New York and New Jersey Harbor Deepening Project

Volume IIB:

Environmental Appendices D to H

U.S. Army Corps of Engineers
New York District

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Environmental Assessment
Appendix D:
Habitat Mitigation Report

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APPENDIX D

HABITAT MITIGATION REPORT

NEW YORK AND NEW JERSEY HARBOR DEEPENING PROJECT

HABITAT MITIGATION REPORT

JANUARY 2004

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1 INTRODUCTION

In accordance with the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (40 C.F.R. §1500-1508), and with paragraph 7-35 of USACE Engineering Regulation (ER) 1105-2-100 (USACE 1990, 1997), the planning of USACE-sponsored and other Federal projects must ensure that project-caused adverse environmental impacts (i.e., impacts to fish and wildlife resources) have been avoided or minimized to the extent practicable, and that remaining unavoidable significant adverse environmental impacts are compensated for to the extent justified. USACE regulations stipulate that the Recommended Plan must contain sufficient mitigation measures to ensure that the plan selected will have no more than negligible net adverse impacts on fish and wildlife resources, including impacts of the mitigation measures themselves. The USACE regulations also state that, "full credit shall be given to the beneficial aspects of an alternative plan, or project, before consideration is given to adding separable mitigation features." Regarding wetlands, however, the guidance contains very specific requirements that the District "ensure that adverse impacts to wetland resources are fully mitigated...as required to clearly demonstrate efforts made to meet the Administration's goal of no net loss of wetlands."

As described in the *New York and New Jersey Harbor Navigation Study Feasibility Report*[1] (*Feasibility Report*), the primary unavoidable environmental impact (requiring mitigation) associated with the Recommended Plan is disturbance and loss of littoral zone habitat (defined as submerged lands between tidal elevations 0.0 and -6.0 ft mean low water [MLW]). Because the final authorized channel depths of the Recommended Plan are identical to the proposed consolidated implementation, these unavoidable impacts are identical. Mitigation for losses of littoral zone habitat are specifically required because the littoral zone is defined as wetland habitat in New York (Title 6 §661.2 (b) and (e) of the Official Codes of Rules and Regulations of New York State) and is protected in New Jersey under Coastal Area Facility Review Act (N.J.S.A 13:19-1 to 21) (CAFRA) regulations. Littoral zone areas that will be impacted were measured by planimetric analysis (of preliminary project construction drawings). Preliminary field confirmations of the impacted littoral zone areas were made during the field survey for the functional assessment of the impacted areas.

The mitigation plan presented in the *Feasibility Report* was based, in part, on mitigation plans for other USACE-NYD navigation channel improvement projects. Specifically, the mitigation plans adopted for the deepening of the Arthur Kill Channel and recommended for some portions of the New York Harbor Collection and Removal of Drift Project were used in the plan formulation process. The recommended mitigation plan was developed in consultation with state and Federal resource agencies through the New York and New Jersey Harbor Navigation Study Environmental Work Group.

[1] U.S. Army Corps of Engineers, *New York and New Jersey Harbors Navigation Study Feasibility Report*, (December, 1999). Hereinafter referred to as the "*Feasibility Report*".

Since the development of the original mitigation plan, the New York State Department of Environmental Conservation (NYSDEC) reconsidered the proposed plan and indicated that the Mariner's Harbor Marsh site, recommended in the *Feasibility Report*, was no longer suitable. In light of this development, the District was required to identify several alternative mitigation sites in New York State and re-evaluate mitigation alternatives that could be used for this project in both New York and New Jersey. During this process, the District re-visited the conceptual plans and the preferred sites described in the recommended Mitigation Plan, including those located in New Jersey, to confirm site conditions and conceptual plan feasibility.

2 MITIGATION PLANNING AND FUNCTIONAL ASSESSMENT

The *Feasibility Report* describes in detail the compensation techniques that were considered for mitigation of impacts from the Recommended Plan. Habitat disturbance was evaluated for intertidal (MHW to MLW) and littoral zone (MLW to a depth of 6 ft MLW) wetlands. Projected impacts described in the *Feasibility Report* included no impacts to intertidal wetlands and disturbance of 6.26 acres of littoral zone wetlands. Of this, approximately 4.7 acres were projected in New Jersey, and 1.56 acres in New York.

During the Pre-Construction Engineering and Design (PED) stage, several structural and design modifications were proposed for the navigation channel improvements. These changes would apply regardless of consolidation (See Environmental Assessment - Pre-Construction Engineering and Design Modifications for a complete description of design modifications). During the PED stage, intertidal and littoral zone habitat in the vicinity of Bridge Creek in the Arthur Kill and on the southwestern section of the South Elizabeth Channel were re-classified in terms of habitat type based on more detailed bathymetry information available in these areas. Specifically, a portion of the project area designated as littoral zone in the Arthur Kill has been re-classified as intertidal habitat and a portion of the project area designated as sub-littoral in South Elizabeth has been reclassified as littoral.

For the section of the project extending from Howland Hook to the Proctor & Gamble Pier, the 1999 FEIS designated 0.19 acres of littoral zone to be impacted. Current information shows approximately 0.32 acres of littoral zone impact and 0.14 acres of intertidal impacts. Intertidal impacts would be to rocky intertidal and shoal mudflats. This is an increase of 0.27 acres of littoral and intertidal impacts.

A portion of the project area designated as sub-littoral in South Elizabeth has been determined to be littoral habitat with an increase of approximately 0.75 acres of littoral zone impacts. The 1999 FEIS previously designated approximately 0.75 acres of littoral zone as sub-littoral zone. Current information shows this area to be littoral zone habitat.

USACE regulation (ER) 1105-2-100 (USACE 1990, 1997) requires that, following the determination of environmental quality changes related to implementation of the

USACE-sponsored project, the current and future conditions of the impacted indicator be determined. To address this requirement, a functional assessment technique was used to determine the value of the littoral zone wetlands expected to be disturbed by the project. This habitat value is used to determine the type and amount of compensation required. The habitat values resulting from the functional assessment are expressed in Habitat Units (HUs). A detailed description of this habitat assessment is provided in the *Feasibility Report*.

In addition to assessing the value of the littoral zone habitat that would be disturbed as a result of the Recommended Plan, the functional assessment is also used to predict the value of the compensatory mitigation options.

As described in detail in the *Feasibility Report*, the potentially disturbed areas were examined around low tide, and a Functional Assessment Questionnaire was completed for each area. Completion of the questionnaires resulted in a raw score being assigned to each area. This raw score for each location was then multiplied by its corresponding area (in acres) to obtain a value in HUs for each location.

Because of the re-classification of habitat type near Bridge Creek in the Arthur Kill and on the southwestern section of the South Elizabeth Channel, the District is revising the Functional Assessment to more accurately represent habitat types and corresponding habitat value (i.e., HUs). The habitat value of each of the disturbed areas will be summarized and summed to obtain an overall value of potential project-related habitat disturbances to be used in revising the mitigation plan.

The objective of the mitigation plan is to compensate for the unavoidable impacts to ecological resources that will remain after avoidance, minimization, and reduction/ elimination techniques are fully considered and implemented to the extent possible. As discussed previously, USACE regulation (ER) 1105-2-100 states that full credit shall be given to the beneficial aspects of an alternative plan, or project, before consideration is given to adding separable mitigation features. However, regardless of such beneficial aspects, the guidelines contain very distinct requirements for wetlands. Specifically, the mitigation plan must ensure that adverse impacts to wetland resources are fully mitigated, and an effort must be made to meet the Administration's goal of no net loss of wetlands.

The primary objective for this mitigation plan, therefore, is to provide replacement for the loss of disturbed habitat as a result of the Recommended Plan. This objective not only encompasses the goal required of replacing HUs calculated to be lost, but also includes a goal of providing no less than acre-for-acre compensation, and a general preference for in-kind over out-of-kind compensation.

3 ALTERNATIVE MITIGATION SITES AND CONCEPTUAL DESIGNS

Following discussions with NYSDEC several alternative mitigation sites were identified in the study area in New York State. These sites were located along several of the major tidal creeks on the Arthur Kill, including: Old Place Creek, Neck Creek (also known as Chelsea Creek) and Sawmill Creek. Based on a preliminary feasibility and conceptual mitigation design evaluation, ten sites were identified as alternative mitigation sites for littoral zone impacts associated with the Recommended Plan, including a re-evaluation of the Mariner's Harbor Marsh site, originally evaluated and selected in the *Feasibility Report* as a preferred site. Where possible, alternative mitigation sites were visited by the District in May 2003 to confirm site conditions and habitat types. For conceptual design and habitat assessments, site acreages and habitat types were developed using true color aerial photographs taken in 2001.

In May 2003, the District met with NYSDEC and the Port Authority of New York and New Jersey (PANYNJ) to discuss the results of the preliminary feasibility and mitigation opportunities at the ten sites. Based on these discussions four sites were advanced for detailed conceptual mitigation designs and economic cost analysis. One site is located on Old Place Creek and three sites are located near Sawmill Creek. In addition, for two of the selected sites (Old Place Creek and Sawmill Mill Creek North), two conceptual designs were developed, one that emphasized preservation of existing wetland areas (Plan A) and one that attempts to maximize the creation, restoration, and enhancement of wetlands on the site (Plan B).

The District recognized that implementation of the mitigation plan was dependent on local cooperation of state resource agencies, and therefore, local priorities and interests were considered critical items during conceptual mitigation design. Based on discussions with NYSDEC, contiguous tracks of land located within watersheds or areas of other ongoing habitat restoration initiatives, and thus potentially contributing to the broader state agency goal of coastal marsh ecosystem restoration, were important considerations in mitigation site selection. Because of this, alternative conceptual mitigation plans considered the entire site acreage potentially available for mitigation opportunities, generally resulting in conceptual designs that maximized the potential HU gains for each alternative mitigation site. Final mitigation plan designs will reflect USACE habitat replacement guidance.

During this effort, the District also revisited the preferred mitigation sites located in New Jersey, specifically the Woodbridge Creek and Goethals Bridge South sites, to confirm site conditions and assess if the conceptual plans described in the *Feasibility Report* were still viable. Both sites were visited in May 2003. Based on the site visits and apparent changes in site conditions, conceptual mitigation designs were redeveloped for both sites and are included in this report.

For this report, the terms preservation, enhancement, restoration, and creation refer to habitat changes from existing conditions to those provided in the conceptual plans. These

changes and terms are referred to on the conceptual plans as P (preservation), E (enhancement), R (restoration), and C (creation). The terms are defined as follows:

- Preservation – No change in habitat type from existing conditions to the conceptual plan;
- Enhancement – A change from one wetland type to another wetland type (e.g., a change from high marsh to low marsh);
- Restoration – A change from a common reed grass (*Phragmites*) area to another wetland area; and
- Creation – A change from an upland area to a wetland area.

In order to estimate conceptual plan costs and establish the HU difference resulting from implementation of mitigation measures at each alternative site, a baseline functional assessment was conducted for each of the alternative mitigation sites, similar to previous mitigation planning efforts described in the *Feasibility Report*. The baseline functional assessment assisted in the identification of site conditions that could be improved by implementation of mitigation measures. A second functional assessment for each of the preferred mitigation sites was then conducted following conceptual mitigation design development. This second assessment assumed that the recommended mitigation measures were implemented and successful. The theoretical post-mitigation increase in HUs was obtained by subtracting the baseline HU value from the estimated post-mitigation HU value for each site.

A refined habitat assessment was developed for each change in habitat type between existing and conceptual plans to account for habitat value associated with common reed dominated communities. The number or value of HUs assigned to each habitat change was as follows:

- (P)reservation – No HUs (i.e., no change in HUs resulted from preserving existing wetland areas);
- (E)nhancement – An increase (or decrease) in HUs was assigned that was equal to the conceptual plan functional assessment minus the baseline functional assessment;
- (R)estoration – An increase in HUs was assigned that was equal to the conceptual plan functional assessment minus the *Phragmites* area functional assessment (the *Phragmites* functional assessment was always equal to one-half of the HUs of the baseline condition);
- (C)reation – An increase in HUs was assigned to enhancement areas equal to the conceptual plan functional assessment minus the upland area functional assessment (upland functional assessment was assigned no HUs).

Habitat maps showing existing conditions (based on 2001 true-color aerial photographs) and the conceptual mitigation plan(s)/ restoration design(s) for each alternative mitigation

site are provided in Appendix A. A description of the alternative mitigation sites and the conceptual design(s) is provided in Section 3.1

Changes in wetland and upland community acreages, based on existing conditions vs. the conceptual design(s), are summarized for each alternative mitigation site in Table 3-1. Results of the functional assessments (i.e., existing HUs and gains in HUs based on the conceptual restoration designs) are summarized in Table 3-2.

3.1 Mitigation Site Descriptions and Conceptual Designs

3.1.1 Old Place Creek

A formerly connected tidal wetland area exists on Staten Island, north of the Goethals Bridge. The site is approximately 21.5 acres in size, adjacent to Old Place Creek and approximately 700 ft from the Arthur Kill. A 2- to 3-foot high constructed soil berm separates the marsh from the tidal creek. The partially breached berm prohibits tidal exchange between Old Place Creek and the formerly connected tidal wetland area; allowing sediment to accumulate on the tidal marsh surface. This has raised the marsh surface elevation allowing a common reed (*Phragmites*) dominated community to encroach into the salt marsh.

The partially breached berm also traps stormwater in the formerly connected area, creating salt pannes dominated with common glasswort (*Salicornia europaea*). Based on aerial photos, approximately five acres of the site is high marsh and is worth preserving as wetland habitat. Adjacent areas include a shrub and tree buffer zone that runs parallel to the former Staten Island Railroad elevated railbed. The eastern side of the site is adjacent to a parking lot/storage facility that may contribute stormwater to the site. The site has good construction access via local roads and is easily accessible.

The conceptual mitigation design recommends that three existing points of tidal exchange (i.e., three existing breaches in the berm) be deepened and widened to improve the rate and volume of water exchange between Old Place Creek and the formerly connected wetland area. In addition, reinforcement of the creek banks along portions of Old Place Creek would prevent the observed sloughing of the salt marsh cordgrass (*Spartina alterniflora*) mat into the creek.

Only a few small remnant low marsh areas exist on the site, while approximately nine acres are dominated by common reed grass. The conceptual mitigation design recommends most of this area be converted into a low marsh system by excavating the area and lowering surface elevations to between mid-tide and mean high water. Other areas dominated by common reed would be converted to open-water, high marsh dominated by salt meadow cordgrass (*Spartina patens*) or salt pannes.

Remains of the partially breached berm are dominated by common reed and could be restored to a marsh elder (*Iva frutescens*) and groundsel tree (*Baccharis halimifolia*)

shrub community. The existing salt pannes provide good habitat value and variability and would be protected during mitigation efforts.

The Old Place Creek site has several unique features that lends itself to the restoration of a productive coastal marsh system: 1) the site is adjacent to Old Place Creek, about 700ft from the Arthur Kill, and has a very good hydrologic connection, 2) several viable existing habitats are presently on the site, including areas of high marsh, large salt pannes and remnant shrubs, and 3) the site has easy access from either water (e.g., barge via Old Place Creek) or land (e.g., trucks via adjacent local roads) for construction. The conceptual plan uses a combination of preservation (e.g., preserve existing salt pannes), enhancement (e.g., common reed community on berm to a marsh-shrub community), and restoration (e.g., common reed to low marsh) techniques to increase the site's overall habitat value and community diversity.

The goal of the restoration is to provide a multi-habitat coastal wetland system enhancing the area's ability to support a diversity of floral and faunal species. The main strategy will be to increase tidal exchange by lowering the elevation of the site and adding new tidal creeks (i.e., open water) and large areas of low marsh. Old Place Creek Plan A eliminates 9.2 acres of *Phragmites*-dominated area and proposes 6.6 acres of high marsh, 1.45 acres of open water, 7.2 acres of low marsh, 4.8 acres of coastal shrubs, and 0.7 acres of salt pannes (Table 3-1).

Old Place Creek Plan A would increase the existing 526.8 inter-tidal habitat units to 698.8 or a gross change of 172 HUs. Refining this score to account for *Phragmites* habitat value results in a value of 157.4 HUs.

3.1.2 Saw Mill Creek – East

An 11.8-acre potential mitigation site was identified east of Sawmill Creek, located south of Edward Curry Avenue and west of the West Shore Expressway. Approximately 8.2 acres of the site is dominated by common reed grass. Two separate constructed dikes exist on the northwestern and southwestern sides of the site. It is unknown as to whether this dike system was formally built as one system and through time has degraded into two separate dike systems. The south and southwest portions of the site are adjacent to Sawmill Creek. The site is well connected hydrologically due to the presence of extensive tidal creek tributaries reaching all areas of the site except for the northernmost section. High marsh and low marsh areas exist along the tidal creek as evidenced by areas of salt marsh cordgrass, salt meadow cordgrass, and common glasswort, and by the presence of fiddler crab populations. High marsh areas account for approximately 0.8 acres of the total site.

This site also has a number of features that lends itself to the restoration of a productive coastal marsh system: 1) the site is adjacent to Saw Mill Creek, about one-half a mile from the Arthur Kill, providing a good hydrologic connection, 2) the site is surrounded by some high marsh and shrub areas, 3) the site has easy access via land (e.g., trucks via

adjacent local roads) for construction, 4) the site partially owned by New York City, and 5) the site is adjacent to a New York City Department of Parks and Recreation habitat restoration site.

The goal of the habitat mitigation plan is to provide a multi-habitat wetland system enhancing the area's ability to support a diversity of floral and faunal species. To achieve this goal, the conceptual design uses a combination of preservation (e.g., preserve existing high marsh communities), enhancement (e.g., enhance common reed wetland to a marsh-shrub community), and restoration (e.g., *Phragmites*-dominated areas restored to low marsh areas) techniques.

The main strategy would be to increase tidal exchange by lowering the existing surface elevation of the site and adding open water areas (i.e., a new tidal creek) and large areas of low marsh. The conceptual plan proposes 3.5 acres of high marsh, 4.1 acres of low marsh, 3.2 acres of coastal shrub community, 0.2 acre of salt panne and 0.4 acre of open water, while eliminating 8.2 acres of common reed dominated community (Table 3-1). Based on functional assessments of the existing conditions (i.e., baseline) and proposed conceptual designs, the restoration plans provide 225.2 littoral HUs and 314 intertidal HUs, increasing the existing 314 inter-tidal HUs to 385.1 or a gross change of 71.1 HUs. Refining this score to account for *Phragmites* habitat value results in a value 166.2 new HUs.

3.1.3 Saw Mill Creek – West

The Sawmill Creek – West site is located east of the Bloomfield Road – Chelsea Road Bridge spanning Sawmill Creek, approximately 0.5 mile east of the Arthur Kill. The site is situated on a tidal oxbow, readily identifiable on aerial photographs and NYSDEC tidal wetland maps (NYSDEC Tidal Wetland Map #568-494). NYSDEC identified this privately owned property as a candidate mitigation site. No contacts for the site were obtainable and no site visit was conducted.

This site is approximately 4.3 acres in size and, based on aerial photographs taken in 2001, littered with hundreds of junk cars. Sawmill Creek runs along three-fourths of the site with distinct areas of high marsh along the creek edge.

The conceptual plan proposes to restore tidal exchange across the currently filled site by lowering the existing surface elevation and adding two tidal creeks and large areas of low marsh. Potential increases in low marsh, open water and other marsh habitat is summarized in Table 3-1. Increases or potential gains in HUs, based on the conceptual design, are summarized in Table 3-2.

Based on the aerial photographs and apparent existing commercial-use of the site as a junkyard, there is a high potential for contaminated material to be present. Therefore, depth of fill and extent of contamination (if any) are factors that would need to be considered in the estimated per-acre cost for mitigation.

3.1.4 Saw Mill Creek – North

NYSDEC identified this site as a candidate alternative mitigation site, noting that the site is a "historic wetland" and was filled during the 1980's. The site is located west of Chelsea Road and Edward Curry Street, adjacent to a small unnamed tidal creek and about 400 feet east of the Arthur Kill. No contacts for the site were obtainable and no site visit was conducted, although the property is still considered viable as an alternative mitigation site.

The site is approximately 37.6 acres and, based on aerial photographs taken in 2001, has been highly disturbed. Large areas have been cleared and/or graded and currently appear to be used as a storage facility. An unnamed tidal creek runs along the eastern border of the site. Construction of a dike/berm parallel to the creek appears to be restricting tidal flow. High marsh dominates much of the remaining wetland community. Also contained within the site is a 1.2 acre open water area.

This site has several unique features that lends itself to mitigation opportunities: 1) the site is adjacent to a small unnamed tidal creek, about 400 feet from the Arthur Kill, thus is hydraulically connected to the Arthur Kill, 2) several coastal wetland habitats exist on the west side of the site, including areas of high marsh and tidal creeks, and 3) the site is largely disturbed and has low present habitat value. Since the site is mostly disturbed, the conceptual plan uses mostly wetland and habitat creation techniques to improve the habitat value.

The primary restoration/creation strategy would be to increase tidal exchange across the site by lowering the surface elevation and adding two tidal creeks and large areas of low marsh. An estimated 10 - 14 acres of filled tidal wetland could be excavated to the original grade and replanted.

Conceptual Restoration Plan B would eliminate 2.9 acres of *Phragmites* while increasing the acreages of high marsh, low marsh and coastal marsh shrub community. Increases in low marsh, open water and other marsh habitat are summarized in Table 3-1. Increases or potential HU gains, based on the conceptual design, are summarized in Table 3-2.

3.1.5 Woodbridge Creek

The Woodbridge Creek site is a tidal wetland adjacent to Woodbridge Creek, located north of Woodbridge Avenue and west of the New Jersey Turnpike in Woodbridge, New Jersey. The *Feasibility Report* describes an 11-acre mitigation site, dominated by common reed grass; however, during the May 2003 site visit and 2001 true-color aerial photographs, a larger (24.6 acres) potential mitigation area was identified. Based on these findings, two conceptual mitigation plans were developed for this larger area and described below.

Approximately 8.2 acres of the site is dominated by common reed grass. The site is divided by Woodbridge Creek/ Heards Brook into a southern and northern portion. In addition, a large underground gas utility line and its associated right of way divide the site in an east west direction, separating the northern and southern areas. Both the northern and southern portions of the site are adjacent to Woodbridge Creek and therefore have good restoration potential. The site is well connected hydrologically due to both Woodbridge Creek and also a second tidal connection in the southern section of the site. This small tidal creek appears to be an old mosquito ditch and runs parallel to Woodbridge Creek along the southern edge of the site. High marsh and some very small areas of low marsh areas exist along the tidal creek. High marsh areas account for approximately 0.62 acres of the total site.

This site also has a number of features that lends itself to the restoration of a productive coastal marsh system: 1) the site is adjacent to Woodbridge Creek, about 1.3 a mile from the Arthur Kill, providing a moderately good hydrologic connection, 2) the site is surrounded by some shrub and tree areas, 3) the site is accessible by land through a number of local roads for construction; and 4) it is a large site mostly dominated by *Phragmites* and non-native shrubs and trees.

The restoration goal would be to provide a multi-habitat wetland system enhancing the areas ability to support a diversity of floral and faunal species. To achieve this, the conceptual design uses a combination of preservation (e.g., preserve existing high marsh communities), enhancement (e.g., enhance common reed wetland to a marsh-shrub community), and restoration (e.g., *Phragmites*-dominated areas restored to low marsh areas) techniques.

The main strategy would be to increase tidal exchange by lowering the existing surface elevation of the site and adding open water areas (i.e., a new tidal creek) and large areas of low marsh. Conceptual Plan A maximizes the preservation of existing habitats and proposes 0.4 acre of high marsh, 11.8 acres of low marsh, 6.3 acres of coastal shrub community, and approximately 4.0 acres of open water, while eliminating 8.2 acres of common reed dominated community (Table 3-1).

3.1.6 Goethals Bridge South

The Goethals Bridge South site encompasses an intertidal basin on the west bank of the Arthur Kill in New Jersey, on the opposite side of the Arthur Kill from Old Place Creek. The area is directly under and south of the Goethals Bridge. The small rectangular site is approximately 3.8 acres, just north of a large warehouse facility. Based on the May 2003 site visit, the shoreline consists of concrete platforms and the adjacent warehouse now appears to be in the process of being renovated. The warehouse renovation was not described in the *Feasibility Report* and was not included in the original conceptual designs developed for this site; therefore, a conceptual mitigation plan was developed based on these findings.

An upland area with a rip rapped edge exits on the north side of Goethals Bridge. The concrete edge has reduced the areas ecological value. This area also includes a grass and mixed shrub zone that parallels the site. The restoration opportunities on the southern side of the site are reduced by the presence of the warehouse, which is currently undergoing renovations. There is some potential on the northern side. The site has some construction access via local roads and from the Arthur Kill by barge.

The conceptual mitigation design recommends that five possible points of tidal exchange (i.e., between each of the bridge abutments) be deepened and widened to allow for some restoration on the northern side of the site. By reducing present elevations some low marsh could be created. In addition, the existing littoral zone is substantially degraded and could be enhanced.

Presently there is no intertidal habitat. The conceptual mitigation design recommends most of the northern area be converted into a low marsh system by excavating the area and lowering the surface elevation to between mid-tide and mean high water. Areas between the bridge abutments would likely require reinforcement to reduce any possible impact of the restoration on the bridge footings. Littoral zone areas could be enhanced through substrate improvements.

The conceptual plan relies mostly on enhancement (e.g., of the littoral zone) and creation techniques to increase the site's overall habitat value and the community diversity. The goal of the restoration is to provide a small coastal wetland system where presently none exists. The main strategy will be to increase tidal exchange by lowering the elevation of the site and develop some new areas of low marsh. The Goethals Bridge South Plan proposes 0.55 acre of low marsh, 0.2 acre of open water, and 0.39 acre of coastal shrubs (Table 3-1).

The Goethals Bridge site has several challenging conditions for restoration efforts to develop a productive coastal marsh system: 1) the site is directly under the Goethals Bridge creating access and construction difficulties, 2) any plans to reconstruct the bridge would likely interfere with the restored site, and 3) the north side of the bridge is partly in the shadow or the bridge reducing sunlight and optimum growth conditions of any vegetation

As the proposed work is in the immediate proximity of the Goethals Bridge, and in the direct footprint of a potential Goethals Bridge parallel span, the site has been removed from further investigation.

TABLE 3-1
Existing and Proposed Wetland and Upland Community Areas (acres)

Site / Plan	High Marsh		Open Water		Low Marsh		Phragmites		Shrubs		Mud Flat		Salt Panne		Other	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
Old Place Creek, Plan A	6.5	6.6	0.3	1.5	0.1	7.2	9.2	0.0	3.7	4.8	0.0	0.0	0.41	0.68	1.3	0.72
Old Place Creek, Plan B	6.5	4.4	0.3	4.4	0.1	9.6	9.2	0.0	3.7	3.1	0.0	0.0	0.41	0	1.3	0
Saw Mill Creek – East	0.8	3.5	0.0	0.4	0.0	4.1	8.2	0.0	1.9	3.2	0.0	0.0	0	0.24	1	0.42
Saw Mill Creek – West	0.6	0.5	0.0	0.4	0.0	6.6	0.2	0.0	0	0.3	0.0	0.3	0	0	3.58	0
Saw Mill Creek – North, Plan A	6.9	8.8	1.5	2.1	0.0	5.9	3.1	0.0	0	2.7	0.0	0.0	0	0	8.76	0
Saw Mill Creek – North, Plan B	6.9	5.9	1.5	3.7	0.0	5.7	3.1	0.0	0	2.2	0.0	2.6	0	0	8.76	0
Woodbridge Creek, Plan A	0.6	0.4	3.5	4.0	0.0	11.8	8.2	0.0	9.7	6.3	0.0	0.0	0.0	0.0	2.5	2.1
Woodbridge Creek, Plan B	0.6	1.4	3.5	5.5	0.0	12.4	8.2	0.0	9.7	2.9	0.0	2.4	0.0	0.0	2.5	2.2
Goethals Bridge South	0.0	0.0	1.9	2.0	0.0	0.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.9	0.8

Note(s):
Existing community types and acreages based on geo-referenced true-color aerial photography taken in 2001.
E – Existing (i.e., baseline) condition, P – Proposed community acreage based on the conceptual mitigation plan/ restoration design

TABLE 3-2
Functional Assessment Results (HU) for Existing Mitigation Sites and Post-Mitigation Conceptual Plans

Site / Plan	Existing Conditions			Post-Mitigation Conditions			HU Gained	Refined HU Gained
	Acreage	Raw Score	HU	Acreage	Raw Score	HU		
Old Place Creek, Plan A	21.5	24.5	526.8	21.5	32.5	698.8	172.0	157.4
Old Place Creek, Plan B	21.5	24.5	526.8	21.5	34.5	741.8	215.0	370.1
Saw Mill Creek – East	11.9	26.5	315.4	11.9	32.5	386.8	71.4	166.2
Saw Mill Creek – West	4.3	18.5	79.6	4.3	31.5	135.5	55.9	136.7
Saw Mill Creek – North, Plan A	20.3	13	263.4	20.3	26.5	536.9	273.5	315.5
Saw Mill Creek – North, Plan B	20.3	13	263.5	20.3	25.5	516.9	253.4	388.5
Woodbridge Creek, Plan A	24.6	29	716.1	24.6	35.5	876.6	160.5	291.4
Woodbridge Creek, Plan B	24.6	29	716.1	24.6	37.5	920.8	208.7	390.6
Goethals Bridge South	3.8	13	48.8	3.8	21.5	80.6	31.9	39.3

Note(s):

HU – Habitat units
Refined HU Gained – A refined habitat assessment was developed for each change in habitat type between existing and conceptual plans to account for habitat value associated with common reed dominated communities.

4 SELECTED MITIGATION SITES AND DEVELOPMENT PLANS

Mitigation planning differs from traditional Corps planning studies, since mitigation outputs typically cannot be expressed in monetary terms. In practice, the Corps mitigation studies often measure the ecosystem benefits of alternative plans in terms of physical dimensions, population counts, or various habitat-based scores. To promote effective decision making for environmental mitigation, Corps environmental planning has incorporated cost effectiveness/incremental cost analysis (CE/ICA) to compare relative costs and outputs of alternative mitigation plans.

The CE/ICA analysis was based on the conceptual designs for each alternative site presented in Section 3 above. These alternative conceptual mitigation plans considered the entire site acreage potentially available for mitigation opportunities, generally resulting in conceptual designs that maximized the potential HU gains for each alternative mitigation site. The recommended mitigation plan design and costs reflect USACE habitat replacement guidance.

CE/ICA generates information that supports sound financial investments by comparing the costs and non-monetary outputs (benefits) of alternative investment choices. Although neither cost effectiveness nor incremental costs analysis necessarily result in identification of a single "best" alternative, they contribute to informed decision making for environmental mitigation.

The CE/ICA for the alternative mitigation sites/ conceptual mitigation plans for those sites located in New York and the redeveloped conceptual mitigation plans for the preferred mitigation sites in New Jersey, used a similar approach as that described in the *Feasibility Report*, including a number of assumptions and constraints to include various aspects of the mitigation efforts and offset the impacts of navigation improvements to the harbor. The three major assumptions of the CE/ICA described in the Feasibility Report are:

- Mitigation efforts at each site are fully independent of mitigation efforts at other sites;
- Mitigation is implemented for the entire site, i.e., partial site mitigation was not considered; and
- Mitigation at each site may be combined with mitigation at any other site.

Several constraints were explicitly designed into the *Feasibility Report* CE/ICA, which limited the combinations of mitigation sites considered. These constraints were based on original projected areas of disturbance, habitat classifications and habitat values, and included:

- Total mitigated acreage must be at least 7 acres;
- Total habitat units gained must be at least 110 HUs; and
- Total in-kind (littoral zone) mitigated acreage must be at least 3 acres.

The total acreage constraint (7 acres) offset the originally projected 6.26 acres impacted by navigation improvements. Similarly the 110 HU constraint offset the originally projected 109.55 impacted HUs. The in-kind (littoral) acreage constraint addresses the importance of in-kind mitigation, but also allows for other types of mitigation efforts.

While these constraints were originally designed to ensure that all potential mitigation plans fully offset the impacts of the Project, the constraints were not consistent with local resource agencies requests and priorities. Although in-kind mitigation is generally preferred, state agencies recognized this constraint was limiting the potential for broader mitigation opportunities in New York and New Jersey Harbor that could potentially offset impacts due to the Project while achieving larger coastal marsh and ecosystem restoration goals; therefore, this constraint was eliminated from the mitigation site analysis. The District recognized that implementation of the mitigation plan was dependent on local cooperation of state resource agencies, and therefore, local priorities and interests were considered a critical item in the mitigation analysis.

4.1 Conceptual Construction Costs

The estimated mitigation costs for maximum HU gains at each of the alternative sites are summarized in Table 4-1. Conceptual construction costs reflect the alternative conceptual mitigation plans considered for the entire site acreage, generally resulting in conceptual designs that maximized the potential HU gains for each alternative mitigation site. Each of the costs includes an allowance for additional data collection (e.g., topographic and tidal data) and final design costs (e.g., hydraulic modeling and plan specification preparation). Also included in the estimated cost for each site is an annual budget for monitoring and maintenance of each site (five years of monitoring and maintenance costs was included in each estimate).

Where warranted, restoration costs include costs for HTRW investigations, but do not include the cost of environmental cleanup or remediation. As the majority of the alternative and redeveloped conceptual designs involve excavation of the existing on-site material, generally the largest costs associated with construction of each mitigation site would be the disposal of unwanted excavated material. Disposal costs may escalate considerably if the excavated material is contaminated and becomes a regulated waste. Where potential HTRW contamination was identified (i.e., Saw Mill Creek – West and Saw Mill Creek – North), estimated mitigation costs include contaminated material disposal costs (e.g., Saw Mill Creek – West). Estimated mitigation costs do not include real estate acquisition costs.

Estimated mitigation costs include wetland plantings (approximately 20,000 plants per acre) and assume that if available, existing native shrubbery would be used in the restoration or habitat enhancement effort. Mitigation costs include shrub planting (approximately 1740 per acre) and common reed grass removal costs. Overall, a construction administration fee of 5% was applied to the total price and a standard

engineering and construction fee of +/- 15% was applied. Table 4-1 summarizes the cost per acre and cost per HU for each of the alternative conceptual mitigation designs.

4.2 Recommended Mitigation Sites

Based on the CE/ICA rankings (i.e., least cost per HU), the recommended mitigation sites are the Old Place Creek site in New York and the Woodbridge Creek site in New Jersey. Consistent with local state agency priorities, both sites are relatively large (over 20-acres) contiguous tracks of land consisting of a combination of existing wetland communities and adjacent open water areas (i.e., tidal creeks). Both sites are located within watersheds and near areas of ongoing habitat initiatives and thus contribute to the broader goal of state agencies toward coastal marsh ecosystem restoration.

While alternative mitigation sites located in New York provide generally similar HU gains at similar estimated economic investment levels (e.g., Sawmill Creek North), Old Place Creek provides a larger area for adjacent restoration opportunities, a critical item identified by state agencies in evaluating the mitigation plan. Also, conceptual design cost estimates do not consider hazardous waste removal or contaminated material disposal costs; therefore construction costs at sites with greater potential for HTRW contamination are likely underestimated. The greater potential for HTRW contamination was considered in the cost evaluation of certain mitigation sites (i.e., Sawmill Creek – West, an existing auto junkyard, and Saw Mill Creek – North A).

The combination of the Old Place Creek and Woodbridge Creek sites achieves the minimum criteria and design constraints identified in the mitigation plan formulation process; while considering the goals and priorities of the local resource agencies.

4.3 Recommended Mitigation Plan

The conceptual mitigation designs described in Section 3 considered the entire site acreage potentially available for mitigation opportunities, resulting in conceptual designs that maximized the potential HU gains for each alternative mitigation site. This allowed the restoration of the total developable area of each site to be evaluated consistently for cost/benefit analysis and permits the consideration of surrounding areas and potential restoration opportunities. USACE guidelines specify wetland mitigation plans provide no less than acre-for-acre compensation and replacement of at least equivalent habitat unit losses.

Those physical components of the wetland ecosystem which would return the most HUs and were considered the most valuable in restoring overall wetland functions to each area were determined. Of the four restoration strategies discussed in Section 3 (i.e., preservation, enhancement, restoration and creation), creation (i.e. converting upland areas to wetlands) and restoration (converting *Phragmites* to wetlands) provided the highest functional improvement to each wetland complex and yielded the highest incremental HU gain.

At the selected mitigation sites, there was almost no opportunity for creation (Old Place Creek had no creation areas and Woodbridge Creek had 0.4 acres), consequently, the recommended mitigation plan focused on restoration of each site. Both selected mitigation sites lacked large low marsh areas; therefore, the conversion of the *Phragmites* dominated areas to a low marsh system would provide the wetland complexes with the most valuable habitat improvement. The tidal creek would provide the necessary tidal exchange.

The District is in the process of finalizing the recommended mitigation plan based on the re-classification of habitat types during the PED stage, but estimates a maximal restoration of 9 acres in NY and 8 acres in NJ from *Phragmites* dominated areas. Continuing refinement of the project design throughout project construction may decrease the actual amount of littoral and intertidal habitats impacted. If this proves to be the case, mitigation will be reduced accordingly, and vice-versa (*i.e.* should more impacts be realized, mitigation for these impacts will be provided as required). Final plans for the two sites are currently being completed as part of the PED phase. Conceptual mitigation designs are described below.

4.3.1 Old Place Creek

Approximately 9.2 acres (42.8%) of the 21.5 acre site is dominated by *Phragmites*, with only 0.1 acres (0.5%) covered by low marsh. The recommended mitigation plan specifies that the northern tidal creek be excavated to the east (Figure 4-1), reconnecting the tidal exchange that inhibits tidal exchange between Old Place Creek and the formerly connected tidal wetland area. The recommended plan would convert 9.2 acres of *Phragmites* to low marsh by excavating this area, adjacent to the new tidal creek, and lowering surface elevation to between mid-tide and mean high water. Once graded to the proper elevation, this area would be planted with salt marsh cordgrass to return the area to a viable low marsh community.

Old Place Creek					
Condition / Community	Acreage	Raw Score	HU	Estimated Construction Costs	Cost per HU
Existing – *Phragmites*	9.2	43.5	113.2		
Proposed – Low marsh	9.2	115.0	299.0		
Net HU			185.8	$3,384,284	$18,215

The estimated construction cost of the recommended mitigation plan was based on the conceptual construction cost assumptions described in Section 4.1.

4.3.2 Woodbridge Creek

Of the 24.7 acre site, 8.2 acres (33.2%) are dominated by *Phragmites* with only small areas of low marsh. The recommended mitigation plan converts an area of approximately the 8.2 acres of *Phragmites* to low marsh and tidal creek. This area is located south of Woodbridge Creek and east of the underground utility line (Figure 4-2). Expanding and reconnecting two small tidal creeks, excavating the adjacent areas and lowering the surface elevation to between mid-tide and mean high water would restore the *Phragmites* dominated area to a more viable productive low marsh wetland. Once graded to the proper elevation, the low marsh area would be planted with salt marsh cordgrass.

Woodbridge Creek					
Condition / Community	Acreage	Raw Score	HU	Estimated Construction Costs	Cost per HU
Existing – *Phragmites*	8.2	25.3	119.0		
Proposed – Low marsh	8.2	61.9	291.0		
Net HU			172.0	$2,757,102	$16,030

The estimated construction cost is based on the same conceptual construction cost assumptions described in Section 4.1.

Table 4-1
Conceptual Construction Costs and CE/ICA Cost Analysis Summary

Site / Plan	Acres	Conceptual Construction Costs	HUs Net Gain	Cost per Acre	Cost per HU
New York					
Old Place Creek, Plan A	21.5	$3,220,560	172.0	$149,793	$18,724
Old Place Creek, Plan B	21.5	$5,352,774	215.0	$248,966	$24,987
Saw Mill Creek – East	11.9	$1,722,210	71.4	$144,723	$24,120
Saw Mill Creek – West	4.3	$3,779,601	55.9	$878,977	$67,614
Saw Mill Creek – North, Plan A	20.3	$7,882,245	273.5	$388,288	$28,820
Saw Mill Creek – North, Plan B	20.3	$10,897,467	253.4	$536,821	$43,005
New Jersey					
Woodbridge Creek, Plan A	24.5	$4,717,760	160.5	$192,562	$29,394
Woodbridge Creek, Plan B	24.5	$6,107,888	208.7	$249,301	$29,266

Note: The conceptual construction cost for Saw Mill Creek – West, Saw Mill Creek – North Plan A and Saw Mill Creek – North Plan B include additional material disposal costs due to a greater potential for HTRW contamination on site.

Legend

Habitat Type

- Tidal Creek
- High Marsh
- Low Marsh
- Mud Flat
- Panne
- Dike
- Shrub

Mitigation Type

P = Preservation
E = Enhancement
R = Restoration
C = Creation

0 100 200 400 Feet

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OLD PLACE CREEK

Conceptual Mitigation Design Plan A

4-1

Base Map 2001 True Color Aerial Photograph

APPENDIX A

CONCEPTUAL MITIGATION DESIGN

Old Place Creek

Staten Island Expressway

Legend

HABITAT TYPE

- Tidal Creek
- Open Water
- Dike
- Disturbed
- High Marsh
- Low Marsh
- Panne
- Phragmities
- Shrub

0 100 200 400 Feet

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

OLD PLACE CREEK
Existing Conditions

A-1

Legend

Habitat Type

- Tidal Creek
- High Marsh
- Low Marsh
- Mud Flat
- Panne
- Dike
- Shrub

Mitigation Type

P = Preservation
E = Enhancement
R = Restoration
C = Creation

0 100 200 400 Feet

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

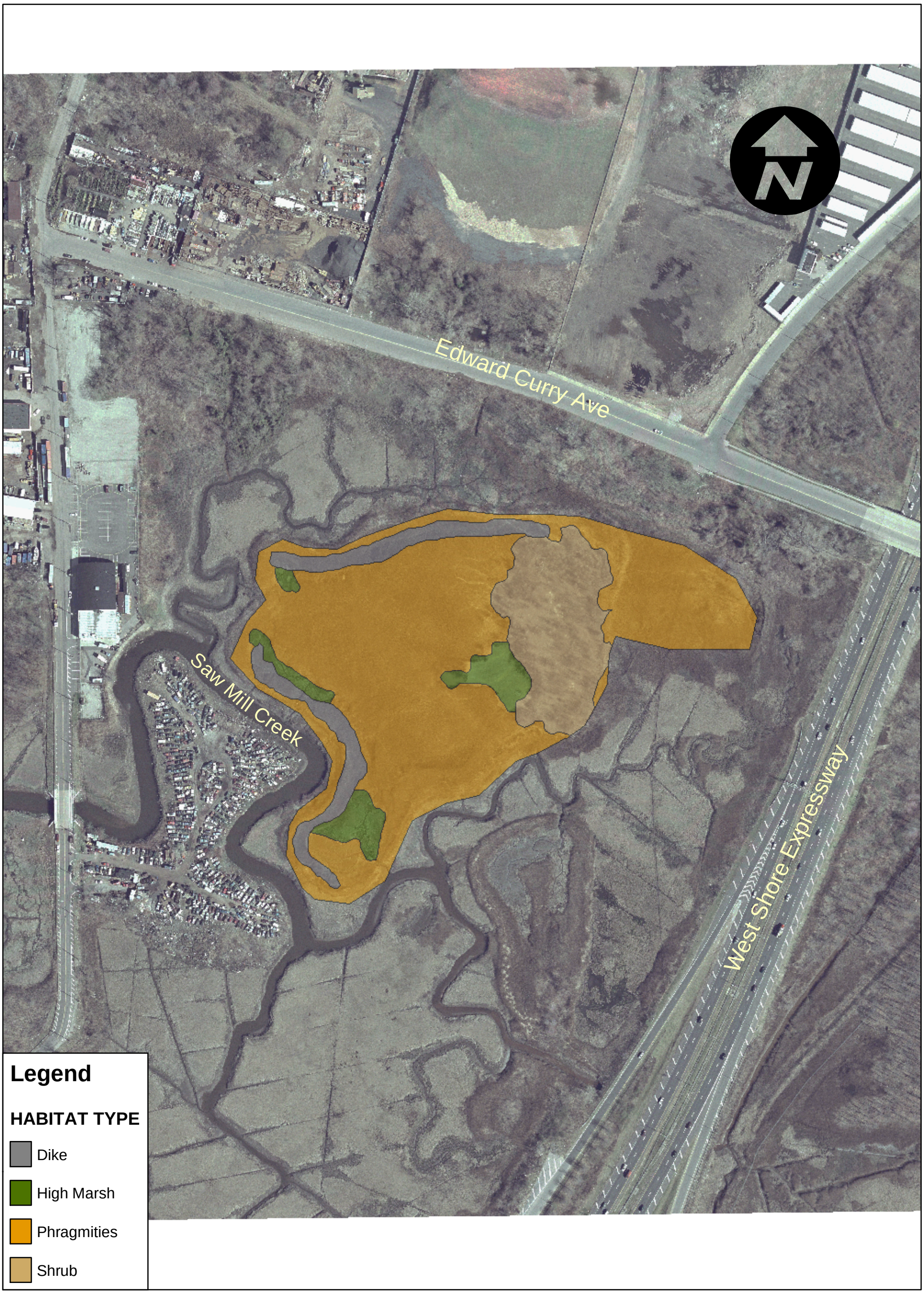
OLD PLACE CREEK

Conceptual Mitigation Design Plan A

A-2

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS NEW YORK DISTRICT	OLD PLACE CREEK Conceptual Plan B	A-3



Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS NEW YORK DISTRICT	SAW MILL CREEK - EAST Existing Conditions	A-4

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

SAW MILL CREEK - WEST
Existing Condition

A-6

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

SAW MILL CREEK - WEST
Conceptual Mitigation Design

A-7

Base Map 2001 True Color Aerial Photograph

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT

SAW MILL CREEK - NORTH
Existing Conditions

A-8

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

0 100 200 400 Feet

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

Base Map 2001 True Color Aerial Photograph

APPENDIX B

FUNCTIONAL ASSESSMENT DATA SHEETS

Functional Assessment Screening Questions

Site: Goethals South-Existing Conditions **Date: 7/18/03**

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? _____	0	
Wind only? _____	0	
Waves only? _____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes x No _____	0	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes x No _____	1	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes _____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No _____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No _____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No _____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes _____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes x No _____	0	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes x No _____	0	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes x No _____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes x No _____	0	

Functional Assessment Screening Questions

Site: Goethals South-Existing Conditions Date: 7/18/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No ____	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Goethals South-Existing Conditions **Date: 7/18/03**

		Score:	Weighted Score:
LITTORAL ZONE:			
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?		0	0.00
Between 50 and 100 feet in width?	x	0.5	0.89
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?	x	0	0.00
A sublittoral area 50 to 100 feet in width?		0	0.00
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes x No		0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x No		2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes No x		0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic?		0	0.00
Sand?		0	0.00
Sand with rocks and or debris (glass, brick)?	x	1	1.78
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence?	x	0	0.00
Shells only?		0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes x No		1	1.78

Functional Assessment Screening Questions

Site: Goethals South-Existing Conditions **Date: 7/18/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 1	0	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes ____ No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes x No ____	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient ____	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width x	1	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes ____ No x	0	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes ____ No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)? ____	0	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Goethals South-Existing Conditions Date: 7/18/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14
Littoral:	4.5
Intertidal:	5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	18.5
Intertidal:	19

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14.0
Littoral:	8.0
Intertidal:	5.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	22.0
Intertidal:	19.0

Functional Assessment Screening Questions

Site: Goethal Bridge South-Conceptual Plan **Date: 7/18/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?	x	0	
Wind only?		0	
Waves only?		0	
Wind and Waves?		0	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes	No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes x	No	1	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes	No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes x	No	2	
B-6.) Is there nearby vegetated upland habitat?			
Yes x	No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes x	No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes	No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes x	No	0	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes x	No	0	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes x	No	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes x	No	0	

Functional Assessment Screening Questions

Site: Goethal Bridge South-Conceptual Plan **Date: 7/18/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? ____ (none observed)	0	
Foraging? ____	0	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? ____ (none observed)	0	
Foraging? ____	0	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Goethal Bridge South-Conceptual Plan **Date: 7/18/03**

		Score:	Weighted Score:
LITTORAL ZONE:			
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?		0	0.00
Between 50 and 100 feet in width?	x	0.5	0.89
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?		0	0.00
A sublittoral area 50 to 100 feet in width?	x	0.5	0.89
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes x No		0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x No		2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes x No		1	1.78
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic?		0	0.00
Sand?	x	0.5	0.89
Sand with rocks and or debris (glass, brick)?		0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence?	x	0	0.00
Shells only?		0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes No x		0	0.00

Functional Assessment Screening Questions

Site: Goethal Bridge South-Conceptual Plan **Date: 7/18/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	0	
• Less than 50 feet in width x	0.5	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes No x	0	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes No x	0	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes No x	0	

Functional Assessment Screening Questions

Site: Goethal Bridge South-Conceptual Plan **Date: 7/18/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	13
Littoral:	4.5
Intertidal:	8.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	17.5
Intertidal:	21.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	13.0
Littoral:	8.0
Intertidal:	8.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	21.0
Intertidal:	21.5

Functional Assessment Screening Questions

Site: Old Place Creek- Existing Conditions **Date:** 5/21/03

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? ____	0	
Wind only? ____	0	
Waves only? ____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes ____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No ____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No ____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes x No ____	0	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes x No ____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes x No ____	0	

Functional Assessment Screening Questions

Site: Old Place Creek- Existing Conditions Date: 5/21/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No ____	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes x No ____	1	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Old Place Creek- Existing Conditions Date: 5/21/03 _____

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width? _____	0	0.00
Between 50 and 100 feet in width? _____	0	0.00
Greater than 100 feet in width? _____	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width? _____	0	0.00
A sublittoral area 50 to 100 feet in width? _____	0	0.00
A sublittoral area greater than 100 feet in width? _____	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes _____ No _____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes _____ No _____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes _____ No _____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic? _____	0	0.00
Sand? _____	0	0.00
Sand with rocks and or debris (glass, brick)? _____	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence? _____	0	0.00
Shells only? _____	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)? _____	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)? _____	0	0.00
Attached/sessile and mobile forms? _____	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes _____ No _____	0	0.00

Functional Assessment Screening Questions

Site: Old Place Creek- Existing Conditions **Date: 5/21/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No ____	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes x No ____	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient 0	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width ____	0	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes ____ No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? ____	0	
Peat (porous organic)? x	0.5	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Old Place Creek- Existing Conditions Date: 5/21/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16
Littoral:	0
Intertidal:	7.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16
Intertidal:	23.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16.0
Littoral:	0.0
Intertidal:	7.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16.0
Intertidal:	23.5

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan A **Date: 5/21/03**

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)?	0	
Wind only?	0	
Waves only?	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised? Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores? Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland? Yes ____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland? Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat? Yes x No ____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland? Yes x No ____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)? Yes ____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks? Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland? Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland? Yes ____ No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)? Yes ____ No x	1	

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan A Date: 5/21/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes x No	1	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan A **Date: 5/21/03**

LITTORAL ZONE:	**Score:**	**Weighted Score:**
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan A **Date: 5/21/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland: • Natural Channel • Intertidal - vegetated • Intertidal - unvegetated	Number of these habitat types: 3	2
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?	Yes x No	1
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?	Yes x No	1
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?	Yes No x	1
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	x	0
• Less than 50 feet in width		0
• 50 to 100 feet in width		0
• Greater than 100 feet in width		0
I-6.) Is there high marsh upgradient of the intertidal wetland?	Yes x No	2
I-7.) Is there an upland forested area contiguous to the intertidal wetland?	Yes x No	1
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?	Yes x No	1
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)	Yes x No	1
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?	Yes x No	1
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?	Yes No x	1
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?		0
Peat (porous organic)?	x	0.5
Clay?		0
Sand?		0
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?	Yes x No	1

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan A **Date: 5/21/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20
Littoral:	0
Intertidal:	13.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20
Intertidal:	33.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20.0
Littoral:	0.0
Intertidal:	13.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20.0
Intertidal:	33.5

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan B Date: 5/29/03

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		1	
No	x		
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes		1	
No	x		
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes		1	
No	x		

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan B Date: 5/29/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes x No	1	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan B **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan B **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Old Place Creek- Conceptual Plan B Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20
Littoral:	0
Intertidal:	12.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20
Intertidal:	32.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20.0
Littoral:	0.0
Intertidal:	12.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20.0
Intertidal:	32.5

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

(Sarnelli Site)- Existing Conditions

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? _____	0	
Wind only? _____	0	
Waves only? _____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes _____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes _____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes _____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No _____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No _____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes _____ No x	0	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes x No _____	0	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes _____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes x No _____	0	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes x No _____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes x No _____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes x No	0	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes No x	1	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? (none observed)	0	
Foraging?	0	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? (none observed)	0	
Foraging?	0	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes ____ No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes ____ No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width ____	0	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes ____ No x	0	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No ____	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? ____	0	
Peat (porous organic)? ____	0	
Clay? ____	0	
Sand? x	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	9
Littoral:	0
Intertidal:	4

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	9
Intertidal:	13

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	9.0
Littoral:	0.0
Intertidal:	4.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	9.0
Intertidal:	13.0

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

(Saranelli Site)- Conceptual Plan A

BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):

		Score:	Weighted Score:
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?	____	0	
Wind only?	____	0	
Waves only?	____	0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes ____ No x		1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes ____ No x		0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes ____ No x		0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes x No ____		2	
B-6.) Is there nearby vegetated upland habitat?			
Yes x No ____		2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes x No ____		1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes ____ No x		1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes ____ No x		1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes ____ No x		1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes ____ No x		1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes ____ No x		1	

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes x No	0	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes No x	1	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? (none observed) x	0	
Foraging?	0	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? (none observed) x	0	
Foraging?	0	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

LITTORAL ZONE:	**Score:**	**Weighted Score:**
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland: • Natural Channel • Intertidal - vegetated • Intertidal - unvegetated	Number of these habitat types: 3	2
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?	Yes x No	1
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?	Yes x No	1
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?	Yes No x	1
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	x	0
• Less than 50 feet in width		0
• 50 to 100 feet in width		0
• Greater than 100 feet in width		0
I-6.) Is there high marsh upgradient of the intertidal wetland?	Yes x No	2
I-7.) Is there an upland forested area contiguous to the intertidal wetland?	Yes x No	1
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?	Yes x No	1
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)	Yes x No	1
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?	Yes x No	1
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?	Yes x No	0
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?		0
Peat (porous organic)?	x	0.5
Clay?		0
Sand?		0
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?	Yes No x	0

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15
Littoral:	0
Intertidal:	11.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15
Intertidal:	26.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15.0
Littoral:	0.0
Intertidal:	11.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15.0
Intertidal:	26.5

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

(Sarnelli Site)-Conceptual Plan B

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? ____	0	
Wind only? ____	0	
Waves only? ____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes ____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No ____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No ____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes ____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes ____ No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes ____ No x	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes x No	0	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes No x	1	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? (none observed) x	0	
Foraging?	0	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? (none observed) x	0	
Foraging?	0	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A subiittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek North **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)? Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass? Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland? Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland? Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland? Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular? Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.) Yes No	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area? Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland? Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland? Yes No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek North Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15
Littoral:	0
Intertidal:	10.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15
Intertidal:	25.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15.0
Littoral:	0.0
Intertidal:	10.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15.0
Intertidal:	25.5

Functional Assessment Screening Questions

Site: Saw Mill Creek East Date: 5/29/03

Existing Conditions

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? ____	0	
Wind only? ____	0	
Waves only? ____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes x No ____	2	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No ____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No ____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes ____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes x No ____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes x No ____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes ____ No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes ____ No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width ____	0	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No ____	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No ____	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? ____	0	
Peat (porous organic)? x	0.5	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek East Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19
Littoral:	0
Intertidal:	7.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	19
Intertidal:	26.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19.0
Littoral:	0.0
Intertidal:	7.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	19.0
Intertidal:	26.5

Functional Assessment Screening Questions

Site: Saw Mill Creek East Date: 5/29/03

Conceptual Plan

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)?	0	
Wind only?	0	
Waves only?	0	
Wind and Waves?	0	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised? Yes ____ No ____	0	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores? Yes ____ No ____	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland? Yes ____ No ____	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland? Yes ____ No ____	0	
B-6.) Is there nearby vegetated upland habitat? Yes ____ No ____	0	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland? Yes ____ No ____	0	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)? Yes ____ No ____	0	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks? Yes ____ No ____	0	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland? Yes ____ No ____	0	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland? Yes ____ No ____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)? Yes ____ No ____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes _____ No _____	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes _____ No _____	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes _____ No _____	0	
B-16.) Is the wetland within a designated cable crossing area? Yes _____ No _____	0	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes _____ No _____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes _____ No _____	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes _____ No _____	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? _____ (none observed)	0	
Foraging? _____	0	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? _____ (none observed)	0	
Foraging? _____	0	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes _____ No _____	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes _____ No _____	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes _____ No _____	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes _____ No _____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek East **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: _____	0	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes _____ No _____	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes _____ No _____	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes _____ No _____	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient _____	0	
• Less than 50 feet in width _____	0	
• 50 to 100 feet in width _____	0	
• Greater than 100 feet in width _____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes _____ No _____	0	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes _____ No _____	0	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes _____ No _____	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes _____ No _____	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes _____ No _____	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes _____ No _____	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? _____	0	
Peat (porous organic)? _____	0	
Clay? _____	0	
Sand? _____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes _____ No _____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek East Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	0
Littoral:	0
Intertidal:	0

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	0
Intertidal:	0

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	0.0
Littoral:	0.0
Intertidal:	0.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	0.0
Intertidal:	0.0

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

Existing Conditions

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? ____	0	
Wind only? ____	0	
Waves only? ____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised? Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores? Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland? Yes ____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland? Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat? Yes ____ No x	0	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland? Yes ____ No x	0	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)? Yes ____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks? Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland? Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland? Yes x No ____	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)? Yes x No ____	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) Date: 5/29/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes x No ____	1	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

		Score:	Weighted Score:
INTERTIDAL ZONE:			
I-1.) How many of the habitat types listed below exist in the intertidal wetland:			
• Natural Channel • Intertidal - vegetated • Intertidal - unvegetated	Number of these habitat types: 1	0	
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?	Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?	Yes ____ No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?	Yes x No ____	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:			
• No littoral zone wetland downgradient	x	0	
• Less than 50 feet in width	____	0	
• 50 to 100 feet in width	____	0	
• Greater than 100 feet in width	____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?	Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?	Yes ____ No x	0	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?	Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)	Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?	Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?	Yes ____ No x	1	
I-12.) Is the intertidal wetland substrate type mainly:			
Muck (nonporous organic)?	____	0	
Peat (porous organic)?	x	0.5	
Clay?	____	0	
Sand?	____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?	Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15
Littoral:	0
Intertidal:	3.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15
Intertidal:	18.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15.0
Littoral:	0.0
Intertidal:	3.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15.0
Intertidal:	18.5

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

Conceptual Plan

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? ____	0	
Wind only? ____	0	
Waves only? ____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes ____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes ____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes ____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No ____	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No ____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No ____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes ____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes ____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes ____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes ____ No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes ____ No x	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) Date: 5/29/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No ____	1	

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

LITTORAL ZONE:	**Score:**	**Weighted Score:**
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland: • Natural Channel • Intertidal - vegetated • Intertidal - unvegetated	Number of these habitat types: 3	2
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?	Yes x No	1
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?	Yes x No	1
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?	Yes No x	1
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	x	0
• Less than 50 feet in width		0
• 50 to 100 feet in width		0
• Greater than 100 feet in width		0
I-6.) Is there high marsh upgradient of the intertidal wetland?	Yes x No	2
I-7.) Is there an upland forested area contiguous to the intertidal wetland?	Yes x No	1
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?	Yes x No	1
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)	Yes No x	0
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?	Yes x No	1
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?	Yes No x	1
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?		0
Peat (porous organic)?	x	0.5
Clay?		0
Sand?		0
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?	Yes No x	0

Functional Assessment Screening Questions

Site: Saw Mill Creek West (Francesco Site) Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20
Littoral:	0
Intertidal:	11.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20
Intertidal:	31.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	20.0
Littoral:	0.0
Intertidal:	11.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	20.0
Intertidal:	31.5

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions **Date: 7/14/03**

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)? _____	0	
Wind only? _____	0	
Waves only? _____	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised? Yes _____ No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores? Yes _____ No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland? Yes _____ No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland? Yes x No _____	2	
B-6.) Is there nearby vegetated upland habitat? Yes x No _____	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland? Yes x No _____	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)? Yes _____ No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks? Yes _____ No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland? Yes _____ No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland? Yes _____ No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)? Yes x No _____	0	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions Date: 7/14/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? (none observed)	0.5	
Foraging?	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? (none observed)	0.5	
Foraging?	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	1	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions **Date: 7/14/03**

LITTORAL ZONE:		**Score:**	**Weighted Score:**
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?	x	0	0.00
Between 50 and 100 feet in width?		0	0.00
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?		0	0.00
A sublittoral area 50 to 100 feet in width?		0	0.00
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes	No x	1	1.78
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x	No	2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes x	No	1	1.78
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic?	x	0.25	0.44
Sand?		0	0.00
Sand with rocks and or debris (glass, brick)?		0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence?	x	0	0.00
Shells only?		0.25	0.44
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes	No x	0	0.00

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions **Date: 7/14/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No ____	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes ____ No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width ____	0	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No ____	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No ____	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No ____	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No ____	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? ____	0	
Peat (porous organic)? x	0.5	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions Date: 7/14/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19
Littoral:	4.5
Intertidal:	11.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	23.5
Intertidal:	30.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19.0
Littoral:	8.0
Intertidal:	11.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	27.0
Intertidal:	30.5

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions A Date: 7/14/03

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes	No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes	No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes	No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes x	No	2	
B-6.) Is there nearby vegetated upland habitat?			
Yes x	No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes x	No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes	No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes	No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes	No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes	No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes x	No	0	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions A Date: 7/14/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? (none observed)	0.5	
Foraging?	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? (none observed)	0.5	
Foraging?	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	1	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions A **Date: 7/14/03**

		Score:	Weighted Score:
LITTORAL ZONE:			
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?	x	0	0.00
Between 50 and 100 feet in width?		0	0.00
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?		0	0.00
A sublittoral area 50 to 100 feet in width?		0	0.00
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes	No x	1	1.78
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x	No	2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes x	No	1	1.78
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic? x		0.25	0.44
Sand?		0	0.00
Sand with rocks and or debris (glass, brick)?		0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence? x		0	0.00
Shells only?		0.25	0.44
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes	No x	0	0.00

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions A **Date: 7/14/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No ____	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes ____ No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width ____	0	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No ____	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No ____	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No ____	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)? ____	0	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Woodbridge- Existing Conditions A Date: 7/14/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19
Littoral:	4.5
Intertidal:	10

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	23.5
Intertidal:	29

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19.0
Littoral:	8.0
Intertidal:	10.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	27.0
Intertidal:	29.0

Functional Assessment Screening Questions

Site: Woodbridge- Concept Plan B **Date: 7/18/03**

BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			**Score:**	**Weighted Score:**
B-1.) Is the wetland sheltered from:				
Neither wind nor waves (exposed)?			0	
Wind only?			0	
Waves only?			0	
Wind and Waves?	x		1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?				
	Yes	No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?				
	Yes x	No x	1	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?				
	Yes x	No	2	
B-5.) Are there stream or river mouths within 100 yards of the wetland?				
	Yes x	No	2	
B-6.) Is there nearby vegetated upland habitat?				
	Yes x	No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?				
	Yes x	No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?				
	Yes	No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?				
	Yes	No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?				
	Yes	No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?				
	Yes	No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?				
	Yes	No x	1	

Functional Assessment Screening Questions

Site: Woodbridge- Concept Plan B **Date: 7/18/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland: Resting? ____ (none observed)	0.5	
Foraging? ____	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland: Resting? ____ (none observed)	0.5	
Foraging? ____	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	1	

Functional Assessment Screening Questions

Site: Woodbridge- Concept Plan B **Date: 7/18/03**

LITTORAL ZONE:		**Score:**	**Weighted Score:**
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?	x	0	0.00
Between 50 and 100 feet in width?		0	0.00
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?		0	0.00
A sublittoral area 50 to 100 feet in width?	x	0.5	0.89
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes	No x	1	1.78
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x	No	2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes x	No	1	1.78
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic? x		0.25	0.44
Sand?		0	0.00
Sand with rocks and or debris (glass, brick)?		0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence? x		0	0.00
Shells only?		0.25	0.44
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes	No x	0	0.00

Functional Assessment Screening Questions

Site: Woodbridge- Concept Plan B **Date: 7/18/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	0	
• Less than 50 feet in width x	0.5	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Woodbridge- Concept Plan B Date: 7/18/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	23
Littoral:	5
Intertidal:	14.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	28
Intertidal:	37.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	23.0
Littoral:	8.9
Intertidal:	14.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	31.9
Intertidal:	37.5

Functional Assessment Screening Questions

Site: Mariner Harbor-Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)?	0	
Wind only?	0	
Waves only?	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes x No	0	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes x No	1	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes x No	0	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes x No	0	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes x No	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes x No	0	

Functional Assessment Screening Questions

Site: Mariner Harbor-Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No ____	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes ____ No x	0	

Functional Assessment Screening Questions

Site: Mariner Harbor-Existing Conditions **Date: 5/29/03**

		Score:	Weighted Score:
LITTORAL ZONE:			
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?		0	0.00
Between 50 and 100 feet in width?	x	0.5	0.89
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?	x	0	0.00
A sublittoral area 50 to 100 feet in width?		0	0.00
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes x No		0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x No		2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes No x		0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic?		0	0.00
Sand?		0	0.00
Sand with rocks and or debris (glass, brick)?	x	1	1.78
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence?	x	0	0.00
Shells only?		0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes x No		1	1.78

Functional Assessment Screening Questions

Site: Mariner Harbor-Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 1	0	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes ____ No x	0	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes ____ No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes x No ____	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient ____	0	
• Less than 50 feet in width ____	0	
• 50 to 100 feet in width x	1	
• Greater than 100 feet in width ____	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes ____ No x	0	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No ____	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes ____ No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes ____ No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes ____ No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes ____ No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)? ____	0	
Clay? ____	0	
Sand? ____	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No ____	1	

Functional Assessment Screening Questions

Site: Mariner Harbor-Existing Conditions **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14
Littoral:	4.5
Intertidal:	5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	18.5
Intertidal:	19

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14.0
Littoral:	8.0
Intertidal:	5.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	22.0
Intertidal:	19.0

Functional Assessment Screening Questions

Site: Mariner Harbor- Conceptual Plan A **Date: 5/29/03**

	Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):		
B-1.) Is the wetland sheltered from:		
Neither wind nor waves (exposed)?	0	
Wind only?	0	
Waves only?	0	
Wind and Waves? x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?		
Yes x No	0	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?		
Yes x No	1	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?		
Yes No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?		
Yes x No	2	
B-6.) Is there nearby vegetated upland habitat?		
Yes x No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?		
Yes x No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?		
Yes No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?		
Yes x No	0	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?		
Yes No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?		
Yes No x	1	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?		
Yes No x	1	

Functional Assessment Screening Questions

Site: Mariner Harbor- Conceptual Plan A **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No ____	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No ____	1	

Functional Assessment Screening Questions

Site: Mariner Harbor- Conceptual Plan A **Date: 5/29/03**

		Score:	Weighted Score:
LITTORAL ZONE:			
L-1.) Is the littoral zone wetland:			
Less than 50 feet in width?		0	0.00
Between 50 and 100 feet in width?	x	0.5	0.89
Greater than 100 feet in width?		0	0.00
L-2.) Is the littoral zone wetland buffered by:			
A sublittoral (6 – 15 feet) area less than 50 feet in width?	x	0	0.00
A sublittoral area 50 to 100 feet in width?		0	0.00
A sublittoral area greater than 100 feet in width?		0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?			
Yes x No		0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?			
Yes x No		2	3.56
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?			
Yes x No		1	1.78
L-6.) Is the littoral zone wetland substrate type mainly:			
Organic?		0	0.00
Sand?	x	0.5	0.89
Sand with rocks and or debris (glass, brick)?		0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:			
No evidence?	x	0	0.00
Shells only?		0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?		0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?		0	0.00
Attached/sessile and mobile forms?		0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?			
Yes x No		1	1.78

Functional Assessment Screening Questions

Site: Mariner Harbor- Conceptual Plan A **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width x	1	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Mariner Harbor- Conceptual Plan A **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	18
Littoral:	5
Intertidal:	13

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	23
Intertidal:	31

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	18.0
Littoral:	8.9
Intertidal:	13.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	26.9
Intertidal:	31.0

Functional Assessment Screening Questions

Site: Neck Creek East- Existing Conditions **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		1	
No	x		
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes	x	0	
No			
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes	x	0	
No			

Functional Assessment Screening Questions

Site: Neck Creek East- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes x No	0	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek East- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes No	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes No	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes No	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes No	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek East- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek East- Existing Conditions **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14
Littoral:	0
Intertidal:	8.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	14
Intertidal:	22.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14.0
Littoral:	0.0
Intertidal:	8.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	14.0
Intertidal:	22.5

Functional Assessment Screening Questions

Site: Neck Creek East- Conceptual Plan **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		1	
No	x		
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes		1	
No	x		
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes	x	0	
No			

Functional Assessment Screening Questions

Site: Neck Creek East- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes ____ No x	1	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes ____ No x	1	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes ____ No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes ____ No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No ____	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes ____ No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes ____ No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes ____ No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes ____ No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes ____ No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No ____	1	

Functional Assessment Screening Questions

Site: Neck Creek East- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek East- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek East- Conceptual Plan **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19
Littoral:	0
Intertidal:	12.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	19
Intertidal:	31.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	19.0
Littoral:	0.0
Intertidal:	12.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	19.0
Intertidal:	31.5

Functional Assessment Screening Questions

Site: Neck Creek Mall- Existing Conditions **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		1	
No	x		
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes	x	0	
No			
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes	x	0	
No			

Functional Assessment Screening Questions

Site: Neck Creek Mall- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek Mall- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek Mall- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek Mall- Existing Conditions **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15
Littoral:	0
Intertidal:	6.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15
Intertidal:	21.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15.0
Littoral:	0.0
Intertidal:	6.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15.0
Intertidal:	21.5

Functional Assessment Screening Questions

Site: Neck Creek Mall- Conceptual Plan **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		0	
No			
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes		1	
No	x		
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes	x	0	
No			

Functional Assessment Screening Questions

Site: Neck Creek Mall- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek Mall- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek Mall- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)?	0	
Peat (porous organic)? x	0.5	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek Mall- Conceptual Plan **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16
Littoral:	0
Intertidal:	10.5

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16
Intertidal:	26.5

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16.0
Littoral:	0.0
Intertidal:	10.5

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16.0
Intertidal:	26.5

Functional Assessment Screening Questions

Site: Neck Creek SE- Existing Conditions **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes	No x	1	
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes	No x	0	
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes	No x	0	
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes x	No	2	
B-6.) Is there nearby vegetated upland habitat?			
Yes x	No	2	
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes x	No	1	
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes	No x	1	
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes	No x	1	
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes	No x	1	
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes x	No	0	
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes x	No	0	

Functional Assessment Screening Questions

Site: Neck Creek SE- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes x No	0	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek SE- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek SE- Existing Conditions **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes No x	0	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes No x	0	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek SE- Existing Conditions **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14
Littoral:	0
Intertidal:	7

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	14
Intertidal:	21

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	14.0
Littoral:	0.0
Intertidal:	7.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	14.0
Intertidal:	21.0

Functional Assessment Screening Questions

Site: Neck Creek SE-Conceptual Plan **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes		1	
No	x		
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes	x	0	
No			
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes	x	0	
No			

Functional Assessment Screening Questions

Site: Neck Creek SE-Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes x No	0	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes No x	0	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek SE-Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek SE-Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes x No	0	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek SE-Conceptual Plan **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15
Littoral:	0
Intertidal:	12

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15
Intertidal:	27

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	15.0
Littoral:	0.0
Intertidal:	12.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	15.0
Intertidal:	27.0

Functional Assessment Screening Questions

Site: Neck Creek West- Existing Conditions Date: 5/29/03

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No	x		
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes	x	0	
No			
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes	x	0	
No			
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes		1	
No	x		

Functional Assessment Screening Questions

Site: Neck Creek West- Existing Conditions Date: 5/29/03

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes x No	1	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes No x	0	

Functional Assessment Screening Questions

Site: Neck Creek West- Existing Conditions Date: 5/29/03

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek West- Existing Conditions Date: 5/29/03

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel — Number of these habitat types: 2	1	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes No x	0	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes x No	0	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width x	1	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes No x	0	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek West- Existing Conditions Date: 5/29/03

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16
Littoral:	0
Intertidal:	11

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16
Intertidal:	27

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	16.0
Littoral:	0.0
Intertidal:	11.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	16.0
Intertidal:	27.0

Functional Assessment Screening Questions

Site: Neck Creek West- Conceptual Plan **Date: 5/29/03**

		Score:	Weighted Score:
BASELINE QUESTIONS (applicable to both littoral zone and intertidal wetlands):			
B-1.) Is the wetland sheltered from:			
Neither wind nor waves (exposed)?		0	
Wind only?		0	
Waves only?		0	
Wind and Waves?	x	1	
B-2.) If the wetland is protected from wind and/or waves, is it protected by a structure subject to natural decomposition or degradation (e.g., pile fields or sunken barges) or is the structure breached, damaged, or otherwise compromised?			
Yes		1	
No	x		
B-3.) Is the wetland or a portion of the wetland an island, delta, bar, shallow or peninsula that intercepts waves and thereby protects other nearby shores?			
Yes		0	
No			
B-4.) Are there tidally exposed mudflats adjacent to the wetland?			
Yes		0	
No	x		
B-5.) Are there stream or river mouths within 100 yards of the wetland?			
Yes	x	2	
No			
B-6.) Is there nearby vegetated upland habitat?			
Yes	x	2	
No			
B-7.) Does the boundary between the wetland and upland support adequate understory vegetation (e.g., shrubs less than 3 feet tall, dense grasses, etc.) to serve as cover for vertebrates using the wetland?			
Yes	x	1	
No			
B-8.) Is the wetland separated from an upland habitat by manmade barriers (bulkheads, fill, rail lines, and roadways)?			
Yes		1	
No	x		
B-9.) Is the wetland shaded by near-water (less than 10 ft above MHW) structures such as piers or docks?			
Yes		1	
No	x		
B-10.) Are there observed negative effects (such as scouring) from manmade debris (e.g., demolition-type debris, woody debris, collapsed pier or dock sections) or are there deteriorating over-water or waterfront structures within or immediately adjacent to the wetland?			
Yes	x	0	
No			
B-11.) Has sediment deposition (mud flats in poor circulation areas, smothered vegetation) negatively impacted the wetland?			
Yes		1	
No	x		
B-12.) Are water circulation patterns or tidal exchange patterns reduced by manmade structures (piers, tidal gates, submerged debris)?			
Yes		1	
No	x		

Functional Assessment Screening Questions

Site: Neck Creek West- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
B-13.) Are any portions of the wetland or areas near the wetland ditched, channelized, culverted, or otherwise modified so as to artificially increase the rate of flow of water into the wetland? Yes x No	0	
B-14.) Are there active stormwater or wastewater outfalls within or adjacent to (within 100 feet) the littoral zone wetland? Yes x No	0	
B-15.) Is the wetland within or adjacent to a documented hazardous waste site or a prior oil spill area? Yes No x	2	
B-16.) Is the wetland within a designated cable crossing area? Yes No x	1	
B-17.) Are there sources of significant, frequent human disturbance (active docks, moorings, marinas, loading areas, streets and highways) within 0.25 mile of the wetland? Yes x No	0	
B-18.) Is the wetland contiguous to a public park or within 0.25 mile of a public access point for recreational fishing or wildlife observation? Yes No x	0	
B-19.) Were forage fish observed within or adjacent to the wetland? Yes x No	1	
B-20.) Were shorebirds observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-21.) Were herons and/or egrets observed upgradient of or in the wetland:		
Resting? x (none observed)	0.5	
Foraging? x	0.5	
B-22.) Is the wetland located within one mile of an active heron rookery? Yes No x	0	
B-23.) Can any Federal or State endangered or threatened species or are any wildlife species that are on the USFWS National Species of Special Emphasis list be reasonably expected to use the wetland? Yes No x	0	
B-24.) Does the wetland have a State or Federal special designation relating to its recognized wildlife value? Yes No x	0	
B-25.) Is the wetland part of, and essential to, an ongoing, long-term environmental research and monitoring program? Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek West- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
LITTORAL ZONE:		
L-1.) Is the littoral zone wetland:		
Less than 50 feet in width?	0	0.00
Between 50 and 100 feet in width?	0	0.00
Greater than 100 feet in width?	0	0.00
L-2.) Is the littoral zone wetland buffered by:		
A sublittoral (6 – 15 feet) area less than 50 feet in width?	0	0.00
A sublittoral area 50 to 100 feet in width?	0	0.00
A sublittoral area greater than 100 feet in width?	0	0.00
L-3.) Is the littoral zone wetland within 100 feet of the navigation channel?		
Yes ____ No ____	0	0.00
L-4.) Are there vegetated wetlands upgradient of the littoral zone wetland?		
Yes ____ No ____	0	0.00
L-5.) If #L-4 is yes, is saltmarsh cordgrass dominant?		
Yes ____ No ____	0	0.00
L-6.) Is the littoral zone wetland substrate type mainly:		
Organic?	0	0.00
Sand?	0	0.00
Sand with rocks and or debris (glass, brick)?	0	0.00
L-7.) Is there evidence of benthic macroinvertebrates in the littoral zone wetland:		
No evidence?	0	0.00
Shells only?	0	0.00
Attached and/or sessile forms (barnacles, clams, mussels)?	0	0.00
Mobile forms (sand shrimp, oligochates and polychaetes)?	0	0.00
Attached/sessile and mobile forms?	0	0.00
L-8.) Does the littoral zone wetland have attributes (e.g., old pile-ons and pier structures) that provide cover for fish?		
Yes ____ No ____	0	0.00

Functional Assessment Screening Questions

Site: Neck Creek West- Conceptual Plan **Date: 5/29/03**

	Score:	Weighted Score:
INTERTIDAL ZONE:		
I-1.) How many of the habitat types listed below exist in the intertidal wetland:		
• Natural Channel Number of these habitat types: 3	2	
• Intertidal - vegetated		
• Intertidal - unvegetated		
I-2.) Are the vegetated areas of the intertidal wetland distributed in a mosaic pattern (i.e., is there high vegetation/water interspersion)?		
Yes x No	1	
I-3.) Does the intertidal wetland vegetation consist primarily of saltmarsh cordgrass?		
Yes x No	1	
I-4.) Is shoreline damage (collapsed banks, undercutting) evident within the intertidal wetland?		
Yes No x	1	
I-5.) Indicate the presence and size of littoral zone wetland downgradient of the intertidal wetland:		
• No littoral zone wetland downgradient x	0	
• Less than 50 feet in width	0	
• 50 to 100 feet in width	0	
• Greater than 100 feet in width	0	
I-6.) Is there high marsh upgradient of the intertidal wetland?		
Yes x No	2	
I-7.) Is there an upland forested area contiguous to the intertidal wetland?		
Yes x No	1	
I-8.) Is the boundary between the intertidal wetland and upland areas irregular?		
Yes x No	1	
I-9.) If the wetland contains a channel, is the channel at least mildly sinuous with a meander ratio exceeding 1.2? (Meander ratio is the distance from one point on a river to another point on the river via the channel, divided by the straight line distance between the two points.)		
Yes x No	1	
I-10.) Under average flow conditions, does water enter the intertidal wetland in a channel and then spread out over a wide area?		
Yes x No	1	
I-11.) Are there any portions of the intertidal wetland or areas near the intertidal wetland that have been ditched, channelized, or culverted so as to artificially increase the rate of flow of water out of the wetland?		
Yes No x	1	
I-12.) Is the intertidal wetland substrate type mainly:		
Muck (nonporous organic)? x	1	
Peat (porous organic)?	0	
Clay?	0	
Sand?	0	
I-13.) Is there evidence of invertebrates (e.g., fiddler crabs, blue crabs) in the intertidal wetland?		
Yes x No	1	

Functional Assessment Screening Questions

Site: Neck Creek West- Conceptual Plan **Date: 5/29/03**

MAXIMUM NON-WEIGHTED SUBTOTALS	
Baseline:	29
Littoral:	9
Intertidal:	16

NON-WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	18
Littoral:	0
Intertidal:	14

MAXIMUM NON-WEIGHTED TOTALS:	
Littoral:	38
Intertidal:	45

NON-WEIGHTED ASSESSMENT TOTALS:	
Littoral:	18
Intertidal:	32

MAXIMUM WEIGHTED SUBTOTALS:	
Baseline:	29
Littoral:	16
Intertidal:	16

WEIGHTED ASSESSMENT SUBTOTALS:	
Baseline:	18.0
Littoral:	0.0
Intertidal:	14.0

MAXIMUM WEIGHTED TOTALS:	
Littoral:	45
Intertidal:	45

WEIGHTED ASSESSMENT TOTALS:	
Littoral:	18.0
Intertidal:	32.0