusetts' current and future needs.
- Water is a valuable resource for public and environmental health and the economic welfare of the Commonwealth.

Integrated water resources management is essential for the protection and restoration of interconnected and interdependent hydrological and ecological systems. The Commonwealth supports the development and implementation of local and regional, state and interstate plans that have broad public support and are consistent with its

sustainable development principles. According to the Massachusetts Water Supply Policy Statement:

- It is in the public interest for the state to support and strengthen local and regional capabilities to manage public water supplies by working together to plan, construct, manage, conserve, and protect water supplies using the watershed as the foundation for such planning.
- The watershed is the planning unit for all aspects of water resources assessment, planning and management whose implementation is best served through a coordinated, watershed-based, public-private partnership.

In accordance with the Commonwealth's water supply policies, groundwater restoration projects have the potential to benefit current and potential drinking water supplies as well as offset ecological impacts related to diminished water quantity or quality. Additionally, groundwater restoration projects can encompass a wide range of strategies to develop, protect, maintain and conserve current and potential drinking water supplies and provide for the protection of natural ecosystems.

1.5. Coordination and Scoping

1.5.1. Trustee Council Organization and Activities

In 1998, the State and Federal Trustees signed a MOA concerning natural resource damage activities in connection with the MMR. This MOA provides, for among other things, the establishment of an MMR NRD Trustee Council.

Each Trustee designated a primary representative to the MMR Trustee Council. The current Trustee representatives are:

- Dale Young, Massachusetts EEA
- Tom Sims, U.S. Air Force
- Mary Ellen Maly, U.S. Army
- Drew Major, U.S. Fish and Wildlife Service
- Donald Campbell, U.S. Department of Veterans Affairs

The MMR Trustee MOA outlines a framework for coordination, decision-making and community involvement by the Trustee Council. Any action proposed to be taken by the Council, including but not limited to actions by a Lead or Administrative Trustee, must be approved by unanimous consent of the Representatives or their alternates.

The MOA also contains the following stipulations regarding trusteeship and joint use of NRD funds:

A. State and Federal Trusteeships. The Trustees recognize that each has a trusteeship, under CERCLA and other applicable law, over natural resources and that the scopes of the respective trusteeships may overlap in some situations.
B. Joint Use of Natural Resource Damage Recoveries. Any natural resource damage recoveries received jointly by the signatory Trustees, any natural resource damage recoveries received individually by a signatory Trustee for injury to other natural resources for which more than one signatory Trustee has responsibility, and any interest earned thereon, may be expended by the Council only for the purposes authorized by §107(f) of CERCLA, and only pursuant to prior written agreement by the signatory Trustees. Any natural resource damage recoveries received individually by a signatory Trustee for injury to natural resources for which no other Trustee claims jurisdiction may be expended pursuant to section 107(f) of CERCLA, or Chapter 21E to the extent applicable, individually by the recovering Trustee, at the option of the recovering Trustee.

1.5.2. Summary of Public Involvement

On October 15, 2008, the EEA hosted a formal public meeting in Sandwich, Massachusetts to present an overview of the Textron NRD settlement, Trustees and the MMR Trustee Council, EEA NRD Program, and the Restoration Planning process. This overview included information on goals and criteria that would guide the selection of restoration projects and major milestones and opportunities for continued public involvement and input. This informational meeting kicked off a public participation process to involve all communities and identify all opportunities for restoration at the earliest possible stage.

Following this meeting, the public was invited to submit groundwater restoration project proposals in response to a Request for Responses (RFR) that was distributed electronically by EEA using the Massachusetts Comm-PASS system on January 9, 2009. Responses were due on March 11th. To assist in evaluating the proposed groundwater restoration projects, the EEA NRD Program conducted site visits and consulted with appropriate remedial and natural resource management agencies. Additionally, the EEA NRD Program consulted with the MMR Trustee Council. All projects were subject to eligibility and evaluation criteria that were developed by the EEA NRD Program in coordination with the MMR Trustee Council.

On March 23, 2010 EEA issued the Draft RP for public review and comment. A public meeting was held on April 6, 2010 in Bourne at which the public was invited to ask questions and offer comments on the Draft RP.

1.5.3. Public Notification

Under CERCLA, the Trustees must notify the public of the availability of the Draft RP. The public has a minimum 30-day period to review and comment on the Draft RP. The document was available for review at the Sandwich, Bourne, Falmouth (including Woods Hole) and Mashpee Public Libraries. The document was also available on the the EEA website at the following address: www.mass.gov/eea.

2. Affected Environment

This section describes the ecological and socioeconomic environment in which restoration activities would be implemented. The purpose is to summarize in brief the current conditions in the Upper Cape Cod watershed and provide a foundation for assessing the relative impacts of the restoration alternatives considered. Regional planning documents, and the conservation and restoration priorities set forth in those documents, that were considered in the development of this RP are discussed below. Specific conservation and restoration strategies will be referred to in this RP/EA as appropriate in the evaluation of restoration alternatives. Readers who are interested in greater detail on the biological and socioeconomic features of the Upper Cape Cod watershed may wish to consult these sources.

Cape Cod Watershed Assessment and Action Plan (EEA, 2004)[2]

Cape Cod Regional Policy Plan (Cape Cod Commission, 2009)[3]

Cape Trends (Cape Cod Commission, 2006)[4]

3. Ecological and Socio-economic Environment

The MMR is an approximately 20,000 acre facility located on Upper Cape Cod, in the towns of Bourne, Falmouth, Mashpee, and Sandwich in Barnstable County, Massachusetts. Approximately 14,000 acres of MMR constitute the Training Ranges and Impact Area of Camp Edwards.

The MMR overlies the Sagamore Lens, the largest of six total groundwater lenses that supply drinking water and recharge to ponds, small streams and coastal embayments. As of 2004, 70,000 homes and businesses in Barnstable, Falmouth, Mashpee, Sandwich, Bourne and Yarmouth depended on the Sagamore Lens as their source of drinking water. In recognition that over 90% of available water on Cape Cod is groundwater

[2] Retrieved from http://www.mass.gov/Eoeea/docs/eea/water/assess_rpt_capecod.pdf

[3] Retrieved from http://www.capecodcommission.org/RPP/

[4] Retrieved from http://www.capecodcommission.org/data/capetrends.htm

contained in the Cape Cod Aquifer, the U.S. Environmental Protection Agency designated the Cape Cod Aquifer as a Sole Source Aquifer in 1982.

On Cape Cod, hydrological and ecological systems are interconnected. Of the nearly 1,000 freshwater ponds and lakes, most are located in kettle holes on glacial outwash plains where their elevation is at the water table. Coastal embayment watersheds capture the flow of groundwater from inland areas towards the coast; on-site septic systems account for 75% of the nitrogen load to these sensitive ecosystems. In 1978, the EEA designated the 9,125 Sandy Neck Barrier Beach System as an Area of Critical Environmental Concern (ACEC), one of the largest barrier beach systems in New England that also contains extensive salt marsh habitat. In 1979, the EEA designated the 2,575 acre Waquoit Bay ACEC which includes the Waquoit Bay National Estuarine Research Reserve and notable estuarine waters, freshwater wetlands and ponds, shrub and wooded swamps, streams, salt marsh, tidal flats, coastal dunes, and beaches. In 1989, the EEA designated 1,850 acres of the Bourne Back River coastal estuary as an ACEC in recognition of its outstanding salt marsh, tidal flat, and freshwater wetland resources.

The population of Cape Cod more than doubled between 1970 and 2004; its growth rate between 1990 and 2004 surpassed the growth rate of Massachusetts. Housing growth in Barnstable County between 2000 and 2005 exceeded all other Massachusetts counties with the exceptions of Dukes and Nantucket County. In Massachusetts, the Water Resources Commission develops water needs forecasts for public water suppliers and communities. The previously completed water needs forecast for Cape Cod projected a 43.6% increase in water supply demand, both year-round and seasonal, between 1990 and 2020. These projections indicated that a total of 12 million gallons per day would be needed to meet peak-day demand for the Sagamore Lens. Updated water needs forecasts for Cape Cod communities are expected to be completed in 2010.

In October 1999, Executive Order No. 414 of the Commonwealth of Massachusetts established the Upper Cape Water Supply Reserve within the northern 15,000 acres of the MMR. Chapter 352 of the Acts of 2000 created the Upper Cape Regional Water Supply Collaborative (Collaborative). In 2001, the Department of Defense completed a project creating a new water supply system of wells located near the northeast corner of

the MMR and making several million gallons of water per day available for public water supply. The DoD contributed over twenty million dollars toward this effort. The water supply is controlled by the Collaborative, which includes representatives from the Falmouth, Mashpee and Sandwich, and Bourne Water Districts.

Chapter 47 of the Acts of 2002 created the Upper Cape Water Supply Reserve as public conservation land dedicated to:

- the natural resource purposes of water supply and wildlife habitat protection and the development and construction of public water supply systems, and
- the use and training of the military forces of the commonwealth; provided that, such military use and training is compatible with the natural resource purposes of water supply and wildlife habitat protection.

A three-member Environmental Management Commission comprised of the Commissioners of the Departments of Environmental Protection, Conservation and Recreation, and Fish and Game was established to ensure the permanent protection of the drinking water supply and wildlife habitat of the Reserve.

4. Restoration Evaluation Criteria

While CERCLA and NRD regulations require that restoration activities restore, rehabilitate, replace, or acquire the equivalent of the resources and services that were injured or lost, they do not prescribe which restoration projects are preferred. The natural resource Trustees are provided discretion in identifying and selecting restoration projects. However, the United States Department of the Interior regulations recommend the following factors to be considered in the evaluation and selection of preferred alternatives (43 CFR 11.82):

- Technical feasibility.
- The relationship of the expected costs of the proposed actions to the expected benefits from the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.
- Cost-effectiveness.
- The results of any actual or planned response actions.
- Potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or other resources.

- The natural recovery period.
- Ability of the resources to recover with or without alternative actions.
- Potential effects of the action on human health and safety.
- Consistency with relevant Federal, State, and tribal policies.
- Compliance with applicable Federal, State, and tribal laws.

The EEA NRD Program, in coordination with the MMR Trustee Council, incorporated the ten factors described above into its Eligibility and Evaluation Criteria, described below. The EEA NRD Program was solely responsible for determining whether proposed restoration project ideas met these criteria, except for the project that will be co-funded by the U.S. Army and Air Force.

4.1. Eligibility Criteria

Projects must have met the following Eligibility Criteria in order to be further considered and evaluated by the EEA Trustee using the Evaluation Criteria. If any project did not meet the Eligibility Criteria, it was not be given further consideration by the EEA. A project's demonstrated consistency with the Eligibility Criteria did not guarantee that it will be funded, but merely established that the EEA could further consider the project for possible funding. Conversely, rejection of a proposed project based on these criteria means that the EEA would not allocate NRD funds for that project, even though the proposed project may yield a restoration benefit to injured natural resources.

1) A proposed project must:

- Restore, replace, and/or acquire the equivalent of natural resources or natural resource services relating to groundwater that was injured by the release of hazardous substances and hazardous materials from or at the J Ranges at the MMR.

2) A proposed project must not:

- In terms of cost, limit the ability of EEA to expend funds in a manner that accomplishes the restoration goals set forth in Section 1.4 and enables EEA to serve Upper Cape Cod and the MMR communities of Bourne, Falmouth, Mashpee or Sandwich that overlay the Cape Cod Sole Source Aquifer.

- Be inconsistent with any federal, state, or local law, regulation, or policy.

- Be subject to an independent, prior obligation to perform the project pursuant to statute, regulation, ordinance, consent decree, judgment, court order, permit condition or contract, or if otherwise required by federal, state or local law, including but not limited to enforcement actions, unless funding such public project would present a substantial restoration benefit to groundwater resources such as but not limited to:
    - Accelerating the pace of performance of the obligation, which such pace represents a calculable and substantial groundwater restoration benefit; or,
    - Increasing the likelihood of performance of the obligation, where such performance is a necessary pre-requisite to substantial groundwater restoration or to further substantial groundwater restoration.

- Be inconsistent or be undone or negatively impacted by future remediation work, or interfere with any ongoing or anticipated rapid response actions or final decisions at the MMR Site.

In accordance with the Commonwealth's water supply policies, groundwater restoration projects have the potential to benefit current and potential drinking water supplies as well as offset ecological impacts related to diminished water quantity or quality. Additionally, groundwater restoration projects can encompass a wide range of strategies to develop, protect, maintain and conserve current and potential drinking water supplies and provide for the protection of natural ecosystems.

3) Based on the above-considerations, for the Textron/MMR NRD Restoration process, proposed groundwater restoration projects must:

- Have a strong linkage to groundwater resources and the services they provide to ecosystems and humans

- Be located within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer.

And meet one or more of the following objectives:

- Protect the quality of current and potential drinking water supplies by protecting aquifers, recharge areas, and watersheds, including environmentally sensitive lands and critical habitats

- Protect the quantity of current and potential drinking water supplies by implementing measures to conserve water, reduce losses of clean water to aquifers, and provide quality recharge to aquifers, including offsets that also mitigate impacts to water-dependent ecosystems

- Integrate planning and management of current and potential drinking water supplies and wastewater treatment, with an emphasis on the efficient use of land, energy, and water and regional or multi-community benefits

Highest priority will be given to restoration projects that actually restore, replace or acquire the equivalent of an injured natural resource.

4.2. Evaluation Criteria

The following Evaluation Criteria were applied by the EEA NRD Program to prioritize eligible restoration projects through a qualitative assessment of their value and feasibility. High importance criteria were weighted more heavily than medium importance criteria during this qualitative assessment. Further information regarding application of these criteria can be found in Appendix A.

High Importance (11 Criteria)

Focus Criteria

1) Proximity to Injured Resources: Priority will be given to projects within the geographic location of the impacted environment or benefit the resources within that environment. Restoration projects for the Textron/MMR NRD must be located within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer.

2) Relationship to Injured Resources (Nexus): Projects that restore, rehabilitate, replace, enhance, or acquire the equivalent of the same or similar resources or services injured are preferred to projects that benefit other comparable resources or services. Consider the types of resources or services injured, the location, and the connection or nexus of project benefits to those injured resources.

Benefit Criteria

3) Magnitude of Benefits: Project addresses a demonstrated need and maximizes the level of restoration, rehabilitation and/or acquisition of the equivalent natural resources that were injured.

4) Natural Recovery: Project will clearly provide restoration benefits to injured natural resources and/or services in advance of the "natural recovery period." The natural recovery period is the length of time it would take for the injured resource and/or service to recover to an optimal condition in the absence of human intervention.

5) Sustainability of Benefits: Project will result in long-term, self-sustaining and comprehensive benefits to injured natural resources and/or the services they provide. Project will require only periodic maintenance or management that represents a relatively small investment to provide continuing benefits.

6) Consistency with MA Water Policies and Plans: Project implements one or more public goals, needs and/or recommendations expressed in existing Commonwealth water policies and plans.

7) Stewardship: Project will result in an "informed citizenry" that will help ensure ongoing environmental stewardship of restored natural resources and their services. Project provides a critical foundation for on-going and future groundwater restoration activities on the Upper Cape.

Implementation Criteria

8) Technical/Technological: Project will employ well-known and accepted techniques to achieve stated ecological, engineering, economic, and social objectives. Likelihood of success in proposed project location and expected return of resources and resource services is high.

9) Relationship of Expected Costs to Expected Benefits: A project's costs are commensurate with the benefits it provides to injured natural resources and/or services. This will be a qualitative cost-benefit analysis.

10) Implementation-oriented: Project has a high ratio of NRD funding dedicated to implementation compared to general program support and operation.

11) Leveraging of Additional Resources: Project demonstrates a strong commitment by partners representing a broad range of community and other interests to provide matching funds and in-kind services and involve volunteers. This leveraging of non-NRD resources is preferred because it extends the availability of restoration funds and therefore increases the resource benefits provided by the funds.

Medium Importance (6 Criteria)

Benefit Criteria

1) Multiple Benefits: Project will provide benefits to the greatest number of natural resources and services, e.g. project will provide benefits to groundwater resources as well as additional natural resources.

2) Avoidance of Adverse Environmental Impacts: Project has little to no potential for adverse environmental impacts, or modifications to project would considerably decrease benefits to injured natural resources and/or services. Adverse environmental impacts are defined as short or long term, direct or indirect, and include those affecting resources that are not the focus of the project.

3) Community Goals: Project complements one or more community goals, needs and/or recommendations as expressed in existing plans that incorporated public input and involvement in their development.

4) Avoidance of Adverse Socioeconomic Impacts: Project has little to no potential for adverse effects to human health and safety. Project has little to no potential for adverse socioeconomic impacts, or modifications can be made to the project that would considerably decrease impacts to injured natural resources and/or services. Adverse socioeconomic impacts include those that are short or long term in duration and/or have a direct or indirect effect, and include those affecting resources that are not the focus of the project.

Implementation Criteria

5) Measurable Results: Project delivers tangible and specific hydrological, ecological, economic, social and/or human use results that are identifiable and measurable, and/or that may be evaluated using quantitative or professionally accepted methods, so that changes to the Upper Cape and related groundwater resources and services can be documented and evaluated.

6) Level of Difficulty: Project considers all obstacles that may be faced for project implementation (e.g., coordination with multiple outside parties, regulatory permits required, complex design and engineering, and public support)

5. Preferred Groundwater Restoration Alternatives

The EEA, in coordination with the MMR Trustee Council, has identified two preferred groundwater restoration alternatives, one of which will be funded from the DoD portion of the Textron settlement. Recommended for funding are:

- $400,000 for Phases I and II of the town of Sandwich's proposed project to develop a Comprehensive Water Resources Management Plan and
- $371,800 for the Upper Cape Regional Water Supply Cooperative's proposed Sagamore Lens Aquifer – Safe Yield Analysis and Water Resource Recovery, modified by the MMR Trustee Council as the Sagamore Lens Aquifer - Sustainable Management of Water Resources Plan (of which $175,000 is funded from the DoD portion of the Textron settlement.

These preferred groundwater alternatives are expected to protect the quality and quantity of current and potential drinking water supplies by integrating planning and management of current and potential drinking water supplies and wastewater treatment, with an emphasis on regional or multi-community benefits.[5] Tables 1 and 2 below provide a summary of evaluation criteria results as applied to eligible projects. See Appendix A for a description of how High, Medium and Low Rankings were assigned by reviewers.

[5] In accordance with M.G.L. Chapter 21E and the Massachusetts Contingency Plan and the 1998 Memorandum of Agreement, EEA also selected for funding a $259,200 proposal to purchase 13.7 acres in the Mashpee National Wildlife Refuge and a $61,200 proposal to purchase the 5.3-acre Thicket Run Property in Sandwich. These selected groundwater restoration projects are not subject to CERCLA and DOI restoration planning requirements.

Table 1. High Importance Criteria Qualitative Review Results (High - H, Medium - M, Low - L) for Textron/MMR NRD Groundwater Rest
Note: See Appendix A for a description of how High, Medium and Low Rankings were assigned by reviewers. Lovells Lane and Thicket Run only as these projects were approved for funding in accordance with M.G.L. Chapter 21E.

PROJECT NAME	FOCUS CRITERIA						BENEFIT CRITERIA															IMP	
	Proximity			Nexus			Magnitude of Benefits			Natural Recovery			Sustainability of Benefits			Consistency with MA Policies			Stewardship			Technical			Cost/ Benef	
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M
Lovells Lane		H			H			H			L			H			H			M			H			
Thicket Run		H			H			H			H			H			H			M			H			
Sandwich CWRMP		H			H			H			M			M			H			H			H			M
Sagamore Lens Plan		H			M			M			M			H			H			H			H			M
SWD Transfer Station		H			H			H			H			M			H			H			H			M
Falmouth TMDL		H			M			M			M			M			H			H			H			M
Falmouth Regional WWTF		H			M			M			M			M			H			M			H			M
SWD PCE Bleeder		H			M			M			M			M			H			L			H			M
Mashpee Santuit Pond		H			M			M			M			M			H			M			H			M
Public Part. WWTF		H			M			M			M			M			M			H			M			M
Mashpee Blue Pages		M			M			M			L			M			M			H			H			M

Table 2. Medium Importance Criteria Qualitative Review Results (High - H, Medium - M, Low - L) for Textron/MMR NRD Gr

Note: See Appendix A for a description of how High, Medium and Low Rankings were assigned by reviewers. Lovells Lane and comparison purposes only as these projects were approved for funding in accordance with M.G.L. Chapter 21E.

PROJECT NAME	BENEFIT CRITERIA													
	Multiple Benefits			Avoid Adverse Impacts: Envtl			Community Goals			Avoid Adverse Impacts: Socio-Economic			Measural	
	H	M	L	H	M	L	H	M	L	H	M	L	H	
Lovells Lane		H			H			H			H			
Thicket Run		H			H			H			H			
Sandwich CWRMP		H			H			H			H			
Sagamore Lens Plan		H			H			H			H			
SWD Transfer Station		M			M			M			H			
Falmouth TMDL		H			H			H			H			
Falmouth Regional WWTF		H			H			H			H			
SWD PCE Bleeder		H			H			H			H			
Mashpee Santuit Pond		H			H			H			H			
Public Participation WWTF		H			H			H			H			
Mashpee Blue Pages		M			H			M			H			

5.1. Development of a Comprehensive Water Resource Management Plan

Applicant: Town of Sandwich
Project Type: Aquifer protection; Aquifer recharge; Water conservation, Integrated water and wastewater management
Requested NRD funding: $600,000
Proposed NRD allocation: $400,000 (Phase 1($225,000) & Phase 2 ($175,000))
Match: $137,240 (in-kind)
Single or Multi-Year: Multi-Year (3)

5.1.1. Summary of Proposed Action

Project Description as Proposed: The Town of Sandwich proposes to develop a town-wide Comprehensive Water Resources Management Plan. This plan will not only benefit the Town of Sandwich, but will be an essential component in the on-going regional water resources planning. Sandwich shares watersheds with the surrounding communities of Mashpee, Falmouth, and Barnstable; and will be a vital participant in possible regional wastewater treatment with the towns of Bourne, Falmouth, and Mashpee. Therefore, this plan will be the linchpin in the overall strategy and success for water resources management on Upper Cape Cod. The Comprehensive Water Resources Management Plan will be developed in phases, each with a strong public consultation component. Phase I will be "Needs Assessment", Phase II will be "Identification, Screening, and Evaluation of Alternatives", Phase III will be "Formulation of Recommended Plan" and Phase IV will be "Completion of MEPA and DRI Reviews".

The project-specific objectives of the Town are to address each of the following challenges:

- The J-3 Range plume and how it might affect ground water supplies.
- Nitrogen loading issues. The town is currently participating in the Massachusetts Estuaries Program (MEP), with assessments for Scorton Creek and Sandwich Harbor scheduled for completion in 2010. In addition, Sandwich is located in the

upper reaches of six other watersheds shared with other communities, including the watersheds of Popponesset Bay in Mashpee, Three Bays and Barnstable Harbor in Barnstable, Waquoit Bay East and Quashnet River in Mashpee and Falmouth, and Great Green and Bourne Ponds in Falmouth. These neighboring communities are all well underway with their Comprehensive Water Resources Management Plans, and Sandwich now needs to implement its own plan to avoid delaying the neighboring communities and to make sure the decisions made are appropriate for Sandwich's water resources.

- The 23% increase in population since 1995. Sandwich currently does not have a public sewer service, and there are approximately 8,100 individual on-site septic systems in Town. Of these, only 16 have enhanced treatment. Given the pressure for growth and development, this sole reliance on on-site septic systems can create environmental and public health issues. Add that to the previously stated nitrogen loading concerns and it is essential that a comprehensive, strategic plan be implemented to deal with wastewater.

- Protection of the Sandwich Water District's ten groundwater wells, and the private wells that still service approximately 25% of the community. Given the growth and the number of septic systems in the community, many located within Zone IIs, protection of drinking water supplies from currently recognized, and emerging contaminants, is essential.

- Protection of freshwater resources. With the increased growth, development has begun to impact Sandwich's many freshwater ponds. One does not have to look far down Cape Cod to see a number of fresh water ponds that have been adversely affected by the nutrients from septic systems. It is essential that this plan prevent that from happening with Sandwich's ponds, or those in abutting communities.

- Regional wastewater treatment. Sandwich has been approached to be a participant in a possible regional wastewater treatment facility with the Towns of Bourne, Falmouth, and Mashpee. However, lacking a Comprehensive Water Resources Management Plan, Sandwich has been unable to develop the

strategies and plans for sustainable water resource management that are required to understand how the Town's requirements fit with those of its neighbors.

Proposed Timeframe: The project is expected to be completed in three years, with Phase I starting in FY10 and finishing in FY11, Phase II and III starting and finishing in FY11, and Phase IV starting and being completed in FY12.

5.1.2. EEA/MMR Trustee Council Adjustments to Proposal

Phases 1 ($225,000) and 2 ($175,000) of the Comprehensive Water Resource Management Plan (CWRMP) are recommended for funding (see Table 3 below). Partial funding was recommended primarily to enable EEA as Trustee to meet its objective of providing a broad range of benefits for the Upper Cape. Thus, EEA was able to fund additional projects, i.e. aquifer protection and aquifer planning which also have significant benefits for the area. In addition, by funding Phases 1 and 2, the Town of Sandwich can initiate development of the CWRMP and have time to secure the additional $200,000 via other sources, e.g. the State Revolving Fund (SRF) which provides low interest loans to cities, towns, and other local governmental units for drinking water & wastewater-related infrastructure projects. Certain projects, whose primary purpose is to implement nutrient reduction, may be eligible for 0% interest loans, if they meet specific statutory requirements. Having an approved CWRMP is a prerequisite to accessing these 0% interest loans.

Table 3. Phases I and II of the Town of Sandwich Comprehensive Water Resource Management Plan

Phase	Description	Tasks
I	Needs Assessment	Document land use, soil conditions, watersheds and environmentally sensitive areas Formulate a GIS database for developed properties, including type, water use, and seasonality Estimate groundwater flow and document existing water quality in each watershed Identify the number of parcels (and their water use) that impact groundwater such that some action is needed for: • Protection of water supplies (public and private) • Avoidance of sanitary and other public health problems • Protection of surface waters from nutrient enrichment • Accommodation of sustainable economic growth • Mitigation of convenience, aesthetic and economic impacts Identify short-term actions that can be taken to address the most significant needs Consult with the public through workshops, hearings and reports
II	Identification, Screening and Evaluation of Alternatives	Identify all technically feasible options for protecting groundwater, including both structural and non-structural alternatives Formulate evaluative criteria against which to compare the options Find the best groundwater protection alternatives that apply to Sandwich Describe each screened alternative in sufficient detail to fully evaluate its features Compare the screened alternatives with respect to the following factors: • Capital and O&M costs • Energy Usage • Lag time from implementation to achievement of water quality goals • Impact on environmentally sensitive areas • Impact on community growth • Impact on property taxes • Production of residuals requiring further treatment and disposal Consult with the public through workshops, hearings and reports

5.1.3. Determination for Selection as a Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
Development of a CWRMP addresses a demonstrated need and, by providing a critical, presently missing, piece in the regional (Sagamore Lens) plan, maximizes the level of restoration, rehabilitation and/or acquisition of the equivalent natural resources that were injured. Projects based on a CWRMP or equivalent plan are significantly more likely to get financial support from the Commonwealth's SRF Program. By providing a foundation for regional solutions to nitrogen enrichment, the proposed project will provide benefits to groundwater resources as well as additional natural resources. The project implements one or more public goals, needs and/or recommendations expressed in existing Commonwealth water policies and plans.

Review Team: The qualitative assessment performed by EEA's technical review Team was favorable; the MMR Trustee Council also supports the project.

Considering the above and the merits of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends funding this proposal with the revisions described above.

5.2. Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan

Applicant: Upper Cape Regional Water Supply Cooperative
Project Type: Aquifer protection; Aquifer recharge; Protection of environmentally sensitive lands or critical habitats; Water conservation, Integrated water and wastewater management
Requested NRD funding: $395,000
Proposed NRD Allocation: $371,800 ($196,800 from EEA; $175,000 from the DoD portion of the Textron settlement)
Match: None
Single or Multi-Year: Single Year

5.2.1. Summary of Proposed Action

Project Description as Proposed: The Upper Cape Regional Water Supply Cooperative proposes to complete an analysis of the safe yield of the Sagamore Lens aquifer, which is a sole source aquifer providing water supply to the Towns of Bourne, Falmouth, Mashpee, Sandwich, Barnstable and Yarmouth. The aquifer water quality has been impacted by groundwater contamination at the MMR. One contamination source was the Textron site which included the release of Perchlorate and other hazardous chemicals at the J-Ranges on the MMR. The Safe Yield analysis provides a regional approach to a sustainable balance between competing uses of the aquifer. It is necessary in order to restore the aquifer for public water supply and preservation of natural resources. Water supply development has been limited due to the MMR contamination plumes. The Massachusetts Water Supply Policy Statement states; "the state's overall goal is to ensure that water is available in sufficient quantity and quality to meet Massachusetts' current and future needs" and "water is a valuable resource for public and environmental health and the economic welfare of the Commonwealth." The Safe Yield of this aquifer, which supports the environment and economic welfare of six communities, is an essential part of planning for the future of the communities. The need for Sustainable Development Principles cannot be met without a tool with which to plan future water resources. A Drought Management Plan is proposed to provide the Upper Cape region with a regional approach to protect, maintain and conserve current drinking water supply and provide protection to the natural ecosystems.

Proposed Timeframe: The project is expected to be completed in twelve months, with Tasks 1-5 completed within the first six months and Tasks 6- 16 completed within the second six months. Tasks 17 and 18 take place throughout the project.

5.2.2. EEA/MMR Trustee Council Adjustments to Proposal

To more closely align with EEA water policy and practice, the proposal was oriented by the MMR Trustee Council toward sustainable regional management of the Sagamore Lens and away from safe yield analysis (sees Table 4 below). In this manner, the project will contribute toward the sustainability of water resources for the protection of natural ecosystems and water supply needed for the economic welfare of the Upper Cape Cod

communities. This project will identify the maximum dependable available withdrawal from the Sagamore Lens as well as sensitive environmental receptors while taking into account the impacts resulting from the Textron J ranges and other contamination within the MMR. This project is intended to consider competing demands for environmental resources, groundwater clean-up operations and waste disposal.

A Drought Management Plan (DMP) is proposed to provide the Upper Cape region with a regional approach to protect, maintain and conserve current drinking water supply and provide protection to the natural ecosystems. The development of a DMP is consistent with existing Commonwealth of Massachusetts water policies and will be prepared based on the Working Draft of the Massachusetts Drought Management Plan (DMP). It will establish a protocol to communicate with the general public during drought conditions, relay drought responses and implement drought response actions.

Table 4. Sustainable Management of Water Resources Plan Tasks

Task	Summary
1.	Identify and locate existing and proposed water withdrawals in the watershed based on existing available p including withdrawals from municipal, community water systems and agricultural greater than 100,000 gal summary and GIS map of the registered and permitted water withdrawals in the watershed. Research will MMR, Towns and Cape Cod Commission (CCC).
2.	Identify and locate existing and proposed residential water withdrawals. Prepare GIS map and estimate of withdrawals in the watershed. Research will be through local Boards of Health and Massachusetts Departn and Recreation (DCR) well driller registration records, as appropriate.
3.	Identify and locate existing sensitive environmental receptors in the watershed based on existing available p including surface water bodies, major streams, wetlands, certified vernal pools, coastal estuaries, endangere agriculture. Prepare GIS map of locations. For these environmental receptors, summarize existing researc identify and describe biological and ecological responses to changes in water levels and/or stream flows. Re EEA and its agencies, Towns, CCC, and MassDEP as well as relevant literature.
4.	Identify and locate existing wastewater discharges in the watershed based on available information. Prepai summary of effluent water quality. Summarize data developed by U.S. Geological Survey (USGS) on poten water quantity, quality and water supply development as part of the groundwater modeling effort underw Department of Defense cleanup programs at MMR. Research will be through MassDEP, MMR, Towns, USC
5.	Identify and locate potential new sewer areas and groundwater discharge locations. Prepare GIS map of lo potential changes in recharge to the estuaries as evaluated by the USGS groundwater modeling effort under ongoing U.S. Department of Defense cleanup programs at MMR. Research will be through MassDEP, Town
6.	Identify and locate existing and proposed extraction wells and recharge areas for on-going MMR groundwa Prepare GIS map and summary of plume clean-up status, groundwater quality, treated effluent water quali aquifer water quantity and quality and potential water supply development (see Tasks 4 and 5). Research v MassDEP and MMR.
7.	Meet with government and public stakeholders to review water supply and environmental resources identi be used in modeling and analysis.
8.	Prepare calculation of water balance for the watershed.

Task	Summary
9.	Review the 20-year water needs forecasts as developed by the MA DCR Office of Water Resources.
10.	Compile and review historical precipitation data for a time period inclusive of the drought of record and pr probability of drought and associated impacts on aquifer. Prepare estimate of aquifer recharge based on cu conditions. Research will be through MassDEP, Northeast Regional Climate Center, Towns and CCC.
11.	Review existing published Water Resources Management Plans. Prepare summary of existing plans and sp related to the watershed and water resources. Research will be through MassDEP, Towns and CCC.
12.	Using the existing USGS and/or MMR groundwater model updated with additional data from this study, e hydrologic impacts of existing, permitting and proposed water withdrawals. Review potential for salt wate change scenarios predicted by other researchers and studies.
13.	Using the USGS and/or MMR updated model, updated with additional data from this study, evaluate pote water quality impacts of existing, permitted and proposed wastewater discharges.
14.	Using the USGS and/or MMR updated model, calculate maximum dependable available withdrawal from t on average precipitation and recharge.
15.	Using the USGS and/or MMR updated model, calculate maximum dependable available withdrawal from t on driest probable period and least recharge.
16.	Prepare a Drought Management Plan (DMP) for the watershed. The DMP will be based on the Working Dr DMP. The DMP will establish a consistent basis for evaluating the severity of drought situations of the Sag the communities within the aquifer for necessary actions and activities in response to a regional drought co lines of communications in a regional approach.
17.	Periodic meetings with the EEA and its agencies, particularly MassDEP, USGS, MMR, CCC and Towns thr
18.	Monthly progress reports and final report of tasks completed.

Partial funding was recommended primarily to reflect available data developed by USGS on potential impact on aquifer water quantity and quality and potential water supply development as part of the groundwater modeling effort underway as part of the ongoing U.S. Department of Defense cleanup programs Impact Area Groundwater Study Program at MMR. Also, 20-year water needs forecasts are scheduled to be developed by the Massachusetts Department of Conservation and Recreation's Office of Water Resources in 2010 and will be available to the project analysis

5.2.3. Determination for Selection as a Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
As modified, the project meets a demonstrated regional need and provides multiple benefits to the aquifer and natural resources within Bourne, Falmouth, Masphee and Sandwich. By considering competing demands for environmental resources, groundwater cleanup and waste disposal, this planning tool will provide for the protection and future use of groundwater resources as well as the protection of environmentally sensitive areas and critical habitats. Coordinating the development of an integrated water management approach with appropriate local, state and federal agencies will ensure the sustainability of water quality and quantity for human and ecological needs.

Review Team: The qualitative assessment performed by EEA technical review Team was favorable; and the MMR Trustee Council supports the project; the U.S. Army and U.S. Air Force propose to share project costs.

Considering the above and the merits of the proposal, the EEA, with concurrence from the MMR Trustee Council, recommends funding this proposal with the revisions described above.

6. Non-Selected Project Applications

Eight project applications were not selected for funding. These project applications were not selected based on the results of the Eligibility and Evaluation Criteria assessment as applied to each project application, the range of potential benefits associated with these projects relative to the proposed Preferred Alternatives, and funding constraints. Please refer to Table 1 for a summary of evaluation criteria results as applied to eligible projects.

6.1. Water Supply Transfer Station

Applicant: Sandwich Water District
Project Type: Aquifer protection; Protection of environmentally sensitive lands or critical habitats
Requested NRD Funding: $1,073,000
Match: Partial, contingent upon grant award
Single or Multi-Year: Multi-Year (2)

6.1.1. Summary of Proposed Action

Project Description as Proposed: The Sandwich Water District's proposed Water Supply Transfer Station (District Project) is aligned with the Massachusetts Water Supply Policy Statement (State Policy). The District's Project strengthens local and regional capabilities in the management of public water supplies because the Upper Cape Regional Water Supply Cooperative and the District are working together to plan, construct, manage, conserve and protect water supplies by using the watershed as the focus for water supply planning. Focus on the watershed benefits current and future drinking water supplies and minimizes potential localized ecological impacts related to water supply development by the District at the Camp Goodnews Site located adjacent to the J-Range within the Town of Sandwich. The watershed is the primary focus for coordinating and resolving resource management issues such as local or seasonal water supply shortages. The District Project meets the State Policy whereby the watershed is the focus for all aspects of water resources assessment, planning and management whose implementation is best served through a coordinated, watershed-based

approach. The Commonwealth's overall goal is to ensure that water is available in sufficient quantity and quality to meet current and future needs. The District Project consists of one "Task" (design and construction of the Water Supply Transfer Station).

6.1.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
The project would replace the same resources and services that were injured and meet a demonstrated need. However, project costs limit the ability of EEA to expend funds in a manner that accomplishes the restoration goals set forth in Section 1.4 and enables EEA to serve Upper Cape Cod and the MMR communities.

Review Team: While the qualitative assessment performed by technical reviewers was favorable, reviewers and the MMR Trustee Council found that the project's costs were not commensurate with the benefits it provides to injured natural resources and/or services.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.2. Technical evaluations to develop nitrogen Total Maximum Daily Load (TMDL) Limits for 7 estuaries receiving groundwater recharge from the Sagamore Lens Groundwater System

Applicant:	Town of Falmouth Department of Public Works
Project Type:	Aquifer protection, Protection of environmentally sensitive lands or critical habitats
Requested NRD Funding:	$425,125 (Estuary Group A = $222,875; Estuary Group B = $202,250)
Match:	$144,675 (TMDL development in other estuaries)
Single or Multi-Year:	Multi-Year (3)

6.2.1. Summary of Proposed Action

Project Description as Proposed: The Town of Falmouth is applying for funds to develop nitrogen TMDL limits for 7 estuaries that receive groundwater impacted recharge from the Sagamore Lens groundwater system. The main groundwater impact of concern is nitrogen loading from septic systems; and the main estuarine water quality of concern is eutrophication caused by too much nitrogen recharging (with the groundwater) to the estuaries. The Town of Falmouth has been working with UMass Dartmouth School of Marine Science and Technology (SMAST) to develop nitrogen TMDL limits for all of the Town's coastal estuaries. Several have been completed (as discussed in our Application No. 1 to you) and several remain to be completed. The following estuaries and estuarine watersheds would have nitrogen TMDL limits developed with the requested funding:

- Megansett Harbor with its watershed in Falmouth, Sandwich and Bourne
- Fiddlers Cove with its watershed in Falmouth, Sandwich and Bourne
- Rands Canal with its watershed in Falmouth, Sandwich and Bourne
- Wild Harbor with its watershed in Falmouth, Sandwich and Bourne
- Salt Pond with its watershed in Falmouth
- Falmouth Harbor with its watershed in Falmouth
- Quisset Harbor with its watershed in Falmouth

6.2.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While nutrient enrichment to coastal estuaries is a significant issue on the Upper Cape, the relationship to injured resources is not considered high since the primary focus of the proposal is for the purpose of improving estuarine water quality, with a secondary focus upon groundwater quality. Restoration of groundwater quality is not provided by the proposed project; it will enable the towns to evaluate potential nitrogen management and remediation strategies for groundwater systems by determining the amount of wastewater that needs to be collected, treated and recharged in order to restore the estuaries.

Review Team: The qualitative assessment performed by technical reviewers and the MMR Trustee Council found that TMDL development is "otherwise required" by

federal law (Clean Water Act Section 303(d)) while acknowledging that secondary natural resource benefits could be gained by "accelerating the pace of performance" of the obligation.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.3. Technical and Legal Services and Coordination to Support the Development of a Regional Wastewater Treatment Facility at the MMR to Serve the Towns of Falmouth, Mashpee, Bourne and Sandwich and their Groundwater and Wastewater Management Efforts

Applicant:	Town of Falmouth Department of Public Works
Project Type:	Aquifer protection; Aquifer recharge; Protection of environmentally sensitive lands or critical habitats; Water conservation, Integrated water and wastewater management
Requested NRD Funding:	$154,000
Match:	$675,000 (previously committed by the Town for other and related tasks of the CWMP Project)
Single or Multi-Year:	Single Year

6.3.1. Summary of Proposed Action

Project Description as Proposed: The Town of Falmouth is applying for funds for technical and legal services and coordination to support the development of a regional Wastewater Treatment Facility (WWTF) at the MMR. The Town of Falmouth has been working with the towns of Mashpee, Sandwich and Bourne to develop a Comprehensive Wastewater Management Plan (CWMP) to address the water quality impacts to groundwater and to the coastal estuaries that receive the groundwater recharge. This CWMP project is a watershed based project that has a planning area that extends into all four towns. The CWMP Project was initiated in 2007 and the Draft CWMP is nearing completion. The Project is being reviewed by the MEPA office of

EEA (EEA No. 14154) as a joint CWMP and Environmental Impact Report (EIR). The CWMP has proposed siting a regional WWTF at the southeast corner of the MMR (adjacent to the existing Otis AFB WWTF) to treat the wastewater from the planning area. Several meetings have been completed to site the facility here, and the following investigations are needed to advance the WWTF siting.

- Investigation of the most appropriate regional agreements and cost allocations for the WWTF.
- Groundwater modeling
- Water quality modeling at the estuaries
- Incorporation of additional detailed evaluations into the CWMP

6.3.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While nutrient enrichment to coastal estuaries is a significant issue on the Upper Cape, the relationship to injured resources is not considered high since the primary focus of the proposal is for the purpose of improving estuarine water quality, with a secondary focus upon groundwater quality. In addition, the concern with a potential inconsistency with the EEA Article 97 Land Disposition Policy and uncertainties regarding the siting of a WWTF on the Upper Cape Water Supply Reserve, which is public conservation land dedicated to the natural resource purposes of wildlife habitat protection and drinking water supply under Chapter 47, Acts of 2002, could present significant delays and obstacles that may be faced for project implementation.

Review Team: The qualitative assessment performed by technical reviewers and the MMR Trustee Council found that there is significant uncertainty regarding the siting of a WWTF at MMR as determining future land use at MMR will take place over a long time frame and that, under one potential WWTF alternative, conflicts may exist between EEA land-owning agencies and proposed activities.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.4. PCE Bleeder Reduction by Re-lining of Existing AC Water Main

Applicant:	Sandwich Water District
Project Type:	Water conservation
Requested NRD Funding:	$839,000
Match:	None
Single or Multi-Year:	Single Year

6.4.1. Summary of Proposed Action

Project Description as Proposed: The asbestos cement (AC) water main pipe purchased for installation by the Sandwich Water District (District) between 1968 and 1980 was manufactured with a vinyl liner containing Tetracholoroethylene, a/k/a Perchloroethylene (PCE). After it was discovered that PCE was leaching from this pipe and that PCE was a suspected carcinogen, the District stopped purchasing and installing pipe with this liner. The District found that the use of the waste system bleeders was the most efficient and economical method for reduction of the PCE concentrations. The proposed District Project involves re-lining, with an epoxy liner, of approximately 10,000 linear feet of existing AC water main along Regents Gate, Dukes Drive, Duchess Drive, Windsor Road, Coventry Place, Lambeth Circle and Kensington Drive in Sandwich, Massachusetts. Re-lining of the existing water main with the proposed material has been proven to control leaching of PCE from the original vinyl liner. In addition to improving water quality, the District will conserve over 4,000,000 gallons of water per year by eliminating water system bleeders. The lower water usage will result in water conservation and lower electricity costs by lessening operation of well pumping.

6.4.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While lower water usage will result in measurable groundwater benefits through water conservation and lower electricity costs by reducing pumping, the magnitude of benefits in comparison to costs is small. These project costs would limit the ability of

EEA to expend funds in a manner that accomplishes the restoration goals set forth in Section 1.4 and enables EEA to serve Upper Cape Cod and the MMR communities.

Review Team: While the qualitative assessment performed by technical reviewers was somewhat favorable, reviewers and the MMR Trustee Council found that the project's costs were not commensurate with the benefits it provides to injured natural resources and/or services.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.5. Santuit Pond Diagnostic Study

Applicant:	Town of Mashpee
Project Type:	Aquifer protection, Protection of environmentally sensitive lands or critical habitats, Integrated water and wastewater management
Requested NRD Funding:	$58,825
Match:	None
Single or Multi-Year:	Single Year

6.5.1. Summary of Proposed Action

Project Description as Proposed: Mashpee's economic viability and quality of life rely upon the quality of our groundwater resources, as reflected in drinking water quality and in surface water bodies that attract summer visitors and enhance tourism-related activities. To protect both, the Town is developing a wastewater facilities plan primarily focused on nitrogen TMDLs established for Popponesset and Waquoit Bays. However, we also face excessive levels of nutrients in fresh water bodies. Diagnostic studies of Ashumet Pond determined that effluent plumes from MMR's wastewater plant caused excessive phosphorous in that pond, which was then treated under the Base cleanup effort. Santuit Pond, a 164 acre shallow groundwater-fed pond, suffers from even higher levels of nutrient over-enrichment, and is listed in the Clean Water

Act "Massachusetts Integrated List of Waters" in Category 5 (Waters Requiring a TMDL). Pollutants needing a TMDL (Total Maximum Daily Load) are nutrients and noxious aquatic plants. However, no diagnostic studies have been done to determine the sources of the Pond's nutrient overload. Through this grant, the Town seeks funding for a diagnostic study by ENSR Corporation (already procured) that will characterize and quantify nutrient inputs to the pond; define the TMDL value allowable to achieve a primary contact use designation; and recommend remedial activities to achieve the TMDL. Identifying the sources of nutrient enrichment will aid in future practicable management decisions to reverse the ecological degradation of the pond, as evidenced by its Clean Water Act 303(d) listing.

6.5.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While the project will acquire data that will be useful in developing plans that will benefit surface water quality and may result in some improvement in groundwater in the immediate vicinity of the pond, the relationship to injured resources is not considered high since the primary focus of the proposal is for the purpose of improving pond water quality, with a secondary focus upon groundwater quality. Restoration of surface/groundwater quality is not provided by the proposed project; it will enable the town to evaluate potential nitrogen management and remediation strategies.

Review Team: The qualitative assessment performed by technical reviewers and the MMR Trustee Council found that TMDL development is "otherwise required" by federal law (Clean Water Act Section 303(d)) while acknowledging that secondary natural resource benefits could be gained by "accelerating the pace of performance" of the obligation.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.6. Regional Wastewater Management Public Participation Project for Upper Cape Cod

Applicant:	Cape Cod Commission
Project Type:	Aquifer protection; Aquifer recharge; Protection of environmentally sensitive lands or critical habitats; Integrated water and wastewater management
Requested NRD Funding:	$50,000
Match:	$8,000
Single or Multi-Year:	Multi-Year (2)

6.6.1. Summary of Proposed Action

Project Description as Proposed: Impaired water quality of coastal estuaries and freshwater ponds and increased nitrogen concentrations in public water supply wells has resulted from widespread use of septic systems in each of the Upper Cape Towns. Comprehensive Wastewater Management Planning in each of the towns must focus on the restoration of groundwater within the Sagamore lens that has been compromised by pollution from on-site septic systems. These planning efforts are fairly advanced in Falmouth and Mashpee. Sandwich and Bourne are at the beginning stages. The Commission supports the exploration of regional alternatives among the towns, including the evaluation of the MMR as a potential site for a regional wastewater treatment facility. Several meetings have been coordinated by Falmouth among the Upper Cape Towns and the MMR resulting in an informal agreement to evaluate this issue in more detail. The Commission as the regional land use agency for Cape Cod is uniquely qualified to assist in moving a regional solution involving the towns and MMR forward. The Commission provided a similar role among the community towns and MMR by coordinating the preparation of the MMR Master Plan which resulted in the establishment of the Upper Cape Water Supply Reserve and its Environmental Performance Standards. The focus of this project is to provide regional facilitation and public participation opportunities and technical support to promote discussion of legal, technical and planning issues to advance the developing wastewater planning work of the Upper Cape Towns. The project will result in a better public understanding of potential regional wastewater management alternatives that can be incorporated into each of the local CWMPs.

6.6.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While public awareness and participation are key components of environmental stewardship, the level of detail presented in the proposal makes it difficult to quantify the resulting benefits. While nutrient enrichment to coastal estuaries is a significant issue on the Upper Cape, the relationship to injured resources is not considered high since the primary focus of the proposal is for the purpose of improving estuarine water quality, with a secondary focus upon groundwater quality. The January 30, 2008 Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form for the proposed Comprehensive Wastewater Management Planning (CWMP) Project for the South Coast Watersheds cite reviewer comments indicating that "drinking water supplies in the study area do not have any current concerns from wastewater-derived nitrogen." Community support for the project is difficult to determine as support letters from the four towns that would be the focus of outreach activities were not included in the proposal.

Review Team: The qualitative assessment performed by technical reviewers and the MMR Trustee Council found that there is significant uncertainty regarding the siting of a WWTF at MMR as determining future land use at MMR will take place over a long time frame and that, under one potential WWTF alternative, conflicts may exist between EEA land-owning agencies and proposed activities.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.7. Mashpee Blue Pages

Applicant:	Town of Mashpee
Project Type:	Aquifer protection, Protection of environmentally sensitive lands or critical habitats; Water conservation; Integrated water and wastewater management

Requested NRD Funding: $31,733
Match: None
Single or Multi-Year: Single Year

6.7.1. Summary of Proposed Action

Project Description as Proposed: The Town of Mashpee continues to strive toward preserving and improving our groundwater resources for both our drinking water quality and in surface water bodies that attract summer visitors and enhance tourism-related activities. In an effort to protect both, the Town is interested in publishing the Town of Mashpee "Blue Pages – A Guide to Protecting Cape Cod Waters." Based on the recently (Fall 2008) published 56 page guidebook by the Orleans, MA, Pond Coalition, this important educational tool will be designed for residents and non-residents to provide the basics about water, wastewater, pollution and how to prevent pollution. As noted on the Orleans Pond Coalition's website, "this 58-page guide explains everything you need to know about water but were afraid to ask – with lively commentary, important statistics, and full-color illustrations." Our goal is to mirror the actions taken in Orleans which included mailing a complimentary copy of the guide to every household and have it available for distribution at informational meetings held throughout the year; make copies available at Town Hall and the Mashpee Public Library. Finally, we would like to provide copies for all Mashpee students and have the guidebook posted on the Town of Mashpee website in PDF format.

6.7.2. Determination for Selection as a Non-Preferred Alternative

Nexus to Natural Resource/Service Injury and Restoration Benefits Gained:
While public awareness and environmental education are key components of environmental stewardship, the proposal did not clearly demonstrate how natural resource benefits would result from use of Blue Pages and whether benefits would transfer to Mashpee residents and resources. It is difficult to determine specifically how the project complements community goals, needs and/or recommendations as expressed in existing plans that incorporated public input and involvement in their development.

Review Team: The qualitative assessment performed by technical reviewers was not favorable in comparison to other projects, noting that the proposed project does not plan for or implement groundwater restoration.

Considering the above and the details of the proposal, the EEA, in coordination with the MMR Trustee Council, recommends that NRD funds not be allocated for this project.

6.8. EcoStation to Restore Groundwater at Mass Military Reservation Site

Applicant:	John Todd Ecological Design
Project Type:	Aquifer protection; Integrated water and wastewater management
Requested NRD Funding:	$665,000
Match:	$30,460 (in-kind)
Single or Multi-Year:	Multi Year (2)

6.8.1. Summary of Proposed Action

Project Description as Proposed: John Todd Ecological Design is proposing an integrated natural treatment system to be installed on the Massachusetts Military Reservation to restore the groundwater and aquifer contaminated with perchlorates. Housed in a 3,500 ft2 greenhouse, the system will include an innovative sequence of tank based Eco-Machine™ technology, Hydros Injection BioReactors, fermentation tanks, and mycelium cells to remove the perchlorates of the pumped water. This system is unique in its use of natural ecologies to remove the perchlorates, as well as integrating multiple technologies to ensure success. The system uses a small, potentially mobile footprint, with limited chemical and energy usage, and is designed to be duplicated at similar sites. John Todd Ecological Design and Hydros are both based out of Falmouth, MA, giving them personal invested interest in this project.

6.8.2. Determination for Selection as a Non-Preferred Alternative

The EEA, in coordination with the MMR Trustee Council, determined that this proposal was ineligible for funding, as it did not meet Eligibility Criteria 4 and 5.
Specifically:

- remedial efforts to treat and monitor groundwater at MMR are proceeding under the purview of federal (EPA Administrative Orders per Safe Drinking Water Act) and state (MassDEP) remedial agencies
- the proposed project is inconsistent with and may be undone or negatively impacted by future remediation work, and may interfere with any ongoing or anticipated rapid response actions or final decisions at the MMR Site

7. Compliance with Other Authorities

Projects identified in this Final Restoration Plan must comply with other applicable laws, regulations and policies at the federal, state and local levels. Appendix B describes in brief the federal and state authorities that are considered relevant to the implementation of the recommended groundwater restoration projects. In Massachusetts, there are state regulations that are implemented at the local level and these, in addition to applicable local bylaws, are indicated in that text. The applicability of NEPA to the Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan, of which $175,000 is funded from the DoD portion of the Textron settlement, is described below in section 7.1 as well as in Appendix B.

7.1. Environmental Impact Assessment

National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321-4347) and its implementing regulations (40 C.F.R. parts 1500-1508)

NEPA requires that federal agencies assess the environmental impacts of major federal actions that may have a significant effect on the environment prior to undertaking such actions. NEPA applies to a wide range of federal actions that include, but are not limited to, federal construction projects, plans to manage and develop federally owned lands, and federal approvals of non-federal activities such as grants, licenses, and

permits. However, NEPA does not apply to CERCLA removal or remedial actions undertaken by federal agencies.

Federal agencies, by regulation, have determined that certain categories of commonplace federal actions do not individually or cumulatively have a significant effect on the quality of human health, safety, or the environment.. These excluded activities, known as "categorical exclusions" or "CATEXs", are set forth in agency regulations. Federal activities that fall within a CATEX do not require preparation of a NEPA environmental assessment or environmental impact statement. Nevertheless, the agency proponent may need to document that NEPA does not apply to the proposed action as required by the relevant agency regulations. For the U.S. Army, this documentation usually takes the form of a Record of Environmental Consideration, and for the U.S. Air Force the documentation is the Air Force form 813.

Because the NRD funds were recovered through an Army litigation settlement pertaining to natural resources on lands under US Army control, the Army has assumed the role of federal proponent with respect to the proposed activity. If and to the extent NEPA applies to the Trustee Council funding action set forth in this document, then in the absence of an applicable categorical exclusion, the Sagamore Lens Aquifer - Sustainable Management of Water Resources Plan study proposed by the Upper Cape Water Supply Cooperative might be subject to NEPA requirements due to cost-sharing by the U.S. Department of Defense. However, U.S. Army regulations contain a categorical exclusion for the funding of a natural resources related "study...and information gathering" activity that involves no surface disturbance. 32 CFR Part 651, Appendix B, § II(d)(4). U.S. Air Force regulations contain similar categorical exclusion provisions. See, 32 CFR Part 989, ¶¶ A2.3.24 and A2.3.26.

Therefore, even if NEPA did apply to the Trustee Council funding action set forth in this document, the proposed action would be one that is categorically excluded under 32 CFR Part 651, Appendix B, § II(d)(4) provided that no "extraordinary circumstances" exist. 32 CFR § 651.19. A review of the proposed activity in light of the regulatory screening criteria establishes that extraordinary circumstances do not exist; and that utilization of the categorical exclusion would be appropriate. A copy of the U.S. Army's

and U.S. Air Force's documentation that explains and documents the applicability of the categorical exclusion in this matter is set forth in Appendix C.

8. Public Comments and Trustee Responses

EEA, as a member of the MMR Trustee Council, issued the Textron/MMR Draft Restoration Plan for public review on March 23, 2010 and accepted public comments through April 21, 2010. A public meeting was held on April 6, 2010 in Bourne at which the public was invited to ask questions and make comments. In response, EEA received three letters and email messages as well as comments at the public meeting. Copies of these can be found in Appendix D. The EEA in coordination with the MMR Trustee Council considered all comments and revised the Restoration Plan as necessary. The EEA/MMR Trustee Council's responses to the comments received and explanations of resulting revisions, if any, are described in this Section. Note that comments focused on similar issues or topics are grouped together. None of the comments received resulted in a change in the list of projects recommended for funding.

8.1. General and Multi-Purpose Comments

1) Comment: EEA and the MMR Trustee Council received several comments providing support for the Restoration Plan and the projects proposed for funding.

Response: Comment noted.

2) Comment: There is discussion on where the damages occurred and, though we agree that the MMR extends into the Towns of Bourne, Falmouth, Mashpee and Sandwich, the J-Ranges in question (as can be seen in Figure 1) lie solely within the Town of Sandwich. Though the damage occurred over the Sagamore Lens (page 5), to the best of our knowledge the extent of the plumes have not gone beyond the borders of the Town of Sandwich. We feel one of the strengths of the Draft Plan is that the recommended awards reflect this reality, and propose that explicit mention of it would further strengthen the report's position (also mentioned in Section 3, page 11).

Trustees Response: EEA and the MMR Trustee Council acknowledge that the J-Range plumes are located within the Town of Sandwich. However, the groundwater resource that was injured due to the release of hazardous substances and hazardous materials extends beyond municipal boundaries. The text of Section 1.3 will be revised to read (revisions in italics): *"Located in the Town of Sandwich,* the J-1 and J-3 Ranges lie above several wellhead protection areas that supply drinking water for residents of Cape Cod.

As stated in Section 1.4, EEA as a natural resource Trustee is required to "restore, replace, or acquire the equivalent of" natural resources and natural resource services pursuant to §107(f)(1) of CERCLA. These actions are further defined in the U.S. Department of the Interior regulations governing natural resource damages assessment and restoration (42 CFR §11.14) which recognize that restoration actions encompass those that provide the same or substantially similar services. As described in Section 1.3 of the Draft RP, groundwater flows radially in all directions from the Training Ranges and Impact Area which lie directly over the Sagamore Lens, a regional groundwater resource. The Commonwealth's existing water policies recognize the importance of integrated management and protection of such valuable regional resources. Specifically, Chapter 352 of the Acts of 2000 that created the Upper Cape Regional Water Supply Cooperative, and Chapter 47 of the Acts of 2002 that created the Upper Cape Water Supply Reserve, explicitly establish regional approaches to groundwater management and protection (Appendix B, Section 3.2). The Draft RP considers groundwater restoration projects located within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer as appropriately eligible for restoration under the Textron/MMR NRD settlement. EEA notes that the Town of Sandwich will also realize benefits from the "Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan" as proposed by the Upper Cape Regional Water Supply Collaborative in addition to the Thicket Run Property Acquisition by the Sandwich Water District previously selected for funding in accordance with M.G.L. Chapter 21E and the 1998 Trustee Memorandum of Agreement.

8.2. Project Specific Comments

8.2.1. Comments on "Development of a Comprehensive Water Resource Management Plan (Section 5.1)"

Applicant: Town of Sandwich

1) Comment: We note the committee ranked our project's ability to leverage additional resources as "Low" as presented in Table 1 (page 21). We feel leveraging should be considered in several ways and question the rating we received in this category:

- The Town applied for, and was awarded, State Revolving Fund monies. Unfortunately, this award came late this year, which made it difficult to include as part of the Town Meeting Warrant. We expect to reapply next year.
- Another realistic, possible funding source is a grant from the Cape Cod Commission for a portion of the proposed work – specifically, the wastewater needs of the so-called South Sandwich Business District.
- The grant will leverage work on regional issues and allow other Upper Cape communities to complete their plans.
- The Town is leveraging its efforts to "stretch" the grant dollars – the Town is planning on using its own staff and volunteer work for as much as the project as possible (as outlined in Table 2-2 and Appendix C of our proposal).
- The Town has already assumed costs directly associated with the J-Range plumes that should be considered as part of its efforts toward the overall solution. Specifically, the Town made a special exception on a long-standing moratorium on the taking of private roads to allow access for monitoring and extraction wells related to this contamination. In doing so we have taken on any long-term, continuing costs, associated with maintaining these roads in perpetuity. We have also granted several formal rights of way and easements on Town property to the Army Corps of Engineers to facilitate the remediation work currently underway by MMR officials to address the Textron contamination.

Trustees Response: Appendix A of the Draft RP describes how Evaluation Criteria were applied to prioritize eligible restoration projects through a qualitative assessment of their value and feasibility. The criterion "Leveraging of Additional Resources" was applied as follows:

Qualitative Rankings:

High: If project leverages cash contributions, project budget demonstrates an average of $1.50 or greater in non-NRD funding for every $1.00 requested. If project leverages in-kind services, project demonstrates a considerable diversity of partners contributing directly the project. The partners represent a broad range of community resources (e.g., individuals, municipalities, state and federal agencies, private foundations, conservation organizations, community groups, academia, etc.).
Medium: If project leverages cash contributions, project budget demonstrates an average of $1.00 - $1.49 in non-NRD funding for every $1.00 requested. If project leverages in-kind services, project partnership demonstrates some diversity in direct contributions.
Low: If project leverages cash contributions, project budget demonstrates an average of $0.10 - $0.99 in non-NRD funding for every $1.00 requested. If project leverages in-kind services, project partnership represents a narrow segment of community resources.

As presented in the Draft RP, the evaluation recognized the Town's in-kind contributions to the project, valued in the proposal at $137,240 which corresponds to $0.23 in non-NRD funding for every $1.00 requested. Coincident with publication of the Draft RP, the proposed CWRMP was included in the Massachusetts Department of Environmental Protection's (MassDEP) 2010 Draft Intended Use Plan for the Clean Water State Revolving Fund (DWSRF) loan program. As a result, the MMR Trustee Council recognizes there is a degree of certainty associated with the Town's ability to obtain additional grant monies to fully fund the proposed project valued at $600,000, which would result in a total match of $337,240 corresponding to $0.56 in non-NRD funding for every $1.00 requested.. While the MMR Trustee Council recognizes and appreciates the efforts of the Town of Sandwich to maximize the use of non-NRD funding to complete the proposed project, the project remains ranked as "Low" for this criterion based on the above definition. Most importanly, the MMR Trustee Council notes that "leveraging" is just one of seventeen criteria considered in evaluating the proposals, and is thus intended as one of many weighting factors.

Regarding the Town's additional suggested leveraging options, EEA and the MMR Trustee Council appreciate the Town's commitments related to costs already incurred to provide access for ongoing remediation work at the MMR, however, these are more appropriately considered as contributions to the remedy rather than in-kind match for NRD restoration.

2) Comment: Regarding State Revolving Fund loans, it is our understanding that 0% loans are only available for projects with completed management plans in place, thus, planning efforts are not eligible. (Section 5.1.2, page 25)

Response: That is correct. The text in Section 5.1.2 has been revised (revisions in italics) to clarify that certain projects, whose primary purpose is to *implement* nutrient reduction, may be eligible for 0% interest loans, if they meet specific statutory requirements. *Having an approved CWRMP is a prerequisite to accessing the 0% interest rate loans.*

8.2.2. Comments on Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan (Section 5.2)

Applicant: Upper Cape Regional Water Supply Collaborative

1) Comment: The type of agency cooperation anticipated by the Sagamore Lens Project provides a water supply focus of these regional discussions and the [Cape Cod] Commission looks forward to participating. An important aspect of the project will be to incorporate potential wastewater disposal sites and other regional coverages into the sustainability evaluation. The Commission is presently compiling a number of the specified resources that are itemized in the proposal. We may be able to participate more fully in this important project if a portion of the award was able to provide some assistance to offset staff time.

Comment: We have received the comment letter submitted by the Cape Cod Commission relative to the Sagamore Lens study. As you are aware, the scope of work for the study includes consultation with and input from the Commission, Federal, state and local agencies throughout the project. The input from these groups will be important to ensuring the project achieves the regional benefit and acceptance goals anticipated. At the same time we do not expect the Commission or other agencies to go through extraordinary efforts in assisting with the project. Although we fully understand the budget constraints of the Commission, we do not believe there is adequate funding in the proposed allocation to provide financial assistance to them. Additionally, *it would* not be fair to provide assistance to one agency when there will

likely be a number of groups providing assistance to the project without receiving financial assistance. We would suggest that the Commission delay compiling data for the study until the project is underway and we can provide them a specific list of information required from their data base.

Response: Several tasks associated with the development of the proposed Sustainable Management of Water Resources Plan were modified in the Draft RP to reflect the availability of reliable data from ongoing and planned studies by state and federal agencies as well as regional and municipal sources. Compilation of these data will entail consultation with a number of organizations, agencies and municipalities. These modifications resulted in a decrease in overall project costs as it is not the understanding of EEA or the MMR Trustee Council that completion of the proposed Water Resources Plan will require production of data by these entities beyond their current commitments. As described in the Draft RP, modifications to content and costs of the preferred alternatives enable EEA as Trustee to meet its objective of providing a broad range of benefits for the Upper Cape.

2) Comment: Could you offer any background on the decision to change the scope of the Upper Cape Regional Water Supply Collaborative's project (the Sagamore Lens Aquifer Management Plan) from being a safe yield study to a water resources management plan – in particular modifying scope items toward summarizing existing data rather than generating new data.

Response: Regarding safe yield, as indicated in Appendix B, Section 3.2 of the Draft RP, the Massachusetts Water Management Act (M.G.L. Chapter 21G) and its implementing regulations (310 CMR 36.00) authorize MassDEP to regulate the quantity of water withdrawn from both surface and groundwater supplies. It is MassDEP's responsibility to determine safe yield: an interim method was issued in December of 2009 and MassDEP intends to develop the Long-Term Safe Yield Methodology and use best efforts to complete final Safe Yield determinations by November 3, 2010. Please see http://www.mass.gov/dep/water/resources/isymethod.htm for details. Additionally, EEA Secretary Ian Bowles has created the Sustainable Water

Management Advisory Committee to advise EEA and its agencies – one goal is to inform MassDEP's implementation of the Water Management Act and its new determination of Safe Yield, and to examine application of the new methodology to other water-related statutes and requirements, including possible incentives for integrated water management programs at the regional and municipal level. See http://www.mass.gov/eea for more details.

Regarding use of existing data, as indicated in Appendix B, Section 3.2 of the Draft RP, the Massachusetts Water Resources Commission reviews and approves water needs forecasts for public water suppliers and communities. These forecasts are developed by the Massachusetts Department of Conservation and Recreation's Office of Water Resources and are anticipated to be available in 2010. The U.S. Geological Survey (USGS) is conducting similar work (modeling), and it is EEA and the Trustee Council's expectation that the USGS and Upper Cape Regional Water Supply Collaborative could capitalize on each other's efforts, thereby making the project more cost-effective.

3) Comment: It is not exactly clear in the Sagamore Lens proposal if the consultant and their hydrogeologic subcontractor would be providing the hydrogeologic modeling as indicated in the task descriptions or if that would be provided by the USGS or MMR personnel as discussed in the project narrative of the original scope.

Response: The text of Task 13 in Section 5.2.2 has been clarified to reflect the "Project Tasks and Milestones" included in the proposal, to read as follows (italics added): "Using the existing USGS and/or MMR groundwater model updated with additional data from this study, evaluate potential hydrologic impacts of existing , permitted and proposed water withdrawals." Note that all tasks will be completed by the Upper Cape Regional Water Supply Cooperative and their consultants using data developed by other sources as indicated by Task.

4) Comment: It would be advantageous to the region if the USGS was a responsible participant for providing the groundwater modeling aspects of this project given the regional and complex nature of this project.

Comment: A groundwater modeling tool to evaluate new scenarios should be made available to the communities and region when the project ends.

Trustees Response: The current USGS regional model is documented and available to any party. The DoD funded project with USGS includes an update to the regional model to account for updated geologic, bedrock, and salt water interface. The Upper Cape Regional Water Supply Cooperative, USGS and DoD will work together on the iterative modeling process to develop timeframes, deliverables and data sharing responsibilities. For example, initial analyses using the current regional model may help the iterative process of updating the model. In the end, USGS will document the updated model and it will be publicly available.

5) Comment: It was not clear if the scope of the Sagamore Lens Project would also include evaluation of water withdrawals in the Towns of Barnstable and Yarmouth that are part of the Lens.

Comment: Please note that the scope of work includes Barnstable and Yarmouth since they are within the Sagamore Lens area.

Trustees Response: The Trustee Council recognizes that the project as proposed includes an analysis of the Sagamore Lens which provides drinking water to the Towns of Barnstable and Yarmouth in addition to Falmouth, Bourne, Sandwich and Mashpee which are the focus of the Textron/MMR NRD Settlement Restoration Plan.

6) Comment: It is not clear how the Drought Management Plan will be used as a vehicle to incorporate the findings and conclusions of the previous tasks, particularly task 12 -14. It is recommended that each of those tasks have an interim report on the method and findings.

Comment: The scope does not include interim reports for specific scope items. We do not believe these are necessary and the funding budget did not include this additional work.

Response: The Drought Management Plan (DMP) will inform management decisions that mitigate impacts of existing water withdrawals through the use of alternative sources and/or water purchase. Tasks 12-14 will inform preparation of the DMP as well as provide valuable input to future water and wastewater decision-making.
Task 17 requires periodic meetings with EEA and its agencies as well as regional and local stakeholders throughout the project, thus, interim reports are not required. The Final Report is intended to capture the findings of these and other project Tasks.

7) Comment: It is uncertain how a singular number could represent the "maximum dependable available withdrawal" of the Sagamore Lens. It has long been implemented through the Water Management Act that potential impacts of water withdrawals to sensitive receptors are mitigated at the local scale (for specific pumping locations) rather than the use of a singular "minimum in-stream flow" number that is typically applied to a single river basin. This being the case, an option to evaluate optimization of pumping to mitigate potentially identified impacts would be a helpful alternative.

Comment: The scope and budget did not include evaluation of individual water withdrawal impacts as requested by the Commission. Although this is valuable information, the study focuses on a regional analysis. Analysis of individual withdrawal impacts is evaluated during normal permitting for new water supply sources.

Response: To clarify, the "maximum dependable available withdrawal" is not synonymous with the use of a single "minimum in-streamflow" number. Rather, the analysis takes into account several hydrologic and other factors, including effects on sensitive environmental receptors which will be identified in Task 3. EEA and the Trustee Council note that this analysis will take place on a regional scale; the evaluation of individual withdrawal impacts are the purview of

MassDEP and its responsibility to regulate water withdrawals pursuant to the Massachusetts Water Management Act (M.G.L. Chapter 21G) and its implementing regulations (310 CMR 36.00).

Appendix A

EVALUATION CRITERIA: The following Evaluation Criteria were applied to prioritize eligible restoration projects through a qualitative assessment of their value and feasibility. High importance criteria were weighted more heavily than medium importance criteria during this qualitative assessment.

Level 1 – High Importance

Focus Criteria

- Proximity to Injured Resources: Priority will be given to projects within the geographic location of the impacted environment or benefit the resources within that environment. Restoration projects for the Textron Systems Corporation/ MMR NRD must be located within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer.

Qualitative Rankings:

High: Project takes place within the communities of Sandwich, Bourne, Falmouth or Mashpee that overlay the Cape Cod Sole Source Aquifer and will positively affect injured groundwater resources and/or groundwater services to humans or ecosystems.
Medium: Project takes place within the communities of Sandwich, Bourne, Falmouth or Mashpee but it is unclear if it will positively affect injured groundwater resources and/or groundwater services that overlay the Cape Cos Sole Source Aquifer.
Low: Project does not take place within the communities of Sandwich, Bourne, Falmouth or Mashpee and does not positively affect injured groundwater resources and/or groundwater services that overlay the Cape Cos Sole Source Aquifer.

- Relationship to Injured Resources (Nexus): Projects that restore, rehabilitate, replace, enhance, or acquire the equivalent of the same or similar resources or services injured are preferred to projects that benefit other comparable resources or services. Consider the types of resources or services injured, the location, and the connection or nexus of project benefits to those injured resources.

Qualitative Rankings:

High: Project restores, rehabilitates, replaces, enhances, or acquires the equivalent of groundwater resources or groundwater services that were injured and demonstrates a strong connection between project benefits and injured resources.
Medium: Project benefits comparable resources or services and demonstrates a moderate connection between project benefits and injured resources.

Low: Project does not restore, rehabilitate, replace, enhance, or acquire the equivalent of groundwater resources or groundwater services that were injured and does not benefit comparable resources or services and demonstrates a weak connection between project benefits to injured resources.

Benefit Criteria

- Magnitude of Benefits: Project addresses a demonstrated need and maximizes the level of restoration, rehabilitation and/or acquisition of the equivalent natural resources that were injured.

Qualitative Rankings:

High: Project addresses a demonstrated need maximizes groundwater resource benefits.
Medium: Project addresses a demonstrated need but provides a moderate level of groundwater resource benefits.
Low: Project does not address a demonstrated need and provides no or a low level of groundwater resource benefits.

- Natural Recovery: Project will clearly provide restoration benefits to injured natural resources and/or services in advance of the "natural recovery period." The natural recovery period is the length of time it would take for the injured resource and/or service to recover to an optimal condition in the absence of human intervention.

Qualitative Rankings:

High: Project will clearly provide restoration benefits in advance of the natural recovery period.
Medium: Project has the potential to provide restoration benefits in advance of the natural recovery period.
Low: Benefits provided by the project are unlikely to result in restoration benefits in advance of the natural recovery period.

- Sustainability of Benefits: Project will result in long-term, self-sustaining and comprehensive benefits to injured natural resources and/or the services they provide. Project will require only periodic maintenance or management that represents a relatively small investment to provide continuing benefits.

Qualitative Rankings:

High: Project will clearly result in long-term, self-sustaining and comprehensive benefits. Project does not require recurring human intervention or maintenance.
Medium: Long-term and sustainable benefits are likely to require maintenance or management that represents a relatively small investment to provide continuing benefits.

Low: Benefits provided by the project are likely to be short-term, unsustainable and/or finite. Project requires a significant investment of human intervention, management, and/or maintenance in order to provide continuing benefits.

- Consistency with MA Water Policies and Plans: Project implements one or more public goals, needs and/or recommendations expressed in existing Commonwealth water policies and plans.

Qualitative Rankings:

High: Project will implement one or more goals, needs and/or recommendations as expressed in existing Commonwealth water policies and plans.
Medium: Project has the potential to implement one or more goals, needs and/or recommendations as expressed in existing Commonwealth water policies and plans.
Low: Project does not appear to implement one or more goals, needs and/or recommendations as expressed in existing Commonwealth water policies and plans.

- Stewardship: Project will result in an "informed citizenry" that will help ensure ongoing environmental stewardship of restored natural resources and their services. Project provides a critical foundation for on-going and future groundwater restoration activities on the Upper Cape.

Qualitative Rankings:

High: Project will encourage, develop, or influence specific behavior(s) that has a direct and long-lasting and positive effect on the injured groundwater resources and groundwater services. Project provides a critical foundation for future groundwater restoration activities.
Medium: Project may provide a positive effect on groundwater resource stewardship, but for a short period of time. Project provides a limited foundation for future groundwater restoration activities.
Low: Project does not demonstrate an ability to affect public stewardship of groundwater resources. Project does not provide a foundation for future groundwater restoration activities and/or provides a disincentive to future groundwater restoration activities.

Implementation Criteria

- Technical/Technological: Project will employ well-known and accepted techniques to achieve stated ecological, engineering, economic, and social objectives. Likelihood of success in proposed project location and expected return of resources and resource services is high.

Qualitative Rankings:

High: Methods are widely regarded as being, or based on, proven techniques/technologies for achieving stated project objectives. Likelihood of success in the proposed project location is high. Applicant clearly demonstrates technical/technological feasibility of project.
Medium: Method has been moderately successful as a technique/technology for achieving stated project objectives. Likelihood of success in the proposed project location is moderate. Applicant provides an adequate demonstration of project's technical\technological feasibility.
Low: Method is considered to be technically infeasible for achieving stated project objectives. Likelihood of success is low or unknown. Applicant does not demonstrate technical/technological feasibility of project.

- Relationship of Expected Costs to Expected Benefits: A project's costs are commensurate with the benefits it provides to injured natural resources and/or services. This will be a qualitative cost-benefit analysis.

Qualitative Rankings:

High: The project's qualitative cost-benefit relationship demonstrates high net benefits.
Medium: The project's qualitative cost-benefit relationship demonstrates net benefits.
Low: The project's qualitative cost-benefit relationship demonstrates a net cost.

- Implementation-oriented: Project has a high ratio of NRD funding dedicated to implementation compared to general program support and operation.

Qualitative Rankings:

High: Project has a high ratio of NRD funding dedicated to implementation relative to general program support.
Medium: Project shows an approximately equal ratio of NRD funding dedicated to project implementation and general program support.
Low: Project shows a high ratio of NRD funding dedicated to sustaining or expanding an existing organization's day-to-day activities.

- Leveraging of Additional Resources: Project demonstrates a strong commitment by partners representing a broad range of community and other interests to provide matching funds and in-kind services and involve volunteers. This leveraging of non-NRD resources is preferred because it extends the availability of restoration funds and therefore increases the resource benefits provided by the funds.

Qualitative Rankings:

High: If project leverages cash contributions, project budget demonstrates an average of $1.50 or greater in non-NRD funding for every $1.00 requested. If project leverages in-

kind services, project demonstrates a considerable diversity of partners contributing directly the project. The partners represent a broad range of community resources (e.g., individuals, municipalities, state and federal agencies, private foundations, conservation organizations, community groups, academia, etc.).

Medium: If project leverages cash contributions, project budget demonstrates an average of $1.00 - $1.49 in non-NRD funding for every $1.00 requested. If project leverages in-kind services, project partnership demonstrates some diversity in direct contributions.

Low: If project leverages cash contributions, project budget demonstrates an average of $0.10 - $0.99 in non-NRD funding for every $1.00 requested. If project leverages in-kind services, project partnership represents a narrow segment of community resources.

Level 2: Medium Importance

Benefit Criteria

- Multiple Benefits: Project will provide benefits to the greatest number of natural resources and services, e.g. project will provide benefits to groundwater resources as well as additional natural resources.

Qualitative Rankings:

High: Project will clearly benefit more than one restoration priority category.

Medium: Project will clearly benefit one restoration priority category.

Low: Project does not clearly benefit a restoration priority category.

- Avoidance of Adverse Impacts: Project has little to no potential for adverse environmental impacts, or modifications to project would considerably decrease benefits to injured natural resources and/or services. Adverse environmental impacts are defined as short or long term, direct or indirect, and include those affecting resources that are not the focus of the project.

Qualitative Rankings:

High: Project has little to no potential for adverse environmental impacts.

Medium: Project has potential for adverse environmental impacts, but project could be modified to reduce impacts to acceptable levels and continue to benefit injured groundwater resources and/or services.

Low: Project has strong potential for adverse environmental impacts, and modifications to project would considerably decrease benefits to injured groundwater resources and/or services.

- Community Goals: Project complements one or more community goals, needs and/or recommendations as expressed in existing plans that incorporated public input and involvement in their development.

Qualitative Rankings:

High: Project will complement one or more community goals, needs and/or recommendations as expressed in existing plans.

Medium: Project has the potential to complement aspects of community goals, needs and/or recommendations as expressed in existing plans.

Low: Project does not appear to complement community goals, needs and/or recommendations as expressed in existing plans.

- Avoidance of Adverse Impacts: Project has little to no potential for adverse effects to human health and safety. Project has little to no potential for adverse socioeconomic impacts, or modifications can be made to the project that would considerably decrease impacts to injured natural resources and/or services. Adverse socioeconomic impacts include those that are short or long term in duration and/or have a direct or indirect effect, and include those affecting resources that are not the focus of the project.

Qualitative Rankings:

High: Project has little to no potential for adverse socioeconomic impacts.

Medium: Project has potential for adverse socioeconomic impacts, but project could be modified to reduce impacts to acceptable levels and continue to benefit injured natural resources and/or services.

Low: Project has strong potential for adverse socioeconomic impacts, and modifications to project would considerably decrease benefits to injured natural resources and/or services.

Implementation Criteria

- Measurable Results: Project delivers tangible and specific hydrological, ecological, economic, social and/or human use results that are identifiable and measurable, and/or that may be evaluated using quantitative or professionally accepted methods, so that changes to the Upper Cape and related groundwater resources and services can be documented and evaluated.

Qualitative Rankings:

High: Project success can and will be directly measured using quantitative endpoints or other professionally accepted methods. If applicable, project includes a clear budget for monitoring and/or evaluation.

Medium: Project success can be estimated using meaningful qualitative endpoints or indirect quantitative endpoints.

Low: Success of proposed project cannot be directly measured or estimated.

- Level of Difficulty: Project considers all obstacles that may be faced for project implementation (e.g., coordination with multiple outside parties, regulatory permits required, complex design and engineering, and public support)

Qualitative Rankings:

High: Project is clearly coordinated with other ongoing or planned projects on the Upper Cape; regulatory review requirements are straightforward; project team has an established record of success in the implementation of projects of similar technical complexity, and/or they have a record of highly effective management of projects with similar scale and scope.

Medium: Project neither complements nor detracts from other ongoing or planned projects on the Upper Cape; regulatory review requirements are complicated but clearly understood and laid out in a logical manner; project team has successfully implemented and/or managed projects on a smaller scale or with less technical complexity.

Low: Project detracts from or negates other ongoing or planned projects on the Upper Cape; regulatory review requirements are ambiguous or indeterminate; applicant demonstrates minimal or no qualifications, experience or capacity to implement and/or manage the proposed project.

Appendix B

Appendix B describes in brief the federal and state authorities that are considered relevant to the implementation of the recommended groundwater restoration projects. In Massachusetts, there are state regulations that are implemented at the local level and these, in addition to applicable local bylaws, are indicated in the text. While a summary statement regarding EEA and MMR Trustee Council consideration of relevant authorities appears at the end of most sections, please note that project applicants receiving NRD funding will be responsible for obtaining all relevant permits and approvals and formally comply with any and all laws, policies, ordinances and requirements to implement recommended restoration projects. Please also note that this is intended to be a representative but not exhaustive list.

1. Natural Resource Damages Assessment and Restoration

1.1. *Federal Authorities*

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, commonly known as Superfund (42 United States Code (U.S.C.) § 9601 et seq.), including but not limited to sections 104, 107, 111(i), and 122.

Provides a framework for natural resource Trustee assessment and recovery of monetary damages for injury to natural resources from the release of hazardous substances as well as natural resource Trustee use of recovered damages to restore, replace or acquire the equivalent natural resources and natural resource services. Requires that natural resource Trustees develop and adopt a Restoration Plan after consideration of all reasonable alternatives and public comment before expending damages on restoration projects.

U.S. Department of the Interior (DOI) regulations for Natural Resource Damages for Hazardous Substances (43 CFR Part 11)

Provides procedures for natural resource Trustees to determine and quantify injuries to natural resources and assessment of natural resource damages. Requires that natural resource Trustees develop a reasonable number of possible alternatives to restore, replace, or acquire the equivalent natural resources and natural resource services, evaluate these alternatives using relevant technical, legal and other factors, and select alternatives to implement based on this evaluation.

1.2. *Massachusetts Authorities*

Massachusetts Oil and Hazardous Material Release Prevention and Response Act (Massachusetts General Laws (M.G.L.) Chapter 21E Section 11A)

Provides for actions brought by the Commonwealth to recover for damage to natural resources, including costs of assessment and evaluation.

Executive Office of Energy and Environmental Affairs (M.G.L. Chapter 21A Section 5)

The secretary shall be the state natural resource trustee and may compromise or settle any claim for damages for injury and for destruction or loss of natural resources, including the costs of assessing and evaluating the injury, destruction or loss, incurred or suffered as a result of a release or threat of release, under section 5 of chapter 21E, 42 U.S.C. § 9607(f) 33 U.S.C. § 2706 and other applicable law in accordance with this section.

Natural Resource Damages Trust (Chapter 194, Section 317 of the Acts of 1998 as amended in Chapter 149, Section 222 of the Acts of 2004)

There shall be established and set up on the books of the commonwealth a separate trust to be known as the Natural Resource Damages Trust to be administered and expended by the executive office of environmental affairs. Expenditures may be made from the trust account, without further appropriation, for the purposes of funding natural resource restoration, replacement or acquisition of equivalent natural resources, the development of natural resource damages claims, including, but not limited to, investigation of such claims and enforcement of settlements. Expenditures may also be made from the trust account, without further appropriation, for the purposes of funding other actions related to natural resources damage including, but not limited to, natural resource damage assessment, natural resource damage recovery, natural resource law enforcement and, if necessary, the costs of personnel and administration of studies or related activities, including grants to public and nonpublic entities, conducted pursuant to the secretary's authority as trustee for natural resources pursuant to section 5 of chapter 21E of the General Laws, sections 23 to 27, inclusive, of chapter 130 of the General Laws, section 42 of chapter 131 of the General Laws, section 9607(f) of Title 42 of the United States Code, section 1321 of Title 33 of the United States Code, section 2706 of Title 33 of the United States Code or any other relevant and appropriate authority. The trust shall retain all interest earned on sums deposited in the trust. The trust may receive funds as may be appropriated from time to time, as well as gifts and grants of money or other contributions from any source, either public or private, and settlements, judgments, or fines or penalties not designated by law for other specific purposes, to be expended within the purposes of the trust. The fund may not receive any fees that have been collected by an agency within the executive office of environmental affairs.

The 2007 Textron NRD settlement is subject to expenditure in accordance with M.G.L. Chapter 21E as well as Section 107 (f) and 111(i) of CERCLA. This Restoration Plan has been prepared in compliance with CERCLA and DOI requirements.

2. Environmental Impact Assessment

2.1. *Federal Authorities*

National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321-4347) and its implementing regulations (40 C.F.R. parts 1500-1508)

NEPA requires that federal agencies assess the environmental impacts of major federal actions that may have a significant effect on the environment prior to undertaking such actions. NEPA applies to a wide range of federal actions that include, but are not limited to, federal construction projects, plans to manage and develop federally owned lands, and federal approvals of non-federal activities such as grants, licenses, and permits. However, NEPA does not apply to CERCLA removal or remedial actions undertaken by federal agencies.

Federal agencies, by regulation, have determined that certain categories of commonplace federal actions do not individually or cumulatively have a significant effect on the quality of human health, safety, or the environment.. These excluded activities, known as "categorical exclusions" or "CATEXs", are set forth in agency regulations. Federal activities that fall within a CATEX do not require preparation of a NEPA environmental assessment or environmental impact statement. Nevertheless, the agency proponent may need to document that NEPA does not apply to the proposed action as required by the relevant agency regulations. For the U.S. Army, this documentation usually takes the form of a Record of Environmental Consideration, and for the U.S. Air Force the documentation is the Air Force form 813.

Because the NRD funds were recovered through an Army litigation settlement pertaining to natural resources on lands under US Army control, the Army has assumed the role of federal proponent with respect to the proposed activity. If and to the extent NEPA applies to the Trustee Council funding action set forth in this document, then in the absence of an applicable categorical exclusion, the Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan study proposed by the Upper Cape Water Supply Cooperative might be subject to NEPA requirements due to cost-sharing

by the U.S. Department of Defense However, U.S. Army regulations contain a categorical exclusion for the funding of a natural resources related "study...and information gathering" activity that involves no surface disturbance. 32 CFR Part 651, Appendix B, § II(d)(4). U.S. Air Force regulations contain similar categorical exclusion provisions. See, 32 CFR Part 989, ¶¶ A2.3.24 and A2.3.26.

Therefore, even if NEPA did to the Trustee Council funding action set forth in this document, the proposed action would be one that is categorically excluded under 32 CFR Part 651, Appendix B, § II(d)(4) provided that no "extraordinary circumstances" exist. 32 CFR § 651.19. A review of the proposed activity in light of the regulatory screening criteria establishes that extraordinary circumstances do not exist; and that utilization of the categorical exclusion would be appropriate. A copy of the U.S. Army's and U.S. Air Force's documentation that explains and documents the applicability of the categorical exclusion in this matter is set forth in Appendix C.

2.2. *Massachusetts Authorities*

Massachusetts Environmental Policy Act (MEPA) (M.G.L. c.30, §§ 61-62H) and its implementing regulations (301 CMR 11.00)

MEPA requires state agencies to study the environmental consequences of their actions. MEPA applies to projects above a certain size that involve state agency action such as granting state permits or licenses, providing state financial assistance, or transferring state land. MEPA further requires that state agencies "use all practicable means and measures to minimize damage to the environment," by studying alternatives to the proposed project, and developing enforceable mitigation commitments, which will become permit conditions for the project if and when it is permitted.

After the Final Restoration Plan is completed, individual groundwater restoration projects may be determined to trigger thresholds established under MEPA and will then be required to proceed through a MEPA review.

Cape Cod Commission (CCC) (Chapter 716 of the Acts of 1989 and Chapter 2 of the Acts of 1990)

The CCC is a regional land use planning and regulatory agency with authority to prepare and oversee the implementation of a regional land-use policy plan for all of Cape Cod, to recommend for designation specific areas of Cape Cod as districts of critical planning concern, and to review and regulate "Developments of Regional Impact" (DRIs), throughout Cape Cod. Towns refer projects to the CCC for DRI review

as (1) mandatory referrals, which are required for any project exceeding specific thresholds, and (2) discretionary referrals, which towns use at their option to seek CCC consideration of specific project-related impacts. At the option of applicants, joint state/regional reviews are conducted for projects going through the MEPA process.

After the Final Restoration Plan is completed, individual groundwater restoration projects may be determined to require mandatory, or warrant discretionary referral, for review as DRIs by the CCC.

3. Water Quality and Quantity – Groundwater

3.1. *Federal Authorities*

Safe Drinking Water Act (42 U.S.C. 300f et seq, 6939b; 15 U.S.C. 1261 et seq)

The SDWA authorizes the U. S. Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The SDWA applies to every public water system in the United States and provides a framework in which the US EPA, states, tribes, water systems, and the public work together to protect drinking water. The SDWA gives US EPA the authority to designate aquifers which are the sole or principal drinking water source for an area, and which, if contaminated, would create a significant hazard to public health.

Pursuant to Section 1424(e) of the SDWA, in 1982 the US EPA designated the Cape Cod aquifer as a Sole Source Aquifer in recognition that the single continuous aquifer serves as the "sole source" of drinking water for permanent and seasonal residents of Cape Cod.

3.2. *Massachusetts Authorities*

Upper Cape Regional Water Supply Cooperative (Chapter 352 of the Acts of 2000)

The Upper Cape Regional Water Supply Cooperative (Cooperative) includes the towns of Falmouth, Bourne, Sandwich and Mashpee and was established to provide a regional approach to the provision, conservation, management and protection of water supplies. The Cooperative has, any general or special law notwithstanding, the power and authority to construct, operate and maintain a public water supply and appurtenant water distribution works within the geographical area of the MMR, provided that the Cooperative take no action which would interfere with the lawful operations of federal entities that operate at MMR pursuant to leases between the Commonwealth of

Massachusetts and the United States, including the U.S. Department of the Army, U.S. Department of the Air Force, the U.S. Coast Guard, and the Massachusetts Army National Guard and Air National Guard.

The Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan will be managed by the Cooperative.

Upper Cape Water Supply Reserve (Chapter 47 of the Acts of 2002)

The Upper Cape Water Supply Reserve was created as public conservation land dedicated to:

- the natural resource purposes of water supply and wildlife habitat protection and the development and construction of public water supply systems, and
- the use and training of the military forces of the Commonwealth; provided that, such military use and training is compatible with the natural resource purposes of water supply and wildlife habitat protection.

A three-member Environmental Management Commission comprised of the Commissioners of the Departments of Environmental Protection, Conservation and Recreation, and Fish and Game was established to ensure the permanent protection of the drinking water supply and wildlife habitat of the reserve.

Water Resources Commission (WRC) (M.G.L. Chapter 21A Sections 8B-8D)

The WRC is chaired by the EEA Secretary and is comprised of state officials and public members who are responsible for developing, coordinating and overseeing the Commonwealth's water policy and planning activities. Additionally, the WRC advises MassDEP in the administration and enforcement of water pollution control and water management policies and regulations. Technical and staff support to the WRC is provided by the Office of Water Resources (OWR) in the Department of Conservation. The OWR assists the WRC in conducting scientific research and developing water policy, including:

- Massachusetts Water Supply Policy Statement (1996)
- Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodology for Implementation (2007, 2009)
- Offsets Policy Regarding Proposed Interbasin Transfers (2007)
- Water Conservation Standards (2006)
- Working Draft Final Massachusetts Drought Management Plan (2001)

The Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan will include preparation of a Drought Management Plan in accordance with EEA policy to provide the Upper Cape region with a regional approach to protect, maintain and conserve current drinking water supply and provide protection to the natural ecosystems.. The Plan will also incorporate the 20-year water needs forecasts as developed by the MA DCR Office of Water Resources.

Water Management Act (WMA) (M.G.L. Chapter 21G) and its implementing regulations (310 CMR 36.00)

The WMA authorizes the MassDEP to regulate the quantity of water withdrawn from both surface and groundwater supplies. The purpose of the WMA regulations is to ensure an adequate volume and quality of water for all citizens of the Commonwealth, both present and future. Key components of the WMA include a registration program for water withdrawals prior to 1986 and a permit program for water withdrawn from ground or surface sources in excess of an annual average of 100,000 gallons per day or 9 million gallons in any three month period. The WMA is intended as a mechanism for comprehensive management of the surface and groundwater of the commonwealth as a single hydrologic system that ensures, where necessary, a balance among competing water withdrawals and uses.

WMA permit renewals are scheduled for 2010 in the Cape Cod watershed.

Massachusetts Drinking Water regulations (310 CMR 22.00) and Drinking Water Standards and Guidelines

In Massachusetts, the MassDEP has primacy for implementing provisions of the SDWA and has established protective public health standards and/or guidelines for contaminants in drinking water. 310 CMR 22.00 is intended to prevent pollution to and promote protection of water supplies and ensure that public water systems provide to their users water that is safe, fit and pure to drink. The Massachusetts Maximum Contaminant Levels (MMCLs) listed in the drinking water regulations, as well as the promulgated MCLs set by the EPA, constitute the Massachusetts Drinking Water Standards. The MMCLs listed in 310 CMR 22.00 apply to water that is delivered to any user of a public water system as defined in 310 CMR 22.02.

Private Well Guidelines (Updated 2008)

In Massachusetts over 500,000 people rely on private water systems to provide potable water. While private residential wells are not subject to the requirements of 310 CMR 22.00, the Massachusetts drinking water standards are recommended for the evaluation of private drinking water and are often used to evaluate private residential

contamination, especially in CERCLA and M.G.L Chapter 21E activities. MassDEP has developed guidelines for the siting, construction and protection of private wells for use by municipal Boards of Health, well drillers and well owners.

3.3. *Local Authorities*

Regulation of public health and domestic water supply (M.G.L. Chapter 111: Sections 31 and 122A)

In Massachusetts, municipalities have been granted authority to adopt ordinances and bylaws to protect the public health, including the use of private water supply systems.

The Towns of Sandwich, Mashpee, and Bourne have adopted local bylaws governing the siting, construction, and protection of private wells. The Sandwich Board of Health has also adopted regulations that require a Certificate of Water Quality Compliance for certain activities located within the approved Zone II of public water supplies.

Zoning (M.G.L. Chapter 40A)

In Massachusetts, municipalities have been granted authority to adopt ordinances and by-laws to regulate the use of land, buildings and structures to the full extent of the independent constitutional powers of cities and towns to protect the health, safety and general welfare of their present and future inhabitants.

The Towns of Sandwich, Mashpee, Falmouth and Bourne have adopted zoning regulations that include the creation and designation of overlay districts that protect existing and potential public and, in some cases private, water supplies. In these overlay districts, certain uses are allowed, prohibited or require a special permit to ensure the quality and safety of water supplies.

4. Water Quality – Surface Waters

4.1. *Federal Authorities*

Clean Water Act (CWA), also known as the Federal Water Pollution Control Act of 1972, as amended (33 U.S.C. §1251 *et seq.*) and its implementing regulations (40 CFR 130.7)

The CWA's broad goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." There are several sections of the CWA applicable to this Restoration Plan:

Section 303(a) requires states to adopt surface water quality standards which designate the most sensitive uses for which waters shall be enhanced, maintained and protected and prescribe the minimum water quality criteria required to sustain these designated uses.

Section 305(b) requires states to monitor and assess the quality of their surface waters, identifying sources of impairment where possible.

Section 303(d) requires states to identify those waterbodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and to prioritize and schedule them for the development of a total maximum daily load (TMDL). A TMDL establishes the maximum amount of a pollutant that may be introduced into a waterbody and still ensure attainment and maintenance of water quality standards. TMDLs allocate that acceptable pollutant load among all potential sources.

Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

Section 401requires states to certify that activities requiring review and approval under Section 404 will comply with their surface water quality standards.

The Massachusetts Year 2008 Integrated List of Waters, prepared by MassDEP pursuant to Section 303(d) of the CWA, identifies surface waters on Cape Cod requiring the development of TMDLs. Although a Comprehensive Water Resources Management Plan is not a formal requirement for implementation of a TMDL, the Town of Sandwich project represents a key step toward implementation of TMDLs for nitrogen in Cape Cod estuaries.

4.2. *Massachusetts Authorities*

Massachusetts Clean Waters Act (M.G.L. 21, Sections 26-53)

Authorizes MassDEP to take all action necessary or appropriate to secure to the Commonwealth the benefits of the Federal Water Pollution Control Act, as amended, and other federal legislation pertaining to water pollution control by establishing a program for prevention, control, and abatement of water pollution through permits, municipal, regional and interstate planning, water quality standards, sampling and reporting, and financial and technical assistance.

Massachusetts Surface Water Quality Standards (314 CMR 4.00)

Designates the most sensitive uses for which the various waters of the Commonwealth shall be enhanced, maintained and protected; prescribes the minimum water quality criteria required to sustain the designated uses; and contains regulations necessary to achieve the designated uses and maintain existing water quality including, where appropriate, the prohibition of discharges.

401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters Within the Commonwealth (314 CMR 9.00)

These regulations are promulgated by MassDEP to carry out its statutory obligations to certify that proposed discharges of dredged or fill material, dredging, and dredged material disposal in waters of the United States within the Commonwealth will comply with the Surface Water Quality Standards and other appropriate requirements of state law.

4.3. *Local Authorities*

Zoning (M.G.L. Chapter 40A)

In Massachusetts, municipalities have been granted authority to adopt ordinances and by-laws to regulate the use of land, buildings and structures to the full extent of the independent constitutional powers of cities and towns to protect the health, safety and general welfare of their present and future inhabitants.

The Town Sandwich has adopted zoning bylaws that create Surface Water Protection Districts that require special permit requirements related to the existing eutrophic condition of surface water ponds and nutrient contributions from proposed development. The Town of Falmouth has adopted zoning bylaws that create Coastal Pond Overlay Districts that that represent the recharge areas of all coastal ponds in Falmouth; proposed development must show that their project's nitrogen load will not cause the critical trophic levels to be exceeded in these ponds. The Town of Mashpee has adopted zoning regulations that create Protective Districts for the Mashpee and Quashnet Rivers that prohibit certain uses within defined setbacks in the tidal and freshwater reaches.

5. Natural Resource Management and Conservation

5.1. *Federal Authorities*

Clean Water Act (CWA), also known as the Federal Water Pollution Control Act of 1972, as amended (33 U.S.C. §1251 *et seq.*) and its implementing regulations (40 CFR 130.7)

The CWA's broad goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." There are several sections of the CWA applicable to this Restoration Plan:

Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

Section 401requires states to certify that activities requiring review and approval under Section 404 will comply with their surface water quality standards.

In Massachusetts, a Programmatic General Permit (PGP) governs review of work within wetlands by the New England District of the U.S. Army Corps of Engineers. After the Final Restoration Plan is completed, individual groundwater restoration projects may be determined to trigger thresholds established under the PGP and will then be required to proceed through s. 404 review.

National Wildlife Refuge System Administration Act (16 U.S.C. 668dd - 668ee)

"The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

National Wildlife Refuge System Mission and Goals and Refuge Purposes (U.S. Fish and Wildlife Service Policy 601 FW 1)

Goals include:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered;
- Develop and maintain a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges;
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts;

- Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) and
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

Priority is given to achieving an individual refuge's purpose(s) when conflicts with the Refuge System mission or goals exist.

Biological Integrity, Diversity, and Environmental Health (U.S. Fish and Wildlife Service Policy 601 FW 3)

This policy describes the relationships among refuge purposes, System mission, and maintaining biological integrity, diversity, and environmental health.
This policy provides guidelines for:

- determining what conditions constitute biological integrity, diversity, and environmental health
- maintaining existing levels of biological integrity, diversity, and environmental health
- determining how and when it is appropriate to restore lost elements of biological integrity, diversity, and environmental health
- dealing with external threats to biological integrity, diversity, and environmental health

The Mashpee National Wildlife Refuge (NWR) is located within the geographic area that is the focus of groundwater restoration for the Textron/MMR NRD settlement. The Mashpee NWR was established in 1995 under authority of the Fish and Wildlife Act of 1956 (16 U.S.C. § 742f(a)(4)) "...for the development, advancement, management, conservation, and protection of fish and wildlife resources"; (16 U.S.C. § 742f(b)(1)) "....for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude". The Mashpee NWR preserves and protects natural resources associated with the Waquoit Bay area for the protection of waterfowl and protection of wildlife. Located in the towns of Mashpee and Falmouth, this refuge will total 5,871 acres when complete, only a small percentage of which will be owned by the Fish and Wildlife Service. Currently, 335 acres are in FWS ownership. Managed through a partnership among nine Federal, State and private conservation groups, this NWR preserves thousands of acres of magnificent salt marshes, cranberry bogs, Atlantic white cedar swamps, freshwater marshes, and vernal pools.

Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended

Through federal action and by encouraging the establishment of state programs, the 1973 Endangered Species Act provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. Section 7 of the Endangered Species Act requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

5.2. *Massachusetts Authorities*

Article 97 of the Commonwealth of Massachusetts Constitution (1972)

"The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.
The general court shall have the power to enact legislation necessary or expedient to protect such rights."

"In the furtherance of the foregoing powers, the general court shall have the power to provide for the taking, upon payment of just compensation therefore, or for the acquisition by purchase or otherwise, of lands and easements or such other interests therein as may be deemed necessary to accomplish these purposes. Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote, taken by yeas and nays, of each branch of the general court."

Executive Office of Energy and Environmental Affairs (M. G.L. c. 21A) and its land acquisition regulations (M.G.L. Chapter 51.00) and policies (1995)

The EEA has adopted policies governing appraisals, environmental site assessments and surveys with respect to acquisition of acquisitions of real property for Article 97 purposes or interests therein.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40) and its implementing regulations (310 CMR 10.00, June 2009)

Establishes a public review and decision-making process by which activities affecting Areas Subject to Protection Under M.G.L. c. 131, § 40 are to be regulated in order to contribute to the following interests:

- protection of public and private water supply
- protection of ground water supply
- flood control
- storm damage prevention
- prevention of pollution
- protection of land containing shellfish
- protection of fisheries
- protection of wildlife habitat

Areas Subject to Protection Under M.G.L. c. 131, § 40 include any bank, freshwater wetland, coastal wetland, beach, dune, flat, marsh or swamp bordering on any ocean, estuary, creek, river, stream, pond or lake. Areas also include land under any of the water bodies listed above, land subject to tidal action, land subject to coastal storm flowage, land subject to flooding and the riverfront area. The Act and regulations include special provisions for rare wetlands wildlife habitat and riverfront areas.

401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters Within the Commonwealth (314 CMR 9.00)

These regulations are promulgated by MassDEP to carry out its statutory obligations to certify that proposed discharges of dredged or fill material, dredging, and dredged material disposal in waters of the United States within the Commonwealth will comply with the Surface Water Quality Standards and other appropriate requirements of state law.

Massachusetts Endangered Species Act (M.G.L c.131A) and its implementing regulations (321 CMR 10.00)

MESA protects rare species and their habitats by prohibiting the "Take" of any plant or animal species listed as Endangered, Threatened, or Special Concern by the Massachusetts Division of Fisheries & Wildlife. "Take" is defined as, "in references to animals to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct, and in reference to plants, means to collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct. Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of Habitat." Permits for taking rare species for scientific, educational, conservation, or management purposes can be granted by the Division of Fisheries & Wildlife.

Although specific restoration projects may be required to obtain a formal determination by the Natural Heritage and Endangered Species Program of the Division of Fisheries & Wildlife following completion of the Restoration Plan, land within the MMR and the Towns of Bourne, Sandwich, Mashpee and Falmouth have been designated as Priority Habitats for rare species and Estimated Habitats of rare wildlife.

Massachusetts Areas of Critical Environmental Concern (ACEC) (M.G.L. c. 21A, s. 2(7); 301 CMR 12.00)

> ACECs are those areas within the Commonwealth where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection. These areas are identified and nominated at the community level and are reviewed and designated by the state's Secretary of Environmental Affairs. ACEC designation creates a framework for local and regional stewardship of critical resources and ecosystems. After designation, the aim is to preserve and restore these areas and all EEA agencies are directed to take actions with this in mind.

ACECs located on Upper Cape Cod include Waquoit Bay (2,580 acres, 1979) in Falmouth and Mashpee, Sandy Neck Barrier Beach System (9,130 acres, 1978) in Barnstable and Sandwich, and Bourne Back River (1,850 acres, 1989) in Bourne.

5.3. *Local Authorities*

Powers and Duties of Cities and Towns: Conservation Commission (M.G.L. Chapter 40, Section 8C)

> In Massachusetts, municipal Conservation Commissions are empowered to administer the Wetlands Protection Act (M.G.L. Chapter 131 s. 40) and may also adopt local bylaws as well as undertake other activities such as natural resource planning and land acquisition "for the promotion and development of the natural resources and for the protection of watershed resources of said city or town."

The Towns of Sandwich, Falmouth, Bourne, and Mashpee have adopted wetland bylaws. The Town of Mashpee has also adopted regulations to administer its bylaw that include provision for buffer zones and performance standards to protect wetland resources within the Waquoit Bay ACEC.

Zoning (M.G.L. Chapter 40A)

> In Massachusetts, municipalities have been granted authority to adopt ordinances and by-laws to regulate the use of land, buildings and structures to the full extent of the

independent constitutional powers of cities and towns to protect the health, safety and general welfare of their present and future inhabitants.

The Town of Falmouth has adopted zoning bylaws that include overlay districts to protect wildlife corridors to facilitate the movement of wildlife through corridors between larger habitat areas to the north and south of Falmouth. The Town of Mashpee has adopted zoning bylaws that create Protective Districts for the Mashpee and Quashnet Rivers that prohibit certain uses within defined setbacks in the tidal and freshwater reaches. The Town of Mashpee has also adopted zoning bylaws that include protection for the Waquoit Bay ACEC as designated by the Massachusetts EEA in 1979.

6. Cultural and Historic Resources

6.1. *Federal Authorities*

American Indian Religious Freedom Act 42 U.S.C. 1996

On and after August 11, 1978, it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

Native American Graves Protection and Repatriation Act (25 USC 3001- 3013)

Provides a process for museums and Federal agencies to return certain Native American cultural items -- human remains, funerary objects, sacred objects, or objects of cultural patrimony -- to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. It includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on Federal and tribal lands, and penalties for noncompliance and illegal trafficking. All Federal agencies are subject to the Act.

American Antiquities Act (16 USC 431-433)

The Antiquities Act obligates federal agencies that manage public lands to preserve for present and future generations the historic, scientific, commemorative, and cultural values of the archaeological and historic sites and structures on these lands. It also authorizes the President to protect landmarks, structures, and objects of historic or scientific interest by designating them as National Monuments.

Archaeological Resources Protection Act of 1979, as amended (16 U.S.C. 470aa-470mm)

The purpose of this Act is to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data which were obtained before the date of the enactment of this Act. The main focus is on regulation of legitimate archeological investigation on public lands and the enforcement of penalties against those who loot or vandalize archeological resources. However, both the original statute and, especially, the amendments to it in 1988 provide authority to Federal officials to better manage archeological sites on public land.

National Historic Preservation Act of 1966 (16 U.S.C. 470)

Section 106 of this statute requires that federal agencies take into account the impact that their actions (permitting, licensing, funding) may have on historic properties. "Historic property" is any district, building, structure, site, or object that is eligible for listing in the National Register of Historic Places because the property is significant at the national, state, or local level in American history, architecture, archeology, engineering, or culture. Federal agencies consult and coordinate with State Historic Preservation Officers (SHPO)/ Tribal Historic Preservation Officers (THPO) and other consulting parties to identify historic properties that may be affected by the proposed project and assess adverse effects of the actions.

The recommended restoration projects involve study and planning activities and while implementation of these plans' recommendations may be subject to the requirements set forth in these Acts, the current action is not subject to review.

6.2. *Massachusetts Authorities*

Massachusetts Antiquities Act (M.G.L. Chapter 9, Section 27) and its implementing regulations (950 CMR 70 and 71)

The Massachusetts Historical Commission (MHC) was established by the legislature in 1963 to identify, evaluate, and protect important historical and archaeological assets of the Commonwealth. The Act and its implementing regulations provide for MHC review of state projects, State Archaeologist's Permits, the protection of archaeological sites on public land from unauthorized digging, and the protection of unmarked burials. The MHC is the office of the State Historic Preservation Officer, as well as the office of the State Archaeologist. Any new construction projects or renovations to existing

buildings that require funding, licenses, or permits from any state or federal governmental agencies must be reviewed by the MHC for impacts to historic and archaeological properties.

The recommended restoration projects involve study and planning activities and while implementation of these plans' recommendations may be subject to the requirements set forth in this Act, the current action is not subject to review.

7. Environmental Justice

7.1. *Federal Authorities*

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations

EO 12898 directs federal agencies to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions.

7.2. *Massachusetts Authorities*

Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs

It is the policy of the EEA that environmental justice shall be an integral consideration to the extent applicable and allowable by law in the implementation of all EEA programs, including but not limited to, the grant of financial resources, the promulgation, implementation and enforcement of laws, regulations, and policies, and the provision of access to both active and passive open space. Working with EJ Populations, EEA will take direct action as part of the implementation of this policy to restore degraded natural resources, to increase access to open space and parks, and to address environmental and health risks associated with existing and potential new sources of pollution. This Environmental Justice Policy applies to all agencies of the EEA.

Based on a preliminary review of Environmental Justice population information obtained from MassGIS, there are EJ populations located in Falmouth. The preferred groundwater restoration projects are expected to positively impact these populations by protecting the quality and quantity of current and potential drinking water supplies and integrating planning and

management of current and potential drinking water supplies and wastewater treatment, with an emphasis on regional or multi-community benefits.

Appendix C

FINAL

Record of Environmental Consideration

The proponent, U.S. Army Environmental Command, has prepared this Record of Environmental Consideration (REC) in accordance with 32 CFR § 651.19 for a proposed action that is subject to a categorical exclusion under 32 CFR Part 651, Subpart D and 32 CFR Part 651, Appendix B.

Title of Proposed Action: Funding of Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan.

Anticipated Timeframe for Proposed Action: FY-2010.

Reason for Using REC: The proposed action satisfies the screening criteria of 32 CFR § 651.29 and qualifies for a categorical exclusion under 32 CFR Part 651, Appendix B, § II(d)(4). Section II(d)(4) categorically excludes natural resource related "[s]tudies, data collection, monitoring and information gathering" activities that "do not involve major surface disturbance." The Army has determined that categorically excluded activities do not individually or cumulatively have a substantial effect on the human environment; and such activities are therefore not subject to additional review under the National Environmental Policy Act (NEPA).

Discussion:

Background: In February 2008, the U.S. Army and the Department of Justice settled a cost recovery litigation action brought by the federal government against Textron Systems, Inc. for alleged contamination related to Textron's historical activities on the Massachusetts Military Reservation (MMR). Under the settlement, Textron made a $175,000 payment to the Army as compensation for natural resource damages (NRDs) resulting from Textron's MMR activities. The $175,000 payment was deposited into the U. S. Department of Interior (DOI) NRD Trust Fund. Under a 1998 Memorandum of Agreement, the recovered NRD payments are managed by a MMR NRD Trustee Council. The Trustee Council is authorized to expend recovered NRD funds on activities related to the restoration or replacement of damaged natural resources. Current active Trustee Council members include the US Army, the US Air Force, the DOI, and the Commonwealth of Massachusetts.

In early 2009, the Commonwealth issued a public request for NRD project proposals. In response, the Upper Cape Regional Water Supply Cooperative submitted a funding request to conduct a comprehensive study of water supply, demand, and loading factors impacting future groundwater availability and quality in the Sagamore Lens of the Cape Cod aquifer. The study would promote sustainability of Cape Cod regional water

of Cape Cod communities. The study is further described in the NRD Settlement Restoration Plan attached hereto. The Trustee Council, including its federal agency members, proposes to use the $175,000 Army NRD settlement payment to partially fund the Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan study.

Because the NRD funds were recovered through an Army litigation settlement pertaining to natural resources on lands under Army control, the Army has assumed the role of federal proponent with respect to the proposed activity. However, Air Force NEPA regulations contain categorical exclusion provisions analogous to the Army regulations discussed below. See, 32 CFR Part 989, ¶¶ A2.3.24 and A2.3.25.

Screening Criteria: The proposed action involves only the funding of a natural resources related "study...and information gathering" activity that involves no surface disturbance. The proposed action is therefore categorically excluded under 32 CFR Part 651, Appendix B, § II(d)(4) provided that no "extraordinary circumstances" exist. 32 CFR § 651.19. The existence of "extraordinary circumstances" is evaluated through application of the categorical exclusion screening criteria set forth in 32 CFR § 651.29(b). A review of the proposed activity in light of the screening criteria indicates that extraordinary circumstances do not exist; and that utilization of the categorical exclusion is therefore appropriate:

- Because the proposed activity involves only the funding of a study—i.e., the gathering and analysis of groundwater-related data and information—there is no reasonable likelihood of significant public health, safety, or environmental effects. 32 CFR § 651.29(b)(1)-(3).
- The underlying funded activity, a study, is of common size and duration; and the Trustee Council's evaluation of the study proposal indicates that the study's funding level is normal and appropriate. 32 CFR § 651.29(b)(4).
- The study and its funding involve no significant physical interaction with, or discharges or emissions into, the environment. 32 CFR § 651.29(b)(5)-(7).
- The study and its funding are being carried out in furtherance of the CERCLA § 120(f) NRD restoration or replacement objectives; in a manner consistent with the 1998 MMR NRD Memorandum of Agreement; and in a manner consistent with the Commonwealth's contracting requirements. The proposed activity presents no reasonable likelihood of violating federal, state or local law. 32 CFR § 651.29(b)(8).
- The Army Environmental Command's review of the study's scope and methodology, and the evaluation of the study proposal by representatives of the U.S. Fish & Wildlife Service, the U.S. Air Force Center for Engineering and Environment, the US Geological Service, and the Commonwealth's Executive Office of Energy and Environment, establish that:
    - The study and its funding will result in no unresolved effect on environmentally sensitive resources (32 CFR § 651.29(b)(9));
    - The study and its funding involve no highly controversial or highly

- The study and its funding will establish no precedent or decision-in-principle likely to have a future significant effect (32 CFR § 651.29(b)(12));
- The study and its funding will not degrade existing environmental conditions (32 CFR § 651.29(b)(13)); and
- The study and its funding will not introduce or employ unproven technology (32 CFR § 651.29(b)(14)).

Conclusion: For the reasons set forth above, the proposed action is categorically excluded from further NEPA review under 32 CFR Part 651, Appendix B, § II(d)(4).

U.S. Army Environmental Command

By: Mary Ellen Maly Date: 22 Feb 2010

Mary Ellen Maly
MMR Trustee Council Representative

REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS	Report Control Symbol RCS:

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*

SECTION I - PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent organization and functional address symbol)*	2a. TELEPHONE NO.
SAF/IEE	AFCEE/CCR-A	(404)562-4200

3. TITLE OF PROPOSED ACTION
Use of Textron Settlement Funds at the Massachusetts Military Reserve (MMR) for Groundwater Study.

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*
Air Force Trustee agreement is required for the proposed groundwater study to be approved by the MMR Trustee Council and funded using Textron Settlement Funds.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES *(DOPAA) (Provide sufficient details for evaluation of the total action.)*
Provide agreement on the use of settlement funds for the purpose of studying the groundwater around MMR; disagree with the proposed groundwater study; or take no action.

6. PROPONENT APPROVAL *(Name and Grade)*	6a. SIGNATURE	6b. DATE
THOMAS D. SIMS, AICP YC-03, DAF		14 Dec 2009

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. *(Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U= unknown effect)*	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*	☐	☒	☐	☐
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*	☐	☒	☐	☐
9. WATER RESOURCES *(Quality, quantity, source, etc.)*	☐	☒	☐	☐
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)*	☐	☒	☐	☐
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*	☐	☒	☐	☐
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*	☐	☒	☐	☐
13. CULTURAL RESOURCES *(Native American burial sites, archeological, historical, etc.)*	☐	☒	☐	☐
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*	☐	☒	☐	☐
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*	☐	☒	☐	☐
16. OTHER *(Potential impacts not addressed above.)*	☐	☒	☐	☐

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. ☒ PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # 24 and 26 ; OR
☐ PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS
The proposed action qualifies for a categorical exclusion under 32 CFR Part 989.13 and 32 CFR Part 989 , Appendix B, ¶¶ A2.3.24 and A2.3.26. These regulations categorically exclude "[s]tudy efforts that involve no commitment of resources other than personnel and funding allocations," and, "studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements." The Air Force has determined that categorically excluded activities do not individually or cumulatively have a substantial effect on human health or the environment; and such activities are therefore not subject to additional review under the National Environmental Policy Act (NEPA). See reverse for additional information.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION *(Name and Grade)*	19a. SIGNATURE	19b. DATE
MICHAEL F. MCGHEE, YF-03, DAF		20 Jan 2010

AF IMT 813, SEP 99, CONTINUATION SHEET

Background: In February 2008, the Department of Defense (DoD) and the Department of Justice settled a cost recovery litigation action brought by the federal government against Textron Systems, Inc., for alleged contamination related to Textron's historical activities on the Massachusetts Military Reservation (MMR). Under the settlement, Textron made a $175,000 payment to the DoD, specifically to the Air Force and Army, as compensation for natural resource damages (NRDs) resulting from Textron's MMR activities. The $175,000 payment was deposited into the U. S. Department of Interior (DOI) NRD Trust Fund. Under a 1998 Memorandum of Agreement, the recovered NRD payments are managed by a MMR NRD Trustee Council. The Trustee Council is authorized to expend recovered NRD funds on activities related to the restoration or replacement of damaged natural resources. Current active Trustee Council members include the Air Force, the Army, the DOI, and the Commonwealth of Massachusetts.

Proposed Study: In early 2009, the Commonwealth issued a public request for NRD project proposals. In response, the Upper Cape Regional Water Supply Cooperative submitted a funding request to conduct a comprehensive study of water supply, demand, and loading factors impacting future groundwater availability and quality in the Sagamore Lens of the Cape Cod aquifer. The study is further described in the Massachusetts Military Reservation Natural Resource Damage Restoration Plan. The Trustee Council, including its DoD members, proposes to use the $175,000 Textron NRD settlement funds allocated to the Air Force and Army to partially fund the Sagamore Lens Aquifer – Sustainable Management of Water Resources Plan study.

Conclusion: The proposed action involves only the funding of a natural resources related study that involves no surface disturbance and does not individually or cumulatively have a substantial effect on human health or the environment. The proposed action is therefore categorically excluded under 32 CFR Part 989.13 and 32 CFR Part 989 , Appendix B, ¶¶ A2.3.24 and A2.3.26.

Appendix D

Public Comments on the Draft RP

MMR Natural Resource Trustee Council
Trustee Public Meeting
Textron Natural Resource Damages Settlement
Draft Restoration Plan
Upper Cape Regional Technical School
Bourne, MA
April 6, 2010
7:00 p.m.

Attendees:

Name:	Organization:	Telephone:	E-mail:
Tom Sims	USAF-AFCEE	404-562-4200	Thomas.sims@us.af.mil
Don Campbell	US Dept. of Veterans Affairs	202-461-8989	Donald.campbell@va.gov
Hap Gonser	USA-AEC	508-968-5107	kent.gonser1@us.army.mil
Dale Young	MA EEA	617-626-1134	dale.young@state.ma.us
Karen Pelto	MA EEA	617-626-1007	Karen.pelto@state.ma.us
Len Pinaud	MassDEP	508-946-2871	Leonard.pinaud@state.ma.us
Mark Begley	EMC	508-968-5127	mark.begley@state.ma.us
David Mason	Sandwich Board of Health	508-888-4200	dmason@townofsandwich.net
James Pierce	Sandwich - selectman	508-888-5622	hawkeyejw@aol.com
Dana Barrette	Sandwich - selectman	508-737-2518	selectman@danabarrette.com
Patrick O'Neale	Tata & Howard, Inc.	508-946-1732	poneale@tataandhoward.com
Rob Steen	Wright-Pierce	508-420-1860	rrs@wright-pierce.com
Patrick Field	CBI	617-492-1414	pfield@cbuilding.org
Jane Gasper	Innovar Environmental	508-759-9114	jgasper@innovar-env.com

Agenda Item #1. Welcome & Introductions of MMR Trustee Council Members

Mr. Field convened the meeting at 7:00 p.m., had the meeting attendees introduce themselves, and noted that the one trustee representative not in attendance at this meeting is Department of Interior (DOI). He then reviewed the agenda, noted that all comments and questions would be recorded, and reminded the attendees that written comments on the draft Restoration Plan can be submitted through the end of the public comment period.

Agenda Item #2. Restoration Planning Process & Project Recommendations

Ms. Young stated that the draft Restoration Plan identifies alternatives to restore, replace, or acquire the equivalent of the groundwater resources that were injured due to Textron Systems Corporation (Textron) activities at the Massachusetts Military Reservation (MMR). She noted that Textron's settlement with the state and federal trustees was based on Textron's operation at J Ranges at MMR, and pertained to releases of perchlorate. The total natural resource damages (NRD) settlement was $1.3 million, to be used for restoration of injured resources and for payment of Trustee assessment costs, pursuant to federal and state law. A consent decree was entered in U.S. District Court in February 2008 and the money paid to the respective trustees.

Ms. Young reported that $300,000 went to the federal trustees: of that, the National Oceanic and Atmospheric Administration (NOAA) received $25,000 for its assessment costs and DOI received $275,000 ($100, 000 for assessment costs and $175,000 for restoration). The $175,000 for restoration was based on NRD claims by the Department of Defense (DoD) and the consent decree stated that before those funds could be spent a restoration plan must be prepared and issued for public comment, in accordance with federal law.

Ms. Young also reported that $1 million in NRD was paid to the state (the Massachusetts Executive Office of Energy & Environmental Affairs [EEA], as state trustee, received the funds): $40,000 in funds for EEA's assessment costs; $460,000 in funds that could be spent without developing a Restoration Plan; and $500,000 in funds that could be spent only if a Restoration Plan was developed and issued for public comment.

Ms. Young then stated that the Natural Resource Trustee Council (NRTC) members are the state (EEA), the U.S. Air Force, the U.S. Army, the U.S. Fish & Wildlife Service (which comes under DOI), and the Department of Veterans Affairs. She also noted that the Massachusetts Department of Environmental Protection (MassDEP) participates as an advisor to the NRTC. Ms. Young then reviewed the Draft Restoration Plan process timeline: January 2009, a Request for Response (RFR) was issued for submittal of groundwater restoration proposals; March 2009, proposals totaling $4.6 million were received and reviewed based on threshold criteria and evaluation criteria; September 2009, two public meetings were held and announcements were made about the approval of funding for two land-acquisition projects (not subject to restoration planning requirements) and two projects to be recommended for funding in a draft Restoration Plan; and on March 23, 2010, a draft Restoration Plan was issued for public comment.

Ms. Young stated that for one of the projects, the Upper Cape Regional Water Supply Collaborative's proposal for a Sagamore Lens Aquifer Management Plan, the state recommended $371,800 in funding, although the request was for $395,000. The minor modifications to the proposal are spelled out in the Restoration Plan. For the other project, a proposal from the Town of Sandwich for a Comprehensive Water Resources Management Plan (CWRMP), the state recommended partial funding ($400,000 for Phase I and Phase II), although the request was for $600,000 for the complete project. As noted in the Restoration Plan, the reasoning behind recommending partial funding was to fund more than just one

project. Also, the Town could apply to the State Revolving Fund for the additional funds needed for the last two phases of the project.

Ms. Young briefly reviewed the eight proposals that were not recommended for funding: from the Town of Falmouth, $154,000 for technical/legal services to develop a wastewater treatment facility at MMR; from the Town of Falmouth, $425,125 to develop nitrogen total MDL at seven estuaries; from the Town of Mashpee, $31,733 for a Mashpee Blue Pages guide to protect Cape waters; from the Town of Mashpee, $58,825 for a Santuit Pond diagnostic study; from the Sandwich Water District, $1,073,000 for a water supply transfer station; from the Sandwich Water District, $839,000 for PCE bleeder reduction (re-lining a water main); from the Cape Cod Commission, $50,000 for a Regional Wastewater Management Plan public participation project for Upper Cape Cod; and from John Todd Ecological Design, $665,000 for an eco-station to restore groundwater at MMR. Ms. Young noted that the Restoration Plan summarizes the evaluations and rationale for the recommendations, describes the threshold criteria and evaluation criteria that were used, and explains that agency experts provided advice regarding the benefits from each project.

Ms. Young stated that the public review and comment period on the draft Restoration Plan is ongoing. The plan is available online and in the Sandwich, Bourne, Falmouth, Woods Holes, and Mashpee public libraries. Comments on the draft Restoration Plan, which are due by Wednesday, April 21, 2010, can be submitted electronically or by mail to Karen Pelto at EEA. Ms. Young said that she encourages the submittal of all comments – those supporting projects recommended for funding and those supporting projects that were not recommended for funding. She also noted that after the close of the public comment period, the trustees will consider all comments that were submitted, make a determination as to whether their funding recommendations should be changed, document their determination in the final Restoration Plan, and issue the final Restoration Plan. Ms. Young said that she anticipates that a final Restoration Plan would be issued about one month after the public comment period closes. She also said that she and Ms. Pelto can be contacted to answer questions and that information about the NRD program is available at EEA's website.

Agenda Item #3. Questions & Comments from the Public

Mr. Mason of the Sandwich Board of Health asked if questions and comments submitted during the public comment period would be available for public review immediately or not until the end of the process. Ms. Young replied that comments submitted during the public comment period will be included in the final Restoration Plan and would not be available until the final Restoration Plan is issued. She also noted that any verbal comments made at tonight's meeting would become part of the record and a response would be included in the final Restoration Plan.

Mr. O'Neale of Tata & Howard asked if there's a set date for the final Restoration Plan to be issued. Ms. Young replied that although it depends on coordinating among the five trustee council members, she anticipates that the final Restoration Plan would be issued within six weeks of April 21, 2010, the close of the public comment period. Mr. O'Neale then asked how long it would take after the final Restoration Plan is issued for the parties to receive their grants. Ms. Young explained that the money from DoD ($175,000) needs to be transferred to EEA, after which EEA would take on the responsibility of executing the contracts for the projects with the applicants. She added that she thinks this should happen fairly expeditiously, probably within one month of the final Restoration Plan being issued, since only two contracts are being contemplated at this time.

Dr. Pierce of the Sandwich Board of Selectman, who noted that he represents the selectmen on the Town's Water Quality Advisory Committee, previously served on the Air Force's Plume Cleanup Team (PCT) and the Army's Impact Area Review Team (IART), has a PhD in chemistry, and has 31 years of work experience (some at MIT and some at Dupont), read the following statement into the record:

On behalf of the Town, I want to thank you for letting us have a few moments of your time this evening, and ask that our comments be entered into the record of this meeting.

We've reviewed the Draft Restoration Plan dated March 29, 2010 and we thank you for a thorough evaluation process. The Town of Sandwich requested $600,000 to fund our proposed Comprehensive Water Resource Management Plan. Although we believe the benefits of our Water Resources Management Plan are worth full funding, we understand your rationale outlined in Paragraph 5.1.2, and we are very appreciative of the award that was recommended. These are difficult economic times, and the Town and the School are facing significant budget shortfalls this year, and a projected deficit in excess of $2,000,000 next year. Given those economic realities, this award is crucial to our being able to undertake this Comprehensive Water Resource Management Plan. Without your funding, we would be unable to proceed. We pledge to work hard to accomplish as much of the plan as possible with this funding.

We strongly support your assessment in Paragraph 5.1.1. of the restoration plan, that our management plan will provide a very broad range of benefits for Sandwich and the entire Upper Cape community, and that it will address a wide range of water resources and management needs as outlined in that section. As was stated in our letter to the review committee, it is the Board of Selectman's view that this application should have the highest priority for funding from organizations within our community as it will benefit the entire community, as well as the Upper Cape as a whole. We believe this project will yield benefits far in excess of the cost of the project, and it directly relates to the injured groundwater resource that is the focus of this settlement.

We also want to update you on the progress we have made since the grant application was submitted. The Town has continued to press forward with initial coordination for this project. The Water Quality Advisory Committee has continued to meet, and a Request for Proposals is being created for consultant assistance to help develop the Comprehensive Water Resource Management Plan. We have also applied for loans under the Sate Revolving Fund providing a potential supplement to that to be awarded by the EEA. Finally, we are already seeking ways to leverage this grant to maximize the benefits of the aquifer.

Again, we appreciate this opportunity to address you this evening. I hope you take from our comments the Town's gratitude for the amount awarded, the urgency for those monies in this economic climate, and the seriousness with which we are pursing this project.

Thank you.

Mr. O'Neale asked if Ms. Young could offer any background on the decision to change the scope of the Upper Cape Regional Water Supply Collaborative's project (the Sagamore Lens Aquifer Management Plan) from being a safe yield study to a water resources management plan – in particular modifying scope items toward summarizing existing data rather than generating new data. Ms. Young noted that the trustees were informed that the state's Department of Conservation & Recreation (DCR) would be developing 20-year demand projections for MMR, and therefore it was decided that that particular task could be taken out of the proposal.

Mr. O'Neale then inquired about some of the wastewater aspects of the study. Mr. Gonser said that one of the main reasons that this project was selected was that the U.S. Geological Survey (USGS) is conducting similar work (modeling), and it was thought that the USGS and Upper Cape Regional Water Supply Collaborative could capitalize on each other's efforts, thereby making the project more cost-effective. He then said that the safe yield aspect was taken out of the project because it was thought that that might not be productive at this point because there isn't yet any established state process for calculating safe yield. Mr. Gonser also mentioned that the trustees were looking to balance funding as well. Ms. Young confirmed that there had been a considerable amount of discussion about the safe yield aspect of the

study. She also said that MassDEP is responsible for developing that protocol, which has not yet been standardized. She further noted that the proposal includes utilizing MassDEP's expertise through frequent meetings and consultation as the project is being developed.

Agenda Item #4. Adjourn

Mr. Field asked if there were any closing comments. Ms. Young stated that is very happy that the Restoration Plan is being finalized and contracts can be executed. She also confirmed that the public comment period on the draft Restoration Plan closes on April 21, 2010.

Mr. Field adjourned the meeting at 7:25 p.m.

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CAPE COD
COMMISSION

April 16, 2009

Karen Pelto
EEA NRD Case Manager
MA Office of Energy and Environmental Affairs
Natural Resource Damages Assessment and Restoration Program
100 Cambridge Street, 9th Floor
Boston, MA 02114

Dear Ms. Pelto:

I am writing to comment on the Textron Systems/ MMR Natural Resources Damages Settlement Draft Plan. Water Resources staff is in support of the recommendations of the plan, but have several comments, as follows.

The purpose of the Cape Cod Commission proposal for public participation was to foster discussions among the towns to evaluate potential regional solutions to our shared wastewater issues. We are fortunate that the Commission and Cape Cod Water Collaborative have been selected to provide a similar service for this area through another grant opportunity and that the NRD has chosen to support the Sandwich comprehensive wastewater management project.

The type of agency cooperation anticipated by the Sagamore Lens Project provides a water supply focus of these regional discussions and the Commission looks forward to participating. An important aspect of the project will be to incorporate potential wastewater disposal sites and other regional coverages into the sustainability evaluation. The Commission is presently compiling a number of the specified resources that are itemized in the proposal. We may be able to participate more fully in this important project if a portion of the award was able to provide some assistance to offset staff time.

It was not clear if the scope of the Sagamore Lens Project would also include evaluation of water withdrawals in the Towns of Barnstable and Yarmouth that are part of the Lens.

It is not exactly clear in the Sagamore Lens proposal if the consultant and their hydrogeologic subcontractor would be providing the hydrogeologic modeling as indicated in the task descriptions or if that would be provided by the USGS or MMR personnel as discussed in the project narrative of the original scope. It would be advantageous to the region if the USGS was a responsible participant for providing the groundwater modeling aspects of this project given the regional and complex nature of this project.

It is not clear how the Drought Management Plan will be used as a vehicle to incorporate the findings and conclusions of the previous tasks, particularly task 12 -14. It is recommended that each of those tasks have an interim report on the method and findings.

It is uncertain how a singular number could represent the "maximum dependable available withdrawal" of the Sagamore Lens. It has long been implemented through the Water Management Act that potential impacts of water withdrawals to sensitive receptors are mitigated at the local scale (for specific pumping locations) rather than the use of a singular "minimum in-stream flow" number that is typically applied to a single river basin. This being the case, an option to evaluate optimization of pumping to mitigate potentially identified impacts would be a helpful alternative.

A groundwater modeling tool to evaluate new scenarios should be made available to the communities and region when the project ends.

We support resources and opportunity that this project brings to further discuss sustainable resource management and the development of a drought management plan.

Thank you for the opportunity to comment.

Sincerely,

Thomas C. Cambareri
Waters Resources Program Manager

Cc: Dan Mahoney, Upper Cape Water Cooperative
Patty Daley, CCC Technical Services Director

TOWN OF SANDWICH

THE OLDEST TOWN ON CAPE COD

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BOARD OF SELECTMEN

TOWN MANAGER

April 20, 2010

Ms. Karen Pelto
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RE Natural Resources Damages Fund – Textron Settlement
Town of Sandwich Comments on the Draft Restoration Plan

Dear Ms. Pelto:

As was expressed during the April 6th public meeting, the Town of Sandwich appreciates the opportunity to provide comment on the Textron Systems/Mass Military Reservation Natural Resource Damages Settlement Draft Restoration Plan. In addition to our public comments at that meeting, we would like to offer the following written comments

- Section 1.3 (beginning on page 4) – There is discussion on where the damages occurred and, though we agree that the Massachusetts Military Reservation (MMR) extends into the Towns of Bourne, Falmouth, Mashpee and Sandwich, the J-Ranges in question (as can be seen in Figure 1) lie solely within the Town of Sandwich. We feel one of the strengths of the Draft Plan is that the recommended awards reflect this reality, and propose that explicit mention of it would further strengthen the report's position (also mentioned in Section 3, page 11).

- Section 1.3 (beginning on page 4) – Though the damage occurred over the Sagamore Lens (page 5), to the best of our knowledge the extent of the plumes have not gone beyond the borders of the Town of Sandwich. As with the previous bullet, we believe explicitly mentioning this will further strengthen the report's position (also mentioned in Section 3, page 11).

- Table 1 (page 21) – We note the committee ranked our project's ability to leverage additional resources as "Low". We feel leveraging should be considered in several ways and question the rating we received in this category.

    - In these economic times it is very doubtful this project would be able to get off the ground without the proposed grant award and we firmly believe this one award will help generate the momentum needed to leverage additional funding as other sources observe our progress and agree to help. As an example, the Town has already applied for, and was awarded, State Revolving Fund monies to supplement those that will be awarded by the Executive Office of Energy and Environmental Affairs (EOEEA). Unfortunately, this award came late this year, which made it difficult to include as part of the Town Meeting warrant. We expect

to reapply next year after we have our wastewater consultant on board and have a better understanding of our needs. Another example of a realistic, possible funding source is a grant from the Cape Cod Commission (CCC). I have spoken directly with the Executive Director of the CCC and he believes Sandwich has an excellent chance of being awarded a CCC grant for a portion the proposed work – specifically, the wastewater needs of the so-called South Sandwich Business District.

- The grant will leverage work on regional issues and allow other Upper Cape communities to complete their plans - as discussed in the Draft Plan, these dollars will leverage other work on the Upper Cape through regional watershed and wastewater treatment planning.

- The Town is leveraging its efforts to "stretch" the grant dollars - the Town is planning on using its own staff and volunteer work for as much of this project as possible (as outlined in Table 2-2 and Appendix C of our proposal) to limit what it needs to pay a consultant to perform all phases of work indentified in our grant submission.

- The Town has already assumed costs directly associated with the J-Range plumes that should be considered as part of its efforts toward the overall solution Specifically, the Town made a special exception on a long-standing moratorium on the taking of private roads to allow access for monitoring and extraction wells related to this contamination. In doing so we have taken on any long-term, continuing costs, associated with having to maintain these roads in perpetuity. We have also granted several formal rights of way and easements on Town property to the Army Corps of Engineers to facilitate the remediation work currently underway by MMR officials to address the Textron contamination. I approved the most recent of these efforts within the last 3 weeks.

- Section 5.1.2 (page 25) – It is our understanding that 0% loans are only available for projects with completed management plans in place, thus, planning efforts are not eligible.

As was stated on April 6th, we very much appreciate the EOEEA's recommended support for our project. Between our initial proposal, our comments on April 6th, and these written comments we hope the committee can see that:

- the injured resource lies within the borders of Sandwich;

- we are committed to a comprehensive approach to ground and surface water planning to ensure the quantity and quality of these waters for generations to come;

- this approach will benefit all the communities of Upper Cape Cod;

- we are committed to moving forward with this project, and have been making progress in anticipation of the award, and

- every penny of the funding you proposed is vital during these economic times to make this project a reality.

Thank you for your consideration of our comments. If you have any questions, please do not hesitate to contact me at 508-888-5144. Thanks again.

Sincerely yours,

George H. Dunham
Town Manager

cc: Board of Selectmen
Health Director
Director of Planning & Development
Robert R. Steen, Wright-Pierce

From: Patrick O'Neale [poneale@tataandhoward.com]

Sent: Wednesday, April 21, 2010 3:55 PM

To: 'Pelto, Karen (EEA)'

Cc: 'Mahoney, Dan'; 'Ray Jack'

Subject: Textron NRD Draft Restoration Plan Comments

Dear Ms. Pelto

The Upper Cape Regional Water Supply Cooperative would like to thank EEA, the U.S. Air Force, the Trustees and the U.S. Department of Defense for their support and funding of the Sagamore Lens study under the Textron NRD settlement. The modified scope of work and budget presented in the Draft Restoration Plan, although representing a change in focus for the study, provides a significant benefit for the Upper Cape communities in the protection of natural resources and public water supply. We support the scope of work and budget as presented in the Draft Restoration Plan.

In addition, we have received the comment letter submitted by the Cape Cod Commission relative to the Sagamore Lens study. As you are aware, the scope of work for the study includes consultation with and input from the Commission, Federal, state and local agencies throughout the project. The input from these groups will be important to ensuring the project achieves the regional benefit and acceptance goals anticipated. At the same time we do not expect the Commission or other agencies to go through extraordinary efforts in assisting with the project. Our intent and EEA's intent in the modified scope was to make use of existing reliable published data to complete some of the scope items. This has resulted in a $23,200 reduction in the budget for the project. Although we fully understand the budget constraints of the Commission, we do not believe there is adequate funding in the proposed allocation to provide financial assistance to them. Additionally, it would not be fair to provide assistance to one agency when there will likely be a number of groups providing assistance to the project without receiving financial assistance. We would suggest that the Commission delay compiling data for the study until the *project* is underway and we can provide them a specific list of information required from their data base.

Also please note that the scope of work includes Barnstable and Yarmouth since they are within the Sagamore Lens area. The scope also calls for making use of the existing USGS and or MMR groundwater models. The scope does not include interim reports for specific scope items. We do not believe these are necessary and the funding budget did not include this additional work. The scope and budget did not include evaluation of individual water withdrawal impacts as requested by the Commission. Although this is valuable information, the study focuses on a regional analysis. Analysis of individual withdrawal impacts is evaluated during normal permitting for new water supply sources.

We thank you for your continued support and look forward to working with you on this important regional project.

Upper Cape Regional Water Supply Cooperative

Sincerely,

Patrick S. O'Neale, P.E.
Vice President
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Appendix E

Trustee Council Approvals