



National Grid  
40 Sylvan Road  
Waltham, Massachusetts 02451

Former Gloucester Gas Light  
Company  
Manufactured Gas Plant  
Harbor Loop  
Gloucester, Massachusetts  
RTN 3-25126

File No. 25623.00  
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# Expanded Environmental Notification Form



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# SECTION 4

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IMPACTS OF PROPOSED PROJECT



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SECTION 4- IMPACTS OF PROPOSED PROJECT

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**1. OVERVIEW**

Although the goal of this Project is remediation of soil and sediment to address risk to human health and the environment and provide environmental restoration, there will be some unavoidable temporary and permanent alteration of natural resources as a consequence of the project implementation. In addition, there will be some potential effects on cultural resources (historical and archaeological) in proximity to the Project. The Project has been designed to avoid and minimize potential impacts to historic and cultural features at the site to the extent practical and limit potential environmental impact associated with the implementation of the remedial actions. The temporary and permanent project impacts resulting from the Project are discussed in this Section. Section 5 and Appendix E presents the Best Management Practices and other mitigation measures to be implemented as part of the work in order to avoid, minimize and mitigate the unavoidable impacts.

As described in Section 3: Existing Conditions, the Project Area and Remediation Support Area are located both within and immediately adjacent to Gloucester Inner Harbor. Various coastal resources are regulated under State, Federal, and local laws and regulations. Coastal Resource Areas within the Project area, as defined under state law, were identified and assessed as part of the study to determine existing conditions and establish potential impacts associated with the proposed remediation activities. In addition, applicable Buffer Zones for the Coastal Resource Areas have been delineated under both State and Local regulations. The existing Coastal Resource Areas and associated Buffer Zones are shown on Figure 4A and 4C and are further described below. Federal jurisdictional areas are entirely contained within the State resource boundaries, as were defined and described in Section 3 (Existing Conditions). While not further discussed as part of this MEPA documentation, Federal jurisdiction areas have been defined for future permitting under Section 10 of the Rivers and Harbors Act and Section 404 of the Federal Clean Water Act, as administered by the Army Corps of Engineers.

**2. TEMPORARY AND PERMANENT ALTERATION OF WETLAND PROTECTION ACT RESOURCE AREAS**

Both temporary and permanent alteration of resource areas are anticipated with the implementation of the proposed remedial activities as part of the environmental cleanup efforts associated with the Project and various mitigation elements. Modification of Coastal Resource Areas in both the marine and upland portions of the Project Area are limited to the extent practical to accomplish the remediation goals of the Project and be protective of the resource areas and are described below. Although some of the proposed activities cause a permanent change in the resource area, the following discussion is focused on demonstrating that there will be no adverse impacts to the resource areas following the completion of the remediation work.

Figures 5A- 7 show the proposed remediation work for all Resource Areas and their associated Buffer Zones, relevant under the Massachusetts Wetlands Protection Act and the Gloucester Wetlands Ordinance, that are within the Project footprint. Figures 6A-7 present cross-sections of the proposed remediation activities and Section 3 of this document summarizes the temporary and permanent alteration of each resource area.



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The following is a brief overview of Coastal Resource Areas that will be affected by proposed remedial activities at the Project Area.

**2.1 Coastal Resource Areas**

**2.1.1 Designated Port Area**

The entire Project Area is located within the Gloucester Designated Port Area. There will be both temporary and permanent alterations within Coastal Resource Areas within the DPA as discussed below.

**2.1.2 Land Under the Ocean, Land Containing Shellfish and Coastal Beach**

Dredging results in both temporary and permanent changes to Coastal Resource Areas because sediment is removed and the harbor bottom elevation and water depth is changed. Backfilling results in an alteration to Coastal Resource Areas since grain size is expected to be somewhat altered in portions of the Land Under the Ocean, Land Containing Shellfish and Coastal Beach for structural stability and erosion purposes. Nevertheless, benthic habitat of a slightly different physical composition remains within the same altered physical extent. In areas where clean fill replaces the dredged material and restores the harbor bottom to the pre-dredge elevation, the modification can be considered to be temporary because the harbor bottom elevation and water depth remain the same. Benthic recolonization is expected to occur following dredging activities whether dredged areas are backfilled/restored or not. The change in harbor bottom elevation and water depth are not expected to significantly adversely impact the resource areas. The Project, when complete, is expected to provide a net benefit to the resource areas because the DNAPL will be removed or contained.

Dredging to Remove Condition of Significant Risk With Select Backfilling: Dredging activities are broken up into three areas: dredging with no backfilling, dredging with backfilling, dredging with installation of a porewater cap. The three are discussed separately in terms of potential alteration of the resource areas.

- 1. Dredging-No Backfilling:** In the marine portion of the site, the depth of proposed dredging ranges from 0.5 to 6.0 feet over an area of approximately 230,000 square feet. Temporary disturbance of this area is a result of dredging. No backfill will be placed due to the presence of the navigational channel. There will be no long term adverse impact because the material exposed at the base of the dredge cut is anticipated, based on our core data, to be similar to the material that is removed, restoring the benthic habitat to essentially pre-dredge characteristics.
- 2. Dredging with Backfilling:** Dredging will be conducted over an area that is up to 70,000 square feet and then the area will be backfilled with a 6-inch-thick layer of tested and certified clean material. The backfill will be placed within the nearshore area to reestablish benthic habitat, and/or to manage dredge residuals. The backfill layer may be thicker than 6 inches in the vicinity of structures within the nearshore area to provide additional structural stability where required but the backfill will not be placed at a higher elevation than the existing mudline. The grain size characteristics of the backfill will generally be similar to existing materials; therefore only temporary impacts to Coastal Beach and Land Under the Ocean are anticipated.



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3. **Dredging and Installation of Porewater Cap:** Dredging will be conducted over an approximately 10,000 square foot area and then a porewater cap will be placed within the dredging footprint resulting in a temporary change to Coastal Resource Areas because sediment is removed and the harbor bottom elevation and water depths are temporarily changed. The porewater discharge cap will be installed in the marine area adjacent to portions of the City of Gloucester, National Grid and USCG properties to minimize potential exposure to benthic organisms and includes a layer of material with a larger grain size than existing sediment to protect the cap by resisting erosion. The material with a larger grain size that serves to resist erosion represents a permanent change but it is also anticipated that this change in material size will have no adverse impact to the resource area.

Seawall Removal and Reconstruction: Seawall removal and reconstruction will result in a permanent increase of Land Under the Ocean because a portion of the previously built land and enclosing seawall (National Grid Pier Seawall) will be removed and will not be replaced. The total area of the Land Under the Ocean will be increased in this area by 1,150 square feet.

Addition of New Land to Control and Remove Source: The total area of Coastal Beach will be permanently reduced seaward of the National Grid building and a portion of the Maritime Gloucester boathouse as the location of the Coastal Bank (i.e. seawall) will move seaward to place a vertical barrier and fill necessary for source control as well as seawall stability associated with dredging activities. This will decrease the total area of Coastal Beach in this area by 450 square feet.

National Grid Pier Removal and Construction of City Floating Dock: Removal of the National Grid pier will require a crane with a clamshell apparatus, which will be staged from a barge or possibly on land. The timber piles, decking, timber stringers and timber pile caps will be removed. Minimal sediment disturbance is anticipated. A turbidity barrier along with debris and absorbent booms will be placed around the entire work site to control sediments, sheens, and contain debris. The wood will be stacked on a barge as it is removed and then the barge will unload at the Remediation Support Area. The wood will be disposed at a licensed facility that accepts creosote treated wood. This proposed activity is not expected to have a significant impact on the resource area.

Installation of the City of Gloucester proposed floating dock system will require installation of up to 15 piles. There is the potential for the release of sheens and impacted sediment from the subsurface during this operation. To minimize releases a turbidity curtain and adsorbent boom will encircle the work area for additional management of potential releases.

**2.1.3 Coastal Bank, Land Subject to Coastal Storm Flowage, and Buffer Zones**

Seawall Removal and Reconstruction: The proposed work associated with the removal of the seawalls at Solomon Jacobs Park and National Grid will permanently impact Coastal Bank, Land Subject to Coastal Storm Flowage, and Buffer Zones. Some Coastal Banks such as the seawall associated with Solomon Jacobs Park and National Grid will be removed and relocated with a loss of approximately 50 linear feet of Coastal Bank due to the removal of land in front of Solomon Jacobs Park and the Existing National Grid Seawall.



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Addition of New Land at National Grid Building to Control and Remove Source: See discussion above regarding alteration of Coastal Beach associated with Addition of New Land to Control and Remove Source.

Soil Excavation and Construction of Engineered Barrier: There will be only temporary alteration of Land Subject to Coastal Storm Flowage and Buffer Zone associated with the soil excavation work. Work associated with soil excavation and placement of the engineered barrier will take place entirely within the Land Subject to Coastal Storm Flowage and the 100-foot and 200-foot Buffer Zones to Coastal Bank, Coastal Beach, and Land Under the Ocean (relevant under Bylaw). There will be no permanent changes to the characteristics of the land surface relevant to the soil removal work since the area will be returned to pre-remediation grades and there will be no increase in impervious surface in this area. Due to the removal of previously built land, there will be a reduction in total impervious Buffer Zone.

Remediation Support Area: All alteration of resource areas within the Remediation Support Area is expected to be temporary. Following remediation activities the area will be returned to pre-existing conditions.

| <b>TABLE 1- SUMMARY OF NATURAL RESOURCES IMPACTS<br/>WETLANDS PROTECTION ACT RESOURCE ALTERATION TABLE</b> |                  |                  |  |
|--|------------------|------------------|--|
| <b>RESOURCE AREA</b>   | <b>TEMPORARY</b> | <b>PERMANENT</b> | <b>NOTES</b>   |
| <b>DESIGNATED PORT AREAS</b>   |                  |                  | <b>All work is in DPA- See summary of activities and their impact below.</b>   |
| <b>COASTAL BANK</b>  |                  |                  | <i>See breakdown of impacts for each activity area:</i>  |
| National Grid seawall  | 150 LF           | - 40 LF          | Disturbance of 150 LF of existing seawall due to removal of land and source excavation; New seawall will be 110 LF on this property for a net loss of 40 LF of Coastal Bank on this property.    |
| Maritime Gloucester seawall  | 35 LF            | + 10 LF          | Temporary removal of top few courses of seawall blocks during work at Maritime Gloucester but there is a net gain of 10 LF of Coastal Bank on this property due to addition of vertical barrier. |
| Solomon Jacobs Park seawall  | 90 LF            | - 20 LF          | Disturbance of 90 LF of existing seawall due to removal of land; New seawall will be 70 LF on this property for a net loss of 20 LF of Coastal Bank on this property.                            |
| <b>Coastal Bank Summary</b>  |                  | <b>- 50 LF</b>   | <b><i>Net loss of Coastal Bank (seawall)</i></b>   |
| <b>COASTAL BEACHES</b>   |                  |                  | <i>See breakdown of impacts for each activity area:</i>  |
| USCG Stability Wedge   | 50 SF            | + 750 SF         | Although 50 SF is being temporarily impacted, there will be a net gain of 750 SF of Coastal Beach associated with the USCG stability wedge.  |
| National Grid New Land   |                  | - 400 SF         | Loss of Coastal Beach is mitigated on USCG property.   |
| Maritime Gloucester - Dredging   | 2,080 SF         |                  | Area will be restored to grade with similar material   |
| Maritime Gloucester - New Land   |                  | - 50 SF          | Loss of Coastal Beach is mitigated on USCG property.   |
| <b>Coastal Beaches Summary</b>   |                  | <b>+ 300 SF</b>  | <b><i>Net gain of Coastal Beach</i></b>  |





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| <b>TABLE 1- SUMMARY OF NATURAL RESOURCES IMPACTS<br/>WETLANDS PROTECTION ACT RESOURCE ALTERATION TABLE</b> |                  |                  |   |
|--|------------------|------------------|---|
| <b>RESOURCE AREA</b>   | <b>TEMPORARY</b> | <b>PERMANENT</b> | <b>NOTES</b>  |
| <b>LAND UNDER OCEAN (IN DPA)</b>   |                  |                  | <i>See breakdown of impacts for each activity area:</i>   |
| Removal of land - Solomon Jacobs Park and National Grid  |                  | + 1,150 SF       | Increase in Land Under Ocean in front of Solomon Jacobs Park and National Grid properties due to removal of previously built land and enclosing seawalls.   |
| Dredging Harbor-Source Removal and Support Dredging  | 325,000 SF       |                  | Impacted sediment will be removed. No adverse impact is expected.   |
| USCG Stability Wedge (in areas where it is below MLW)  |                  | - 750 SF         | Permanent loss because Land Under the Ocean will be converted to Coastal Beach on this property.  |
| Porewater Cap  |                  | 10,000 SF        | Impacted sediment will be removed and area will be backfilled with larger material. <i>No adverse impact is expected.</i>   |
| <b>Land Under the Ocean Summary</b>  |                  | <b>+ 400 SF</b>  | <b><i>Net gain of Land Under the Ocean.</i></b>   |
| <b>LAND SUBJECT TO COASTAL STORM FLOWAGE</b>   | 15,600 SF        |                  | Temporary impacts due to seawall work, land removal, soil excavation at Solomon Jacobs Park and Remediation Support Area; All temporary alterations to LSCSF accounted for in other calculations.   |
| <b>BUFFER ZONES</b>  |                  |                  |   |
| <b>100' Buffer Zone</b>  | 23,950 SF        | - 700 SF         | Temporary changes associated with work landward of seawalls, soil excavation at Solomon Jacobs Park and materials staging and management at the Remediation Support Area.<br>Permanent change is the removal of land, currently Buffer Zone. Net loss of <b>impervious areas within Buffer Zone</b> will become Land Under the Ocean. |
| <b>200' Buffer Zone</b>  |                  |                  | No temporary or permanent changes between the 100' and 200' Buffer Zones.   |
| <b>Buffer Zone Summary</b>   |                  | <b>- 700 SF</b>  | <b><i>Net reduction of impervious surface that is currently Buffer Zone.</i></b>  |

SF= Square Feet; LF= Linear Feet

Project impacts to “Waters of the Commonwealth” and “Waters of the US within the Commonwealth” are discussed at length in Subsection 2.1 of this document which describes temporary and permanent impacts to jurisdictional resources under the WPA. As defined in Section 3: Existing Conditions, the resource areas relevant under the WQC include all of the Coastal Resource Areas relevant to the WPA with the exception of Coastal Bank and Land Subject to Coastal Storm Flowage.

**3. TEMPORARY AND PERMANENT ALTERATION OF CHAPTER 91 WATERWAYS RESOURCE AREAS**

Virtually all aspects of the Project will involve work with the regulated Flowed and Filled Tidelands under the jurisdiction of Chapter 91. Table 2 summarizes these work elements.





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Within the Flowed Tidelands below existing Mean High Water (MHW) most of these elements are directly associated with the dredging of 7 acres of Gloucester Inner Harbor, including the removal and replacement of existing docking facilities and piers and some alteration of historic and archaeological features, which will be coordinated with MHC and the Massachusetts Bureau of Underwater Archaeological Resources (MBUAR). Within the Filled Tidelands, this includes, among other things, the remediation and restoration activities at the City Park. The removal and replacement of the seawalls as part of the remediation activities occurs at the interface of these two resource areas.

| <b>TABLE 2 - SUMMARY OF CHAPTER 91 REGULATED ACTIVITIES</b> |   |  |
|---|---|--|
| <b>JURISDICTIONAL AREA</b>                                  | <b>DEFINITION</b>   | <b>REGULATED ACTIVITY</b>  |
| Flowed Tidelands  | areas seaward of the existing MHW   | Dredging with areas of sediment replacement and capping  |
|   |   | USCG floating docks temporary removal and replacement following dredging   |
|   |   | USCG seawall concrete stability wedge with graded gravel   |
|   |   | National Grid pier and adjoining City-owned floating docks, removal and restoration following dredging   |
|   |   | Maritime Gloucester main pier and adjacent floating docks, removal and replacement following dredging  |
|   |   | Maritime Gloucester marine railway(s)- removal of debris portions and removal and restoration of active portions after historic documentation as required in coordination with MHC and MBUAR             |
|   |   | Maritime Gloucester seawall stability enhancements   |
|   |   | Federal Navigation Channel dredging  |
|   |   | National Grid and Maritime Gloucester low-permeable vertical barrier seawall; conversion of existing tideland to filled tideland   |
|   |   | Solomon Jacobs Public Boat Landing. Removal of existing pile supported wooden pier and replacement with steel pile supported floating dock system  |
|   |   | Installation of sewage pump-out station for National Grid floating dock system, with davit (winch) at harbormaster slip  |
|   |   | Marine activities Remediation Support Area, temporary docking facility   |
| Filled Tidelands  | filled area downgradient of the historic MHW to existing MHW within Designated Port Areas | Solomon Jacobs Park Seawall & National Grid Pier/Access Ramp Seawall removal, source remediation, and reconstruction (net conversion of filled tidelands to active tidelands)                            |
|   |   | Solomon Jacobs Park excavation and engineered barrier emplacement  |
|   |   | Remediation Support Area, construction equipment staging and soils processing and stockpiling prior to transport (included for information purposes; will not involve a permanent structural alteration) |
|   |   | Maritime Gloucester excavation and restoration of top four feet of soil and granite block seawall in front of boat house   |
|   |   | Final restoration of pavement, landscaping, utilities, and structures post dredging and seawall construction   |
|   |   | Installation of expanded DNAPL recovery system   |

The Project will result in significant benefits, including water-related public benefits, that are in keeping with Gloucester’s local and regional plans, including new waterfront infrastructure, development of additional water sheet for public use, additional draft for the Harbormaster’s vessel in key areas as requested by the City of Gloucester, increased public access to the waterfront, and enhanced landing facilities for Harbormaster and City use. All of these elements of the Project are water-dependent uses as defined under 310 CMR 9.12 and outlined in detail for this project in Table 3.





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TABLE 3 –CHAPTER 91: POTENTIAL IMPACTS TO EXISTING WATER-DEPENDENT USES

| EXISTING WATER-DEPENDENT USE   | IMPACT DURING REMEDIATION   | POST-REMEDIATION IMPACT   |
|--|---|---|
| <p>USCG - In-Water Operations</p> <p>The Gloucester Station is responsible for search and rescue, law enforcement, and marine fisheries from Swampscott to Ipswich Bay, supported by two 47-foot motor life boats and two 25-foot fast response boats. Access is provided by two floating docks.</p> | <p>The two floating docks that support the USCG's water-based operations will be temporarily removed to facilitate barge access, dredging, and installation of the porewater cap in the nearshore area. Arrangements will be made in coordination with the USCG for temporary relocation of vessels to a nearby location for the duration of the dredging and nearby seawall rehabilitation. The relocation will include boat operational requirements including electrical connections and security requirements as indicated by Base personnel.</p> | <p>There will be no long-term impact to existing USCG in-water operations associated with remediation. It is anticipated that the work within the USCG water sheet can be completed within one in-water remediation season (between September and February), and efforts will be made to expedite the return of the vessels to the Base. The floating docks will be replaced at their existing locations following installation of the porewater cap.</p> <p>As an ancillary benefit, installation of the concrete stability wedge following dredging will provide additional stability to the USCG seawall.</p> <p>Note that, although existing operations will be unaffected by the remediation, an Activity and Use Limitation (AUL) is anticipated to be implemented to protect and maintain the porewater cap and maintain a condition of No Significant Risk. Under the AUL, <u>future</u> changes to vessel operations and the location and configuration of the floating dock will require LSP review. The remedial design is being configured in coordination with the USCG to accommodate, to the extent practical, foreseeable changes to vessel types and operational parameters. If modifications to the porewater cap are required to accommodate additional future USCG operational changes and reconfiguration, the changes will be made under the direction of a LSP, and with required environmental permits.</p> |



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**TABLE 3 –CHAPTER 91: POTENTIAL IMPACTS TO EXISTING WATER-DEPENDENT USES**

| EXISTING WATER-DEPENDENT USE   | IMPACT DURING REMEDIATION   | POST-REMEDICATION IMPACT  |
|--|---|---|
| <p>Solomon Jacobs Park</p> <p>The park is a day- use park and boat landing with public waterfront access</p> | <p>The City-owned floating docks will be temporarily removed to facilitate dredging, source removal, seawall rehabilitation, and installation of the porewater cap in the nearshore area. Public access to the park and waterfront, and public boater access to the water sheet, will be restricted during the remediation work season(s), between Labor Day and Memorial Day. Arrangements will be made to restore the park and water sheet for public use between Memorial Day and Labor Day.</p> | <p>The existing park seawall will be removed to facilitate access to soil impacted by coal tar, and will be replaced by a reinforced concrete seawall, with a granite façade to maintain the historic appearance of the harborfront. In addition, an approximately 1,100 sf-area of previously filled tidelands and enclosing seawall will be permanently removed and restored as waterway, increasing the amount of water sheet available to the Gloucester Harbormaster and public. Public access to an upgraded park and waterfront facilities will be restored following remediation. Plans call for installation of a new pile-supported floating dock system in front of the park and adjacent property (see National Grid Property, below), which would replace the City-owned floating docks.</p> <p>As in the case of the USCG described above, an AUL will be implemented to protect and maintain the porewater cap and maintain a condition of No Significant Risk. The AUL will restrict future changes to vessel operations that could result in the scouring of, or other damage to, the porewater cap.</p> |



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| <b>TABLE 3 –CHAPTER 91: POTENTIAL IMPACTS TO EXISTING WATER-DEPENDENT USES</b>  |   |  |
|---|---|--|
| <b>EXISTING WATER-DEPENDENT USE</b>   | <b>IMPACT DURING REMEDIATION</b>  | <b>POST-REMEDICATION IMPACT</b>  |
| <p>National Grid Property</p> <p>The property is used as the base of operations of the City of Gloucester Harbormaster. The Harbormaster leases the wooden pier and associated access ramp as well as office space on the property.</p>   | <p>The National Grid-owned pier will be removed to facilitate dredging, source removal, seawall rehabilitation, and installation of the porewater cap in the nearshore area. It is anticipated that the Harbormaster’s land-based operations from the National Grid building will continue unimpeded, and arrangements will be made by the Harbormaster to re-locate his vessel to a nearby pier during the in-water remediation work season(s) between Labor Day and February 14 of the following year. Between remediation seasons, interim docking arrangements will be made by the Harbormaster to facilitate the Harbormaster’s in-water operations.</p>             | <p>The access ramp seawall at this property will be rebuilt following remediation, and a new granite-faced concrete seawall will be constructed approximately 10 feet seaward of the existing building, resulting in the creation of approximately 450 sf of new land (and subsequent loss of 450 sf of waterway) at the northern end of the Harbormaster slip. Following remediation, the Harbormaster’s access to the submerged lands will be restored under an agreement between National Grid and the City. The City plans to construct a new steel-pile-supported floating dock system to replace the old pier, and a davit and sewage pump-out system to be installed on the new land in front of the National Grid building, will provide enhanced facilities for Harbormaster use.</p> <p>An AUL will be implemented to protect and maintain the porewater cap and maintain a condition of No Significant Risk. The AUL will restrict future changes to vessel operations that could result in the scouring of, or other damage to, the porewater cap.</p> |
| <p>Maritime Gloucester</p> <p>The water-dependent uses at Maritime Gloucester include daily public sails on the schooner <i>Ardelle</i> between May and October, use of the water sheet by the Gloucester Gig Rowing Club, and access to the main pier for museum visitors. In addition, the property houses an operational marine railway.</p> | <p>Under an agreement with National Grid, Maritime Gloucester’s in-water operations will be restricted during the remediation work seasons. The main pier at Maritime Gloucester is being considered as a temporary docking facility for the Harbormaster and USCG vessels during in-water remediation at the National Grid and USCG properties, which will limit the Maritime Gloucester’s in-water operations during one remediation season. The main pier, floating docks, and parts of the active marine railway (and potentially the adjacent hauling piers) will be removed to facilitate barge access and dredging during at least one additional work season.</p> | <p>The new land and seawall at the National Grid property will extend approximately 5 feet onto the Maritime Gloucester property to provide additional stability to the existing seawall at this location. Following remediation, the Maritime Gloucester in-water structures will be restored in kind, and access to the waterfront for existing operations will be restored.</p>   |
| <p>Remediation Support Area at 109 Rogers Street</p> <p>The are no current water-dependent uses in the RSA.</p>   | <p>Public boater access to the area in front of the National Grid substation property will be restricted during in-water work seasons. However, project personnel observations during multiple visits to the property indicate this area is generally not used for boating.</p>   | <p>No post-remediation impacts to Chapter 91 water-dependent uses are anticipated at the 109 Rogers Street substation property. The dolphins and/or any other temporary support structures installed to support remediation will be removed. The navigational dredging conducted to facilitate barge access to the Remediation Support Area will result in improved conditions for future water-dependent use of this area.</p>  |





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| <b>TABLE 3 –CHAPTER 91: POTENTIAL IMPACTS TO EXISTING WATER-DEPENDENT USES</b>   |   |  |
|--|---|--|
| <b>EXISTING WATER-DEPENDENT USE</b>  | <b>IMPACT DURING REMEDIATION</b>  | <b>POST-REMEDICATION IMPACT</b>  |
| <p>Other Adjacent and Nearby Properties</p> <p>Adjacent and nearby properties are used for fish auctions, cold storage warehouse and distribution center, and fish packing and processing.</p>   | <p>No use impacts are anticipated to the properties west of the USCG station, or across the Federal Navigation Channel from the Site.</p> <p>Marine remediation work will be planned, to the extent practicable, to minimize impacts on water dependent activities associated with the properties in the area north of the marine remediation and adjacent to the remediation support area. No material disruption is anticipated to these water dependent activities. Sediment in the near shore area will be dredged using a barge-mounted excavator and transferred into a barge or scow prior to being transported via water to the Remediation Support Area. The proposed dredging will slightly increase boat traffic (anticipate several trips daily) from the near shore to the Remedial Support Area. To the extent impacts do arise during the implementation of the remedy, National Grid will contact and communicate any potential access limitations with property owners. Dredging and processing of sediment may produce odors. Best Management Practices (BMPs) will be used during upland and marine remediation activities to limit the generation of odors (e.g., water will be maintained over dredged material in barges, odor suppressant foams will be maintained on-Site for application as needed in barges and temporary stockpiles to reduce odor emissions).</p> | <p>No post-remediation alteration of existing water-dependent uses is anticipated at any of the neighboring properties.</p>  |
| <p>Federal Navigation Channel</p> <p>The Federal Navigation Channel within the Harbor is the transit corridor for both commercial and recreational boaters that utilize the harbor and its facilities. The project site extends into a portion of the channel and dredging is proposed in this limited area.</p> | <p>The majority of the offshore area dredging will be performed within the Federal Navigation Channel. Sediment will be dredged using a barge mounted excavator equipped with an environmental clam shell bucket and transferred into a barge or scow prior to being transported via water to the Remediation Support Area. The proposed dredging will extend below the required navigation channel elevation. A portion of the navigation channel will be obstructed (i.e., a portion of the navigation channel will be accessible at all times) during the in-water remediation work seasons between Labor Day and February 14; however, work will be sequenced to minimize and limit obstructing the navigation channel. Dredging work zones will be provided to the USCG and Gloucester Harbormaster for posting in the notice to mariners and local notice to mariners. Dredging equipment and barges and/or scows will comply with navigation lighting.</p>   | <p>No post-dredge backfilling is proposed within the federal navigation channel; therefore, the increased post-dredge water depth will allow for increased access to and use of dredged portions of the channel, and may also reduce requirements for future navigational dredging in this area.</p> |





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**4. TEMPORARY & PERMANENT ALTERATION OF WQC RESOURCE AREAS**

As described in Section 3: Existing Conditions, the WQC program is administered by MassDEP and any project which must obtain a Section 404 permit from the Army Corps of Engineers (ACOE) must also obtain a 401 Water Quality Certification. Within the Project Area, Waters of the Commonwealth and Waters of the United States within the Commonwealth are synonymous. This project will require the filing of a BRP WW 10 Major Fill and Excavation application for impacts of greater than 5,000 square feet of jurisdictional wetland and a BRP WW 07 Dredging application for due to the need to dredge greater than 5,000 cubic yards of sediment from below mean high tide line (i.e. Waters of the Commonwealth and Waters of the United States) in Gloucester Inner Harbor.

The Major Fill and Excavation application is required for the removal of sediment and placement of material below mean high water due to the following activities:

- Placement of fill associated with placement of new land (vertical barrier) in front of National Grid seawall;
- Removal of land associated with Solomon Jacobs Park and the National Grid property;
- Dredge and placement of backfill material in the Inner Harbor; and
- Placement of backfill material for a seawall stability wedge in front of USCG.

The Major Dredge application is required for the removal of greater than 5,000 cubic yards of sediment from below the mean high tide line due to the following activities:

- Dredge in the Inner Harbor where no backfill is required;
- Dredge in the Inner Harbor where backfill will be placed, including porewater cap materials and post-dredge backfill; and
- Dredge in front of the Remediation Support Area for barge access.

Project impacts to Waters of the Commonwealth and Waters of the US with the Commonwealth are discussed at length in Section 2 (Impacts of Proposed Project) of this document which describes temporary and permanent impacts to jurisdictional resources under the WPA. As defined in Section 3 (Existing Conditions), the resource areas relevant under the WQC include all of the Coastal Resource Areas relevant to the WPA with the exception of Coastal Bank and Land Subject to Coastal Storm Flowage.

**5. CULTURAL (HISTORICAL & ARCHAEOLOGICAL) RESOURCES IMPACTS**

As a result of the proposed remediation effort, all or a select portion of the marine railway will be removed in order to accommodate the need to remove source material under and around the marine railway. As previously discussed, the active marine railway on the Maritime Gloucester property is recorded in the Inventory of the Historic and Archaeological Assets of the



SECTION 4- IMPACTS OF PROPOSED PROJECT

Commonwealth and may meet the criteria of eligibility for listing in the National Register of Historic Places as an individual property. The active marine railway will be removed and replaced in-kind and the inactive (burned) marine railway will be removed and will not be replaced. Where possible, the existing sections of the active marine railway will be left in place to limit impacts to the structure. Impacted sediment will be removed and once the area has been returned to grade, portions of the active marine railway that were removed will be reconstructed using similar materials within the same footprint.

| CULTURAL AND HISTORICAL IMPACTS TABLE                 |                                   |                                |  |
|---|-----------------------------------|--------------------------------|--|
| RESOURCE  | TEMPORARY                         | PERMANENT                      | NOTES  |
| Maritime Gloucester Marine Railway - <i>Active</i>    | Removal of all or select portions |                                | Portions of the active railway that were removed during dredging will be reconstructed using similar materials within same footprint.  |
| Maritime Gloucester Marine Railway - <i>Abandoned</i> |                                   | Removal of all portions        | Removal of the abandoned railway, which was previously burned, will be removed and not replaced. It will be further surveyed to assess potential eligibility for listing in National Register. |
| Shipwreck   |                                   | Removal of shipwreck as debris | Pending additional research and survey.  |

There are no listed or inventoried archaeological sites within the Project Area of Potential Effect. However, the proposed dredging area is identified as containing one unidentified shipwreck. An archaeological reconnaissance survey has been conducted to identify any archaeologically sensitive terrestrial and underwater areas that may be present in the Project’s APE. For additional information regarding cultural resource impacts see Appendix F: Historic and Archaeological Reconnaissance Surveys<sup>1</sup>.

6. IMPACTS TO CITY INFRASTRUCTURE

It is not expected that there will be a significant impact to the City of Gloucester’s infrastructure after implementation of the proposed Project. There will be no alteration of City utilities to support the remediation activities; however public roadways will be utilized for transportation of materials, equipment, supplies, and disposal of generated wastes. The main traffic route will avoid the downtown areas with the primary traffic route to be along Rogers Street and East Main Street (Route 127) connecting to Route 128. It is not anticipated that street closures will be necessary to implement the proposed work, however, as necessary, traffic details will be utilized.

The proposed Project will be dependent upon waterways within Gloucester Inner Harbor primarily for barge or scow transportation of dredged sediments, from within the Project Area to the National Grid substation, concurrent with proposed dredging activities. There will be a decrease in the ability of watercraft to access certain portions of the Project Area during work on and adjacent to seawalls and during dredging; however, accommodations will be made for alternate docking facilities and safe alternate watercraft passage.

<sup>1</sup> Please note that this report is not included in the EENF application due to sensitive site information.





**7. IMPACTS TO PROPERTY OWNERS**

National Grid will coordinate closely with Site property owners and adjacent property owners during design development and construction to minimize potential impacts to their properties and operations. The USCG, City of Gloucester, and Maritime Gloucester operations will require relocation while work is underway on the respective properties. National Grid will endeavor to minimize disruption to the USCG, the City and Maritime Gloucester operations and intends to limit disruption of operations to one construction season per property where possible. National Grid will coordinate with each property owner and make arrangements to provide alternative temporary docking facilities, utilities, and security, as required, for the duration of work on each respective property. Replacement locations may include, but are not limited to, the Maritime Gloucester dock or other similarly identified locations within the Inner Harbor.