

PLEASURE HOUSE POINT MITIGATION BANK FINAL PROSPECTUS

VIRGINIA BEACH, VIRGINIA

Prepared For:

City of Virginia Beach



February 2014

Prepared By:



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Services Corp.**

*Sustainable Ecological Restoration
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USACE received February 25, 2014

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Pleasure House Point Mitigation Bank

Virginia Beach, Virginia

Final Prospectus

Introduction

The purpose of this prospectus is to present an overview of the approach proposed by the City of Virginia Beach for restoring and creating tidal wetland and shallow water habitat functions to a 13.12 acre portion of the Pleasure House Point Parcel to develop the Pleasure House Point Mitigation Bank (PHPMB).

The objective of this tidal wetland bank is to provide off-site compensation for impacts to tidal wetlands (hereafter meaning vegetated and non-vegetated) that cannot be practicably avoided for City of Virginia Beach projects. The project area is located within the Lynnhaven River Watershed of the lower Chesapeake Bay (HUC 02080108).

Site History

The PHPMB site abuts an existing tidal marsh and was historically composed primarily of tidal wetlands. This has been determined from a 1969 Topographic Plat and a series of historic aerial photographs from 1963, 1937, 1949, 1958 (Figures 6, 7, 8, and 9 respectively). The site was used as a dredged material disposal site from the early 1970s to the 1990s. The placement of dredged material raised the elevation of the area approximately three to four feet, effectively filling all of the historic tidal wetlands.

In 2007, the PHPMB Parcel was planned for the development of 1,063 residential units and retail space. Following the 2008 economic downturn, the property was foreclosed upon. The property was then purchased by the City of Virginia Beach for multiple uses including passive recreation and the implementation of a tidal wetland mitigation bank. The property was divided into five separate parcels with 13.2 acres set aside for the current project.

Project Location

The PHPMB is located in the northern portion of the City of Virginia Beach, Virginia (Figure 1). The PHPMB lies approximately 0.2 miles south of Shore Drive (U.S. Route 60), and approximately 0.4 miles west of the Lynnhaven Inlet. The intersection of Marlin Bay Drive and Mystic Cove Drive is located at the northwest corner of the property.

The site is bordered by tidal wetlands to the south, undeveloped land with scrub/shrub and herbaceous cover to the east, and forest land to the north and west. Residential housing is a prominent land use to the north of the project area associated with the Ocean Park subdivision.

The project location was chosen based on numerous factors including:

- The historic tidal wetland restoration potential,
- The location in relation to the Lynnhaven River and the potential for restoring wetland function, and improving water quality and aquatic habitat functions,
- The need for an economical means of compensating for tidal wetland losses from City of Virginia Beach projects.

Establishment and Operation

The PHPMB will be established, owned, and operated by the City of Virginia Beach, Virginia who will also serve as the bank sponsor. The tidal mitigation credits created by the PHPMB will only be available for City of Virginia Beach projects and potentially other State and Federal projects as allowable. Credits from this bank will not be available to private entities. The establishment and operation of the bank will conform to the Virginia Code regarding mitigation banking 62.1-44.15:23, Virginia Marine Resources Commission (VMRC) “Guidelines for the Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia”, VMRC “Wetlands Mitigation-Compensation Policy and Supplemental Guidelines” (4 VAC 20-390 et seq.), and the Federal Compensatory Mitigation for Losses of Aquatic Resources; Final rule 33 CFR Parts 325 and 332 (April 10, 2008).

Sponsor & Agent contact information is below:

Sponsor Contact:

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City of Virginia Beach
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757-963-2008
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Proposed Service Area

The PHPMB Primary Service Area (Figure 2) includes all lands within the Lynnhaven River Basin (02080108). Impacts to wetlands in those portions of the Elizabeth River (Lower James River Basin, 02080208), and the Southern Watershed (Albemarle Sound, 03010205) located within the boundaries of the City of Virginia Beach may also use mitigation credits from the PHPMB when the project meets the criteria of Virginia Code Section 62.1-44.15:23.(3).(i-iv and vi) and the Federal Mitigation Rule Section 332.8(d)(6)(ii)(A) and the permit writer at the USACE and DEQ agree to the use of these credits. The Code of Virginia requires that projects wishing to use credits from the PHPMB within the Elizabeth River and Southern Watershed would need to meet the following criteria:

1. Impacts to occur will be the result of a VDOT linear project or a locality project.
2. There is no practical same watershed mitigation alternative
3. Impacts are less than one acre in a single and complete project within a cataloging unit
4. There is no significant harm to water quality or fish and wildlife resources and
5. Impacts within HUCs 02080108, 02080208, and 03010205 are mitigated in-kind with those HUC's as close as possible to the impact site

Need

The City of Virginia Beach has a substantial need for the mitigation credits that would be made available by the PHPMB. The City of Virginia Beach has over 20 dredging projects in various stages of development as well as water dependent water quality improvement projects as required by implementation of the new State stormwater regulations. Many of these projects may involve unavoidable impacts to tidal wetlands which will require mitigation.

The need for tidal wetland restoration and/or creation is documented in the *Lynnhaven River Basin Environmental Restoration, Feasibility Report, and Integrated Environmental Assessment* (Restoration Plan), July 2011. The intent of the City to support the Restoration Plan is also documented in a letter sent to the USACE by the City on April 10, 2013. This mitigation bank is separate from, yet compliments, the goals of the Restoration Plan.

The proposed PHPMB also supports the goals of the Chesapeake Bay Total Maximum Daily Load (TMDL) Report for Nitrogen, Phosphorus, and Sediment (December 29, 2010), and the current efforts listed in the Phase II Watershed Implementation Plan dated March 30 2012.

Ownership Arrangements and Long-Term Management Strategy

The City of Virginia Beach owns the property and will be ultimately responsible for the long-term stewardship of PHPMB and its preservation in perpetuity and serve as the long term steward. Long Term Stewardship Responsibilities will include such duties as maintenance, monitoring, invasive species management, and maintenance of structures associated with the canals and structures associated with walkways. The PHPMB will be protected from development in perpetuity by an approved Declaration of Restrictions to be developed as part of the Mitigation Banking Instrument.

The subject property was conveyed to the City of Virginia Beach as Open Space and is subject to the restrictions in the Code of Virginia Sections 10.1-7000 through 10.1-1705 regarding Open Space. With the exception of this open space restriction, no other conservation easement, restrictive covenant, or other land use protective covenant exists which would further restrict the use of the Project Area. The Open Space requirements do not protect the property from improvements such as roadways, parks, and agriculture and therefore do not prevent the property from being utilized for mitigation. This information was provided to the IRT separately.

Sponsor Qualifications

Through operation of the Creeds Wetland Mitigation Bank, the City has proven that it is capable of operating a mitigation bank such as the PHPMB to the satisfaction of State and Federal Regulators. The City served as sponsor and completed the entire mitigation banking process with the 70.3 acre Creeds Wetland Mitigation Bank at the Creeds Airfield located in southern Virginia Beach, Virginia. They successfully planned, designed, implemented, sold credits, and

closed out this mitigation bank within 15 years. This mitigation bank was established in April 1998 and used its last credits in 2013.

Existing Conditions

In anticipation of the mitigation bank's operation, the PHPMB site was recently rezoned from PDH1 (Planned Unit Development) to P1 (Preservation). The site is undeveloped, and is composed of scrub shrub and forested areas of light to moderate tree cover which includes shrubs, loblolly pine (*Pinus taeda*), and Southern red oak (*Quercus falcata*). The southern edge of the parcel has an existing trail which separates the PHPMB from existing tidal marshes (Figure 5). A Jurisdictional Determination of the parcel has been completed and verified by the USACE. Vegetated non-tidal wetlands are located within the project area and tidal wetlands are found to the south. The USGS Topographic map for the Project Area is attached (Figure 6).

Due to historic dredge material disposal and grading on the site, native soils have been extensively disturbed. Much of the existing on-site soil material is sand dredged from the Lynnhaven Inlet and the Lynnhaven River and placed on the tidal wetland system which formerly occupied the site.

A review of the USFWS Information, Planning, and Conservation System (IPaC) did not identify any potential for federally listed threatened or endangered (protected) species in the vicinity of the project area.

A cultural resource assessment was conducted within the parcel to determine if the project may impact cultural resources. The assessment identified the need for a Phase I Archeological Study in a small area within the northwest corner of the parcel which will be completed in the near future and provided to the USACE and VDHR for review. The design intent of the PHPMB is to avoid any potential adverse effects pursuant to Section 106 of the National Historic Preservation Act.

Ecological Suitability and Technical Feasibility

The current project proposes to remove dredge spoils to restore the tidal wetlands by grading to current tidal elevations and planting appropriate tidal wetland vegetation. The design will also accommodate for sea-level rise to the extent practicable. Shallow water habitat channels will

also be created to connect the PHPMB to Pleasure House Creek to facilitate tidal exchange, and provide compensation for non-vegetated wetland losses.

The restoration of tidal wetlands on the site is anticipated to be successful due to the historic presence of these wetlands onsite, adjacency of the current tidal wetlands, and the proximity to the Lynnhaven River (Figure 4). The project will be able to provide the lost functions and values from unavoidable impacts to tidal wetlands elsewhere in the service area.

Threats to tidal wetlands in the local watershed are well documented in the Restoration Plan. However, there are no known threats to the success of the proposed mitigation bank. The PHPMB will benefit the local watershed by providing restoration of these threatened tidal wetlands and shallow water habitats.

A completed copy of the USACE Off-site Mitigation Check List is attached.

Proposed Habitat Types

The PHPMB will be made up of 8.75 acres of restored tidal wetlands and 1.16 acres of shallow water habitat. The tidal wetlands restoration will include both high marsh and low marsh habitat types. High marsh will include species such as *Baccharis halimifolia*, *Iva frutescens*, and *Spartina patens* as dominant plant species and low marsh will include herbaceous plant species such as *Spartina alterniflora* as a dominant plant species.

The shallow water habitat restoration will be made up of shallow water habitat and non-vegetated tidal flats. These areas will be essential for restoring hydrology and ecosystem functionality to the mitigation bank. Both habitat types within the PHPMB will enhance and restore aquatic function, habitat for wildlife, flood water storage, and erosion/sediment control.

Conceptual Plan

The conceptual layout (Figure 5) proposes to remove dredge spoils to restore the tidal wetlands that were historically present, and grading to appropriate elevations and planting appropriate tidal wetland vegetation. Hydrology will be distributed throughout the site by means of a series of shallow water habitat channels with associated non-vegetated tidal wetlands (intertidal flats). Connections to Pleasure House Creek will be constructed to assure that appropriate hydrology is able to interact with the site with minimal impacts to existing wetlands. New raised walkways

will be constructed over the proposed channels to allow for the use of the existing trail. The limits of historic tidal wetlands together with recent and future projected sea level rise, ensures sufficient hydrology is available. There are no long term structural requirements to maintain the necessary hydrology.

The proposed construction of the PHPMB is quite feasible. Once the Interagency Review Team (IRT) approves the prospectus for the PHPMB, the City will move forward with the detailed studies necessary for construction documents and the Mitigation Banking Instrument (MBI). For example, at this time, site specific “biological benchmarks’ have not been surveyed to provide information for the boundaries between low and high marsh. Detailed coordination with the IRT will also be needed during preparation of the MBI to resolve adequate compensation for conversion of non-tidal wetlands on-site to tidal wetlands and for conversion of tidal wetlands to shallow water and intertidal habitat. Portions of the site have become non-tidal wetlands which had historically been tidal wetlands. These areas will be impacted to allow for the restoration of the historic marsh.

Table 1 summarizes the approximate on-site restoration of wetland types and quantities, as well as, the anticipated credit yield.

Table 1. Wetland Types & Approximate Quantities

Type	Conversion	Acres	Ratio	Credits
Tidal Wetland Restoration / Creation	from Uplands	7.49	1:1	7.49
	from Non-tidal Wetlands	1.26	1:1	1.26
	Total:	8.75	1:1	8.75
Shallow Water and Intertidal Habitat Restoration	from Uplands	1.13	1:1	1.13
	from Non-tidal Wetlands	0.03	1:1	0.03
	Total:	1.16	1:1	1.16

Due to existing conditions, site constraints, and available restoration opportunities the conceptual layout is anticipated to provide 8.75 vegetated tidal wetland mitigation credits and 1.16 non-vegetated tidal wetland mitigation credits. These values may be higher than the final values as any impacts to tidal resources during construction must be mitigated. Impacts to non-tidal

wetlands will also require mitigation. Mitigation is allowed only after the permitting agencies determine that such impacts have been avoided and/or minimized to the greatest extent practicable.

Site Boundaries / Constraints

The site is constrained by the amount of property made available by the City for the purpose of this mitigation bank. The PHPMB is a part of a larger tract of land acquired by the City of Virginia Beach in cooperation with a number of public agencies and non-profit organizations. The City's Department of Parks and Recreation manages the overall property, while the Department of Public Works will manage the PHPMB. All land uses were vetted through numerous stakeholder meetings, which included public involvement. The PHPMB is bordered to the east by the proposed Chesapeake Bay Foundation (CBF) Brock Environmental Center. Between these two uses will be a new trail to be used for public access. This new trail will connect with the existing trail to the south.

The northern boundary abuts a CBF easement. This easement may be utilized in the future for access to the proposed Parks and Recreation Kayak Launch Area from the CBF Headquarters and from the proposed trail abutting the eastern boundary of the PHPMB. The proposed Parks and Recreation Kayak Launch Area will be located at the northwest corner of the PHPMB and will be planned and designed in concert with the Mitigation Bank so that it avoids and minimizes impacts to State Waters and Waters of the United States to the maximum extent practicable. The need for and benefit from an engineered shoreline structure will be evaluated for the outlet shared with kayak use as it may minimize future maintenance.

The parcel immediately to the south and extending along 7,920 linear feet of frontage along Pleasure House Creek is owned by the City of Virginia Beach and is encumbered with a "perpetual conservation and open-space easement" (hereafter "the easement") granted to the Commonwealth of Virginia ("Grantee") and administered by the Board of Game and Inland Fisheries pursuant to Section 10.1-1700 and 10.1-1703 of the Open-Space Land Act. This easement was established as a consequence of requirements tied to the National Coastal Wetlands Conservation Grant. The grant was one of several grants and loans utilized to acquire the entire Pleasure House Point property by the City of Virginia Beach. The easement specifically allows for "activities to restore or enhance wetlands, streams, ponds, or waterways or

to restore, enhance, or develop other ecosystem functions on the Property including, but not limited to, wetland and stream bank restoration... and have been approved by the Grantee as part of the Management Plan.”

While no wetland or stream mitigation credits are being derived from the parcel protected by the conservation and open-space easement, shallow water and intertidal habitat will be restored to allow for tidal connections between Pleasure House Creek and the mitigation bank. The allowance for the restoration of this shallow water and intertidal habitat has come about from explicit coordination with the Virginia Department of Game and Inland Fisheries (DGIF) and the other federal, state, and local government and non-profit organizations participating on the Management Plan Committee assisting DGIF in the development of the Management Plan required by the easement.

Public Education Component

The City’s Department of Parks and Recreation has conducted multiple citizen and stakeholder meetings regarding usage of the property. During these meetings, the stakeholders expressed an interest in maintaining the existing trail and creating the trail abutting the eastern boundary of the PHPMB. These trails will be open to the public and will have educational signage providing information about the PHPMB and instructions to stay on trails. In addition, the trails are anticipated to be used as part of an outdoor learning experience offered by the CBF and by Lynnhaven River NOW, a local advocacy group for the Lynnhaven River. Signage will be provided to educate the public and to limit access to the bank.

Approximate Credit Yield

The PHPMB is anticipated to provide 8.75 vegetated tidal wetland mitigation credits and 1.16 non-vegetated tidal wetland mitigation credits. Please refer to Table 1 for details.

Virginia Off-site Mitigation Location Guidelines Checklist

A. General regulatory requirements and practices:

Project within same 8 digit HUC as impact: Yes ___ No ___ N/A

Project within same physiographic province as impact:
Yes ___ No ___ N/A

Project within an adjoining HUC in same river basin Yes ___ No ___ N/A

Project outside of this area Yes ___ No ___ N/A
(If “Yes” then provide documentation that no suitable sites are available in area)

Mitigation is in-kind: Yes ___ No ___ N/A

B. Evaluate & Document whether project meets the following criteria

1. Wetland restoration: Yes X No ___
Wetland creation: Yes X No ___

2. Stream restoration/enhancement: Yes ___ No X
Stream Preservation: Yes ___ No X
If stream preservation is proposed, is the preservation area exemplary
and/or under threat?
Yes ___ No ___ N/A

3. Mitigation sites contiguous or connected to other aquatic areas
Yes X No ___

4. Current, planned, or foreseeable activities upstream or upgradient of project
that may adversely affect mitigation project:
Yes ___ No X Uncertain ___

Is there an existing or proposed development upstream of, upslope of, or
adjacent to the mitigation project? Yes X No ___ Uncertain ___

Are there areas upstream of, upslope of, or adjacent to the mitigation
project that are zoned or identified for future development in the
comprehensive plan, long-range plan, or zoning overlay?
Yes X No ___

5. Does proposed riparian buffer protection provide greater protection than
state or local requirements? Yes ___ No ___ N/A

Is proposed riparian buffer a minimum of 100 feet wide on each side of the
channel? Yes ___ No ___ N/A

6. Are there any easements, liens, rights of way, reserved timber or mineral
rights on project site or adjoining lands? Yes X No ___
If Yes, describe: Conservation Easement is located on adjacent parcel

7. Is mitigation site consistent with local planning requirements?
Yes X No ___ Describe: The property was recently zoned P-1
Preservation

8. Describe order(s) of streams on project site _____N/A_____

9. Is recordation of a third party conservation easement proposed for the project? Yes ____ No X If No, please explain:

City will hold conservation easement

C. Does the project satisfy one or more of the following criteria? If the answer is "Yes" then describe.

1. Does it abut or adjoin an existing reserve or conservation area or create or contribute to a corridor linking existing reserves, conservation areas, or large aquatic systems?

Yes X No ____ Describe: **_Bordered to the S and W by a conservation area**

2. Conserve or restore habitat for one or more state or federal-listed species, including critical habitat or Threatened/Endangered Species Waters? Yes ____ No X Describe _____

3. Conserve or restore habitat for species identified as rare by DCR- Division of Natural Heritage or Species of Greatest Conservation Need in the Virginia Wildlife Action Plan?

Yes ____ No X Describe _____

4. Conserve or restore aquatic resources or buffers areas identified by DCR- Division of Natural Heritage as rare or imperiled natural communities?

Yes ____ No X Describe _____

5. Contribute to improved water quality for identified/designated impaired waters? Yes X No ____ Describe _____

6. Remove barriers to fish passage in areas identified by VDGIF as meriting improvement? Yes ____ No X Describe **____N/A_____**

7. Restore, enhance, preserve aquatic resources and/or riparian areas identified as meriting conservation in an approved watershed management plan or conservation plan?

Yes ____ No X Describe _____

8. Conserve/restore the entire watershed upstream of the project site?

Yes ____ No X Describe _____

9. Remediate inputs of substantial amounts of sediments or remove other pollutants to downstream waters?

Yes ____ No X Describe _____

10. Conserve or restore areas designated by VDGIF as wild trout streams or Anadromous Fish Use Areas?

Yes ____ No X Describe _____



Pleasure House Point Mitigation Bank



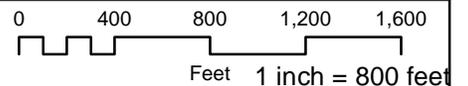
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community, Copyright © 2012 Esri, DeLorme, NAVTEQ, TomTom



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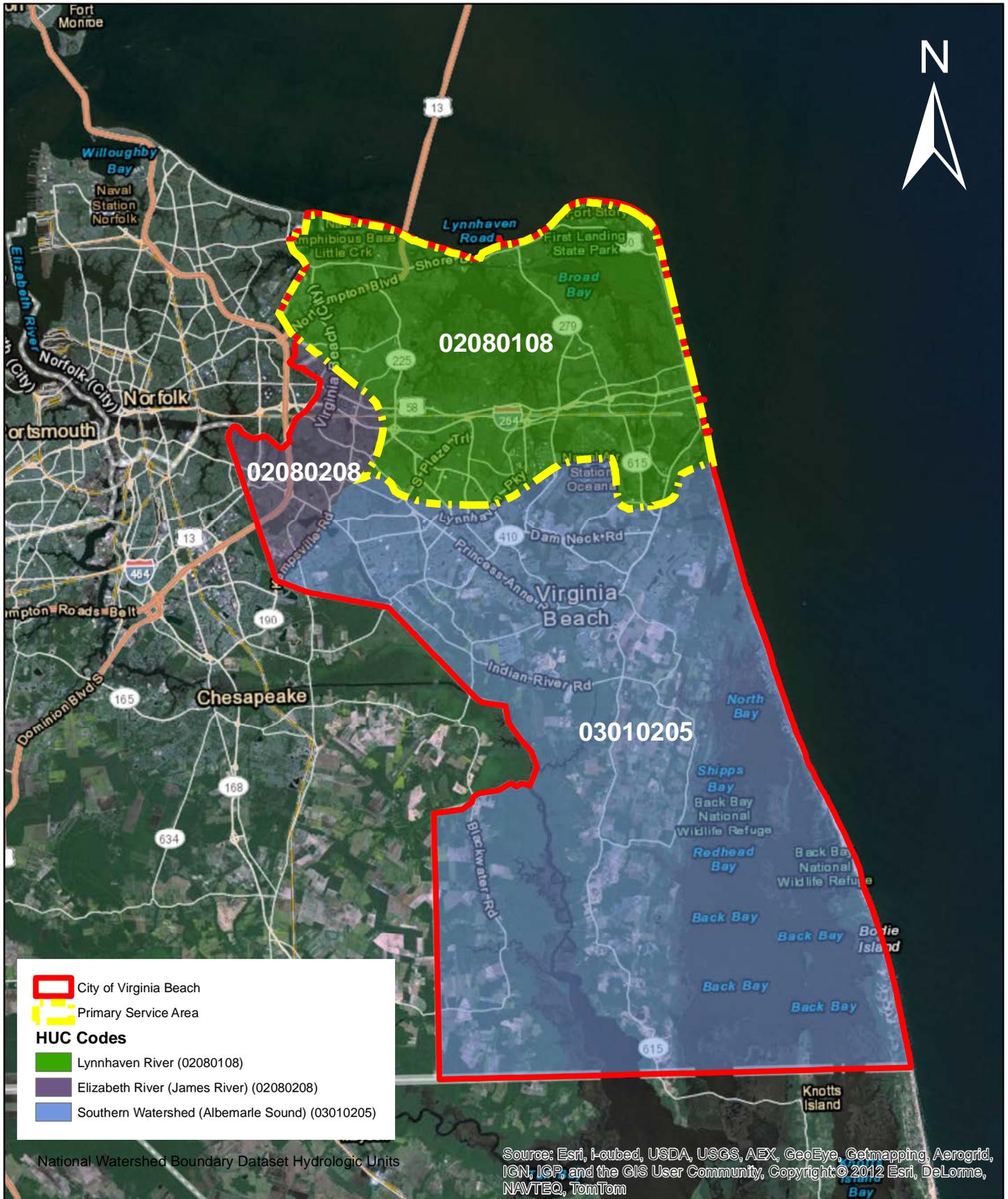
VICINITY MAP
Pleasure House Point Mitigation Bank
VIRGINIA BEACH, VIRGINIA



06/12/13

Figure 1

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City of Virginia Beach
 Primary Service Area
HUC Codes
 Lynnhaven River (02080108)
 Elizabeth River (James River) (02080208)
 Southern Watershed (Albemarle Sound) (03010205)

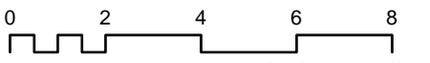
National Watershed Boundary Dataset Hydrologic Units

Source: Esri, I-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community, Copyright © 2012 Esri, DeLorme, NAVTEQ, TomTom

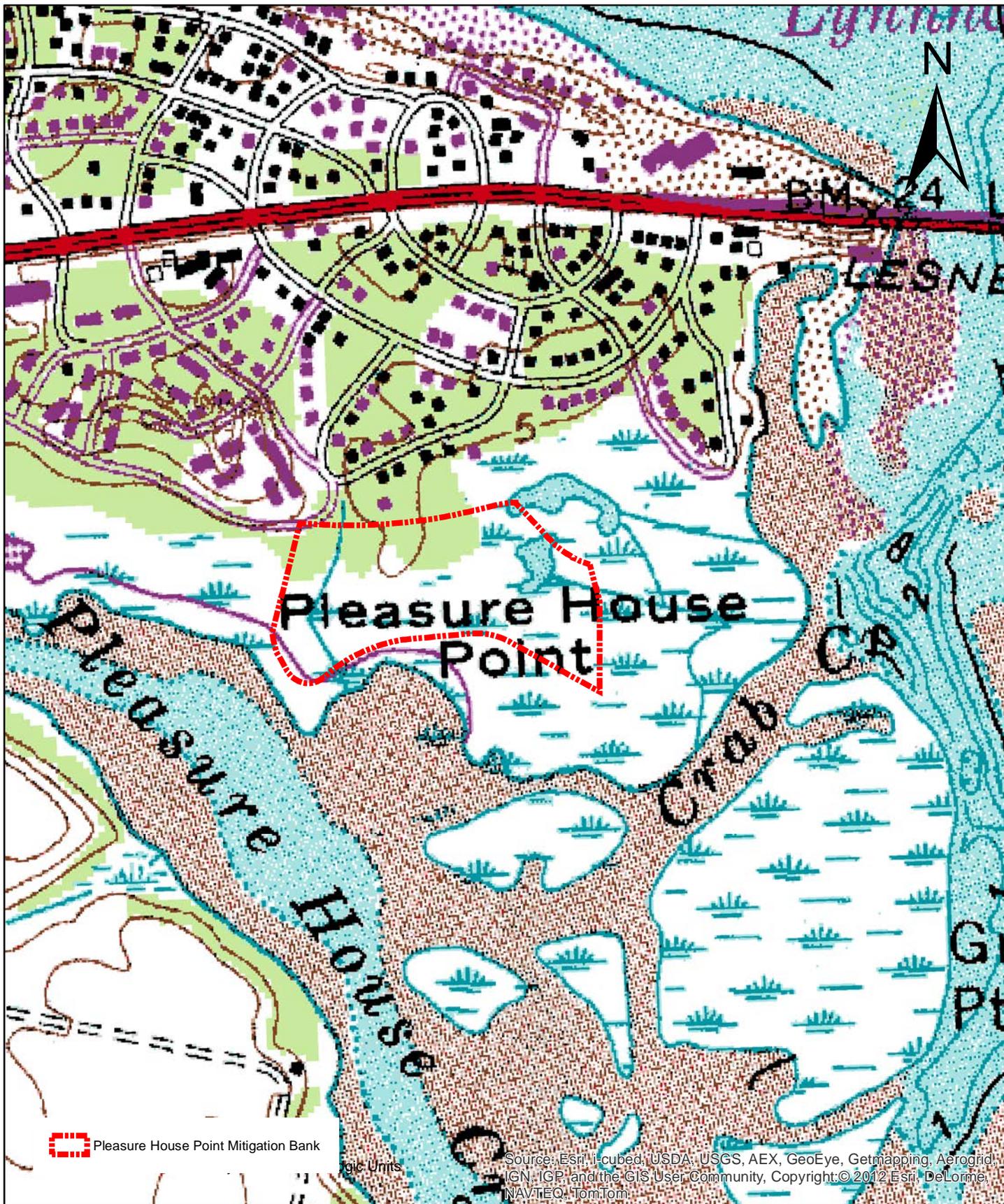


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SERVICE AREA MAP
 Pleasure House Point
 Mitigation Bank
 VIRGINIA BEACH, VIRGINIA

 Miles 1 inch = 4 miles	
01/06/14	Figure 2

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USGS TOPOGRAPHIC MAP
Pleasure House Point Mitigation Bank
VIRGINIA BEACH, VIRGINIA

0 250 500 750 1,000 Feet 1 inch = 500 feet	
12/16/13	Figure 3

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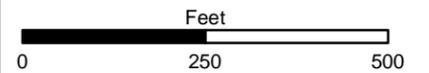
Legend

- Project Area - 13.12 Acres
- Mean High Water
- Mean Low Water
- Delineated Tidal Wetlands
- Delineated Non-tidal Wetlands (1.38 Ac.)



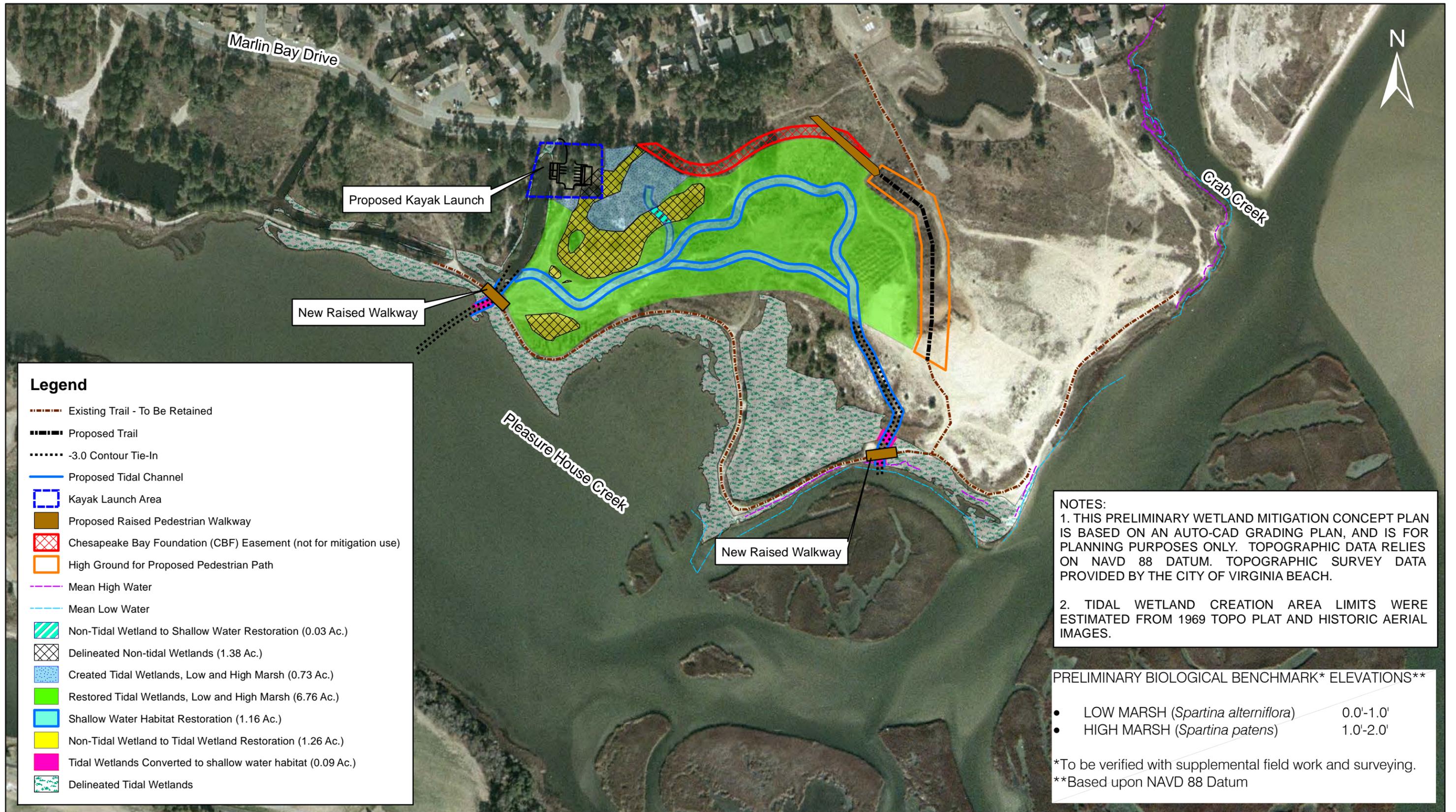
Existing Conditions

Pleasure House Point
Virginia Beach, Virginia



DATE June 17, 2013	FIGURE 4
------------------------------	--------------------

USACE received February 25, 2014



Legend

- Existing Trail - To Be Retained
- Proposed Trail
- 3.0 Contour Tie-In
- Proposed Tidal Channel
- Kayak Launch Area
- Proposed Raised Pedestrian Walkway
- Chesapeake Bay Foundation (CBF) Easement (not for mitigation use)
- High Ground for Proposed Pedestrian Path
- Mean High Water
- Mean Low Water
- Non-Tidal Wetland to Shallow Water Restoration (0.03 Ac.)
- Delineated Non-tidal Wetlands (1.38 Ac.)
- Created Tidal Wetlands, Low and High Marsh (0.73 Ac.)
- Restored Tidal Wetlands, Low and High Marsh (6.76 Ac.)
- Shallow Water Habitat Restoration (1.16 Ac.)
- Non-Tidal Wetland to Tidal Wetland Restoration (1.26 Ac.)
- Tidal Wetlands Converted to shallow water habitat (0.09 Ac.)
- Delineated Tidal Wetlands

NOTES:

1. THIS PRELIMINARY WETLAND MITIGATION CONCEPT PLAN IS BASED ON AN AUTO-CAD GRADING PLAN, AND IS FOR PLANNING PURPOSES ONLY. TOPOGRAPHIC DATA RELIES ON NAVD 88 DATUM. TOPOGRAPHIC SURVEY DATA PROVIDED BY THE CITY OF VIRGINIA BEACH.

2. TIDAL WETLAND CREATION AREA LIMITS WERE ESTIMATED FROM 1969 TOPO PLAT AND HISTORIC AERIAL IMAGES.

PRELIMINARY BIOLOGICAL BENCHMARK* ELEVATIONS**

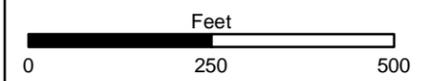
- LOW MARSH (*Spartina alterniflora*) 0.0'-1.0'
- HIGH MARSH (*Spartina patens*) 1.0'-2.0'

*To be verified with supplemental field work and surveying.
 **Based upon NAVD 88 Datum



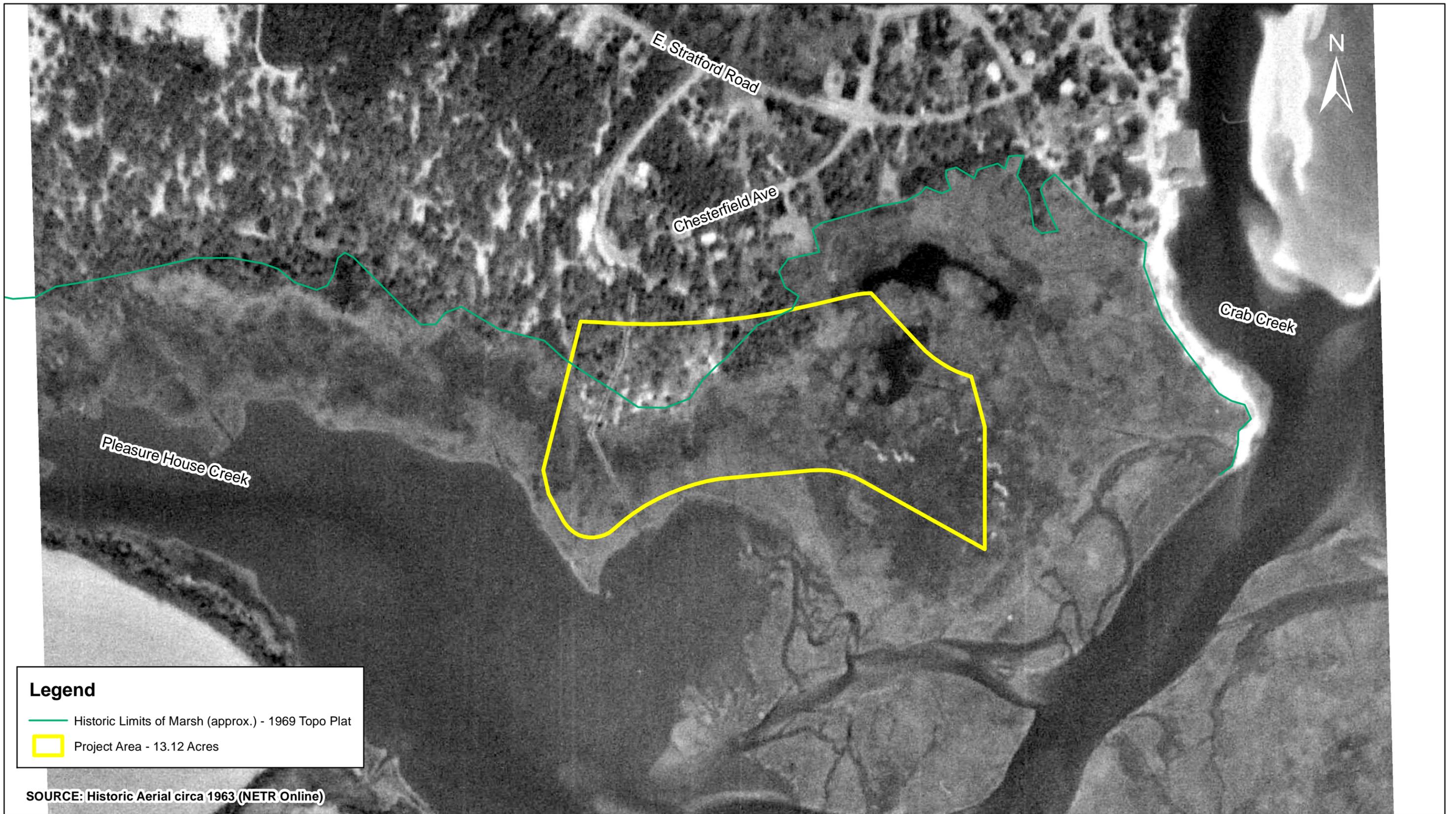
Proposed Wetland Mitigation Concept Plan

Pleasure House Point
Virginia Beach, VA



DATE	FIGURE
February 11, 2014	5

USACE received February 25, 2014



Legend

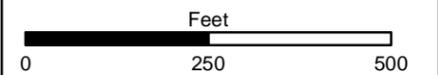
- Historic Limits of Marsh (approx.) - 1969 Topo Plat
- Project Area - 13.12 Acres

SOURCE: Historic Aerial circa 1963 (NETR Online)



Historic Limits of Marsh Land

Pleasure House Point
Virginia Beach, VA



DATE	FIGURE
June 17, 2013	6

USACE received February 25, 2014



Legend

 Project Area - 13.12 Acres

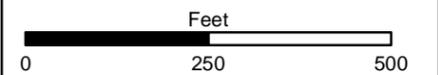
SOURCE: Historic Aerial 4/21/1937



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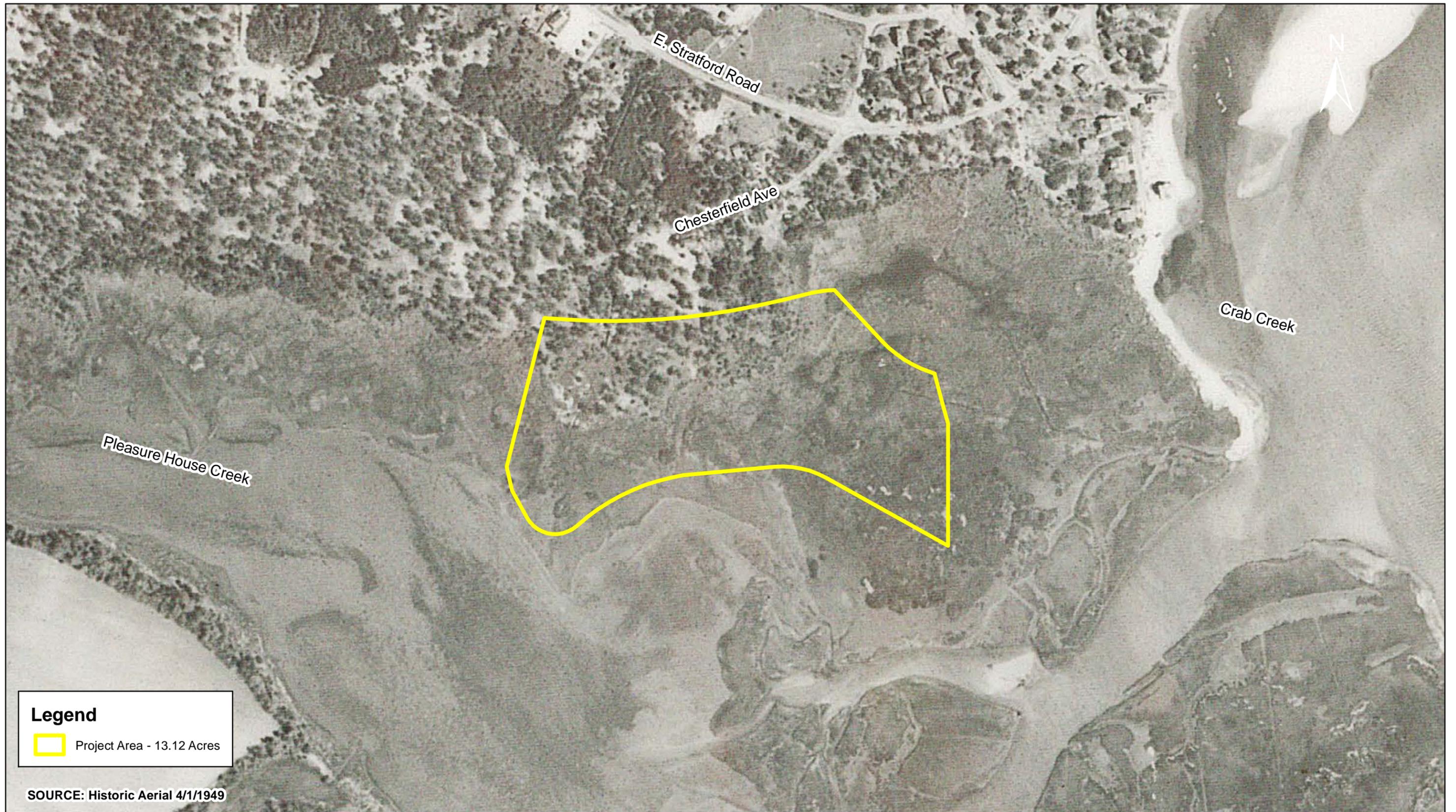
Historic Limits of Marsh Land-1937

Pleasure House Point
Virginia Beach, VA



DATE	FIGURE
Dec 17, 2013	7

USACE received February 25, 2014



Legend

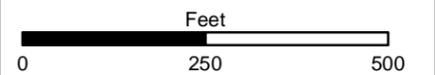
 Project Area - 13.12 Acres

SOURCE: Historic Aerial 4/1/1949



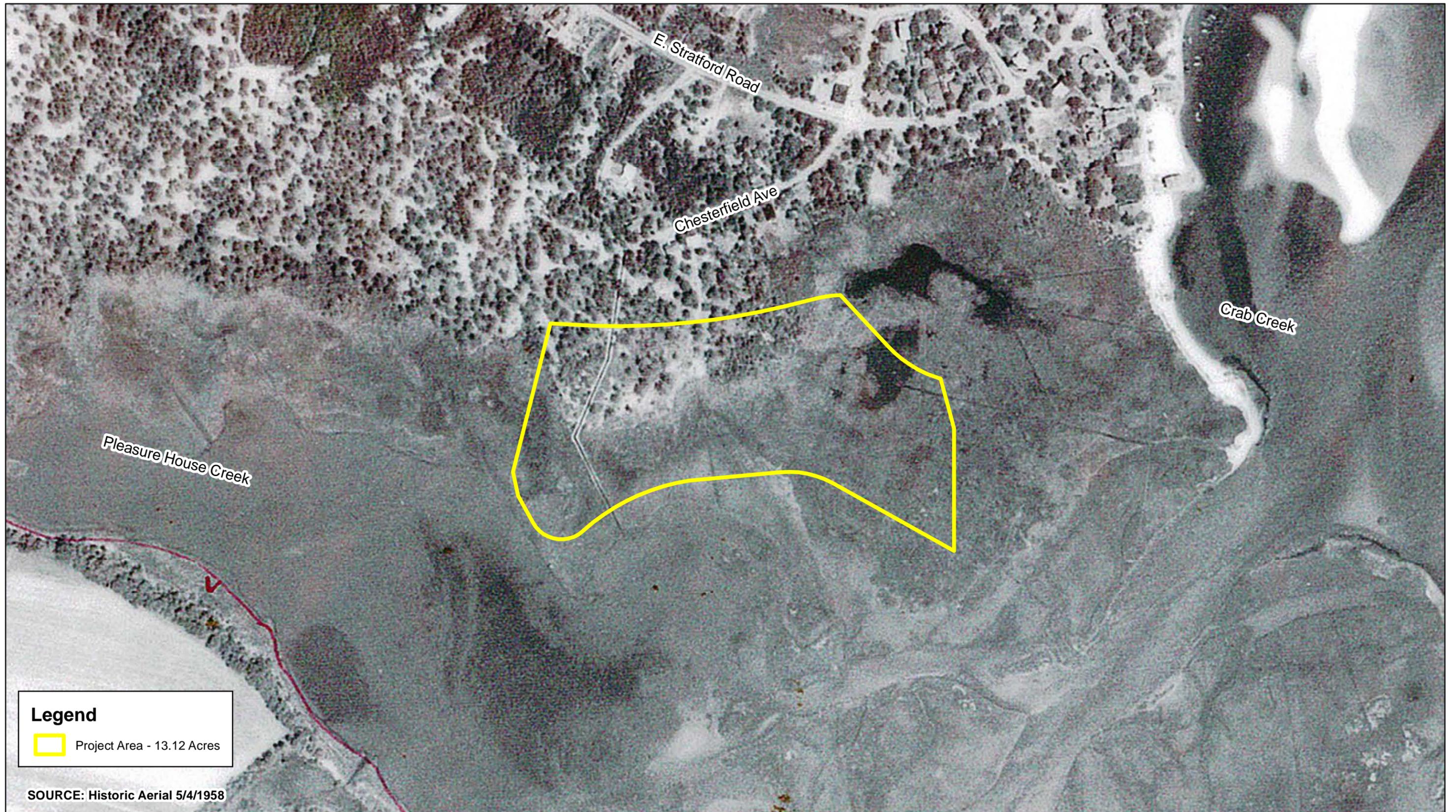
Historic Limits of Marsh Land-1949

Pleasure House Point
Virginia Beach, VA



DATE	FIGURE
Dec 17, 2013	8

USACE received February 25, 2014



Legend

 Project Area - 13.12 Acres

SOURCE: Historic Aerial 5/4/1958



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Historic Limits of Marsh Land-1958
Pleasure House Point
Virginia Beach, VA

Feet

0 250 500

DATE	FIGURE
Dec 17, 2013	9